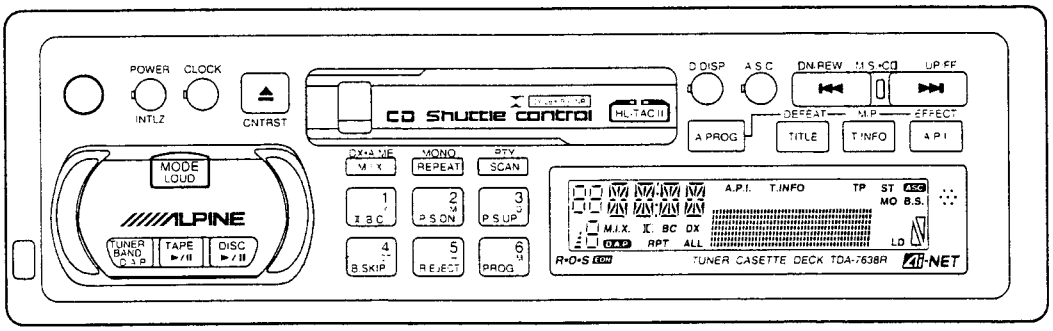
ALPINE

SERVICE MANUAL

FM/MW/LW/RDS Tuner Cassette Deck

CD Shuttle Controller

- For the cassette deck mechanism parts (GR75H13A) of this model, refer to the Service Manual • GR/GR-Y Series (68P20504W07).



Ai-NET

TDA-7638R

Contents

Spare Schematic Diagram Inserted.

Specifications

FM RADIO

Intermediate Frequency	10.7±0.1MHz
Frequency Range	87.5~108MHz
Usable Sensitivity (Mono at 98.1MHz)	17.2dBf
- 3dB Limiting Sensitivity (at 98.1MHz)	19.2dBf
S / N Ratio (Stereo 60dBu 98.1MHz)	56dB
Image Rejection (at 106.1MHz)	40dB
IF Rejection (at 90.1MHz)	60dB
Distortion (Input 60dBμ at 98.1MHz)	1%
Frequency Response (Ref. 400Hz, at 98.1MHz)	100Hz : 0±3dB
	10kHz : - 13±3dB
Stereo Separation (at 98.1MHz)	20dB
PS Sensitivity (98.1MHz)	36.2dBf
TP Sensitivity (98.1MHz)	36.2dBf

MW RADIO

Intermediate Frequency	450kHz
Frequency Range	531~1,602kHz
Usable Sensitivity (20dB S / N, at 999kHz)	34dB
S / N Ratio (at 999kHz)	44dB
Image Rejection (at 1,404kHz)	50dB
IF Rejection (at 603kHz)	60dB
Distortion (at 999kHz)	1.5%
Frequency Response (Ref. 400Hz, at 999kHz)	100Hz : - 3±4dB
	4kHz : - 12+6, - 12dB

LW RADIO

Intermediate Frequency	450kHz
Frequency Range	153~281kHz
Usable Sensitivity (20dB S / N, at 216kHz)	41dB
S / N Ratio (at 216kHz)	42dB
Image Rejection (at 270kHz)	40dB
IF Rejection (at 162kHz)	50dB
Distortion (at 216kHz)	1.5%
Frequency Response (Ref. 400Hz, at 216kHz)	100Hz : - 3±4dB
	4kHz : - 12+6, - 12dB

TAPE PLAYER

Wow & Flutter (JIS, WRMS / MTT - 111N)	0.2%
Tape Speed (MTT - 111N)	4.76cm / sec. +3 to - 1%
S / N Ratio (MTT - 212N)	Dolby OFF : 52dB
Distortion (MTT - 118N)	2%
Frequency Range (Ref. 1kHz, MTT-256)	63Hz : - 4dB
	12.5kHz : - 4dB
Separation (MTT-141N)	35dB
Crosstalk (MTT-121N)	45dB
FF & REW Time (C-60)	115sec

GENERAL

Power Supply	DC14.4V
Output Voltage / Impedance	1.2V / 10kohm
Semiconductors	41 IC's, 66 Transistors, 26 Diodes, 12 Zener Diodes
Dimension (W×H×D)	Chassis : 178×50×143.8 mm
	Nose : 171×48×22.5 mm
Weight	1.4kg

Note : Due to Continuing product improvement, specifications and designs are subject to change without notice.

In Case of Difficulty

If you encounter a problem, please review the items in the following checklist. This guide will help you isolate the problem if the unit is at fault. Otherwise, make sure the rest of your system is properly connected or consult your authorized Alpine dealer.

Initial Turn-on After Installation

Symptom	Cause	Solution
No function or display.	Car's ignition is off.	If connected following instructions, the unit will not operate with the car's ignition off.
	Improper power lead connections.	Check power lead connections.
	Blown fuse.	Check the fuses on the battery leads; replace with the proper value if necessary.

Radio Mode

Unable to receive stations.	No antenna or open connection in cable.	Make sure the antenna is properly connected; replace the antenna or cable if necessary.
Unable to tune stations in the seek mode.	You are in a weak signal area.	Make sure the tuner is in the DX mode.
	If the area you are in is a primary signal area, the antenna may not be grounded and connected properly.	Check your antenna connections; make sure the antenna is properly grounded at its mounting location.
	The antenna may not be the proper length.	Make sure the antenna is fully extended; if broken, replace the antenna with a new one.
Broadcast is noisy.	The antenna is not the proper length.	Extend the antenna fully; replace it if it is broken.
	The antenna is poorly grounded.	Make sure the antenna is grounded properly at its mounting location.

Tape Mode

Output sounds dull.	The tape head needs cleaning. Incorrect Dolby NR in use.	Clean the tape head. Check Dolby NR switch setting.

In Case of Difficulty

CD Shuttle Mode

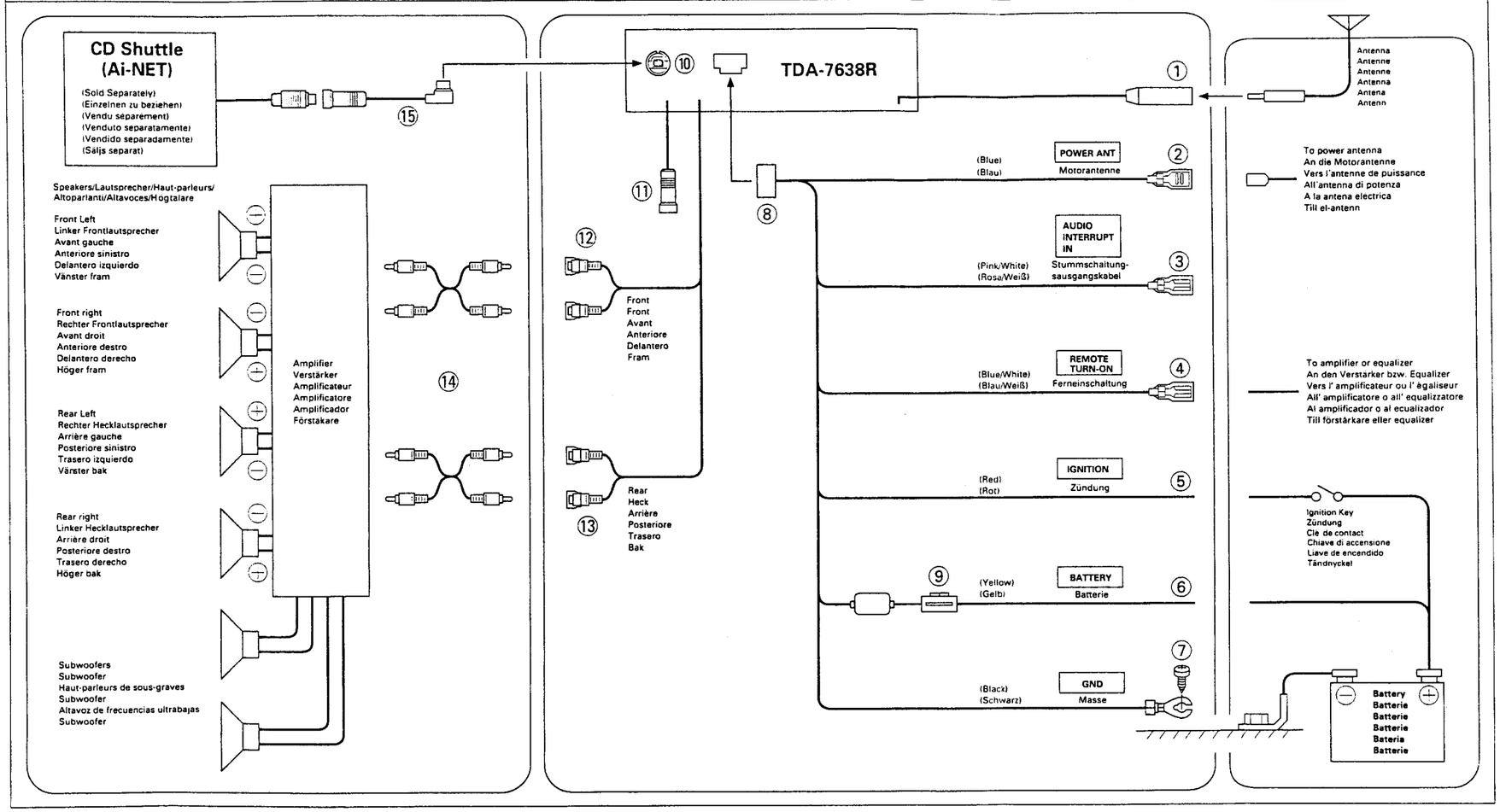
CD Shuttle not functioning.	Out of operating temperature range +50°C (+120°F) for CD.	Allow the car's interior (or trunk) temperature to cool.
CD playback sound is wavering.	Moisture condensation in the CD Module.	Allow enough time for the condensation to evaporate (about 1 hour).
Unable to fast forward or backward.	The CD has been damaged.	Eject the CD and discard it; using a damaged CD in your unit can cause damage to the mechanism.
Sound skips due to vibration.	Improper mounting of the CD Shuttle. Disc is very dirty. Disc has scratches.	Securely re-mount the CD Shuttle. Clean the disc. Change the disc.
Sound skips without vibration.	Dirty or scratched disc.	Clean the disc; damaged discs should be replaced.
Single (8cm) disc does not play.	Single CD adaptor is not used.	Attach a single CD adaptor (recommended by Alpine) to the single disc and insert into the CD magazine.

Indication for CD Shuttle

Indication	Cause	Solution
- - - H	Protective circuit is activated due to high temperature.	The indicator will disappear when the temperature returns to within operation range.
ERROR 01	Malfunction in the CD Shuttle.	Consult your Apline dealer. Press the magazine eject button and pull out the magazine. Check the indication. Insert the magazine again. If the magazine cannot be pulled out, consult your Alpine dealer.
	Magazine ejection not possible.	Press the magazine eject button. If the magazine does not eject, consult your Alpine dealer.
ERROR 02	A disc is left inside the CD Shuttle.	Press the EJECT button to activate the eject function. When the CD Shuttle finishes the eject function, insert an empty CD magazine into the CD Shuttle to receive the disc left inside the CD Shuttle.
NO MAGZN	No magazine is loaded into the CD Shuttle.	Insert a magazine.
NO DISC	No indicated disc.	Choose another disc.

Connections/Anschlüsse/Connexions/Collegamenti/Conexiones/Anslutningar

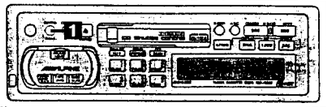
System/Komponentenanlage/Sistema



1. **Antenna Receptacle**
2. **Power Antenna Lead (Blue)**
   When loaded with a power antenna, connect to the +B terminal of the power antenna.
3. **Audio Interrupt In Lead (Pink White)**
4. **Remote Turn-On Lead (Blue/White)**
   Connect this lead to the remote turn-on lead of your amplifier or signal processor.
5. **Switched Power Lead (Ignition) (Red)**
   Connect this lead to an open terminal on the vehicle's fuse box or another unused power source which provides (+) 12V only when the ignition is turned on or in the accessory position.
6. **Battery Lead (Yellow)**
   Connect this lead to the positive (+) post of the vehicle's battery.
7. **Ground Lead (Black)**
   Connect this lead to a good chassis ground on the vehicle. Make sure the connection is made to bare metal and is securely fastened using the sheet metal screw provided.
8. **Power Supply Connector**
9. **Fuse Holder (3A)**
10. **Ai-NET Input Connector**
    Connect this to the Ai-NET Output connector on other Ai-NET model.
11. **Ai-NET Output Connector**
12. **Front Output RCA Connectors**
    RED is right and WHITE is left.
13. **Rear Output RCA Connectors**
    RED is right and WHITE is left.
14. **RCA Extension Cable (Sold Separately)**
15. **Ai-NET Cable**

Basic Operation

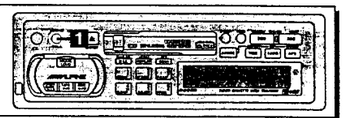
Initial System Start-Up



1 INTLZ

When operating the unit for the first time after installation or after the vehicle's battery has been disconnected and reconnected, set the volume level to its minimum, then press the INTLZ button for at least 3 seconds to reset the unit.

Turning Power On and Off



1 POWER

POWER

Press to turn on the unit. The display shows "POWER" for 2 seconds.
The volume level gradually increases to the same level as you were listening to before the power was turned off.

Note:
The unit can be turned on by pressing any button except the eject ⏏ and CLOCK buttons, or by inserting a cassette tape.

POWER

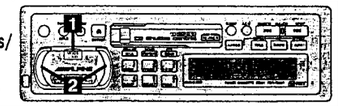
Press again to turn off the unit.

Handling the Detachable Front Panel

Do not expose to rain or water.

Do not drop or apply shock.

Adjusting Volume/Treble/Bass/Balance/Fader (Front and Rear)



1 MODE LOUD

TREBLE → BASS → BALANCE → FADER → VOLUME

Press repeatedly to choose the desired mode.

Notes:
- If the level control is not rotated in 5 seconds after selecting the TREBLE, BASS, BALANCE and FADER modes, the unit automatically sets in the VOLUME mode.
- Volume level can be adjusted by rotating the level control without first pressing the mode button.

2

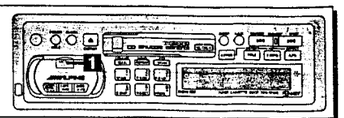
+7 TREBLE

Rotate the level control clockwise or counterclockwise to increase or decrease the level until the desired sound is obtained in each mode.

Note: When this control is rotated to its extreme end, the level changes quickly.
The settings of the Bass and Treble will be individually memorized for each source (FM, MW, LW, tape and CD) until the setting is changed.

Basic Operation

Turning Loudness On/Off



Loudness introduces a special low- and high-frequency emphasis at low listening levels to compensate for the ear's decreased sensitivity to bass and treble sound.

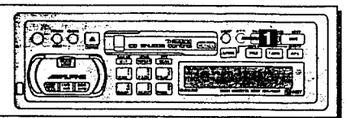
1 MODE LOUD

LOUD LD → LD → LOUD OFF

Press for at least 2 seconds to activate or deactivate the loudness mode.

Note: When an optional Alpine Audio Processor (Equalizer or Divider) is connected to the TDA-7638R, the Loudness mode is unfunctional.

Presetting Ambience Sound Compensator (A.S.C.) Level



The buit-in Fuzzy Logic circuit detects the low/mid frequency noise created by the vehicle engine and road surface, then adjusts the volume and bass levels to mask the noise.

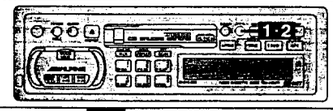
Note: When an optional Alpine Audio Processor (Equalizer or Divider) is connected to the TDA-7638R, the A.S.C. mode is unfunctional.

1 A.S.C.

Press for at least 2 seconds to activate the A.S.C. level selecting mode. The display blinks for 2 seconds. Press repeatedly to choose the desired A.S.C. level. The unit autoamtically stores the selected level in memory and the A.S.C. level indicator disappears.

A.S.C. 1 → A.S.C. 2 → A.S.C. 3

Turning A.S.C. On or Off



1 A.S.C.

A.S.C.

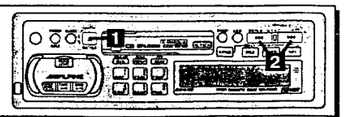
Press momentarily to activate the A.S.C. mode. The A.S.C. indicator illuminates for 2 seconds.

2 A.S.C.

ASC OFF

To deactivat the A.S.C. mode, press again. The ASC OFF indicator appears for 2 seconds.

Adjusting Dot-Matrix Display Contrast



1 ⏏ CNTRST

CONTRAST

Press for at least 3 seconds to activate the contrast adjusting mode. The display shows "CONTRAST" for 5 seconds.

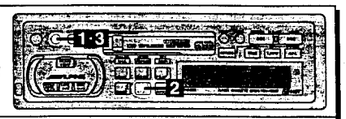
2 ⏮ ⏭

CONTRAST

Press the ⏮ or ⏭ button repeatedly to select the desired contrast level of the display while "CONTRAST" is displayed. The selected contrast level is automatically set after 5 seconds.

Basic Operation

Changing Lighting Colour



1 POWER

Press the POWER button for at least 3 seconds.

2 5

GREEN ↕ AMBER

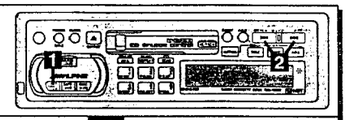
Press the Preset 5 button to change the lighting colour between green and amber.

3 POWER

Press the POWER button to set the lighting colour.

Radio Operation

Manual Tuning



1 TUNER BAND D.A.P

F1 → F2 → MW → LW

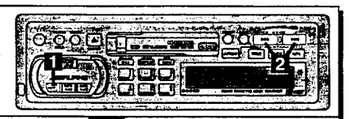
Press repeatedly until the desired radio band is displayed.

2 DN/REW ⏮ UP/FF ⏭

F1 90.10

Press the DN or UP button to move downward or upward one step respectively until the desired station frequency is displayed.

Automatic Seek Tuning



1 TUNER BAND D.A.P

F1 → F2 → MW → LW

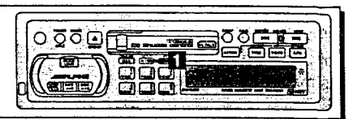
Press repeatedly until the desired radio band is displayed.

2 DN/REW ⏮ UP/FF ⏭

Press and hold down the DN button or UP button for at least 0.5 seconds to automatically seek a station downward or upward respectively. When the unit finds a station, it automatically stops at that station. To automatically seek and tune to the next station, press the button again for at least 0.5 seconds.

Radio Operation

Mono/Stereo Switching



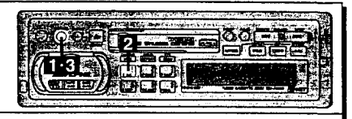
1 MONO REPEAT

"ST" indicator appears when a stereo station is tuned in.

F1 101.50 ST ↕ F1 101.50 MO

Press to switch from the stereo mode to the monaural mode to reduce the noise level of noisy stereo broadcast due to weak signal. In the monaural mode, the MO indicator appears. Press again to return to the stereo mode.

Adjusting FM Signal Level



If the difference in volume levels between the FM station and the tape player is great, you can adjust the FM signal level to make the difference smaller.

1 POWER

Press the POWER button for at least 3 seconds.

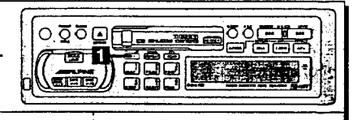
2 FM-LV HI ↕ FM-LV Lo

Press to select the desired signal level.

3 POWER

Press to preset the FM signal level in memory and deactivate the adjusting mode.

Radio Station Auto-Seek Sensitivity



1 DX•A.ME M.I.X

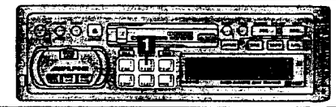
DX

Press the DX•A.ME button to illuminate the DX indicator in the display. With the DX mode activated, both strong and weak stations will be tuned in the Auto-Seek operation.

DX•A.ME M.I.X

Press the DX•A.ME button again to return to the local mode. The DX indicator will turn off and only strong stations will be tuned.

Manual Storing of Station Presets



1

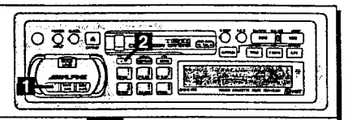
1. Tune in the desired radio station you wish to store in the preset memory.
2. Press any one of the preset buttons (1 through 6) for at least 2 seconds until the frequency display blinks.
3. Press the preset button into which you wish to store the station while the display is blinking (within 5 seconds). The display changes from blinking to steady lighting indicating that the station has been memorized. The preset number is also displayed.
4. Repeat the procedure to store 5 other stations onto the same band. Use this procedure for other bands.

A total of 30 stations can be stored in the preset memory (6 stations for each band; FM1, FM2, MW, LW and D.A.P.). The RDS stations can be preset in the FM1, FM2 and D.A.P. bands only.

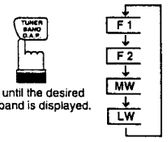
Note: If a preset memory has already been set in the same preset location, it will be cleared and the new station will be memorized.

Radio Operation

Automatic Memory of Station Presets

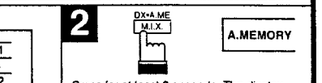


1



Press until the desired radio band is displayed.

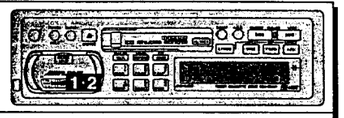
2



Press for at least 2 seconds. The display shows "A.MEMORY" for a second then changes the radio frequency during the auto memory operation.
The tuner will automatically seek and store 6 strong stations in the selected band in order of signal strength.
When the automatic storing has been completed, the tuner goes to the station stored in the preset location No. 1.

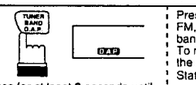
Note: If no stations are stored, the tuner will return to the original station you were listening to before the auto storing procedure began.

Storing into Direct Access Preset (D.A.P.) Band



A combination of radio stations in any bands (up to 6 stations) can be manually preset onto the D.A.P. band.

1

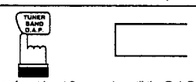


Press for at least 2 seconds until the D.A.P. indicator appears.

Press the BAND button to select the desired band; FM, MW or LW. The display shows the selected band.
To memorize stations onto the D.A.P. band, follow the steps for the Automatic or Manual Storing of Station Presets section above.

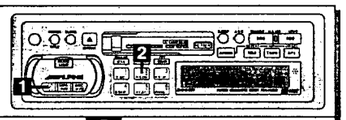
Note: This function can be used together with the Automatic Memory Preset if you want to strore stations in the same radio band.

2

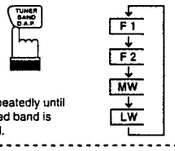


Press for at least 2 seconds until the D.A.P. indicator disappears to cancel the D.A.P. mode.

Tuning to Preset Stations



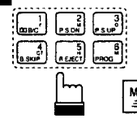
1



Press repeatedly until the desired band is displayed.

To select the D.A.P. band, press and hold for at least 2 seconds until the D.A.P. indicator appears.

2

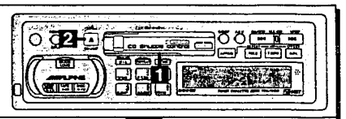


MW 999
Ł2

Press the station preset button that has your desired radio station in memory. The display shows the preset number, band and frequency of the station.

Cassette Player Operation

Inserting/Ejecting Cassette Tape



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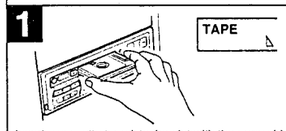
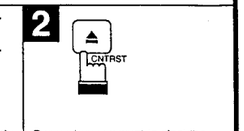




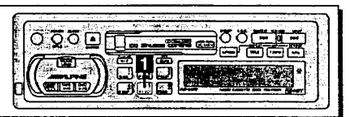
Insert a cassette tape into the slot with the open side facing right. When the cassette is loaded, the player automatically starts tape playback and indicates "TAPE" in the display.

2

Press when you want to eject the cassette tape.

Note: When power is turned off or the front panel is removed, the full-logic mechanism will automatically switch to the PAUSE mode. This protects the tape from being deformed by the pinch-rollers if left long periods.

Return Eject

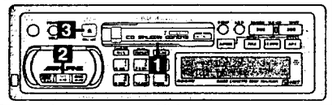


1

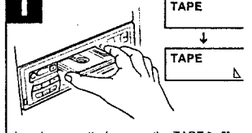
- Press during tape play to play both sides of the tape, then eject the tape.
- Press during fast forwarding or rewinding to play the other side of the tape, then eject the tape.

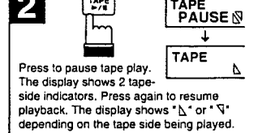
Note: Auto Metal
When a metal cassette tape is inserted, the player automatically adjusts to the equalization for metal or any other high bias tape for optimum sound.

Normal Play and Pause



1



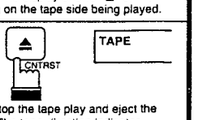


Insert a cassette (or press the TAPE ▶/II button to switch from the tuner or CD shuttle mode if a cassette is already inside the tape player). The player begins playback. The display shows "TAPE" and "◺" or "◹" during tape playback to show the tape side being played. When the end of the tape is reached, the unit automatically reverses the tape to play the other side of the tape.

2

Press to pause tape play.
The display shows 2 tape-side indicators. Press again to resume playback. The display shows "◺" or "◹" depending on the tape side being played.

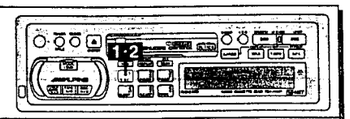
3



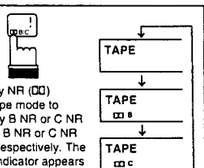
Press to stop the tape play and eject the cassette. The tape-direction indicator disappears.

Cassette Player Operation

Dolby B/C NR (Noise Reduction)

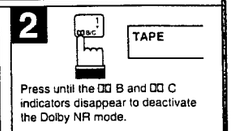


1



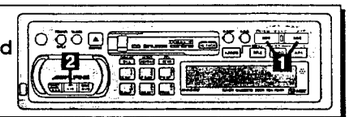
Press the Dolby NR (DD) button in the tape mode to select the Dolby B NR or C NR to play a Dolby B NR or C NR encoded tape respectively. The DD B or DD C indicator appears to show your selection and the noise level becomes low.

2



Press until the DD B and DD C indicators disappear to deactivate the Dolby NR mode.

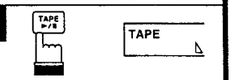
Fast Forward and Rewind



1

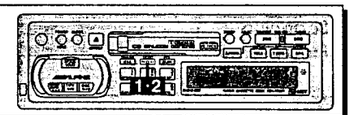
Press the REW or FF button during tape play to fast rewind or forward the tape respectively. The tape side indicator (◺ or ◹) blinks.
When the end of the tape is reached in the rewind mode, the player stops automatically and begins playing from the beginning of the same side. When the end of the tape is reached in the fast forward mode, the player stops automatically and begins playing from the beginning of the opposite side.

2

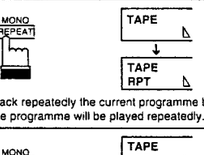


Press to stop fast rewinding or forwarding to resume tape play.
The tape side indicator changes to steady lighting.

Repeat Play

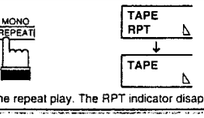


1



Press to play back repeatedly the current programme being played. The RPT indicator appears and the programme will be played repeatedly.

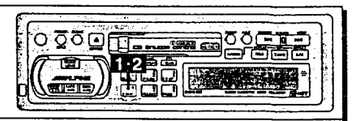
2



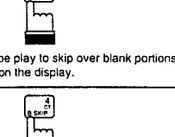
Press to stop the repeat play. The RPT indicator disappears.

Cassette Player Operation

Blank Skip (B.S.)

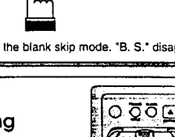


1



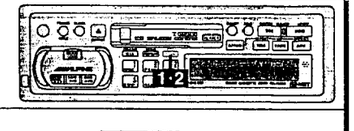
Press during tape play to skip over blank portions of the tape lasting 15 seconds or longer. "B.S." appears on the display.

2

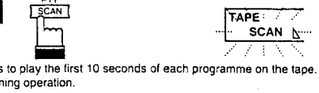


Press to cancel the blank skip mode. "B. S." disappears from the display.

Scanning Programmes

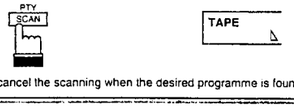


1



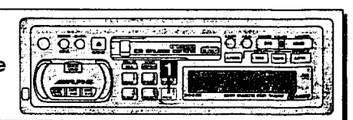
Press to play the first 10 seconds of each programme on the tape. The display blinks during scanning operation.

2



Press to cancel the scanning when the desired programme is found.

Manual Reverse

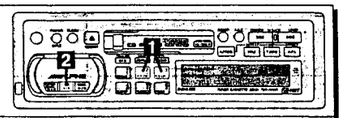


1

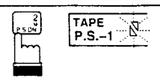
Press during tape play to change the tape direction to play the other side of the tape. The tape side indicators (◺ and ◹) change to show which side of the cassette is being played.

Cassette Player Operation

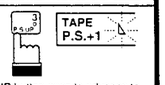
Programme Sensor (P.S.)



1



Press the P.S. DN button once to return to the beginning of the current selection being played. If you wish to return to a selection further back, press repeatedly until the number of selections you would like to skip is shown in the display. The display will show P.S. -1 with the first press and will increase by one with each successive press up to P.S. -9. The tape indicator will blink showing the direction of your search.



Press the P.S. UP button once to advance to the beginning of the next selection. If you wish to advance to a selection further ahead, press repeatedly until the number of selections you would like to skip is shown in the display. The display will show P.S. +1 with the first press and will increase with each successive press up to P.S. +9. The tape indicator will blink showing the direction of your search.

The tape direction indicator blinks during searching operation.

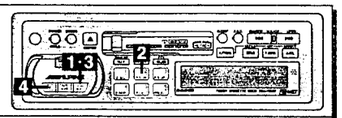
2

To stop the programme searching, press the TAPE ▶II button.

Notes:
- The programme sensor feature is functional in the tape play mode only.
- You can advance to the 9th (max.) programme or return to the 8th (max.) programme.

CD Shuttle Operation

Controlling CD Shuttle (Optional)



If an optional Alpine 6-disc CD Shuttle is connected to the Ai-NET connector of the TDA-7638R through an Ai-NET adaptor, you can control the CD Shuttle using the TDA-7638R.
You can connect and operate multiple Alpine CD Shuttles when these are connected through the Multi-Changer Switching device(s) (KCA-400C) to the TDA-7638R. See the Multi-Changer Selection section on next page for selecting the CD Shuttles.

Note: The controls on the TDA-7638R for the CD operation are operative only when the CD Shuttle is interconnected with the TDA-7638R.

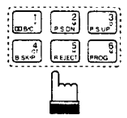
1

The display example shows when playing the Track 1 on the Disc 3.

01 12'36
3 DISC-3

Press to activate the connected CD Shuttle. The display shows the disc number and track number then the CD Shuttle starts to play from the first track.

2



Press the buttons to select the desired disc loaded in the CD Shuttle. The CD Shuttle begins playing from the first track on the selected disc.

3

01 12'36
3 PAUSE
↓
01 12'36
3 DISC-3

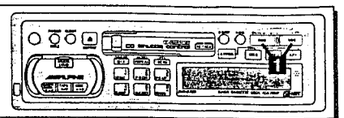
Press to pause CD play. The display shows "PAUSE."
To resume CD play, press again.
The PAUSE indicator disappears.

4

Press the TUNER or TAPE button to deactivate the CD shuttle mode and activate the tuner or tape mode.

CD Shuttle Operation

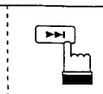
Music Sensor (M.S.) Skip



1

Momentarily press the DN ⏮ button once to return to the beginning of the current track. If you wish to return to the beginning of a track further back, repeatedly press until you reach the desired track. (The display example shows when you are playing the track No. 4.)

04 12'36
3 DISC-3
↓
04 00'00
3 DISC-3
↓
03 00'00
3 DISC-3

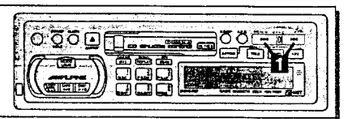


Press the UP ⏭ button once to advance to the beginning of the next track. If you wish to advance to a track further ahead, press repeatedly until the desired track is reached.

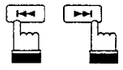
04 12'36
3 DISC-3
↓
05 00'00
3 DISC-3

Note: The music sensor feature is functional in the play or pause mode.

Fast Forward and Backward



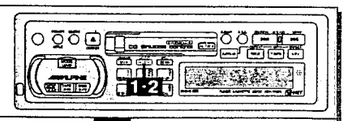
1



Press and hold the DN ⏮ or UP ⏭ button to quickly move backward or forward respectively until you reach the desired portion.

Note: This feature works only in the CD playback mode.

Repeat Play on Single Track or Entire Disc



1

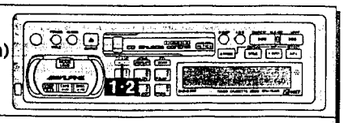
RPT
↓
RPT ALL

Press to display "RPT" or "RPT ALL" to play back repeatedly the current track being played or the entire disc selected.

2

Press until the RPT and RPT ALL indicators disappear from the display to deactivate the repeat play.

M.I.X. (Random) Play



1

04 12'36
3 M.I.X.DISC-3

Press during CD play or in the pause mode until the M.I.X. indicator appears. The display shows the disc number, elapsed time, "M.I.X." and track number being played. The tracks on the disc will be played back in a random sequence.
After all the tracks on the disc have been played back, the player loads the next disc and begins a random sequence play on the next disc.

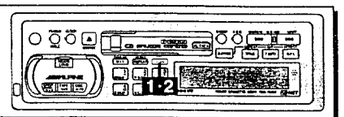
2

04 12'36
3 DISC-3

Press the button again until the M.I.X. indicator disappears to cancel the M.I.X. play.

CD Shuttle Operation

Disc Scan



1

04 12'36
3 SCAN

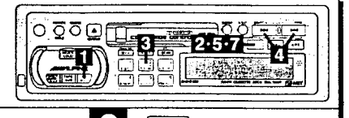
Press to play the first 10 seconds of each track on the disc. The display shows the disc number, elapsed time, "SCAN", and track number being played during scan play.

2

04 12'36
DISC-3

Press to cancel scan play. The display shows the disc, elapsed time and track number being played.

Titling Disc



1

Press to activate the CD mode.

2

D. TITLE

Press for at least 2 seconds to select the disc titling mode. "D. TITLE" blinks.

3

or

MADONNA

Press to select the desired disc to be titled. The first digit blinks.

4

A
or
AADONNA

Press repeatedly to select the desired letter/numeral/symbol available for naming ("A" for example).

5

-A■-
or
-AADONNA

Press to store the first digit in memory and go to the second digit. The first digit changes from blinking to steady lighting and the second digit starts blinking.

6

Repeat the steps 4 and 5 above to complete the titling.
You can use up to 8 digits for the disc title.

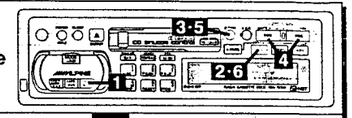
7

Press for at least 2 seconds to deactivate the titling mode.

Notes:
- When the memory capacity for the disc titles is used up, the display shows "FULL DATA" to indicate that no more title can be memorized. Refer to the Owner's Manual of the CD Shuttle interconnected for information about how many discs you can title.
- The CD titles stored in memory will be erased when the Ai-NET cable to the CD Shuttle is disconnected.

CD Shuttle Operation

Erasing Disc Title



1

Press to activate the CD mode.

2

D.TITLE

Press for at least 2 seconds until the D.TITLE indicator blinks.

3

MADONNA

Press to activate the title erasing mode. The display shows a disc title, for example, "MADONNA."

Note: If no title is memorized, "NO DATA" will be displayed for 2 seconds. Then "D.TITLE" will blink.

4

MICHAEL

Press repeatedly until the disc title you want to erase, for example "MICHAEL," is displayed.

5

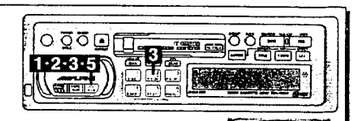
Press to erase the disc title displayed.

6

J.LENON

Press for at least 2 seconds to cancel the disc title erasing mode. The display shows the next disc title in memory.

Multi-Changer Selection



You can connect and operate 2 or more (maximum 6) Alpine CD Shuttles with the Ai-NET function when these are connected through the Multi-Changer Switching device (KCA-400C) to the TDA-7638R. If you use 1 Switching device, you can connect up to 4 CD player/Shuttles. If you use 2 Switching devices, you can connect up to 6 CD player/Shuttles.

1

Press the DISC button on the TDA-7638R to activate the CD mode.

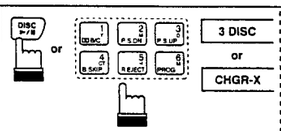
Press the AUDIO SEL button on the Remote Controller (1101) to activate the CD mode. Proceed to Step 3 below to select the desired player/changer.

2

Press the DISC button on the TDA-7638R for at least 2 seconds to activate the CD Shuttle Selection mode.

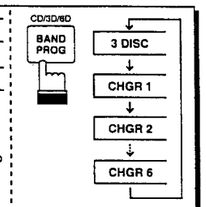
CD Shuttle Operation

3



Press the DISC button on the TDA-7638R to select the 3-CD changer or press the Preset buttons (1 through 6) to select the desired CD changer within 5 seconds after activating the CD Shuttle Selection mode in Step 2 above.
The display shows the selected player/changer number.

Note: If the selected player/changer is not being connected, the display shows "NO CHGR-X."

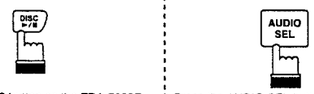


Press the BAND/PROG button on the Remote Controller (1101) until the desired player/changer indicator appears on the display.

4

To operate the selected player/changer, see pages 20 through 27.

5

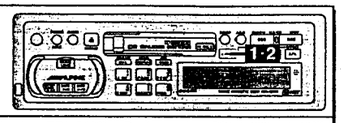


Press the DISC button on the TDA-7638R for at least 3 seconds to deactivate the CD Shuttle Selection mode.

Press the AUDIO SEL button on the Remote Controller to select other audio sources.

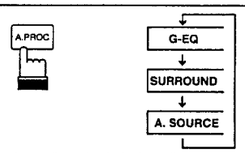
Audio Processor Operation

Activating Equalizer/ Divider (optional)



If an optional Alpine Equalizer (such as ERA-G100) or Divider (such as PRA-H400) is Ai-NET connected to the TDA-7638R, you can operate the Equalizer or Divider from the TDA-7638R and Remote controller 1101.

1



Press repeatedly to activate the desired equalizer mode or the Divider mode. In the A. SOURCE mode, the Equalizer/Divider mode is deactivated and other audio source is activated. Refer to the Owner's Manual for the ERA-G100 or PRA-H400 for operations.

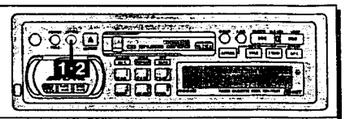
2

Press to deactivate the equalizer or divider mode.

Notes:
- The A. PROC (Audio Processor), DEFEAT, M/P (Maker's/Private), EFFECT and ENT (Enter) buttons are operable only when an optional audio processor is Ai-NET connected with the TDA-7638R.
- When an external audio processor is connected to the TDA-7638R and activated, the TDA-7638R's tone circuit will be automatically bypassed.

Clock Operation

Displaying Time/Date



1

Press repeatedly to display the time or year/month/date. The unit can display the RDS time or normal clock time.

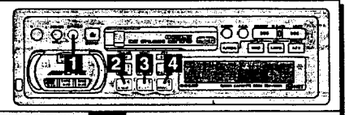
Note: When the tuner, tape or CD is operated while the display is showing the time/date, the display shows their functions for 5 seconds and returns to show the time/date. The display shows the time/date even if the power to the unit is turned off as long as the ignition key is on.

12 : 00
or
R 12 : 00
94 05 04
MW 999

2

Press to turn off the time or date and to show other functions.

Setting Time



1

R 12 : 00
or
12 : 00

Press for at least 3 seconds until the time indication blinks.

2

12 : 00

Press while the time indication is blinking to select the normal clock time.

3

Example: To adjust to 9 : 35

9 : 00

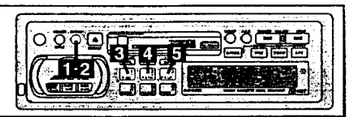
Press the "H" button to adjust the hours while the time indication is blinking.

4

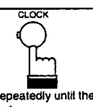
9 : 35
9 : 35

Press the "M" button to adjust the minutes while the time indication is blinking.
The time is automatically set and the time indication changes from blinking to steady lighting 5 seconds after adjusting the minutes.

Setting Date



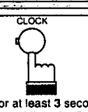
1



94 05 04

Press repeatedly until the year/month/date is displayed.

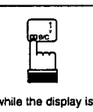
2



94 05 04

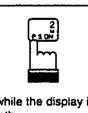
Press for at least 3 seconds until the year/month/date blinks for 5 seconds.

3



Press while the display is blinking to adjust the year.

4



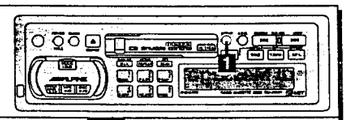
Press while the display is blinking to adjust the month.

5

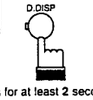
Press while the display is blinking to adjust the date.
The year/month/date will be automatically set after 5 seconds and the display will be changed to steady illumination.

Message Display

Displaying Alpine Message



1



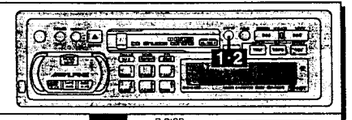
-- ALPINE

Press for at least **2** seconds to display the Alpine message stored in memory at the factory.
The message scrolls on the display.

2

To cancel the message display, press any button except the D.DISP and TITLE buttons on the main unit.

Displaying Personal Message

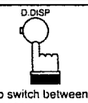


1

-- ALPINE

Press for at least **2** seconds to activate the message display mode.

2



ALPINE
↓ ↑
PERSONAL

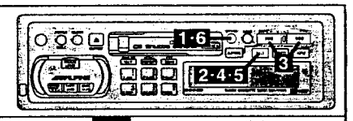
Press to switch between the personal and Alpine messages.

Note: If the personal message is not memorized yet, only the Alpine message will be displayed. See next page for preparing a personal message.

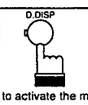
3

To cancel the personal message display, press any button except the D.DISP and TITLE buttons.

Preparing Personal Message



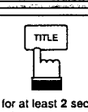
1



-- ALPINE

Press to activate the message display mode.

2



-
or
PERSONAL

Press for at least **2** seconds until the first digit blinks.

Note: If there is a message already memorized, the first letter of that message will blink.

3

Y -
or
Y ERSONAL

Press repeatedly to select the desired character (alphabet, numeral or symbol available for the display message), "Y" for example.

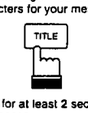
4

Y -
or
Y ERSONAL

Press for less than **1.5** seconds. The first digit changes from blinking to steady lighting and the second digit starts to blink.

5

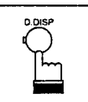
Repeat the steps 3 and 4 above to complete your message. You can use up to 200 characters for your message.



YOUR MES

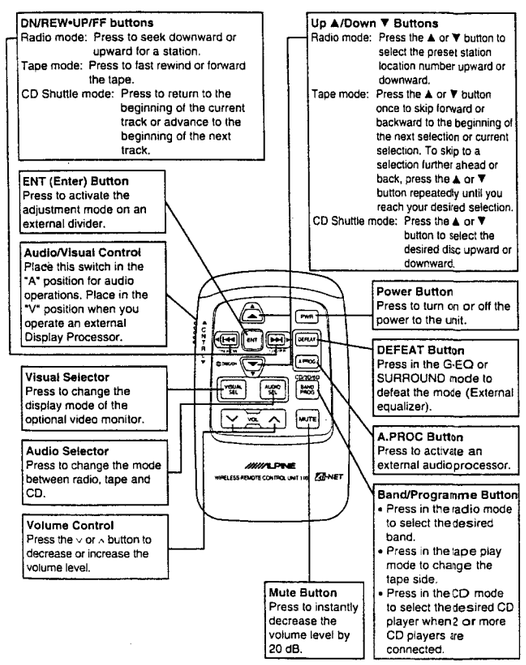
Press for at least **2** seconds to finish entering your message.
The display shows your message.

6



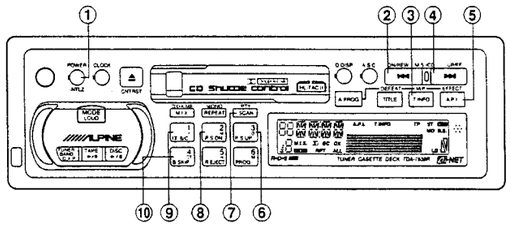
Press to deactivate the message display mode.

Remote Control



Note: Point the remote control toward the remote sensor on the upper left side of he main unit to operate the unit.

RDS



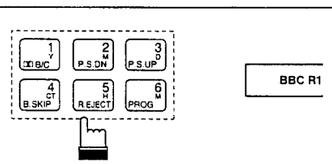
Recalling Preset RDS Stations

For presetting the RDS stations, refer to the Radio Operation section on the Owner's Manual.
The RDS stations can be preset in the F1, F2 and D.A.P bands only.

1

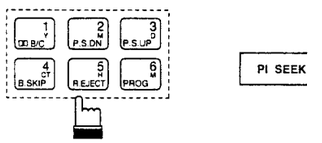
Press to activate the RDS mode.

2



Press the preset location button in which your desired RDS station is preset. If the preset station's signal is weak, the unit automatically searches and tunes to a stronger station in the AF (Alternative Frequencies) list.

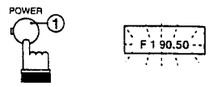
3 If the preset station and the stations in the AF list cannot be received:



Press the same preset location button again to search again for a station in the PI (Programme Identification) list.
If there are still no stations receivable in the area, the unit displays the frequency of the preset station and the preset indicator disappears.

Setting RDS Reception Mode and Receiving

1



Press for at least 3 seconds.

2

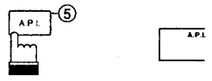
Press repeatedly to select the desired A.P.I. (Automatic Programme Identification) or PS (Programme Service Name) mode.

Note: Use the A.P.I. 2 mode only when errors occur in the A.P.I. 1 mode because too many FM stations are present.
In the A.P.I. 2 mode, it requires about 1 second for tuning.
Use the PS ONLY mode when automatic retuning is not required.

3

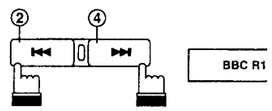
Press to activate the selected mode.

4



Press to activate the RDS mode.

5

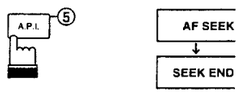


Press the ⏮ DN or UP ⏭ button to tune in the desired RDS station.

When the station signal being received has become weak;

A. In the A.P.I. 1 or A.P.I. 2 mode the unit automatically re-tunes to a stronger station that carries the same programme.

B. In the PS ONLY/A.P.I.1/A.P.I.2 mode



Press for more than 2 seconds to have the unit automatically search for a stronger station in the AF (Alternative Frequencies) list.
If there is no AF station, the display shows "SEEK END."

6

Press again to deactivate the RDS mode.

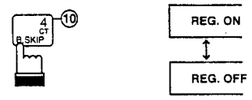
Note: You can tune in an RDS station while you are listening to cassette play. Choose your desired station in 5 seconds after the step 4 above.

Receiving RDS Regional (Local) Stations

1

Press for at least 3 seconds.

2

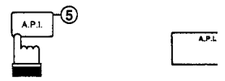


Press to turn on or off the REG mode.
In the REG ON mode, the unit automatically keeps receiving the related local RDS station.

3

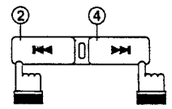
Press to activate the selected mode.

4



Press to activate the RDS mode.

5



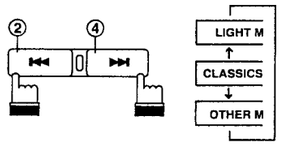
Press to tune in the desired local (regional) RDS station.

PTY Tuning

1

Press to activate the PTY mode.
The PTY (Programme Type) of the station being currently received will be displayed for 5 seconds. Press again to start to receive the PTY broadcast while the PTY station is being displayed.
If there is no receivable PTY broadcast, "NONE" will be displayed for 5 seconds.

2



Press within 5 seconds after activating the PTY mode to choose the desired programme type while the PTY programme type is being displayed.

The tuner starts searching for a station in the chosen programme type after 3 seconds.
The chosen programme type indicator blinks during searching and lights when a station is found.

If no station is found, "NO PTY" will be displayed for 5 seconds.

3

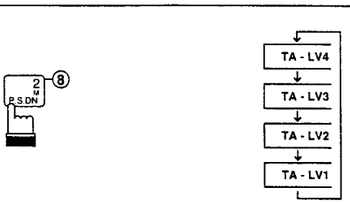
Press for at least 2 seconds to cancel the PTY mode.

Presetting Volume Level for Traffic Information

1

Press for at least 3 seconds.

2



Press until the desired volume level is obtained.

3

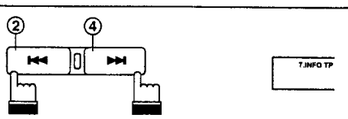
Press again to preset the volume level for the traffic information listening.

Receiving Traffic Information

1

Press to display the T.INFO indicator.

2



Press the ⏮ DN or UP ⏭ button to select your desired traffic information station. When a traffic information station is tuned in, the TP indicator lights up.

Traffic information is heard only when it is being broadcast. If traffic information is not being broadcast, the unit is set in the standby mode. When a traffic information broadcast begins, the unit automatically receives it and the display shows "TRF. INFO."

When traffic information broadcast is over, the unit will automatically set in the standby mode.

Note: If the traffic information broadcast signal falls below a certain level, the unit remains in the receiving mode for 1 minute. If the signal remains below a certain level for over 1 minute, the unit is set in the standby mode for the traffic information broadcast.

- When a traffic information broadcast starts, the unit automatically places the cassette player in the pause mode or stops receiving the regular FM signal. The volume level rises to the preset level if you were listenting to cassette or FM at a low level.
- When the traffic information broadcast finishes, the unit automatically returns to the original source play before the traffic information broadcast began.
- **When traffic information stations cannot be received:**
  In the tuner mode:
  When the TP signal can no longer be received, an alarm will be sounded after 1 minute.
  In the tape or EXT mode:
  When the TP signal can no longer be received, the traffic information station of another frequency will be selected automatically.

Note: The receiver is equipped with the EON (Enhanced Other Networks) function in order to keep track of additional alternative frequencies to the AF list. If the station being received does not broadcast the traffic information, the receiver automatically tunes in the related station that broadcasts the traffic information when it occurs.

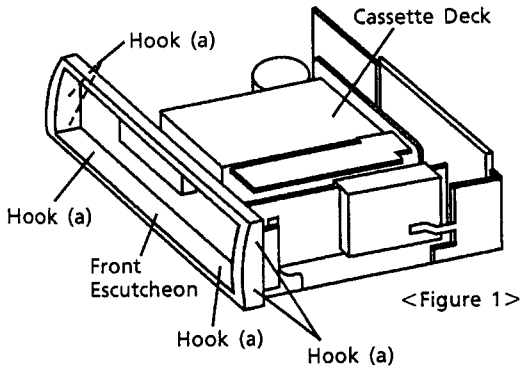
Disassembly Instructions

1. Removal of Nose Unit

(1) Refer to the Owner's Manual (Part No. 68P50390W83).

2. Removal of Front Escutcheon

(1) After removal of Top Cover, remove the Hooks (a) as shown in Figure 1.



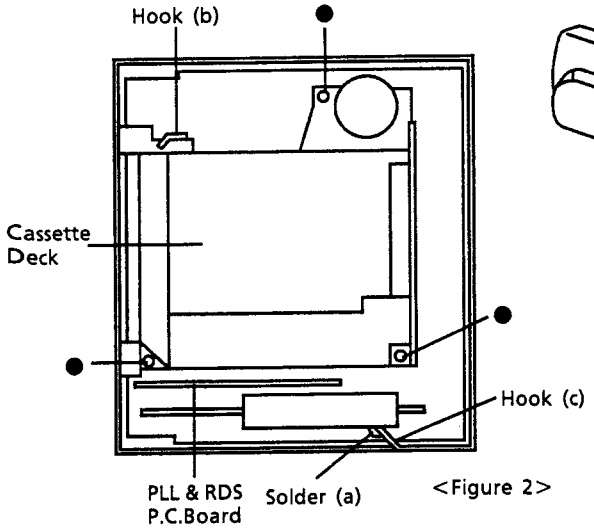
<Figure 1>

3. Removal of Cassette Deck

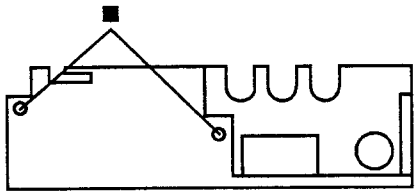
(1) Remove the Hook (b) as shwon in Figure 2.
(2) Remove three screws marked "●" as shown in Figure 2.
(3) Disconnect one Connector from the Cassette Deck.

4. Removal of Main P.C.Board

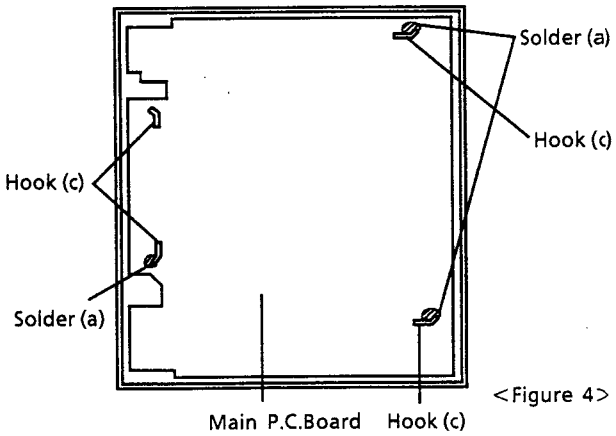
(1) Remove the Solder (a) and Hooks (c) as shown in Figure 2, 4.
(2) Remove two screws marked "■" as shown in Figure 3.
(3) Disconnect two connectors from the Main P.C.Board.



<Figure 2>



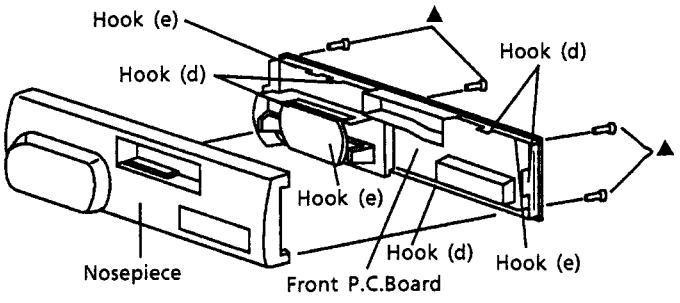
<Figure 3>



<Figure 4>

5. Removal of Front P.C.Board

(1) After removal of Nose Unit, remove four screws marked "▲" and the Hooks (d) as shown in Figure 4.
(2) Remove the Hooks (e) as shown in Figure 5.

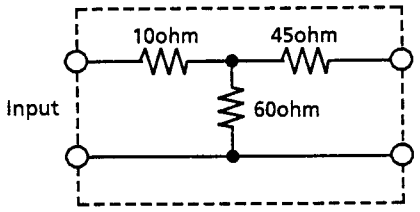


<Figure 5>

Adjustment Procedures

1. FM SECTION

(1) Dummy Antenna Circuit



For 50 ohm FM Signal Generator

Figure 6

(2) Connections

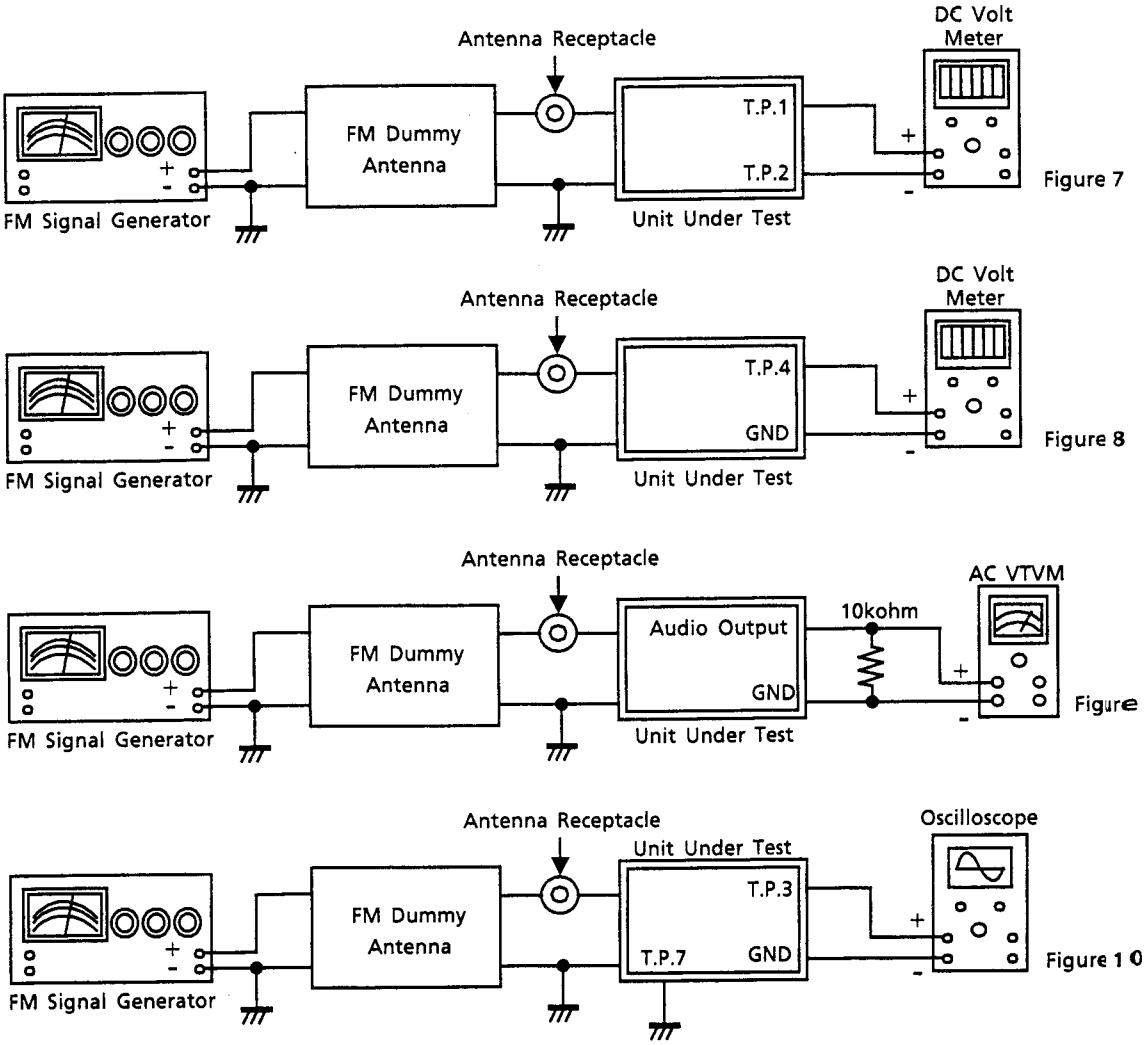


Figure 7

Figure 8

Figure 9

Figure 10

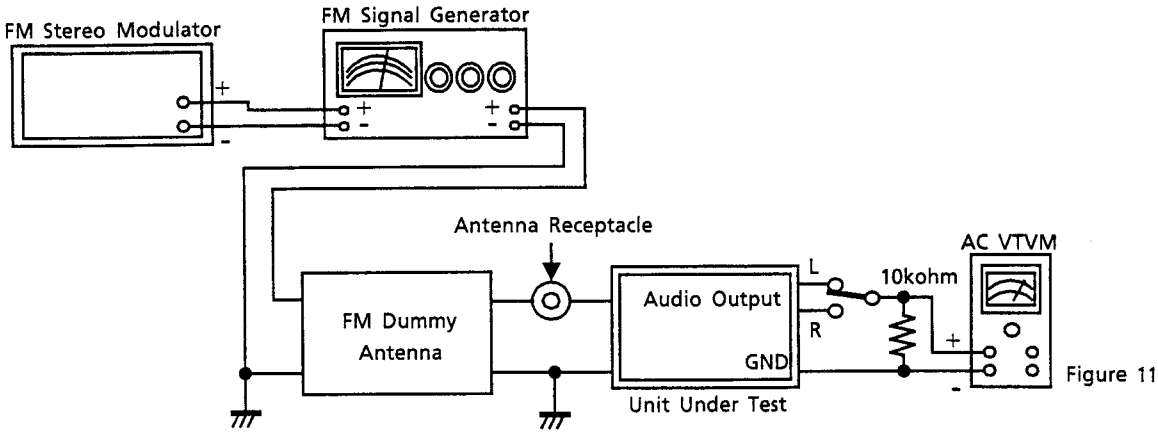
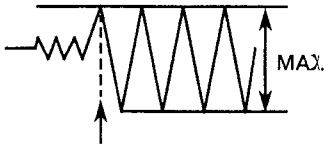


Figure 11

(3) Control Settings

Power Switch ..... ON
Fader Control ..... Center Position
Balance Control ..... Center Position
Treble / Bass Control ..... Center Position
Band Switch ..... FM
Others ..... OFF

(4) Adjustment Procedures

Step	Description		Connection	Signal Generator	Dial Control	Test Point	Adjustment
1	IF Adjustment		Figure 7	98.1MHz, 72dB (Mod. OFF)	98.1MHz	T.P.1 T.P.2	Adjust L2101 for 0±15mV.
2	Signal Meter Adjustment		Figure 8	98.1MHz, 46dB (Mod. 400Hz)	98.1MHz	T.P.4	Adjust VR2101 to 3±0.1V.
3	Noise Level Adjustment	(1)	Figure 9	98.1MHz, 72dB (Mod. 400Hz)	98.1MHz	Audio Output	Adjust VR401 (VOLUME) to obtain 500mV output. This value is 0dB.
		(2)	Figure 9	98.1MHz, -19dB (Mod. 400Hz)	98.1MHz	Audio Output	Adjust VR2106 to -30±5dB output at SG level minimum.
4	Seek Stop Adjustment		Figure 10	98.1MHz, 26dB (Mod. OFF)	98.1MHz	T.P.3	Adjust VR2105 for the waveform changing to maximum output. Figure : Waveform of T.P.3 output  Stop the adjust VR2105 at this time.
5	Stereo Separation Adjustment (Lch)		Figure 11	98.1MHz, 72dB (Stereo 1kHz, Lch, only)	98.1MHz	Audio Output	Adjust VR2104 for Rch output to be minimum, and confirm Lch and Rch output level difference is more than 20dB.

Step	Description	Connection	Signal Generator	Dial Control	Test Point	Adjustment
6	Stereo Blend Adjustment (Lch)	Figure 11	98.1MHz, 46dB (Stereo 1kHz, Lch, only)	98.1MHz	Audio Output	Adjust VR2102 for Lch and Rch output level difference to be 8dB.
7	Stereo Separation Adjustment (Rch)	Figure 11	98.1MHz, 72dB (Stereo 1kHz, Rch, only)	98.1MHz	Audio Output	Proceed same adjustment under step 5 by alternating Lch and Rch.
8	Stereo Blend Adjustment (Rch)	Figure 11	98.1MHz, 46dB (Stereo 1kHz, Rch, only)	98.1MHz	Audio Output	Proceed same adjustment under stop 6.

2. TAPE PLAYER SECTION

(1) Connector

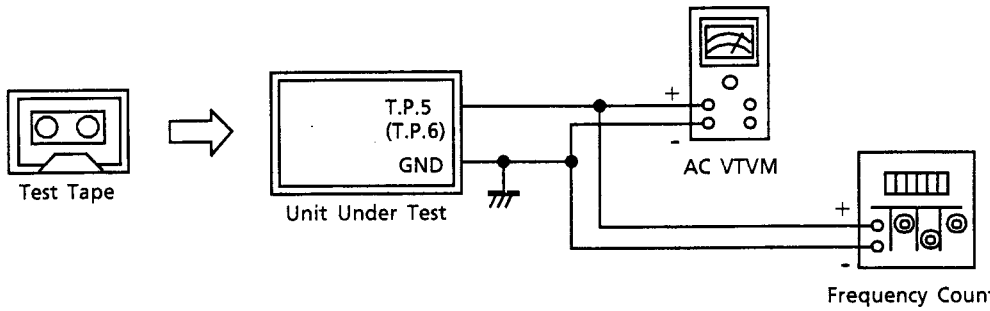


Figure 12

(2) Control Settings

Power Switch ..... ON
Fader Control ..... Center Position
Balance Control ..... Center Position
Treble / Bass Control ..... Center Position
Others ..... OFF

(3) Adjustment Procedures

Step	Description	Test Tape	Connection	Test Point	Adjustment Point	Adjustment
1	Head Azimuth Adjustment	MTT-114NB (14kHz)	Figure 12	T.P.5 (Lch) T.P.6 (Rch)	Head Azimuth Adjustment Screws (Figure 13)	Adjust for Max. and same level output at Normal and Reverse positions.
2	Dolby Level Adjustment	MTT-150 (400Hz)	Figure 12	T.P.5 (Lch) T.P.6 (Rch)	VR201 (Lch) VR202 (Rch)	Adjust for 388mV at T.P.5 (Lch) and T.P.6 (Rch).
3	Tape speed Adjustment	MTT-111N (3kHz)	Figure 12	T.P.5 (Lch) or T.P.6 (Rch)	Tape Speed Adjustment (Figure 14)	Adjust for 2,970 to 3,090Hz at T.P.5 (T.P.6).

Adjustment Locations

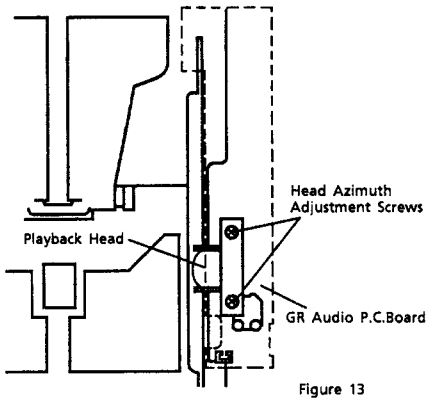


Figure 13

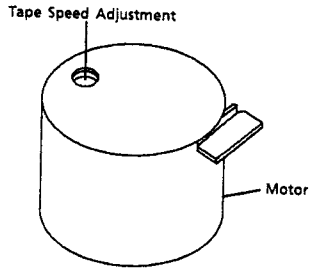
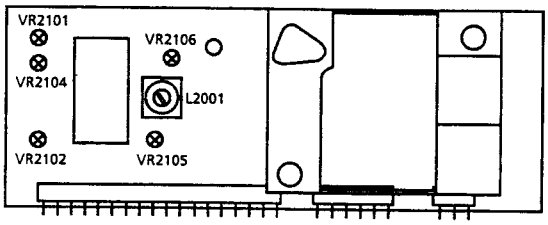
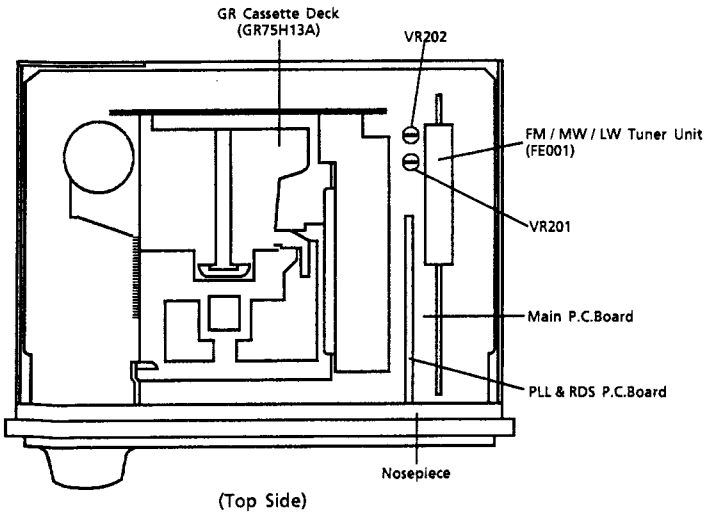


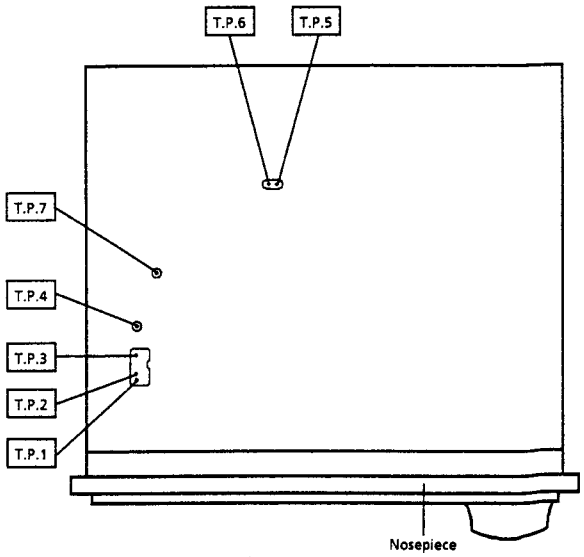
Figure 14



FM / MW / LW Tuner Unit (FE001)



(Top Side)



(Bottom Side)

Note : For the detailed Test Points (T.P.1~T.P.7), refer to the Parts Layout on P.C.Board and Wiring Diagram.

Description of IC Terminal

45552W28 (IC401)

No.	Symbol	I / O	Terminal Description
1	7582 $\overline{INH}$	O	INH signal output terminal to LC7582W.
2	7582 CE	O	Stand by control terminal to LC7582W.
3	7582 CLK	O	Communication sync signal output terminal to LC7582W.
4	7582 DATA	O	Serial data output terminal to LC7582W.
5	7229 $\overline{CS}$	O	$\overline{CS}$ output terminal to Display microcomputer.
6	7229 CLK	O	Communication sync signal output terminal to Display microcomputer.
7	7229 RST	O	System clock output terminal to Display microcomputer.
8	ORG / $\overline{GRN}$	O	Output terminal for lamp switching.
9	V_{SS}	—	GND potential terminal.
10	V_{SS}	—	GND short.
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22	EEPCLK	O	Clock data output terminal to EEPROM.
23	EEPDI	I	Serial data input terminal from EEPROM.
24	V_{SS}	—	GND potential terminal.
25	EEPDO	O	Serial data output terminal to EEPROM.
26	$\overline{P.ON}$	O	Power control signal output terminal to LCD Driver.
27	KS0	O	Key scan signal output terminal.
28	KS1		
29	KS2		
30	KS3		
31	V_{SS}	—	GND short.
32	V_{SS}	—	GND short.
33			
34			
35	$\overline{RESET}$	I	System reset input terminal.
36	V_{SS}	—	GND short.
37	REMOCON	I	Remocon data input terminal.
38	CONT - START	I	Command sync signal input terminal from Main microcomputer.
39	AREA 0	I	Initial setting input terminal.
40	V_{CC}	—	Positive power supply.
41	X2	—	Ceramic element connection terminal for system clock OSC.
42	X1		
43	V_{SS}	—	GND short.
44	NC	—	Open.
45	AREA 1	I	Initial setting input terminal.
46	V_{SS}	—	GND potential terminal.
47	V_{SS}	—	GND short.
48	KR1	I	Key-matrix signal input terminal.
49	KR2		

No.	Symbol	I / O	Terminal Description
50	KR3	I	Key-matrix signal input terminal.
51	KR4		
52	KR5		
53	KR6		
54	SELF VR	I	VR position signal terminal for audio control.
55	V_{SS}	—	Positive power supply terminal short.
56			
57	CONT - STATUS	I	Serial data signal input terminal from Main microcomputer.
58	CONT - COMMAND	O	Serial data signal output terminal to Main microcomputer.
59	CONT - $\overline{SCK}$	I	Communication sync signal input terminal from Main microcomputer.
60	7229 C / $\overline{D}$	O	C / D signal output terminal to Display microcomputer.
61	7229 BUSY	I	Busy signal input terminal from Display microcomputer.
62	V_{SS}	—	GND short.
63	7229 SI	O	Serial data output terminal to Display microcomputer.
64	7229 $\overline{SCK}$	O	Serial clock data output terminal to Display microcomputer.

35265W02 (IC403)

No.	Symbol	I / O	Terminal Description
1	C38	O	Column drive signal output terminal to LCD.
2	C39		
3	C40		
4	C41		
5	C42 / R15	O	Row / Column drive signal output terminal to LCD.
6	C43 / R14		
7	C44 / R13		
8	C45 / R12		
9	C46 / R11		
10	C47 / R10		
11	C48 / R9		
12	C49 / R8		
13	R15 / R7	O	Row drive signal output terminal to LCD.
14	R14 / R6		
15	R13 / R5		
16	R12 / R4		
17	R11 / R3		
18	R10 / R2		
19	R9 / R1		
20	R8 / R0		
21	VLC5	I	Reference voltage input terminal to decide voltage level for Row / Column drive signal to LCD.
22	VLC1		
23	NC	—	Open.
24	VLC4	I	Reference voltage input terminal to decide voltage level for Row / Column drive signal to LCD.
25	VLC2		
26	VLC3		
7	DO / SI	I / O	4 bit parallel data and serial data input terminal.
28	V_{SS}	—	GND short.
29			
30	NC	—	Open.
31			
32	$\overline{BUSY}$	O	Busy signal output terminal.
33	V_{DD}	—	Positive power supply terminal.
34	V_{SS}	—	GND terminal.

No.	Symbol	I / O	Terminal Description
35	$\overline{STB}$ / $\overline{SCK}$	I	STB / SCK input terminal.
36	C / $\overline{D}$	I	Command / data input terminal.
37	Vss	—	GND short.
38			
39	$\overline{CS}$	I	Chip select signal input terminal.
40	RESET	I	Reset signal input terminal.
41	CLOCK	I	Clock signal input terminal.
42	NC	—	Open.
43			
44			
45			
46	C3	O	Column drive signal output terminal to LCD.
47	C4		
48	C5		
49	C6		
50	C7		
51	C8		
52	C9		
53	C10		
54	C11		
55	C12		
56	C13		
57	C14		
58	C15		
59	C16		
60	C17		
61	C18		
62	C19		
63	C20		
64	C21		
65	C22		
66	C23		
67	C24		
68	C25		
69	C26		
70	C27		
71	C28		
72	C29		
73	C30		
74	C31		
75	C32		
76	C33		
77	C34		
78	C35		
79	C36		
80	C37		

55433W08 (IC501)

No.	Symbol	I / O	Terminal Description
1	$\overline{RESET}$	I	System reset input terminal.
2	X1	O	Ceramic element connection terming for system clock OSC (8MHz).
3	X2	I	

55433W08 (IC501)

No.	Symbol	I / O	Terminal Description
4	V_{CC}	—	Positive power supply terminal.
5			
6	$\overline{NMI}$	I	Battery / ACC detection terminal.
7	V_{CC}	—	Positive power supply terminal.
8			
9	DTS SCK	O	Communication sync signal output terminal to DTS microcomputer.
10	DTS CMD	O	Serial data output terminal to DTS microcomputer.
11	DTS STS	I	Serial data input terminal from DTS microcomputer.
12	V_{SS}	—	GND terminal.
13	DTS START	O	Command sync signal output terminal to DTS microcomputer.
14	NC	—	Open.
15	$\overline{DTS\ STBY}$	O	Stand by pulse output terminal to DTS microcomputer.
16	$\overline{DTS\ MUTE}$	I	Audio mute signal input terminal from DTS microcomputer.
17	DTS CE	O	Standby control terminal to DTS microcomputer.
18	ACC+5	I	ACC power supply detection terminal.
19	BAT+5	I	Battery power supply detection terminal.
20	O. REM	O	Remote signal output terminal.
21	EEP DI	I	Serial data input terminal from EEPROM.
22	EEP DO	O	Serial data output terminal from EEPROM.
23	NC	—	Open.
24	TMR DATA	I	Timer data input terminal from Timer IC.
25	TMR OE	O	OE signal output terminal to Timer IC.
26	TMR CLK	O	CLK signal output terminal to Timer IC.
27	$\overline{TMR\ S2}$	O	Timer data inclement signal output terminal to Timer IC.
28	$\overline{TMR\ S1}$	O	Correction girder choice signal output terminal to Timer IC.
29	ACC+5	I	ACC power supply detection terminal.
30	MIC L	I	Low degree signal input terminal.
31	MIC M	I	Middle degree signal input terminal.
32	MIC H	I	High degree signal input terminal.
33	NOSE ON	I	Front panel detection terminal.
34	AREA 0	I	Initial setting input terminal.
35	AREA 1		
36	LCD CTRT	O	Voltage control terminal to LCD.
37	M.S.DET	I	Music ON / OFF switching signal input terminal.
38	AV_{SS}	I	GND short.
39	O.FAST	O	Gain control signal input terminal from M.S.IC.
40	MTL	I	Metal tape detection terminal.
41	$F/\overline{R}$	O	FOR / REV control Terminal to TAPE EQ AMP.
42	PACK IN	I	Switch to detect cassette is installed into cassette holder on not.
43	TP ALM	O	Alarm output / audio signal switching output terminal.
44	O.MOTOR	O	Determines start and stop of motor in GR mechanism.
45	PULL UP	O	Determines rotation direction of motor in GR mechanism.
46	EJ.SOL	O	Eject solenoid control signal output terminal GR mechanism.
47	V_{CC}	—	Positive power supply terminal.
48	RF.SOL	O	RF solenoid control signal output terminal in GR mechanism.
49	PLY.SOL	O	Play solenoid control signal output terminal in GR mechanism.
50	RUN DET	I	Signal showing take-up reel is roating or not.
51	PACK DN	I	Switch to detect cassette holder is moved down completely.
52	$\overline{DOL\ B}$	O	Dolby B NR, ON signal output terminal.
53	DOL C	O	Dolby C NR, ON signal output terminal.
54	$\overline{R}/T$	O	Tape / Radio audio signal switching output terminal.
55	$\overline{INT}$ / EXT	O	Inside / Outside audio signal switching output terminal.

No.	Symbol	I / O	Terminal Description
56	V_{SS}	—	GND Terminal.
57	E.V.CE	O	Standby control terminal to Electric Volume IC.
58	E.V.CLK	O	Communication sync signal output terminal to Electric Volume IC.
59	E.V.DATA	O	Serial data output terminal to Electric Volume IC.
60	$\overline{\text{PRE MUTE}}$	O	Pre-out audio mute signal output terminal.
61	NC	—	Open.
62	$\overline{\text{BUS DET}}$	I	Busline date detection terminal.
63	$\overline{\text{BUS RST}}$	O	Reset signal output terminal to Bus IC.
64	BUS R / $\overline{\text{W}}$	O	Read / Write signal output terminal to Bus IC.
65	BUS RS	O	Resister signal output terminal to Bus IC.
66	BUS STS	I	Serial data input terminal from Bus IC.
67	BUS CMD	O	Serial data output terminal to Bus IC.
68	BUS CLK	O	Communication sync signal output terminal to Bus IC.
69	$\overline{\text{IN PAU}}$	I	Pause signal input terminal.
70	$\overline{\text{IN INT}}$	I	Interrupt signal input terminal.
71	P. ON CONT	O	Power control signal output terminal.
72	LCD P. ON	O	Power control signal output terminal for LCD back light.
73	V_{SS}	—	GND Terminal.
74	NOSE PON	O	Power control signal output terminal for Display microcomputer and driver.
75	$\overline{\text{CONT RST}}$	O	Reset control signal output terminal to Display microcomputer.
76	NC	—	Open.
77	CONT STR	O	Command sync signal output terminal to Display microcomputer.
78	CONT STS	O	Serial data output terminal to Display microcomputer.
79	CONT CMD	I	Serial data input terminal to Display microcomputer.
80	CONT SCK	O	Communication sync signal output terminal to Display microcomputer.

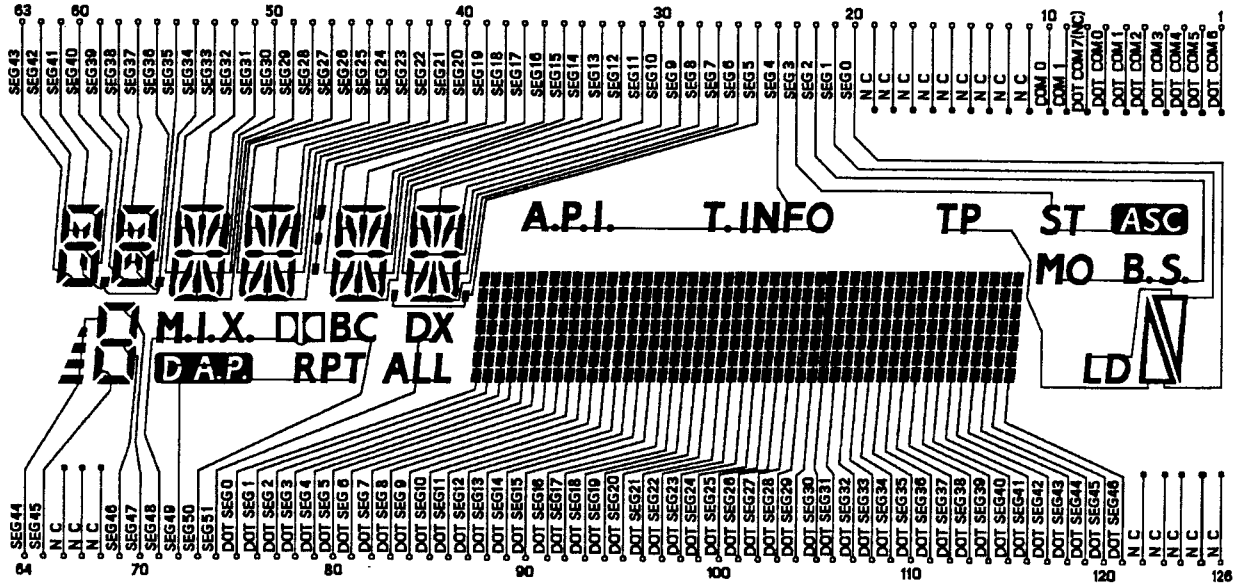
45258W02 (IC504)

No.	Symbol	I / O	Terminal Description
1	CE1	O	CE1 control terminal for S · RAM.
2	NC	—	Open.
3	$\overline{\text{DTS MUTE}}$	O	Audio mute output terminal.
4	$\overline{\text{7073 RESET}}$	O	Control the reset for LC7073M.
5	50KREF	O	High output when REF frequency becomes 50kHz in FM mode.
6	$\overline{\text{RESET}}$	I	System reset input terminal.
7	X2	—	Output terminal for system clock OSC.
8	X1	—	Output terminal for system clock OSC.
9	V_{SS}	—	GND terminal for device.
10	CE2	O	CE2 control terminal for S · RAM.
11	NC	—	Open.
12			
13			
14			
15	A10	O	Input / Output terminal for S · RAM address signal.
16	A9		
17	A8		
18	AD7	I / O	Input / Output terminal for S · RAM address signal.
19	AD6		
20	AD5		
21	AD4		
22	AD3		
23	AD2		
24	V_{SS}	—	GND terminal for device.

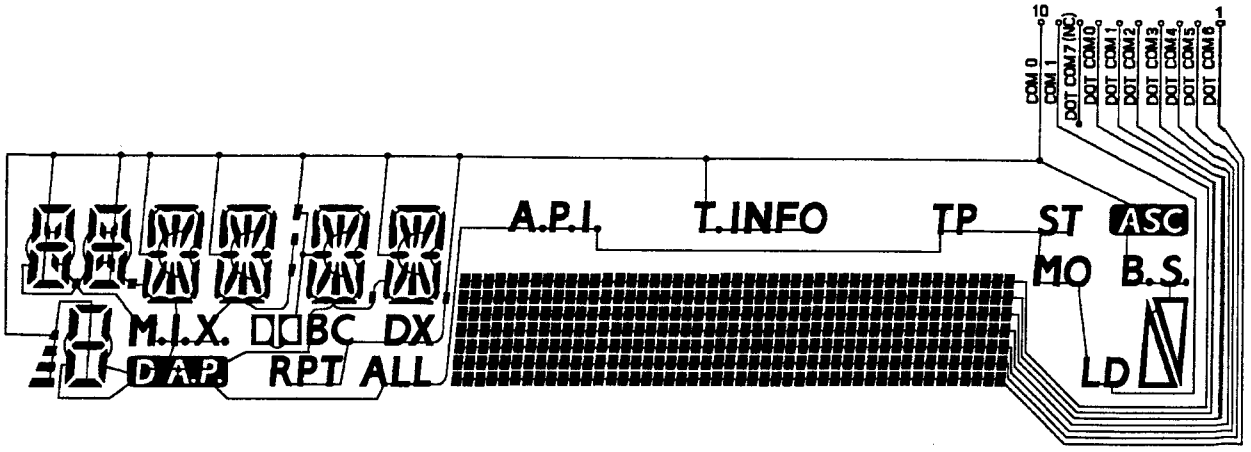
No.	Symbol	I / O	Terminal Description
25	AD1	I / O	Input / Output terminal for S · RAM address signal.
26	AD0		
27	LE	O	LE control terminal for latch.
28	DTS STB	I	Return from standby to DTS.
29	RDS CLK	I	Communication data sync signal input terminal from LC7073M.
30	RDS START	I	Data sync signal input terminal from LC7073M.
31	RDS DATA	I	Serial data input terminal from LC7073M.
32	PLL DATA IN	I	PLL data input terminal.
33	PULL UP	—	Pull up terminal.
34	DTS START	I	Command sync signal input from main microcomputer.
35	DTS CMD	I	Serial data input terminal from main microcomputer.
36	V_{SS}	—	GND short.
37	NC	—	Open.
38	DTS CLOCK	I	Communication data sync signal input terminal from Main microcomputer.
39	DTS STATUS	O	Serial data output terminal to main microcomputer.
40	V_{CC}	—	Power supply terminal for device.
41			
42	AV_{SS}	—	GND terminal for A / D converter.
43	AV_{REF}	—	Reference Voltage input terminal for A / D converter.
44	$\overline{ST}$	I	Stereo signal input terminal.
45	PULL UP	—	Pull up terminal.
46	PULL UP	—	Pull up terminal.
47	MULTIPATH	I	Port detects multipath interference of station.
48	ADJON	I	Port detects multipath interference of station.
49	S.METER	I	Signal meter input terminal.
50	PULL UP	—	Pull up terminal.
51	PULL DOWN	—	Pull down terminal.
52	PLL CLOCK	O	Communication data sync signal output terminal.
53	PLL DATA	O	Serial data output terminal.
54	LPE SW	O	LPF time constant switching terminal to obtain fast response in AF search and FM seek operation.
55	IF MUTE	O	Mute output terminal to prevent shock noises in AF search operation.
56	PLL CE	O	Data communication control signal output terminal.
57	NC	—	Open.
58	LW	O	LW band selection terminal.
59	FM / $\overline{AM}$	O	FM / AM (MW / LW) bands selection terminal.
60	LOCAL / $\overline{DX}$	O	SEEK sensitivity switch control output terminal.
61	MONO	O	Stereo / Mono switch control output terminal.
62	DTS CE	I	Terminal to make DTS in standby status.
63	SD	I	Station detector signal input terminal for FM / AM.
64	$\overline{WR}$	O	F · RAM $\overline{WE}$ control signal.

LCD Display

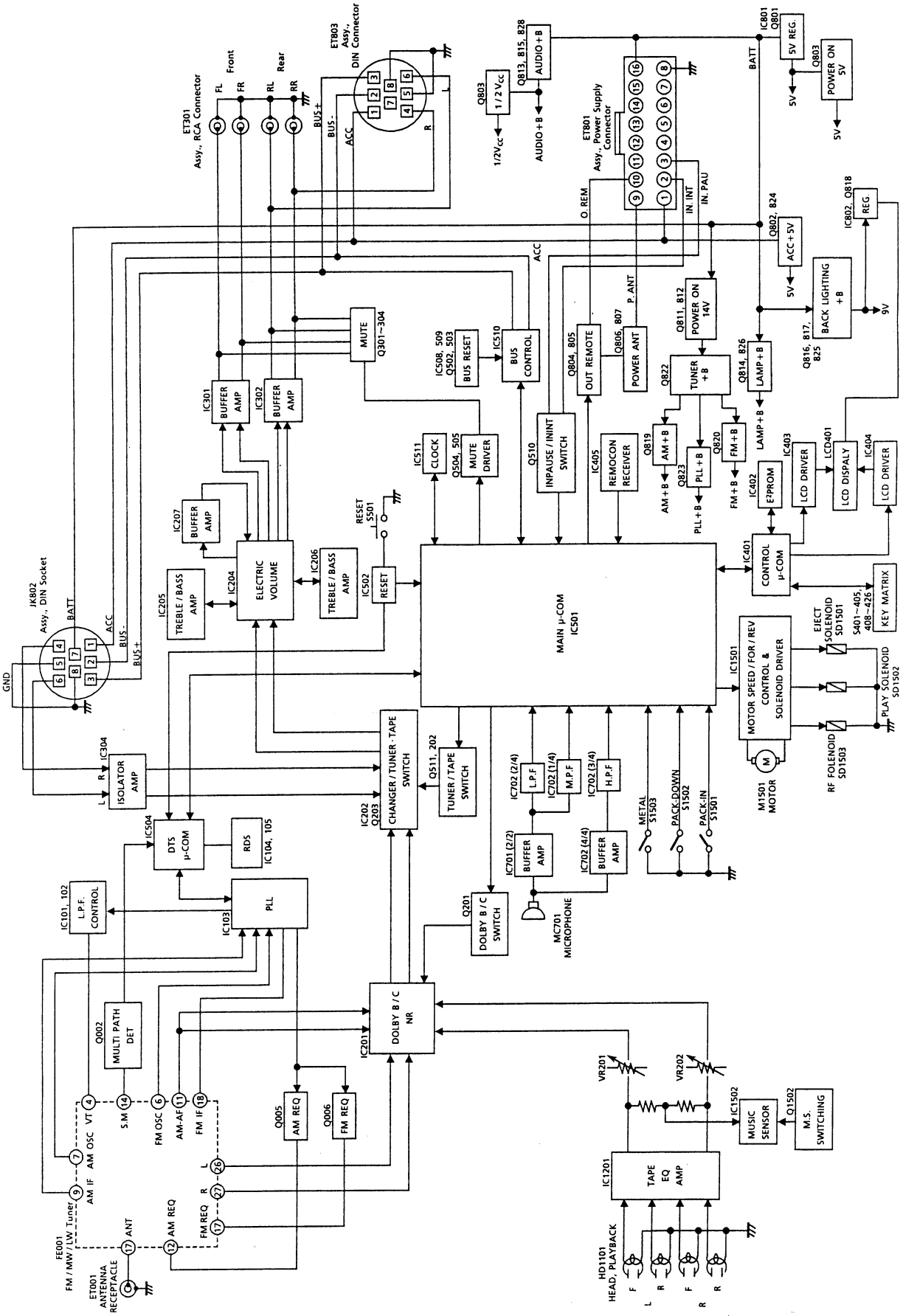
SEGMENT



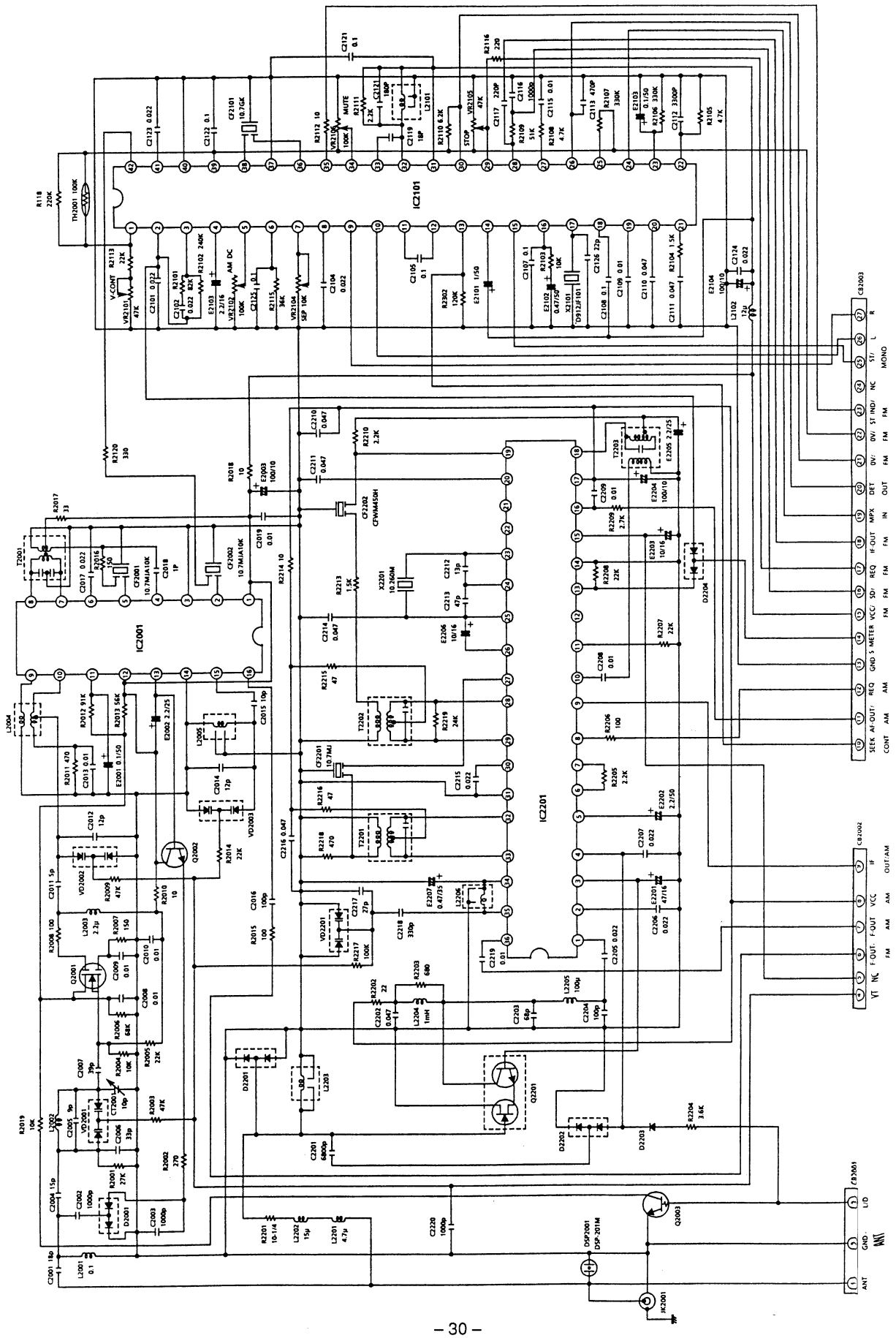
COMMON



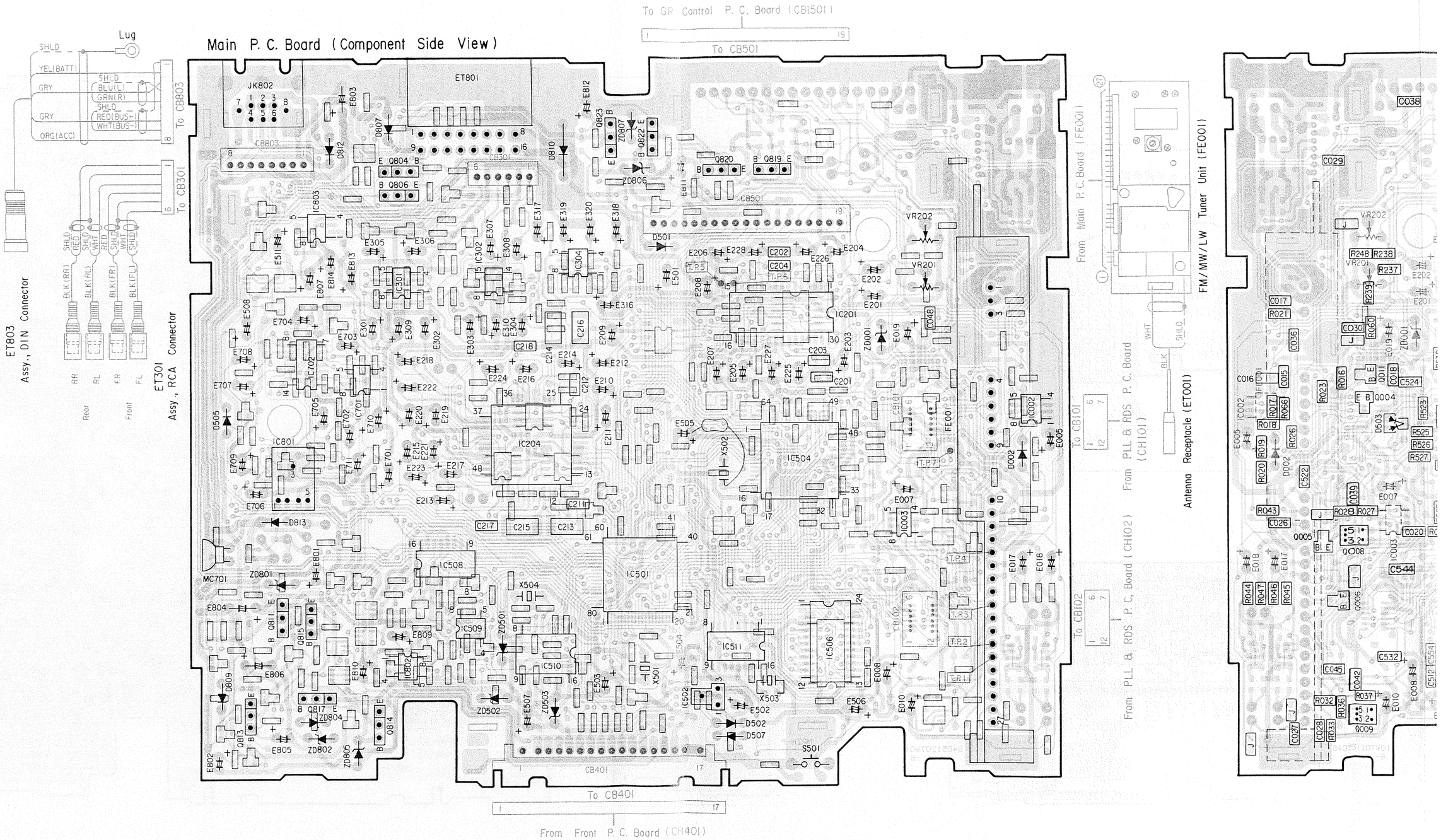
Block Diagram



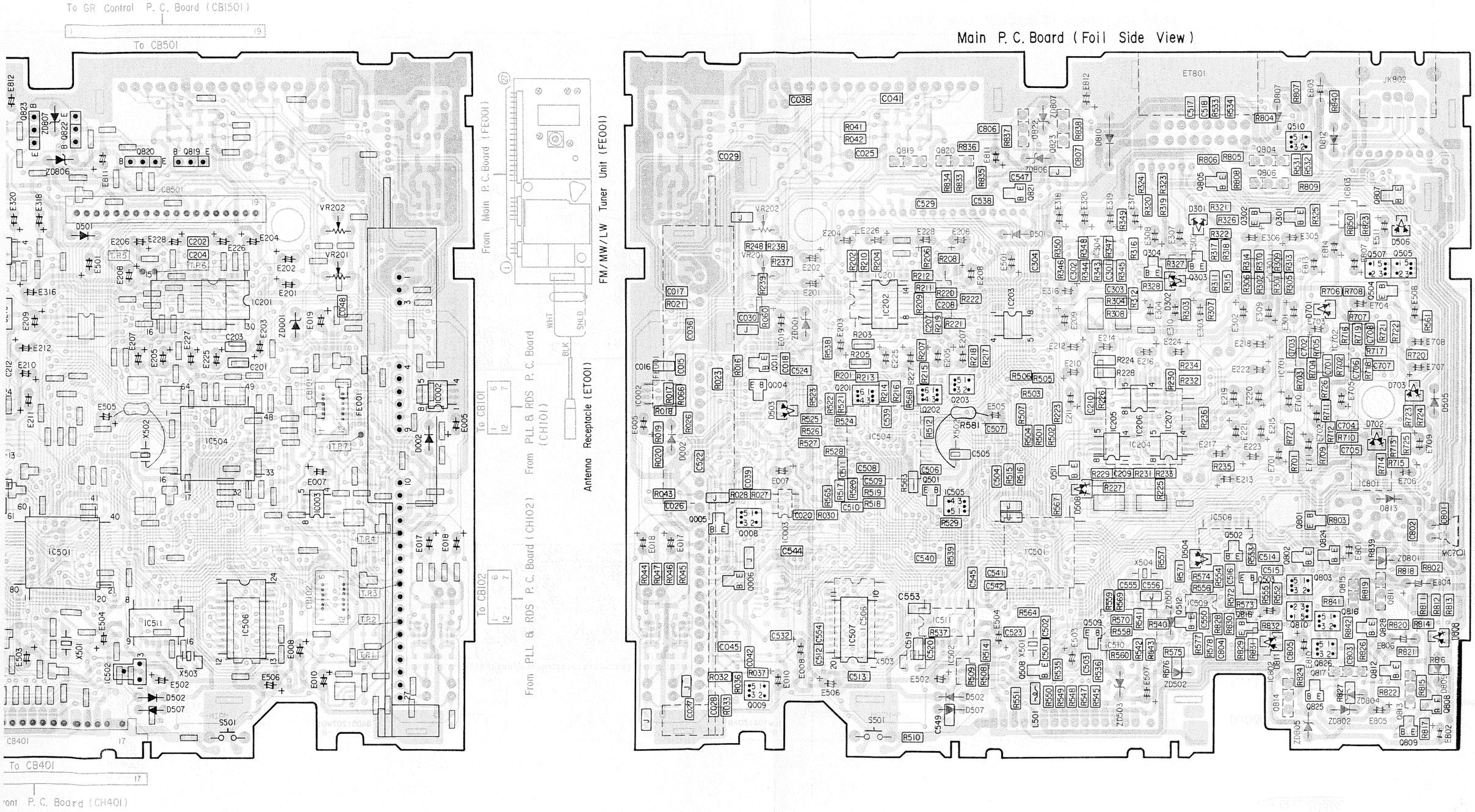
Tuner Schematic Diagram



Parts Layout on P.C. Boards and Wiring Diagram (1/2)



ıgram (1/2)

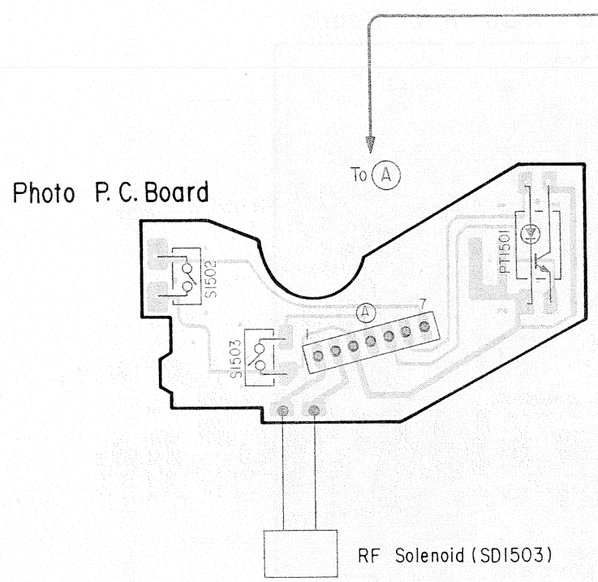


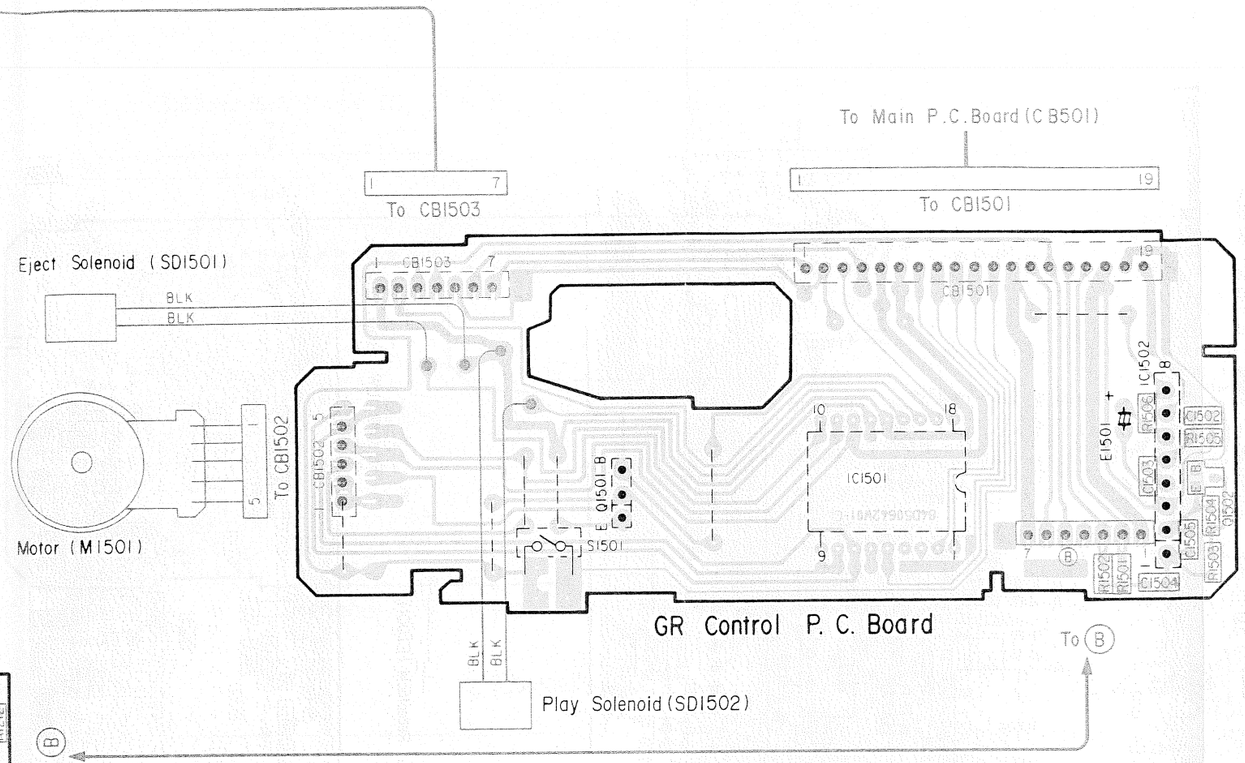
Orange Color Pattern : Component Side Pattern
Blue Color Pattern : Foil Side Pattern

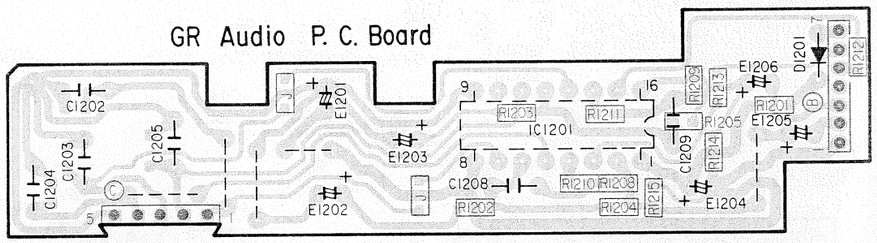
TDA-7638R TDA-763

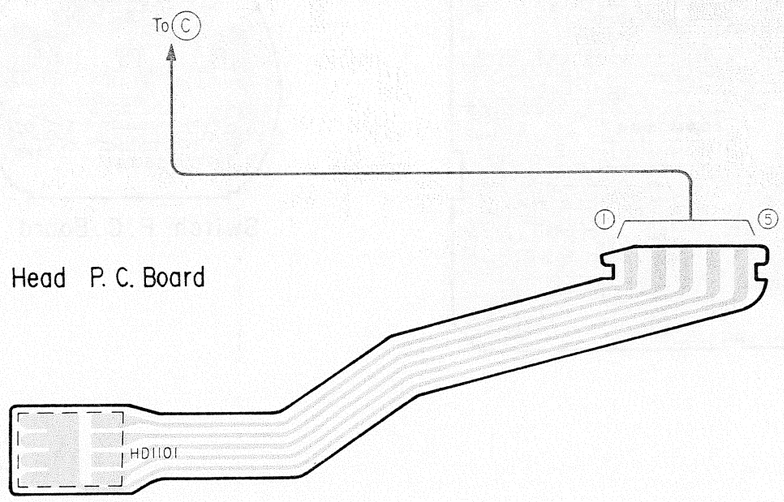
Parts Layout on P.C. Boards and Wiring Diagram (2/2)

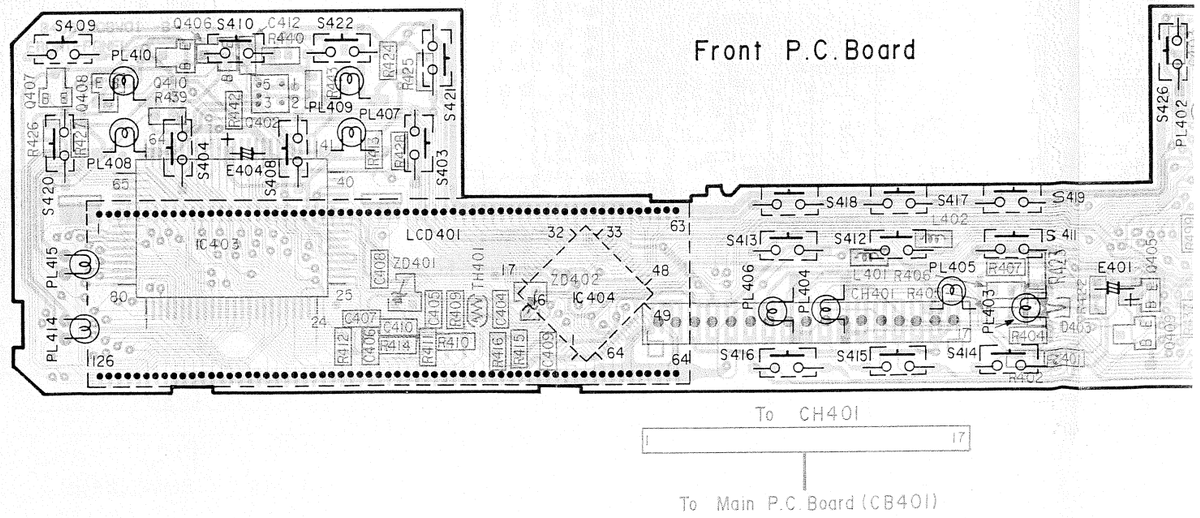
All P.C. Boards viewed from soldered side.





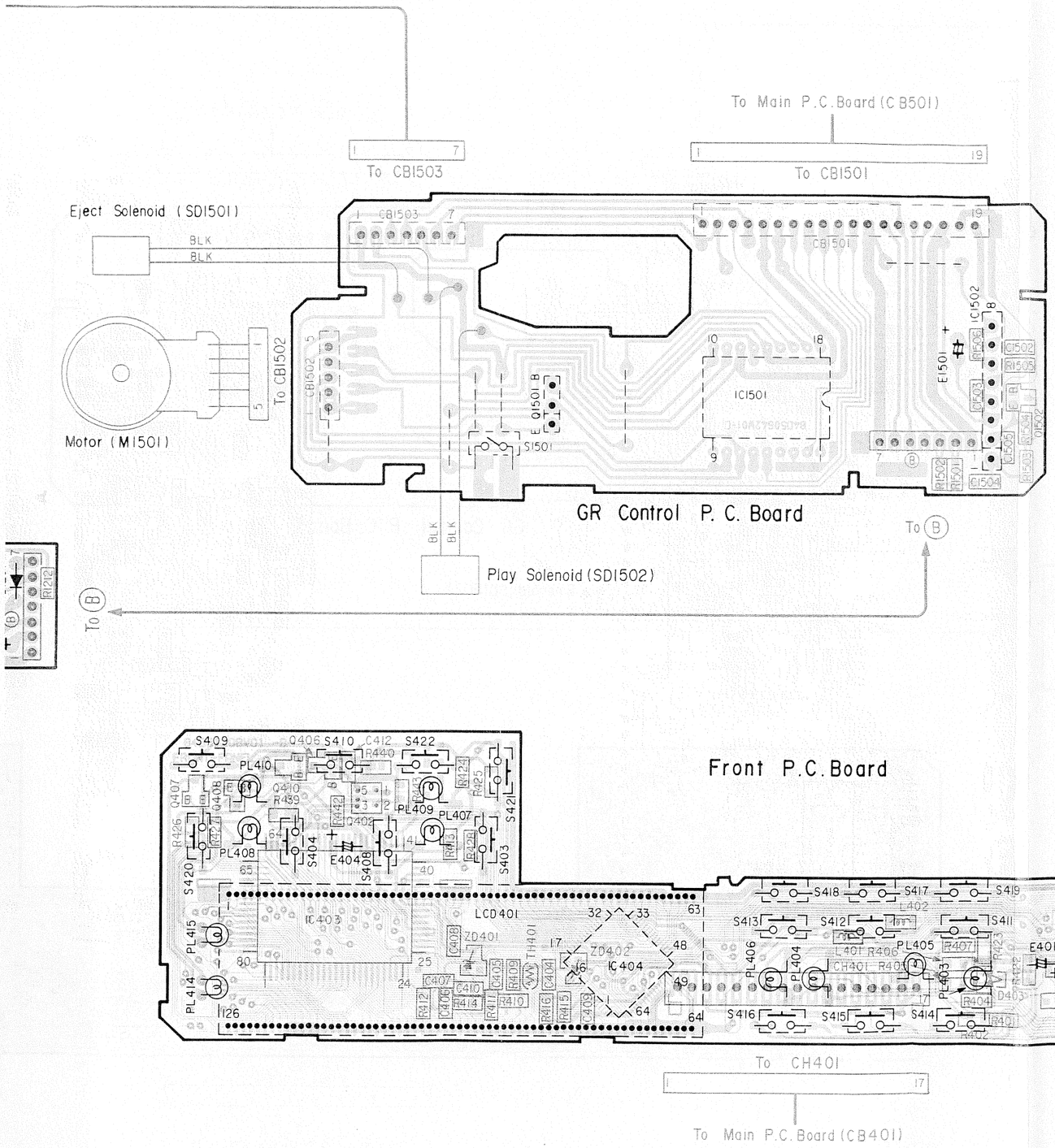


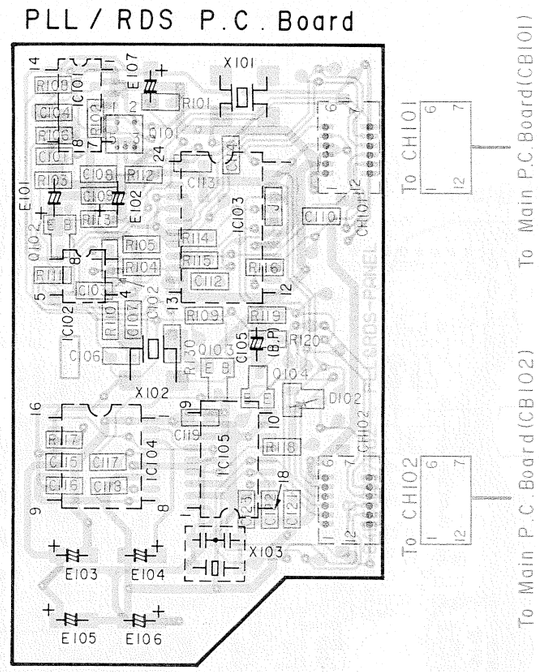


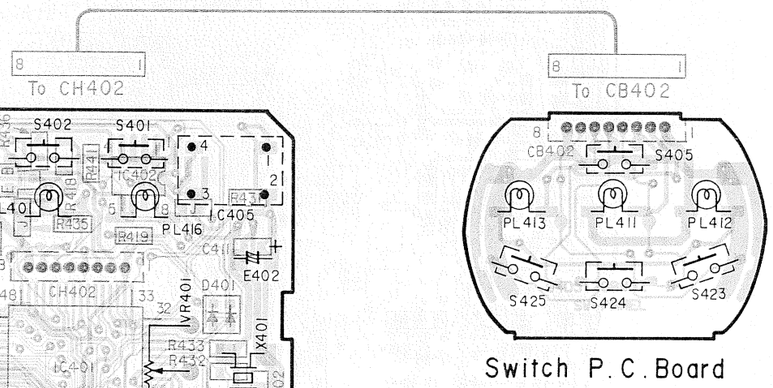


gram (2/2) All P.C. Boards viewed from soldered side.

Orange Color Pattern : Component Side Pattern
Blue Color Pattern : Foil Side Pattern

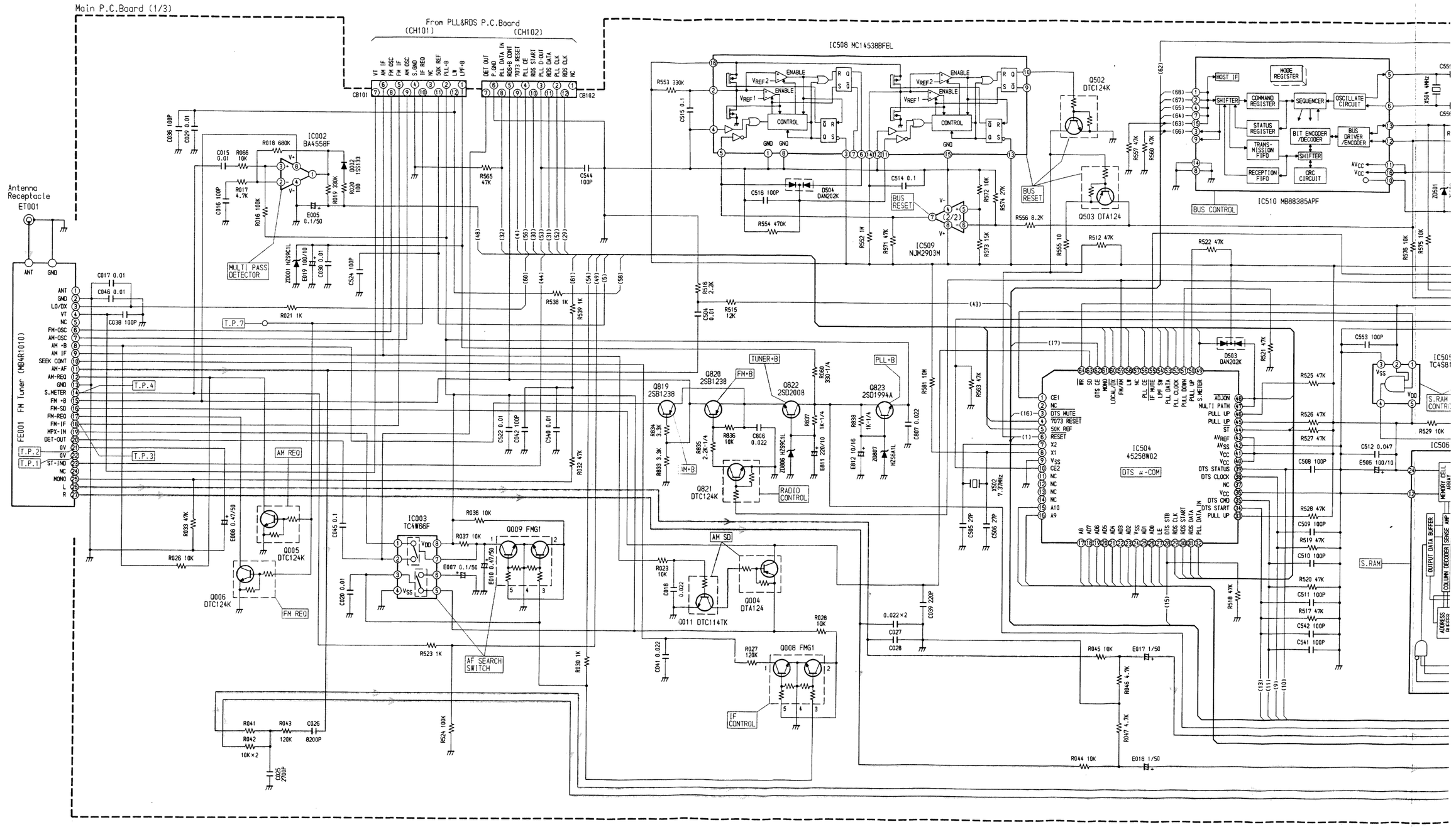






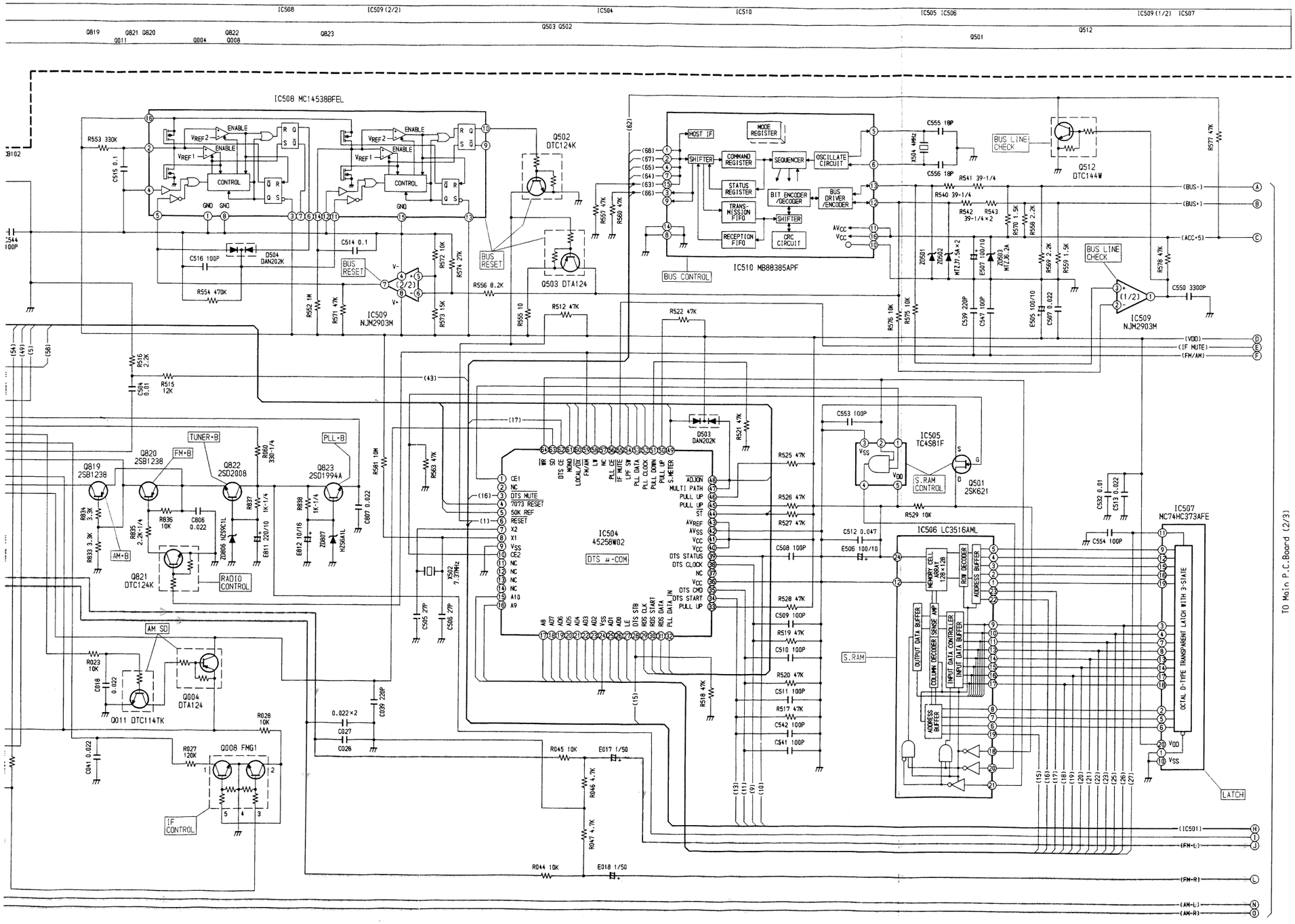
Schematic Diagram (1/5)

IC	IC002	IC003	IC508	IC509 (2/2)	IC504	IC510	IC505
Transistor (Q)	Q006 Q005 Q009	Q819 Q821 Q820 Q011 Q004 Q822 Q008 Q823		Q503 Q502			



NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$



IC002	
1	4.9V
2	4.9V
3	4.8V
4	0V
5	—
6	—
7	—
8	8.6V

IC003	
1	2.5V
2	0V
3	0V
4	0V
5	2.5V
6	0V
7	0V
8	4.9V

IC505	
1	5V
2	5V
3	0V
4	5V
5	5V

IC508	
1	0V
2	PS
3	5V
4	0V
5	PS
6	PS
7	—
8	0V
9	—
10	0V
11	4.2V
12	0V
13	5V
14	4.2V
15	0V
16	5V

IC506			
1	PS	13	PS
2	PS	14	PS
3	PS	15	PS
4	PS	16	PS
5	PS	17	PS
6	PS	18	PS
7	PS	19	PS
8	PS	20	PS
9	PS	21	PS
10	PS	22	PS
11	PS	23	PS
12	0V	24	5V

IC507			
1	0V	11	PS
2	PS	12	PS
3	PS	13	PS
4	PS	14	PS
5	PS	15	PS
6	PS	16	PS
7	PS	17	PS
8	PS	18	PS
9	PS	19	PS
10	0V	20	5V

IC509	
1	PS
2	PS
3	PS
4	0V
5	2V
6	PS
7	PS
8	5V

IC504						
1	PS		33	5V		
2	—		34	PS		
3	5V / 0V	DTS MUTE ON / OFF	35	PS		
4	5V		36	PS		
5	5V / 0V	API ON / OFF	37	—		
6	5V		38	PS		
7	PS		39	PS		
8	PS		40	5V		
9	0V		41	5V		
10	PS		42	0V		
11	—		43	5V		
12	—		44	5 / 0V	FM MONO / ST	
13	—		45	5V		
14	—		46	5V		
15	PS		47	4.6V		
16	PS		48	4.6V		
17	PS		49	4.2V		
18	PS		50	5V		
19	PS		51	0V		
20	PS		52	PS		
21	PS		53	PS		
22	PS		54	5V		
23	PS		55	5V / 0V	FF MUTE ON / OFF	
24	0V		56	PS		
25	PS		57	—		
26	PS		58	5V / 0V	LW / OTHER (FM / AM)	
27	PS		59	5V / 0V	FM / AM, LW	
28	PS		60	5V / 0V	LO / DX SEEK	
29	PS		61	5V / 0V	FF MONO ON / OFF	
30	PS		62	5V / 0V	ACC ON / OFF	
31	PS		63	PS		
32	PS		64	5V		

IC510	
1	PS
2	PS
3	PS
4	PS
5	PS
6	PS
7	PS
8	0V
9	—
10	0V
11	5V
12	PS
13	PS
14	0V
15	5V
16	5V

	E	C	B	MODE
Q004	4.9V	0V	4.9V	
Q005	0V	6.9V / 0V	0V / 4.4V	AM SEEK / OTHER
Q006	0V	1.4V / 0V	0V / 4.4V	FM SEEK / OTHER
Q011	0V	4.9V	0V	
Q502	0V	5V	0V	
Q503	5V	1.9V	5V	
Q512	0V	PS	PS	
Q819	8.7V / 8.6V	0V / 8.6V	8.6V / 7.9V	FM / MW / LW
Q820	8.7V	8.6V / 0.9V	8V / 8.7V	FM / MW / LW
Q821	0V	0.1V / 8.7V	5V / 0V	FM / MW / LW
Q822	8.6V / 0V	14V / 0V	9.2V / 0V	POWER ON / OFF
Q823	4.9V / 0V	14V / 0V	5.5V / 0V	POWER ON / OFF

	1	2	3	4	5	MODE
Q008	0V / 2.8V	3.5V / 0V	0V / 4.6V	0V	3.5V / 0V	FM SEEK ON / OFF
Q009	0V / 4.9V	3.5V / 0V	0V / 4.6V	0V	3.5V / 0V	FM SEEK ON / OFF

	S	D	G	MODE
Q501	0V	0V / 5V	5V / 0V	ACC ON / OFF

<Measuring Conditions>

1. Power Supply Voltage : DC14.4V
2. Measuring Meter : Digital Multi Volt Meter
3. Measuring Point Reference : Between Ground
4. Measuring Conditions : No Signal Input
   - FM 98.1MHz
   - MW 999kHz
   - LW 216kHz
   - TAPE ..... Blank

Schematic Diagram (2/5)

IC	IC201	IC701(2/2) IC702	IC701(1/2)	IC202 IC203 IC502	IC501	IC802	IC801
Transistor (Q)	Q511	Q201 Q202 Q203	Q508 Q509	Q817 Q825 Q818 Q816 Q814 Q504 Q510 Q826 Q803 Q505 Q801	Q802 Q507 Q810	IC511	

Main P.C.Board (2/3)

TO GR Control P.C.Board (CD1501)

PACK DOWN
RUN DET
PLAY SOL
+5V
BATT
P.GND
RF SOL
EJECT SOL
MOTOR CONT
O.MOTOR
PACK IN SW
+B (9V)
F/R
METAL
R-OUT
L-OUT
A.GND
O.FAST
MS.DET

MC701 Micro Phone WM-054BY

IC701 BA4558FH (2/2) BUFFER AMP
IC701 (1/2) 1/2VCC
IC702 (2/4) LOW PASS FILTER
IC702 (1/4) MIDDLE PASS FILTER
IC702 (3/4) HIGH PASS FILTER
IC702 (4/4) BUFFER AMP
IC702 BA14741F

IC502 S-8052HNM-CR
RESET

Q508 2SA1037K
NOSE +B SWITCH
Q509 DTC124K

BACK LIGHTING +B
Q817 2SD1857
Q816 FMC2
Q825 2SC2412K

LAMP +B
Q814 2SD2096
Q826 FMC2
Q803 FMC2
POWER ON 5V
Q818 DTC124K
IC802 NJM2904M

IC801 L78LR05OFA
PROTECTOR
ERROR AMP
RESET
VO DETECTOR
5V +B
Q801 DTC114YK
Q802 DTA124

LCD REGULATOR

MUTE
Q505 FMC2
Q506 DAN202K
Q507 FMC2
Q504 DTC124K

IC501 55433W08
MAIN μ-COM

IN PAUSE SWITCH
Q510 FMC2

IC511 μPD4990AG
CLOCK
ACC+5V

IF MUTE DRIVE

Q810 FMC2

(D) (VDD)
(E) (IF MUTE)
(A) (BUS-)
(B) (BUS+)
(I) (ACC+5)
(C) (IC501)
(H) (FM/AM)
(F) (FM/AM)
(N) (AM-L)
(J) (FM-L)
(L) (FM-R)
(Q) (AM-R)

TO Main P.C.Board (1/3)

IC201 CXA1332M
DOLBY B/C NR
MODE CONTROL

Q201 IMH1
Q202 IMH1
DOLBY B/C SWITCH
T.P.5
T.P.6

Q203 FMG1
CHANGER/TUNER/TAPE SWITCHING

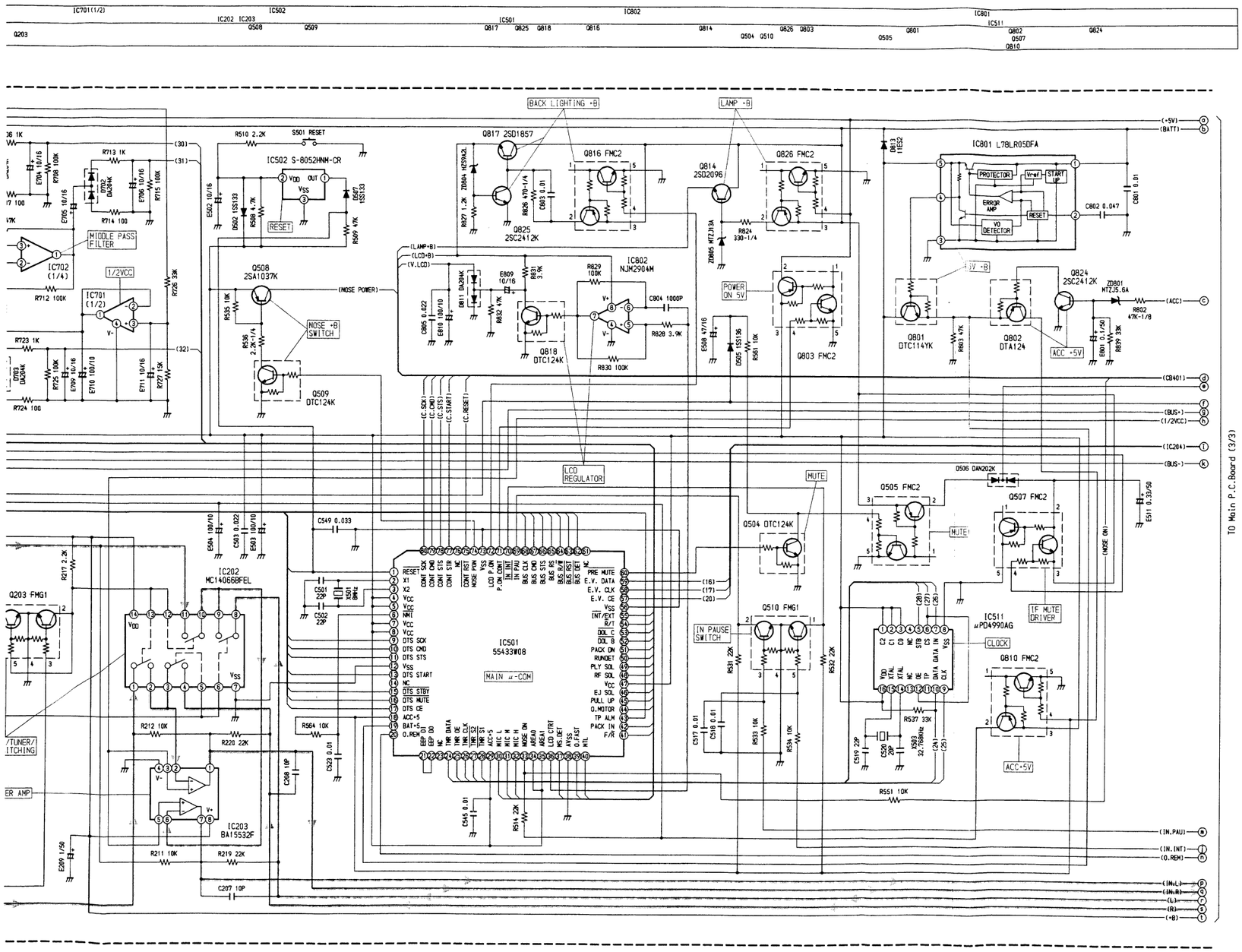
TUNER/TAPE SWITCHING
Q511 DTC124K
D508 DAP202K

BUFFER AMP

IC202 MC14066BFEL
IC203 BA15532F

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. P = $\frac{1}{1,000,000}$



IC201

1	4.2V		16	8.4V	
2	4.2V		17	4.2V	
3	—		18	4.2V	
4	4.2V		19	0.4V	
5	0V / 7.5V / 4.2V	TAPE / AM / FM	20	0.4V	
6	4.2V		21	4.2V	
7	4.2V		22	4.2V	
8	4.2V		23	4.2V	
9	4.2V		24	4.2V	
10	—		25	4.2V	
11	0.4V		26	0V / 3.7V / 7.5V	DOLBY OFF / B / C
12	. 0.4V		27	4.2V	
13	4.2V		28	—	
14	1.3V		29	4.2V	
15	0V		30	4.2V	

IC202

1	4.3V / 4.2V	TP, RADIO / CD
2	4.3V / 4.2V	TP, RADIO / CD
3	4.3V / 4.2V	TP, RADIO / CD
4	4.2V	
5	0V / 8.4V	TP, RADIO / CD
6	0V / 8.4V	TP, RADIO / CD
7	0V	
8	4.2V	
9	4.3V / 4.2V	TP, RADIO / CD
10	4.3V / 4.2V	TP, RADIO / CD
11	4.3V / 4.2V	TP, RADIO / CD
12	7.7V / 0V	TP, RADIO / CD
13	7.7V / 0V	TP, RADIO / CD
14	8.5V	

IC203

1	4.3V	
2	4.3V / 4.2V	TP, RD / CD
3	4.2V	
4	0V	
5	4.2V	
6	4.3V / 4.2V	TP, RD / CD
7	4.3V	
8	8.5V	

IC502

1	4.8V
2	5V
3	0V

IC501

1	5V		28	PS		55	0V / 5V	INT / EXT, TP ALM
2	PS		29	5V		56	0V	
3	PS		30	0V	ASC	57	PS	
4	5V		31	0V	ASC	58	PS	
5	5V		32	0V	ASC	59	PS	
6	4.2V		33	2.4V / 4.9V or 0V	NOSE ON / OFF	60	0V / 5V	PRE MUTE ON / OFF
7	5V		34	5V		61	—	
8	5V		35	5V		62	PS	
9	PS		36	0.8V / 3.5V / 5V	LCD CTRT-6 / ±0 / +6	63	5V	
10	PS		37	4.9V / 0V	M.S OFF / ON	64	PS	
11	PS		38	0V		65	PS	
12	0V		39	5V / 0V	CUE, REV / PLAY	66	PS	
13	PS		40	4.9V / 0V	METAL / NORMAL	67	PS	
14	—		41	5V / 0V	FOR / REV	68	PS	
15	PS		42	5V / 0V	PACK IN / OUT	69	0V / 4.1V	IN PAU ON / OFF
16	5V / 0V	DTS MUTE ON / OFF	43	PS	TP ARM	70	0V / 4.1V	IN INT ON / OFF
17	PS		44	5V / 0V	T / R	71	5V / 0V	POWER ON / OFF
18	4.2V / 0V	ACC ON / OFF	45	5V / 0V	FOR / REV	72	5V / 0V	LCD ON / OFF
19	4.2V		46	5V / 0V	EJECT / OTHER	73	0V	
20	5V / 0V	INT / EXT	47	5V		74	5V / 0V	NOSE POWER ON / OFF
21	0V		48	5V / 0V	FF / REW	75	5V	
22	0V		49	5V / 0V	FF, REW, CUE, REV / OTHER	76	—	
23	—		50	PS		77	PS	
24	PS		51	5V / 0V	PACK DOWN / OUT	78	PS	
25	PS		52	5V / 0V	DOLBY B OFF / ON	79	PS	
26	PS		53	5V / 0V	DOLBY C OFF / ON	80	PS	
27	PS		54	5V / 0V	TAPE / RADIO, TP ALM			

IC511

1	5V	9	PS
2	5V	10	PS
3	5V	11	—
4	—	12	PS
5	PS	13	—
6	PS	14	PS
7	PS	15	PS
8	0V	16	5V

IC701

1	2.6V	5	2.6V
2	2.6V	6	2.6V
3	2.6V	7	2.6V
4	0V	8	8.4V

IC702

1	2.6V	8	2.6V
2	2.6V	9	2.6V
3	2.6V	10	2.6V
4	8.4V	11	0V
5	2.5V	12	2.6V
6	2.7V	13	2.6V
7	2.7V	14	2.6V

IC801

1	14V
2	5.7V
3	0V
4	4.9V
5	5V

IC802

1	—
2	—
3	—
4	0V
5	3.5V
6	3.4V
7	3.4V
8	8.8V

	E	C	B	MODE
Q504	0V	9.6V / 0V	0V / 5V	MUTE ON / OFF
Q508	5V	5V / 0V	4.3V / 5V	NOSE ON / OFF
Q509	0V	0.1V / 5V	5V / 0V	NOSE ON / OFF
Q511	0V	0V / 4.4V	0V / 5V	INT / EXT
Q801	4.2V	5V	4.9V	
Q802	4.2V	4.2V / 0V	0V / 4.2V	ACC ON / OFF
Q814	12.2V / 0V	14.1V / 14.4V	12.8V / 0V	POWER ON / OFF
Q817	8.8V / 0.1V	14.1V / 14.4V	9.4V / 0V	LCD ON / OFF
Q818	0V	3.3V / 1.2V / 0.3V	0.9V / 3.4V / 4.9V	LCD CTRT-6 / ±0 / +6
Q824	0V	0V / 4.2V	0.7V / 0V	ACC ON / OFF
Q825	0V	9.4V / 0V	0.6V / 0V	LCD ON / OFF

	1	2	3	4	5	MODE
Q203	0V / 8.4V	7.7V / 0V	0.6V / 4.3V	0V	7.7V / 0V	T, R / CHANGER
Q505	—	14V / 0V	14V / 14.4V	9.6V / 0V	0V	POWER ON / OFF
Q507	—	14.1V / 0V	14.1V / 14V	5V / 0V	0V	IF MUTE ON / OFF
Q510	0V / 4.1V	0V / 4.1V	10.6V / 0V	0V	10.3V / 0V	IN PAU (IN INT) ON / OFF
Q803	—	4.9V / 0V	5V	5V / 0V	0V	POEWR ON / OFF
Q810	—	5V / 0V	5V	4.1V / 0V	0V	ACC ON / OFF
Q816	—	14V / 0V	14.1V / 14.4V	5V / 0V	0V	LCD ON / OFF
Q826	—	14V / 0V	14.1V / 14.4V	4.9V / 0V	0V	POWER ON / OFF

	1	2	3	4	5	6	MODE
Q201	0V / 3.7V / 0V	5V / 5V / 0V	0V / 3.7V / 0V	0V / 3.7V / 7.5V	5V/ 0V/ 5V	0V	DOLBY OFF / B / C
Q202	0V / 4.2V	2.8V / 4.4V	0V / 3.1V	0V / 4.2V	5V / 0V	0V	TAPE / RADIO

<Measuring Conditions>

1. Power Supply Voltage : DC14.4V
2. Measuring Meter : Digital Multi Volt Meter
3. Measuring Point Reference : Between Ground
4. Measuring Conditions : No Signal Input
   - FM 98.1MHz
   - MW 999kHz
   - LW 216kHz
   - TAPE ..... Blank

Schematic Diagram (3/5)

IC	IC205(2/2) IC206(2/2)	IC205(1/2) IC206(1/2)	IC204 IC207	IC301 IC302	IC803	IC304
Transistor (Q)				Q813	Q815 Q828	Q301 Q302 Q303 Q304 Q808 Q809 Q807 Q806 Q812 Q811 Q805 Q804

Main P.C.Board (3/3)

TO Main P.C.Board (2/3)

(IN.L) (IN.R) (1/2VCC) (+B) (IC204)

TREBLE/BASS AMP — IC205 (2/2) — IC205 (1/2) — IC205 NJM4580E — BUFFER AMP — IC207 (1/2) — IC207 NJM4580E — BUFFER AMP

IC204 LC7537AN

LIN — LCT1 — LCT2 — L-VSS — Lch

INIT — VDD — VEE — DI — CLK — CE — CONTROL — SHIFT REGISTER — LATCH — DECODER

R-VSS — RCT2 — RCT1 — Rch (Same as Lch)

ELECTRICAL VOLUME

IC301 NJM4580E — IC302 NJM4580E — BUFFER AMP

MUTE — Q302 2SD1328×2 Q301 — D301 DAP202K

MUTE — Q304 2SD1328×2 Q303 — D302 DAP202K

JK802 Assy.,DIN Socket (Ai-NET INPUT Connector)

IC304 BA15532F — ISOLATOR AMP

CB301 — FL Front FR RL Rear RR — ET301 Assy.,RCA Connector

CB803 — ET803 Assy.,DIN Connector (Ai-NET OUTPUT Connector)

(P.ANT) (O.REM) (ACC) (IN.PAU) (BATT) (IN.INT) — ET801 Assy.,Power Supply Connector

TREBLE/BASS AMP — IC206 (2/2) — IC206 (1/2) — IC206 NJM4580E — IC207 (2/2) — BUFFER AMP

AUDI 1/2VCC — IC803 BA4558FH — AUDIO +B

PROTECTION CIRCUIT — Q808 2SA1037K — Q809 DTC124K — Q807 DTC124K — Q806 2SB1243 — Q804 2SB1243 — Q805 DTC124K — POWER ANTENNA — OUT REMOTE

Q813 2SC3421 — Q815 2SA1358 — Q828 DTC124K — Q811 2SB1243 — Q812 DTC124K — POWER ON 14V

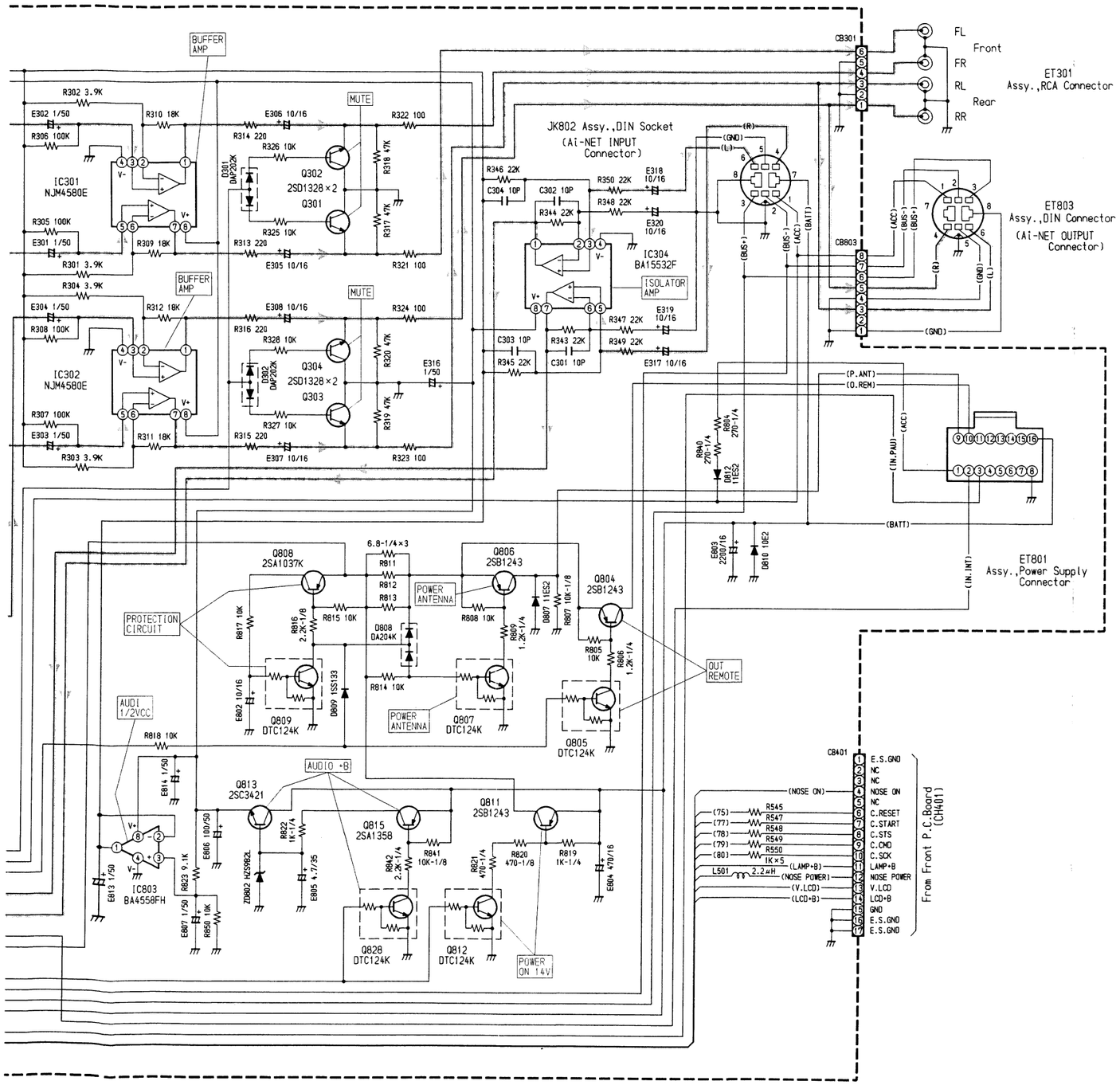
(ACC) (O.REM) (R) (L) (IN.INT) (+5V) (BUS-) (BUS+) (BATT) (IN.PAU) (CB401)

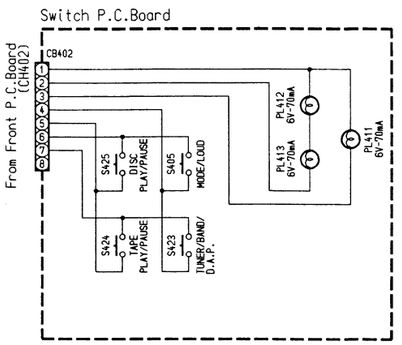
CB401 — E.S.GND NC NC NOSE ON NC C.RESET C.START C.STS C.CMD C.SCK LAMP+B NOSE POWER V.LCD LCD+B GND E.S.GND E.S.GND — From Front P.C.Board (CH401)

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. P = $\frac{1}{1{,}000{,}000}$

IC301 IC302 IC803 IC304
Q301 Q302 Q303 Q304 Q808 Q809 Q813 Q815 Q828 Q807 Q806 Q812 Q811 Q805 Q804





IC204

1	3.8V	17	PS	33	4.2V
2	4.2V	18	—	34	—
3	—	19	—	35	4.2V
4	4.2V	20	PS	36	4.2V
5	4.2V	21	4.9V	37	4.2V
6	4.2V	22	0V	38	4.2V
7	—	23	4.2V	39	4.2V
8	4.2V	24	4.2V	40	4.2V
9	4.2V	25	4.2V	41	—
10	4.2V	26	4.2V	42	8.3V
11	4.2V	27	4.2V	43	8.4V
12	4.2V	28	4.2V	44	—
13	4.2V	29	4.2V	45	4.2V
14	4.2V	30	—	46	4.2V
15	0V	31	4.2V	47	4.2V
16	PS	32	4.2V	48	4.2V

IC205

1	4.2V
2	4.2V
3	4.2V
4	0V
5	4.2V
6	4.2V
7	4.2V
8	8.4V

IC206

1	4.2V
2	4.2V
3	4.2V
4	0V
5	4.2V
6	4.2V
7	4.2V
8	8.4V

IC207

1	4.4V
2	4.4V
3	3.7V
4	0V
5	3.7V
6	4.4V
7	4.4V
8	8.4V

IC301, 302, 304

1	4.3V
2	4.2V
3	4.2V
4	0V
5	4.2V
6	4.2V
7	4.3V
8	8.4V

IC803

1	4.2V
2	4.2V
3	4.2V
4	0V
5	—
6	—
7	—
8	8.9V

	E	C	B	MODE
Q301	0V	0V	0.7V / 0V	MUTE ON / OFF
Q302	0V	0V	0.7V / 0V	MUTE ON / OFF
Q303	0V	0V	0.7V / 0V	MUTE ON / OFF
Q304	0V	0V	0.7V / 0V	MUTE ON / OFF
Q804	13.9V / 14V	13.9V / 0V	13.3V / 14V	INT / EXT
Q805	0V	0.1V / 14V	3.7V / 0V	INT / EXT
Q806	14V / 0V	14V / 0V	13.4V / 0V	POWER ON / OFF
Q807	0V	0.1V / 0V	9.8V / 0V	POWER ON / OFF
Q808	14.1V	0V	14V	
Q809	0V	14V	0V	
Q811	14.1V / 14.4V	14V / 0V	13.4V / 14V	POWER ON / OFF
Q812	0V	0.1V / 14.4V	4.9V / 0.1V	POWER ON / OFF
Q813	8.2V / 0V	14.1V / 14.4V	8.9V / 0V	POWER ON / OFF
Q815	14.1V / 14.4V	14.1V /0V	14.4V	POWER ON / OFF
Q828	0V	0.1V / 14.4V	4.9V / 0V	POWER ON / OFF

<Measuring Conditions>

1. Power Supply Voltage : DC14.4V
2. Measuring Meter : Digital Multi Volt Meter
3. Measuring Point Reference : Between Ground
4. Measuring Conditions : No Signal Input
   - FM 98.1MHz
   - MW 999kHz
   - LW 216kHz
   - TAPE ..... Blank

Schematic Diagram (4/5)

IC	IC103 IC101	IC102	IC104	IC105	IC405	IC401	IC404	IC403	IC402
Transistor (Q)	Q101	Q102	Q104 Q103	Q408 Q407 Q410 Q406 Q409 Q405	Q402 Q404	Q403			

PLL&RDS P.C.Board

IC103 LC7219

IC104 SAA6579T

IC105 LC7073M

IC101 BU4066BF

IC102 NJM4558M

Q103 2SA1037K

Q104 DTC124K

Q102 DTC124K

Q101 FMG1

Front P.C.Board

IC401 45552W28 CONTROL μ-COM

IC405 RS31 RECEIVER OF REMOCON

Q402 FMC2

IC404 LC7582W LCD DRIVER

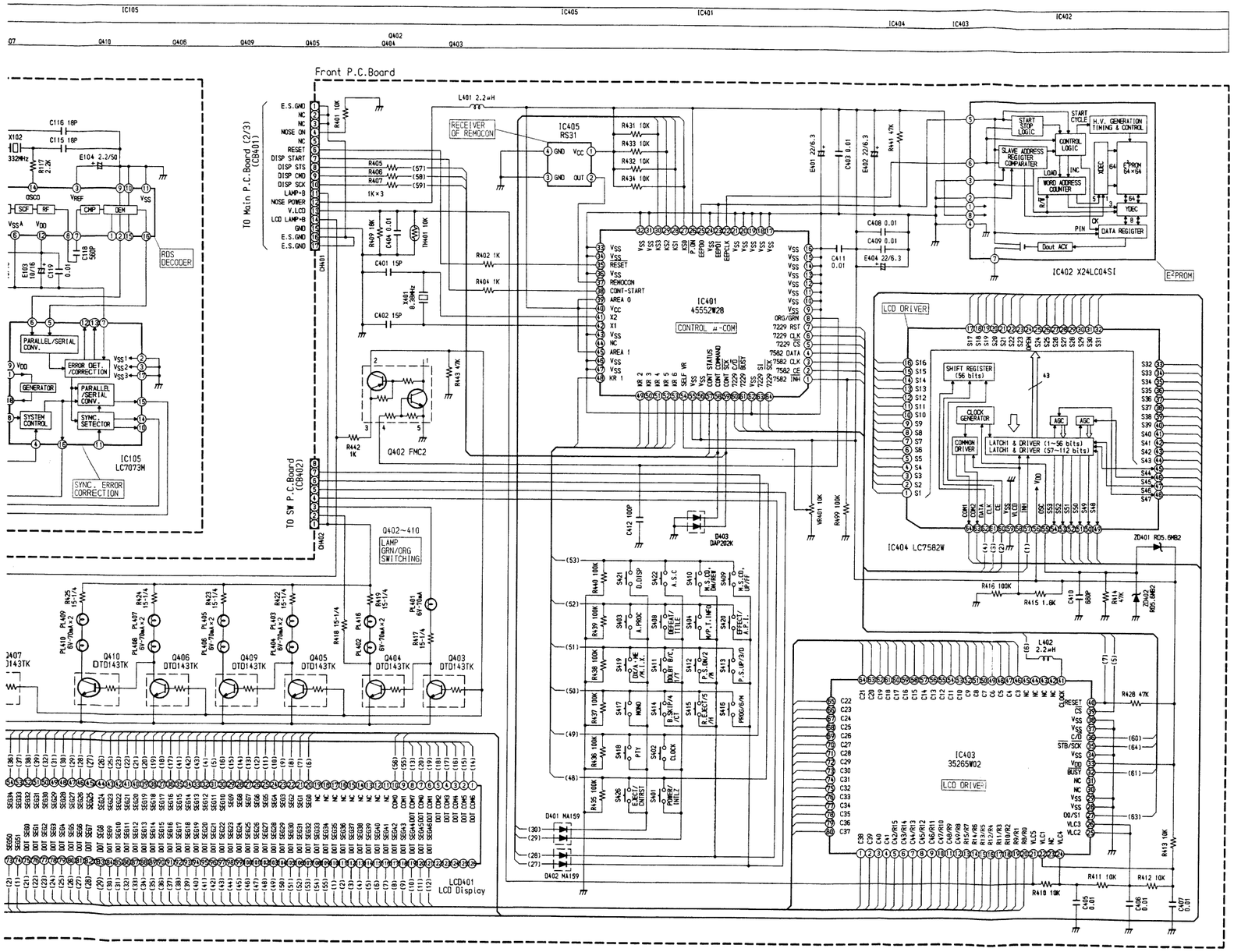
IC403 35265W02 LCD DRIVER

LCD401 LCD Display

Q402~410 LAMP GRN/ORG SWITCHING

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. P = $\frac{1}{1{,}000{,}000}$



IC101

1	5.3V	
2	5.3V	
3	5.3V	
4	5.3V / 8.1V	API ON / OFF
5	9.2V / 0V	API ON / OFF
6	—	
7	0V	
8	0V	
9	0V	
10	0V	
11	0V	
12	—	
13	0V / 8.4V	API ON / OFF
14	9.2V	

IC102

1	5.3V
2	2.4V
3	2.4V
4	0V
5	2.4V
6	2.4V
7	4.4V
8	9.2V

IC103

1	PS	13	—
2	PS	14	—
3	PS	15	PS
4	PS	16	PS
5	PS	17	—
6	—	18	PS
7	4.8V	19	PS
8	0V	20	4.9V
9	—	21	2.4V
10	4.8V	22	2.4V
11	—	23	0V
12	—	24	PS

IC405

1	5V
2	PS
3	0V
4	0V

IC104

1	—	9	0V
2	PS	10	0V
3	2.4V	11	0V
4	2.4V	12	4.8V
5	4.8V	13	PS
6	0V	14	PS
7	2.4V	15	—
8	2.4V	16	PS

IC105

1	PS	10	—
2	0V	11	—
3	0V	12	—
4	4.7V	13	—
5	PS	14	PS
6	PS	15	PS
7	0V	16	PS
8	0V	17	0V
9	4.8V	18	PS

IC402

1	0V
2	0V
3	0V
4	0
5	5V
6	5V
7	0V
8	5V

IC401

1	PS	17	0V	33	0V	49	0V
2	PS	18	0V	34	0V	50	0V
3	PS	19	0V	35	5V	51	0V
4	PS	20	0V	36	0V	52	0V
5	PS	21	0V	37	PS	53	0V
6	PS	22	4.9V	38	PS	54	2.6V
7	PS	23	4.9V	39	5V	55	5V
8	0V / 5V	GRN / ORG	24	0V	40	5V	56	5V
9	0V		25	4.9V	41	0V	57	PS
10	0V		26	4.9V	42	PS	58	PS
11	0V		27	PS	43	0V	59	PS
12	0V		28	PS	44	—	60	PS
13	0V		29	PS	45	5V	61	PS
14	0V		30	PS	46	0V	62	0V
15	0V		31	0V	47	0V	63	PS
16	0V		32	0V	48	0V	64	PS

IC404

1	PS	17	PS	33	PS	49	PS
2	PS	18	PS	34	PS	50	PS
3	PS	19	PS	35	PS	51	PS
4	PS	20	PS	36	PS	52	PS
5	PS	21	PS	37	PS	53	PS
6	PS	22	PS	38	PS	54	—
7	PS	23	PS	39	PS	55	PS
8	PS	24	—	40	PS	56	5V
9	PS	25	PS	41	PS	57	PS
10	PS	26	PS	42	PS	58	3.9V
11	PS	27	PS	43	PS	59	0V
12	PS	28	PS	44	PS	60	PS
13	PS	29	PS	45	PS	61	PS
14	PS	30	PS	46	PS	62	PS
15	PS	31	PS	47	PS	63	PS
16	PS	32	PS	48	PS	64	PS

IC403

1	PS	21	-1.8V / 0.7V	LCD ON / OFF	41	PS	61	PS
2	PS	22	3.2V		42	—	62	PS
3	PS	23	—		43	—	63	PS
4	PS	24	0V / 1.8V	LCD ON / OFF	44	—	64	PS
5	PS	25	1.5V / 2.8V	LCD ON / OFF	45	—	65	PS
6	PS	26	1.5V / 2.8V	LCD ON / OFF	46	PS	66	PS
7	PS	27	PS		47	PS	67	PS
8	PS	28	0V		48	PS	68	PS
9	PS	29	0V		49	PS	69	PS
10	PS	30	—		50	PS	70	PS
11	PS	31	—		51	PS	71	PS
12	PS	32	PS		52	PS	72	PS
13	PS	33	5V		53	PS	73	PS
14	PS	34	0V		54	PS	74	PS
15	PS	35	PS		55	PS	75	PS
16	PS	36	PS		56	PS	76	PS
17	PS	37	0V		57	PS	77	PS
18	PS	38	0V		58	PS	78	PS
19	PS	39	PS		59	PS	79	PS
20	PS	40	0V		60	PS	80	PS

	E	C	B	MODE
Q102	0V	0V / 0.1V	4.6V / 0V	LW / OTHER
Q103	4.9V	4.8V / 0.5V	4.2V / 4.9V	FM / MW, LW
Q104	0V	0V / 4.9V	8.6V / 0.9V	FM / MW, LW
Q403	0V	12.3V / 0.1V	0V / 8.7V	GRN / ORG
Q404	0V	0.1V / 12.4V	12.3V / 0.1V	GRN / ORG
Q405	0V	12.3V / 0V	0V / 8.7V	GRN / ORG
Q406	0V	12.3V / 0.1V	0V / 8.7V	GRN / ORG
Q407	0V	8.7V / 0V	0V / 8.7V	GRN / ORG
Q408	0V	0.1V / 8.8V	8.7V / 0.1V	GRN / ORG
Q409	0V	0.1V / 12.4V	12.3V / 0.1V	GRN / ORG
Q410	0V	0.1V / 12.4V	12.3V / 0.1V	GRN / ORG

	1	2	3	4	5	MODE
Q101	0V / 8.4V	9.2V/ 0V	0V / 8.4V	0V	5V / 0V	API ON / OFF
Q402	—	0V / 8.7V	8.8V	0V / 4.9V	0V	GRN / ORG

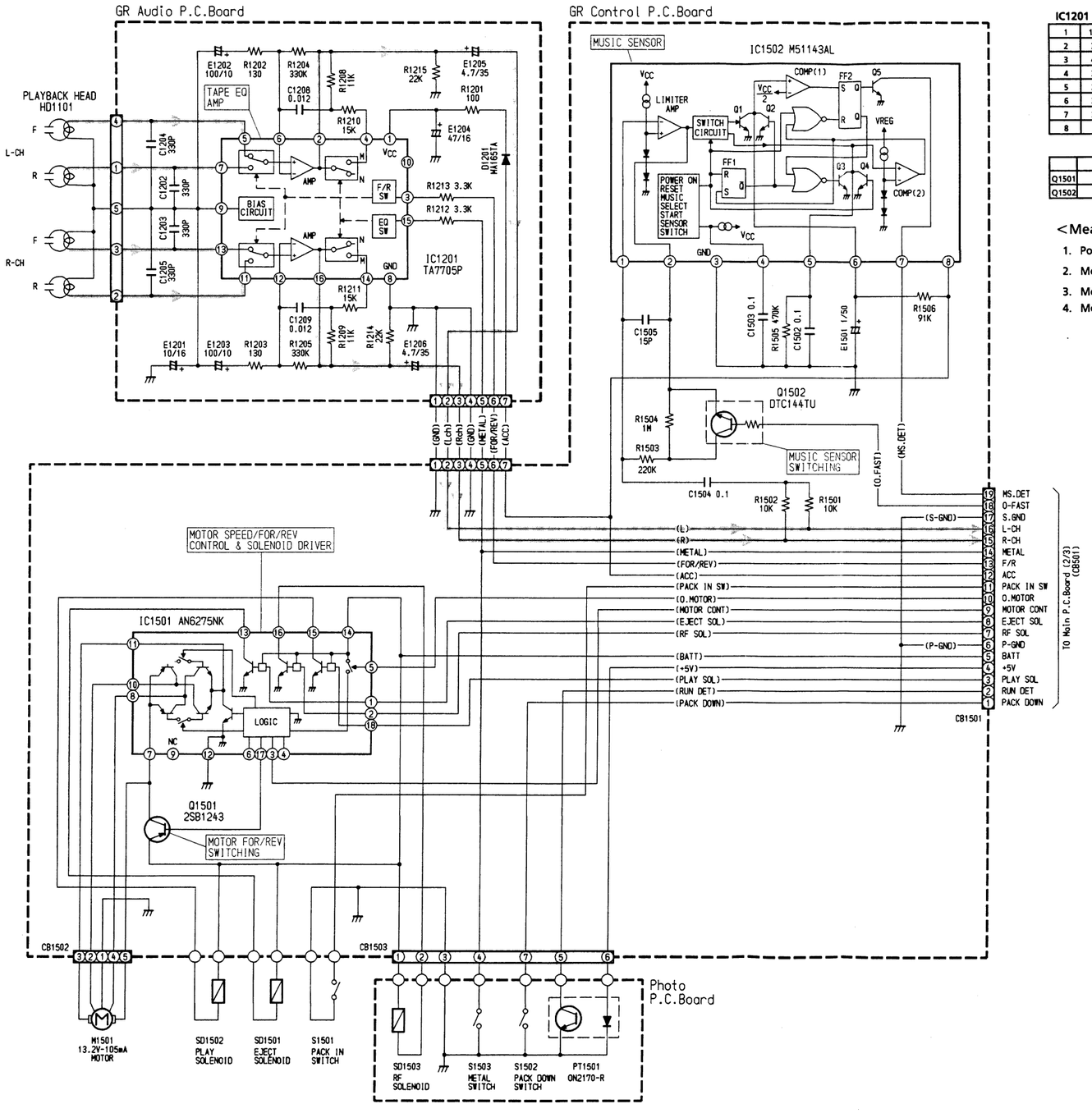
<Measuring Conditions>

1. Power Supply Voltage : DC14.4V
2. Measuring Meter : Digital Multi Volt Meter
3. Measuring Point Reference : Between Ground
4. Measuring Conditions : No Signal Input
   - FM 98.1MHz
   - MW 999kHz
   - LW 216kHz
   - TAPE ..... Blank

Schematic Diagram (5/5)

IC	IC1201	IC1502
	IC1501	
Transistor (Q)	Q1502	
	Q1501	

NOTES:
1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1{,}000{,}000}$



IC1201

1	13.1V	9	2.9V
2	3.1V	10	—
3	4.9V	11	2.9V
4	3.1V	12	2.9V
5	2.9V	13	2.9V
6	2.9V	14	3.1V
7	2.9V	15	0.1V
8	0V	16	3.1V

IC1501

1	0V	10	13.9V
2	0V	11	8.1V
3	5.1V	12	0V
4	0V	13	14V
5	5.1V	14	14V
6		15	0.2V
7	13.9V	16	14V
8	8.2V	17	13.2V
9	N.C	18	5.1V

IC1502

1	1.41V
2	1.38V
3	0V
4	1.31V
5	0.02V
6	0.02V
7	0.05V
8	14.01V

	E	C	B
Q1501	14V	13.9V	13.2V
Q1502	1.38V	1.4V	0V

<Measuring Conditions>

1. Power Supply Voltage : DC14.4V
2. Measuring Meter : Digital Multi Volt Meter
3. Measuring Point Reference : Between Ground
4. Measuring Conditions : No Signal Input
   - FM 98.1MHz
   - MW 999kHz
   - LW 216kHz
   - TAPE ..... Blank

Electrical Parts List

Resistor : Carbon resistors under 1 / 4 watts are not mentioned in the parts list, please confirm them by schematic diagram.

Capacitor : μF=microfarads, pF=picofarads

Abbreviations

RES.=	Resistor	CAP.=	Capacitor
C.F.=	Carbon Film	ELY.=	Electrolytic
M.F.=	Metal Film	CER.=	Ceramic
M.O.=	Metal Oxide Film	MYL.=	Mylar
M.P.=	Metal Plate	TAN.=	Tantalum
TR.=	Transistor	POLY.=	Polystyrol
TRANS.=	Transformer	PP.=	Polypropylene
CP.=	Chip	PLT.=	Polyethylene
		PF.=	Polyester Film

Main P. C. Board

IC's

Symbol No.	Part No.	Description
IC002	51T65379F12	BA4558F
or	51T65379F22	XRA4558FH
IC003	51T55352W02	TC4W66F
IC201	51T25767W02	CXA1332M
IC202	51T40941U02	MC14066BFEL
IC203	51T25154W21	XRA15532F
or	51T25154W11	BA15532F
IC204	51T72016F02	LC7537AN
IC205	51T25576W04	NJM4580E
IC206	51T25576W04	NJM4580E
IC207	51T25576W04	NJM4580E
IC301	51T25576W04	NJM4580E
IC302	51T25576W04	NJM4580E
IC304	51T25154W11	BA15532F
or	51T25154W21	XRA15532F
IC501	51T55433W08	55433W08
IC502	51T95014F13	S-8052HNM-CR
IC504	51T45258W02	45258W02
IC505	51T93532F04	TS4S81F
IC506	51T84723F02	LC3516AML
IC507	51T55640W01	MC74HC373AFE
IC508	51T25370W01	MC14538BFEL
IC509	51T93332F01	NJM2903M
IC510	51T55070W04	MB88385APF
IC511	51T55638W01	μPD4990AG
IC701	51T65379F12	BA4558FH
or	51T65379F22	XRA4558FH
IC702	51T16239W12	BA14741F
or	51T16239W22	XRA14741F
IC801	51T15268W03	L78LR05DFA
IC802	51T93333F01	NJM2904M
IC803	51T65379F12	BA4558FH
or	51T65379F22	XRA4558FH

Transistors

Symbol No.	Part No.	Description
Q004	48T62966F03	CP., DTA124
Q005	48T62967F03	CP., DTC124K
Q006	48T62967F03	CP., DTC124K
Q008	48T73888F08	CP., FMG1
Q009	48T73888F08	CP., FMG1
Q011	48T62967F09	CP., DTC114TK
Q201	48T94471F03	CP., IMH1
Q202	48T94471F03	CP., IMH1
Q203	48T73888F08	CP., FMG1
Q301	48T63788F04	CP., 2SD1328
Q302	48T63788F04	CP., 2SD1328
Q303	48T63788F04	CP., 2SD1328
Q304	48T63788F04	CP., 2SD1328
Q501	48T80674F01	FET, CP. 2SK621
Q502	48T62967F03	CP., DTC124K
Q503	48T62966F03	CP., DTA124
Q504	48T62967F03	CP., DTC124K
Q505	48T73888F12	CP., FMC2
Q507	48T73888F12	CP., FMC2
Q508	48T63420F01	CP., 2SA1037K
Q509	48T62967F03	CP., DTC124K
Q510	48T73888F08	CP., FMG1
Q511	48T62967F03	CP., DTC124K
Q512	48T62967F08	CP., DTC144W
Q801	48T62967F06	CP., DTC114YK
Q802	48T62966F03	CP., DTA124
Q803	48T73888F12	CP., FMC2
Q804	48T84366F01	2SB1243
Q805	48T62967F03	CP., DTC124K
Q806	48T84366F01	2SB1243
Q807	48T62967F03	CP., DTC124K
Q808	48T63420F01	CP., 2SA1037K
Q809	48T62967F03	CP., DTC124K
Q810	48T73888F12	CP., FMC2
Q811	48T84366F01	2SB1243
Q812	48T62967F03	CP., DTC124K
Q813	48T69176F01	2SC3421
Q814	48T25169W01	2SD2096
Q815	48T69177F01	2SA1358
Q816	48T73888F12	CP., FMC2
Q817	48T55057W01	2SD1857
Q818	48T62967F03	CP., DTC124K
Q819	48T84234F03	2SB1238
Q820	48T84234F03	2SB1238
Q821	48T62967F03	CP., DTC124K
Q822	48T15289W03	2SD2008
Q823	48T93828F01	2SD1994A
Q824	48T63417F01	CP., 2SC2412K
Q825	48T63417F01	CP., 2SC2412K
Q826	48T73888F12	CP., FMC2
Q828	48T62967F03	CP., DTC124K

Diodes

Symbol No.	Part No.	Description
D002	48T68828F11	1SS133
D301	48T63463F01	CP., DAP202K
D302	48T63463F01	CP., DAP202K
D501	48T68828F11	1SS133
D502	48T68828F11	1SS133
D503	48T63462F01	CP., DAN202K
D504	48T63462F01	CP., DAN202K
D505	48T70933F11	1SS136
D506	48T63462F01	CP., DAN202K
D507	48T68828F11	1SS133
D508	48T63463F01	CP., DAP202K
D701	48T64134F01	CP., DA204K
D702	48T64134F01	CP., DA204K
D703	48T64134F01	CP., DA204K
D807	48T84052F11	11ES2
D808	48T64134F01	CP., DA204K
D809	48T68828F11	1SS133
D810	48T81044F01	10E2
D811	48T64134F01	CP., DA204K
D812	48T84052F11	11ES2
D813	48T84052F11	11ES2
ZD001	48T25766W24	Zener, HZS9C1L
ZD501	48T45012W35	Zener, MTZJ7.5A
ZD502	48T45012W35	Zener, MTZJ7.5A
ZD503	48T45012W29	Zener, MTZJ6.2A
ZD801	48T45012W26	Zener, MTZJ5.6A
ZD802	48T25766W22	Zener, HZS9B2L
ZD804	48T25766W20	Zener, HZS9A2L
ZD805	48T45012W54	Zener, MTZJ13A
ZD806	48T25766W24	Zener, HZS9C1L
ZD807	48T25766W01	Zener, HZS6A1L

Switch

Symbol No.	Part No.	Description
S501	40T16096W01	Switch Tact, SKHHLW (RESET)

Microphone

Symbol No.	Part No.	Description
MC701	50T35317W02	WM-054BY

Coil

Symbol No.	Part No.	Description
L501	24T16403W19	Inductor, 2.2μH

Crystals

Symbol No.	Part No.	Description
X501	91T45118W47	8MHz
X502	91T45118W44	7.3728MHz
X503	91T15849W02	32.768KHz
X504	91T45118W12	4MHz

Capacitors

Symbol No.	Part No.		
E005	23S61523F25	ELY.,	0.1μF / 50V
E007	23S61523F25	ELY.,	0.1μF / 50V
E008	23S61523F28	ELY.,	0.47μF / 50V
E010	23S61523F28	ELY.,	0.47μF / 50V
C015	08S65128F69	CP.,	0.01μF
C016	08S65128F35	CP.,	100pF
C017	08S65128F69	CP.,	0.01μF
E017	23T25149W05	ELY.,	1μF / 50V
C018	08T15399W01	CP.,	0.022μF
E018	23T25149W05	ELY.,	1μF / 50V
E019	23S61523F34	ELY.,	100μF / 10V
C020	08S65128F69	CP.,	0.01μF
C025	08S65128F62	CP.,	2700pF
C026	08S65128F68	CP.,	8200pF
C027	08T15399W01	CP.,	0.022μF
C028	08T15399W01	CP.,	0.022μF
C029	08S53332F47	CP.,	0.01μF
C030	08S65128F69	CP.,	0.01μF
C036	08S65128F35	CP.,	100pF
C038	08S65128F35	CP.,	100pF
C039	08S65128F43	CP.,	220pF
C041	08T15399W01	CP.,	0.022μF
C042	08S65128F35	CP.,	100pF
C045	08T15807W05	CP.,	0.1μF
C046	08S65128F69	CP.,	0.01μF
C201	08T55401W17	CP.,	2200pF
E201	23T25149W05	ELY.,	1μF / 50V
C202	08T55401W17	CP.,	2200pF
E202	23T25149W05	ELY.,	1μF / 50V
C203	08T55401W17	CP.,	2200pF
E203	23T25149W09	ELY.,	10μF / 16V
C204	08T55401W17	CP.,	2200pF
E204	23T25149W09	ELY.,	10μF / 16V
E205	23T25149W03	ELY.,	0.33μF / 50V
E206	23T25149W03	ELY.,	0.33μF / 50V
C207	08S82122F13	CP.,	10pF
E207	23T25149W09	ELY.,	10μF / 16V

Symbol No.	Part No.	Description
C208	08S82122F13	CP., 10pF
E208	23T25149W05	ELY., 1μF / 50V
C209	08S82122F13	CP., 10pF
E209	23T25149W05	ELY., 1μF / 50V
C210	08S82122F13	CP., 10pF
E210	23T25149W09	ELY., 10μF / 16V
C211	08T55401W17	CP., 2200pF
E211	23T25149W09	ELY., 10μF / 16V
C212	08T55401W17	CP., 2200pF
E212	23T25149W09	ELY., 10μF / 16V
C213	08T15559W26	TF, 0.12μF
E213	23T25149W09	ELY., 10μF / 16V
C214	08T15559W26	TF, 0.12μF
E214	23T25149W09	ELY., 10μF / 16V
C215	08T15559W26	TF, 0.12μF
E215	23T25149W09	ELY., 10μF / 16V
C216	08T15559W26	TF, 0.12μF
E216	23T25149W09	ELY., 10μF / 16V
C217	08T55401W17	CP., 2200pF
E217	23T25149W04	ELY., 0.47μF / 50V
C218	08T55401W17	CP., 2200pF
E218	23T25149W04	ELY., 0.47μF / 50V
E219	23T25149W09	ELY., 10μF / 16V
E220	23T25149W05	ELY., 1μF / 50V
E221	23T25149W09	ELY., 10μF / 16V
E222	23T25149W09	ELY., 10μF / 16V
E223	23T25149W05	ELY., 1μF / 50V
E224	23T25149W05	ELY., 1μF / 50V
E225	23T25149W02	ELY., 0.22μF / 50V
E226	23T25149W02	ELY., 0.22μF / 50V
E227	23T25149W03	ELY., 0.33μF / 50V
E228	23T25149W03	ELY., 0.33μF / 50V
C301	08S82122F13	CP., 10pF
E301	23T25149W05	ELY., 1μF / 50V
C302	08S82122F13	CP., 10pF
E302	23T25149W05	ELY., 1μF / 50V
C303	08S82122F13	CP., 10pF
E303	23T25149W05	ELY., 1μF / 50V
C304	08S82122F13	CP., 10pF
E304	23T25149W05	ELY., 1μF / 50V
E305	23T25149W09	ELY., 10μF / 16V
E306	23T25149W09	ELY., 10μF / 16V
E307	23T25149W09	ELY., 10μF / 16V
E308	23T25149W09	ELY., 10μF / 16V
E309	23T25149W05	ELY., 1μF / 50V
E310	23T25149W05	ELY., 1μF / 50V
E316	23T25149W05	ELY., 1μF / 50V
E317	23T25149W09	ELY., 10μF / 16V
E318	23T25149W09	ELY., 10μF / 16V
E319	23T25149W09	ELY., 10μF / 16V
E320	23T25149W09	ELY., 10μF / 16V
C501	08S82122F21	CP., 22pF

Symbol No.	Part No.	Description
E501	23S61523F34	ELY., 100μF / 10V
C502	08S82122F21	CP., 22pF
E502	23S61523F12	ELY., 10μF / 16V
C503	08T15399W01	CP., 0.022μF
E503	23S61523F34	ELY., 100μF / 10V
C504	08S65128F69	CP., 0.01μF
E504	23S61523F34	ELY., 100μF / 10V
C505	08S82122F23	CP., 27pF
E505	23S61523F34	ELY., 100μF / 10V
C506	08S82122F23	CP., 27pF
E506	23S61523F34	ELY., 100μF / 10V
C507	08T15399W01	CP., 0.022μF
E507	23S61523F34	ELY., 100μF / 10V
C508	08S65128F35	CP., 100pF
E508	23T25149W12	ELY., 47μF / 16V
C509	08S65128F35	CP., 100pF
C510	08S65128F35	CP., 100pF
C511	08S65128F35	CP., 100pF
E511	23S61523F27	ELY., 0.33μF / 50V
C512	08T15399W03	CP., 0.047μF
C513	08T15399W01	CP., 0.022μF
C514	08T15807W05	CP., 0.1μF
C515	08T15807W05	CP., 0.1μF
C516	08S65128F35	CP., 100pF
C517	08S65128F69	CP., 0.01μF
C518	08S65128F69	CP., 0.01μF
C519	08S82122F21	CP., 22pF
C520	08S82122F20	CP., 20pF
C522	08S65128F69	CP., 0.01μF
C523	08S65128F69	CP., 0.01μF
C524	08S65128F35	CP., 100pF
C529	08S65128F35	CP., 100pF
C532	08S65128F69	CP., 0.01μF
C538	08S65128F35	CP., 100pF
C539	08S65128F43	CP., 220pF
C540	08S65128F69	CP., 0.01μF
C541	08S65128F35	CP., 100pF
C542	08S65128F35	CP., 100pF
C544	08S65128F35	CP., 100pF
C545	08S65128F69	CP., 0.01μF
C547	08S65128F35	CP., 100pF
C549	08T15399W02	CP., 0.033μF
C550	08S65128F63	CP., 3300μF
C553	08S65128F35	CP., 100pF
C554	08S65128F35	CP., 100pF
C555	08S82122F19	CP., 18pF
C556	08S82122F19	CP., 18pF
C701	08S65128F61	CP., 2200pF
E701	23S61523F29	ELY., 1μF / 50V
C702	08S65128F69	CP., 0.01μF
E702	23S61523F30	ELY., 2.2μF / 50V
C703	08T15399W02	CP., 0.033μF

Symbol No.	Part No.	Description
E703	23S61523F12	ELY., 10μF / 16V
C704	08S65128F69	CP., 0.01μF
E704	23S61523F12	ELY., 10μF / 16V
C705	08T15807W05	CP., 0.1μF
E705	23S61523F12	ELY., 10μF / 16V
C706	08S65128F35	CP., 100pF
E706	23S61523F12	ELY., 10μF / 16V
C707	08S65128F61	CP., 2200pF
E707	23S61523F12	ELY., 10μF / 16V
C708	08T15399W01	CP., 0.022μF
E708	23S61523F12	ELY., 10μF / 16V
E709	23S61523F12	ELY., 10μF / 16V
E710	23S61523F34	ELY., 100μF / 10V
E711	23S61523F12	ELY., 10μF / 16V
C801	08S65128F69	CP., 0.01μF
E801	23S61523F25	ELY., 0.1μF / 50V
C802	08T15399W03	CP., 0.047μF
E802	23S61523F12	ELY., 10μF / 16V
C803	08S65128F69	CP., 0.01μF
E803	23T35505W02	ELY., 2200μF / 16V
C804	08S65128F57	CP., 1000pF
E804	23T00149L28	ELY., 470μF / 16V
C805	08T15399W01	CP., 0.022μF
E805	23T25149W15	ELY., 4.7μF / 35V
C806	08T15399W01	CP., 0.022μF
E806	23T35150W31	ELY., 100μF / 50V
C807	08T15399W01	CP., 0.022μF
E807	23T25149W05	ELY., 1μF / 50V
E809	23S61523F12	ELY., 10μF / 16V
E810	23S61523F34	ELY., 100μF / 10V
E811	23T94181F40	ELY., 220μF / 10V
E812	23S61523F12	ELY., 10μF / 16V
E813	23T25149W05	ELY., 1μF / 50V
E814	23T25149W05	ELY., 1μF / 50V

Resistors (All resistors are chip 1/10W±5% unless otherwise noted.)

R016	06S64996F02	100K ohm
R017	06S64995F69	4.7K ohm
R018	06S64996F22	680K ohm
R019	06S64996F14	330K ohm
R020	06S64995F29	100 ohm
R021	06S64995F53	1K ohm
R023	06S64995F77	10K ohm
R026	06S64995F77	10K ohm
R027	06S64996F04	120K ohm
R028	06S64995F77	10K ohm
R030	06S64995F53	1K ohm
R032	06S64995F93	47K ohm
R033	06S64995F93	47K ohm
R036	06S64995F77	10K ohm
R037	06S64995F77	10K ohm
R041	06S64995F77	10K ohm
R042	06S64995F77	10K ohm
R043	06S64996F04	120K ohm
R044	06S64995F77	10K ohm
R045	06S64995F77	10K ohm
R046	06S64995F69	4.7K ohm
R047	06S64995F69	4.7K ohm
R060	06S70072F41	330 ohm 1/4W
R066	06S64995F77	10K ohm
R201	06S64995F37	220 ohm
R202	06S64995F37	220 ohm
R203	06S64995F86	24K ohm
R204	06S64995F86	24K ohm
R205	06S64995F47	560 ohm
R206	06S64995F47	560 ohm
R207	06S64995F53	1K ohm
R208	06S64995F87	27K ohm
R209	06S64995F81	15K ohm
R210	06S64995F81	15K ohm
R211	06S64995F77	10K ohm
R212	06S64995F77	10K ohm
R213	06S64995F79	12K ohm
R214	06S64995F75	8.2K ohm
R215	06S64995F79	12K ohm
R216	06S64995F75	8.2K ohm
R217	06S64995F61	2.2K ohm
R218	06S64995F85	22K ohm
R219	06S64995F85	22K ohm
R220	06S64995F85	22K ohm
R221	06S64995F85	22K ohm
R222	06S64995F85	22K ohm
R223	06S64995F53	1K ohm
R224	06S64995F85	22K ohm
R225	06S64995F85	22K ohm
R226	06S64995F77	10K ohm
R227	06S64995F77	10K ohm
R228	06S64995F63	2.7K ohm
R229	06S64995F63	2.7K ohm
R230	06S64996F26	1M ohm
R231	06S64996F26	1M ohm
R232	06S64996F26	1M ohm
R233	06S64996F26	1M ohm
R234	06S64996F26	1M ohm

Symbol No.	Part No.	Description
R235	06S64996F26	1M ohm
R236	06S64995F93	47K ohm
R237	06S64996F30	2.2M ohm
R238	06S64996F30	2.2M ohm
R239	06S64996F30	2.2M ohm
R248	06S64996F30	2.2M ohm
R301	06S64995F67	3.9K ohm
R302	06S64995F67	3.9K ohm
R303	06S64995F67	3.9K ohm
R304	06S64995F67	3.9K ohm
R305	06S64996F02	100K ohm
R306	06S64996F02	100K ohm
R307	06S64996F02	100K ohm
R308	06S64996F02	100K ohm
R309	06S64995F83	18K ohm
R310	06S64995F83	18K ohm
R311	06S64995F83	18K ohm
R312	06S64995F83	18K ohm
R313	06S64995F37	220 ohm
R314	06S64995F37	220 ohm
R315	06S64995F37	220 ohm
R316	06S64995F37	220 ohm
R317	06S64995F93	47K ohm
R318	06S64995F93	47K ohm
R319	06S64995F93	47K ohm
R320	06S64995F93	47K ohm
R321	06S64995F29	100 ohm
R322	06S64995F29	100 ohm
R323	06S64995F29	100 ohm
R324	06S64995F29	100 ohm
R325	06S64995F77	10K ohm
R326	06S64995F77	10K ohm
R327	06S64995F77	10K ohm
R328	06S64995F77	10K ohm
R343	06S64995F85	22K ohm
R344	06S64995F85	22K ohm
R345	06S64995F85	22K ohm
R346	06S64995F85	22K ohm
R347	06S64995F85	22K ohm
R348	06S64995F85	22K ohm
R349	06S64995F85	22K ohm
R350	06S64995F85	22K ohm
R501	06S64995F41	330 ohm
R502	06S64995F89	33K ohm
R503	06S64995F93	47K ohm
R504	06S64995F93	47K ohm
R505	06S64995F93	47K ohm
R506	06S64995F93	47K ohm
R507	06S64995F69	4.7K ohm
R508	06S64995F69	4.7K ohm
R509	06S64995F93	47K ohm
R510	06S64995F61	2.2K ohm

Symbol No.	Part No.	Description
R512	06S64995F93	47K ohm
R514	06S64995F85	22K ohm
R515	06S64995F79	12K ohm
R516	06S64995F61	2.2K ohm
R517	06S64995F93	47K ohm
R518	06S64995F93	47K ohm
R519	06S64995F93	47K ohm
R520	06S64995F93	47K ohm
R521	06S64995F93	47K ohm
R522	06S64995F93	47K ohm
R523	06S64995F53	1K ohm
R524	06S64996F02	100K ohm
R525	06S64995F93	47K ohm
R526	06S64995F93	47K ohm
R527	06S64995F93	47K ohm
R528	06S64995F93	47K ohm
R529	06S64995F77	10K ohm
R531	06S64995F85	22K ohm
R532	06S64995F85	22K ohm
R533	06S64995F77	10K ohm
R534	06S64995F77	10K ohm
R535	06S64995F77	10K ohm
R536	06S70072F61	2.2K ohm 1/4W
R537	06S64995F89	33K ohm
R538	06S64995F53	1K ohm
R539	06S64995F53	1K ohm
R540	06S70072F19	39 ohm 1/4W
R541	06S70072F19	39 ohm 1/4W
R542	06S70072F19	39 ohm 1/4W
R543	06S70072F19	39 ohm 1/4W
R545	06S64995F53	1K ohm
R547	06S64995F53	1K ohm
R548	06S64995F53	1K ohm
R549	06S64995F53	1K ohm
R550	06S64995F53	1K ohm
R551	06S64995F77	10K ohm
R552	06S64996F26	1M ohm
R553	06S64996F14	330K ohm
R554	06S64996F18	470K ohm
R555	06S64995F05	10 ohm
R556	06S64995F75	8.2K ohm
R557	06S64995F93	47K ohm
R558	06S64995F61	2.2K ohm
R559	06S64995F57	1.5K ohm
R560	06S64995F93	47K ohm
R561	06S64995F77	10K ohm
R563	06S64995F93	47K ohm
R564	06S64995F77	10K ohm
R565	06S64995F93	47K ohm
R567	06S64995F69	4.7K ohm
R568	06S64995F85	22K ohm
R569	06S64995F61	2.2K ohm

Symbol No.	Part No.	Description
R570	06S64995F57	1.5K ohm
R571	06S64995F93	47K ohm
R572	06S64995F77	10K ohm
R573	06S64995F81	15K ohm
R574	06S64995F87	27K ohm
R575	06S64995F77	10K ohm
R576	06S64995F77	10K ohm
R577	06S64995F93	47K ohm
R578	06S64995F93	47K ohm
R701	06S64995F61	2.2K ohm
R702	06S64996F18	470K ohm
R703	06S64995F61	2.2K ohm
R704	06S64996F02	100K ohm
R705	06S64996F14	330K ohm
R706	06S64995F53	1K ohm
R707	06S64995F29	100 ohm
R708	06S64996F02	100K ohm
R709	06S64995F69	4.7K ohm
R710	06S64995F93	47K ohm
R711	06S64995F77	10K ohm
R712	06S64996F02	100K ohm
R713	06S64995F53	1K ohm
R714	06S64995F29	100 ohm
R715	06S64996F02	100K ohm
R716	06S64996F02	100K ohm
R717	06S64995F67	3.9K ohm
R718	06S64996F18	470K ohm
R719	06S64995F69	4.7K ohm
R720	06S64995F77	10K ohm
R721	06S64995F93	47K ohm
R722	06S64996F02	100K ohm
R723	06S64995F53	1K ohm
R724	06S64995F29	100 ohm
R725	06S64996F02	100K ohm
R726	06S64995F89	33K ohm
R727	06S64995F81	15K ohm
R802	06S53330F93	47K ohm 1/8W
R803	06S64995F93	47K ohm
R804	06S70072F39	270 ohm 1/4W
R805	06S64995F77	10K ohm
R806	06S70072F55	1.2K ohm 1/4W
R807	06S53330F77	10K ohm 1/8W
R808	06S64995F77	10K ohm
R809	06S70072F55	1.2K ohm 1/4W
R811	06S70072F03	6.8 ohm 1/4W
R812	06S70072F03	6.8 ohm 1/4W
R813	06S70072F03	6.8 ohm 1/4W
R814	06S64995F77	10K ohm
R815	06S64995F77	10K ohm
R816	06S53330F61	2.2K ohm 1/8W
R817	06S64995F77	10K ohm
R818	06S64995F77	10K ohm

Symbol No.	Part No.	Description
R819	06S70072F53	1K ohm 1/4W
R820	06S70072F45	470 ohm 1/4W
R821	06S70072F45	470 ohm 1/4W
R822	06S70072F53	1K ohm 1/4W
R823	06S64995F76	9.1K ohm
R824	06S70072F41	330 ohm 1/4W
R826	06S70072F45	470 ohm 1/4W
R827	06S64995F55	1.2K ohm
R828	06S64995F67	3.9K ohm
R829	06S64996F02	100K ohm
R830	06S64996F02	100K ohm
R831	06S64995F67	3.9K ohm
R832	06S64995F93	47K ohm
R833	06S64995F65	3.3K ohm
R834	06S64995F65	3.3K ohm
R835	06S70072F61	2.2K ohm 1/4W
R836	06S64995F77	10K ohm
R837	06S70072F53	1K ohm 1/4W
R838	06S70072F53	1K ohm 1/4W
R839	06S64995F89	33K ohm
R840	06S70072F39	270 ohm 1/4W
R841	06S53330F77	10K ohm 1/8W
R842	06S70072F61	2.2K ohm 1/4W
R850	06S64995F77	10K ohm
VR201	18T55256W13	Variable, 10K ohm
VR202	18T55256W13	Variable, 10K ohm

Front P. C. Board

IC's

IC401	51T45552W28	45552W28
IC402	51T45623W02	X24LC04SI
IC403	51T35265W02	35265W02
IC404	51T83905F03	LC7582W
IC405	51T55639W01	RS31

Transistors

Q402	48T73888F12	CP., FMC2
Q403	48T94853F08	CP., DTD143TK
Q404	48T94853F08	CP., DTD143TK
Q405	48T94853F08	CP., DTD143TK
Q406	48T94853F08	CP., DTD143TK
Q407	48T94853F08	CP., DTD143TK
Q408	48T94853F08	CP., DTD143TK
Q409	48T94853F08	CP., DTD143TK
Q410	48T94853F08	CP., DTD143TK

Symbol No.	Part No.	Description
Diodes		
D401	48T81063F01	CP., MA159
D402	48T81063F01	CP., MA159
D403	48T63463F01	CP., DAP202K
ZD401	48T62934F22	CP., RD5.6MB2
ZD402	48T62934F22	CP., RD5.6MB2
Switches		
S401	40T35140W22	SKQDAB (POWER / INTLZ)
S402	40T35140W22	SKQDAB (CLOCK)
S403	40T35140W22	SKQDAB (A.PROC)
S404	40T35140W22	SKQDAB (M / P, T.INFO)
S408	40T35140W22	SKQDAB (DEFEAT / TITLE)
S409	40T35140W22	SKQDAB (M.S.CD, UP / FF)
S410	40T35140W22	SKQDAB (M.S.CD, DN / REW)
S411	40T35140W22	SKQDAB (DOLBY B / C, 1 / Y)
S412	40T35140W22	SKQDAB (P.S.DN / 2 / M)
S413	40T35140W22	SKQDAB (P.S.UP / 3 / D)
S414	40T35140W22	SKQDAB (B.SKIP / 4 / CT)
S415	40T35140W22	SKQDAB (R.EJECT / 5 / H)
S416	40T35140W22	SKQDAB (PROG / 6 / M)
S417	40T35140W22	SKQDAB (MONO / REPEAT)
S418	40T35140W22	SKQDAB (PTY / SCAN)
S419	40T35140W22	SKQDAB (DX / A · ME / M.I.X.)
S420	40T35140W22	SKQDAB (EFFECT / A.P.I)
S421	40T35140W22	SKQDAB (D.DISP)
S422	40T35140W22	SKQDAB (A.S.C.)
S426	40T35140W22	SKQDAB (EJECT / CNTRST)
Lamps		
PL401	65T55635W02	6V-70mA
PL402	65T55635W03	6V-70mA
PL403	65T55635W02	6V-70mA
PL404	65T55635W02	6V-70mA
PL405	65T55635W03	6V-70mA
PL406	65T55635W03	6V-70mA
PL407	65T55635W02	6V-70mA
PL408	65T55635W02	6V-70mA
PL409	65T55635W03	6V-70mA
PL410	65T55635W03	6V-70mA
PL414	65T95083F05	6.7V-85mA
PL415	65T95083F09	6.7V-85mA
PL416	65T55635W03	6V-70mA

Symbol No.	Part No.	Description
Coils		
L401	24T16403W19	Inductor, 2.2μH
L402	24T16403W19	Inductor, 2.2μH
Thermistor		
TH401	48T35484W05	10K ohm
Crystal		
X401	91T45433W49	8.3886MHz
Capacitors		
C401	08S82122F17	CP., 15pF
E401	23T25191W07	ELY., 22μF / 6.3V
C402	08S82122F17	CP., 15pF
E402	23T25191W07	ELY., 22μF / 6.3V
C403	08S65128F69	CP., 0.01μF
C404	08S65128F69	CP., 0.01μF
E404	23T25191W07	ELY., 22μF / 6.3V
C405	08S65128F69	CP., 0.01μF
C406	08S65128F69	CP., 0.01μF
C407	08S65128F69	CP., 0.01μF
C408	08S65128F69	CP., 0.01μF
C409	08S65128F69	CP., 0.01μF
C410	08S65128F55	CP., 680pF
C411	08S65128F69	CP., 0.01μF
C412	08S65128F35	CP., 100pF
Resistors (All resistors are chip 1/10W±5% unless otherwise noted.)		
R401	06S64995F77	10K ohm
R402	06S64995F53	1K ohm
R404	06S64995F53	1K ohm
R405	06S64995F53	1K ohm
R406	06S64995F53	1K ohm
R407	06S64995F53	1K ohm
R409	06S64995F83	18K ohm
R410	06S64995F77	10K ohm
R411	06S64995F77	10K ohm
R412	06S64995F77	10K ohm
R413	06S64995F77	10K ohm
R414	06S64995F93	47K ohm
R415	06S64995F59	1.8K ohm

Symbol No.	Part No.	Description
R416	06S64996F02	100K ohm
R417	06S70072F09	15 ohm 1/4W
R418	06S70072F09	15 ohm 1/4W
R419	06S70072F09	15 ohm 1/4W
R422	06S70072F09	15 ohm 1/4W
R423	06S70072F09	15 ohm 1/4W
R424	06S70072F09	15 ohm 1/4W
R425	06S70072F09	15 ohm 1/4W
R426	06S70072F16	30 ohm 1/4W
R427	06S70072F15	27 ohm 1/4W
R428	06S64995F93	47K ohm
R431	06S64995F77	10K ohm
R432	06S64995F77	10K ohm
R433	06S64995F77	10K ohm
R434	06S64995F77	10K ohm
R435	06S64996F02	100K ohm
R436	06S64996F02	100K ohm
R437	06S64996F02	100K ohm
R438	06S64996F02	100K ohm
R439	06S64996F02	100K ohm
R440	06S64996F02	100K ohm
R441	06S64995F93	47K ohm
R442	06S64995F53	1K ohm
R443	06S64995F93	47K ohm
R499	06S64996F02	100K ohm
VR401	18T45332W01	10K ohm (Selfreturn)

PLL & RDS P. C. Board

IC's

IC101	51T68999F13	BU4066BF
or	51T68999F23	XRU4066BF
IC102	51T93336F01	NJM4558M
IC103	51T35504W02	LC7219
IC104	51T55054W02	SAA6579T
IC105	51T35503W02	LC7073M

Transistors

Q101	48T73888F08	CP., FMG1
Q102	48T62967F03	CP., DTC124K
Q103	48T63420F01	CP., 2SA1037K
Q104	48T62967F03	CP., DTC124K

Diodes

D102	48T63462F01	CP., DAN202K

Crystal

X101	91T45433W43	7.2MHz
X102	91T45433W18	4.332MHz
X103	91T65014W01	4MHz

Capacitors

C101	08S65128F69	CP., 0.01µF
E101	23T74180F02	CP., ELY. 100µF / 6.3V
C102	08S65128F69	CP., 0.01µF
E102	23T74180F01	CP., ELY. 22µF / 6.3V
C103	08T15807W05	CP., 0.1µF
E103	23T74180F03	CP., ELY. 10µF / 16V
C104	08T15399W02	CP., 0.033µF
E104	23T74180F16	CP., ELY. 2.2µF / 50V
C105	23T55636W11	ELY., (B.P) 2.2µF / 35V
E105	23T74180F03	CP., ELY. 10µF / 16V
C106	08T55487W01	CP., 0.15µF
E106	23T74180F03	CP., ELY. 10µF / 16V
C107	08T15399W02	CP., 0.033µF
E107	23T74180F13	CP., ELY. 0.68µF / 50V
C108	08S65128F69	CP., 0.01µF
C109	08S65128F69	CP., 0.01µF
C110	08S65128F29	CP., 56pF
C112	08S65128F57	CP., 1000pF
C113	08S82122F19	CP., 18pF
C114	08S82122F19	CP., 18pF
C115	08S82122F19	CP., 18pF
C116	08S82122F19	CP., 18pF
C117	08S82122F49	CP., 330pF
C118	08S65128F53	CP., 560pF
C119	08S65128F69	CP., 0.01µF
C121	08S65128F35	CP., 100pF
C122	08S65128F35	CP., 100pF
C123	08S65128F35	CP., 100pF

Resistors (All resistors are chip 1/10W±5% unless otherwise noted.)

R101	06S64995F77	10K ohm
R102	06S64995F61	2.2K ohm
R103	06S64995F53	1K ohm
R104	06S64995F61	2.2K ohm
R105	06S64995F29	100 ohm
R106	06S64995F77	10K ohm
R108	06S64995F53	1K ohm
R109	06S64995F61	2.2K ohm
R110	06S64995F53	1K ohm
R111	06S64995F71	5.6K ohm

Symbol No.	Part No.	Description
Resistors (All resistors are chip 1/10W±5% unless otherwise noted.)		
R112	06S64995F53	1K ohm
R113	06S64995F53	1K ohm
R114	06S64995F77	10K ohm
R115	06S64995F93	47K ohm
R116	06S64995F53	1K ohm
R117	06S64995F61	2.2K ohm
R118	06S64995F29	100 ohm
R119	06S64995F77	10K ohm
R120	06S64995F69	4.7K ohm
R130	06S64995F77	10K ohm
Switch P. C. Board		
Switches		
S405	40T35140W22	SKQDAB (MODE LOUD)
S423	40T35140W22	SKQDAB (TUNER / BAND / DAP)
S424	40T35140W22	SKQDAB (TAPE, PLAY / PAUSE)
S425	40T35140W22	SKQDAB (DISC, PLAY / PAUSE)
Lamps		
PL411	65T55635W02	6V-70mA
PL412	65T55635W04	6V-70mA
PL413	65T55635W04	6V-70mA
GR Control P. C. Board		
IC's / Transistors		
IC1501	51T25621W02	IC, AN6275NK
IC1502	51T67915F01	IC, M51143AL
Q1501	48T84366F05	2SB1243
Q1502	48T94606F12	CP., DTC144TU
Capacitors		
E1501	23S61524F32	ELY., 1μF / 50V
C1502	08T35374W01	CP., 0.1μF
C1503	08T35374W01	CP., 0.1μF
C1504	08T35374W01	CP., 0.1μF
C1505	08S65128F15	CP., 15pF

Symbol No.	Part No.	Description
Resistors (All resistors are chip 1/10W±5% unless otherwise noted.)		
R1501	06S64995F77	10K ohm
R1502	06S64995F77	10K ohm
R1503	06S64996F10	220K ohm
R1504	06S64996F26	1M ohm
R1505	06S64996F18	470K ohm
R1506	06S64996F01	91K ohm
GR Audio P. C. Board		
IC / Diode		
IC1201	51T15146W01	IC, TA7705P
D1201	48T44813F01	MA165TA
Capacitors		
E1201	23T25149W09	ELY., 10μF / 16V
C1202	08T35389W07	PF., 330pF
E1202	23T25149W13	ELY., 100μF / 10V
C1203	08T35389W07	PF., 330pF
E1203	23T25149W13	ELY., 100μF / 10V
C1204	08T35389W07	PF., 330pF
E1204	23T25149W12	ELY., 47μF / 16V
C1205	08T35389W07	PF., 330pF
E1205	23T25149W15	ELY., 4.7μF / 35V
E1206	23T25149W15	ELY., 4.7μF / 35V
C1208	08T35122W02	TF, 0.012μF
C1209	08T35122W02	TF, 0.012μF
Resistors (All resistors are chip 1/10W±5% unless otherwise noted.)		
R1201	06S53330F29	100 ohm 1/8W
R1202	06S53330F32	130 ohm 1/8W
R1203	06S53330F32	130 ohm 1/8W
R1204	06S64996F14	330K ohm
R1205	06S64996F14	330K ohm
R1208	06S64995F78	11K ohm
R1209	06S64995F78	11K ohm
R1210	06S64995F81	15K ohm
R1211	06S64995F81	15K ohm
R1212	06S64995F65	3.3K ohm
R1213	06S53330F65	3.3K ohm 1/8W
R1214	06S53330F85	22K ohm 1/8W
R1215	06S64995F85	22K ohm

Symbol No.	Part No.	Description
		Miscellaneous
CB401	09T45337W02	17P Connector
CH401	09T45338W01	17P Connector
or	09T45338W02	17P Connector
ET001	01T15513W04	Antenna Receptacle
ET301	01T35628W04	Assy., RCA Connector
ET801	09T55175W16	Assy., Power Supply Connector
ET803	01T55619W01	Assy., DIN Connector (Ai-NET OUTPUT Connector)
HD1101	88T35406W02	Head
JK802	09T55071W12	Assy., DIN Socket (Ai-NET INPUT Connector)
LCD401	65T55617W03	LCD Display
M1501	01V41100W72	Assy., Main Motor (13.2V-88mA)
PT1501	51T15144W01	Sensor, Photo ON2170-R
S1501	40T15222W01	Switch, Detector (PACK IN)
S1502	40T15382W01	Switch, Detector (PACK DOWN)
S1503	40T15382W01	Switch, Detector (METAL)
SD1501	01T10369W02	Assy., Eject Solenoid
SD1502	01T15249W01	Assy., Play Solenoid
SD1503	01T10371W01	Assy., RF Solenoid

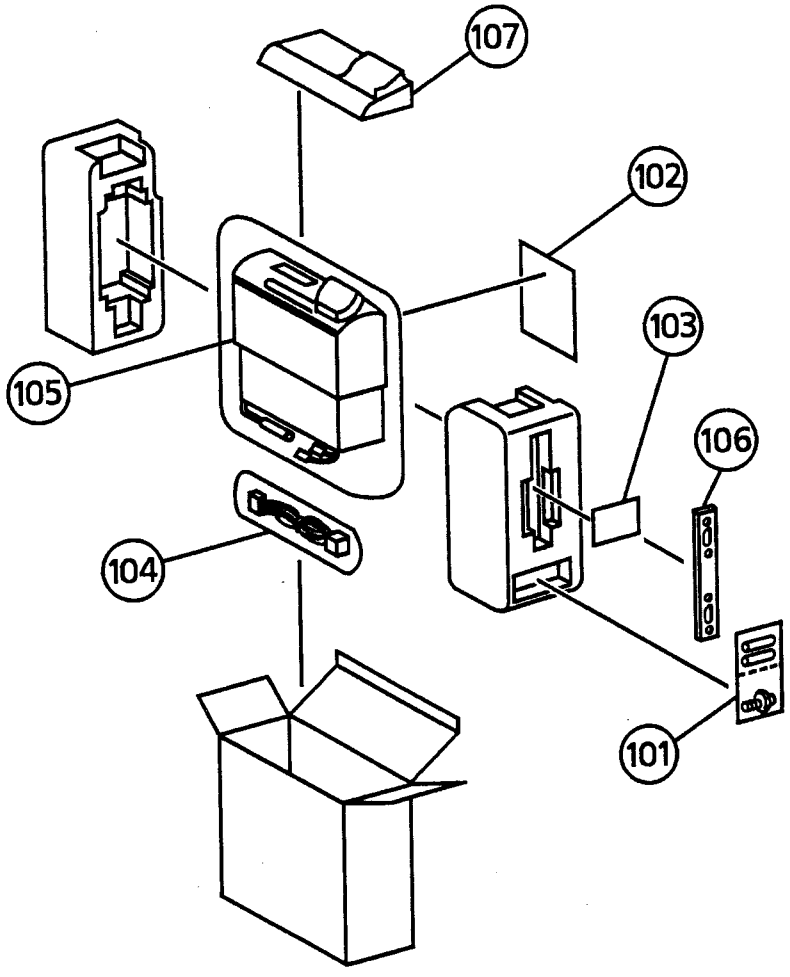
Symbol No.	Part No.	Description

Packing Assembly Parts List

Symbol No.	Part No.	Description
101-1	02B47353F01	Nut, Hex. (M5)
101-2	03S72235F42	Screw, Countersink (M5×8)
101-3	46A42363F01	Stud, Bolt
101-4	60T55629W01	Battery, Sun-3
102	68P50390W83	Owner's Manual
103	01T55620W02	Unit, Remocon
104	01T55176W10	Assy., Wire Power
105	15D50406W01	Case, Inner
106	07B64552F01	Bracket, Strap Recicver
107	15D51292W02	Carring, Case

Symbol No.	Part No.	Description

Packing Method View



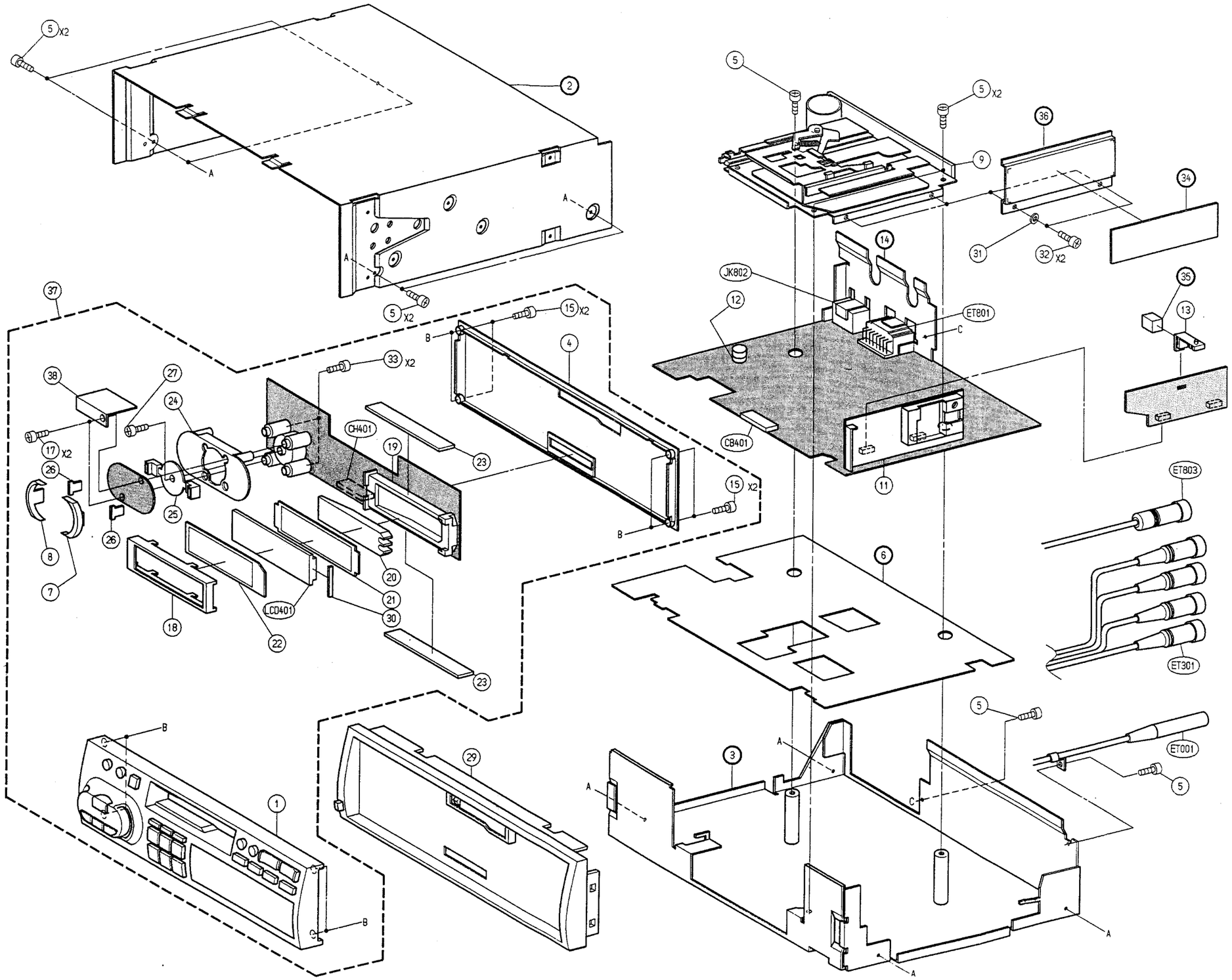
Cabinet Assembly Parts List

Note : No parts number on parts list are not supplied.

Symbol No.	Index	Part No.	Description
1	5-C	13C51670W03	Assy., Nosepiece
4	2-D	13D51690W01	Nose, Bottom
5		03S44205G07	Screw, Pan (M2.6×5)
7	4-A	36D51684W01	Knob, Shuttle (L)
8	3-A	36D51684W02	Knob, Shuttle (R)
9	2-F	81D51064W01	Cassette Deck, GR75H13A
11	3-F	77B41467W01	FM/MW/LW Tuner UNIT, MB4R1010 (FE001)
12	2-E	43A42110W01	Spacer, Microphone
13	2-G	43A52051W01	Spacer, Panel
15		03S68555F19	Screw, Pan (M2×12)
17	3-B	03S68555F02	Screw, Pan (M2×5.5)
18	4-B	15A51669W01	Cover, LCD
19	3-C	15B50304W01	Case, LCD
20	3-C	61A50305W01	Lens, LCD
21	4-C	14A60585W01	Insulator, LCD
22	4-C	26B60630W01	Reflector, Sheet
23		75T35021W05	Rubber, Electric
24	3-B	43C51686W01	Spacer, Shuttle
25	3-B	36B51687W01	Knob, Shuttle Base
26		07A51685W01	Bracket, Shuttle
27	3-B	03S68555F07	Screw, Pan (M2×4)
29	4-D	13C51691W01	Assy., Front Escutcheon
30	4-C	14S51152W23	Insulator, Cover
31	2-F	04S40070G01	Washer, Flat (M3.3)
32	2-F	03S44205G30	Screw, Pan (M2.6×4)
33	3-C	03S68555F15	Screw, Pan (M2×7)
37	2-B	01V54300W13	Assy., Nose Unit
38	3-A	14A61570W01	Insulator, Cover

Symbol No.	Index	Part No.	Description

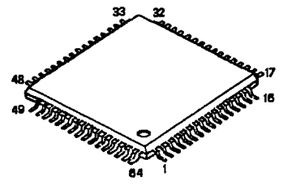
Exploded View (Cabinet)



Semi - Conductor Lead Identifications

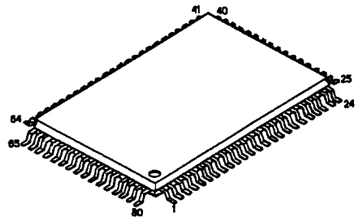
Note : The parts is not mentioned, refer to the Schematic Diagram.

45552W28 : IC401



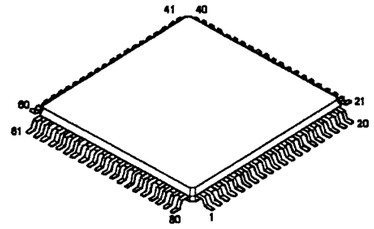
PIN NO.	CODE ADDRESS	I/O	PIN NO.	CODE ADDRESS	I/O	PIN NO.	CODE ADDRESS	I/O
1	7582 INH	O	23	EEPDI	I	45	AREA 1	I
2	7582 CE	O	24	V_{SS}	—	46	V_{SS}	—
3	7582 CLK	O	25	EEPDO	O	47	V_{SS}	—
4	7582 DATA	O	26	P.ON	O	48	KR1	I
5	7229 CS	O	27	KS0	O	49	KR2	I
6	7229 CLK	O	28	KS1	O	50	KR3	I
7	7229 RST	O	29	KS2	O	51	KR4	I
8	DRG/GRN	O	30	KS3	O	52	KR5	I
9	V_{SS}	—	31	V_{SS}	—	53	KR6	I
10	V_{SS}	—	32	V_{SS}	—	54	SELF VR	I
11	V_{SS}	—	33	V_{SS}	—	55	V_{SS}	—
12	V_{SS}	—	34	V_{SS}	—	56	V_{SS}	—
13	V_{SS}	—	35	RESET	I	57	CONT-STATUS	I
14	V_{SS}	—	36	V_{SS}	—	58	CONT-COMMAND	O
15	V_{SS}	—	37	REMOCON	I	59	CONT-SCK	I
16	V_{SS}	—	38	CONT-START	I	60	7229 C/D	O
17	V_{SS}	—	39	AREA 0	I	61	7229 BUSY	I
18	V_{SS}	—	40	V_{CC}	—	62	V_{SS}	—
19	V_{SS}	—	41	X2	—	63	7229 SI	O
20	V_{SS}	—	42	X1	—	64	7229 SCK	O
21	V_{SS}	—	43	V_{SS}	—			
22	EEPCLK	O	44	NC	—			

35265W02 : IC403



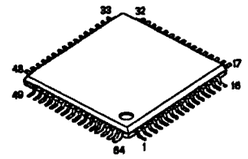
PIN NO.	CODE ADDRESS	I/O	PIN NO.	CODE ADDRESS	I/O	PIN NO.	CODE ADDRESS	I/O	PIN NO.	CODE ADDRESS	I/O
1	C38	O	21	$V_{LC}5$	I	41	CLOCK	I	61	C18	O
2	C39	O	22	$V_{LC}1$	I	42	NC	—	62	C19	O
3	C40	O	23	NC	—	43	NC	—	63	C20	O
4	C41	O	24	$V_{LC}4$	I	44	NC	—	64	C21	O
5	C42/R15	O	25	$V_{LC}2$	I	45	NC	—	65	C22	O
6	C43/R14	O	26	$V_{LC}3$	I	46	C3	O	66	C23	O
7	C44/R13	O	27	DO/SI	I/O	47	C4	O	67	C24	O
8	C45/R12	O	28	V_{SS}	—	48	C5	O	68	C25	O
9	C46/R11	O	29	V_{SS}	—	49	C6	O	69	C26	O
10	C47/R10	O	30	NC	—	50	C7	O	70	C27	O
11	C48/R9	O	31	NC	—	51	C8	O	71	C28	O
12	C49/R8	O	32	BUSY	O	52	C9	O	72	C29	O
13	R15/R7	O	33	V_{DD}	—	53	C10	O	73	C30	O
14	R14/R6	O	34	V_{SS}	—	54	C11	O	74	C31	O
15	R13/R5	O	35	STB/SCK	I	55	C12	O	75	C32	O
16	R12/R4	O	36	C/D	I	56	C13	O	76	C33	O
17	R11/R3	O	37	V_{SS}	—	57	C14	O	77	C34	O
18	R10/R2	O	38	V_{SS}	—	58	C15	O	78	C35	O
19	R9/R1	O	39	CS	I	59	C16	O	79	C36	O
20	R8/R0	O	40	RESET	I	60	C17	O	80	C37	O

55433W08 : IC501



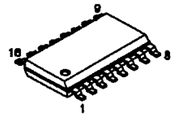
PIN NO.	CODE ADDRESS	I/O	PIN NO.	CODE ADDRESS	I/O	PIN NO.	CODE ADDRESS	I/O	PIN NO.	CODE ADDRESS	I/O
1	RESET	I	21	EEP DI	I	41	F/R	O	61	NC	—
2	X1	O	22	EEP DO	O	42	PACK IN	I	62	BUS DET	I
3	X2	I	23	NC	—	43	TP ALM	O	63	BUS RST	O
4	V_{CC}	—	24	TMR DATA	I	44	O.MOTOR	O	64	BUS R/W	O
5	V_{CC}	—	25	TMR OE	O	45	PULL UP	O	65	BUS RS	O
6	NMI	I	26	TMR CLK	O	46	EJ.SOL	O	66	BUS STS	O
7	V_{CC}	—	27	TMR S2	O	47	V_{CC}	—	67	BUS CMD	O
8	V_{CC}	—	28	TMR S1	O	48	RF.SOL	O	68	BUS CLK	O
9	DTS SCK	O	29	ACC+5	I	49	PLY.SOL	O	69	IN PAU	I
10	DTS CMD	O	30	MIC L	I	50	RUN DET	I	70	IN INT	I
11	DTS STS	I	31	MIC M	I	51	PACK DN	I	71	P.ON CONT	O
12	V_{SS}	—	32	MIC H	I	52	DOL B	O	72	LCD P.ON	O
13	DTS START	O	33	NOSE ON	I	53	DOL C	O	73	V_{SS}	—
14	NC	—	34	AREA 0	I	54	R/T	O	74	NOSE PON	O
15	DTS STBY	O	35	AREA 1	I	55	INT/EXT	O	75	CONT RST	O
16	DTS MUTE	I	36	LCD CTRT	O	56	V_{SS}	—	76	NC	—
17	DTS CE	O	37	M.S.DET	I	57	E.V.CE	O	77	CONT STR	O
18	ACC+5	I	38	AV_{SS}	I	58	E.V.CLK	O	78	CONT STS	O
19	BAT+5	I	39	O.FAST	O	59	E.V.DATA	O	79	CONT CMD	I
20	O.REM	O	40	MTL	I	60	PRE MUTE	O	80	CONT SCK	O

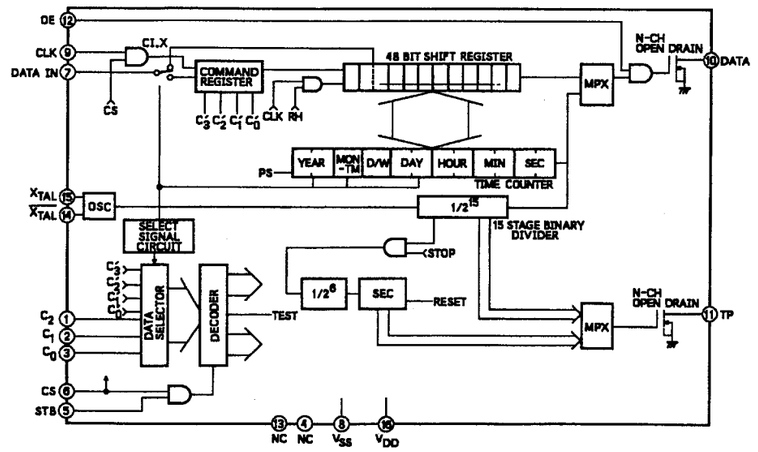
45258W02 : IC504



PIN NO.	CODE ADDRESS	I/O	PIN NO.	CODE ADDRESS	I/O	PIN NO.	CODE ADDRESS	I/O
1	CE1	O	23	AD2	I/O	45	PLL UP	—
2	NC	—	24	V_{SS}	—	46	PLL UP	—
3	DTS-MUTE	O	25	AD1	I/O	47	MALTI-PATH	I
4	7075-RESET	O	26	AD0	I/O	48	ADJON	I
5	50K REF	O	27	LE	O	49	S-METER	I
6	RESET	I	28	DTS-STB	I	50	PLL UP	—
7	X2	—	29	RDS CLK	I	51	PLL DOWN	—
8	X1	—	30	RDS START	I	52	PLL CLOCK	O
9	V_{SS}	—	31	RDS DATA	I	53	PLL DATA	O
10	CE2	O	32	PLL DATA IN	I	54	LPE SW	O
11	NC	—	33	PLL UP	—	55	IF-MUTE	O
12	NC	—	34	DTS START	I	56	PLL CE	O
13	NC	—	35	DTS CMD	I	57	NC	—
14	NC	—	36	V_{SS}	—	58	LW	O
15	A10	O	37	NC	—	59	FM/AM	O
16	A9	O	38	DTS CLOCK	I	60	LOCAL/DX	O
17	A8	O	39	DTS STATUS	O	61	MONO	O
18	AD7	I/O	40	V_{CC}	—	62	DTS CE	I
19	AD6	I/O	41	V_{CC}	—	63	SD	I
20	AD5	I/O	42	AV_{SS}	—	64	WR	O
21	AD4	I/O	43	AV_{REF}	—			
22	AD3	I/O	44	ST	I			

μPD4990AG : IC511





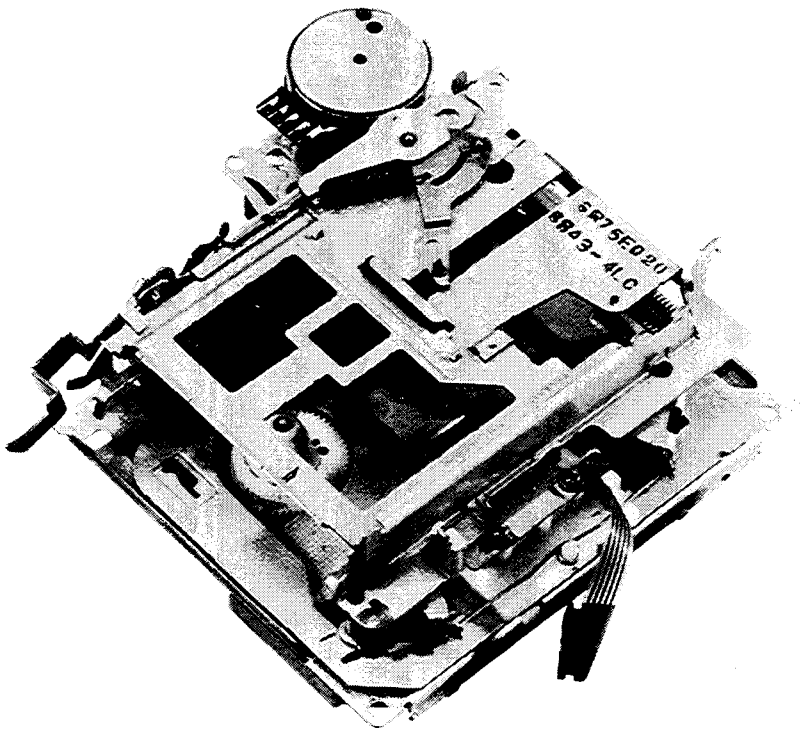
ALPI-00293

ALPINE®

SERVICE MANUAL

Cassette Deck Mechanism

ADDENDUM & REVISED(V)



GR/GR-Y SERIES

Contents

Memo

List of Usable Lock Washers

	SIZE	PARTS NO.	QUANTITY			
			GR75E Series	GR75L Series	GR-Y Series	GR75H Series
1	(M1.2 × 3.5 × 0.25)	04B41345P01	4	4	4	2
2	(M1.7 × 3.5 × 0.25)	04B41345P02	1	1	1	4
3	(M1.2 × 2.5 × 0.25)	04B41345P11	8	8	8	9
4	(M1.7 × 3.5 × 0.35)	04B41345P12	2	2	2	2
5	(M1.2 × 3.5 × 0.35)	04B41345P15	2	2	2	2
6	(M1 × 2.5 × 0.25)	04B41345P17	1	1	1	2
7	(M2.6 × 5 × 0.25)	04B41345P29	1	1	1	1
8	(M3.1 × 8 × 0.05)	04B41345P30	1	1	1	1
9	(M3.1 × 5 × 0.35)	04B41345P32	2	2	2	2
10	(M1.2 × 2.5 × 0.3)	04B41345P34	1	1	1	0
11	(M1.7 × 2.8 × 0.25)	04B41345P35	1	1	1	2
12	(M2.1 × 4 × 0.25)	04B41345P37	1	1	1	0
13	(M2.1 × 4 × 0.13)	04S40075G05	2	2	2	0
14	(M2.1 × 4 × 0.3)	04S40075G58	0	0	0	1

List of Usable Oil

1) Molykote G paste
2) Grease EM-30L
3) Grease PG-671

List of Usable Jigs

1) GR bottom gear jig (Part No. 44A20788W01)
2) Head height adjustment gauge
   AI-500 (Part No. AI-500)

Disassembly, Assembly and Replacement of Functional Parts

1. Disassembly and Assembly of Bottom Cover

(1) Turn the mechanism around as shown in Figure 1.
(2) Remove M1 lock washer ① as shown in Figure 1.
(3) Remove three screws ② as shown in Figure 1.
(4) Lift the bottom cover slowly from the position Ⓐ-1, pull the hooks out of the holes in the chassis, and remove the bottom cover as shown in Figure 1.
(5) When remounting the bottom cover, first turn the front of the mechanism up as shown in Figure 2.
(6) Slide the slider in the direction Ⓐ-2 as shown in Figure 2.
(7) Push down the cassette holder in the direction Ⓐ-3 as shown in Figure 2.
(8) Pull the door pin in the direction Ⓐ-4 so that the mechanism is locked in as shown in Figure 2.
(9) Turn the mechanism around as shown in Figure 3.
(10) Pull the automatic metal lever in the direction Ⓐ-5 and the RF solenoid chip in the direction Ⓐ-6 as shown in Figure 3.
(11) Insert the hooks of the bottom cover into the chassis in the direction Ⓐ-7, and then join the part Ⓐ-8 of the bottom cover to the chassis slowly, making sure that the 3 points indicated with the straight lines in the Figure 3 are fitted properly.
If there are troubles in mounting the bottom cover, do not apply force but remove the bottom cover once again and check the positions of the individual parts. (Refer to Figure 3.)
(12) Since the hooks marked Ⓐ-8 will be lifted slightly as shown in Figure 4, insert the jig through the hole Ⓐ-9, and fix it turning the jig slightly in the direction Ⓐ-11.
Instead of operation (12), turn the gear nose slowly with a precision screwdriver etc., taking care not to damage it.
After 2 to 3 turns, it will click into place.
(Refer to Figures 4 and 5.)
(13) Fix the screws and the lock washer that have been removed.

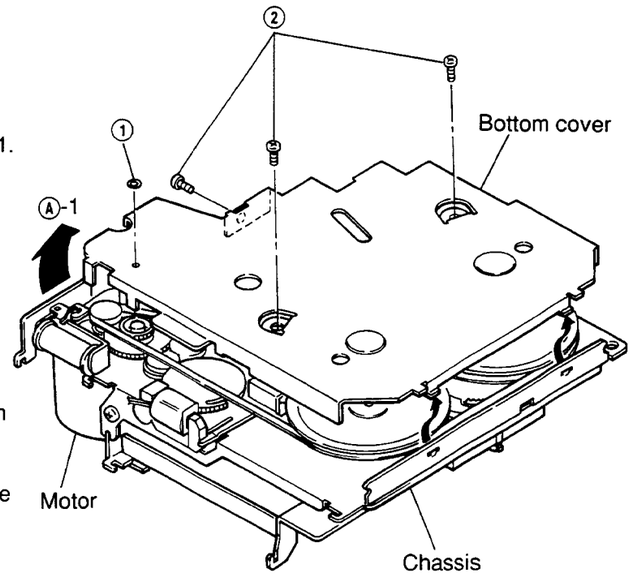


Figure 1

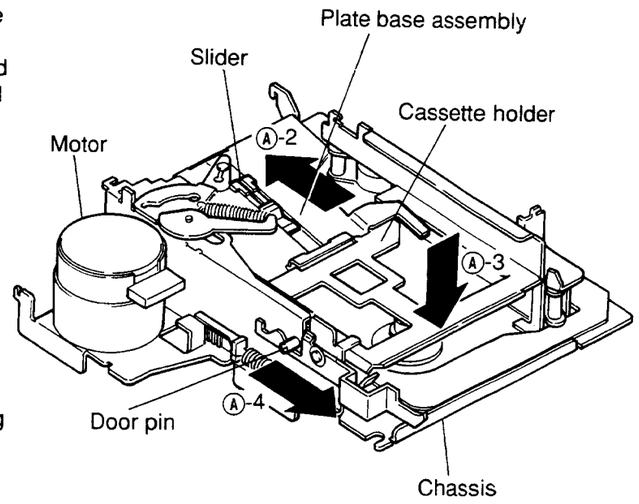


Figure 2

(14) Insert the jig into the hole Ⓐ-9 as shown in Figure and rotate the eject solenoid counterclockwise about 20 times, pulling it in the direction Ⓐ-10 with the finger.
Then the eject operation is completed.
Instead of operation (14), the eject operation can be performed by mounting the mechanism to the product. (Refer to Figures 4 and 5.)

Note: Do not reuse the used lock washers for mounting.
When turning the mechanism, be careful not to drop the gear and the flywheel.
Fasten the three screws with a fastening torque of 6 kg.cm.

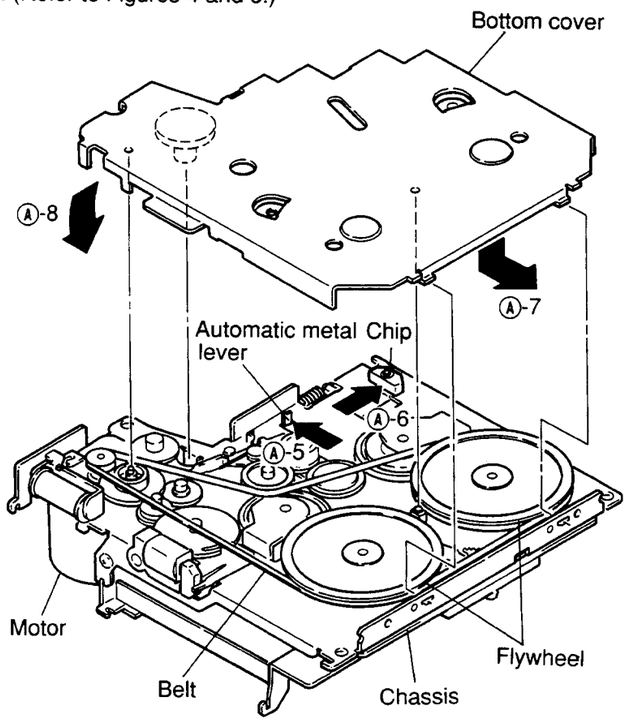


Figure 3

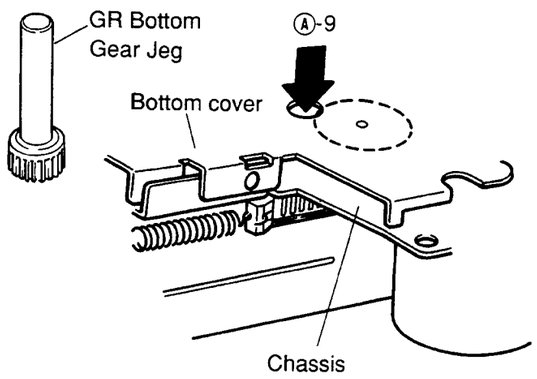


Figure 4

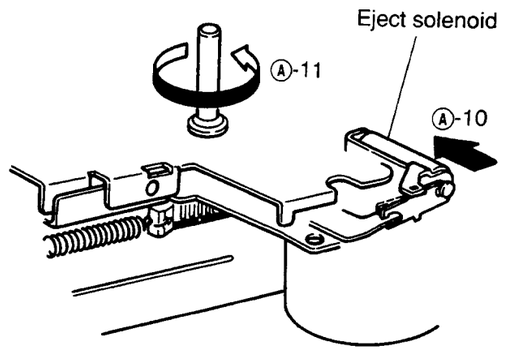


Figure 5

2. Replacement of the bottom cover mounting parts

a. Replacement of the eject gear
(1) Remove M1.2 lock washer ③ as shown in Figure 6.
(2) Pull the eject pinion out of the eject gear and remove the eject gear as shown in Figure 6.
(3) Apply the molykote E paste to the section Ⓑ-1, and mount the eject gear following the removal steps in the reverse order. After replacement is finished, make sure that the gear rotates smoothly. (Refer to Figure 6.)

Note: Do not reuse the used lock washers for remounting.
Take care to avoid damage by piercing and tearing.

b. Replacement of the RF solenoid
(1) Remove two solders ④ and remove the RF solenoid from the bottom cover by pulling it up as shown in Figure 6.
(2) Replace the solenoid with a new one, and remount it following the removal steps in the reverse order as shown in Figure 6.

Note: When removing solder ④, set the temperature of the soldering iron to 350° ± 10° and the soldering time to 1 – 3 seconds. Take care that the solder is not loose, that there is no shortcircuit and that the coating is not damaged.

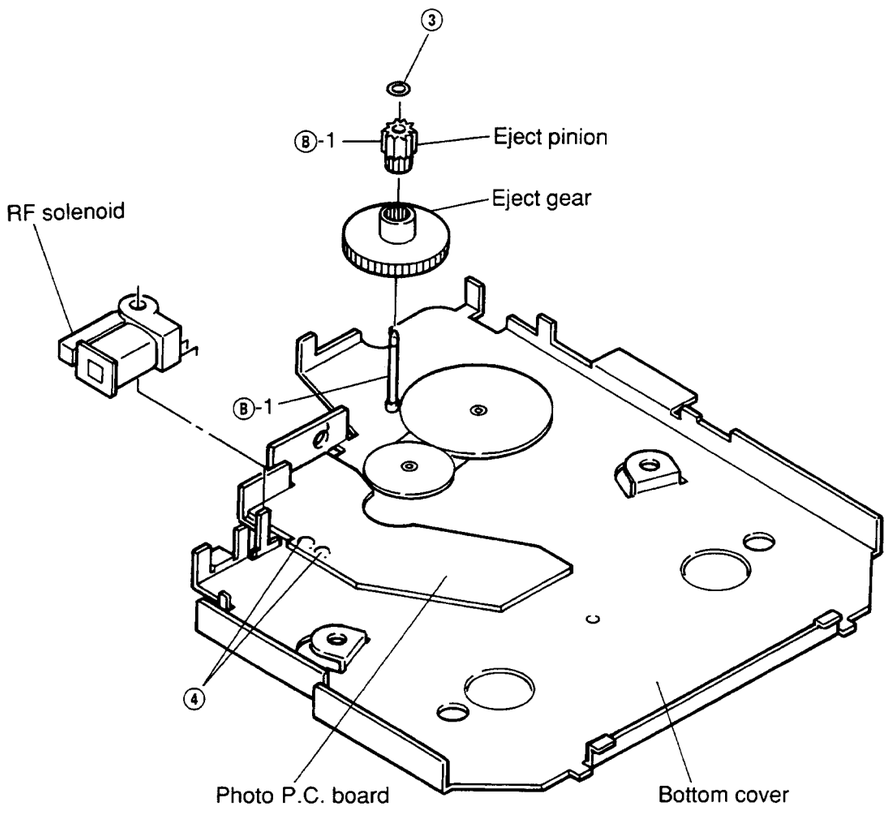


Figure 6

c. Replacement of the photo sensor
(1) Remove four solders ⑤ as shown in Figure 7.
(2) Remove the photo guide together with the photo sensor from the photo P.C. board as shown in Figure 7.
(3) Insert the new photo sensor into the photo guide, and bend the legs of the photo sensor in the direction marked Ⓑ-2 as shown in Figure 7.
(4) Insert the photo guide into the P.C. board and solder the legs so that the photo sensor is set as indicated by ⬚ in Figure 7.

Note: When using the soldering iron, set the temperature of the soldering iron to 350° ± 10° and the soldering time to 1 – 3 seconds. Take care that the solder is not loose, that there is no shortcircuit and that the coating is not damaged. Also take care that the photo guide is properly fixed and straight.

d. Replacement of the detector switch (Automatic metal pack-in)
(1) Remove 4 solders ⑥ with which the switch is fixed as shown in Figure 7.
(2) Prepare the terminals of the switch of the new solder as shown in Figure 8.
(3) After that, insert the switch into the photo P.C. board, and solder the terminals.

Note: When using the soldering iron, refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Also take care that the switch guide is properly fixed and straight.

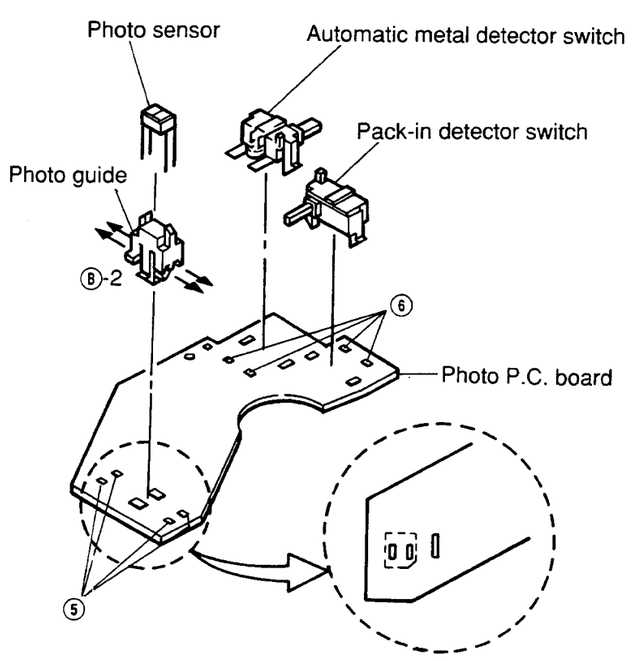


Figure 7

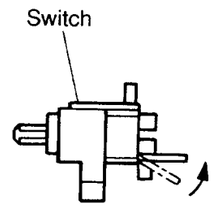


Figure 8

3. Replacement of the mounting parts on the rear of the main chassis

a. Replacement of the belt
(1) After removing the bottom cover, remove the belt.
(2) Clean the new belt with absolute alcohol, and fix it as shown in Figure 9.

Note: When fixing the belt, make sure that it is not twisted or dirty. When removing the belt, do not turn up the front of the chassis.

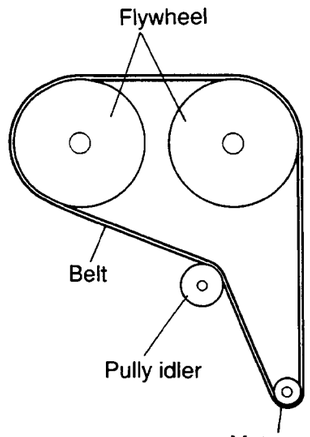


Figure 9

b. Replacement of the motor
(1) After removing the belt, remove spring ⑦ as shown in Figure 10.
(2) Remove solder ⑧-1, and remove the parallel wire (5P) from the control P.C. board as shown in Figure 11.
(3) Remove two screws ⑨ and ⑩, and remove the motor, taking care not to damage the motor idler gear. (Refer to Figure 10.)
(4) Mount the new motor following the removal steps in the reverse order.

Note: Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Since the parallel wire is very easily damaged, handle it with care.
Fasten the two screws with a fastening torque of 3 kg.cm.

*When inserting the clutch spring, be careful of the inserting direction as shown in the Figure.

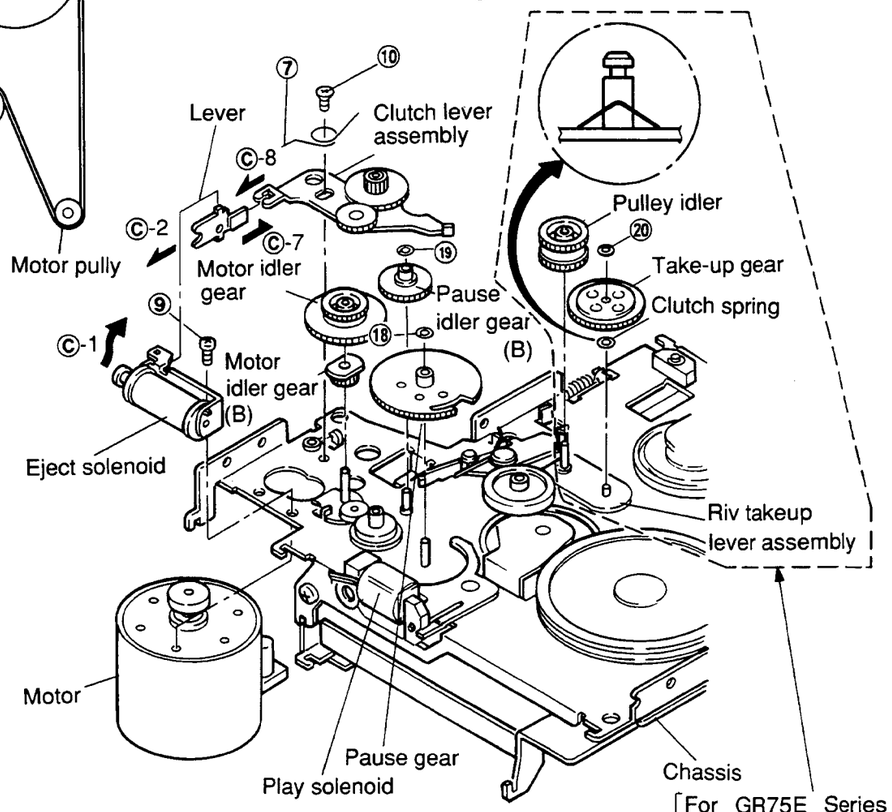


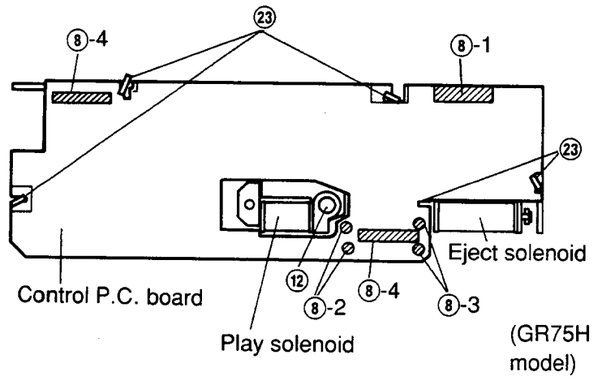
Figure 10

[For GR75E Series
GR75L Series
GR-Y Series
models]

c. Replacement of the flywheels
(1) After removing the belt, pull out the two flywheels. Take care not to loose the polyslider washer ⑪ located between the flywheel and the chassis. (Refer to Figure 12.)
(2) Fix the polyslider washer to the new flywheel and mount the flywheel to the chassis.

d. Replacement of the play solenoid
(1) Remove the two solders ⑧-2 as shown in Figure 11.
(2) Remove one screw ⑫ and remove the solenoid as shown in Figure 11.
(3) Mount the new solenoid following the removal steps in the reverse order.

Note: Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Fasten the screws with a fastening torque of 2.3 kg.cm.



[For GR75E Series model]

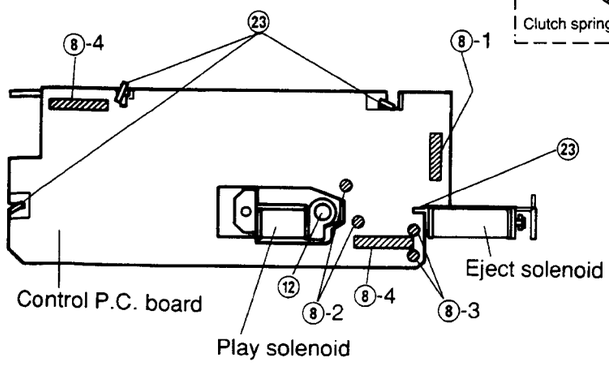


Figure 11

[For GR75L Series
GR-Y Series
GR75H Series models]

e. Replacement of the eject solenoid
(1) Remove two solders ⑧-3. Take care not to loose the tube that protects the wire. (Refer to Figure 11.)
(2) Remove screw ⑨ and remove the solenoid as shown in Figure 10.
(3) Align position Ⓒ-1 of the new solenoid with position Ⓒ-2 of the lever and fasten the screw as shown in Figure 10.
(4) Lead the wire through the tube and solder it.

Note: Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Fasten the screws with a fastening torque of 3 kg.cm. As the solenoid wires are not insulated, do not let them cross each other.

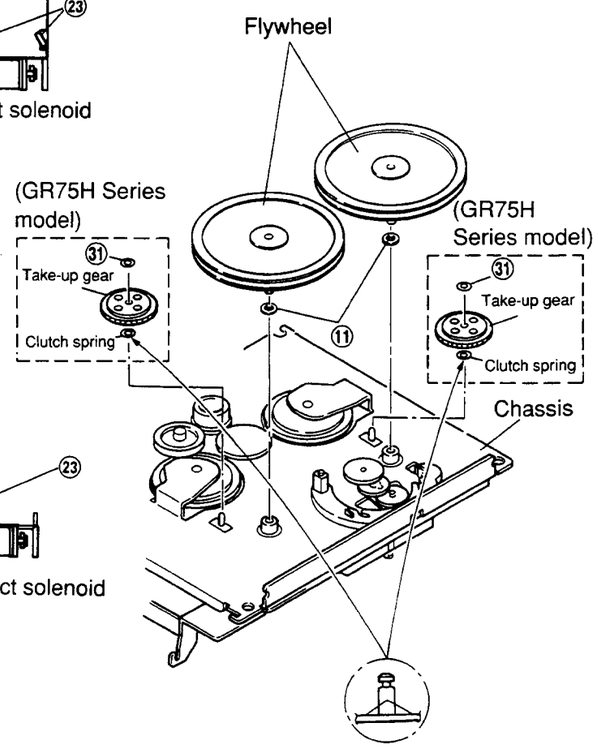


Figure 12

f. Replacement of gears

(f-1) Replacement of the reverse idler gear
(1) Remove M1.2 lock washer ⑬, pull it up from the stud of the chassis and remove the gear as shown in Figure 13.
(2) Remount following the removal steps in the reverse order.

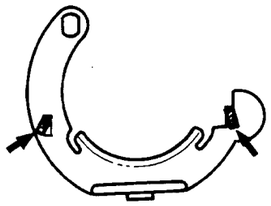
(f-2) Replacement of the sun gear
(1) Remove M1.2 lock washer ⑭, pull it up from the stud of the chassis and remove the gear as shown in Figure 13.
(2) Mount it, following the removal steps in the reverse order.

(f-3) Replacement of the fixing gear
(1) Adjust the two mounting claws for the fix gear on the chassis ⑮ and remove the section Ⓒ-3 of the gear by pulling it up in the direction of the arrow shown in Figure 13.
(2) Insert the section Ⓒ-4 of the new gear into the chassis, and mount it following the removal steps in the reverse order as shown in Figure 13.

(f-4) Replacement of the reverse lever assembly and planet gear
(1) Remove both the fixing gear and the sun gear and remove the reverse lever assembly as shown in Figure 13.
(2) Remove M1.7 lock washer ⑯ and remove the planet gear as shown in Figure 14.
(3) Mount the new planet gear and reverse lever following the removal steps in the reverse order.

Notes on f-1 through f-4:
After mounting all parts, check if the reverse lever moves in the directions marked Ⓒ-5 when the reverse gear is turned clockwise and counterclockwise.

*After mounting the fixing gear, bend the claws ⑮ into the form of as shown in the Figure.



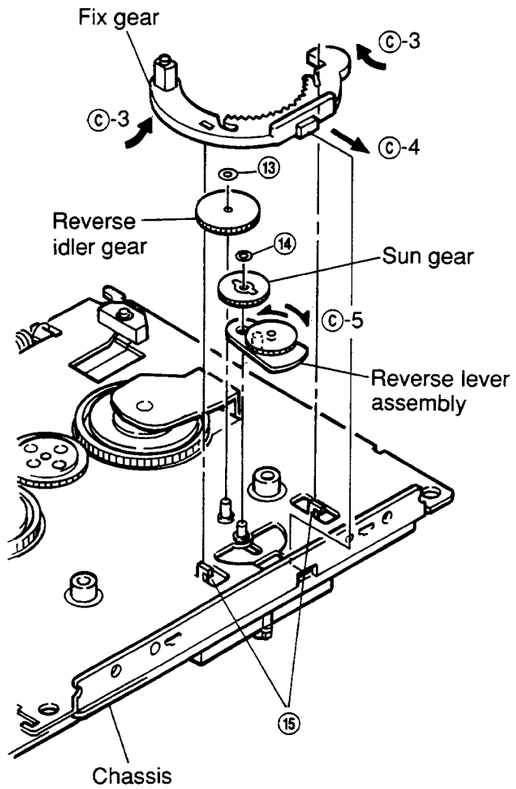


Figure 13

(f-5) Replacement of the clutch lever assembly and eject idler gear
(1) After removing the motor, remove the motor idler gear and the motor idler gear (B) and remove the clutch lever assembly as shown in Figure 10.
(2) Remove M1.2 lock washer ⑰ and remove the eject idler gear as shown in Figure 15.
(3) Mount the new gears and clutch lever following the removal steps in the reverse order.

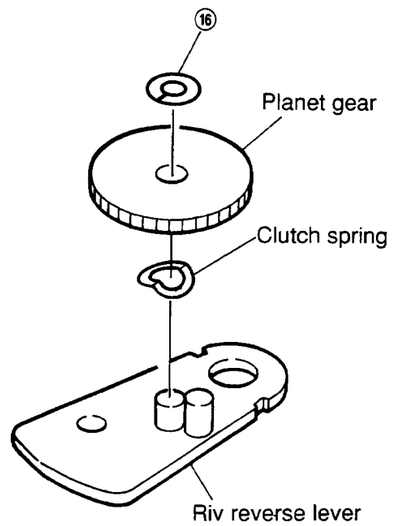
Note: When mounting the gears to the lever, apply grease (PG-671) to the position Ⓒ-6 as shown in Figure 15. Align the position Ⓒ-7 with the position Ⓒ-8 and mount the clutch lever as shown in Figures 10 and 15.

(f-6) Replacement of the pause gear
(1) Remove M1.2 lock washer ⑱ and remove the pause gear pulling it up from the stud of the chassis as shown in Figure 10.
(2) Mount the new gear following the removal steps in the reverse order.

(f-7) Replacement of the pause idler gear (B)
(1) After removing the motor and the motor idler gear, remove M1.2 lock washer ⑲ and remove the gear by pulling it up from the stud of the chassis as shown in Figure 10.
(2) Mount the new gear by following the removal steps in the reverse order.

(f-8) Replacement of the take-up gear
(1) After removing the belt and the pulley idler gear, remove M1.2 lock washer ⑳ by pulling it up from the stud of the riv take-up lever assembly as shown in Figure 10.
After removing the Flywheel, remove M1.2 lock washer ㉛ and remove the gear by pulling it up from the stud of the chassis as shown in figure 12. [For GR75H Series model]
(2) Remount the take-up gear following the removal steps in the reverse order.

Notes on f:
Do not reus e the used washers. Take care to avoid damage by piercing and tearing.



[Disassembly Reverse Lever Assembly]

Figure 14

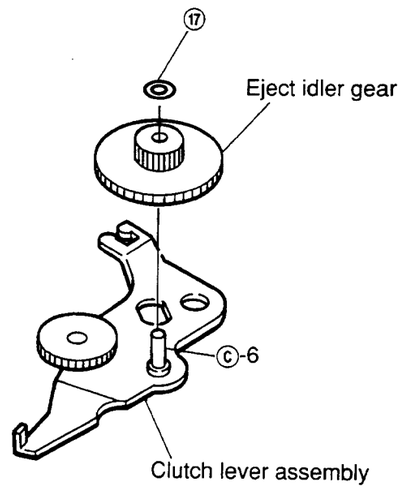


Figure 15

4. Replacement of the parts mounted on the front of the main chassis

a. Replacement of the audio P.C. board
(1) Remove two solders ㉑ and remove the parallel wire (7P) and the head P.C. board as shown in Figure 16.
(2) Adjust the two claws ㉒ to the rectangular holes on the P.C. board and remove the P.C. board as shown in Figure 16.
(3) After replacement, mount the new P.C. board following the removal steps in the reverse order.

Note: The head P.C. board and the parallel wire are easily damaged. Handle them with care. Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Do not bring the soldering iron near the head P.C. board.

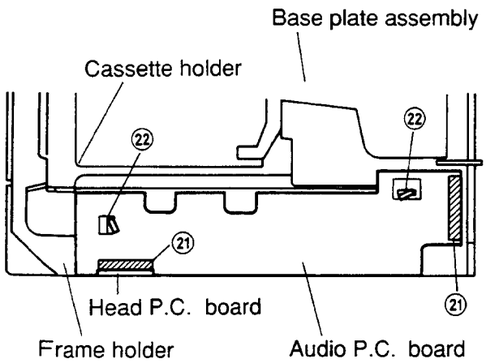


Figure 16

b. Replacement of the control P.C. board
(1) Remove seven solders ⑧ and remove the three parallel wires and the wires of the eject solenoid and of the play solenoid as shown in Figure 11.
(2) Remove five claws ㉓ and remove the P.C. board as shown in Figure 11. [For GR75E Series model] Remove four claws ㉓ and remove the P.C. board as shown in Figure 11. [For GR75L Series, GR-Y Series, GR75H Series models]
(3) After replacing the old P.C. board with a new one, mount it following the removal steps in the reverse order.

Note: As mentioned in Item 4-a, handle the parallel wires carefully, and be sure that the temperature of the soldering iron and the soldering time are proper. As the wires of the eject solenoid are not insulated, do not let them cross each other.

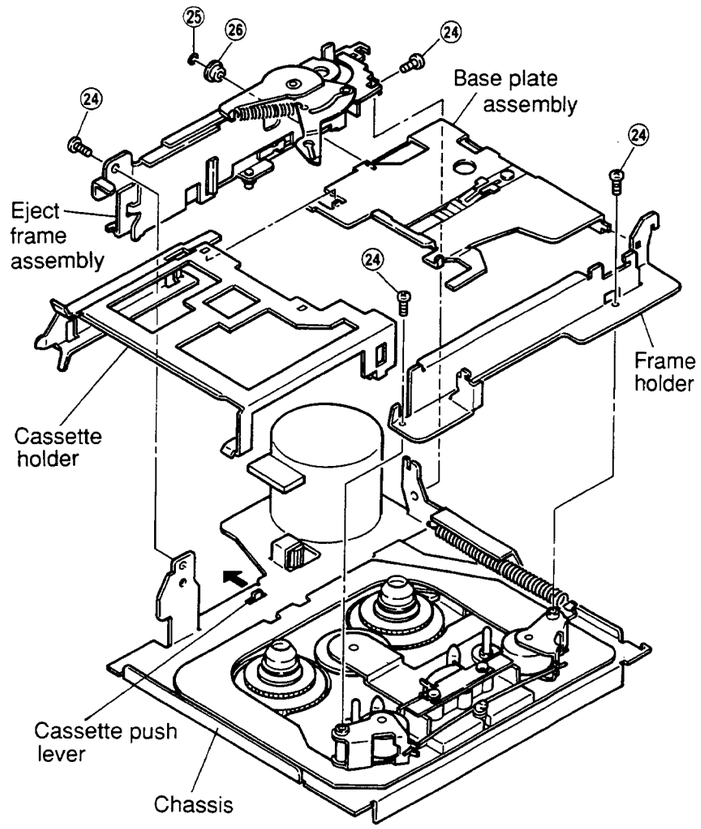


Figure 17

c. Disassembly and assembly of the cassette holder
(1) Remove four screws ㉔ and remove the eject frame assembly and the frame holder as shown in Figure 17.
(2) Remove M1.2 lock washer ㉕ and plate base roller ㉖ and remove the cassette holder and the base plate assembly as shown in Figure 17.
(3) Remount them following the removal steps in the reverse order.

Notes: 1. When mounting the cassette holder and the base plate, insert the slider shaft into the eject arm and fix them turning the slider shaft in the direction indicated by the arrow in the figure. Make sure that the cassette holder and the base plate are in the cassette-in mode during this operation. (Refer to Figure 18).
2. When mounting the eject frame assembly, push the cassette push lever in the direction indicated by the arrow in the Figure 17.
3. When mounting the base plate assembly and the eject frame assembly, or when mounting the eject frame assembly to the chassis, do not apply excessive force to avoid deformations of the eject arm and the frame.
4. Do not reuse the used washers. Take care to avoid damage by piercing and tearing.

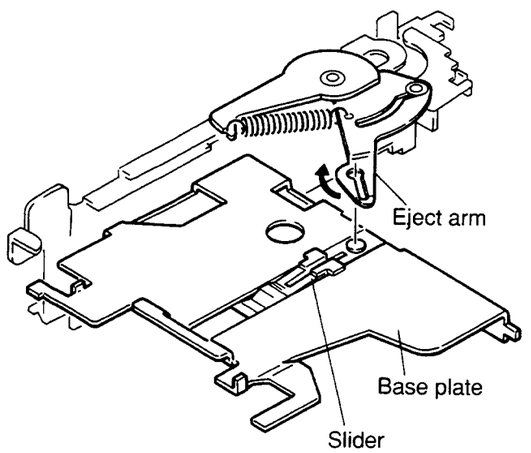


Figure 18

d. Replacement of the reels
(1) Remove M1.7 two lock washers ㉖ (Refer to figure 19).
(2) Move the select lever in the direction marked Ⓓ-1 in the Figure and remove the reel by gripping the reel gear as shown in Figure 19.
(3) After replacement, mount the new reels following the removal steps in the reverse order.
(4) After mounting, check the tape speed and the wow and flutter with test tape MTT-111.

Note: Since the reel is easily loosened if the cap is gripped, always handle it gripping the gear. Do not reuse the used washers. Take care to avoid damage by piercing and tearing.

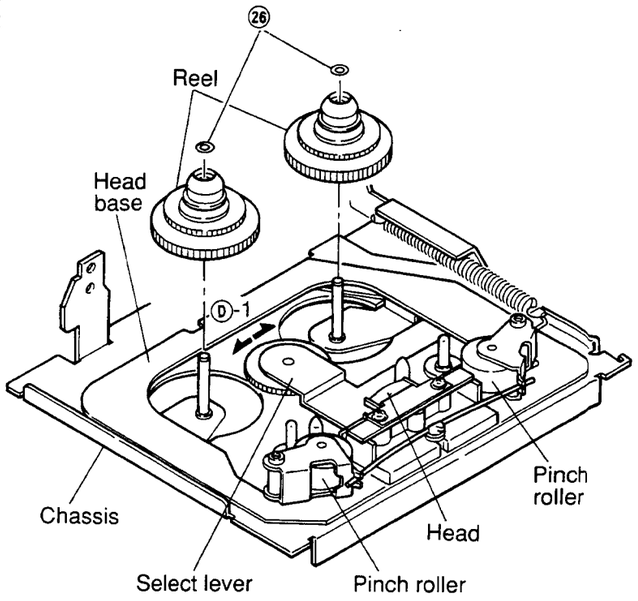


Figure 19

e. Replacement of the pinch rollers
(1) Remove pinch roller spring ㉗ as shown in Figure 20.
(2) Remove M3.1 two lock washers ㉘ and remove the pinch roller as shown in Figure 20.
(3) Mount the pinch rollers following the removal steps in the reverse order.
Apply insulation coating to the position Ⓓ-2 of the pinch roller as shown in Figure 20.

Note: Make sure that the pinch rollers are thoroughly fixed and that they are not deformed. Do not reuse used lock washers. Take care to avoid damage by piercing and tearing.

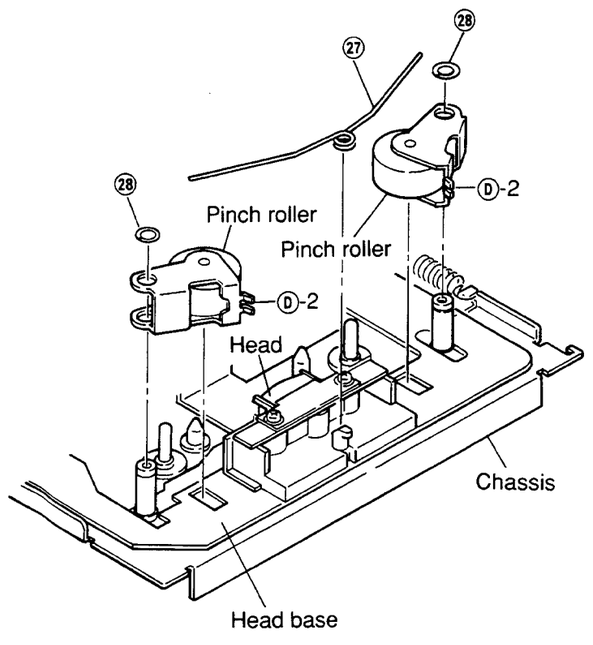


Figure 20

f. Replacement of the head
(1) After removing the pinch roller spring, remove two screws ㉙ as shown in Figure 21.
(2) Remove solder ㉚ and remove the head from the head P.C. board as shown in Figure 22.
(3) After replacement, mount the new head following the removal steps in the reverse order.

Notes: 1. Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Do not bring the soldering iron near the head P.C. board. Make sure that the head P.C. board is not lifted.
2. Fasten the two screws with a fastening torque of 2.3 kg.cm. Note that the tension of the head spring can be decreased if the screws are fastened too strongly.

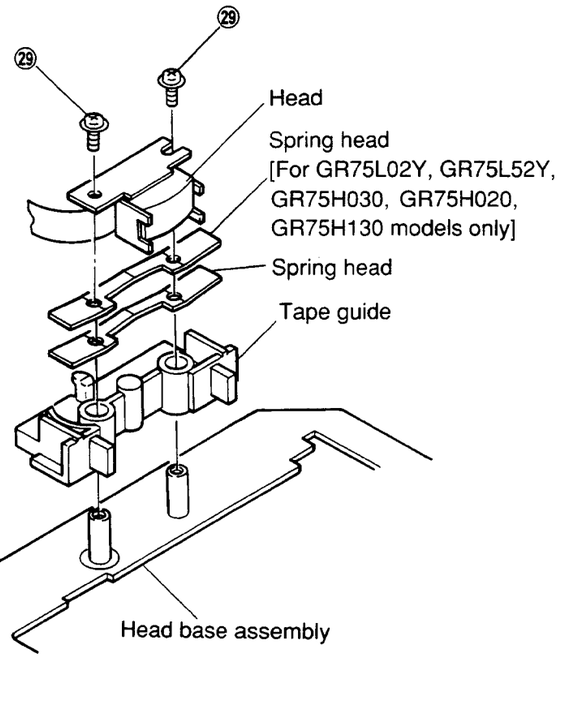


Figure 21

(4) Adjust the height of the head as shown in Figures 23, 24 and 25.
① Place the height adjustment gauge (AI-500) on the head base, and adjust the height so that the check bar fits in the tape head guide smoothly.
② When the check bar touches the top (or bottom) of the tape guide, insert a spacer (t 0.1 mm or polislider washer t 0.13 mm).
If necessary, remove the spacer.

Note: If you do not have a height gauge like described in (4)-①, run the tape at normal speed and adjust the height of the head and the tape head guide so that the tape does not curl.

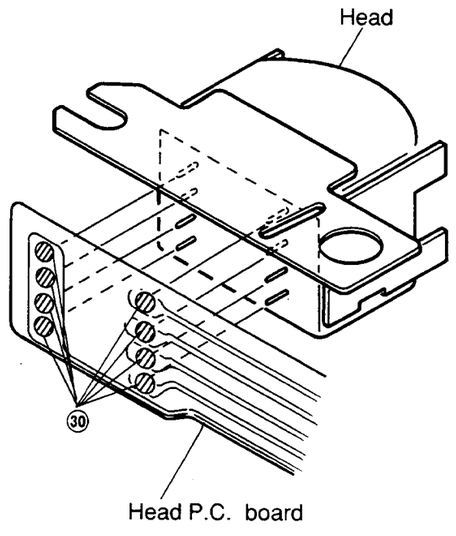


Figure 22

(5) After having assembled the complete mechanism, adjust the angle of the head with test tape MTT-113C. (Refer to chapter "Adjustment of the head angle".) After the adjustment, apply the screw lock and fix the screws.

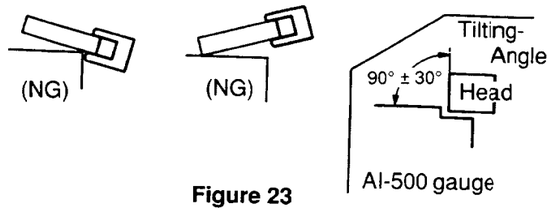


Figure 23

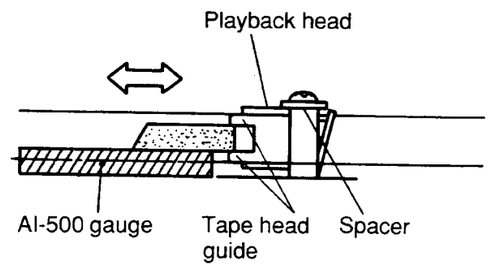


Figure 24

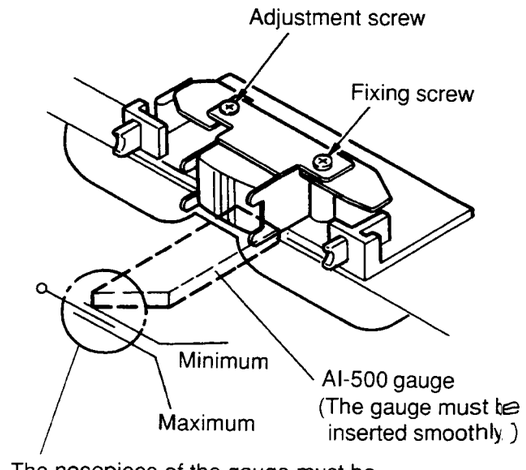
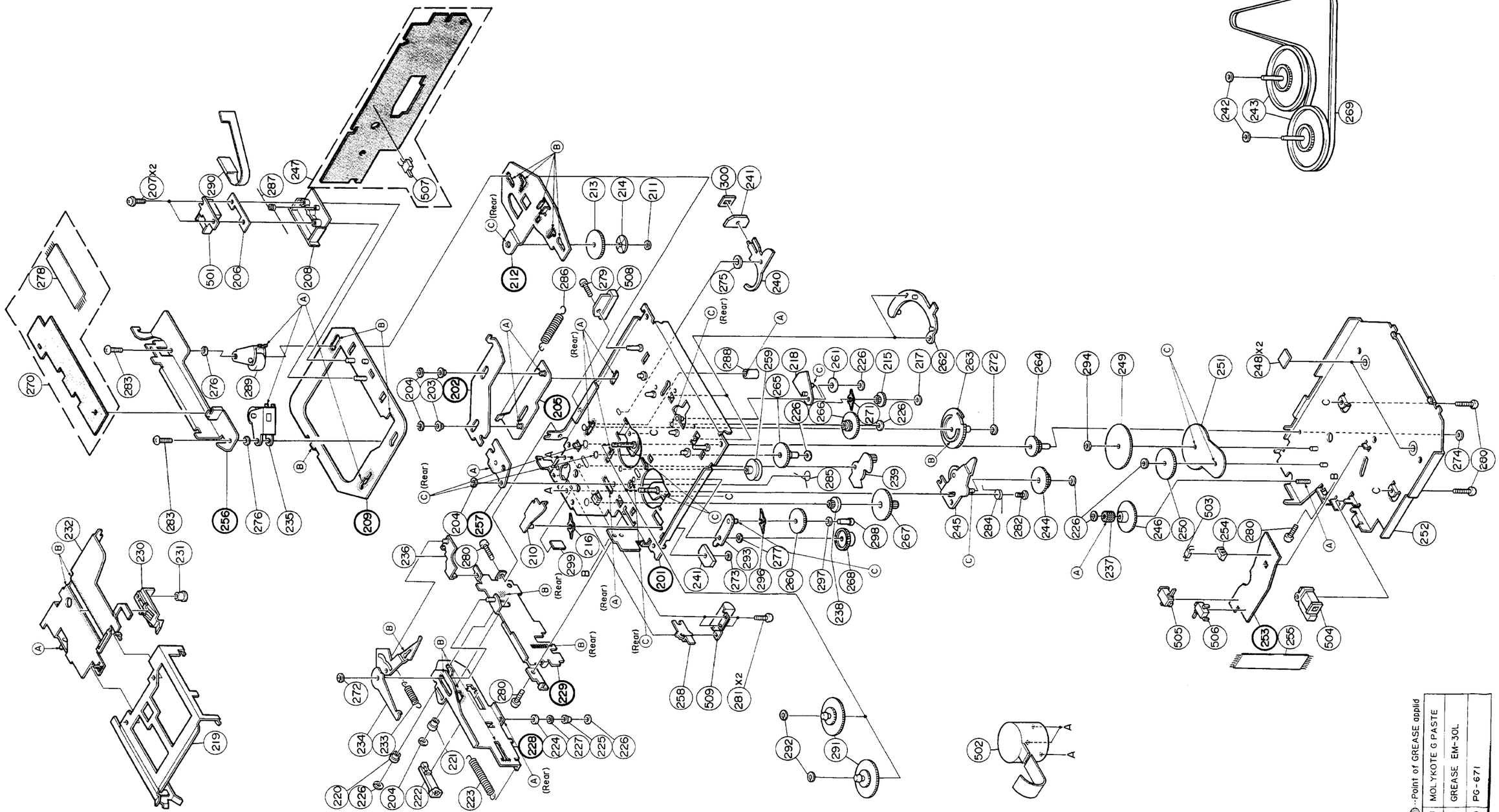


Figure 25

Exploded View (GR75E Series) (1/4)

● For GR75E010/01A/020 Models



Cassette Deck Assembly Parts List (GR75E Series) (1/4)

Note : The parts without parts list are not supplied.

Symbol No.	IN-dex	Part No.	Description
203	3-C	43A11072W01	Roller, Sub Head
204		04B41345P01	Washer, Lock(M1.2)
206	2-B	41A31756W01	Spring, Head
207	2-B	03S40019G03	Screw, F-Locks(M2x4)
208	2-B	43B12545W01	Tape, Guide
210	4-C	01A10206W01	Assy., Riv Lever R/F Sol
211	2-D	04B41345P29	Washer, Lock(M2.6)
213	2-D	44A10295W01	Gear, Sensor
214	2-D	14A10681W01	Reflector
215	3-E	44A30480W01	Gear, Planet
216	3-E	41A10097W02	Spring, Clutch
217	3-E	04B41345P35	Washer, Lock(M1.7)
218	3-E	01A30824W01	Assy., Riv Lever Reverse
● 219	4-B	07B40283W01	Holder, Cassette
■ 219	4-B	07B40283W01	Holder, Cassette
▲ 219	4-B	07B10074W01	Holder, Cassette
220	5-B	43A12583W01	Roller, Eject
221	5-C	43A63281P01	Roller, Plate Base
222	5-C	44A82206P01	Rack
223	5-C	41B10386W03	Spring, GR(Rack)
224	4-C	43A10121W01	Roller, Eject A
225	4-D	43A10360W01	Roller, Eject B
226		04B41345P11	Washer, Lock(M1.2)
227	4-D	43A12377W01	Roller, Eject C
230	4-A	45B10376W01	Slider
231	4-B	47A63278P01	Shaft, Slider
232	4-A	01A10212W01	Assy.,Riv Plate Base
233	4-C	41B10386W01	Spring, Eject Arm
234	4-B	01A10148W01	Assy., Riv Eject Arm A
235	3-B	01B30863W02	Assy., Pinch Roller
236	4-C	45A10087W01	Lever Pack In SW
237	4-F	44A12975W01	Pinion, Eject
238	4-E	44A13617W01	Gear, Motor Idler(B)
239	3-E	01A10201W02	Assy., Riv Lever Pause
240	2-D	45A40725W01	Lever, Play Sol
241		76T10374W01	Chip
242	1-G	04S40075G05	Washer Polyslider (M2.1)
243	1-G	01A10368W01	Assy., Flywheel
244	3-F	44A10141W01	Gear, Eject Idler
245	3-E	01A10205W02	Assy., Riv Lever Clutch A

Symbol No.	IN-dex	Part No.	Description
246	3-F	44A10145W01	Gear, Eject
247	2-B	01V11500W18	Assy., GR Control P.C. Board
248	3-G	43A41656W01	Spacer, UHMW
249	3-F	44A11063W01	Gear, Bottom A
250	3-F	44A11064W01	Gear, Bottom B
251	3-G	34A11122W02	Washer, GR
252	3-H	01A10210W02	Assy., Riv, Cover Bottom
254	3-G	15B11065W01	Guide, Photo
255	4-G	30T15126W01	Wire, PC Sensor(7P)
258	4-D	45A10101W01	Lever, Eject Sol
259	3-D	49A10131W01	Pulley, Idler
260	4-E	44A10133W01	Gear, Take Up
261	3-E	44A10134W01	Gear, Sun
262	3-E	44B10135W01	Gear, Fix
263	3-E	44B30484W01	Gear, Pause
264	3-F	44A10137W01	Gear, Pause Idler A
265	3-D	44A10379W01	Gear, Pause Idler B
266	3-E	44A10138W01	Gear, Reverse Idler
267	3-E	44A10139W01	Gear, Motor Idler
268	4-E	44A11062W01	Gear, Reel Idler
269	1-G	42A10380W01	Belt, GR
● 270	3-A	01V14700W68	Assy., GR Audio P.C. Board
■ 270	3-A	01V11500W19	Assy., GR Audio P.C. Board
▲ 270	3-A	01V11500W19	Assy., GR Audio P.C. Board
271	3-E	41A30475W01	Spring, Clutch
272		04B41345P15	Washer, Lock(M1.2)
273	4-D	04B41345P02	Washer, Lock(M1.7)
274	3-H	04B41345P17	Washer, Lock(M1)
275	2-D	04B41345P30	Washer, Lock(M3.1)
276		04B41345P32	Washer, Lock(M3.1)
277	4-E	04B41345P37	Washer, Lock(M2.1)
278	2-A	30T15126W02	Wire, PC Joint 7P
279	2-D	03S44205G78	Screw, Pan(M2x6)
280		03S44205G30	Screw, Pan(M2.6x4)
281	4-D	03S72235F53	Screw, Pan(M2x3.3)
282	3-F	03A12132W02	Screw, Eject Clutch (M2x2.3)
283		03S43997P64	Screw, Pan(M1.7x3)
284	3-F	41A10384W01	Spring, Eject Clutch
285	3-E	41A10385W01	Spring, Cas Push
286	2-C	41B10386W02	Spring, Sub Head

Symbol No.	IN-dex	Part No.	Description
287	2-B	41A10387W01	Spring, Pinch Roller
288	3-D	43A12719W01	Roller, Pause
289	3-B	01B30863W01	Assy., Pinch Roller
290	2-B	84T25151W01	Head P.C. Board
291	4-E	01T35403W01	Assy., Reel
292	4-E	04B41345P12	Washer, Lock(M1.7)
293	4-D	01A30161W01	Assy., Riv Lever Take Up
294	3-F	04B41345P34	Washer Lock(M1.2)
296	4-D	41A40910W01	Spring, Clutch
297	4-E	43A41543W01	Washer, Som(M1.2)
298	3-E	47A41458W01	Pin, Take Up
299	4-C	43A40388W01	Spacer, Polyslider
300	2-D	43A41744W01	Lock, Solenoid

Miscellaneous

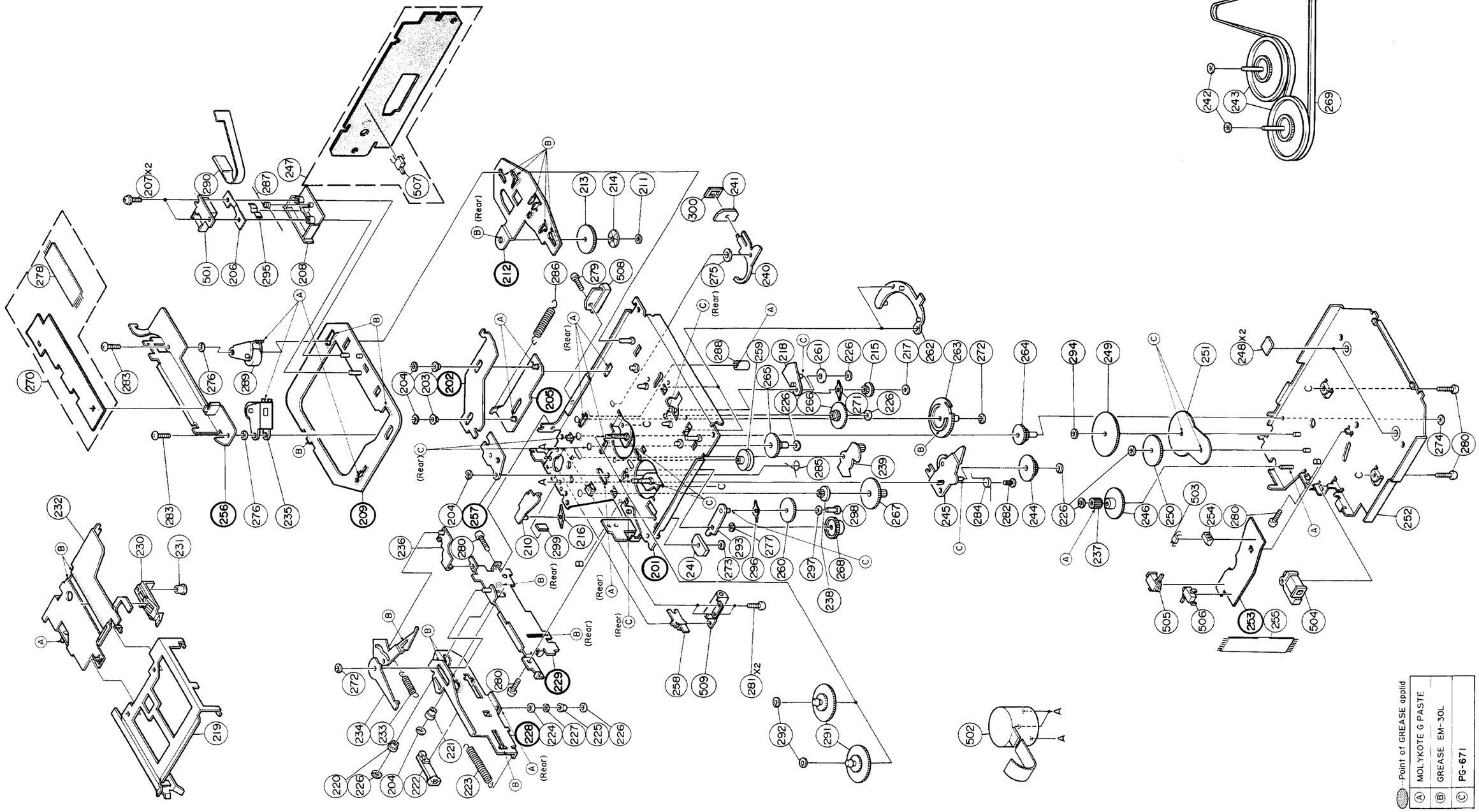
Symbol No.	IN-dex	Part No.	Description
● 501	2-B	88T15971W01	Head
■ 501	2-B	88T10373W01	Head
▲ 501	2-B	88T10373W01	Head
502	4-E	01V11500W64	Assy., Motor(Main, 13.2V-80mA)
503	3-G	51T15144W01	Sensor, Photo
504	4-G	01T10371W01	R/F Sol. Assy.
505	4-F	40T15382W01	SW., Detector (Pack Down)
506	4-G	40T15382W01	SW., Detector(Metal)
507	2-C	40T15222W01	SW., Detector (Pack In)
508	2-D	01T15249W01	Assy., Play Solenoid
509	4-D	01T10369W02	Assy., Eject Solenoid

Notes: ● ; For GR75E020 model only ■ ; For GR75E010 model only
▲ ; For GR75E01A model only Others ; Common

Notes: ● ; For GR75E020 model only ■ ; For GR75E010 model only
▲ ; For GR75E01A model only Others ; Common

Exploded View (GR75L Series) (2/4)

● For GR75L020/02A Models



Cassette Deck Assembly Parts List (GR75E Series) (2/4)

Note : The parts without parts list are not supplied.

Symbol No.	IN-dex	Part No.	Description
203	3-C	43A11072W01	Roll, Sub Head
204		04B41345P01	Washer, Lock(M1.2)
206	2-B	41A31756W01	Spring, Head
207	2-B	03S40019G03	Screw, F-Locks(M2x4)
208	2-B	43B12545W01	Tape, Guide
210	4-C	01A10206W01	Assy., Riv Lever R/F Sol.
211	2-D	04B41345P29	Washer, Lock(M2.6)
213	2-D	44A10295W01	Gear, Sensor
214	2-D	14A10681W01	Reflector
215	3-E	44A30480W01	Gear, Planet
216	3-E	41A10097W02	Spring, Clutch
217	3-E	04B41345P35	Washer, Lock(M1.7)
218	3-E	01A30824W01	Assy., Riv Lever Reverse
219	4-B	07B40283W01	Holder, Cassette
220	5-B	43A12583W01	Roller, Eject
221	5-C	43A63281F01	Roller, Plate Base
222	5-C	44A82206F01	Rack
223	5-C	41B10386W03	Spring, GR(Rack)
224	4-C	43A10121W01	Roller, Eject(A)
225	4-D	43A10360W01	Roller, Eject(B)
226		04B41345P11	Washer, Lock(M1.2)
227	4-D	43A12377W01	Roller, Eject(C)
230	4-A	45B10376W01	Slider
231	4-B	47A63278F01	Shaft, Slider
232	4-A	01A10212W01	Assy., Riv Plate Base
233	4-C	41B10386W01	Spring, Eject Arm
234	4-B	01A21754W01	Assy., Riv Eject Arm(A)
235	3-B	01B30863W02	Assy., Pinch Roller
236	4-C	45A10087W01	Lever, Pack In SW.
237	4-F	44A20314W01	Pinion, Eject
238	4-E	44A13617W01	Gear, Motor Idler(B)
239	3-E	01A10201W02	Assy., Riv Lever Pause
240	2-E	45A40725W01	Lever, Play Sol
241		76T10374W01	Chip
242	1-G	04S40075G05	Washer, Polyslider (M2.1)
243	1-G	01A10368W01	Assy., Flywheel
244	3-F	44A10141W01	Gear, Eject Idler
245	3-E	01A10205W02	Assy., Riv Lever Clutch(A)
246	3-F	44A10145W01	Gear, Eject
247	2-B	01V23700W03	Assy., GR Control P.C. Board
248	3-G	43A41656W01	Spacer, UHMW
249	3-F	44A11063W01	Gear, Bottom(A)
250	3-F	44A11064W01	Gear, Bottom(B)
251	3-G	34A11122W02	Washer, GR
252	3-H	01A10210W02	Assy., Riv, Cover Bottom
254	3-G	15B11065W01	Guide, Photo
255	4-G	30T15126W01	Wire, PC Sensor(7P)
258	4-D	45A10101W01	Lever, Eject Sol.
259	3-D	49A10131W01	Pulley, Idler
260	4-E	44A10133W01	Gear, Take Up
261	3-E	44A10134W01	Gear, Sun
262	3-E	44B10135W01	Gear, Fix
263	3-E	44B21670W01	Gear, Pause
264	3-F	44A10137W01	Gear, Pause Idler(A)
265	3-D	44A10379W01	Gear, Pause Idler(B)
266	3-E	44A10138W01	Gear, Reverse Idler
267	3-E	44A10139W01	Gear, Motor Idler
268	4-E	44A11062W01	Gear, Reel Idler
269	1-G	42A10380W01	Belt, GR
270	3-A	01V14700W68	Assy., GR Audio P.C. Board
271	3-E	41A30475W01	Spring, Clutch
272	3-F	04B41345P15	Washer, Lock(M1.2)
273	4-D	04B41345P02	Washer, Lock(M1.7)
274	3-H	04B41345P17	Washer, Lock(M1)
275	2-D	04B41345P30	Washer, Lock(M3.1)
276		04B41345P32	Washer, Lock(M3.1)
277	4-E	04B41345P37	Washer, Lock(M2.1)
278	2-A	30T15126W02	Wire, PC Joint 7P
279	2-D	03S44205G78	Screw, Pan(M2x8)
280		03S44205G30	Screw, Pan(M2.6x4)
281	4-D	03S72235F53	Screw, Pan(M2x3.3)
282	3-F	03A12132W02	Screw, Eject Clutch (M2x2.3)
283		03S43997P64	Screw, Pan(M1.7x3)
284	3-F	41A10384W01	Spring, Eject Clutch
285	3-E	41A10385W01	Spring, Cas. Push
286	2-C	41B10386W02	Spring, Sub Head
287	2-B	41A10387W01	Spring, Pinch Roller
288	3-D	43A12719W01	Roller, Pause
289	3-B	01B30863W01	Assy., Pinch Roller
290	2-B	84T25151W01	Head P.C. Board
291	4-E	01T35403W02	Assy., Reel
292	4-E	04B41345P12	Washer, Lock(M1.7)
293	4-D	01A30161W01	Assy., Riv Lever Take Up
294	3-F	04B41345P34	Washer, Lock(M1.2)
295	2-B	26A20537W01	Shield, Plate
296	4-D	41A40910W01	Spring, Clutch
297	4-E	43A41543W01	Washer, Som(M1.2)
298	3-E	47A41458W01	Pin, Take Up
299	3-D	43A40388W01	Spacer, Polyslider
300	2-D	43A41744W01	Lock, Solenoid

Miscellaneous

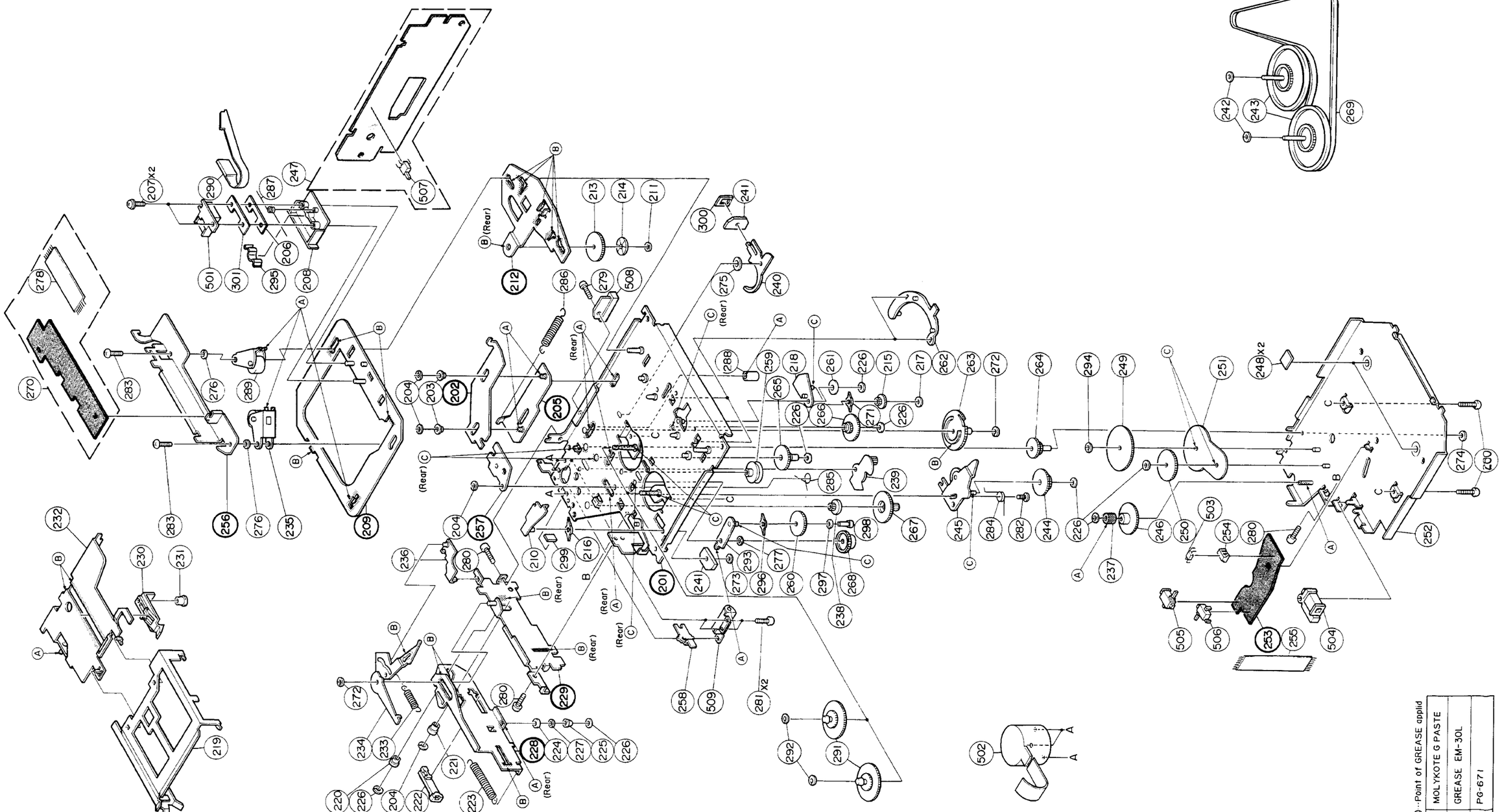
Symbol No.	IN-dex	Part No.	Description
501	2-B	88T15971W01	Head
◆ 502	4-E	01V23900W60	Assy., Motor(13.2V-105mA)
○ 502	4-E	01V43400W37	Assy., Motor(13.2V-88mA)
503	3-G	51T15144W01	Sensor, Photo
504	4-G	01T10371W01	R/F Sol. Assy
505	4-F	40T15382W01	SW., Detector (Pack Down)
506	4-G	40T15382W01	SW., Detector (Metal)
507	2-C	40T15222W01	SW., Detector (Pack In)
508	2-D	01T15249W01	Assy., Play Solenoid
509	4-D	01T10369W02	Assy., Eject Solenoid

Notes : ◆ ; For GR75L020 model only ○ ; For GR75L02A model only
Others ; Common

Notes : ◆ ; For GR75L020 model only ○ ; For GR75L02A model only
Others ; Common

Exploded View (GR-Y Series) (3/4)

● For GR75L02Y/52Y Model



Cassette Deck Assembly Parts List (GR-Y Series) (3/4)

Note : The parts without parts list are not supplied.

Symbol No.	IN-dex	Part No.	Description
203	3-C	43A11072W01	Roll. Sub Head
204		04B41345P01	Washer. Lock(M1.2)
206	2-B	41A31756W01	Spring. Head
207	2-B	03S40019G03	Screw. F-Locks(M2x4)
208	2-B	43B12545W01	Tape. Guide
210	4-C	01A10206W01	Assy.. Riv Lever R/F Sol.
211	2-D	04B41345P29	Washer. Lock(M2.6)
213	2-D	44A10295W01	Gear. Sensor
214	2-D	14A10681W01	Reflector
215	3-E	44A30480W01	Gear. Planet
216		41A10097W02	Spring. Clutch
217	3-E	04B41345P35	Washer. Lock(M1.7)
218	3-E	01A30824W01	Assy.. Riv Lever Reverse
219	4-B	07B40283W01	Holder. Cassette
220	5-B	43A12583W01	Roller. Eject
221	5-C	43A63281F01	Roller. Plate Base
222	5-C	44A82206F01	Rack
223	5-C	41B10386W03	Spring. GR(Rack)
224	4-C	43A10121W01	Roller. Eject(A)
225	4-D	43A10360W01	Roller. Eject(B)
226		04B41345P11	Washer. Lock(M1.2)
227	4-D	43A12377W01	Roller. Eject(C)
230	4-A	45B10376W01	Slider
231	4-B	47A63278F01	Shaft. Slider
232	4-A	01A10212W01	Assy.. Riv Plate Base
233	4-C	41B10386W01	Spring. Eject Arm
234	4-B	01A21754W01	Assy.. Riv Eject Arm(A)
235	3-B	01B30863W02	Assy.. Pinch Roller
236	4-C	45A10087W01	Lever. Pack In SW.
237	4-F	44A20314W01	Pinion. Eject
238	4-E	44A13617W01	Gear. Motor Idler(B)
239	3-E	01A10201W02	Assy.. Riv Lever Pause
240	2-D	45A40725W01	Lever. Play Sol.
241		76T10374W01	Chip
242	1-G	04S40075G05	Washer. Polyslider (M2.1)
243	1-G	01A10368W01	Assy.. Flywheel
244	3-F	44A10141W01	Gear. Eject Idler
245	3-E	01A10205W02	Assy.. Riv Lever Clutch(A)
246	3-F	44A10145W01	Gear. Eject
☆ 247	2-B	01V23700W03	Assy.. GR Control P.C. Board
◇ 247		01V44200W74	Assy.. GR Control P.C. Board
248	3-G	43A41656W01	Spacer. UHMW
249	3-F	44A11063W01	Gear. Bottom(A)
250	3-F	44A11064W01	Gear. Bottom(B)
251	3-G	34A11122W02	Washer. GR
252	3-H	01A10210W02	Assy.. Riv. Cover Bottom
254	3-G	15B11065W01	Guide. Photo
255	4-G	30T15126W01	Wire. PC Sensor(7P)
258	4-D	45A10101W01	Lever. Eject Sol.
259	3-D	49A10131W01	Pulley. Idler
260	4-E	44A10133W01	Gear. Take Up
261	3-E	44A10134W01	Gear. Sun
262	3-E	44B10135W01	Gear. Fix
263	3-E	44B21670W01	Gear. Pause
264	3-F	44A10137W01	Gear. Pause Idler(A)
265	3-D	44A10379W01	Gear. Pause Idler(B)
266	3-E	44A10138W01	Gear. Reverse Idler
267	3-E	44A10139W01	Gear. Motor Idler
268	4-E	44A11062W01	Gear. Reel Idler
269	1-G	42A10380W01	Belt. GR
270	3-A	01V33300W03	Assy.. GR Audio P.C. Board
271	3-E	41A30475W01	Spring. Clutch
272	3-F	04B41345P15	Washer. Lock(M1.2)
273		04B41345P02	Washer. Lock(M1.7)
274	3-H	04B41345P17	Washer. Lock(M1)
275	2-D	04B41345P30	Washer. Lock(M3.1)
276	3-B	04B41345P32	Washer. Lock(M3.1)
277	4-E	04B41345P37	Washer. Lock(M2.1)
278	2-A	30T15126W02	Wire. PC Joint 7P
279	2-D	03S44205G78	Screw. Pan(M2x6)
280		03S44205G30	Screw. Pan(M2.6x4)
281	4-D	03S72235F53	Screw. Pan(M2x3.3)
282	3-F	03A12132W02	Screw. Eject Clutch (M2x2.3)
283		03S43997P64	Screw. Pan(M1.7x3)
284	3-F	41A10384W01	Spring. Eject Clutch
285	3-E	41A10385W01	Spring. Cas. Push
286	2-C	41B10386W02	Spring. Sub Head
287	2-B	41A10387W01	Spring. Pinch Roller
288	3-D	43A12719W01	Roller. Pause
289	3-B	01B30863W01	Assy.. Pinch Roller
290	2-B	84T35271W01	Head P.C. Board
291	4-E	01T35403W02	Assy.. Reel
292	4-E	04B41345P12	Washer. Lock(M1.7)
293	4-D	01A30161W01	Assy.. Riv Lever Take Up
294	3-F	04B41345P34	Washer. Lock(M1.2)
295	2-B	26A20537W01	Shield. Plate
296	4-D	41A40910W01	Spring. Clutch
297	4-E	43A41543W01	Washer. Som(M1.2)
298	3-E	47A41458W01	Pin. Take Up
299	3-C	43A40388W01	Spacer. Polyslider
300	2-D	43A41744W01	Lock. Solenoid
301	2-B	41A41416W01	Spring. Head

Miscellaneous

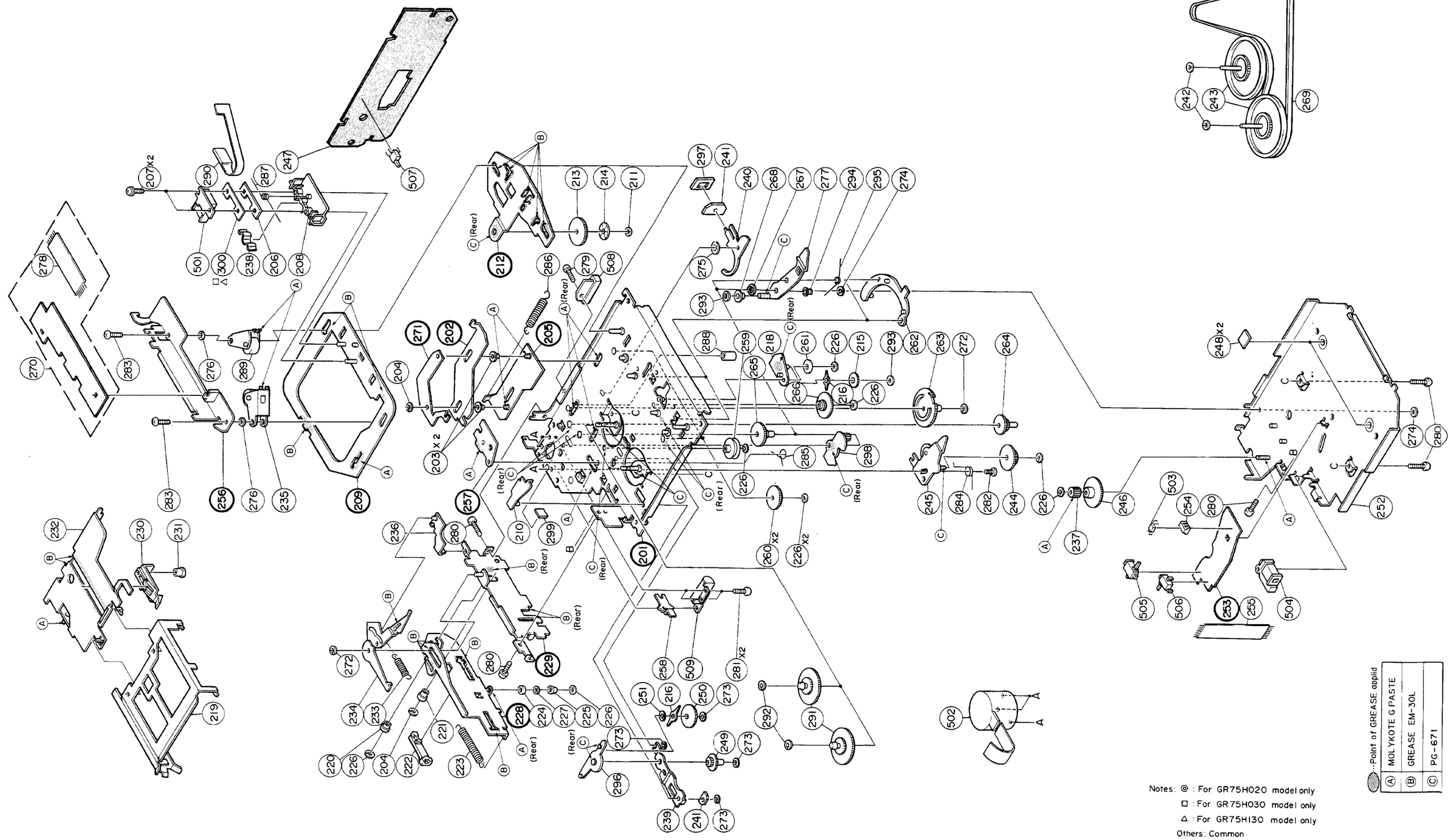
501	2-B	88T15971W01	Head
☆ 502	4-E	01V23900W60	Assy.. Motor(13.2V-105mA)
◇ 502	4-E	01V44200W73	Assy.. Motor(13.2V-80mA)
503	3-G	51T15144W01	Sensor. Photo
504	4-G	01T10371W01	R/F Sol. Assy
505	4-F	40T15382W01	SW.. Detector (Pack Down)
506	4-G	40T15382W01	SW.. Detector (Metal)
507	2-C	40T15222W01	SW.. Detector (Pack In)
508	2-D	01T15249W01	Assy.. Play Solenoid
509	4-D	01T10369W02	Assy.. Eject Solenoid

Notes: ☆ : For GR75L02Y model only ◇ : For GR75L52Y model only
Others : Common

Notes: ☆ : For GR75L02Y model only ◇ : For GR75L52Y model only
Others : Common

Exploded View (GR75H Series) (4/4)

● For GR75H030/020/130 Model



Cassette Deck Assembly Parts List (GR75H Series) (4/4)

Note : The parts without parts list are not supplied.

Symbol No.		IN-dex	Part No.	Description
	203	3-C	43A31453W01	Roller, Sub Head
	204		04B41345P01	Washer, Lock(M1.2)
	206	2-B	41A31756W01	Spring, Head
	207	2-A	03A38021W01	Screw, Flange(M2x4)
	208	2-B	43B12545W01	Tape, Guide
	210	4-C	01A30462W01	Assy., Riv Lever R/F Sol
	211	2-D	04B41345P29	Washer, Lock(M2.6)
	213	2-D	44A10295W01	Gear, Sensor
	214	2-D	14A10681W01	Reflector
	215	3-E	44A30480W01	Gear, Planet
	216		41A30475W01	Spring, Clutch
	218	3-E	01A30824W01	Assy., Riv Lever Reverse
◎	219	4-B	07B40283W01	Holder, Cassette
□	219	4-B	07B40283W01	Holder, Cassette
△	219	4-B	07B40012W01	Holder, Cassette
	220	5-B	43A12583W01	Roller, Eject
	221	5-C	43A63281F01	Roller, Plate Base
	222	5-C	44A82206F01	Rack
◎	223	5-C	41B10386W03	Spring, GR(Rack)
□	223	5-C	41B10386W03	Spring, GR(Rack)
△	223	5-C	41B10386W04	Spring, GR(Rack)
	224	5-C	43A10121W01	Roller, Eject A
	225	5-D	43A10360W01	Roller, Eject B
	226		04B41345P11	Washer, Lock(M1.2)
	227	5-D	43A12377W01	Roller, Eject C
	230	4-A	45B10376W01	Slider
	231	4-B	47A63278F01	Shaft, Slider
◎	232	4-A	01A10212W01	Assy., Riv Plate Base
□	232	4-A	01A10212W01	Assy., Riv Plate Base
△	232	4-A	01A40024W01	Assy., Riv Plate Base
◎	233	5-C	41B10386W01	Spring, Eject Arm
□	233	5-C	41B10386W01	Spring, Eject Arm
△	233	5-C	41B63283F11	Spring
◎	234	5-C	01A30883W01	Assy., Riv Eject Arm B
□	234	5-C	01A30883W01	Assy., Riv Eject Arm B
△	234	5-C	01A40021W01	Assy., Riv Eject Arm D
	235	3-B	01B30863W02	Assy., Pinch Roller
	236	4-C	45A10087W01	Lever Pack In SW
	237	4-F	44A20314W01	Pinion, Eject
	238	2-B	26A20537W01	Shield, plate
	239	5-D	01A40881W01	Assy., Riv RF Link
	240	2-D	45A40725W01	Lever, Play Sol.
	241		76T10374W01	Chip
	242	1-G	04S40075G05	Washer, Polyslider(M2.1)
	243	1-G	01A30488W01	Assy., Flywheel
	244	3-F	44A10141W01	Gear, Eject Idler
	245	3-E	01A10205W02	Assy., Riv Lever Clutch A
	246	3-F	44A10145W01	Gear, Eject
	247	2-B	01V33500W45	Assy., GR Control P.C. Board
	248	3-G	43A41656W01	Spacer, UHMW
	249	5-D	44A30481W01	Gear, RF Idler
	250	4-D	44A30483W01	Gear, RF
	251	4-D	04S40075G58	Washer, Polyslider(M2.1)
	252	3-H	01A30463W01	Assy., Riv, Cover Bottom
	254	3-G	15B11065W01	Guide, Photo
	255	4-G	30T15126W01	Wire, PC Sensor(7P)
	258	4-D	45A10101W01	Lever, Eject Sol
	259	3-D	49A30476W01	Pulley, Idler
	260	4-E	44A30482W01	Gear, Take Up
	261	3-E	44A30478W01	Gear, Sun
	262	3-E	44B10135W01	Gear, Fix
	263	3-E	44B30484W01	Gear, Pause
	264	3-F	44A10137W01	Gear, Pause Idler A
	265	3-E	44A30486W01	Gear, Pause Idler B
	266	3-E	44A30479W01	Gear, Reverse Idler
	267	2-E	44A30485W01	Gear, Motor Idler
	268	2-E	44A30487W01	Gear, Motor Clutch
	269	1-G	42A31850W01	Belt, GR
◎	270	3-A	01V43400W38	Assy., GR Audio P.C. Board
□	270	3-A	01V33300W03	Assy., GR Audio P.C. Board
△	270	3-A	01V33300W03	Assy., GR Audio P.C. Board
	272	3-F	04B41345P15	Washer, Lock(M1.2)
	273		04B41345P02	Washer, Lock(M1.7)
	274	3-H	04B41345P17	Washer, Lock(M1)
	275	2-D	04B41345P30	Washer, Lock(M3.1)
	276	3-B	04B41345P32	Washer, Lock(M3.1)
	277	2-E	01A30464W01	Assy., Riv Play Clutch
	278	2-A	30T15126W02	Wire, PC Joint 7P
	279	2-D	03S44205G78	Screw, Pan(M2x6)
	280		03S44205G30	Screw, Pan(M2.6x4)
	281	4-D	03S72235F53	Screw, Pan(M2x3.3)
	282	3-F	03A12132W02	Screw, Eject Clutch(M2x2.3)
	283		03S43997P64	Screw, Pan(M1.7x3)
	284	3-F	41A10384W01	Spring, Eject Clutch
	285	3-E	41A10385W01	Spring, Cas Push
	286	2-C	41B10386W02	Spring, Sub Head
	287	2-B	41A10387W01	Spring, Pinch Roller
	288	3-D	43A12719W01	Roller, Pause
	289	3-B	01B30863W01	Assy., Pinch Roller
◎	290	2-B	84T25151W01	Head P.C. Board

Notes : ◎ ; For GR75H020 model only □ ; For GR75H030 model only
△ ; For GR75H130 model only Others ; Common

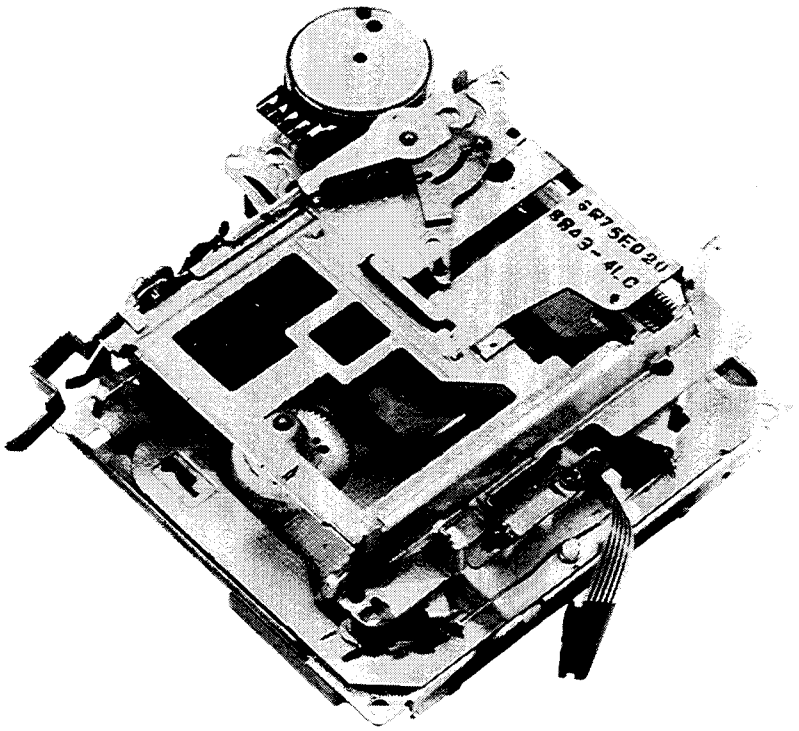
Symbol No.		IN-dex	Part No.	Description
□	290	2-B	84T35271W01	Head P.C. Board
△	290	2-B	84T35271W01	Head P.C. Board
	291	5-E	01T35403W01	Assy., Reel
	292	5-E	04B41345P12	Washer, Lock(M1.7)
	293	2-D	04B41345P35	Washer, Lock(M1.7)
	294	2-E	43A30827W01	Spacer, Motor Idler
	295	2-E	41A30490W01	Spring, Play Clutch
	296	5-D	01A40882W01	Assy., Riv Lever RF
	297	2-D	34A48030W01	Washer, Solenoid
	298	3-E	01A10201W02	Assy, Riv Lever Pause
	299	4-C	43A40388W01	Spacer, Polyslider
□	300	2-B	41A41416W01	Spring, Head
△	300	2-B	41A41416W01	Spring, Head
			Miscellaneous	
◎	501	2-B	88T15971W01	Head
□	501	2-B	88T35406W01	Head
△	501	2-B	88T35406W01	Head
	502	5-F	01V41100W72	Assy., Motor(11.5v-85mA)
	503	3-G	51T15144W01	Sensor, Photo
	504	4-G	01T10371W01	R/F Sol. Assy.
	505	4-F	40T15382W01	SW., Detector (Pack Down)
	506	4-G	40T15382W01	SW., Detector(Metal)
	507	2-C	40T15222W01	SW., Detector (Pack In)
	508	2-D	01T15249W01	Assy., Play Solenoid
	509	4-D	01T10369W02	Assy., Eject Solenoid

Notes: ◎ ; For GR75H020 model only □ ; For GR75H030 model only
△ ; For GR75H130 model only Others ; Common

ALPINE SERVICE MANUAL

Cassette Deck Mechanism

ADDENDUM & REVISED (III)



GR/GR-Y SERIES

Contents

List of Usable Lock Washers

	SIZE	PARTS NO.	QUANTITY		
			GR75E Series	GR75L Series	GR-Y Series
1	(M1.2 × 3.5 × 0.25)	04B41345P01	8	7	6
2	(M1.7 × 3.5 × 0.25)	04B41345P02	1	1	2
3	(M2.1 × 5 × 0.25)	04B41345P06	1	1	0
4	(M1.2 × 2.5 × 0.25)	04B41345P11	7	7	8
5	(M1.7 × 3.5 × 0.35)	04B41345P12	2	2	2
6	(M1.2 × 3.5 × 0.35)	04B41345P15	1	1	1
7	(M1 × 2.5 × 0.25)	04B41345P17	1	1	1
8	(M2.6 × 5 × 0.25)	04B41345P29	1	1	0
9	(M3.1 × 8 × 0.05)	04B41345P30	1	1	1
10	(M1.7 × 3 × 0.25)	04B41345P31	1	1	1
11	(M3.1 × 5 × 0.35)	04B41345P32	2	2	2
12	(M1.2 × 2.5 × 0.3)	04B41345P34	1	1	0
13	(M2.1 × 4 × 0.25)	04B41345P37	0	0	1
14	(M2.6 × 4.7 × 0.25)	04B41345P38	0	0	1

List of Usable Oil

1) Molykote E paste
2) Grease EM-30L
3) Grease FLOIL 425A

List of Usable Jigs

1) GR bottom gear jig (Part No. 44A20788W01)
2) Head height adjustment gauge
   AI-500 (Part No. AI-500)

Memo

Disassembly, Assembly and Replacement of Functional Parts

1. Disassembly and Assembly of Bottom Cover

(1) Turn the mechanism around as shown in Figure 1.
(2) Remove M1 lock washer ① as shown in Figure 1.
(3) Remove three screws ② as shown in Figure 1.
(4) Lift the bottom cover slowly from the position Ⓐ-1, pull the hooks out of the holes in the chassis, and remove the bottom cover as shown in Figure 1.
(5) When remounting the bottom cover, first turn the front of the mechanism up as shown in Figure 2.
(6) Slide the slider in the direction Ⓐ-2 as shown in Figure 2.
(7) Push down the cassette holder in the direction Ⓐ-3 as shown in Figure 2.
(8) Pull the door pin in the direction Ⓐ-4 so that the mechanism is locked in as shown in Figure 2.
(9) Turn the mechanism around as shown in Figure 3.
(10) Pull the automatic metal lever in the direction Ⓐ-5 and the RF solenoid chip in the direction Ⓐ-6 as shown in Figure 3.
(11) Insert the hooks of the bottom cover into the chassis in the direction Ⓐ-7, and then join the part Ⓐ-8 of the bottom cover to the chassis slowly, making sure that the 3 points indicated with the straight lines in the Figure 3 are fitted properly.
If there are troubles in mounting the bottom cover, do not apply force but remove the bottom cover once again and check the positions of the individual parts. (Refer to Figure 3.)
(12) Since the hooks marked Ⓐ-8 will be lifted slightly as shown in Figure 4, insert the jig through the hole Ⓐ-9, and fix it turning the jig slightly in the direction Ⓐ-11.
Instead of operation (12), turn the gear nose slowly with a precision screwdriver etc., taking care not to damage it.
After 2 to 3 turns, it will click into place.
(Refer to Figures 4 and 5.)
(13) Fix the screws and the lock washer that have been removed.

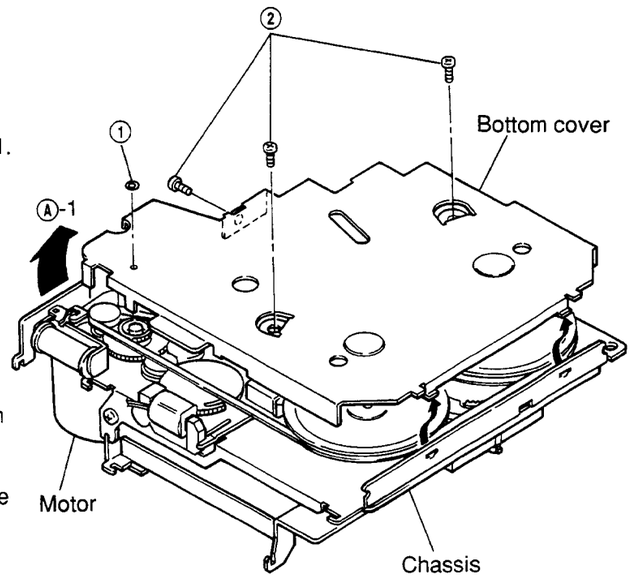


Figure 1

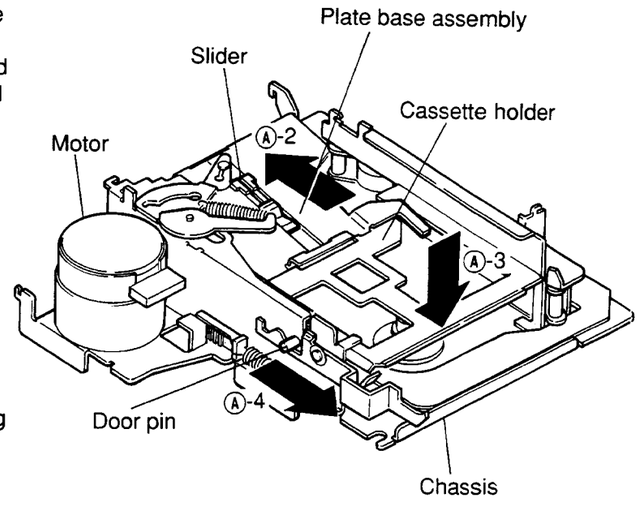


Figure 2

(14) Insert the jig into the hole Ⓐ-9 as shown in Figure and rotate the eject solenoid counterclockwise about 20 times, pulling it in the direction Ⓐ-10 with the finger.
Then the eject operation is completed.
Instead of operation (14), the eject operation can be performed by mounting the mechanism to the product. (Refer to Figures 4 and 5.)

Note: Do not reuse the used lock washers for mounting.
When turning the mechanism, be careful not to drop the gear and the flywheel.
Fasten the three screws with a fastening torque of 6 kg.cm.

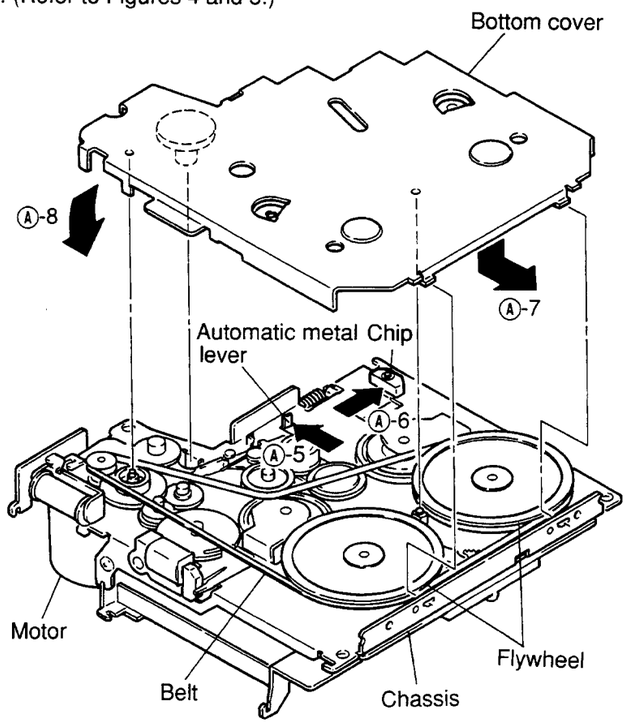


Figure 3

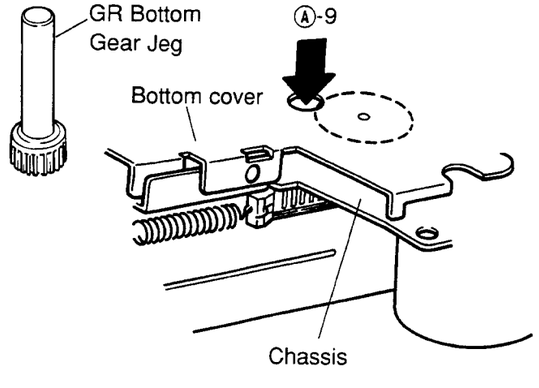


Figure 4

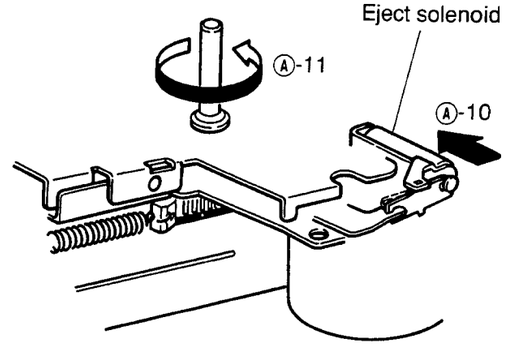


Figure 5

2. Replacement of the bottom cover mounting parts

a. Replacement of the eject gear
(1) Remove M1.2 lock washer ③ as shown in Figure 6.
(2) Pull the eject pinion out of the eject gear and remove the eject gear as shown in Figure 6.
(3) Apply the molykote E paste to the section Ⓑ-1, and mount the eject gear following the removal steps in the reverse order. After replacement is finished, make sure that the gear rotates smoothly. (Refer to Figure 6.)

Note: Do not reuse the used lock washers for remounting.
Take care to avoid damage by piercing and tearing.

b. Replacement of the RF solenoid
(1) Remove two solders ④ and remove the RF solenoid from the bottom cover by pulling it up as shown in Figure 6.
(2) Replace the solenoid with a new one, and remount it following the removal steps in the reverse order as shown in Figure 6.

Note: When removing solder ④, set the temperature of the soldering iron to 350° ± 10° and the soldering time to 1 – 3 seconds. Take care that the solder is not loose, that there is no shortcircuit and that the coating is not damaged.

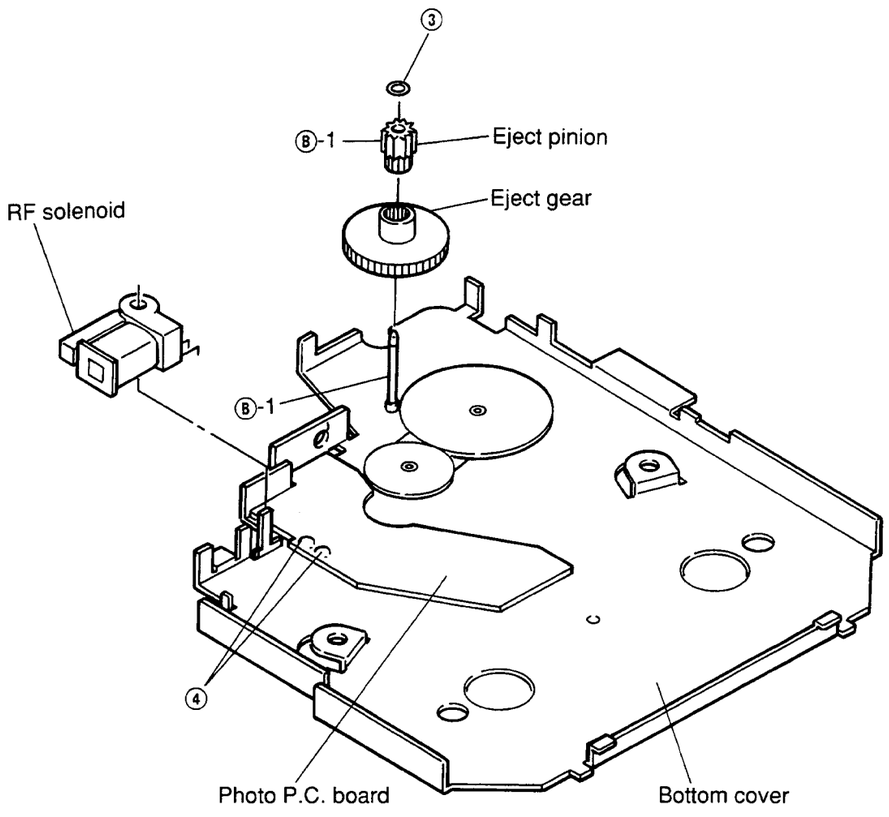


Figure 6

c. Replacement of the photo sensor
(1) Remove four solders ⑤ as shown in Figure 7.
(2) Remove the photo guide together with the photo sensor from the photo P.C. board as shown in Figure 7.
(3) Insert the new photo sensor into the photo guide, and bend the legs of the photo sensor in the direction marked Ⓑ-2 as shown in Figure 7.
(4) Insert the photo guide into the P.C. board and solder the legs so that the photo sensor is set as indicated by ⬚ in Figure 7.

Note: When using the soldering iron, set the temperature of the soldering iron to 350° ± 10° and the soldering time to 1 – 3 seconds. Take care that the solder is not loose, that there is no shortcircuit and that the coating is not damaged. Also take care that the photo guide is properly fixed and straight.

d. Replacement of the detector switch (Automatic metal pack-in)
(1) Remove 4 solders ⑥ with which the switch is fixed as shown in Figure 7.
(2) Prepare the terminals of the switch of the new solder as shown in Figure 8.
(3) After that, insert the switch into the photo P.C. board, and solder the terminals.

Note: When using the soldering iron, refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Also take care that the switch guide is properly fixed and straight.

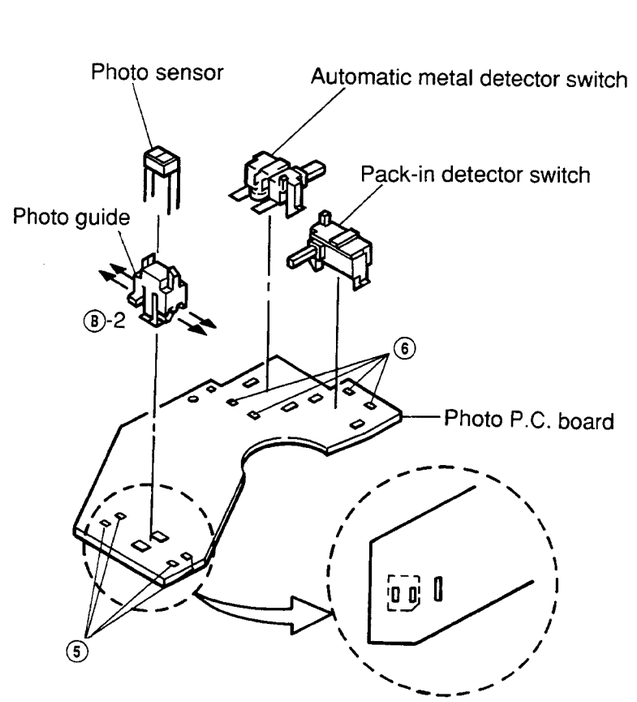


Figure 7

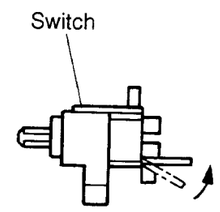


Figure 8

3. Replacement of the mounting parts on the rear of the main chassis

a. Replacement of the belt
(1) After removing the bottom cover, remove the belt.
(2) Clean the new belt with absolute alcohol, and fix it as shown in Figure 9.

Note: When fixing the belt, make sure that it is not twisted or dirty. When removing the belt, do not turn up the front of the chassis.

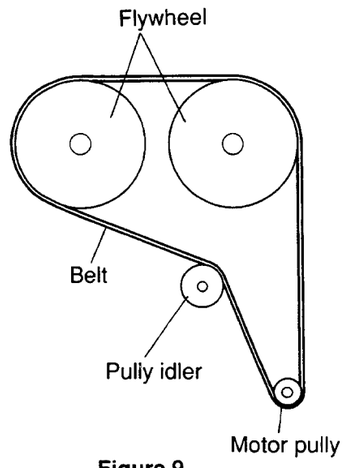


Figure 9

b. Replacement of the motor
(1) After removing the belt, remove spring ⑦ as shown in Figure 10.
(2) Remove solder ⑧-1, and remove the parallel wire (5P) from the control P.C. board as shown in Figure 11.
(3) Remove two screws ⑨ and ⑩, and remove the motor, taking care not to damage the motor idler gear. (Refer to Figure 10.)
(4) Mount the new motor following the removal steps in the reverse order.

Note: Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Since the parallel wire is very easily damaged, handle it with care.
Fasten the two screws with a fastening torque of 3 kg.cm.

*When inserting the clutch spring, be careful of the inserting direction as shown in the Figure.

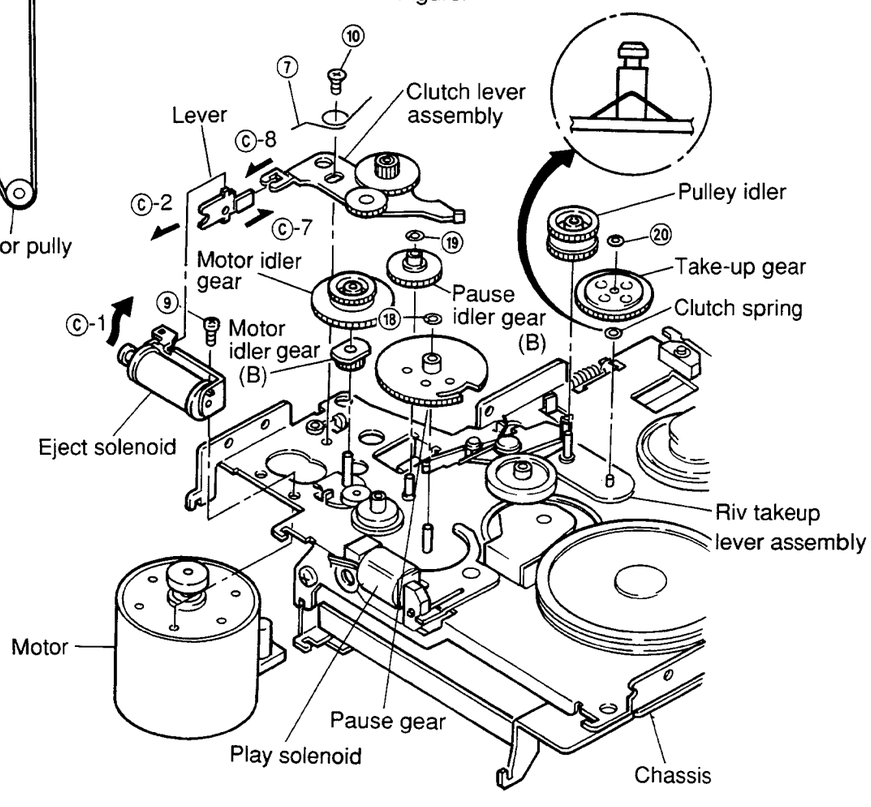
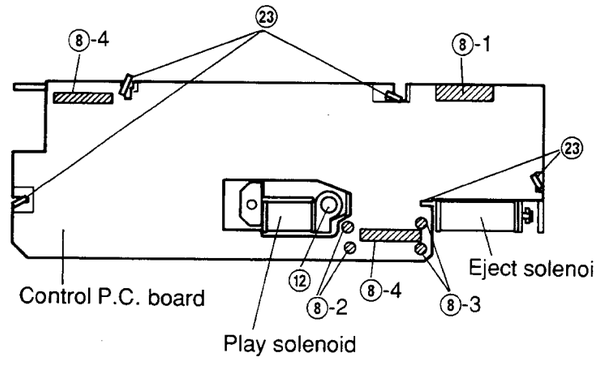


Figure 10

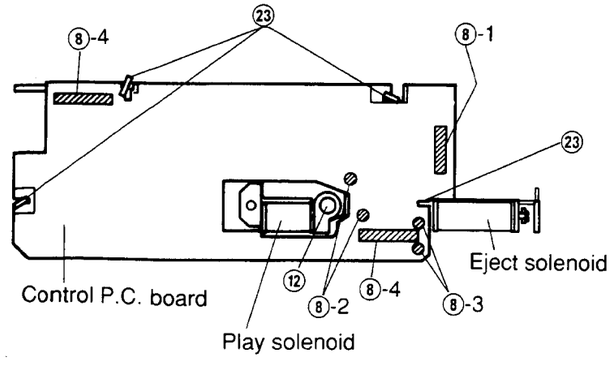
c. Replacement of the flywheels
(1) After removing the belt, pull out the two flywheels. Take care not to loose the polyslider washer ⑪ located between the flywheel and the chassis. (Refer to Figure 12.)
(2) Fix the polyslider washer to the new flywheel and mount the flywheel to the chassis.

d. Replacement of the play solenoid
(1) Remove the two solders ⑧-2 as shown in Figure 11.
(2) Remove one screw ⑫ and remove the solenoid as shown in Figure 11.
(3) Mount the new solenoid following the removal steps in the reverse order.

Note: Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Fasten the screws with a fastening torque of 2.3 kg.cm.



[For GR75E020, GR75E010, GR75E01A, GR75E01C models]



[For GR75L020, GR75L010 models]

Figure 11

e. Replacement of the eject solenoid
(1) Remove two solders ⑧-3. Take care not to loose the tube that protects the wire. (Refer to Figure 11.)
(2) Remove screw ⑨ and remove the play solenoid as shown in Figure 10.
(3) Align position Ⓒ-1 of the new solenoid with position Ⓒ-2 of the lever and fasten the screw as shown in Figure 10.
(4) Lead the wire through the tube and solder it.

Note: Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Fasten the screws with a fastening torque of 3 kg.cm. As the solder wires are not insulated, do not let them cross each other.

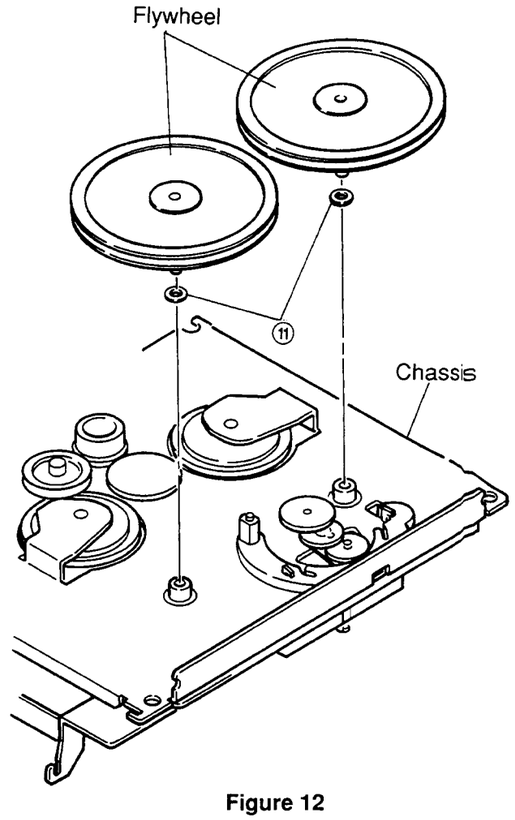


Figure 12

f. Replacement of gears

(f-1) Replacement of the reverse idler gear
(1) Remove M1.2 lock washer ⑬, pull it up from the stud of the chassis and remove the gear as shown in Figure 13.
(2) Remount following the removal steps in the reverse order.

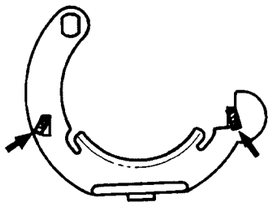
(f-2) Replacement of the sun gear
(1) Remove M1.2 lock washer ⑭, pull it up from the stud of the chassis and remove the gear as shown in Figure 13.
(2) Mount it, following the removal steps in the reverse order.

(f-3) Replacement of the fixing gear
(1) Adjust the two mounting claws for the fix gear on the chassis ⑮ and remove the section Ⓒ-3 of the gear by pulling it up in the direction of the arrow shown in Figure 13.
(2) Insert the section Ⓒ-4 of the new gear into the chassis, and mount it following the removal steps in the reverse order as shown in Figure 13.

(f-4) Replacement of the reverse lever assembly and planet gear
(1) Remove both the fixing gear and the sun gear and remove the reverse lever assembly as shown in Figure 13.
(2) Remove M1.7 lock washer ⑯ and remove the planet gear as shown in Figure 14.
(3) Mount the new planet gear and reverse lever following the removal steps in the reverse order.

Notes on f-1 through f-4:
After mounting all parts, check if the reverse lever moves in the directions marked Ⓒ-5 when the reverse gear is turned clockwise and counterclockwise.

*After mounting the fixing gear, bend the claws ⑮ into the form of as shown in the Figure.



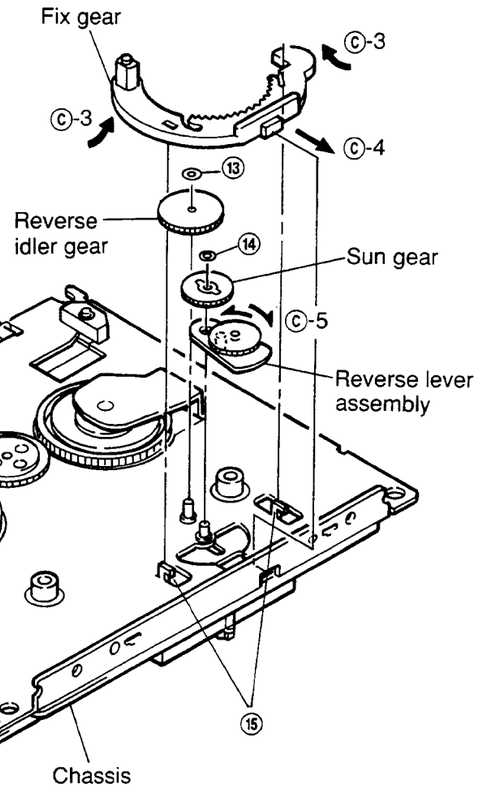
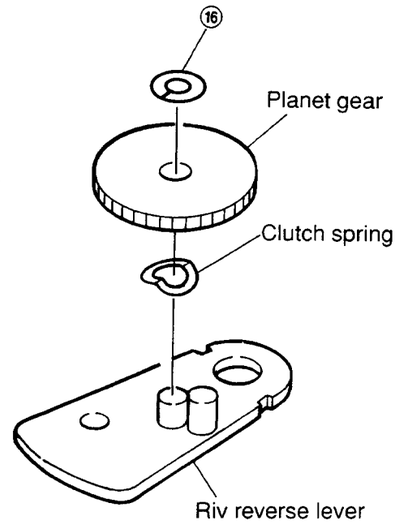


Figure 13

(f-5) Replacement of the clutch lever assembly and eject idler gear
(1) After removing the motor, remove the motor idler gear and the motor idler gear (B) and remove the clutch lever assembly as shown in Figure 10.
(2) Remove M1.2 lock washer ⑰ and remove the eject idler gear as shown in Figure 15.
(3) Mount the new gears and clutch lever following the removal steps in the reverse order.

Note: When mounting the gears to the lever, apply grease (FLOIL 425A) to the position Ⓒ-6 as shown in Figure 15. Align the position Ⓒ-7 with the position Ⓒ-8 and mount the clutch lever as shown in Figures 10 and 15.

(f-6) Replacement of the pause gear
(1) Remove M1.2 lock washer ⑱ and remove the pause gear pulling it up from the stud of the chassis as shown in Figure 10.
(2) Mount the new gear following the removal steps in the reverse order.



[Disassembly Reverse Lever Assembly]

Figure 14

(f-7) Replacement of the pause idler gear (B)
(1) After removing the motor and the motor idler gear, remove M1.2 lock washer ⑲ and remove the gear by pulling it up from the stud of the chassis as shown in Figure 10.
(2) Mount the new gear by following the removal steps in the reverse order.

(f-8) Replacement of the take-up gear
(1) After removing the belt and the pulley idler gear, remove M1.2 lock washer ⑳ by pulling it up from the stud of the riv take-up lever assembly as shown in Figure 10.
(2) Remount the take-up gear following the removal steps in the reverse order.

Notes on f:
Do not reuse the used washers. Take care to avoid damage by piercing and tearing.

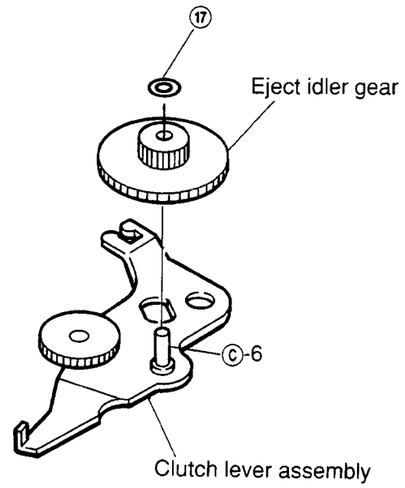


Figure 15

4. Replacement of the parts mounted on the front of the chassis

a. Replacement of the audio P.C. board
(1) Remove two solders ㉑ and remove the parallel wire (7P) and the head P.C. board as shown in Figure 16.
(2) Adjust the two claws ㉒ to the rectangular holes on the P.C. board and remove the P.C. board as shown in Figure 16.
(3) After replacement, mount the new P.C. board following the removal steps in the reverse order.

Note: The head P.C. board and the parallel wire are easily damaged. Handle them with care. Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Do not bring the soldering iron near the head P.C. board.

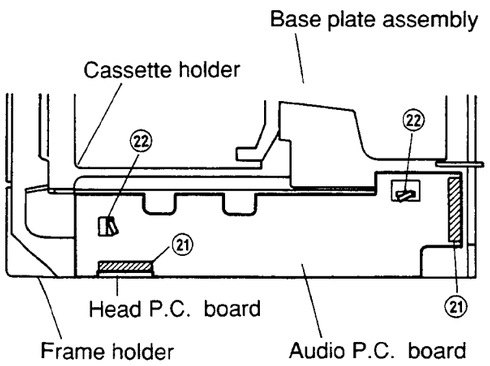


Figure 16

b. Replacement of the control P.C. board
(1) Remove seven solders ⑧ and remove the three parallel wires and the wires of the eject solenoid and of the play solenoid as shown in Figure 11.
(2) Remove five claws ㉓ and remove the P.C. board as shown in Figure 11. [For GR75E020, GR75E010, GR75E01A, GR75E01C models]
Remove four claws ㉓ and remove the P.C. board as shown in Figure 11.
[For GR75L020, GR75L010 models]
(3) After replacing the old P.C. board with a new one, mount it following the removal steps in the reverse order.

Note: As mentioned in Item 4-a, handle the parallel wires carefully, and be sure that the temperature of the soldering iron and the soldering time are proper. As the wires of the eject solenoid are not insulated, do not let them cross each other.

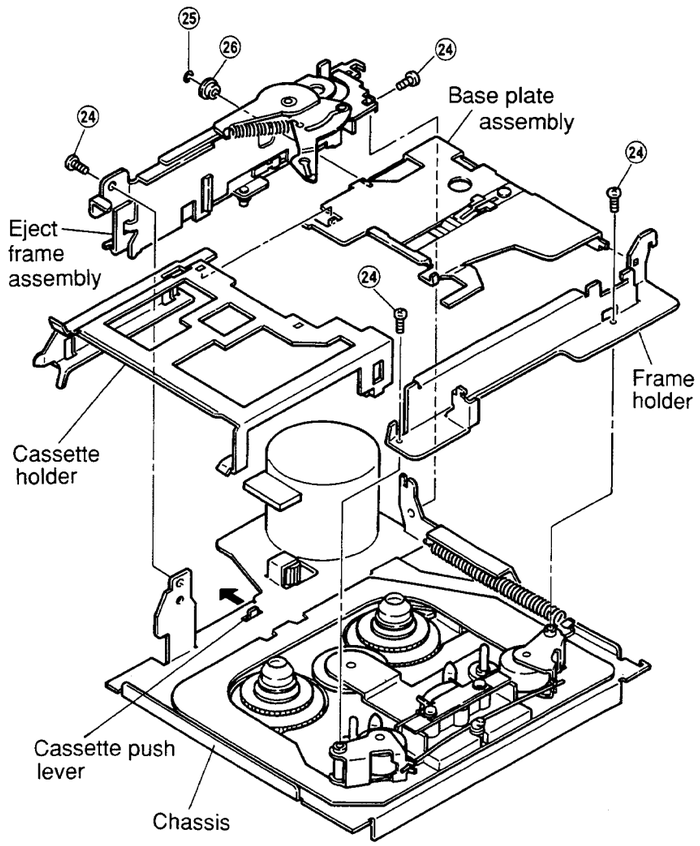


Figure 17

c. Disassembly and assembly of the cassette holder
(1) Remove four screws ㉔ and remove the eject frame assembly and the frame holder as shown in Figure 17.
(2) Remove M1.2 lock washer ㉕ and plate base roller ㉖ and remove the cassette holder and the base plate assembly as shown in Figure 17.
(3) Remount them following the removal steps in the reverse order.

Notes: 1. When mounting the cassette holder and the base plate, insert the slider shaft into the eject arm and fix them turning the slider shaft in the direction indicated by the arrow in the figure. Make sure that the cassette holder and the base plate are in the cassette-in mode during this operation. (Refer to Figure 18).
2. When mounting the eject frame assembly, push the cassette push lever in the direction indicated by the arrow in the Figure 17.
3. When mounting the base plate assembly and the eject frame assembly, or when mounting the eject frame assembly to the chassis, do not apply excessive force to avoid deformations of the eject arm and the frame.
4. Do not reuse the used washers. Take care to avoid damage by piercing and tearing.

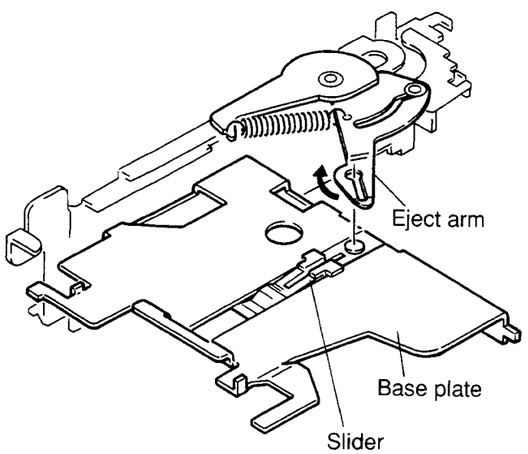


Figure 18

d. Replacement of the reels
(1) Remove M1.7 two lock washers ㉖ (Refer to figure 19).
(2) Move the select lever in the direction marked Ⓓ-1 in the Figure and remove the reel by gripping the reel gear as shown in Figure 19.
(3) After replacement, mount the new reels following the removal steps in the reverse order.
(4) After mounting, check the tape speed and the wow and flutter with test tape MTT-111.

Note: Since the reel is easily loosened if the cap is gripped, always handle it gripping the gear. Do not reuse the used washers. Take care to avoid damage by piercing and tearing.

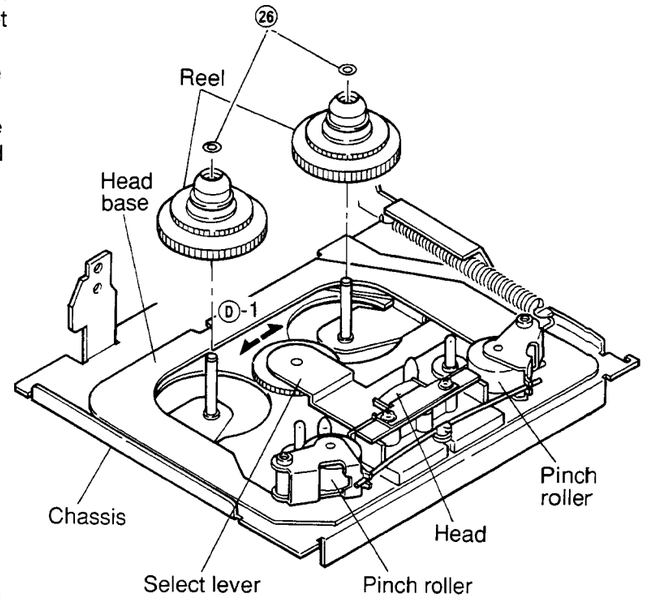


Figure 19

e. Replacement of the pinch rollers
(1) Remove pinch roller spring ㉗ as shown in Figure 20.
(2) Remove M3.1 two lock washers ㉘ and remove the pinch roller as shown in Figure 20.
(3) Mount the pinch rollers following the removal steps in the reverse order.
Apply insulation coating to the position Ⓓ-2 of the pinch roller as shown in Figure 20.

Note: Make sure that the pinch rollers are thoroughly fixed and that they are not deformed. Do not reuse used lock washers. Take care to avoid damage by piercing and tearing.

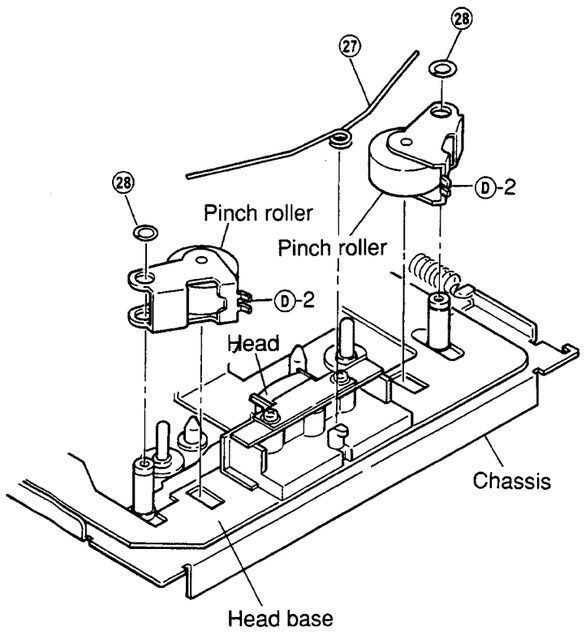


Figure 20

f. Replacement of the head
(1) After removing the pinch roller spring, remove two screws ㉙ as shown in Figure 21.
(2) Remove solder ㉚ and remove the head from the head P.C. board as shown in Figure 22.
(3) After replacement, mount the new head following the removal steps in the reverse order.

Notes: 1. Refer to Item 2-C to make sure that the temperature of the soldering iron and the soldering time are proper. Do not bring the soldering iron near the head P.C. board. Make sure that the head P.C. board is not lifted.
2. Fasten the two screws with a fastening torque of 2.3 kg.cm. Note that the tension of the head spring can be decreased if the screws are fastened too strongly.

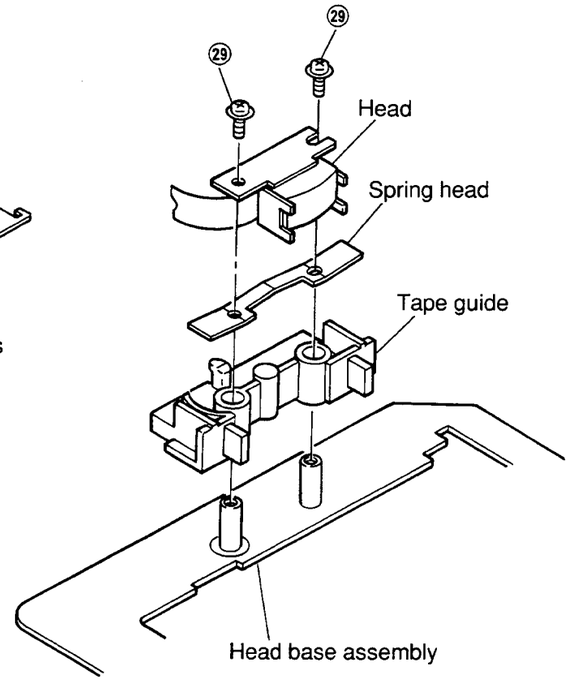


Figure 21

(4) Adjust the height of the head as shown in Figures 23, 24 and 25.
① Place the height adjustment gauge (AI-500) on the head base, and adjust the height so that the check bar fits in the tape head guide smoothly.
② When the check bar touches the top (or bottom) of the tape guide, insert a spacer (t 0.1 mm or polislider washer t 0.13 mm).
If necessary, remove the spacer.

Note: If you do not have a height gauge like described in (4)-①, run the tape at normal speed and adjust the height of the head and the tape head guide so that the tape does not curl.

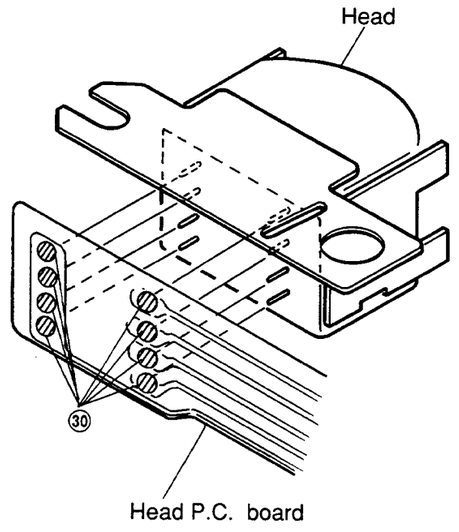


Figure 22

(5) After having assembled the complete mechanism, adjust the angle of the head with test tape MTT-113C. (Refer to chapter "Adjustment of the head angle".) After the adjustment, apply the screw lock and fix the screws.

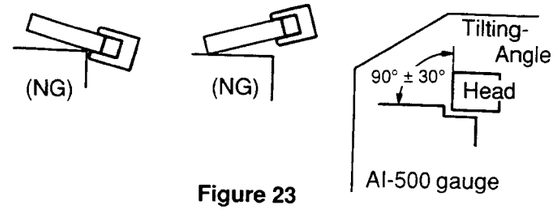


Figure 23

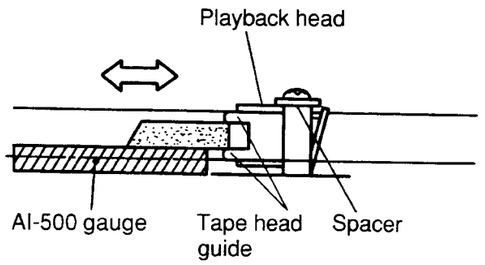


Figure 24

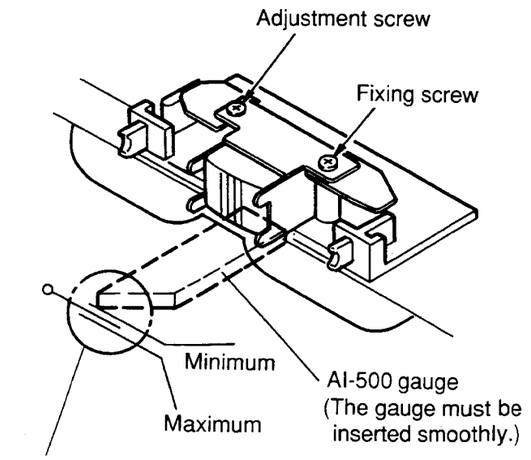
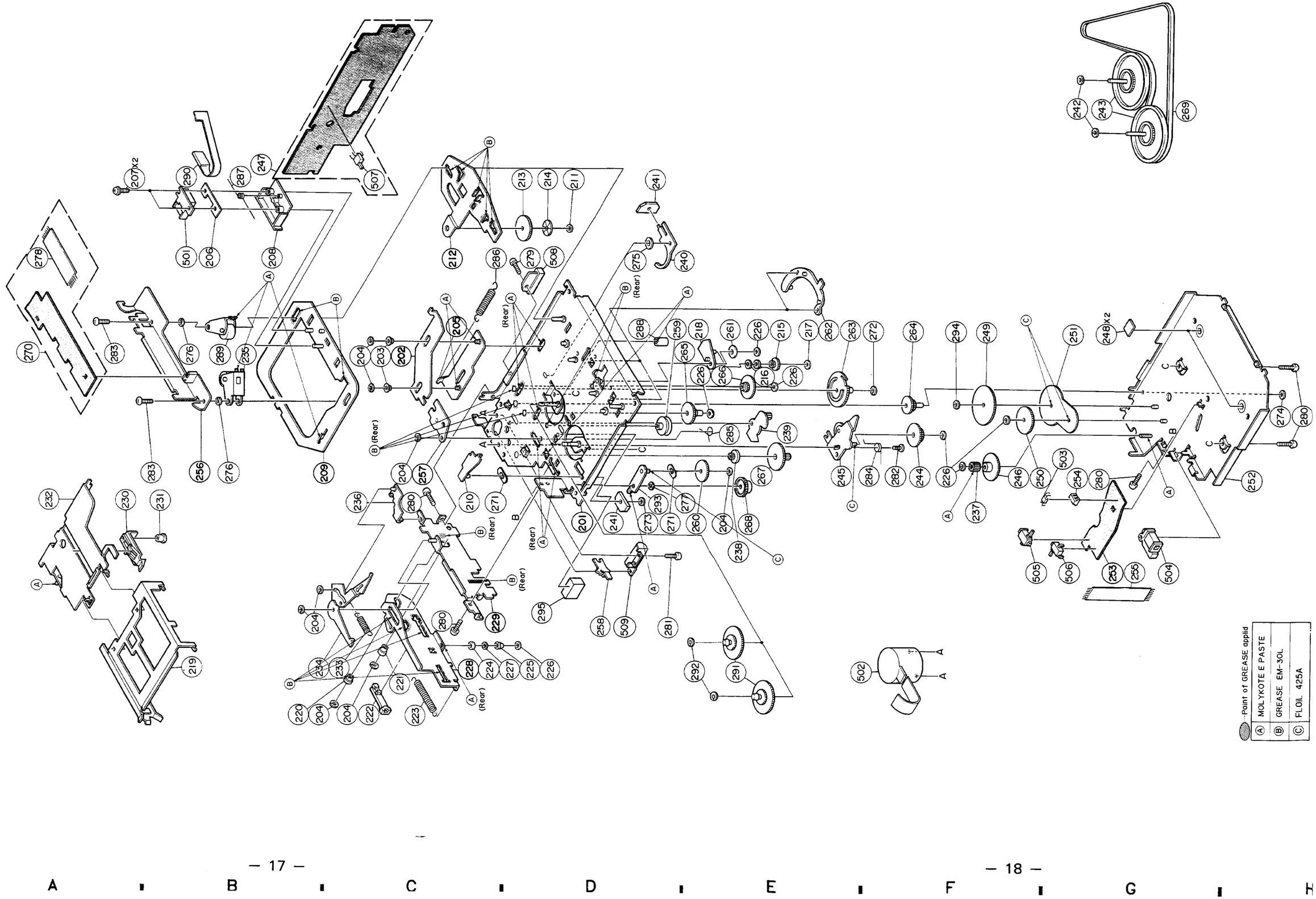


Figure 25

Exploded View (1/3)

● **For GR75E010/01A/01C/020 Models**



Cassette Deck Assembly Parts List (1/3)

Note : The parts without parts list are not supplied.

Symbol No.	IN-dex	Part No.	Description
	203	3-C	43A11072W01	Roller, Sub Head
	204		04B41345P01	Washer, Lock(M1.2)
	206	2-B	41A10095W01	Spring, Head
	207	2-B	03S40019G03	Screw, F-Locks(M2x4)
	208	2-B	43B12545W01	Tape, Guide
	210	4-C	01A10206W01	Assy.,Riv Lever R/F Sol
	211	2-D	04B41345P29	Washer, Lock(M2.6)
	213	2-D	44A10295W01	Gear, Sensor
	214	2-D	14A10681W01	Reflector
	215	3-E	44A10142W01	Gear, Planet
	216	3-E	41A10097W02	Spring, Clutch
	217	3-E	04B41345P35	Washer, Lock(M1.7)
	218	3-E	01A21853W01	Assy., Riv Lever Reverse
	219	4-B	07B10074W01	Holder, Cassette
	220	5-B	43A12583W01	Roller, Eject
	221	5-C	43A63281F01	Roller, Plate Base
	222	5-C	44A82206F01	Rack
	223	5-C	41B10386W03	Spring, GR(Rack)
	224	4-C	43A10121W01	Roller, Eject A
	225	4-D	43A10360W01	Roller, Eject B
	226		04B41345P11	Washer, Lock(M1.2)
	227	4-D	43A12377W01	Roller, Eject C
	230	4-A	45B10376W01	Slider
	231	4-B	47A63278F01	Shaft, Slider
	232	4-A	01A10212W01	Assy.,Riv Plate Base
	233	4-C	41B10386W01	Spring, Eject Arm
	234	4-B	01A10148W01	Assy., Riv Eject Arm A
	235	3-B	01B10381W02	Assy., Pinch Roller
	236	4-C	45A10087W01	Lever Pack In SW
	237	4-F	44A12975W01	Pinion, Eject
	238	4-E	44A13617W01	Gear, Motor Idler(B)
	239	3-E	01A10201W02	Assy., Riv Lever Pause
	240	2-D	45A10092W01	Lever, Play
	241		76T10374W01	Chip
	242	1-G	04S40075G05	Washer Polyslider (M2.1)
	243	1-G	01A10368W01	Assy., Flywheel
	244	3-F	44A10141W01	Gear, Eject Idler
	245	3-E	01A10205W01	Assy., Riv Lever Clutch A
	246	3-F	44A10145W01	Gear, Eject
	247	2-B	01V11500W18	Assy., GR Control P.C. Board
	248	3-G	43A90918F01	Spacer, Polyslider
	249	3-F	44A11063W01	Gear, Bottom A
	250	3-F	44A11064W01	Gear, Bottom B
	251	3-G	34A11122W02	Washer, GR
	252	3-H	01A10210W02	Assy., Riv, Cover Bottom
	254	3-G	15B11065W01	Guide, Photo
	255	4-G	30T15126W01	Wire, PC Sensor(7P)
	258	4-D	45A10101W01	Lever, Eject Sol
	259	3-D	49A10131W01	Pulley, Idler
	260	4-E	44A10133W01	Gear, Take Up
	261	3-E	44A10134W01	Gear, Sun
	262	3-E	44B10135W01	Gear, Fix
	263	3-E	44B10136W01	Gear, Pause
	264	3-F	44A10137W01	Gear, Pause Idler A
	265	3-D	44A10379W01	Gear, Pause Idler B
	266	3-E	44A10138W01	Gear, Reverse Idler
	267	3-E	44A10139W01	Gear, Motor Idler
	268	4-E	44A11062W01	Gear, Reel Idler
	269	1-G	42A10380W01	Belt, GR
●	270	3-A	01V14700W68	Assy., GR Audio P.C. Board
■	270	3-A	01V11500W19	Assy., GR Audio P.C. Board
▲	270	3-A	01V11500W19	Assy., GR Audio P.C. Board
○	270	3-A	01V11500W19	Assy., GR Audio P.C. Board
	271	4-D	41A10097W02	Spring, Clutch
	272	3-F	04B41345P15	Washer, Lock(M1.2)
	273	4-D	04B41345P02	Washer, Lock(M1.7)
	274	3-H	04B41345P17	Washer, Lock(M1)
	275	2-D	04B41345P30	Washer, Lock(M3.1)
	276	3-B	04B41345P32	Washer, Lock(M3.1)
	277	4-E	04B41345P06	Washer, Lock(M2.1)
	278	2-A	30T15126W02	Wire, PC Joint 7P
	279	2-D	03S44205G78	Screw, Pan(M2x6)
	280		03S44205G30	Screw, Pan(M2.6x4)
	281	4-D	03S72235F38	Screw, Pan(M2x3.3)
	282	3-F	03A12132W02	Screw, Eject Clutch (M2x2.3)
	283		03S43997P64	Screw, Pan(M1.7x3)
	284	3-F	41A10384W01	Spring, Eject Clutch
	285	3-E	41A10385W01	Spring, Cas Push
	286	2-C	41B10386W02	Spring, Sub Head
	287	2-B	41A10387W01	Spring, Pinch Roller
	288	3-D	43A12719W01	Roller, Pause
	289	3-B	01B10381W01	Assy., Pinch Roller
	290	2-B	84T10367W01	Head P.C. Board
●	291	4-E	01T15164W01	Assy., Reel
■	291	4-E	01T15164W01	Assy., Reel
▲	291	4-E	01T15164W02	Assy., Reel
○	291	4-E	01T15164W01	Assy., Reel
	292	4-E	04B41345P12	Washer, Lock(M1.7)
●	293	4-D	01A11078W01	Assy., Riv Lever Take Up
■	293	4-D	01A11078W01	Assy., Riv Lever Take Up
▲	293	4-D	01A11078W01	Assy., Riv Lever Take Up
○	293	4-D	01A30161W01	Assy., Riv Lever Take Up
	294	3-F	04B41345P34	Washer, Lock(M1.2)
	295	4-D	75S12196W88	Rubber, Pad

Miscellaneous

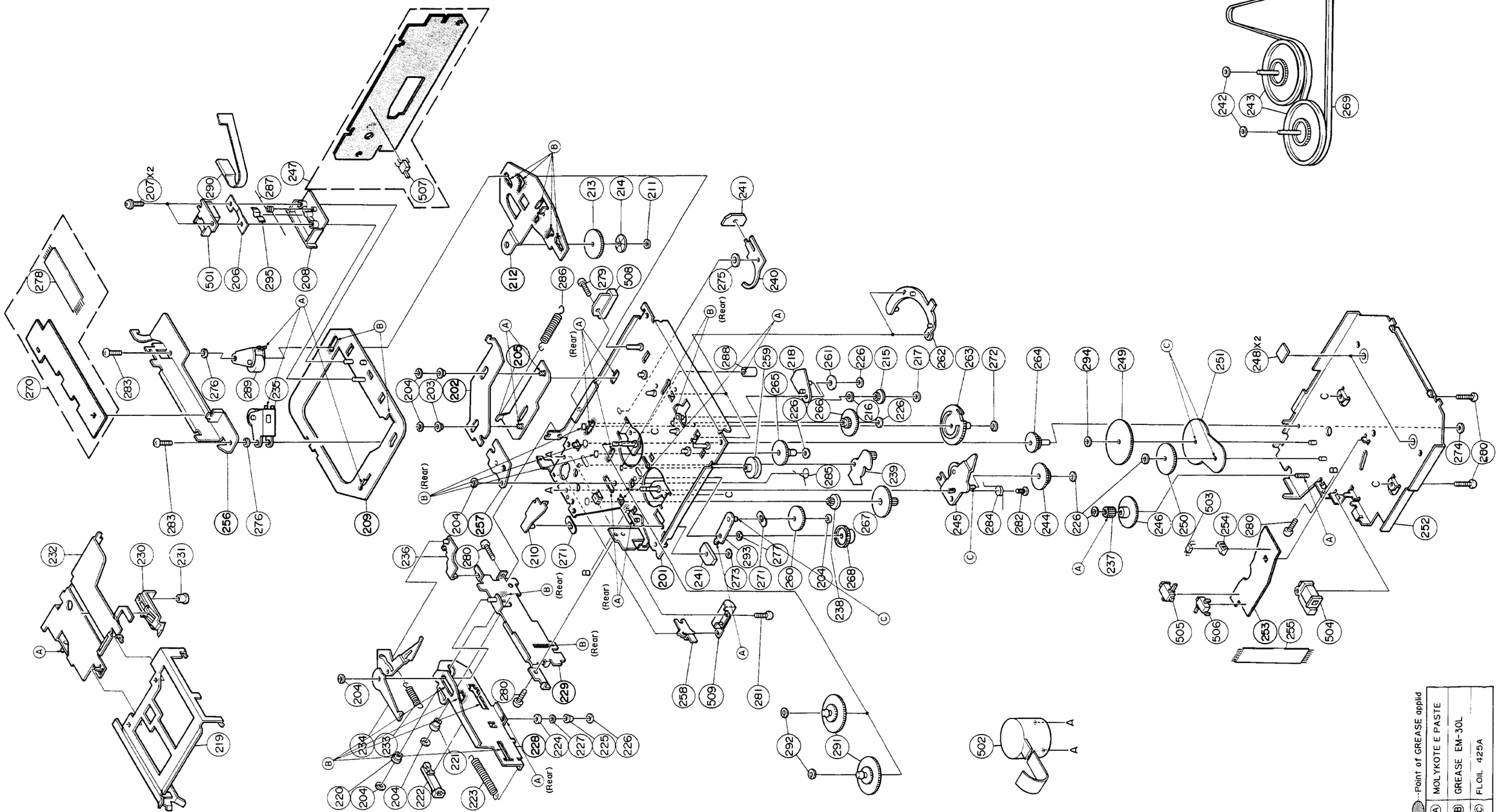
●	501	2-B	88T15971W01	Head
■	501	2-B	88T10373W01	Head
▲	501	2-B	88T10373W01	Head
○	501	2-B	88T10373W01	Head
	502	4-E	01V11500W64	Assy., Motor
	503	3-G	51T15144W01	Sensor, Photo
	504	4-G	01T10371W01	R/F Sol. Assy.
	505	4-F	40T15382W01	SW., Detector (Pack Down)
	506	4-G	40T15382W01	SW., Detector(Metal)
	507	2-C	40T15222W01	SW., Detector (Pack In)
	508	2-D	01T15249W01	Assy., Play Solenoid
	509	4-D	01T10369W02	Assy., Eject Solenoid

Notes : ● ; For GR75E020 model only ■ ; For GR75E010 model only
▲ ; For GR75E01A model only ○ ; For GR75E01C model only

Others ; Common

Exploded View (2/3)

● For GR75L010/020 Models



Cassette Deck Assembly Parts List (2/3)

Note : The parts without parts list are not supplied.

Symbol No.	IN-dex	Part No.	Description
203	3-C	43A11072W01	Roll, Sub Head
204		04B41345P01	Washer, Lock(M1.2)
206	2-B	41A21671W01	Spring, Head
207	2-B	03S40019G03	Screw, F-Locks(M2x4)
208	2-B	43B12545W01	Tape, Guide
210	4-C	01A10206W01	Assy., Riv Lever R/F Sol.
211	2-D	04B41345P29	Washer, Lock(M2.6)
213	2-D	44A10295W01	Gear, Sensor
214	2-D	14A10681W01	Reflector
215	3-E	44A10142W01	Gear, Planet
216	3-E	41A10097W02	Spring, Clutch
217	3-E	04B41345P31	Washer, Lock(M1.7)
218	3-E	01A21853W01	Assy., Riv Lever Reverse
219	4-B	07B10074W01	Holder, Cassette
220	5-B	43A12583W01	Roller, Eject
221	5-C	43A22153W01	Roller, Plate Base
222	5-C	44A82206F01	Rack
223	5-C	41B10386W03	Spring, GR(Rack)
224	4-C	43A10121W01	Roller, Eject(A)
225	4-D	43A10360W01	Roller, Eject(B)
226		04B41345P11	Washer, Lock(M1.2)
227	4-D	43A12377W01	Roller, Eject(C)
230	4-A	45B10376W01	Slider
231	4-B	47A63278F01	Shaft, Slider
232	4-A	01A10212W01	Assy., Riv Plate Base
233	4-C	41B10386W01	Spring, Eject Arm
234	4-B	01A21754W01	Assy., Riv Eject Arm(A)
235	3-B	01B10381W02	Assy., Pinch Roller
236	4-C	45A10087W01	Lever, Pack In SW.
237	4-F	44A20314W01	Pinion, Eject
238	4-E	44A13617W01	Gear, Motor Idler(B)
239	3-E	01A10201W02	Assy., Riv Lever Pause
240	2-D	45A10092W01	Lever, Play
241		76T10374W01	Chip
242	1-G	04S40075G05	Washer, Polyslider (M2.1)
243	1-G	01A10368W01	Assy., Flywheel
244	3-F	44A10141W02	Gear, Eject Idler
245	3-E	01A10205W02	Assy., Riv Lever Clutch(A)
246	3-F	44A10145W01	Gear, Eject
247	2-B	01V23700W03	Assy., GR Control P.C. Board
248	3-G	43A90918F01	Spacer, Polyslider
249	3-F	44A11063W01	Gear, Bottom(A)
250	3-F	44A11064W01	Gear, Bottom(B)
251	3-G	34A11122W02	Washer, GR
252	3-H	01A10210W02	Assy., Riv. Cover Bottom
254	3-G	15B11065W01	Guide, Photo
255	4-G	30T15126W01	Wire, PC Sensor(7P)
258	4-D	45A10101W01	Lever, Eject Sol.
259	3-D	49A10131W01	Pulley, Idler
260	4-E	44A10133W01	Gear, Take Up
261	3-E	44A10134W01	Gear, Sun
262	3-E	44B10135W01	Gear, Fix
263	3-E	44B21670W01	Gear, Pause
264	3-F	44A10137W01	Gear, Pause Idler(A)
265	3-D	44A10379W01	Gear, Pause Idler(B)
266	3-E	44A10138W01	Gear, Reverse Idler
267	3-E	44A10139W01	Gear, Motor Idler
268	4-E	44A11062W01	Gear, Reel Idler
269	1-G	42A10380W01	Belt, GR
★ 270	3-A	01V11500W19	Assy., GR Audio P.C. Board
◆ 270	3-A	01V14700W68	Assy., GR Audio P.C. Board
271		41A10097W02	Spring, Clutch
272	3-F	04B41345P15	Washer, Lock(M1.2)
273	4-D	04B41345P02	Washer, Lock(M1.7)
274	3-H	04B41345P17	Washer, Lock(M1)
275	2-D	04B41345P30	Washer, Lock(M3.1)
276	3-B	04B41345P32	Washer, Lock(M3.1)
277	4-E	04B41345P06	Washer, Lock(M2.1)
278	2-A	30T15126W02	Wire, PC Joint 7P
279	2-D	03S44205G78	Screw, Pan(M2x6)
280		03S44205G30	Screw, Pan(M2.6x4)
281	4-D	03S72235F38	Screw, Pan(M2x3.3)
282	3-F	03A12132W02	Screw, Eject Clutch (M2x2.3)
283		03S43997P64	Screw, Pan(M1.7x3)
284	3-F	41A10384W01	Spring, Eject Clutch
285	3-E	41A10385W01	Spring, Cas. Push
286	2-C	41B10386W02	Spring, Sub Head
287	2-B	41A10387W01	Spring, Pinch Roller
288	3-D	43A12719W01	Roller, Pause
289	3-B	01B10381W01	Assy., Pinch Roller
290	2-B	84T10367W01	Head P.C. Board
291	4-E	01T15164W03	Assy., Reel
292	4-E	04B41345P12	Washer, Lock(M1.7)
293	4-D	01A11078W01	Assy., Riv Lever Take Up
294	3-F	04B41345P34	Washer, Lock(M1.2)
295	2-B	26A20537W01	Shield, Plate

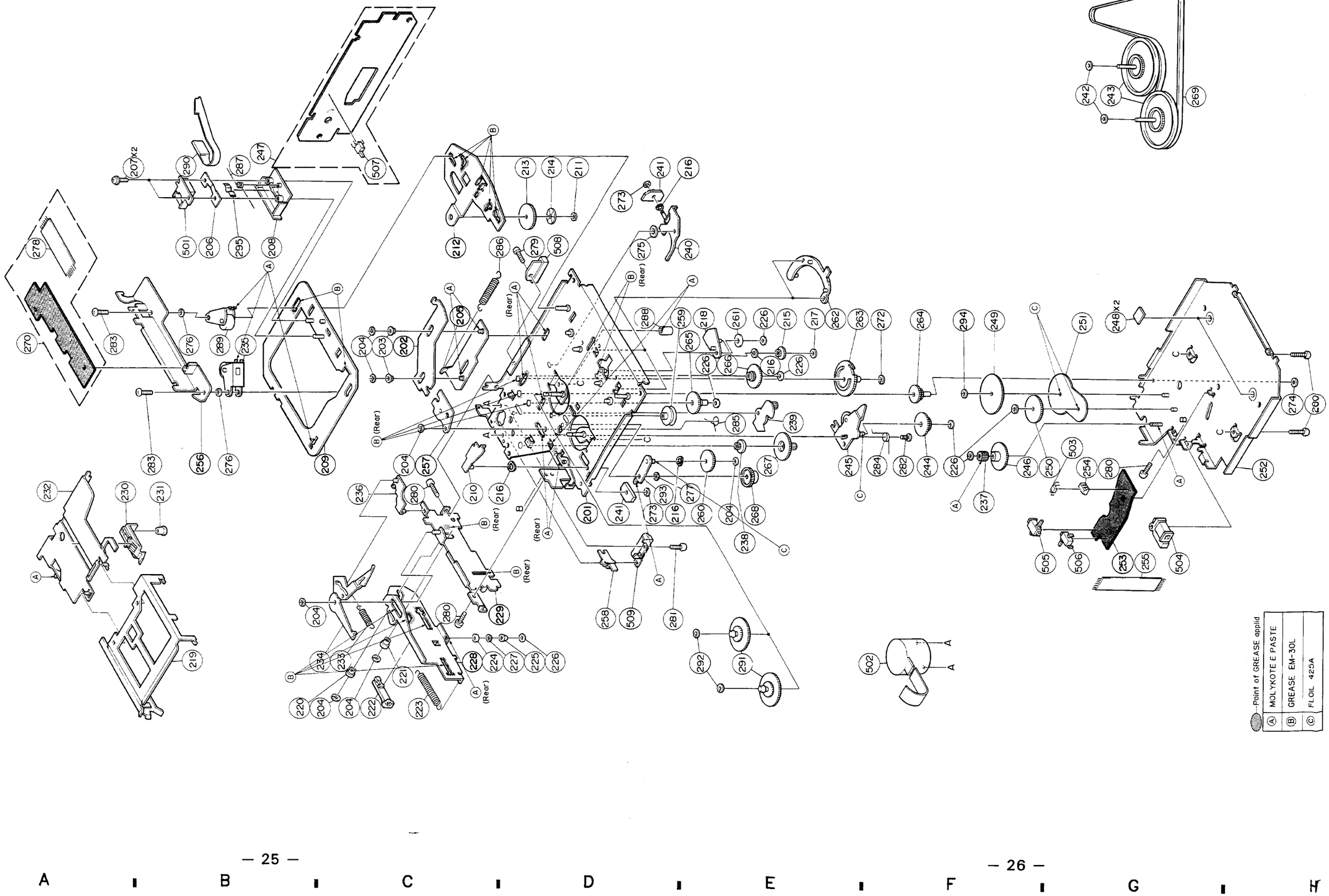
Miscellaneous

Symbol No.	IN-dex	Part No.	Description
★ 501	2-B	88T10373W01	Head
◆ 501	2-B	88T15971W01	Head
502	4-E	01V23900W60	Assy., Motor
503	3-G	51T15144W01	Sensor, Photo
504	4-G	01T10371W01	R/F Sol. Assy
505	4-F	40T15382W01	SW., Detector (Pack Down)
506	4-G	40T15382W01	SW., Detector (Metal)
507	2-C	40T15222W01	SW., Detector (Pack In)
508	2-D	01T15249W01	Assy., Play Solenoid
509	4-D	01T10369W02	Assy., Eject Solenoid

Notes : ★ ; For GR75L010 model only ◆ ; For GR75L020 model only
Others : Common

Exploded View (GR-Y Series) (3/3)

● **For GR75L02Y Model**



Cassette Deck Assembly Parts List (GR-Y Series) (3/3)

Note : The parts without parts list are not supplied.

Symbol No.	IN-dex	Part No.	Description
203	3-C	43A11072W01	Roll, Sub Head
204		04B41345P01	Washer, Lock(M1.2)
206	2-B	41A21671W01	Spring, Head
207	2-B	03S40019G03	Screw, F-Locks(M2x4)
208	2-B	43B12545W01	Tape, Guide
210	4-C	01A10206W01	Assy., Riv Lever R/F Sol.
211	2-D	04B41345P38	Washer, Lock(M2.6)
213	2-D	44A10295W01	Gear, Sensor
214	2-D	14A10681W01	Reflector
215	3-E	44A10142W01	Gear, Planet
216		41A10097W02	Spring, Clutch
217	3-E	04B41345P31	Washer, Lock(M1.7)
218	3-E	01A21853W01	Assy., Riv Lever Reverse
219	4-B	07B10074W01	Holder, Cassette
220	5-B	43A12583W01	Roller, Eject
221	5-C	43A63281F01	Roller, Plate Base
222	5-C	44A82206F01	Rack
223	5-C	41B10386W03	Spring, GR(Rack)
224	4-C	43A10121W01	Roller, Eject(A)
225	4-D	43A10360W01	Roller, Eject(B)
226		04B41345P11	Washer, Lock(M1.2)
227	4-D	43A12377W01	Roller, Eject(C)
230	4-A	45B10376W01	Slider
231	4-B	47A63278F01	Shaft, Slider
232	4-A	01A10212W01	Assy., Riv Plate Base
233	4-C	41B10386W01	Spring, Eject Arm
234	4-B	01A21754W01	Assy., Riv Eject Arm(A)
235	3-B	01B10381W02	Assy., Pinch Roller
236	4-C	45A10087W01	Lever, Pack In SW.
237	4-F	44A20314W01	Pinion, Eject
238	4-E	44A13617W01	Gear, Motor Idler(B)
239	3-E	01A10201W02	Assy., Riv Lever Pause
240	2-D	01A30879W01	Assy., Riv. Play Sol.
241		76T10374W01	Chip
242	1-G	04S40075G05	Washer, Polyslider (M2.1)
243	1-G	01A10368W01	Assy., Flywheel
244	3-F	44A10141W01	Gear, Eject Idler
245	3-E	01A10205W02	Assy., Riv Lever Clutch(A)
246	3-F	44A10145W01	Gear, Eject
247	2-B	01V23700W04	Assy., GR Control P.C. Board
248	3-G	43A90918F01	Spacer, Polyslider
249	3-F	44A11063W01	Gear, Bottom(A)
250	3-F	44A11064W01	Gear, Bottom(B)
251	3-G	34A11122W02	Washer, GR
252	3-H	01A10210W02	Assy., Riv. Cover Bottom
254	3-G	15B11065W01	Guide, Photo
255	4-G	30T15126W01	Wire, PC Sensor(7P)
258	4-D	45A10101W01	Lever, Eject Sol.
259	3-D	49A10131W01	Pulley, Idler
260	4-E	44A10133W01	Gear, Take Up
261	3-E	44A10134W01	Gear, Sun
262	3-E	44B10135W01	Gear, Fix
263	3-E	44B21670W01	Gear, Pause
264	3-F	44A10137W01	Gear, Pause Idler(A)
265	3-D	44A10379W01	Gear, Pause Idler(B)
266	3-E	44A10138W01	Gear, Reverse Idler
267	3-E	44A10139W01	Gear, Motor Idler
268	4-E	44A11062W01	Gear, Reel Idler
269	1-G	42A10380W01	Belt, GR
270	3-A	01V33300W03	Assy., GR Audio P.C. Board
272	3-F	04B41345P15	Washer, Lock(M1.2)
273		04B41345P02	Washer, Lock(M1.7)
274	3-H	04B41345P17	Washer, Lock(M1)
275	2-D	04B41345P30	Washer, Lock(M3.1)
276	3-B	04B41345P32	Washer, Lock(M3.1)
277	4-E	04B41345P37	Washer, Lock(M2.1)
278	2-A	30T15126W02	Wire, PC Joint 7P
279	2-D	03S44205G78	Screw, Pan(M2x6)
280		03S44205G30	Screw, Pan(M2.6x4)
281	4-D	03S72235F38	Screw, Pan(M2x3.3)
282	3-F	03A12132W02	Screw, Eject Clutch (M2x2.3)
283		03S43997P64	Screw, Pan(M1.7x3)
284	3-F	41A10384W01	Spring, Eject Clutch
285	3-E	41A10385W01	Spring, Cas. Push
286	2-C	41B10386W02	Spring, Sub Head
287	2-B	41A10387W01	Spring, Pinch Roller
288	3-D	43A12719W01	Roller, Pause
289	3-B	01B10381W01	Assy., Pinch Roller
290	2-B	84T35271W01	Head P.C. Board

Symbol No.	IN-dex	Part No.	Description
291	4-E	01T15164W03	Assy., Reel
292	4-E	04B41345P12	Washer, Lock(M1.7)
293	4-D	01A30161W01	Assy., Riv Lever Take Up
294	3-F	04B41345P34	Washer, Lock(M1.2)
295	2-B	26A20537W01	Shield, Plate
Miscellaneous			
501	2-B	88T15971W01	Head
502	4-E	01V23900W60	Assy., Motor
503	3-G	51T15144W01	Sensor, Photo
504	4-G	01T10371W01	R/F Sol. Assy
505	4-F	40T15382W01	SW., Detector (Pack Down)
506	4-G	40T15382W01	SW., Detector (Metal)
507	2-C	40T15222W01	SW., Detector (Pack In)
508	2-D	01T15249W01	Assy., Play Solenoid
509	4-D	01T10369W02	Assy., Eject Solenoid