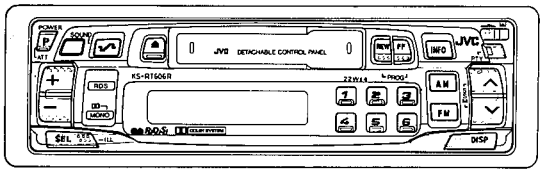
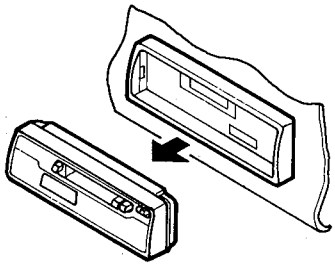
JVC

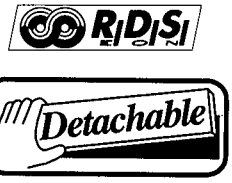
SERVICE MANUAL

MULTI - CHANGER CONTROL RECEIVER

KS-RT606R B/E/G/GE/GI







Area Suffix

B ..... U.K.
E ..... Continental europe
G ..... Germany
GE ..... Eastern Europe
Austria and Switzland
GI ..... Italy

Contents

No.49257
March 1995

FEATURES

- Detachable Control Panel
- Radio Data System (RDS)
- AM/FM Stereo PLL Synthesizer Tuner
- 18-Station Preset Tuning (FM-12, AM [MW/LW]-6)
- Seek/Manual Tuning
- Strong-station Sequential Memory (SSM) (FM only)
- U-Turn Auto-Reverse Mechanism
- Dolby* B Noise Reduction
- 4-Channel Amplifier System
- Maximum Power Output of 22 watts per channel (Front)/22 watts per channel (Rear)
- Sound Control Memory
- Illumination Color Button
- Digital Clock Display
- Line Output Terminal

* Dolby Noise Reduction manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D symbol □□ are trademarks of Dolby Laboratories Licensing Corporation.

SPECIFICATIONS

AUDIO AMPLIFIER SECTION
Maximum Power Output: (Front) 22 watts per channel
(Rear) 22 watts per channel
Continuous Power Output (RMS): (Front) 8 watts per channel into 4 Ω, 40 to 20,000 Hz at no more than 0.8% total harmonic distortion. (Rear) 8 watts per channel into 4 Ω, 40 to 20,000 Hz at no more than 0.8% total harmonic distortion.
Load Impedance: 4 Ω (4 to 8 Ω allowance)
Tone Control Range
Bass: ±10 dB at 100 Hz
Treble: ±10 dB at 10 kHz
Frequency Response: 40 to 20,000 Hz
Signal-to-Noise Ratio: 70 dB
Line-Out Level/Impedance: 0.5 V/20 kΩ load
(250 nWb/m)

RADIO SECTION
Frequency Range
FM: 87.5 to 108.0 MHz
AM: (MW) 522 to 1,620 kHz
(LW) 144 to 279 kHz
[FM Tuner]
Usable Sensitivity: 11.3 dBf (1.0 μV/75 Ω)
50 dB Quieting Sensitivity: 16.3 dBf (1.8 μV/75 Ω)
Alternate Channel Selectivity: (400 kHz): 65 dB
Frequency Response: 40 to 15,000 Hz
Stereo Separation: 30 dB
Capture Ratio: 1.5 dB
[MW Tuner]
Sensitivity: 20 μV
Selectivity: 35 dB
[LW Tuner]
Sensitivity: 50 μV

CASSETTE DECK SECTION
Wow & Flutter: 0.11% (WRMS)
Fast-Wind Time: 100 sec. (C-60)
Frequency Response: 50 to 16,000 Hz (±3 dB)
Signal-to-Noise Ratio (Dolby NR-ON): 60 dB
(Dolby NR-OFF): 52 dB
Stereo Separation: 40 dB

GENERAL
Power Requirement
Operating Voltage: DC 14.4 volts (11 to 16 volts allowance)
Grounding System: Negative ground
Dimensions (W x H x D) Installation Size: 182 x 52 x 152 mm (7-3/16" x 2-1/16" x 6")
Panel Size: 189 x 58 x 14 mm (7-1/2" x 2-5/16" x 5/8")
Gross Weight: 1.9 kg (4.2 lbs)

Design and specifications subject to change without notice.

Instructions

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

CONTENTS

Note:
For security reasons, a numbered ID card is provided with this unit, and the same ID No. is imprinted on the unit's chassis. Keep the card in a safe place, as it will help the authorities to identify your unit if stolen.

IMPORTANT INFORMATION

1. This unit is designed to operate with 12 volts DC, NEGATIVE ground electrical systems only.
2. Replace the fuse with one of the specified rating. If the fuse blows frequently, consult your JVC "IN-CAR ENTERTAINMENT" dealer.
3. Do not touch the highly-polished head with any metallic or magnetic tools.
4. If noise is a problem...
   This unit incorporates a noise filter in the power circuit. However, with some vehicles, clicking or other unwanted noise may occur. If this happens, connect the unit's rear ground terminal to the car's chassis using shorter and thicker cords, such as copper braiding or gauge wire. If noise still persists, consult your JVC "IN-CAR ENTERTAINMENT" dealer.
5. Never play dirty or dusty tapes since they will greatly degrade the sound and performance of your unit. Always keep your tapes clean. (See page 40.)

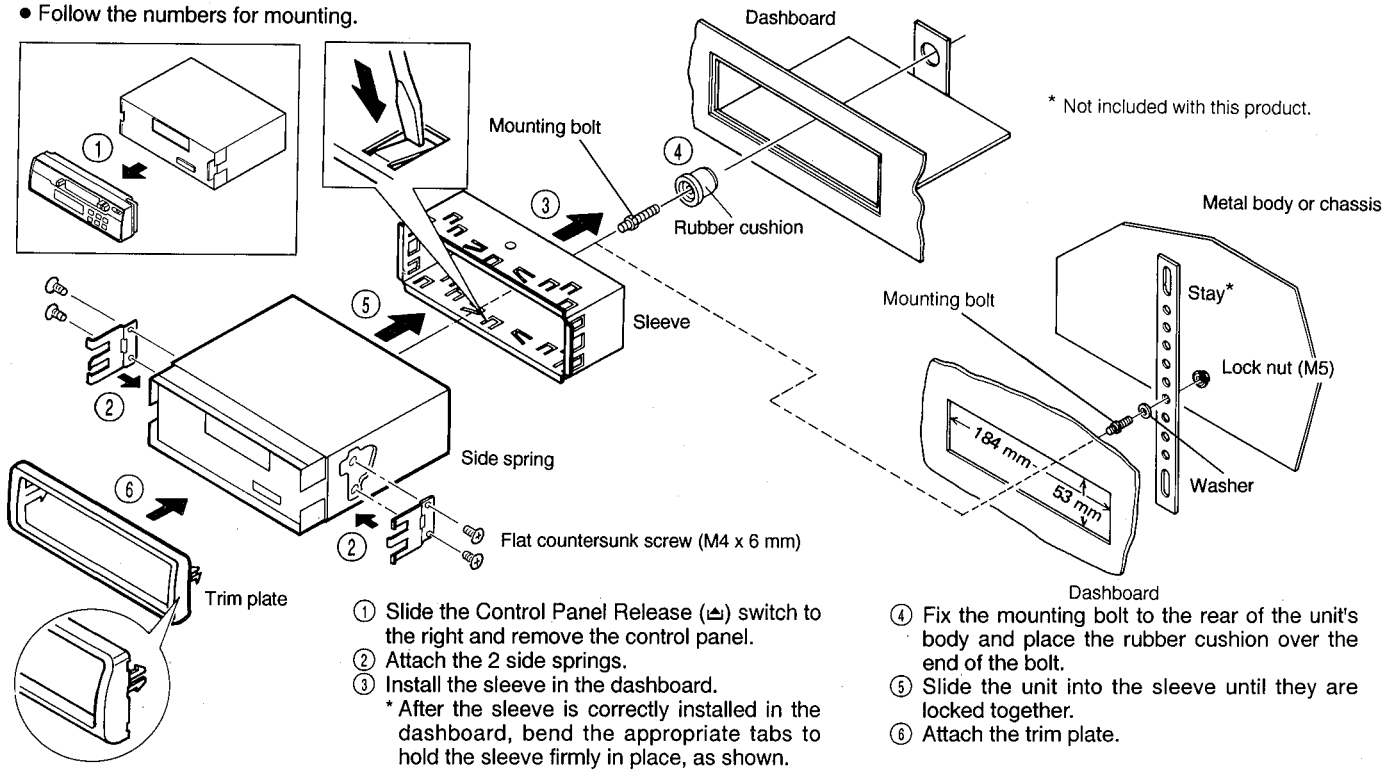
Antenna Noise
If you can hear static noise when listening to either AM (MW/LW) or FM, check for loose antenna connections.

INSTALLATION (IN-DASH MOUNTING)

IMPORTANT
- Before using this unit for the first time, press the Eject button fully, to reset the mechanism.

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

- Follow the numbers for mounting.



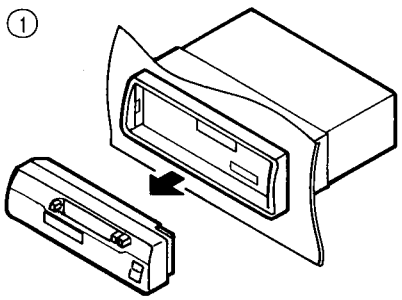
① Slide the Control Panel Release (⏏) switch to the right and remove the control panel.
② Attach the 2 side springs.
③ Install the sleeve in the dashboard.
* After the sleeve is correctly installed in the dashboard, bend the appropriate tabs to hold the sleeve firmly in place, as shown.

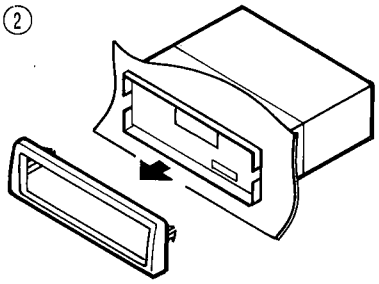
④ Fix the mounting bolt to the rear of the unit's body and place the rubber cushion over the end of the bolt.
⑤ Slide the unit into the sleeve until they are locked together.
⑥ Attach the trim plate.

Removing the unit

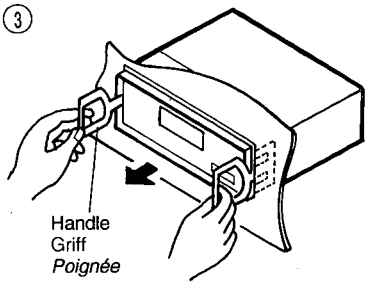
- Before removing the unit, release the rear section.

① Remove the control panel.
② Remove the trim plate.





③ Insert the 2 handles between the side springs and the sleeve, as shown. Then, while gently pulling the handles away from each other, slide out the unit.



ELECTRICAL CONNECTIONS

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

Note:

This unit is designed for a 12-volt DC negative ground. If your vehicle does not have this system, a voltage inverter is required, which can be purchased at JVC "IN-CAR ENTERTAINMENT" dealers.

- Maximum input of the speakers should be more than 22 watts at the rear and 22 watts at the front, with an impedance of 4 to 8 ohms.

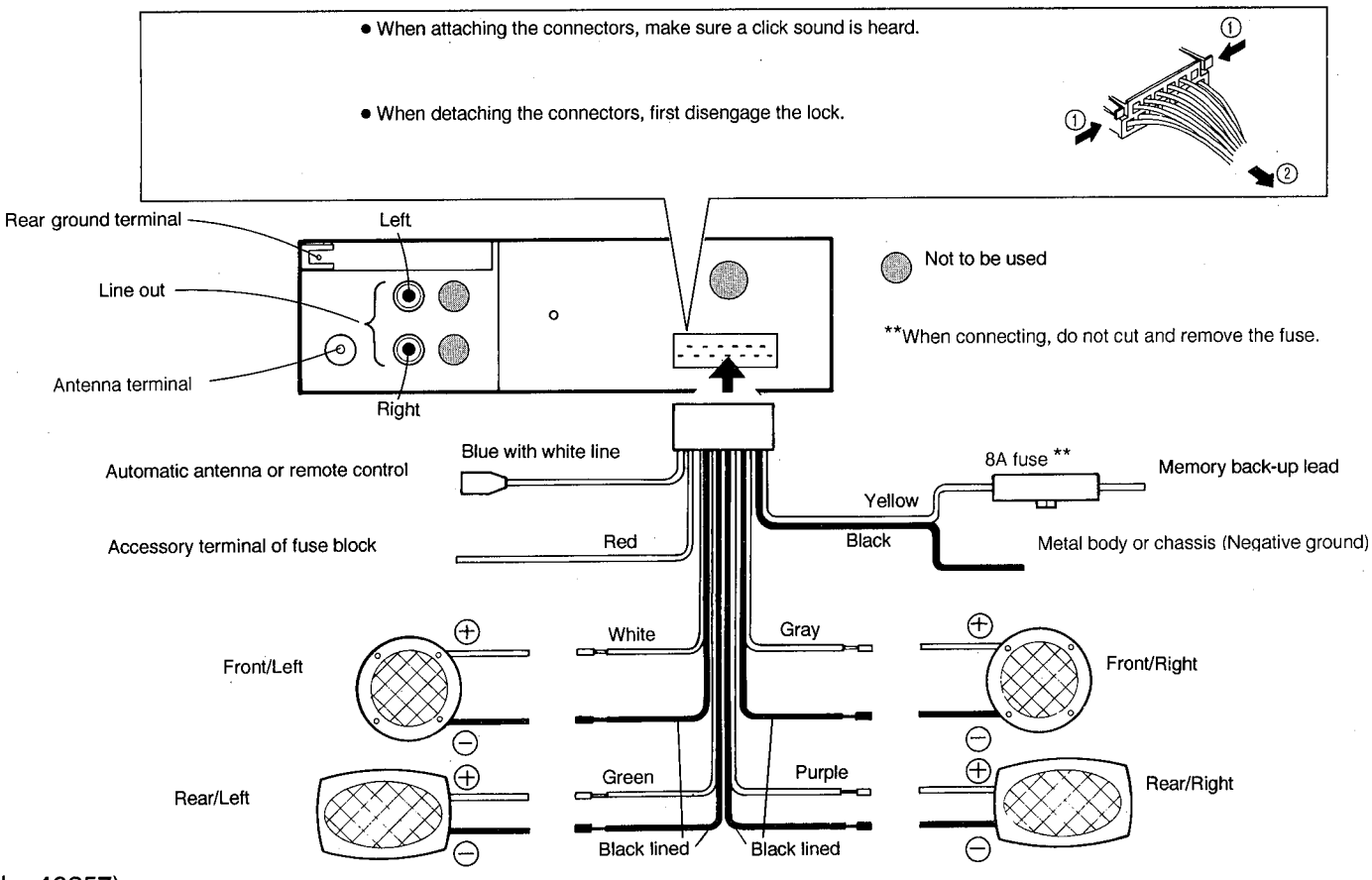
CAUTIONS:

As this unit uses BTL (Balanced Transformerless) amplifier circuitry (floating ground system), please comply with the following:

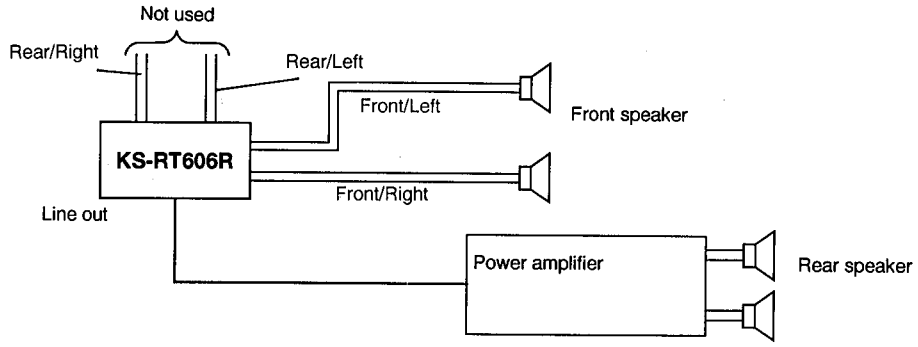
1. **Do NOT connect the black-lined speaker leads to a common point.**
2. **Do NOT connect the speaker leads to the metal body or chassis.**
3. **Cover the terminals of the leads that are NOT used with insulating tape, to prevent them from shorting.**

- **Be sure to ground this unit to the car's chassis.**

A. 4-Speaker Connections



B. 4-Speaker connections when adding a power amplifier



C. Line Terminal Connections (Line Out)

Since this unit has line-out terminals, an amplifier and other equipment can be used to upgrade your car stereo system.

- With an amplifier, connect this unit's line-out terminals to the amplifier's line-in terminals.

D. Power Aerial (Automatic Antenna) Connections

This unit can perform automatic extension/retraction of a power aerial when the power is turned ON/OFF. The remote lead connection (blue with white lines) from the audio unit is via a separate relay to the aerial motor unit.

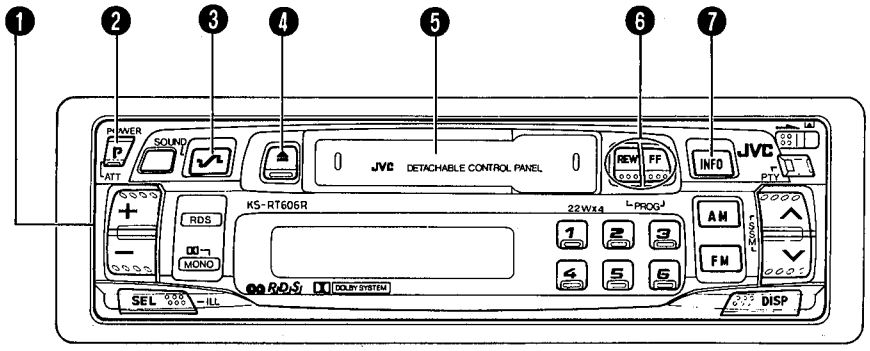
E. Memory Back-Up Lead

Connect this lead to a LIVE power source (supplied even when vehicle ignition is OFF).

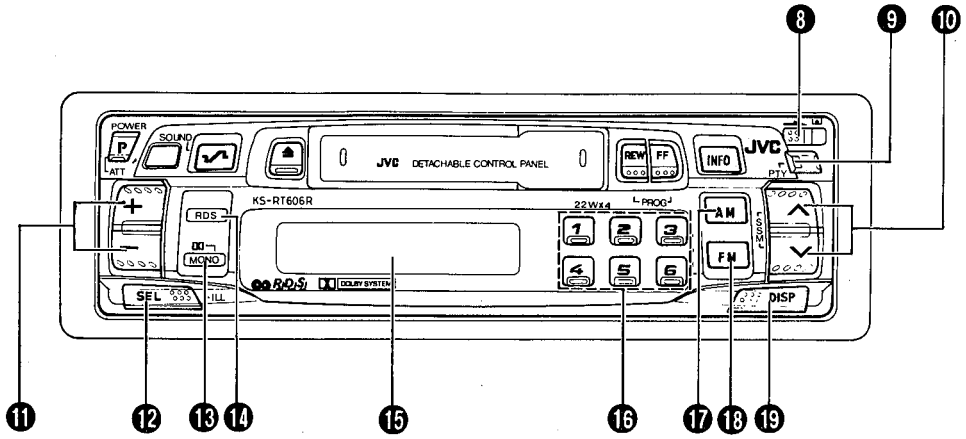
F. Fader Control

- **When used in a 4-speaker system**
  Use this control to balance the volume levels of the front and rear speakers. Set Fader mode using the SEL button and press the + Level Control button to decrease the volume level of the rear speakers, and – to decrease that of the front speakers. The overall volume level can be adjusted in Volume mode. (See page 17.)
- **When used in a 2-speaker system**
  Set this control to the center position ("0" is displayed).

LOCATION OF CONTROLS



1. Control panel
2. POWER (P)/Attenuator (ATT) switch
   POWER: Press to turn the power ON. Press for more than 1 second to turn the power OFF.
   ATT: When this button is pressed during operation, the volume drops and the ATT indicator blinks. Press again to return to the original volume.
3. SOUND button
4. Eject (⏏) button
5. Cassette loading slot
6. Program (PROG)/REW, FF buttons
7. Information (INFO) button



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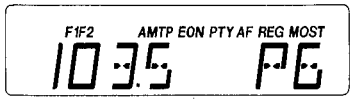

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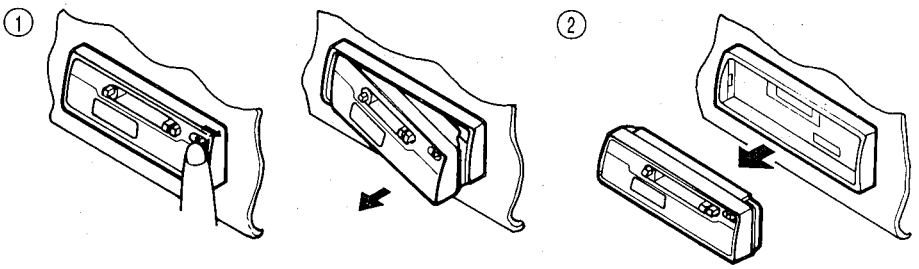
⑧ Control Panel Release (⏏) switch
⑨ Programme Type (PTY) button
⑩ Tuning/SSM/Time Adjustment buttons
Up frequency/Minute adjustment (⩓)
Down frequency/Hour adjustment (⩔)
⑪ Level Control buttons
Use to adjust the volume, bass, treble, fader, balance and loudness.
⑫ Electronic Control Mode Select (SEL) button
Illumination Color (ILL) button
⑬ MONO button
Dolby B NR (DD) button
⑭ RDS button
⑮ Display window
⑯ Preset Station buttons (No. 1 to No. 6)
Programme Type (PTY) select buttons (No. 1 to No. 6)
⑰ AM Band button
⑱ FM Band button
⑲ Display (DISP) button
⑳ Indicators (for Audio Control section)
Volume (VOL)
Bass (BAS)
Treble (TRE)
Fader (FAD)
Balance (BAL)
Loudness (LOUD) ON
Loudness (LOUD) OFF
Attenuator (ATT)
Level value
BEAT
SOFT
POP
OFF
㉑ Indicators (for Tuner section)
Band (FM1 [F1]-FM2 [F2]-AM)
Radio frequency
Preset Station
Station name display
TP (Traffic Programme identification)
AF (Alternative Frequencies)
REG (Region)
EON (Enhanced Other Network)
PTY (Programme Type)
PTY codes
Manual (M)
FM Stereo (ST)
Mono (MO)
SSM
T-INFO
ALARM
㉒ Indicators (for Tape Deck section)
TAPE mode
Tape direction (TAPE≫, TAPE≪)
Dolby B (DD) NR
㉓ Indicators (for other controls)
Time

How To Detach The Control Panel

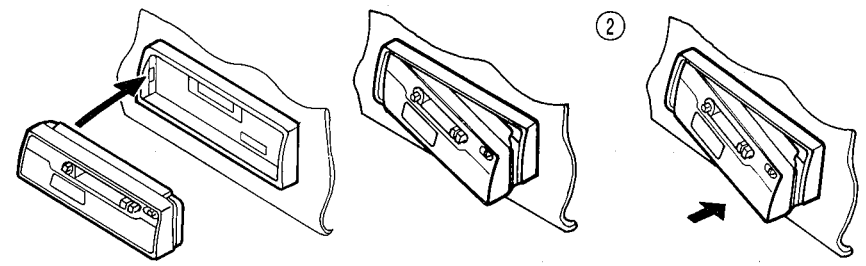
① Slide the Control Panel Release (⏏) switch in the direction of the arrow to detach the control panel.
② Pull the control panel out of the main unit, as shown below.
- Put the control panel in the provided case for protection.



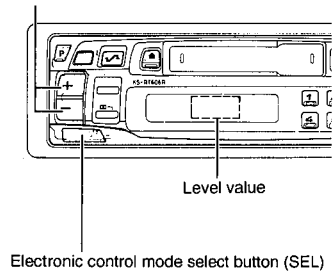
How To Attach The Control Panel

① Insert the left side of the control panel into the groove on the left side of the holder.
② Press the right side to set it correctly.

Note:
- Be careful not to damage the connector terminals when attaching/detaching the control panel or while the control panel is removed.



Audio Level Control



Electronic control mode (SEL)			
VOL	Volume	Decreases (00 – 50)	Boosts (00 – 50)
BAS	Bass	Decreases (–6) – (0)	Boosts (0) – (+6)
TRE	Treble	Decreases (–6) – (0)	Boosts (0) – (+6)
FAD	Fader	Rear (R5 – 0)	Front (0 – F5)
BAL	Balance	Left (L6 – 0)	Right (0 – R6)
LOUD	Loudness	Off OFF	On ON

Loudness Control

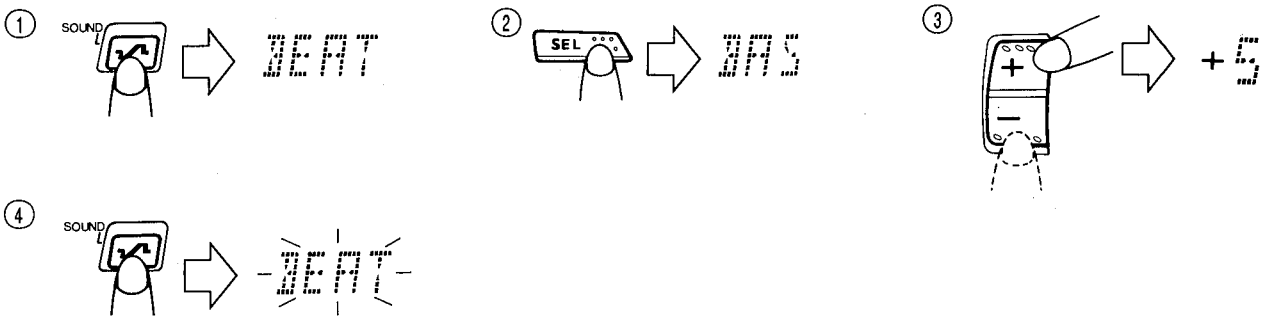
At low volumes, the human ear is less sensitive to low and high frequencies. When the volume is low, set the loudness control to ON to boost these frequencies and produce well-balanced sound.

Sound Mode Button

Sound mode (SOUND)			Preset level value		
			Bass	Treble	Loudness
OFF	Off	(flat characteristics)	0	0	Off
BEAT	Beat	For music with a heavy beat, such as rock or disco music.	+2	0	On
SOFT	Soft	For quiet background music.	+1	–3	Off
POP	Pop	For light music including popular and vocal music.	+4	+1	Off

Sound Control Memory

The Sound mode's preset values can be changed to suit your tastes.
(Example: To emphasize bass sound in the Beat mode)



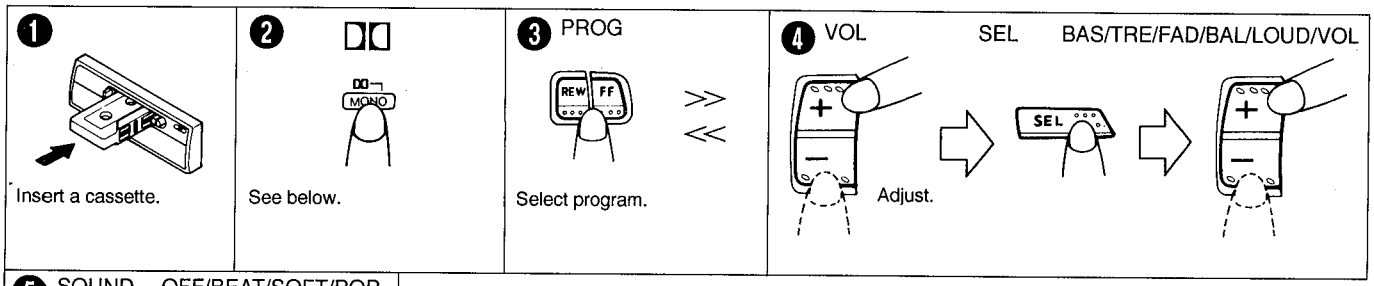
① Press the SOUND button to select the mode to be changed (Beat, Soft, Pop).
② Press the SEL button within 5 seconds to select the sound characteristics to be changed (Bass, Treble, Loudness).
③ Set the desired level with the level control button (within 5 seconds).
④ To store the set level in memory, press the SOUND button within 5 seconds and hold it for more than 2 seconds. (The mode indication blinks when the level has been stored in memory.)
* To change other preset values, repeat the above procedure.
* To restore the preset value, repeat the above procedure using the level value for the SOUND button as a reference.

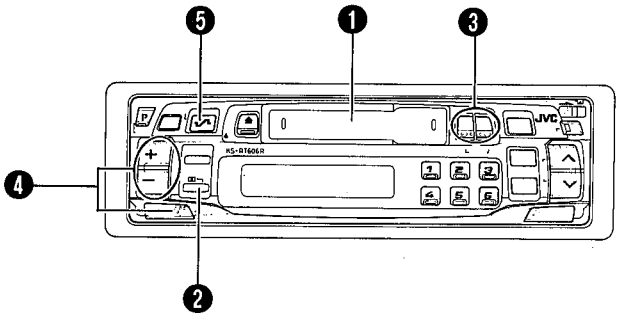
Illumination Color Button

To match the color of this unit's display with that of the instrument panel, you can choose between two colors — amber and green.
• Each time the ILL button is pressed for more than 1 second, the color will change.

TAPE OPERATION

Operate in the order shown.





• DOLBY B NR button
Set the Dolby B NR DOLBY button as required.
ON — (DOLBY) indicator lights.
OFF — (DOLBY) indicator goes out.

How To Fast-Forward And Rewind Tapes

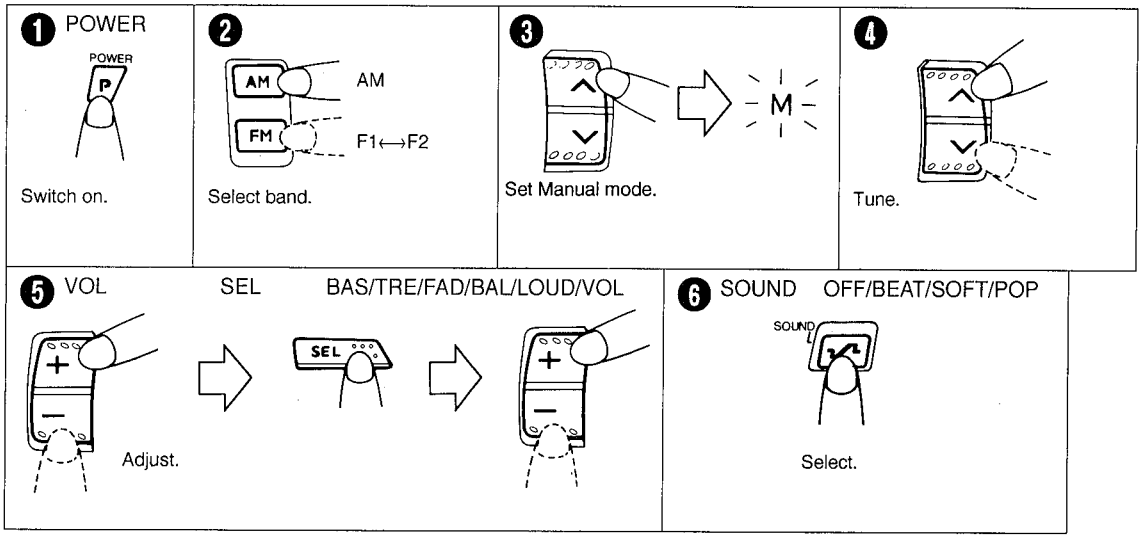
Press the FF button to fast-forward the side being played; when the tape end is detected, the tape is reversed and playback starts from the beginning of the other side.
Press the REW button to rewind the tape to its beginning, where playback restarts.
Lightly press the PROG button to start playback from the current position during fast-forward or rewind.

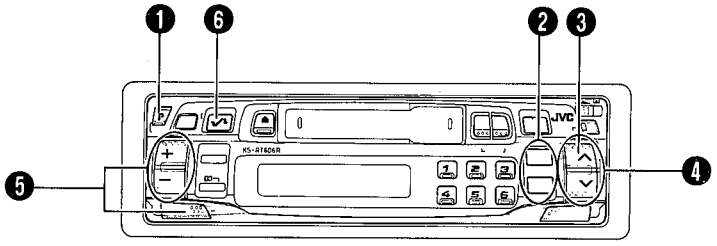
Auto-Reverse Mechanism

When the tape reaches its end, this mechanism automatically switches over to play back the other side. To listen to the other side of the tape during playback, press the PROG button. The change in direction can be checked in the Tape Direction indicator.

RADIO OPERATION

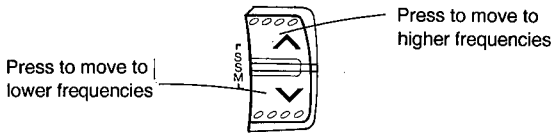
Operate in the order shown.





Manual Tuning

Set Manual mode by pressing the tuning button (⩓ or ⩔) for more than 1 second. When the "M" indicator is blinking, the unit is in Manual mode. Press the Tuning button, to move up/down the frequency band. Scanning continues as long as either side of the button is pressed.



Frequency scan steps are as follows:
FM – in 50 kHz units
MW/LW – in 9 kHz units

In AM operation, the frequency continuously moves from the MW (522 to 1,620 kHz) to LW (144 to 279 kHz) band and vice versa.

- About 5 seconds after completing manual tuning, the unit switches back to Seek mode and the "M" indicator goes out.

Seek Tuning

Press the ⩓ or ⩔ button; the unit enters the seek tuning mode and tunes to higher or lower frequencies, and when the broadcast is received, it stops tuning automatically and the broadcast can be heard. In AM operation, the frequency continuously moves from the MW to LW band and vice versa.

Preset Button Tuning

How to Preset Stations

6 stations in each band (FM1, FM2 and AM [MW/LW]) can be preset as follows:

- Example (when presetting Preset Station button "5" of the FM2 band to an FM station at 103.5 MHz)

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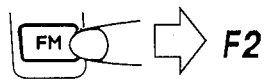

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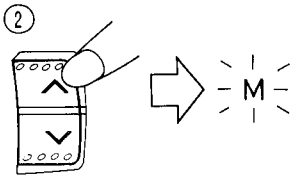

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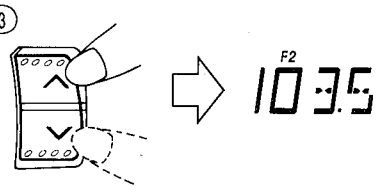

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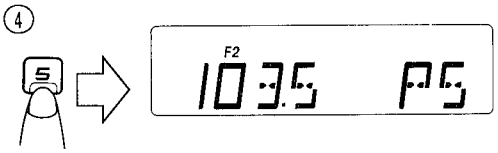


① Select the FM2 band using the FM Band button.
② Set Manual mode.
③ Tune to the desired station.
④ Press Preset Station button "5" for more than 2 seconds. (When "P5" blinks in the Preset Station display, the station is preset.)

- Repeat the above procedure for the other 5 Preset Station buttons and other bands (FM1 and AM [MW/LW]).

Notes:

- A previously preset station is erased when a new station is stored in memory.
- The preset stations are erased when the power supply to the memory circuit is interrupted during battery replacement, etc. When this occurs, preset the stations again.

Preset Tuning

① Select the band.
② Press the required Preset Station buttons (No. 1 to No. 6).

Strong-Station Sequential Memory (SSM)

This function searches for FM stations broadcasting strong signals. The 6 strongest stations are held in memory in the order of increasing frequency, and can be recalled with the Preset Station buttons No. 1 to No. 6.

(Procedure)

① Press the SSM buttons (⩔,⩓) for more than 3 seconds.
② The strongest signals in the band you are listening to (FM1 or FM2) will be searched and selected automatically. Six stations are preset in the Preset Station buttons (No. 1 to No. 6), in the order of increasing frequency. (During this operation, "SSM" lights in the display.) The unit then automatically tunes to the broadcast stored in Preset Station button "1".

Note:

Previously preset stations are canceled automatically when SSM is used.

RDS (Radio Data System)

RDS is a broadcasting system in which digital data is multiplexed together with normal FM radio signals. In this way, RDS offers a wide variety of new functions including AF (Alternative Frequencies — automatic tuning) and TA (Traffic Announcement identification), plus other PTY, CT, EON, PI, PS and TP codes:

- PTY (Programme Type)
- CT (Clock Time)
- EON (Enhanced Other Networks)
- PI (Programme Identification)
- PS (Programme Service name)
- TP (Traffic Programme identification)

RDS operation

- Traffic programmes and announcements can be automatically received using the TP/TA codes.
- Network Tracking reception uses the PI and AF codes. The PI code identifies the country, area and station for automatic tuning, while AF "knows" what stations are broadcasting the same programme and automatically tunes to the strongest signal for optimum frequency response.
- The PS code allows station names to be displayed automatically when an RDS station is received.

Note:

RDS operates when in FM mode only.

Display Button

The DISP button is used to select the Operation (Tuner or TAPE) and Time modes. Each time the button is pressed, the display changes as follows:
Operation mode (Station name* → Frequency being received →PTY* (or TAPE)) →Time.
The display returns to the initially preset mode after a short while.
* When the RDS or PTY signal is weak or when not tuned to an RDS or PTY station, the Station name or PTY is NOT displayed.

RDS button

To select Network-Tracking mode, press the RDS button.
- **Mode 1 (AF: on/REG: on):**
  Network-Tracking is activated and Regional mode is engaged (switches between stations broadcasting the same programme, at all times).
- **Mode 2 (AF: on/REG: off):**
  Network-Tracking is activated.
  Switches between stations belonging to the network being received.
  Note:
  In Mode 2, the broadcast may switch between different programmes even within the same network at certain times.
- **Mode 3 (AF: off):**
  Network-Tracking deactivated.

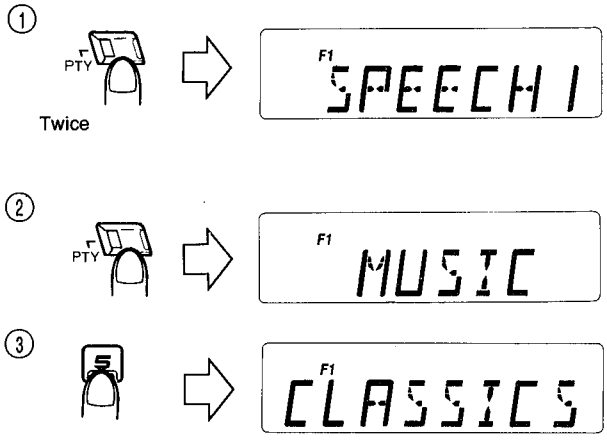
PTY button

1. **Setting and operating NEWS standby mode**
   - When the PTY button is pressed in the FM mode, the "PTY" indicator is lit during reception of a PTY station and the NEWS standby mode is engaged after approx. 2 seconds.
     When "PTY" blinks (when the station being received is not a PTY station), press the tuning buttons (⩓, ⩔) to engage the NEWS standby mode. NEWS station search starts, and when the PTY station is tuned in, "PTY" is lit.
   - If you're listening to a tape and wish to hear a PTY news broadcast, press the PTY button to enter the NEWS standby mode. (The "PTY" indicator lights up.)

If the news programme starts broadcasting while NEWS standby mode is active, "NEWS" is displayed and the FM mode is engaged. Then volume increases to the preset level and the NEWS programme can be heard.

2. **To search for programme by PTY codes**
   ① Press the PTY button twice quickly when FM tuner mode is active. SPEECH 1 (or SPEECH 2, MUSIC) is displayed and the programme search mode becomes engaged.
   ② After this mode is engaged, every press of the PTY button within 5 seconds of the previous press changes the indication as follows:
   SPEECH 1 → SPEECH 2 → MUSIC → Programme search mode is cleared.
   ③ For each of the three modes, each PTY select button numbered 1 through 6 corresponds to a distinct programme type. For the given activated mode, a numbered PTY select button can be pressed within 5 seconds to select the programme type that corresponds to it .

(Example: When selecting the programme type "CLASSICS").



	Programme select button	Indication Anzeige *Indication*
SPEECH 1	No. 1	NEWS
	No. 2	AFFAIRS
	No. 3	INFO
	No. 4	SPORT
	No. 5	EDUCATE
	No. 6	DRAMA
SPEECH 2	No. 1	CULTURE
	No. 2	SCIENCE
	No. 3	VARIED
	No. 4	———
	No. 5	———
	No. 6	———
MUSIC	No. 1	POP M
	No. 2	ROCK M
	No. 3	M.O.R.M
	No. 4	LIGHT M
	No. 5	CLASSICS
	No. 6	OTHER M

④ 5 seconds after setting, programme search starts.
⑤ Successful programme search results in the desired PTY station being received so its programme can be heard.

- When a PTY station cannot be tuned in, the previous station is received.
- After searching, the mode selected last will be memorized, then displayed first when a programme type is selected again.

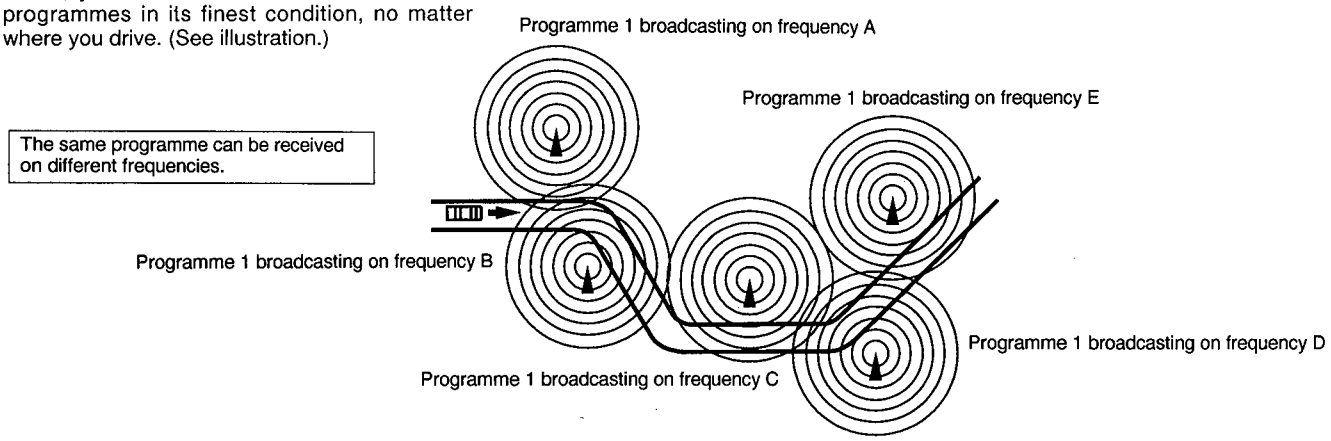
Note:
There may be areas where PTY functions (NEWS standby mode, programme search) will not work.

Descriptions of the PTY Codes

NEWS:	News
AFFAIRS:	Topical programme expanding on the current news or affairs
INFO:	Programmes on medical service, weather forecast, etc.
SPORT:	Sport events
EDUCATE:	Educational programmes
DRAMA:	Radio plays
CULTURE:	Programmes on national or regional culture
SCIENCE:	Programmes on natural sciences and technology
VARIED:	Other programmes like comedies or ceremonies
POP M:	Pop music
ROCK M:	Rock music
M.O.R.M:	Middle-of-the-road music (usually called "easy listening")
LIGHT M:	Light music
CLASSICS:	Classical music
OTHER M:	Other music

Network-Tracking reception
When driving in an area where the signal strength drops, the tuner automatically uses PI and AF codes to retune to the same programmes with a stronger signal from another RDS station in the network. By utilizing these codes, you can continue to listen to the same programmes in its finest condition, no matter where you drive. (See illustration.)

- When the RDS station to which you are tuned does not provide AF data or the unit is unable to receive AF data for any reason, Network-Tracking reception will NOT operate even when the signal strength drops below the reference level.



EON (Enhanced Other Networks)

- When tuning in a broadcasting station transmitting EON data, the EON indicator is lit and the following operations start.
  EON automatically stores the frequencies of stations from other networks transmitting information codes (TP/TA/AF/PTY/PS etc.) so they can be mutually used. The following points have been improved:

When listening to a station NOT transmitting traffic information or NEWS for example, EON automatically tunes to a station in a local network when this information is broadcast and then switches back to the original programme when the broadcast ends.

The transmitted information (AF and other codes) is constantly and automatically updated so that preset programme information can be heard immediately even if in a different network area.

Automatic reception of traffic information
1. Press the INFO button (the TP indicator blinks). Seek tuning will now stop only at stations broadcasting traffic information TP signals. When traffic information is received, the TP indicator lights.
2. Traffic information will automatically interrupt cassette playback if TP is set. After the traffic information ends, the unit switches back to cassette tape playback.

Traffic Information and NEWS Volume Control
This function adjusts the volume of traffic information broadcasts or NEWS.
1. Press the INFO button for more than 2 seconds while pressing the FM band button; "INFO VOL" will be displayed.
2. While "INFO VOL" is displayed, set to the required volume using the Volume Level Control buttons.

Note:
When the INFO button is set to ON, an alarm sound can be heard if the tuner is not receiving a station broadcasting traffic information. In this case, perform seek tuning or set the INFO button to OFF.

Preset Station buttons
When a Preset Station button is pressed, if the station with that frequency is broadcasting a sufficiently strong signal, the receiver will tune to that frequency.
When the signal strength is not sufficient for good reception, by referring to the AF list, the receiver searches for a station broadcasting the same program with a stronger signal. If a station cannot be found in the AF list, PI-seek tuning starts. If a station broadcasting the same PI code cannot be detected in one search-cycle, PI-seek tuning is released and the original preset frequency is tuned to.

CT (Clock Time)
When CT data is received in the RDS signal, the time is correctly renewed.
- RDS updates the local time according to Greenwich mean time.
- When automatic renewal of clock time is NOT required, press the DISP button for more than 2 seconds while pressing the FM band button. "ADJ OFF" is displayed and the clock time is NOT renewed even if the CT (Clock Time) data is received with the RDS signal. Repeat the same procedure to reset to ON. "ADJ ON" will be displayed and clock time will be automatically renewed when CT data is received.

Note:
It takes at least 2 minutes to renew the time after receiving CT data. The station must be received for more than 2 minutes continuously, otherwise the time will NOT be renewed.

Mono Button

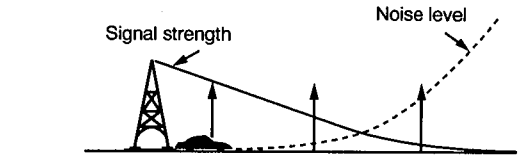
When listening to FM, set the MONO button to stereo or mono.
Note:
Set to mono when a stereo FM broadcast is too noisy and cannot be heard satisfactorily.

FM Pulse Noise Suppressor

This unit has built-in circuitry to effectively eliminate engine noise picked up by the antenna, etc. in the form of FM pulses, for a more favorable FM reception.

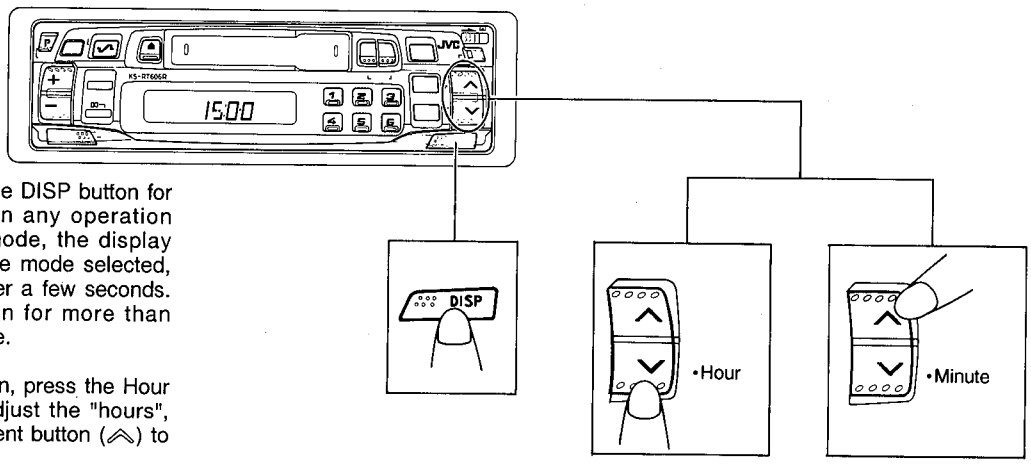
Automatic FM Noise Suppressor (AFNS)

This unit incorporates an automatic FM noise suppression circuit to ensure satisfactory reception of FM broadcasts when a vehicle is moving and signal strengths are continuously fluctuating.



Signal strength	A	B	C
	Strong	Not so strong	Weak
Auto blend	Stereo	Blend	Mono
Auto high-cut	–	→	(Operates)

DIGITAL CLOCK DISPLAY

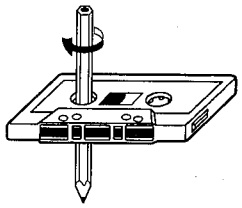


To select Time mode, press the DISP button for more than 2 seconds. When any operation button is pressed in Time mode, the display changes to indicate the source mode selected, and returns to Time mode after a few seconds. Press the DISP button again for more than 2 seconds to cancel Time mode.

How To Adjust The Time
While pressing the DISP button, press the Hour Adjustment button (⩔) to adjust the "hours", and press the Minute Adjustment button (⩓) to adjust the "minutes".

TAPE CARE HINTS

It is very important to keep your tapes clean.
Always return them to their storage boxes after playback.
Never store tapes in direct sunlight, high humidity or extremely hot temperatures.
Never play dirty or dusty tapes — they can damage the head.
Slack tape in a cassette can cause trouble by becoming entangled with the capstan or pinch roller.
This may also cause the auto-reverse mechanism to malfunction. Avoid this by tightening the tape, as shown.

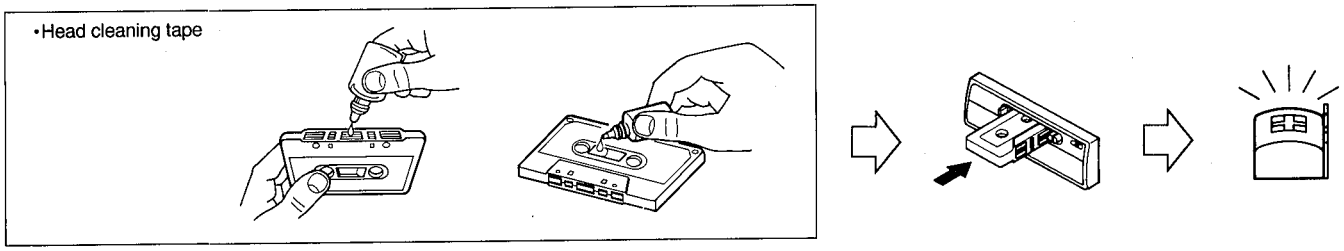


Note:
Always remove cassettes from the loading slot when not listening to them, as the tape may become slack.

MAINTENANCE

- **Cleaning The Head**
  Heads are important as they pick up sound. When they become dirty, the following symptoms become noticeable:
  - **The sound quality is reduced.**
  - **The sound level is decreased.**
  - **The sound can be heard intermittently. (Sound drop occurs.)**

  These are NOT malfunctions. However, before these symptoms appear, clean the heads after every 10 hours of use using a wet-type head cleaning tape, available from an audio store. For more details, refer to the Instructions of the Head Cleaning Tape.

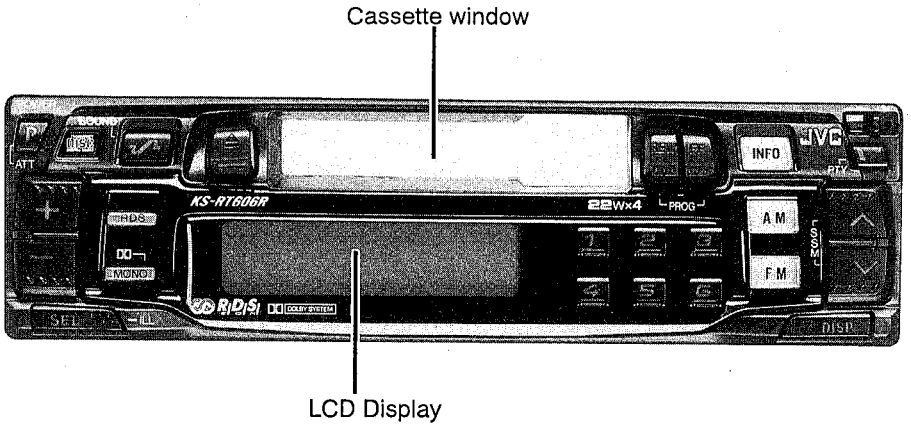


- **Cleaning The Connector**
  If the control panel is frequently detached, a poor connection may occur with the control panel holder. To minimize this possibility, periodically wipe the connector with a cotton swab or cloth moistened with alcohol, being careful not to damage the connector terminals.

Your unit requires very little attention, but you will be assured of top performance only if you follow the above notes.

1 Location of main parts

◆ Front panel ass'y



◆ Bottom side view

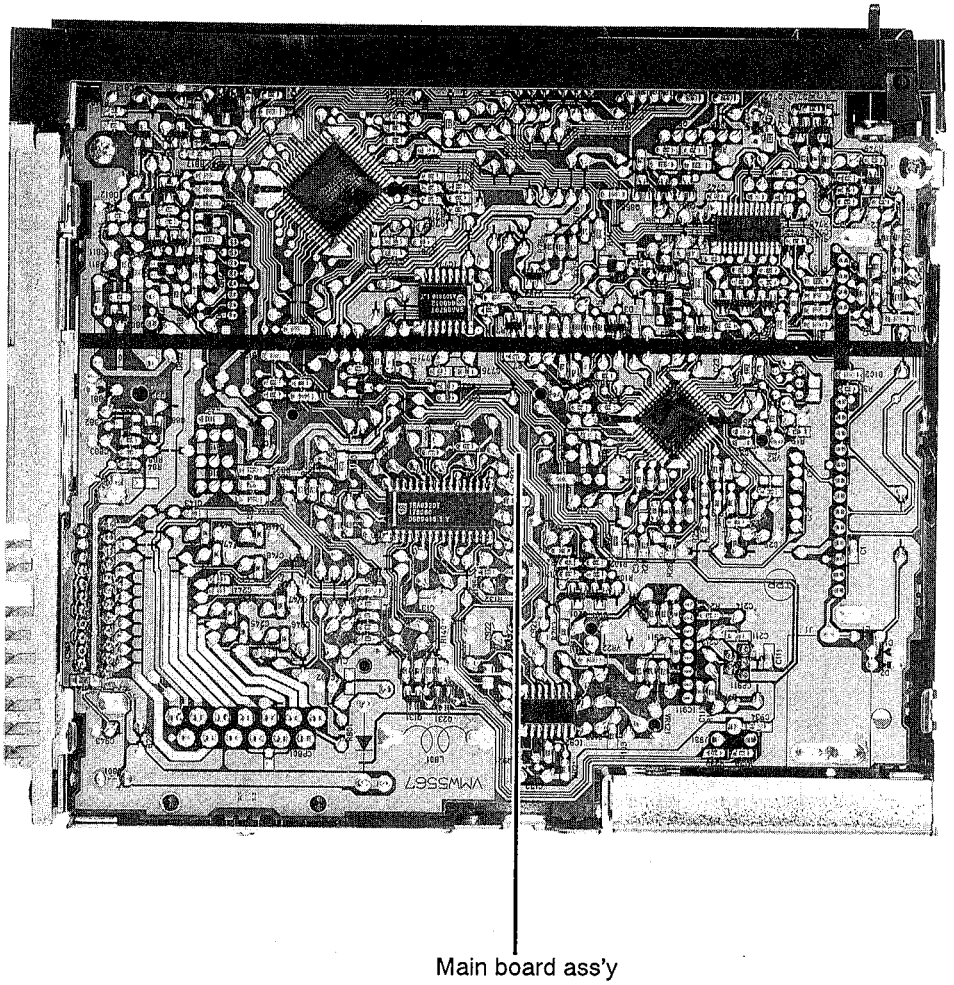


Fig. 1 – 1

◆ Main board ass'y(Top side)

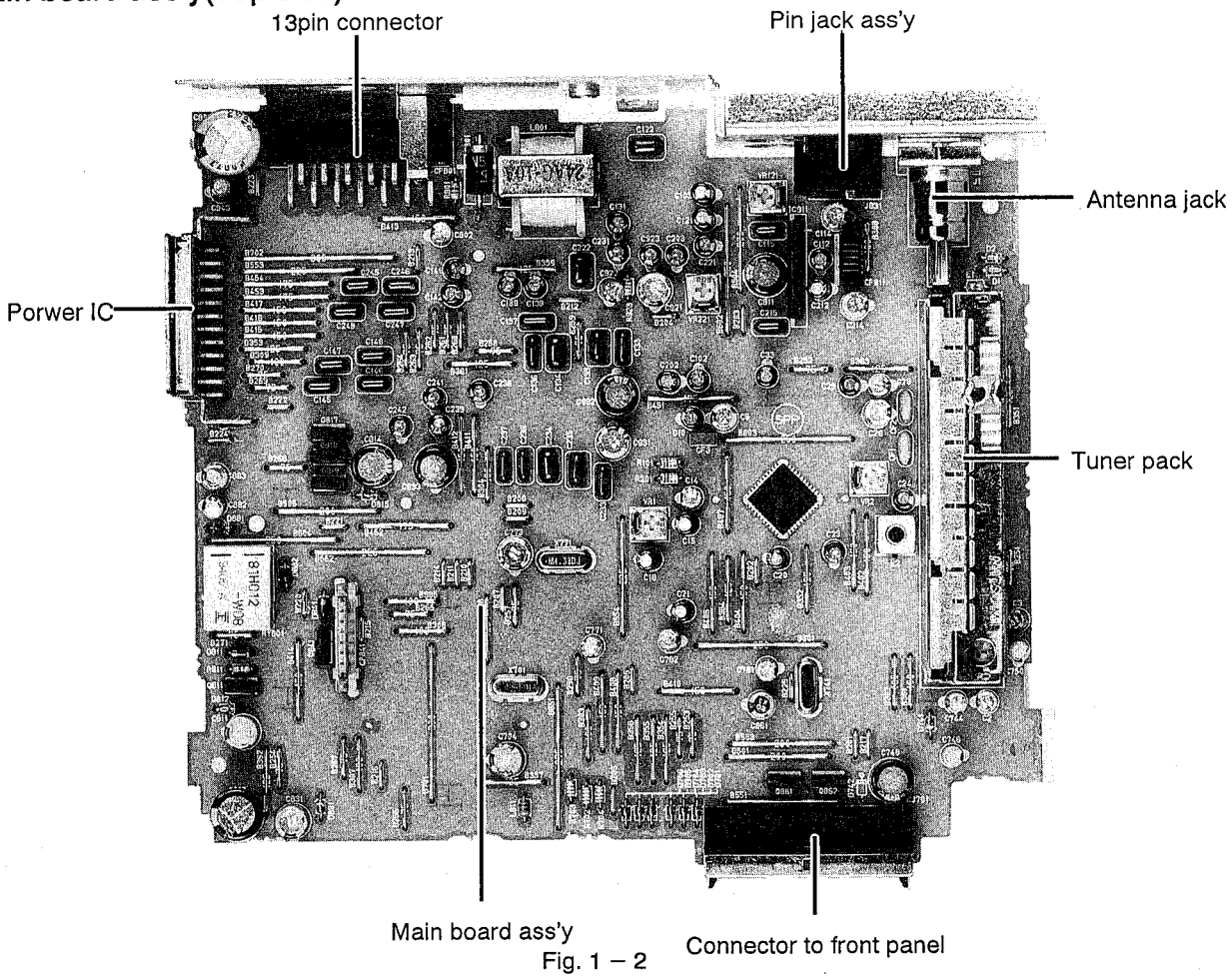


Fig. 1 – 2

◆ Mechanism ass'y

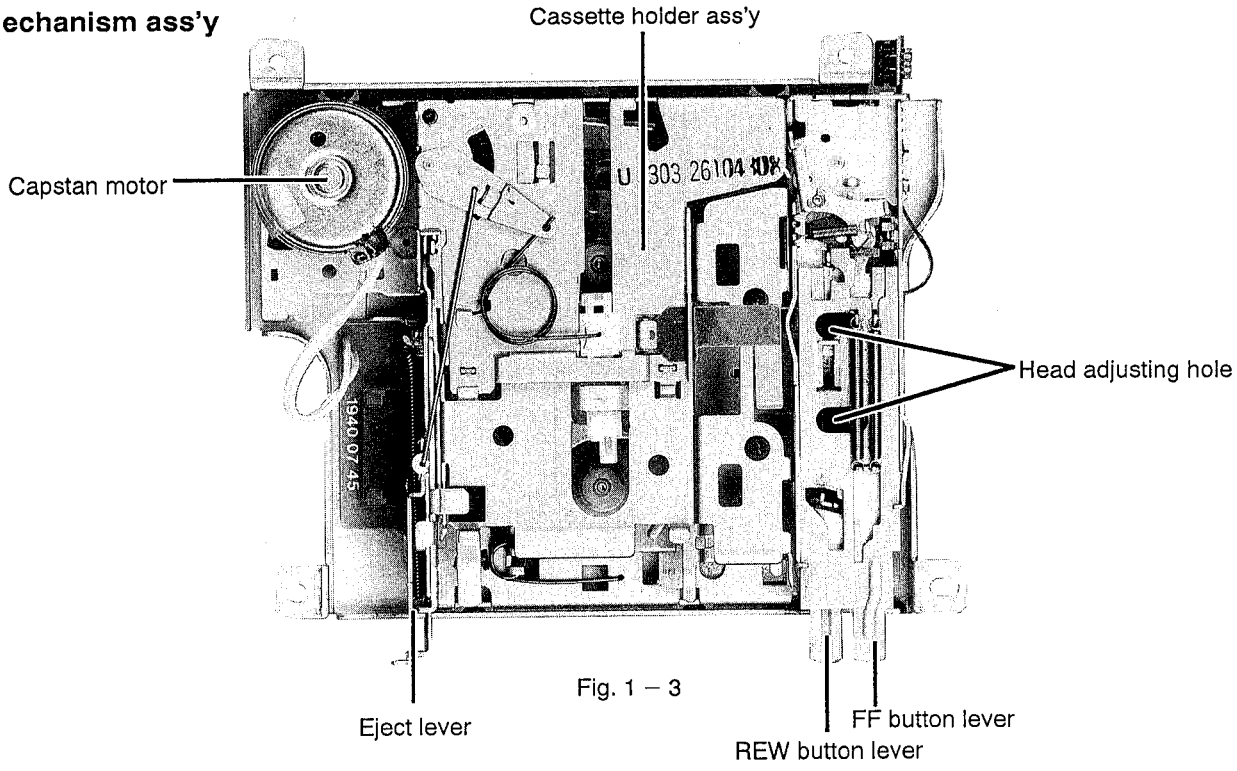


Fig. 1 – 3

2 Removal of main parts

■ Encoosuer section

◆ **Detaching the front panel unit** (See Fig. 2-1)
Slide the Eject slide knob in the direction of arrows to detach the front panel unit.

◆ **Removing the bottom cover** (See Fig. 2-2)
Turn the unit upside down, then insert and turn the screwdriver to remove the bottom cover.

◆ **. Removing the front chassis** (See Fig. 2-3)
Remove the four tabs in the right and left sides of unit and pull the front chassis forward to remove it.

◆ **Removing the main P.C.B. assembly (with rear panel)** (See Fig. 2-4)

1. emove two screws ① retaining the rear panel to the chassis.
2. Remove one screw ② A retaining the IC to the heat sink.
3. Remove two screws ③ retaining the amp. P.C.B. assembly.
4. Lift up the main P.C.B. assembly to remove it. At this time, remove the connectors CP901 and CP902 connecting the main P.C.B. assembly and mechanism assembly.
5. Remove two screws ② to remove the heat sink.

◆ **Removing the rear panel** (See Fig. 2-4)
Remove five screws retaining the jacks or the like.
Remove one screw ⑤ to remove the 13-pin jack.
Remove one screw ⑥ to remove the line-out jack.
Remove one screw ⑦ to remove the antenna jack.

◆ **Mechanism assembly** (See Fig. 2-5)
Remove four mechanism assembling screws ⑧ retaining the top cover.

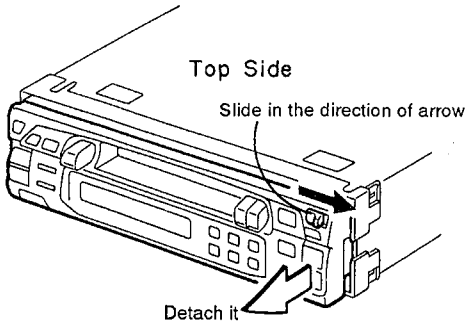


Fig. 2 – 1

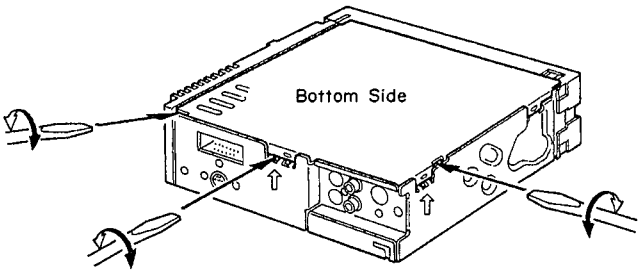


Fig. 2 – 2

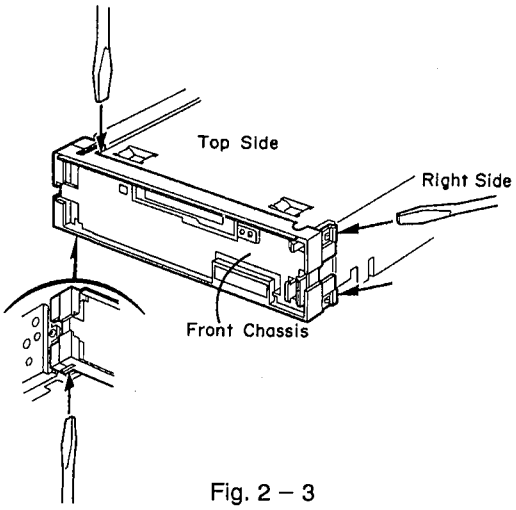


Fig. 2 – 3

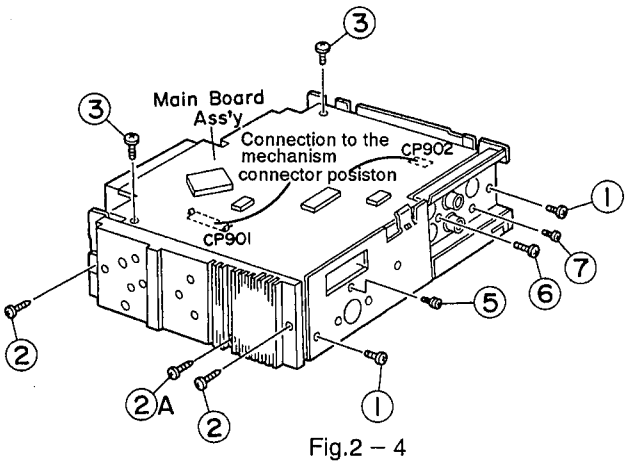


Fig.2 – 4

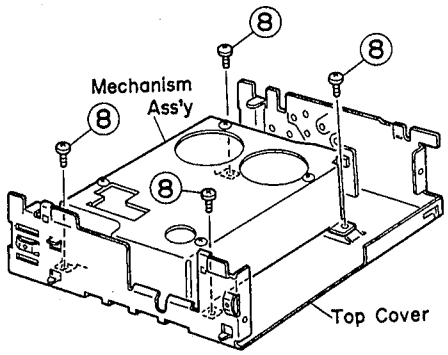


Fig. 2 – 5

■ Mechanism section

◆Head Removal

1. Remove screw ① retaining the FR bracket.
2. Left the FR lever assembly up in the direction of the arrow and remove the FRlever assembly from the chassis slots.
3. Remove the screw ② retaining the head plate.
4. Remove two screws ③ retaining the head.
5. When replacing the head make sure to adjust screws(A~D)and perform head angle and height adjustment.

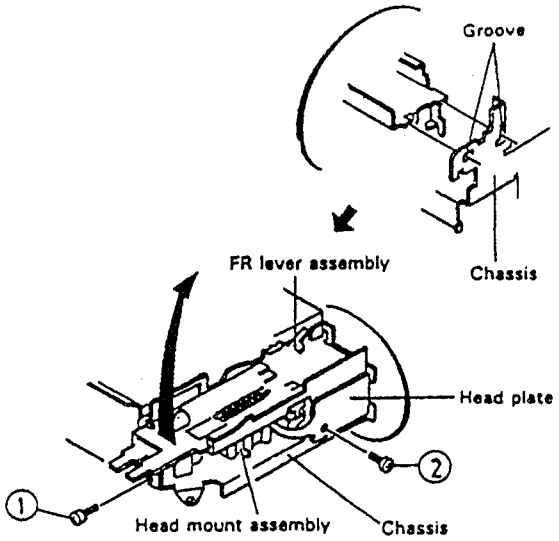


Fig. 2-6

◆Pinch roller assembly

1. Remove the nylon washers retaining the left and right pinch rollers.
2. Pull out the pinch roller.

◆Motor Assembly

Remove two screws(5)retaining the motor.

※This operation is facillitated by leaving the belt hooked on to one of the chassis protrusions.

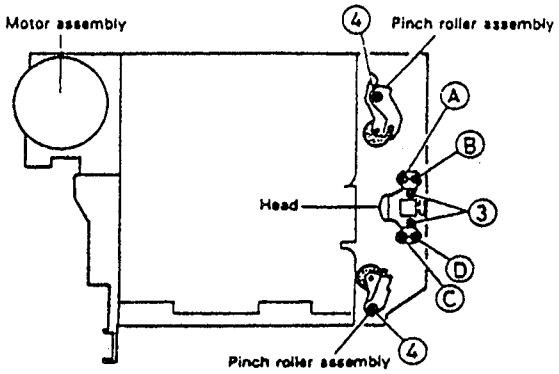


Fig. 2-7

◆Belt

Thread the belt as indicated in the figure when replacing the belt.

※Take care to avoid contact with grease or oil when replacing the belt.

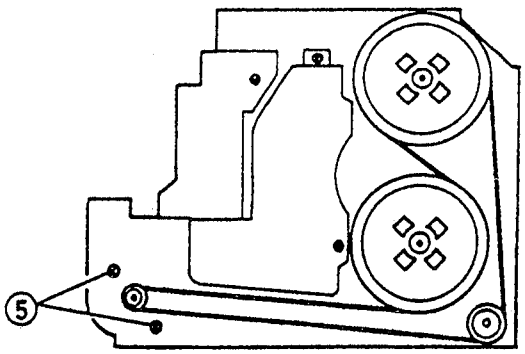


Fig. 2-8

3 Main adjustment

■ Equipment and measuring instruments used for adjustment

- Electronic voltmetor
- Audio frequency oscillator
  (range:50~20kHz and output 0 dB with impedance of 600 Ω)
- Attenuator(impedance;600 Ω)
- Frequebcy counter
- AM Standard signal generator
- FM Standard signal generator
- Wow flutter mater
- Torqu testing cassette gauge
  CTG – N (mechanical adjusting)
  TW – 2111A (FWD play)
  TW – 2121A (REV play)
- Standard tape
  VTT712(tape speed,wow&flutter adj.)
  VTT724(reference level)
  VTT736(playback frequency response)
  VTT721(output level)
  SCC – 1659 (mirrer tape)
  MTT – 942SP (azimuth)

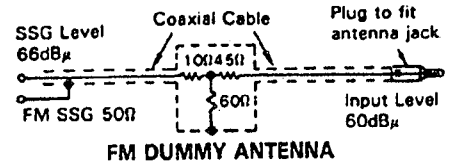
■ Condition for measurement

- Power Supply ····· DC14.4V
  (Reduced Voltage:10.5V)
- Load ····· 4 Ω
  (4- speaker connection)
- BASS/TRE, FADER,BALANCE ····· Center
- Main volume ····· Position with an output level of 1.4V during VTT724 playback

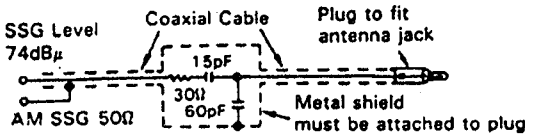
■ Tuner section

- FM;400Hz, 22.5kHz deviation(MONO)
- FM STEREO ;1kHz, 40kHz deviation, pilotsignal 7.5kHz, 66dB μ V
- AM;400Hz, 30% modulation ,74dB μ V
- Output impedance ;50 Ω

■ Dummy antenna

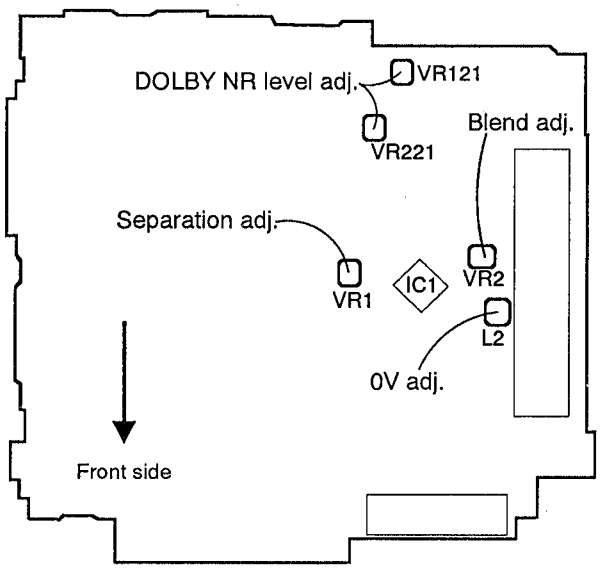


FM DUMMY ANTENNA



AM DUMMY ANTENNA

■ Location of Adjustment



※ Regarding TP, refer to Item 6-1 on Page 30.

- Preset memory Initialization

Band	Preset Memory					
	M1	M2	M3	M4	M5	M6
FM(MHz)	87.5	89.9	97.9	105.9	107.9	87.5
AM(kHz)	144	153	603	999	1404	1620

- Manual Tuning Up/Down Frequency
  FM;50kHz Step
  AM;9kHz Step

■ Information for using a Car Stereo service jig (for adjustment and checking)

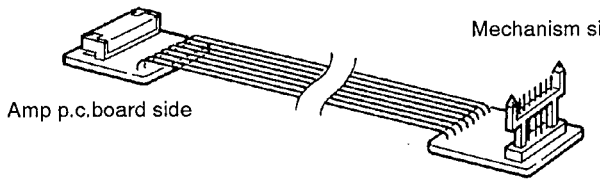
◆ For 1995, we're advancing efforts to make our extension cords common for all Car Stereo products.

Please use this type of extension cord as follows.

◆ As a U – shape type top cover is employed, this type of extension cord is needed to check operation of the mechanism assembly after disassembly.

◆ Extension cords

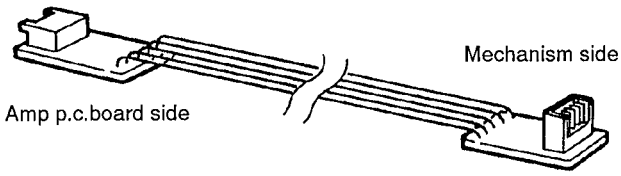
EXT – KSRT001 – 8P (8 pin extension cord)



For connection between mechanism assembly and main PCB assembly.

Check for mechanism-driving section such as motor, solenoid, etc.

EXT – KSRT001 – 5P (5 pin extension cord)



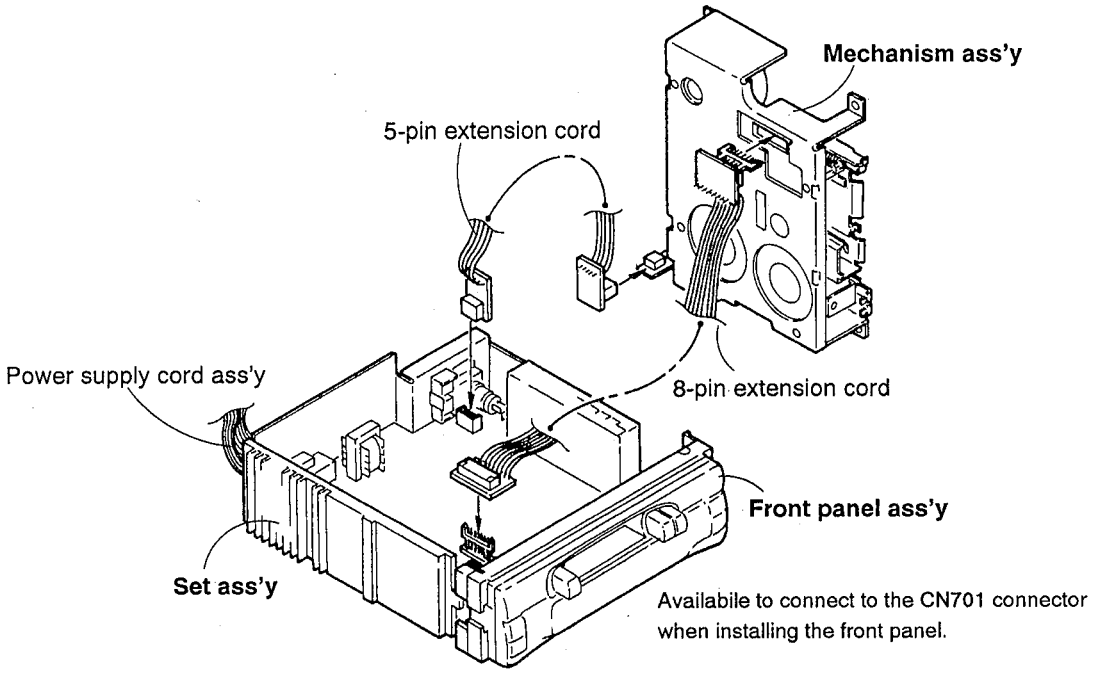
For connection between mechanism assembly and main PCB assembly.

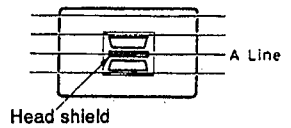
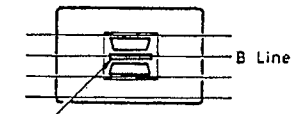
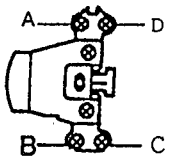
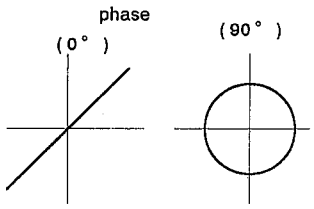
Check for head signal section.

◆ Disassembly method (Refer to method to remove main parts)

1. Remove the bottom cover.
2. Remove the front panel assembly.
3. Remove the top cover. (Remove the screws at each sid of heat sink and rear panel.)
4. Install the front panel (whose assembly was removed in step 2) to the main unit.
5. Confirm that current is being carried by connecting an extension cord jig.

◆ Connection diagram



Item	Conditions	Adjustment and Confirmation methods	S.Values	Adjust
1. Head azimuth adjustment	Test tape: SCC – 1659 MTT942SP(10kHz)	★In case the head and its height have been changed, it will be necessary to adjust the height of the head. 1. Adjustment of the height of head 1)When the mirror tape SCC – 1659(2-line tape) is travelling in the FWD direction, adjust the screws A and B so that the line A is located the center of the shield plate between the head channels. 2)When the mirror tape SCC – 1659(2-line tape) is travelling in the REV direction, adjust the screws C and D so that the line B is located the center of the shield plate between the head channels. 2. Head azimuth 1)Adjust the screw B so that the output level becomes maximum(L-R difference level to be within 2 dB) and the phase difference becomes minimum (less than 90°) when MTT942SP is travelling in the FWD direction. 2)Adjust the screw C so that the output level become maximum (L-R difference level to be within 2-dB) and the phase difference become minimum (less than 90°) when MTT942SP is travelling in the REV direction. 3)By repeating the avove adjustment steps 1) and 2),make sure that the output level and phase difference are as specifed respectively . 4)There is no need to preform bonding after adjustment.	 Head shield The head is at low position during FWD.  Head shield The head is at high position during REV. Output level: Maximum  screw – D Output level: Maximum screw – C 	
2. Tape speed and wow flutter confirmantion	Test tape:VTT712 (3kHz)	1.Check to see if the reading of the F. counter/wow flutter meter is within 3015~3045 (FWD/REV), and less than 0.35% (JIS RMS) . 2. In case of out of specefication, adjust the motor with a built-in volume resistor.	Tape speed: 3015 ~3045Hz Wow flutter:less than0.35%	Built-in volume resistor
3.Playback frequency response confirmation	Test tape:VTT724 (1kHz) VTT736 (125Hz/1kHz/8kHz)	1. Play test tape VTT724, and set the volume position at 2 V 2. Play test tape VTT736 and confirm 1kHz/8kHz: 0 ± 3dB, 1kHz/125Hz: 0 ± 3dB. 3. When 8 kHz is out of specification, it will be nesessary to read adjust the azimuth	Speaker out 1kHz/125Hz :0 ± 3dB 1kHz/8kHz :0 ± 3dB	

Item	Conditions	Adjustment and Confirmation methods	S.Values	Adjust
4.Maximum output power confirmation	Test tape :VTT721 (1kHz) volume:maximum BASS/TRE:center	1. Confirm the rear and front output be more than 8.3V((17W). (4-speaker connected.) 2. Confirm that consumption current at above condition to be less than 5A. 4. Sound leakage should not occur at volume minimum. 5. Oscillation should not occur at BASS/TRE at maximum.	Output level:more than 17W(8.3V) Consumption current :less than 5A	
5. DOLBY NR level adj.	Test tape:VTT724 (1kHz) Test point : TP131 TP231	1.Playback the test tape VTT724,Adjust VR121/VR221 so that the output level at terminal TP131/TP231 is 318mV. 2. Playback the non-signal recorded portion and turn on and off the DOLBY NR switch repeatedly while making sure that level difference at TP131 or TP221 is 8.5dB more.	318mV ± 2mV	Lch:VR121 Rch:VR221
6. Line out level adj.	Test tape:VTT721 (1kHz) Test point : line out	1.Comfirm the line out level to be within 350~700mV	Line out level 350~700mV	

■ Tuner section adjustment

(Each condition of input level is shown by EMF value(poen loard value) of SSG under using dummy antenna.)

Item	Conditions	Adjustment and Confirmation methods	S.Values	Adjust
1.Radio/Tape level difference	AM 1000 kHz, 1kHz, 30% modulation, 74dB μ	Against VTT724, the output difference level to be within − 1 to ± 3 dB	within − 1 to ± 3 dB	
2.FM 0V adjustment	Test point: TP1 ,TP2 FM 97.9MHz, 66 dB non modulation	Adjust L2 so that the TP1,TP2 DC voltage level become 0 V when 97.9 MHz is indicated.	0 ± 10mV TP1 ◎ TP2 ◎ VV	L2
3.Separation adjustment	TP:AFout FM97.9MHz,66dB μ (1kHz,67.5kHz Dev. 7.5kHzDev.)	1. With signal of 97.9MHz,66dB μ supplied from the signal generator to L or R channel. 2. Adjust VR1 to minimize leak of a channel's output to other channel .	minimum	VR1
4.S.meter adjustment	TP:TP781 out FM97.9MHz,46dB μ (1kHz,67.5kHz Dev. 7.5kHzDev.)	1. With signal of 97.9MHz,46dB μ v supplied from the signal generator to L or R channel. 2. Adjust VR2 so that the TP781 DC level become 3V. ※ Thereby, it is possible to eliminate the necessity of muting adjustment between the blend and stop sensitivity stations.	3V	VR2

4 Block diagram

■ Integrated circuit

◆ IC1 (LA1867M) FM IF/MPX AMP.

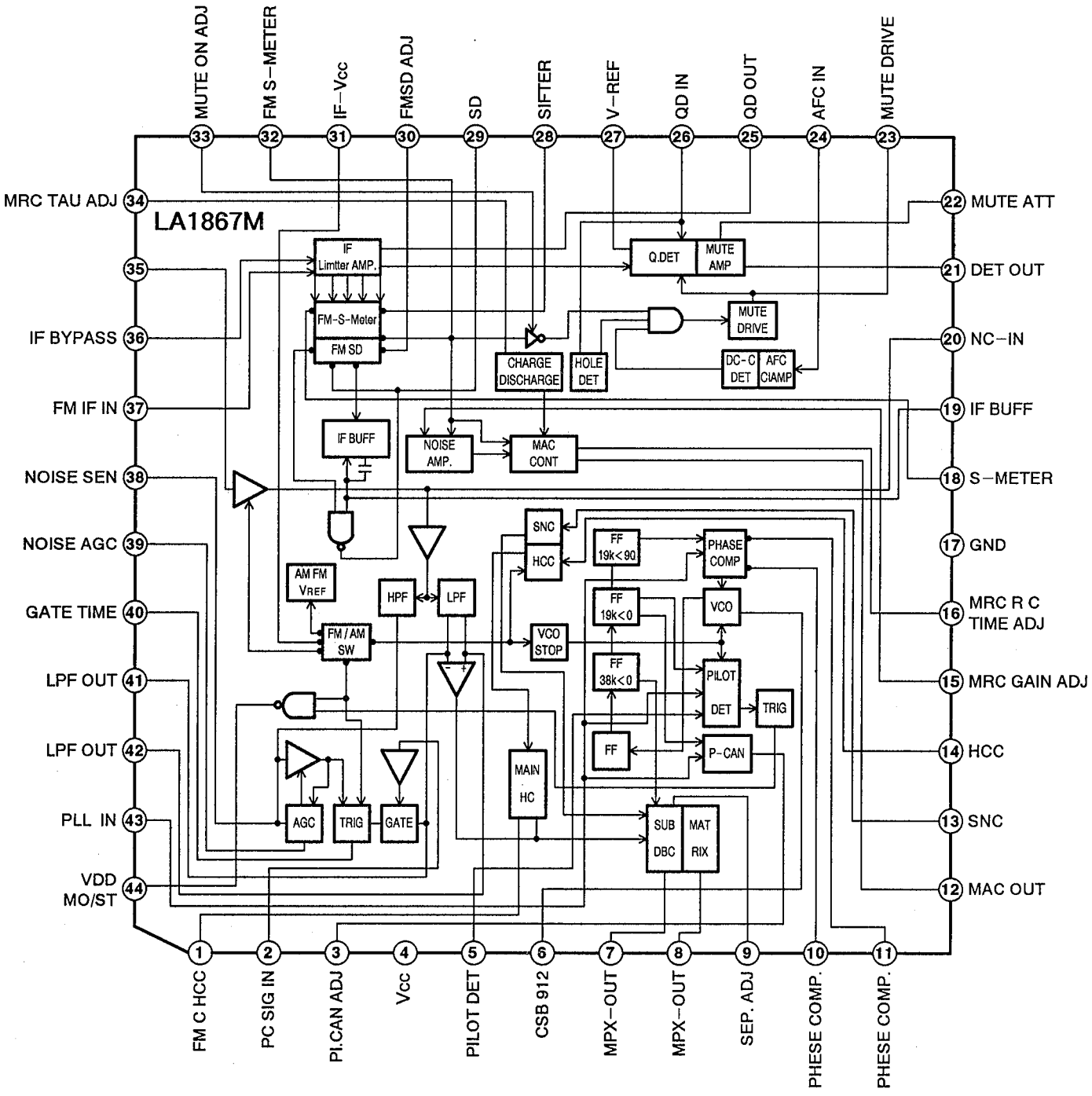


Fig. 4 – 1

◆ IC931 (TEA6320T) E.VOLUME

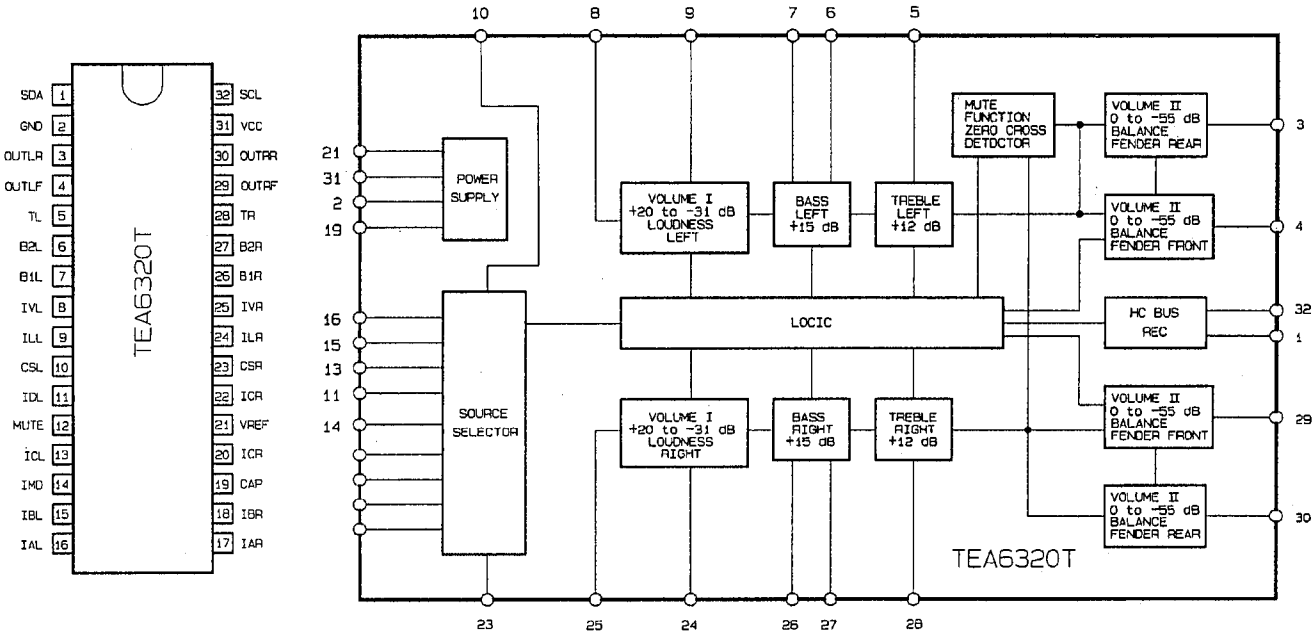


Fig. 4 – 2

◆ IC941 (HA13152) POWER AMP.

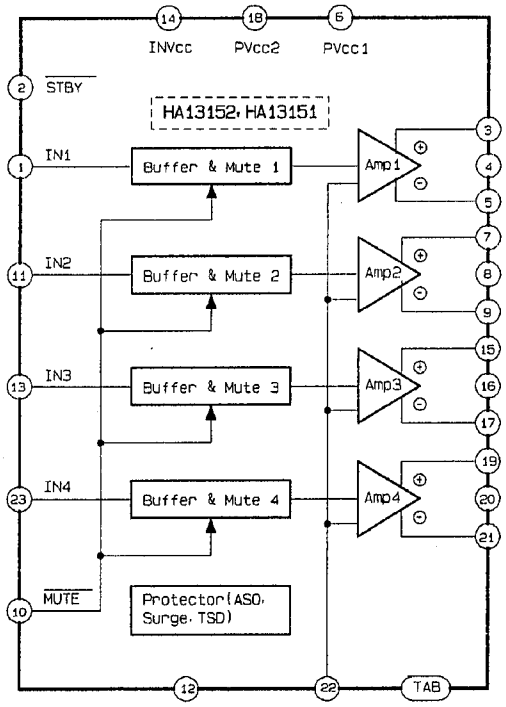


Fig. 4 – 3

◆ IC911 (UPC1228HA) HEAD AMP.

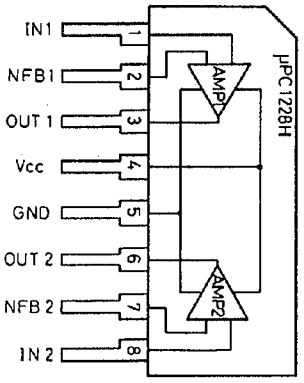


Fig. 4 – 4

◆ IC921 (HA12135AF) DOLBY NR

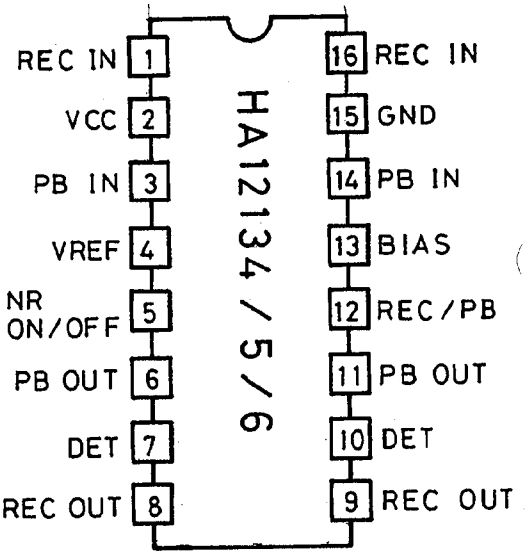


Fig. 4 – 5

◆ IC771 (SAA6579T) RDS

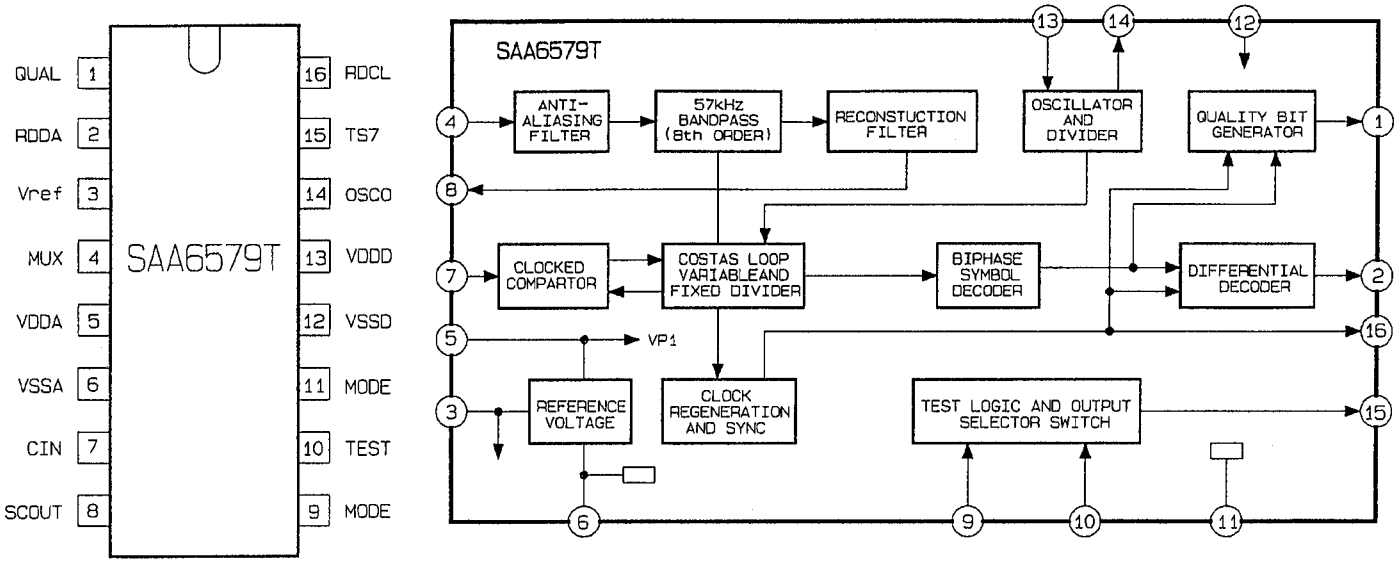


Fig. 4 – 6

◆ IC551 (LC75823E) LCD Driver

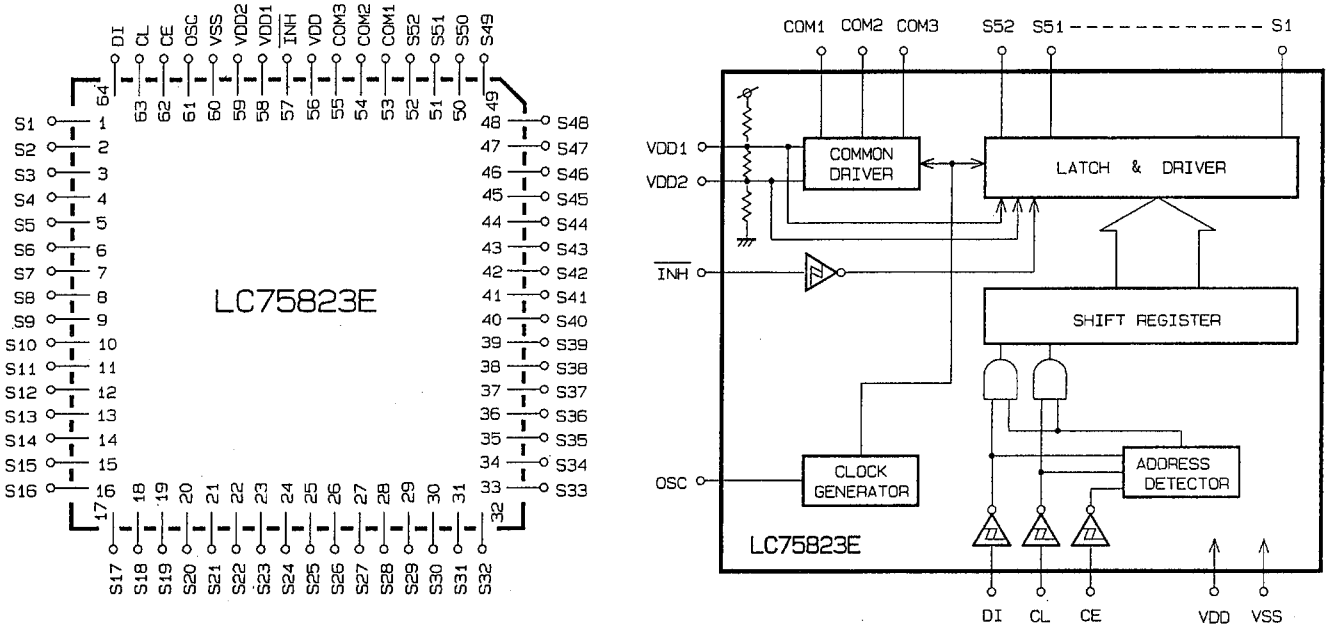
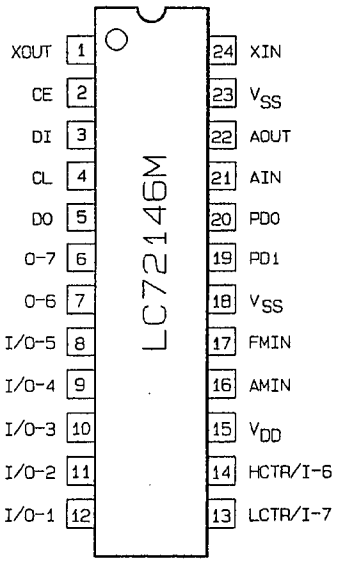


Fig. 4 – 7

◆ IC741 (LC72146M) PLL



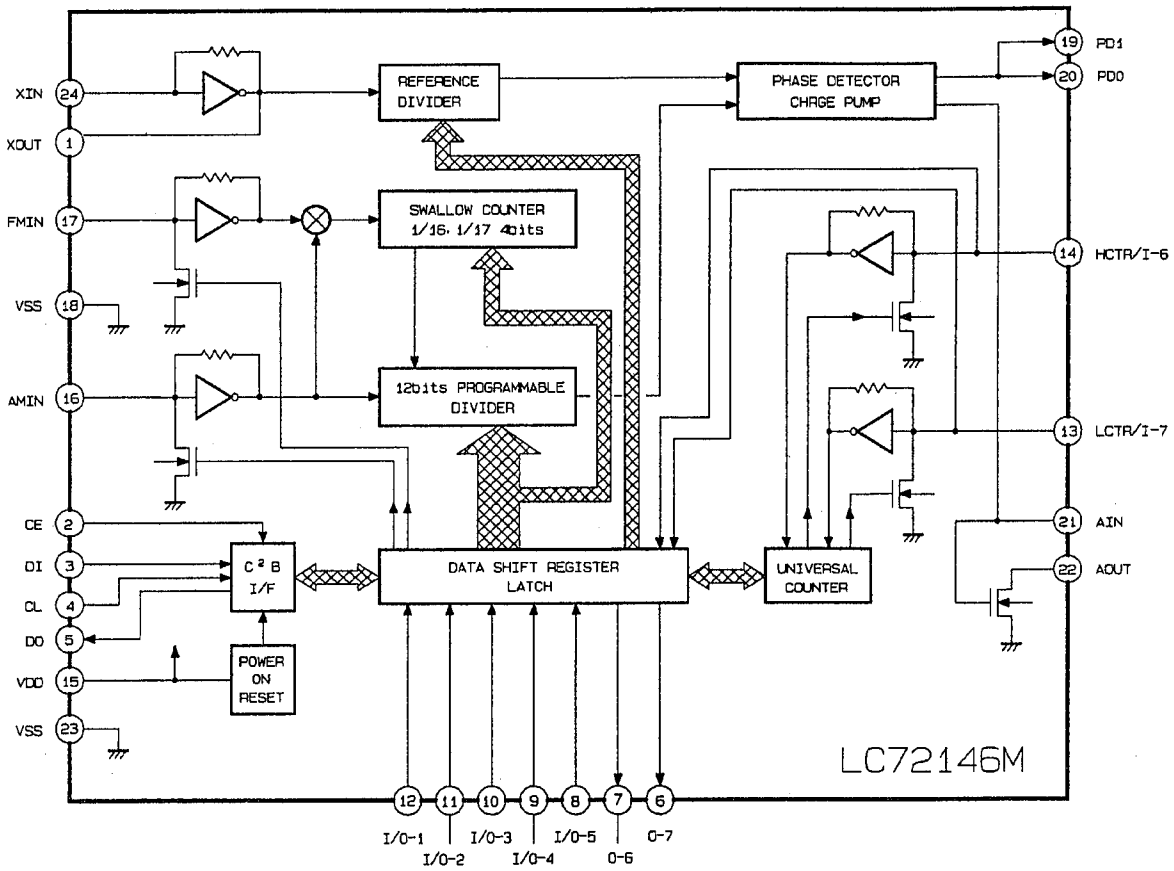


Fig. 4 – 8

■ Signal circuit diagram

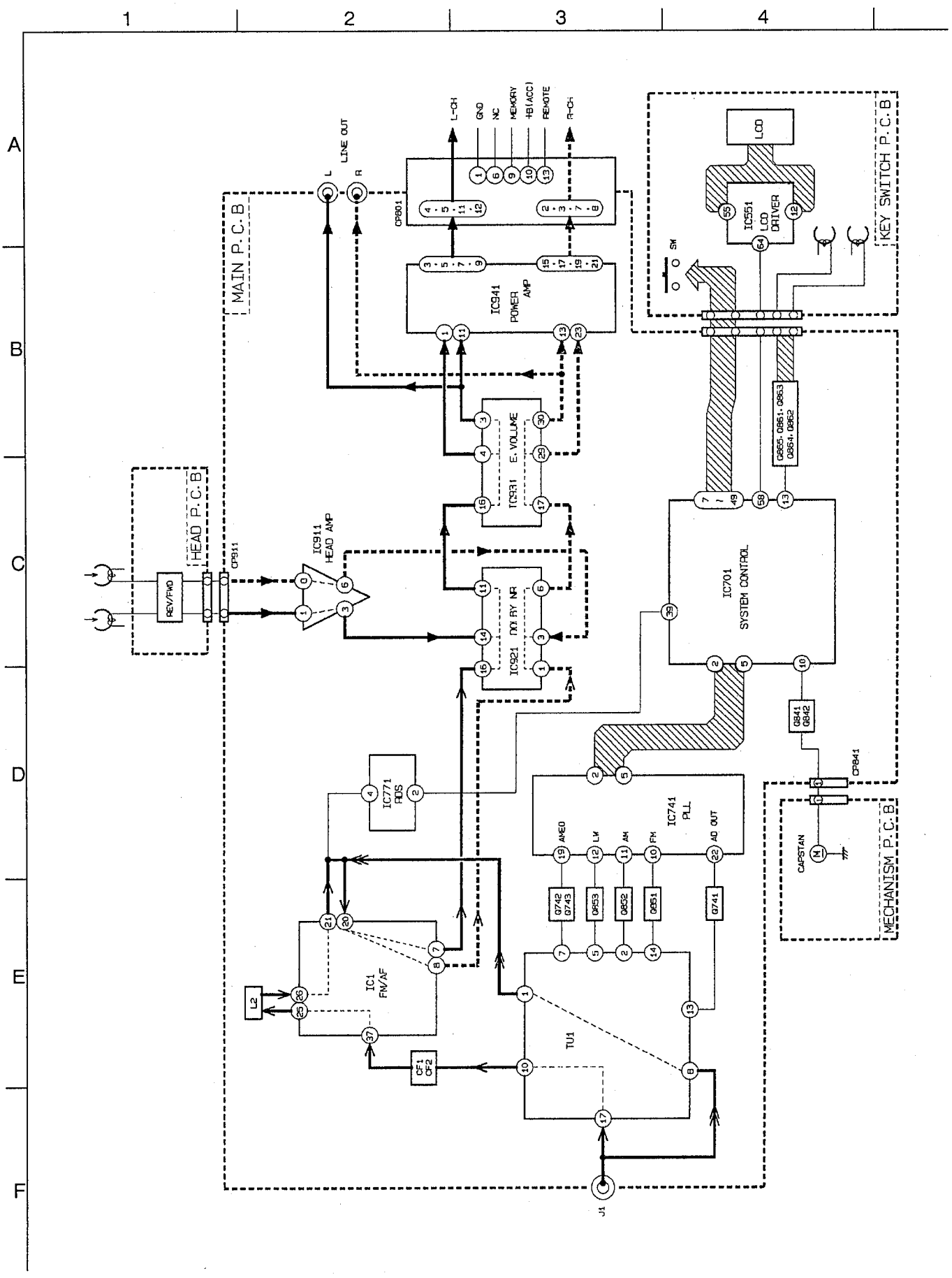


Fig. 4 – 9

5 Standard Schematic Diagram

■ Control circuit

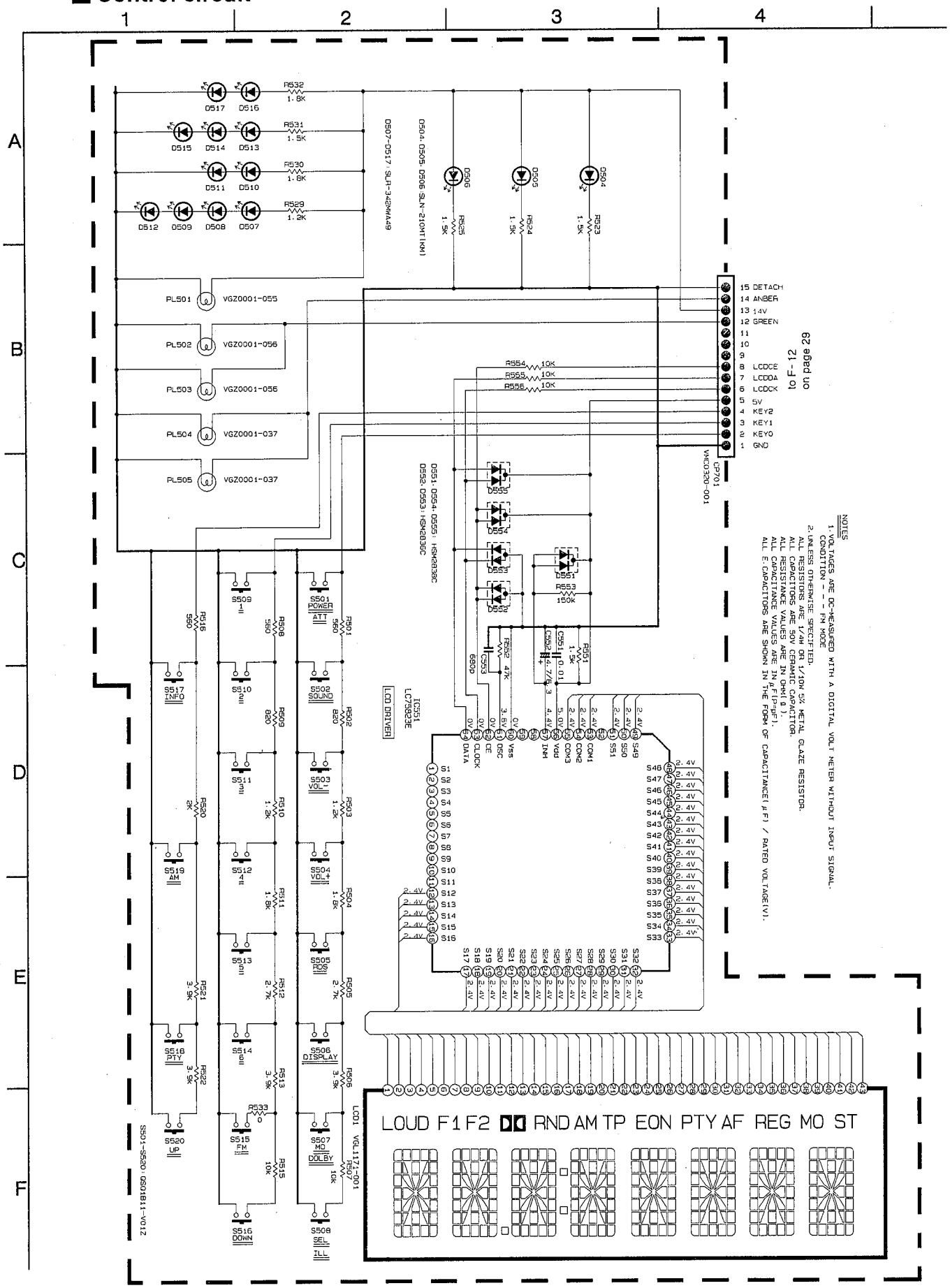
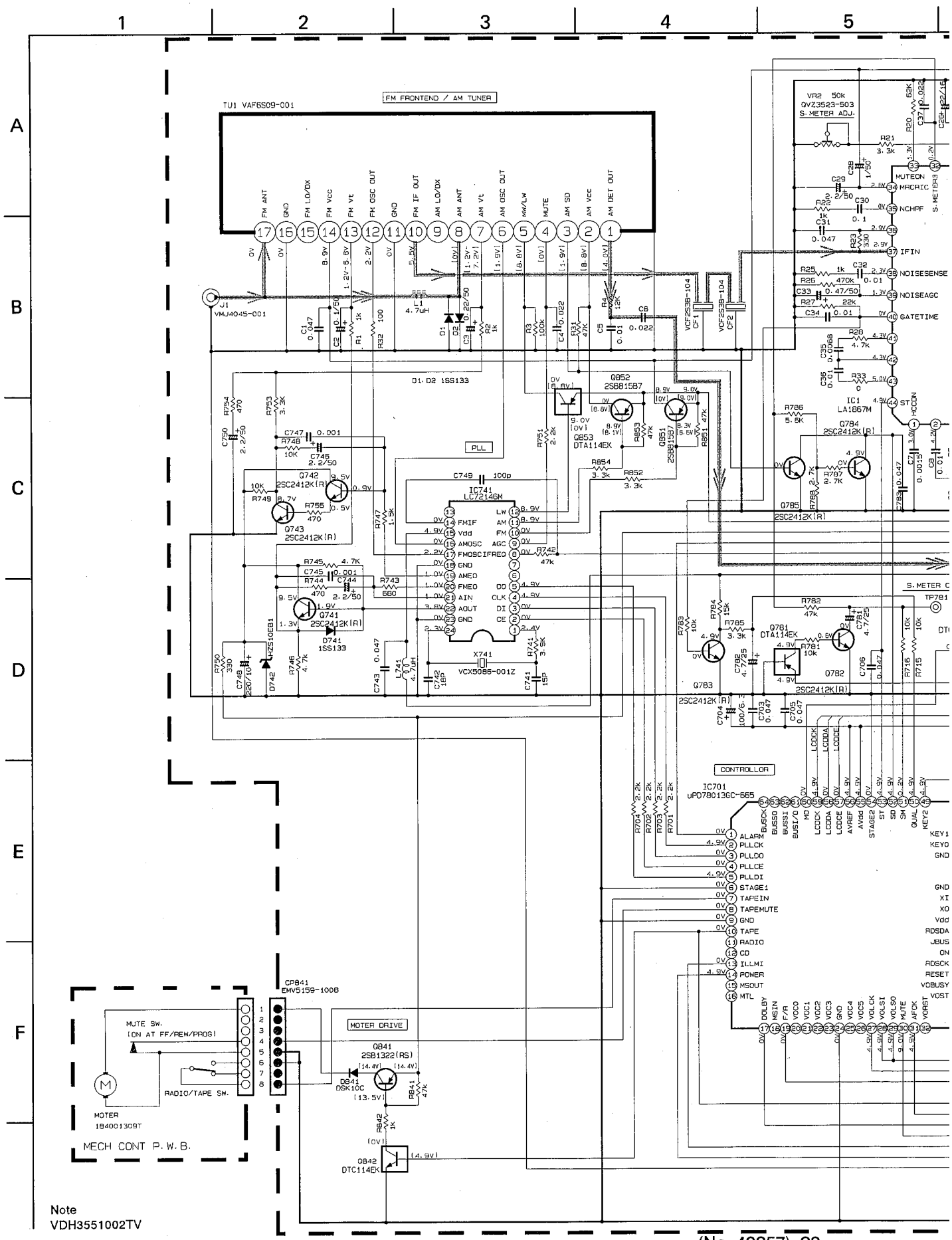
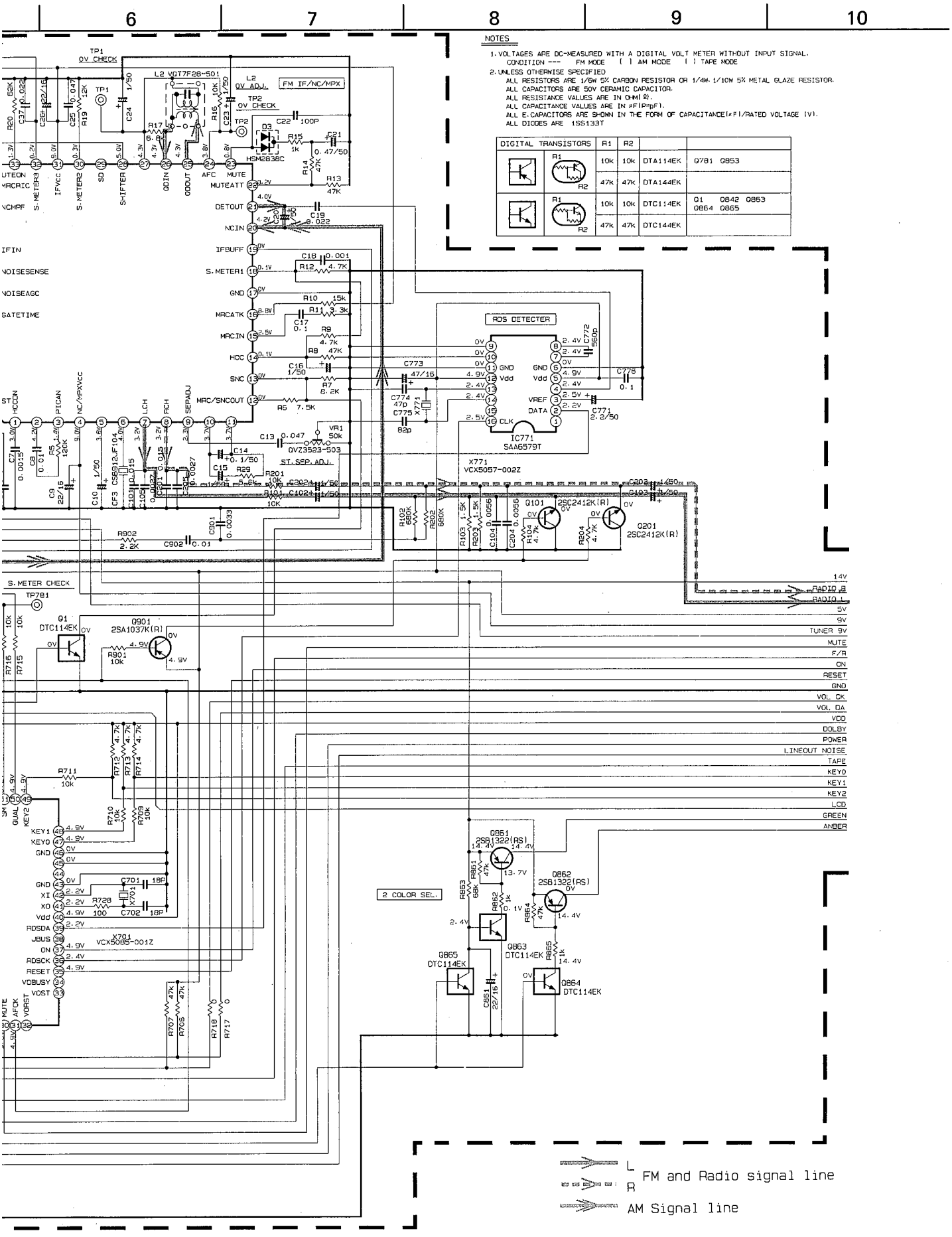


Fig. 5 – 1

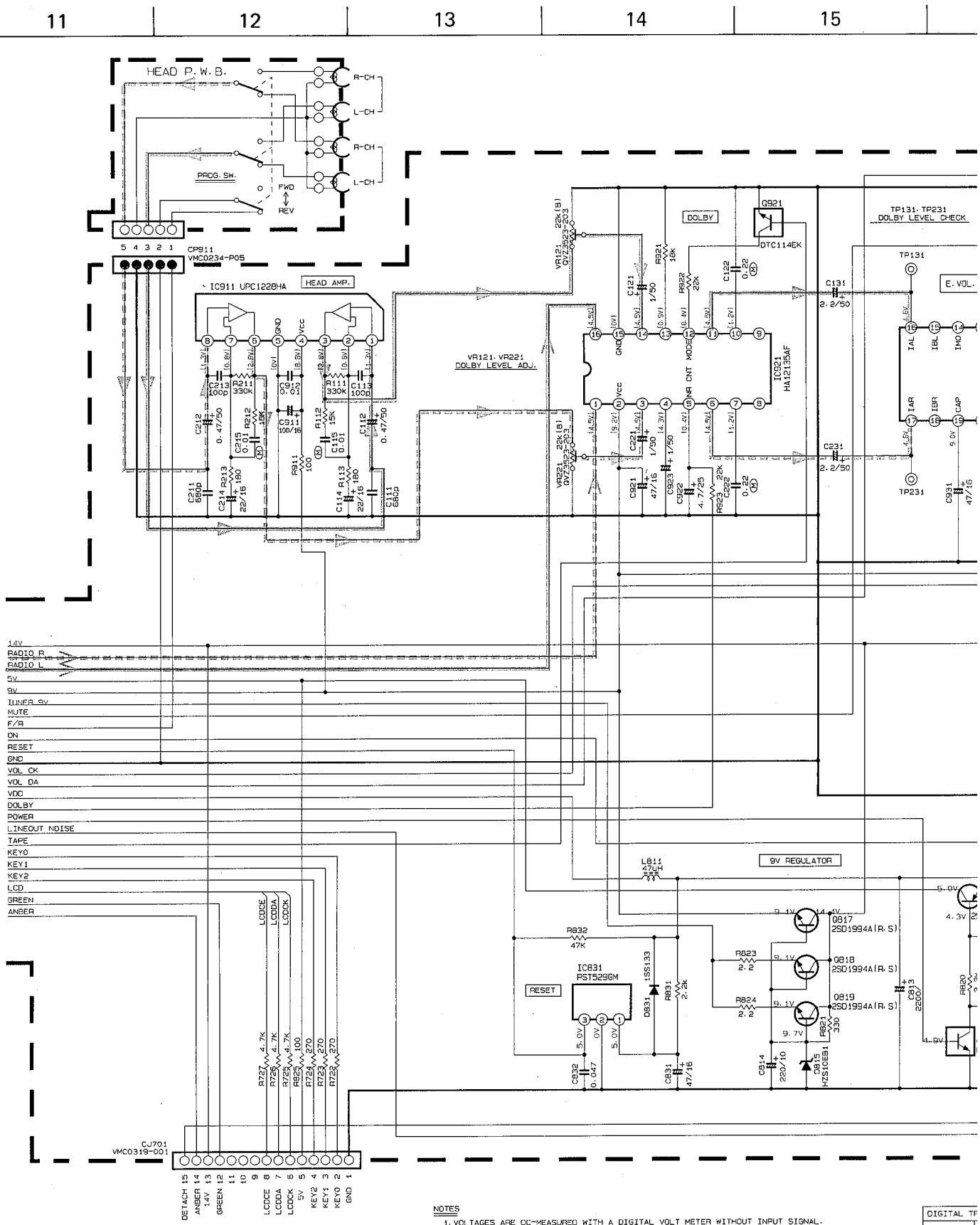
■ Tuner/microprocessor circuit



Note
VDH3551002TV


6
7
8
9
10
NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
CONDITION --- FM MODE [ ] AM MODE [ ] TAPE MODE
2. UNLESS OTHERWISE SPECIFIED
ALL RESISTORS ARE 1/6W 5% CARBON RESISTOR OR 1/4W. 1/10W 5% METAL GLAZE RESISTOR.
ALL CAPACITORS ARE 50V CERAMIC CAPACITOR.
ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITANCE VALUES ARE IN μF(P=pF).
ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).
ALL DIODES ARE 1SS133T
DIGITAL TRANSISTORS
R1 10k 10k DTA114EK Q781 Q853
R2 47k 47k DTA144EK
R1 10k 10k DTC114EK Q1 Q842 Q863 Q864 Q865
R2 47k 47k DTC144EK
TP1 0V CHECK
L2 VDT7F28-501
L2 0V ADJ.
FM IF/NC/MPX
TP2 0V CHECK
D3 HSM2838C
IC771 SAA6579T
RDS DETECTER
X771 VCX5057-002Z
ST.SEP.ADJ.
VR1 50k 0VZ3523-503
S.METER CHECK
TP781
Q1 DTC114EK
Q901 2SA1037K(R)
X701 VCX5085-001Z
2 COLOR SEL.
Q851 2SB1322(RS)
Q862 2SB1322(RS)
Q863 DTC114EK
Q865 DTC114EK
Q864 DTC114EK
Q101 2SC2412K(R)
Q201 2SC2412K(R)
14V
RADIO R
RADIO L
5V
9V
TUNER 9V
MUTE
F/R
ON
RESET
GND
VOL CK
VOL DA
VDD
DOLBY
POWER
LINEOUT NOISE
TAPE
KEY0
KEY1
KEY2
LCD
GREEN
AMBER
L
R
FM and Radio signal line
AM Signal line

■ Amplifier circuit



to B-4
on page 27(Fig 5-1)

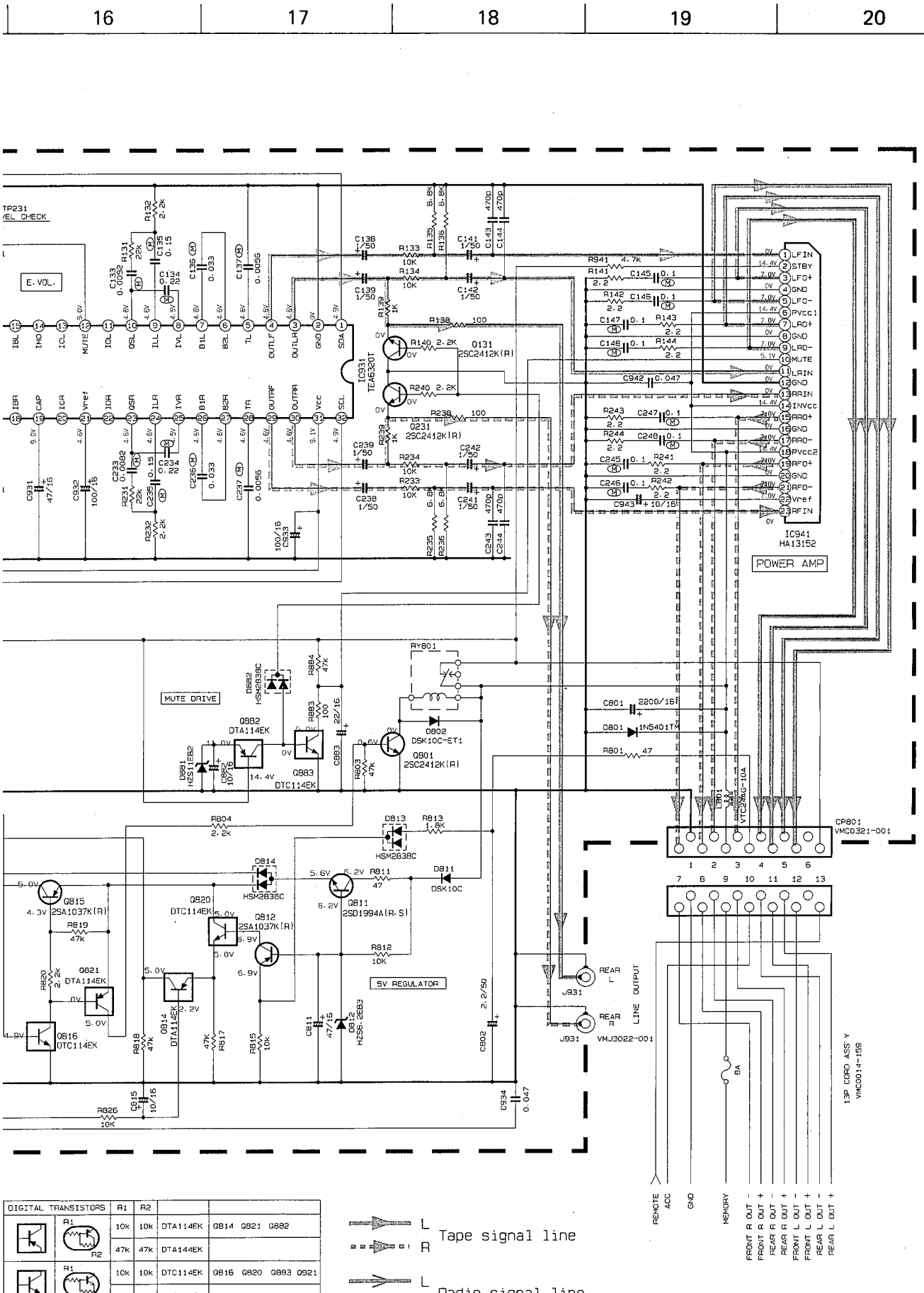
NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
   CONDITION - - - FM MODE, ( )TAPE MODE
2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTORS ARE 1/6W 5% CARBON RSISTOR OR 1/4W. 1/10W 5% METAL GLAZE RESISTOR.
   ALL CAPACITORS ARE 50V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF) / RATED VOLTAGE(V).
   ALL DIODES ARE 1SS133T

Ⓜ - - - MYLAR CAPACITOR

DIGITAL TP

Note
VDH3551002AV



DIGITAL TRANSISTORS	R1	R2		
R1 R2	10k	10k	DTA114EK	Q814 Q821 Q882
	47k	47k	DTA144EK	
R1 R2	10k	10k	DTC114EK	Q816 Q820 Q883 Q921
	47k	47k	DTC144EK	

■ Tuner pack circuit

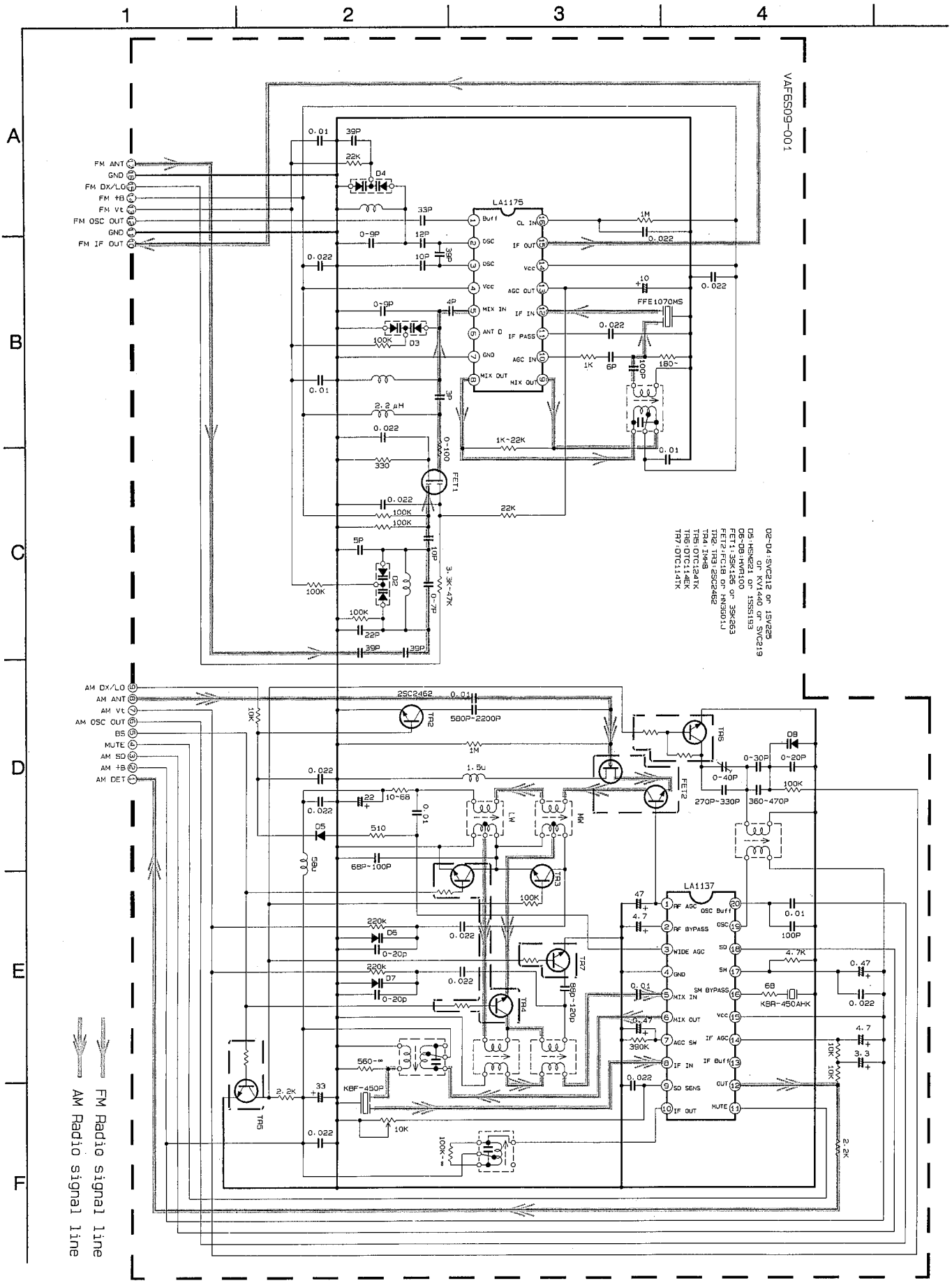


Fig. 5 – 4

6 Location of main p.c.board parts and parts list

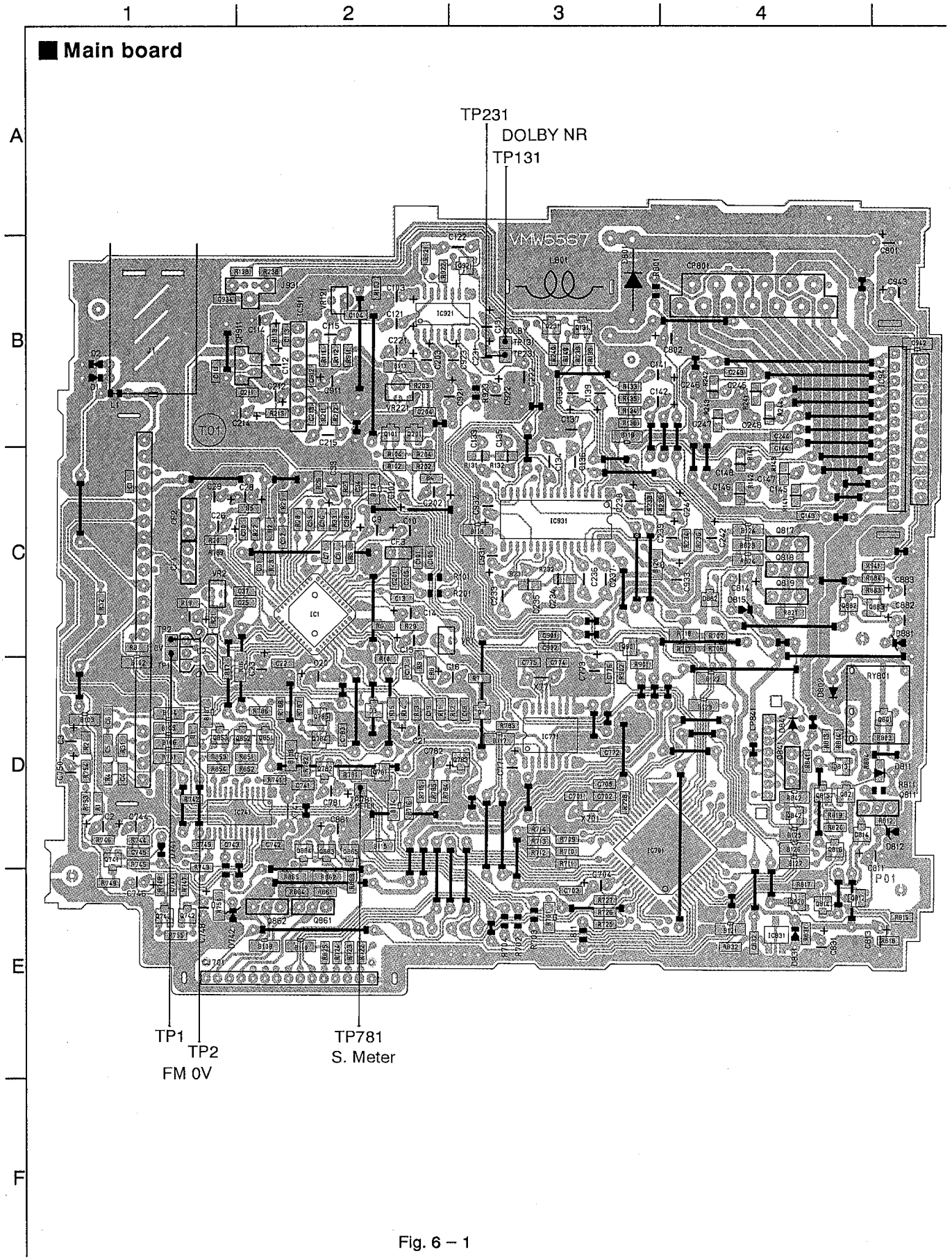


Fig. 6 – 1

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	B 1	NRSA02J-ORONY	MG RESISTOR	5% 1/10W	
	B 2	NRSA02J-ORONY	MG RESISTOR	5% 1/10W	
	B 3	NRSA02J-ORONY	MG RESISTOR	5% 1/10W	
	B 4	NRSA02J-ORONY	MG RESISTOR	5% 1/10W	
	B 5	NRSA02J-ORONY	MG RESISTOR	5% 1/10W	
	B 102	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 103	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 104	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 105	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 106	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 107	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 108	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 109	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 110	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 111	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 112	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 114	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 115	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 117	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 118	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 119	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 120	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 121	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 122	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 123	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 124	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 125	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 126	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	B 127	NRS181J-ORONY	MG RESISTOR	5% 1/8W	
	C 1	NCB21HK-473AY	C CAPACITOR	.047MF 10% 50V	
	C 2	QERF1HM-104ZN	E.CAPACITOR	.10MF 20% 50V	
	C 3	QERF1HM-224ZN	E.CAPACITOR	.22MF 20% 50V	
	C 4	NCB21HK-223AY	C CAPACITOR	.022MF 10% 50V	
	C 5	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 6	NCB21HK-223AY	C CAPACITOR	.022MF 10% 50V	
	C 7	NCB21HK-152AY	C CAPACITOR	1500PF 10% 50V	
	C 8	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 9	QER41CM-226VM	E.CAPACITOR	22MF 20% 16V	
	C 10	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 13	NCB21HK-473AY	C CAPACITOR	.047MF 10% 50V	
	C 14	QERF1HM-104ZN	E.CAPACITOR	.10MF 20% 50V	
	C 15	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 16	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 17	NCB21HK-104	C CAPACITOR	.10MF 10% 50V	
	C 18	NCB21HK-102AY	C CAPACITOR	1000PF 10% 50V	
	C 19	NCB21HK-223AY	C CAPACITOR	.022MF 10% 50V	
	C 20	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 21	QERF1HM-474ZM	E.CAPACITOR	.47MF 20% 50V	
	C 22	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 23	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 24	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 25	NCB21HK-473AY	C CAPACITOR	.047MF 10% 50V	
	C 26	QER41CM-226VM	E.CAPACITOR	22MF 20% 16V	
	C 28	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 29	QER41HM-225	E.CAPACITOR	2.2MF 20% 50V	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 30	NCB21HK-104	C CAPACITOR	.10MF 10% 50V	
	C 31	NCB21HK-473AY	C CAPACITOR	.047MF 10% 50V	
	C 32	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 33	QERF1HM-474ZM	E.CAPACITOR	.47MF 20% 50V	
	C 34	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 35	NCB21HK-682AY	C CAPACITOR	6800PF 10% 50V	
	C 36	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 37	NCB21HK-223AY	C CAPACITOR	.022MF 10% 50V	
	C 101	NCB21HK-153AY	C CAPACITOR	.015MF 10% 50V	
	C 102	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 103	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 104	NCB21HK-562AY	C CAPACITOR	5600PF 10% 50V	
	C 105	NCB21HK-272AY	C CAPACITOR	2700PF 10% 50V	
	C 111	NCS21HJ-681AY	C CAPACITOR	680PF 5% 50V	
	C 112	QERF1HM-474ZM	E.CAPACITOR	.47MF 20% 50V	
	C 113	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 114	QER41CM-226VM	E.CAPACITOR	22MF 20% 16V	
	C 115	QFV71HJ-103	FILM CAPACITOR	.010MF 5% 50V	
	C 121	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 122	QFV41HJ-224	FILM CAPACITOR	.22MF 5% 50V	
	C 131	QER41HM-225	E.CAPACITOR	2.2MF 20% 50V	
	C 133	QFLA1HJ-822ZM	M.CAPACITOR	8200PF 5% 50V	
	C 134	QFV41HJ-224	FILM CAPACITOR	.22MF 5% 50V	
	C 135	QFV11HJ-154AZM	FILM CAPACITOR	.15MF 5% 50V	
	C 136	QFV41HJ-333	FILM CAPACITOR	.033MF 5% 50V	
	C 137	QFLA1HJ-562ZM	M.CAPACITOR	5600PF 5% 50V	
	C 138	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 139	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 141	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 142	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 143	NCS21HJ-471AY	C CAPACITOR	470PF 5% 50V	
	C 144	NCS21HJ-471AY	C CAPACITOR	470PF 5% 50V	
	C 145	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	C 146	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	C 147	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	C 148	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	C 201	NCB21HK-153AY	C CAPACITOR	.015MF 10% 50V	
	C 202	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 203	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 204	NCB21HK-562AY	C CAPACITOR	5600PF 10% 50V	
	C 205	NCB21HK-272AY	C CAPACITOR	2700PF 10% 50V	
	C 211	NCS21HJ-681AY	C CAPACITOR	680PF 5% 50V	
	C 212	QERF1HM-474ZM	E.CAPACITOR	.47MF 20% 50V	
	C 213	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 214	QER41CM-226VM	E.CAPACITOR	22MF 20% 16V	
	C 215	QFV71HJ-103	FILM CAPACITOR	.010MF 5% 50V	
	C 221	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 222	QFV41HJ-224	FILM CAPACITOR	.22MF 5% 50V	
	C 231	QER41HM-225	E.CAPACITOR	2.2MF 20% 50V	
	C 233	QFLA1HJ-822ZM	M.CAPACITOR	8200PF 5% 50V	
	C 234	QFV41HJ-224	FILM CAPACITOR	.22MF 5% 50V	
	C 235	QFV11HJ-154AZM	FILM CAPACITOR	.15MF 5% 50V	
	C 236	QFV41HJ-333	FILM CAPACITOR	.033MF 5% 50V	
	C 237	QFLA1HJ-562ZM	M.CAPACITOR	5600PF 5% 50V	
	C 238	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 239	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 241	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 242	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 243	NCS21HJ-471AY	C CAPACITOR	470PF 5% 50V	
	C 244	NCS21HJ-471AY	C CAPACITOR	470PF 5% 50V	
	C 245	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	C 246	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	C 247	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	C 248	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	C 701	NCT21CH-180AY	C CAPACITOR	18PF +50:-10% 16V	
	C 702	NCT21CH-180AY	C CAPACITOR	18PF +50:-10% 16V	
	C 703	NCB21HK-473AY	C CAPACITOR	.047MF 10% 50V	
	C 704	QER40JM-107	E.CAPACITOR	100MF 20% 6.3V	
	C 705	NCB21HK-473AY	C CAPACITOR	.047MF 10% 50V	
	C 706	NCB21HK-473AY	C CAPACITOR	.047MF 10% 50V	
	C 741	NCT21CH-150AY	C CAPACITOR	15PF +50:-10% 16V	
	C 742	NCT21CH-180AY	C CAPACITOR	18PF +50:-10% 16V	
	C 743	NCB21HK-473AY	C CAPACITOR	.047MF 10% 50V	
	C 744	QER41HM-225	E.CAPACITOR	2.2MF 20% 50V	
	C 745	NCB21HK-102AY	C CAPACITOR	1000PF 10% 50V	
	C 746	QER41HM-225	E.CAPACITOR	2.2MF 20% 50V	
	C 747	NCB21HK-102AY	C CAPACITOR	1000PF 10% 50V	
	C 748	QERF1AM-227ZM	E.CAPACITOR	220MF 20% 10V	
	C 749	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 750	QER41HM-225	E.CAPACITOR	2.2MF 20% 50V	
	C 771	QER41HM-225	E.CAPACITOR	2.2MF 20% 50V	
	C 772	NCS21HJ-561AY	C CAPACITOR	560PF 5% 50V	
	C 773	QER41CM-476M	E.CAPACITOR	47MF 20% 16V	
	C 774	NCT21CH-470AY	C CAPACITOR	47PF +50:-10% 16V	
	C 775	NCT21CH-820AY	C CAPACITOR	82PF +50:-10% 16V	
	C 776	NCB21HK-104	C CAPACITOR	.10MF 10% 50V	
	C 781	QER41EM-475VM	E.CAPACITOR	4.7MF 20% 25V	
	C 782	QER41EM-475VM	E.CAPACITOR	4.7MF 20% 25V	
	C 783	NCB21HK-473AY	C CAPACITOR	.047MF 10% 50V	
	C 801	QETB1CM-228N	E.CAPACITOR	2200MF 20% 16V	
	C 802	QER41HM-225	E.CAPACITOR	2.2MF 20% 50V	
	C 811	QER41CM-476M	E.CAPACITOR	47MF 20% 16V	
	C 813	VCE040J-228Z	E.CAPACITOR		
	C 814	QERF1AM-227ZM	E.CAPACITOR	220MF 20% 10V	
	C 815	QER41CM-106	E.CAPACITOR	10MF 20% 16V	
	C 831	QER41CM-476M	E.CAPACITOR	47MF 20% 16V	
	C 832	NCB21HK-473AY	C CAPACITOR	.047MF 10% 50V	
	C 861	QER41CM-226VM	E.CAPACITOR	22MF 20% 16V	
	C 882	QER41CM-106	E.CAPACITOR	10MF 20% 16V	
	C 883	QER41CM-226VM	E.CAPACITOR	22MF 20% 16V	
	C 901	NCB21HK-332AY	C CAPACITOR	3300PF 10% 50V	
	C 902	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 911	QERF1CM-107ZM	E.CAPACITOR	100MF 20% 16V	
	C 912	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 921	QER41CM-476M	E.CAPACITOR	47MF 20% 16V	
	C 922	QER41EM-475VM	E.CAPACITOR	4.7MF 20% 25V	
	C 923	QER41HM-105VM	E.CAPACITOR	1.0MF 20% 50V	
	C 931	QER41CM-476M	E.CAPACITOR	47MF 20% 16V	
	C 932	QERF1CM-107ZM	E.CAPACITOR	100MF 20% 16V	
	C 933	QERF1CM-107ZM	E.CAPACITOR	100MF 20% 16V	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 934	NCB21HK-473AY	C CAPACITOR	.047MF 10% 50V	
	C 942	QCY81EK-473Y	C.CAPACITOR	.047MF 10% 25V	
	C 943	QER41CM-106	E.CAPACITOR	10MF 20% 16V	
	CF 1	VCF2S3B-104Z	C FILTER		
	CF 2	VCF2S3B-104Z	C FILTER		
	CF 3	CSB912JF104	CERA ROCK		
	CJ701	VMC0319-001	CONNECTOR		
	CP801	VMC0321-001	13PIN CONN		
	CP841	EMV5159-1008	CONNECTOR		
	CP911	VMC0234-P05	CONNECTOR		
	D 1	1SS133	SI DIODE		
	D 2	1SS133	SI DIODE		
	D 3	HSM2838C	DIODE		
	D 741	1SS133	SI DIODE		
	D 742	HZS10EB1	ZENER DIODE		
	D 801	1N5401TM	SI DIODE		
	D 802	DSK10C-E	DIODE		
	D 811	DSK10C-E	DIODE		
	D 812	HZS6.2EB3	ZENER DIODE		
	D 813	HSM2838C	DIODE		
	D 814	HSM2836C	DIODE		
	D 815	HZS10EB1	ZENER DIODE		
	D 831	1SS133	SI DIODE		
	D 841	DSK10C-E	DIODE		
	D 881	HZS11EB2	ZENER DIODE		
	D 882	HSM2838C	DIODE		
	IC 1	LA1867M	IC		
	IC701	UPD78013GC-665	IC		B/E/G/GE
	IC701	UPD78013GC-680	IC		GI
	IC741	LC72146MHS-TRM	IC		
	IC771	SAA6579T	IC		
	IC831	PST529GM-T	IC		
	IC911	UPC1228HA	IC		
	IC921	HA12135AFT	IC		
	IC931	TEA6320T	IC		
	IC941	HA13152	IC		
	J 1	VMJ4045-001	ANT.SOCKET		
	J 931	VMJ3022-001	PIN JACK		
	L 1	VQP0018-4R7	INDUCTOR		
	L 2	VQT7F28-501	IFT		
	L 741	VQP0018-4R7	INDUCTOR		
	L 801	VTC24AG-10A	CHOKE COIL		
	L 811	VQP0018-470	INDUCTOR		
	Q 1	DTC114EK	TRANSISTOR		
	Q 101	2SC2412KK1	TRANSISTOR		
	Q 131	2SC2412KK1	TRANSISTOR		
	Q 201	2SC2412KK1	TRANSISTOR		
	Q 231	2SC2412KK1	TRANSISTOR		
	Q 741	2SC2412KK1	TRANSISTOR		
	Q 742	2SC2412KK1	TRANSISTOR		
	Q 743	2SC2412KK1	TRANSISTOR		
	Q 781	DTA114EK	TRANSISTOR		
	Q 782	2SC2412KK1	TRANSISTOR		
	Q 783	2SC2412KK1	TRANSISTOR		
	Q 784	2SC2412KK1	TRANSISTOR		
	Q 785	2SC2412KK1	TRANSISTOR		

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	Q 801	2SC2412KK1	TRANSISTOR		
	Q 811	2SD1994A(R,S)TA	TRANSISTOR		
	Q 812	2SA1037K(R)	TRANSISTOR		
	Q 814	DTA114EK	TRANSISTOR		
	Q 815	2SA1037K(R)	TRANSISTOR		
	Q 816	DTC114EK	TRANSISTOR		
	Q 817	2SD1994A(R,S)TA	TRANSISTOR		
	Q 818	2SD1994A(R,S)TA	TRANSISTOR		
	Q 819	2SD1994A(R,S)TA	TRANSISTOR		
	Q 820	DTC114EK	TRANSISTOR		
	Q 821	DTA114EK	TRANSISTOR		
	Q 841	2SB1322(RS)	TRANSISTOR		
	Q 842	DTC114EK	TRANSISTOR		
	Q 851	2SB815B7-T-HL	TRANSISTOR		
	Q 852	2SB815B7-T-HL	TRANSISTOR		
	Q 853	DTA114EK	TRANSISTOR		
	Q 861	2SB1322(RS)	TRANSISTOR		
	Q 862	2SB1322(RS)	TRANSISTOR		
	Q 863	DTC114EK	TRANSISTOR		
	Q 864	DTC114EK	TRANSISTOR		
	Q 865	DTC114EK	TRANSISTOR		
	Q 882	DTA114EK	TRANSISTOR		
	Q 883	DTC114EK	TRANSISTOR		
	Q 901	2SA1037K(R)	TRANSISTOR		
	Q 921	DTC114EK	TRANSISTOR		
	R 1	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 2	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 3	NRSA02J-104NY	MG RESISTOR	100K 5% 1/10W	
	R 4	NRSA02J-123NY	MG RESISTOR	12K 5% 1/10W	
	R 5	NRSA02J-124NY	MG RESISTOR	120K 5% 1/10W	
	R 6	NRSA02J-752NY	MG RESISTOR	7.5K 5% 1/10W	
	R 7	NRSA02J-822NY	MG RESISTOR	8.2K 5% 1/10W	
	R 8	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 9	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 10	NRSA02J-153NY	MG RESISTOR	15K 5% 1/10W	
	R 11	NRSA02J-332NY	MG RESISTOR	3.3K 5% 1/10W	
	R 12	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 13	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 14	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 15	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 16	NRS181J-103NY	MG RESISTOR	10K 5% 1/8W	
	R 17	NRSA02J-682NY	MG RESISTOR	6.8K 5% 1/10W	
	R 19	NRSA02J-123NY	MG RESISTOR	12K 5% 1/10W	
	R 20	NRSA02J-623NY	MG RESISTOR	62K 5% 1/10W	
	R 21	NRSA02J-332NY	MG RESISTOR	3.3K 5% 1/10W	
	R 22	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 23	NRSA02J-331NY	MG RESISTOR	330 5% 1/10W	
	R 25	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 26	NRSA02J-474NY	MG RESISTOR	470K 5% 1/10W	
	R 27	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 28	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 29	NRSA02J-562NY	MG RESISTOR	5.6K 5% 1/10W	
	R 31	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 32	NRSA02J-101NY	MG RESISTOR	100 5% 1/10W	
	R 33	NRSA02J-ORONY	MG RESISTOR	5% 1/10W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 101	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 102	NRSA02J-684NY	MG RESISTOR	680K 5% 1/10W	
	R 103	NRSA02J-152NY	MG RESISTOR	1.5K 5% 1/10W	
	R 104	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 111	NRSA02J-334NY	MG RESISTOR	330K 5% 1/10W	
	R 112	NRSA02J-153NY	MG RESISTOR	15K 5% 1/10W	
	R 113	NRSA02J-181NY	MG RESISTOR	180 5% 1/10W	
	R 131	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 132	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 133	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 134	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 135	NRSA02J-682NY	MG RESISTOR	6.8K 5% 1/10W	
	R 136	NRSA02J-682NY	MG RESISTOR	6.8K 5% 1/10W	
	R 138	NRSA02J-101NY	MG RESISTOR	100 5% 1/10W	
	R 139	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 140	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 141	NRSA02J-2R2NYM	MG RESISTOR	2.2 5% 1/10W	
	R 142	NRSA02J-2R2NYM	MG RESISTOR	2.2 5% 1/10W	
	R 143	NRSA02J-2R2NYM	MG RESISTOR	2.2 5% 1/10W	
	R 144	NRSA02J-2R2NYM	MG RESISTOR	2.2 5% 1/10W	
	R 201	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 202	NRSA02J-684NY	MG RESISTOR	680K 5% 1/10W	
	R 203	NRSA02J-152NY	MG RESISTOR	1.5K 5% 1/10W	
	R 204	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 211	NRSA02J-334NY	MG RESISTOR	330K 5% 1/10W	
	R 212	NRSA02J-153NY	MG RESISTOR	15K 5% 1/10W	
	R 213	NRSA02J-181NY	MG RESISTOR	180 5% 1/10W	
	R 231	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 232	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 233	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 234	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 235	NRSA02J-682NY	MG RESISTOR	6.8K 5% 1/10W	
	R 236	NRSA02J-682NY	MG RESISTOR	6.8K 5% 1/10W	
	R 238	NRSA02J-101NY	MG RESISTOR	100 5% 1/10W	
	R 239	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 240	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 241	NRSA02J-2R2NYM	MG RESISTOR	2.2 5% 1/10W	
	R 242	NRSA02J-2R2NYM	MG RESISTOR	2.2 5% 1/10W	
	R 243	NRSA02J-2R2NYM	MG RESISTOR	2.2 5% 1/10W	
	R 244	NRSA02J-2R2NYM	MG RESISTOR	2.2 5% 1/10W	
	R 701	NRS181J-222NY	MG RESISTOR	2.2K 5% 1/8W	
	R 702	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 703	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 704	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 706	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 707	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 709	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 710	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 711	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 712	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 713	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 714	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 715	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 716	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 717	NRSA02J-ORONY	MG RESISTOR	5% 1/10W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 718	NRS181J-0RONY	MG RESISTOR	5% 1/8W	
	R 722	NRSA02J-271NY	MG RESISTOR	270 5% 1/10W	
	R 723	NRSA02J-271NY	MG RESISTOR	270 5% 1/10W	
	R 724	NRSA02J-271NY	MG RESISTOR	270 5% 1/10W	
	R 725	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 726	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 727	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 728	NRSA02J-101NY	MG RESISTOR	100 5% 1/10W	
	R 741	NRSA02J-392NY	MG RESISTOR	3.9K 5% 1/10W	
	R 742	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 743	NRSA02J-681NY	MG RESISTOR	680 5% 1/10W	
	R 744	NRSA02J-471NY	MG RESISTOR	470 5% 1/10W	
	R 745	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 746	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 747	NRSA02J-152NY	MG RESISTOR	1.5K 5% 1/10W	
	R 748	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 749	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 750	NRS181J-331NY	MG RESISTOR	330 5% 1/8W	
	R 751	NRS181J-222NY	MG RESISTOR	2.2K 5% 1/8W	
	R 753	NRSA02J-332NY	MG RESISTOR	3.3K 5% 1/10W	
	R 754	NRSA02J-471NY	MG RESISTOR	470 5% 1/10W	
	R 755	NRSA02J-471NY	MG RESISTOR	470 5% 1/10W	
	R 781	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 782	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 783	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 784	NRSA02J-153NY	MG RESISTOR	15K 5% 1/10W	
	R 785	NRSA02J-332NY	MG RESISTOR	3.3K 5% 1/10W	
	R 786	NRSA02J-562NY	MG RESISTOR	5.6K 5% 1/10W	
	R 787	NRSA02J-272NY	MG RESISTOR	2.7K 5% 1/10W	
	R 788	NRSA02J-272NY	MG RESISTOR	2.7K 5% 1/10W	
	R 801	QRD145J-470S	CARBON RESISTOR	47 5% 1/4W	
	R 803	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 804	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 811	QRD145J-470S	CARBON RESISTOR	47 5% 1/4W	
	R 812	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 813	NRSA02J-182NY	MG RESISTOR	1.8K 5% 1/10W	
	R 815	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 817	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 818	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 819	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 820	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 821	NRS181J-331NY	MG RESISTOR	330 5% 1/8W	
	R 823	NRS181J-2R2NY	MG RESISTOR	2.2 5% 1/8W	
	R 824	NRS181J-2R2NY	MG RESISTOR	2.2 5% 1/8W	
	R 825	NRSA02J-101NY	MG RESISTOR	100 5% 1/10W	
	R 826	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 831	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 832	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 841	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 842	NRS181J-102NY	MG RESISTOR	1.0K 5% 1/8W	
	R 851	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 852	NRSA02J-332NY	MG RESISTOR	3.3K 5% 1/10W	
	R 853	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 854	NRSA02J-332NY	MG RESISTOR	3.3K 5% 1/10W	
	R 861	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 862	NRS181J-102NY	MG RESISTOR	1.0K 5% 1/8W	
	R 863	NRSA02J-683NY	MG RESISTOR	68K 5% 1/10W	
	R 864	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 865	NRS181J-102NY	MG RESISTOR	1.0K 5% 1/8W	
	R 883	NRSA02J-101NY	MG RESISTOR	100 5% 1/10W	
	R 884	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 901	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 902	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 911	NRSA02J-101NY	MG RESISTOR	100 5% 1/10W	
	R 921	NRSA02J-183NY	MG RESISTOR	18K 5% 1/10W	
	R 922	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 923	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 941	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	RY801	VSK1D12-121	RELAY		
	TU 1	VAF6S09-001	TUNER PACK		
	VR 1	QVPA601-503A	V.RESISTOR		
	VR 2	QVPA601-503A	V.RESISTOR		
	VR121	QVZ3523-203AZ	V.RESISTOR		
	VR221	QVZ3523-203AZ	V.RESISTOR		
	X 701	VCX5085-001Z	CRYSTAL		
	X 741	VCX5086-001Z	CRYSTAL		
	X 771	VCX5057-001	CRYSTAL		

■ Key switch board

◆ Top side

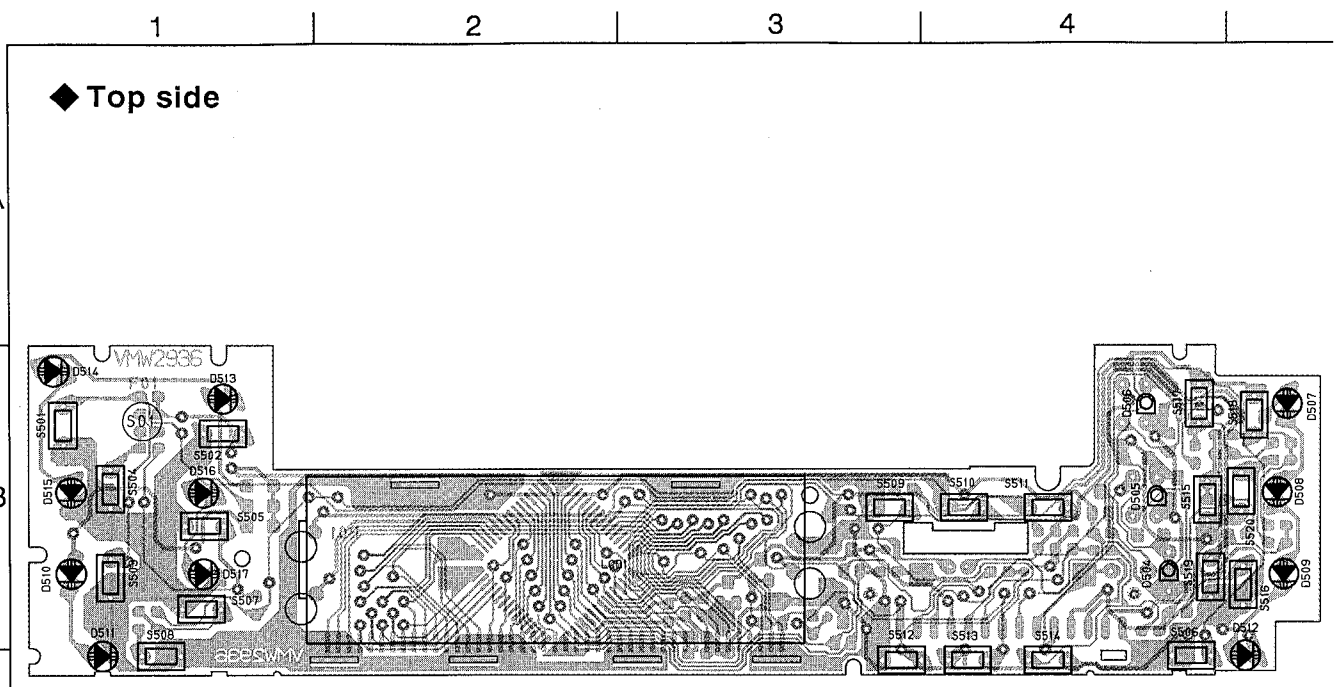


Fig. 6 – 2

◆ Bottom side

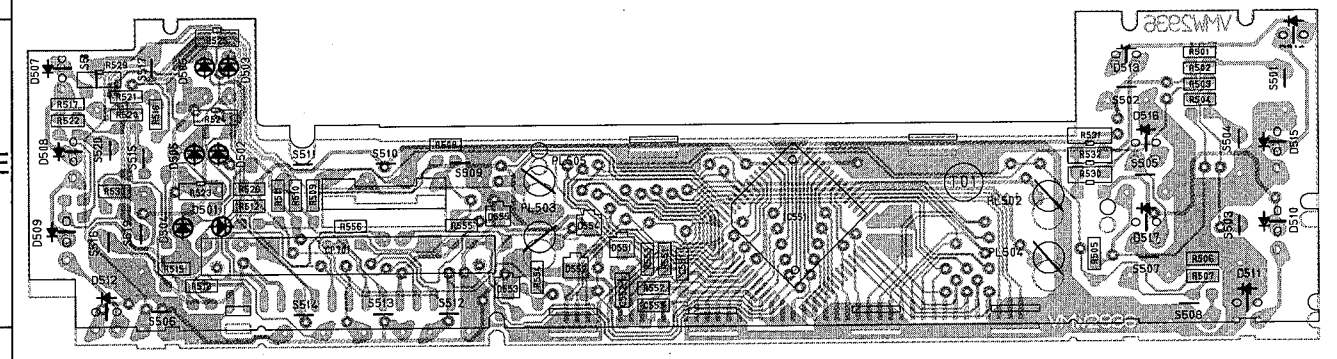


Fig. 6 – 3

● Key switch board parts list

BLOCK NO. 02□□□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 551	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 552	NEF20JM-475RY	TS.E.CAPACITOR	4.7MF 20% 6.3V	
	C 553	NCB21HK-681AY	C CAPACITOR	680PF 10% 50V	
	CP701	VMC0320-001	CONNECTOR		
	D 504	SLN-210MTT12KM	LED		
	D 505	SLN-210MTT12KM	LED		
	D 506	SLN-210MTT12KM	LED		
	D 507	SLR-342MWA49	LED		
	D 508	SLR-342MWA49	LED		
	D 509	SLR-342MWA49	LED		
	D 510	SLR-342MWA49	LED		
	D 511	SLR-342MWA49	LED		
	D 512	SLR-342MWA49	LED		
	D 513	SLR-342MWA49	LED		
	D 514	SLR-342MWA49	LED		
	D 515	SLR-342MWA49	LED		
	D 516	SLR-342MWA49	LED		
	D 517	SLR-342MWA49	LED		
	D 551	HSM2838C	DIODE		
	D 552	HSM2836C	DIODE		
	D 553	HSM2836C	DIODE		
	D 554	HSM2838C	DIODE		
	D 555	HSM2838C	DIODE		
	IC551	LC75823E	IC		
	LCD 1	VGL1171-001	LCD		
	PL501	VGZ0001-055	LAMP		
	PL502	VGZ0001-056	LAMP		
	PL503	VGZ0001-056	LAMP		
	PL504	VGZ0001-037	LAMP		
	PL505	VGZ0001-037	LAMP		
	R 501	NRSA02J-561NY	MG RESISTOR	560 5% 1/10W	
	R 502	NRSA02J-821NY	MG RESISTOR	820 5% 1/10W	
	R 503	NRSA02J-122NY	MG RESISTOR	1.2K 5% 1/10W	
	R 504	NRSA02J-182NY	MG RESISTOR	1.8K 5% 1/10W	
	R 505	NRSA02J-272NY	MG RESISTOR	2.7K 5% 1/10W	
	R 506	NRSA02J-392NY	MG RESISTOR	3.9K 5% 1/10W	
	R 507	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 508	NRSA02J-561NY	MG RESISTOR	560 5% 1/10W	
	R 509	NRSA02J-821NY	MG RESISTOR	820 5% 1/10W	
	R 510	NRSA02J-122NY	MG RESISTOR	1.2K 5% 1/10W	
	R 511	NRSA02J-182NY	MG RESISTOR	1.8K 5% 1/10W	
	R 512	NRSA02J-272NY	MG RESISTOR	2.7K 5% 1/10W	
	R 513	NRSA02J-392NY	MG RESISTOR	3.9K 5% 1/10W	
	R 515	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 516	NRSA02J-561NY	MG RESISTOR	560 5% 1/10W	
	R 520	NRSA02J-202NY	CARBON RESISTOR	2.0K 5% 1/10W	
	R 521	NRSA02J-392NY	MG RESISTOR	3.9K 5% 1/10W	
	R 522	NRSA02J-392NY	MG RESISTOR	3.9K 5% 1/10W	
	R 523	NRS181J-152NY	MG RESISTOR	1.5K 5% 1/8W	
	R 524	NRS181J-152NY	MG RESISTOR	1.5K 5% 1/8W	
	R 525	NRS181J-152NY	MG RESISTOR	1.5K 5% 1/8W	
	R 529	NRS181J-122NY	MG RESISTOR	1.2K 5% 1/8W	
	R 530	NRS181J-182NY	MG RESISTOR	1.8K 5% 1/8W	
	R 531	NRS181J-152NY	MG RESISTOR	1.5K 5% 1/8W	
	R 532	NRS181J-182NY	MG RESISTOR	1.8K 5% 1/8W	

● Key switch board parts list

BLOCK NO. 02□□□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 533	NRSA02J-ORONY	MG RESISTOR	5% 1/10W	
	R 551	NRSA02J-152NY	MG RESISTOR	1.5K 5% 1/10W	
	R 552	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 553	NRSA02J-154NY	MG RESISTOR	150K 5% 1/10W	
	R 554	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 555	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 556	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	S 501	QSP1A11-V15	TACT SWITCH		
	S 502	QSP1A11-V15	TACT SWITCH		
	S 503	QSP1A11-V15	TACT SWITCH		
	S 504	QSP1A11-V15	TACT SWITCH		
	S 505	QSP1A11-V15	TACT SWITCH		
	S 506	QSP1A11-V15	TACT SWITCH		
	S 507	QSP1A11-V15	TACT SWITCH		
	S 508	QSP1A11-V15	TACT SWITCH		
	S 509	QSP1A11-V15	TACT SWITCH		
	S 510	QSP1A11-V15	TACT SWITCH		
	S 511	QSP1A11-V15	TACT SWITCH		
	S 512	QSP1A11-V15	TACT SWITCH		
	S 513	QSP1A11-V15	TACT SWITCH		
	S 514	QSP1A11-V15	TACT SWITCH		
	S 515	QSP1A11-V15	TACT SWITCH		
	S 516	QSP1A11-V15	TACT SWITCH		
	S 517	QSP1A11-V15	TACT SWITCH		
	S 518	QSP1A11-V15	TACT SWITCH		
	S 519	QSP1A11-V15	TACT SWITCH		
	S 520	QSP1A11-V15	TACT SWITCH		

7 Exploded view of enclosure parts and parts list

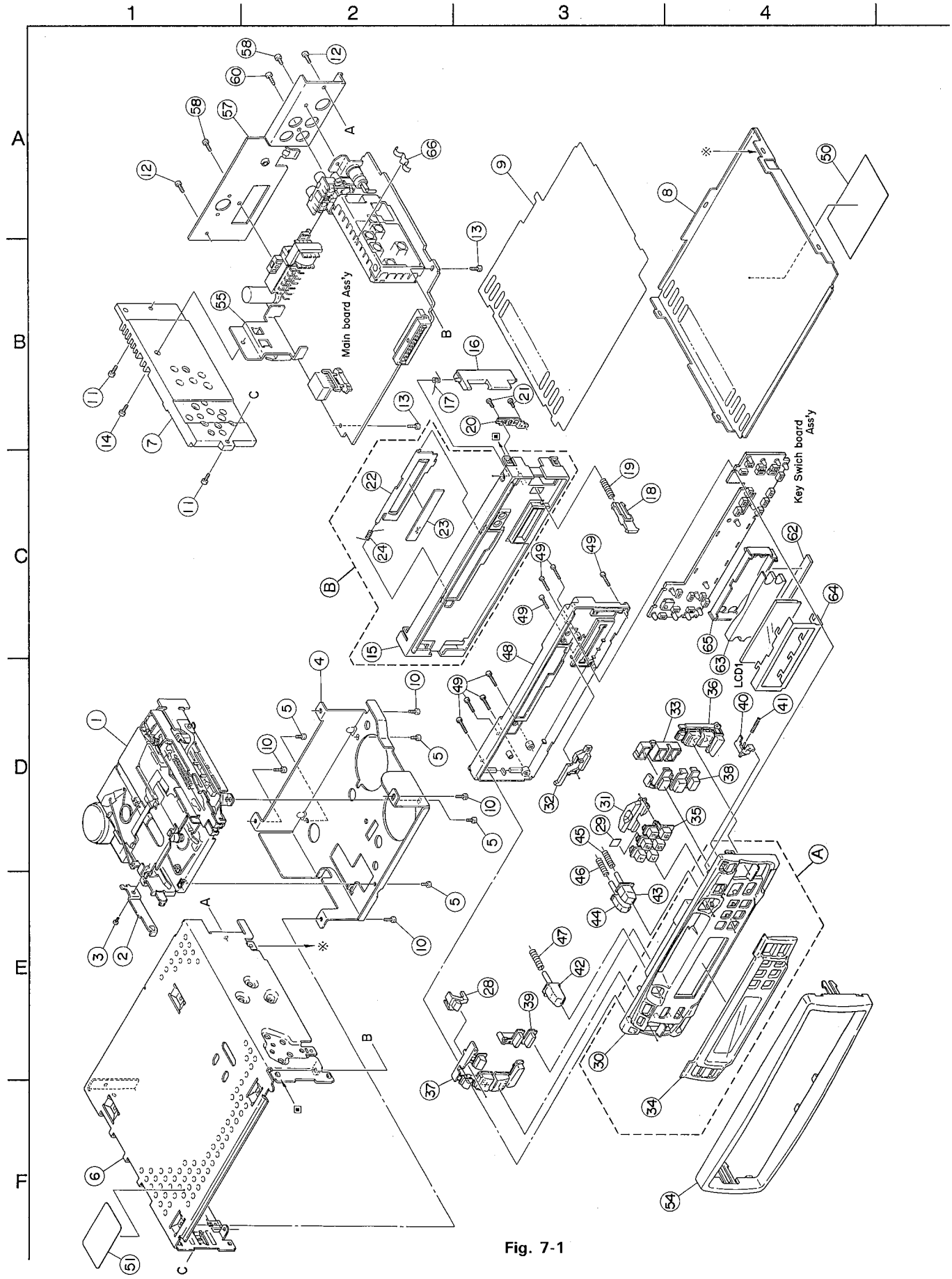


Fig. 7-1

● Enclosure component parts list

BLOCK NO. M1MM[ ][ ][ ]

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A	ZCKSRT606RK-NPA		NO.30,NO.34	1		
	B	ZCKSRT606RK-FB	FRONT CHASSIS	NO.15,NO.22-24	1		
	1	----------	RT606R MECHA	2CH HEAD MECHA	1		
	2	VKL7226-003	EJECT LEVER		1		
	3	SPSK2625Z	MINI SCREW	EJECT LEVER	1		
	4	FSKM2002-001	MECHA BKT		1		
	5	VKZ4333-002	SPECIAL SCREW	MECHA BRACKET	4		
	6	FSJC1014-001	CHASSIS		1		
	7	FSKL3004-001	SIDE PANEL		1		
	8	FSKM3004-001	BOTTOM COVER		1		
	9	FSMA3001-001	INSULATOR		1		
	10	SDST2604Z	SCREW	MECHA BRACKET	4		
	11	SDST2608Z	SCREW	SIDE PANEL	2		
	12	SDST2606Z	SCREW	REAR BRACKET	2		
	13	SDST2606Z	SCREW	MAIN BOARD	2		
	14	SDST2608Z	SCREW	SIDE PANEL+IC B	1		
	15	VJC2534-001	FRONT CHASSIS		1		
	16	FSKS3002-001	LOCK LEVER		1		
	17	FSKW4005-003	TORSION SPRING	LOCK LEVER	1		
	18	FSXP3018-001	RLS KNOB		1		
	19	VKW3001-320	COMP.SPRING	RLS BUTTON	1		
	20	FSKL4008-001	HOLD PLATE		1		
	21	SPSN1745N	MINI SCREW	HOLDER PLATE	2		
	22	VJC4145-002SS	CASSETTE LID		1		
	23	FSJC4001-002	LID PLATE		1		
	24	VKW4947-003	DOOR SPRING		1		
	28	VJK4438-002	REMOCON LENS		1		
	29	VYTT666-001	SEAL	FOR PRESET 2	1		
	30	VJG1321-003	FRONT PANEL		1		
	31	FSJK3001-002	LIGHT LENS		1		
	32	FSJK3002-001	LENS		1		
	33	FSYH3010-002	LED HOLDER		1		
	34	VJK2197-005	FINDER		1		
	35	VXP2099-001	PRESET BUTTON	1/2/3/4/5/B	1		
	36	VXP1005-001	UP/DOWN BUTTON		1		
	37	VXP1006-001	+/- BUTTON		1		
	38	VXP2100-004	D.FUNC BUTTON	INFO/AM/FM	1		
	39	FSXP3019-002	PUSH BUTTON	RDS/MONO	1		
	40	FSXP3020-001	DETACH BUTTON		1		
	41	VKW3001-321	COMP. SPRING	DETACH BUTTON	1		
	42	FSXP3021-002	EJECT BUTTON		1		
	43	FSXP3022-002	FF BUTTON		1		
	44	FSXP3023-002	REW BUTTON		1		
	45	VKW3001-323	COMP. SPRING	FF BUTTON	1		
	46	VKW3001-323	COMP. SPRING	REW BUTTON	1		
	47	VKW3001-323	COMP. SPRING	EJECT BUTTON	1		
	48	VJG1322-001	REAR COVER		1		
	49	SPSN1780N	MINI SCREW	FRONT+REAR	8		
	50	VYN3551-S002SA	NAME PLATE		1	B,E,G,GE	
		VYN3551-S003SA	NAME PLATE		1	GI	
	51	VND4391-001	CAUTION LABEL		1		
	54	FSJD2004-003	TRIM PLATE		1		
	55	FSKL4007-001	IC BRACKET		1		
	57	FSKM3003-001	REAR BRACKET		1		
	58	LPSP2606Z	SCREW	13PIN CONNECTOR	2		
	60	SDSF2608Z	SCREW	PIN JACK	1		
	62	VMZ0124-001E	LCD CONNECTOR		1		
	63	VJK3622-003	LCD LENS		1		
	64	VKM3796-001	LCD CASE		1		
	65	VKS3647-004	LENS CASE		1		
	66	VMA4631-002	SHIELD PLATE		1		

8 Exploded view of mechanism parts and parts liat

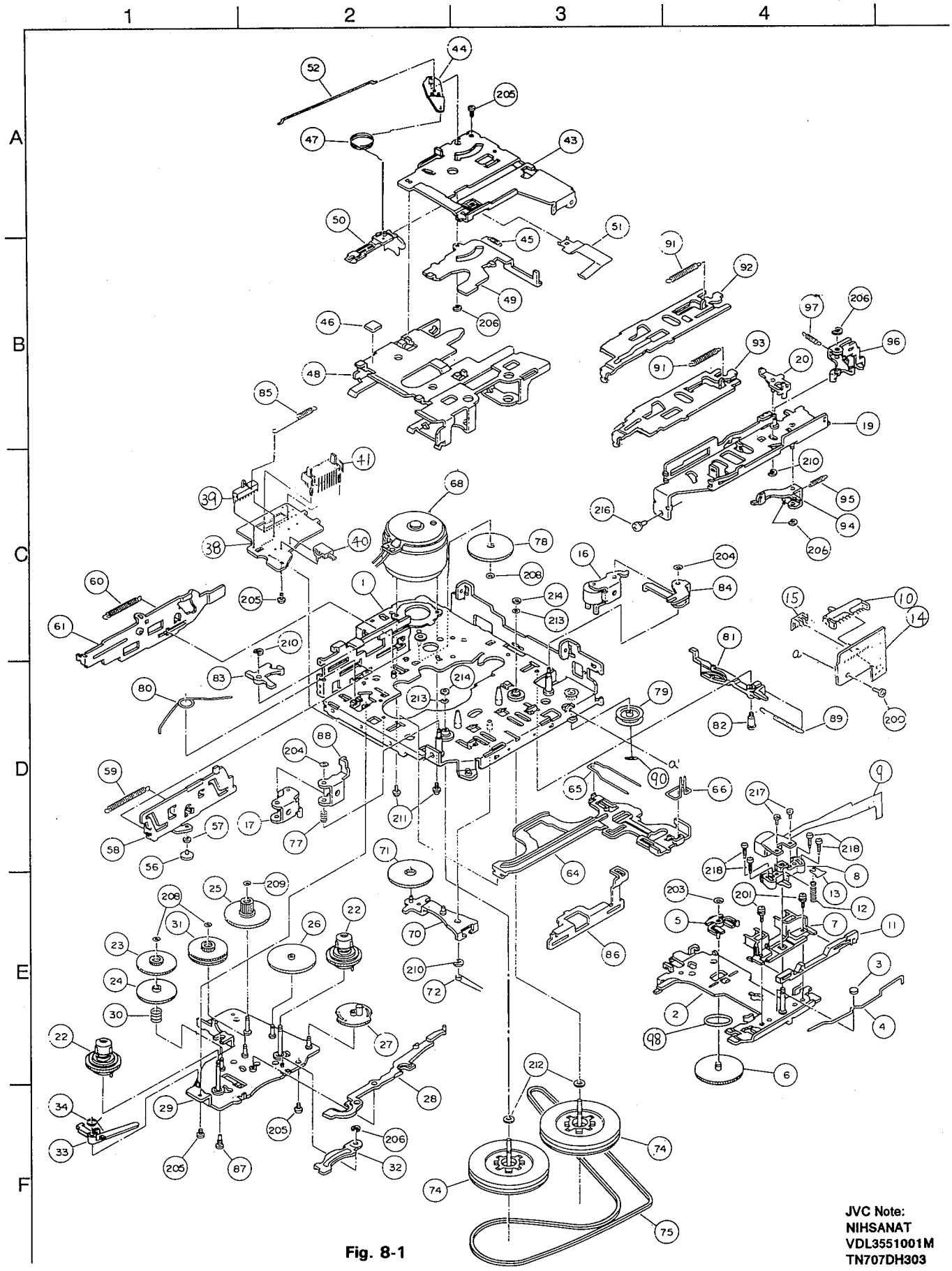


Fig. 8-1

JVC Note:
NIHSANAT
VDL3551001M
TN707DH303

● Mechanism component parts list

BLOCK NO. M2MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	1	194001519T	CHASSIS ASS'Y		1		
	2	194016501T	HEAD PANEL ASY		1		
	3	19400303T	SP ROLLER		1		
	4	19400304T	P.R.SPRING		1		
	5	19400305T	P.GEAR METAL		1		
	6	19400306T	P.GEAR		1		
	7	19400312T	TAPE GUIDE U		1		
	8	19400327T	HEAD HOLDER B		1		
	9	62010390T	HEAD	P-7742BB-0572	1		
	10	64020207T	SLIDE SWITCH	SSSSA3002A	1		
	11	19400328T	SHIFT PLATE B		1		
	12	19400315T	H.G SPRING		1		
	13	9F2635010T	FASTEN WASHER		1		
	14	19400746T	H.SUBSTRATE J		1		
	15	68170214T	SOCKET		1		
	16	194004301T	P.ROLL.ARM(F)AS		1		
	17	194004302T	P.ROLL.ARM(R)AS		1		
	19	194005503T	F.R.BKT(M)ASS'Y		1		
	20	194005504T	SEESAW P(M)ASY		1		
	22	194006302T	T.REEL ASS'Y		2		
	23	19400612T	P.GEAR (R)		1		
	24	19400613T	F.GEAR (R)		1		
	25	19400615T	P.D.GEAR		1		
	26	19400616T	E.D.GEAR		1		
	27	19400617AT	REVERSE GEAR(M)		1		
	28	19400648T	E.D.PLATE B		1		
	29	194002501T	M.G.P.SEMI-ASY.		1		
	30	19400635T	TN SPRING		1		
	31	194006312T	P.CLUTCH ASS'Y		1		
	32	194014129T	LIFT UP PLATE		1		
	33	19401464T	ANTI-REV ARM		1		
	34	19401460T	TRI ARM SPRING		1		
	38	19400745T	SW SUBSTRATE		1		
	39	64020206T	SLIDE SWITCH	SSSSA2001A	1		
	40	64020405T	PUSH SWITCH	SPVC11001A	1		
	41	68150227T	RECEPTACLE	TKC-A08X-C1	1		
	43	19400801T	CASE LIFTER		1		
	44	184008503T	P.E PLATE ASS'Y		1		
	45	18400820T	SPRING		1		
	46	18400875T	CUSSHION RUBBER		1		
	47	19400813T	REVERSE SP.C		1		
	48	19401410T	CASSETTE CASE M		1		
	49	19400804T	C.D PLATE B		1		
	50	19400810T	PACK SLIDER		1		
	51	19400806T	PACK PRESS.SP.		1		
	52	18400823T	P.E SPRING		1		
	56	19400901T	H.P.ROLLER(A)		1		
	57	19400902T	H.P.ROLLER(B)		1		
	58	19400903T	C.H.PUSH PLAT.M		1		
	59	19400905T	C.H.SPRING		1		
	60	19400906T	PUSH LEVER SP.		1		
	61	19400907T	PUSH LEVER M		1		
	64	19401001T	MAIN PLATE		1		
	65	19401002T	M.S.SPRING		1		

BLOCK NO. M2MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	66	19401007T	H.S.SPRING		1		
	68	194011310T	MOTOR ASS'Y	MCI-5U3LCKA	1		
	70	194012504T	FR W.PLT.SEM.AS		1		
	71	19401703T	F.GEAR		1		
	72	19401704T	FR SPRING M		1		
	74	194013303T	F.L.CAPS.ASS'Y		2		
	75	19401417T	MAIN BELT		1		
	77	18400437T	P.P SPRING		1		
	78	194014123T	MAIN GEAR M		1		
	79	194014115T	MIDDLE PULLEY		1		
	80	19401403T	HEAD PANEL SP.M		1		
	81	19401405T	TRIGGER ARM(C)		1		
	82	19401406T	COLLAR SCREW(T)		1		
	83	19401408T	H.P.PUSH ARM		1		
	84	19401409T	SEESAW WRK.PLT.		1		
	85	19401412T	POWER SW.SPRING		1		
	86	194014127T	FR SLIDE PLT.M		1		
	87	19401415T	COLLAR SCREW(P)		1		
	88	19401416T	H.P.RETURN ARM		1		
	89	19401407T	T.A.SPING(C)		1		
	90	9W0225010T	P.WASHER CUT		1		
	91	19401589T	FR LEVER SPRING		2		
	92	19401590T	FF LEVER (MH)		1		
	93	19401591T	REW LEVER(MH)		1		
	94	19401503T	P.C.PLATE		1		
	95	19401504T	P.C.SPRING		1		
	96	19401505T	ROCK PLATE (M)		1		
	97	19401506T	ROCK PLATE SP.M		1		
	98	9W0540020T	HL WASHER	10 X 14 X 0.4	1		
	200	9P1220051T	S TAPPING SCREW	M2 X 5	1		
	201	9P0220051T	TAMS SCREW	M2 X 5	2		
	203	9W0640070T	HL WASHER CUT	2.1 X 4 X 0.4	1		
	204	9W0630060T	HL WASHER CUT	1.6 X 3.8 X 0.3	2		
	205	9C0420303T	S TAPPING SCREW	FOR CAMERA M2X3	4		
	206	9E0100152T	E RING	S1.5	4		
	208	9W0625030T	HL WASHER CUT	1.2 X 3 X 0.25	3		
	209	9W0630050T	HL WASHER CUT	1.6 X 3.4 X 0.3	1		
	210	9E0100202T	E RING	S2.0	3		
	211	9P0220031T	TAMS SCREW	M2 X 3	2		
	212	9W0513060T	HL WASHER	2.1 X 5 X 0.13	2		
	213	9W0520010T	HL WASHER CUT	1.85 X 3.2 X 0.	2		
	214	9W0650030T	HL WASHER CUT	1.5 X 3.2 X 0.5	2		
	216	9P0226041T	TAMS SCREW	M2.6 X 4	1		
	217	9F2720401T	FIX SCREW	FOR HEAD	2		
	218	9F2220071T	ADJUST SCREW		4		

9 Packing illustration and parts list

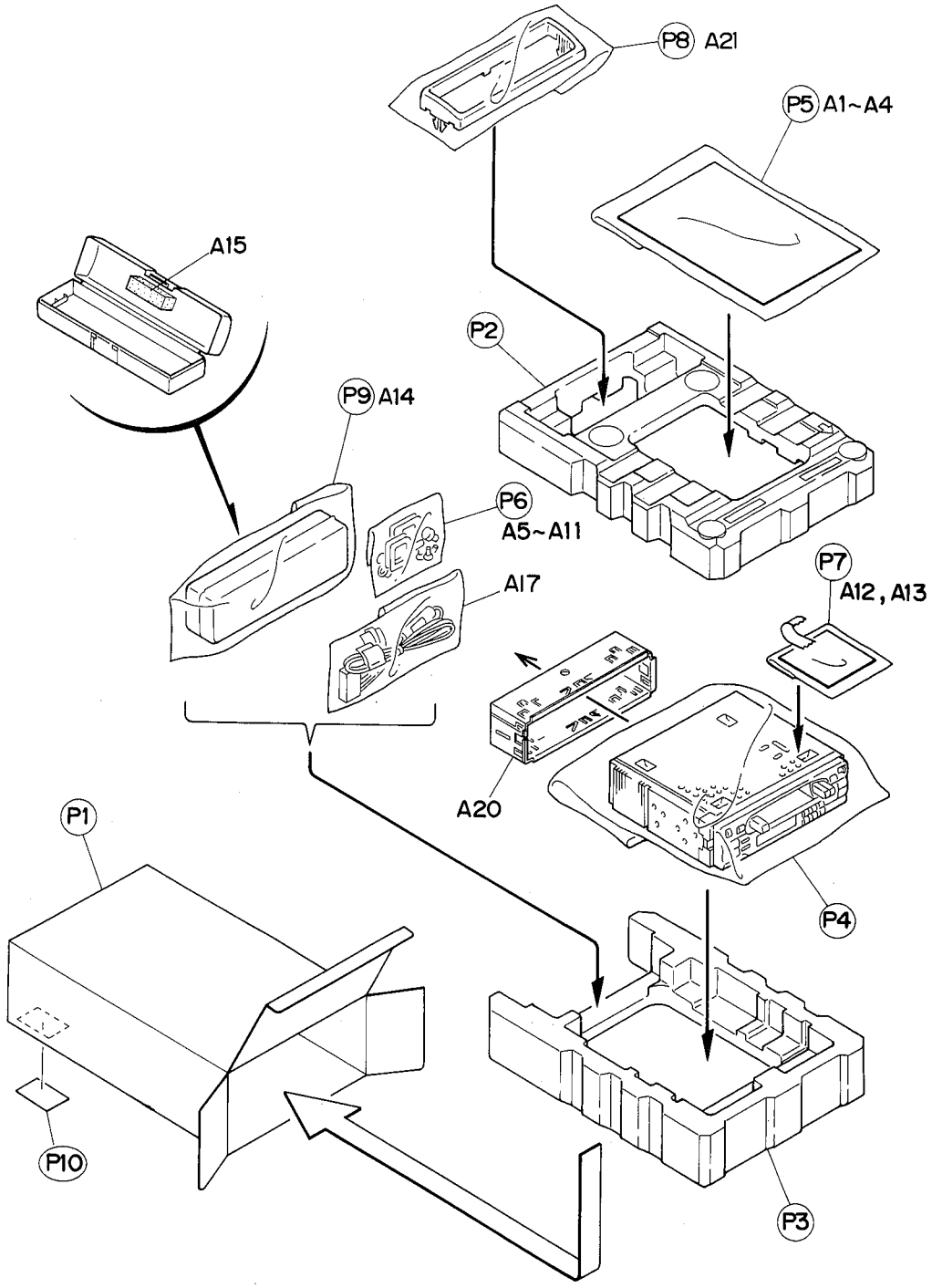


Fig. 9 – 1

● Packing parts list

BLOCK NO. M3MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	P 1	VPC3551-S001	CARTON	PRINTED IN SING	1		
	P 2	FSPH1003-001	CUSHION(TOP)	TOP SIDE	1		
	P 3	FSPH1004-001	CUSHION(BOTTOM)	BOTTOM SIDE	1		
	P 4	VPE3005-066	POLY BAG	SET	1		
	P 5	QPGB017-02404	POLY BAG	FOR INSTRUCTION	1		
	P 6	QPGA008-01205	POLY BAG	SCREW KIT 1	1		
	P 7	QPGA008-01205	POLY BAG	SCREW KIT 2	1		
	P 8	QPGA010-03003	POLY.BAG	FOR TRIM PLATE	1		
	P 9	QPGA010-03003	POLY.BAG	FOR HARD CASE	1		
	P 10	----------	CARTON LABEL		1		

● Accessories

BLOCK NO. M3MM□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A 1	VNN3551-212S	INSTRUCTIONS	PRINTED IN SING	1		
		VNN3551-452S	INSTRUCTIONS		1	E	
		VNN3551-471S	INSTRUCTIONS		1	GI	
		VNN3551-482S	INSTRUCTIONS		1	E	
	A 2	VNC2400-090	CAUTION SHEET		1		
	A 3	BT-20135	WARRANTY CARD		1	G	
		BT-20066A	WARRANTY CARD		1	B	
		BT20060	WARRANTY CARD		1	B	
	A 4	VND3050-001	IDENTITY CARD		1		
	A 5	VKZ4027-002	PLUG NUT		1		
	A 6	VKH4871-001	MOUNT BOLT		1		
	A 7	VKZ4328-001	LOCK NUT	FOR M5	1		
	A 8	WNS5000Z	WASHER		1		
	A 9	VKY3124-001	SIDE SPRING		2		
	A 10	SSSP4006Z	SCREW	FOR SIDE SPRING	4		
	A 11	VKL7233-001	HOOK		2		
	A 12	SPSJ1725M	MINI SCREW		1		
	A 13	VND4619-005	SHEET		1		
	A 14	VJB2014-002	HARD CASE		1		
	A 15	VYSH118-002	SPACER		1		
	A 17	VMC0014-159	13P CORD ASS'Y		1		
	A 20	VKM3819-001	MOUNTING SLEEVE		1		
	A 21	FSJD2004-003	TRIM PLATE		1		
	KIT 1	KSRT80RK-SCREW1	SCREW PARTS KIT	P6.A5-A11	1		
	KIT 2	KSRT75RK-SCREW2	SCREW PARTS KIT	P7.A12-A13	1		

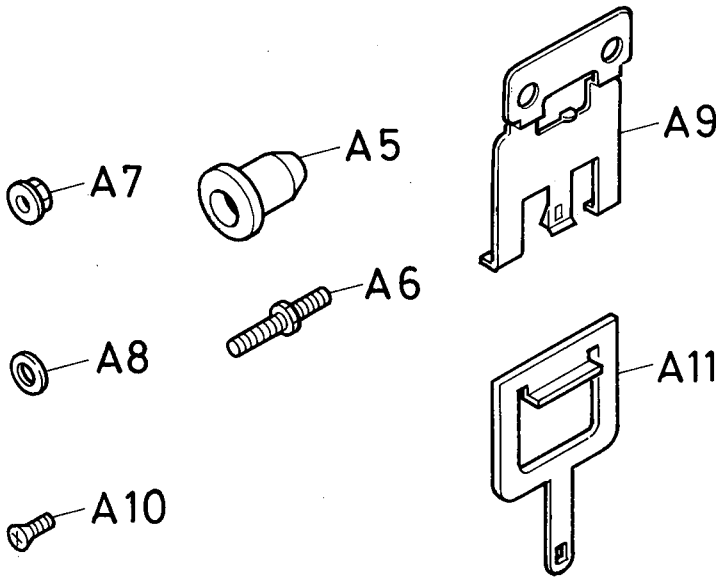


Fig. 9 – 2

JVC

VICTOR COMPANY OF JAPAN, LIMITED
AUDIO PRODUCTS DIVISION 10-1, 1-chome, Ohwatari-machi, Maebashi-city, Japan

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