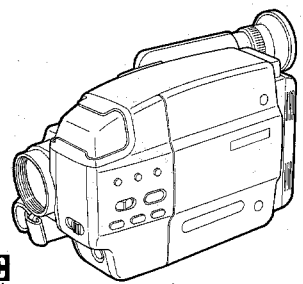
1991

MITSUBISHI

Service Manual

VIDEO CAMERA/RECORDER



MODEL

HS-CX1(A)
HS-CX1(B)
HS-CX1(E)
HS-CX4(A)
HS-CX4(B)
HS-CX4(E)

VHS C PAL

Only cassettes marked VHS-C can be used with this VIDEO CAMERA/RECORDER.

SPECIFICATION

Tape Format	:	VHS-C 1/2" high-density video cassette tape
Power Source	:	DC 6.0V
Power Consumption	:	Approx. 6.4W[CX4], 5.8W[CX1]
Signal System	:	PAL System
Video Recording System	:	Azimuth helical scanning system
Luminance Color Signal	:	Frequency modulation recording Low frequency conversion sub-carrier phase shift recording
Hi-Fi Audio Recording System	:	Azimuth helical scanning system, Frequency modulation, deep layer recording[CX4 only]
Linear Audio Track	:	1 track
Tape Speed	:	23.39 mm/sec(SP mode) 11.70 mm/sec(LP mode)
Record/Playback Time	:	45 min. with EC-45 cassette (SP mode) 90 min. with EC-45 cassette (LP mode)
Video Output	:	1.0 Vp-p,75 ohm unbalanced AV OUT/EDIT socket
Audio Output	:	–6dBs, 1k ohm unbalanced AV OUT/EDIT socket
Pick Up	:	1/3"-format CCD
Minimum Required Illumination	:	5 lux
Lens	:	F1.8, f6–48mm 8:1 power zoom lens with auto iris control Filter diameter 49 mm
Viewfinder	:	Electronic viewfinder with 0.6"black/white CRT
White Balance Adjustment	:	Full-auto/selectable FIX, INDOOR or OUTDOOR
Operating Temperature	:	0°C ~ +40°C
Operating Humidity	:	30% ~ 80%
Weight	:	Approx. 590g
Dimensions	:	105(W) x 112(H) x 155(D)mm

AC POWER ADAPTER DA-M1(A,B,C)

Power Source	:	AC 110 ~ 240V; 50/60Hz
Power Consumption	:	Approx. 19W
Rated Output Voltage	:	DC 6.0V
Rated Output Current	:	1.8A(VIDEO CAMERA/RECORDER), 1.3A(Battery)
Charging System	:	Constant current, voltage controlled
Dimensions	:	65(W) x 39.5(H) x 138(D)

- Weight and dimensions shown are approximate.
- Design and specifications are subject to change without notice.

MITSUBISHI ELECTRIC

CONTENTS

SAFETY PRECAUTIONS

INTRODUCTION

This manual provides service information for the adjustments of mechanical and electrical operations.
Due to design modifications, the servicing procedures and data given in this manual are subject to possible change without prior notice.

WARNING: Many of the programs broadcast by television stations are protected by copyright and Federal law imposes strict penalties for copyright infringement. Some motion picture companies have taken the position that home recording for noncommercial purposes is an infringement of their copyrights. Until the courts have ruled on the proper interpretation of the law as applied to home video recording, this equipment, if used to record copyrighted material, should be operated at user's own risk.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.
This equipment should be used with DC 6V only.
CAUTION:
To prevent electric shocks and fire hazards, do not use any other power source.
The AC power adapter/battery charger should be used with:
AC120V; 60Hz in the USA and Canada, AC110/220/240V; 50/60Hz in other countries. (NTSC model)
AC110~240V; 50/60Hz. (PAL model)
CAUTION:
To prevent electric shocks and fire hazards, do not use any other power source.

X-RAY RADIATION
The primary source of X-ray radiation in this viewfinder is the picture tube. The tube used in this viewfinder is especially constructed to limit X-ray radiation emission. For continued X-ray radiation protection, the replacement tube must be the same type as the original. Mitsubishi approved one.

SAFETY NOTICE

Before returning VIDEO CAMERA/RECORDER to the customer a safety check of the entire VIDEO CAMERA/RECORDER should be made, The service technician must be sure that no protective device built into the instrument by the manufacturer has become defective or inadvertently damaged during servicing.
Observe all caution and safety related notes located on or inside the VIDEO CAMERA/RECORDER cabinet.
WARNING: Alterations of the design or circuitry of this VIDEO CAMERA/RECORDER should not be made.
Any design alterations or additions, such as circuit modifications, auxiliary speaker jacks, switches, grounding, active or passive circuitry, etc. use of unauthorized AC power adapter/charger, battery, cables, accessories, etc. may alter the safety characteristics of this VIDEO CAMERA/RECORDER and potentially create a hazardous situation for the user.
Any design alterations or unauthorized additions will invalidate the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting from them.
Do not lubricate any motors.
When reassembling the VIDEO CAMERA/RECORDER, always be certain that all the protective devices are put back in place, such as non-metallic control knobs, shield plate, etc.
When service is required, observe the original lead dress. Components that indicate evidence of overheating or other electrical or mechanical damage should be replaced.

LEAKAGE CURRENT CHECK

Before returning the VIDEO CAMERA/RECORDER to the customer, it is recommended the leakage current be measured by the following methods.

1.Cold Check
With the AC plug removed from the AC source, place a jumper across the two AC plug prongs. Turn the AC switch on. Using an ohmmeter, connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part(metal cabinet, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistance reading of 1 megaohm. Any resistance below this value indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

2.Hot Check

The test sequence, with reference to the measuring circuit in Fig. 1 is as follows:

(1) With switch S1 open, the VIDEO CAMERA/RECORDER is to be connected to the measuring circuit. Immediately after connection, the leakage current is measured using both positions of switch S2 and with the switching devices in the VIDEO CAMERA/RECORDER in all of their operating positions.

(2) Switch S1 is then to be closed, energizing the VIDEO CAMERA/RECORDER, and immediately after closing the switch, the leakage current is to be measured using both positions of switch S2, and with the switching devices in the VIDEO CAMERA/RECORDER in all of their operating positions.

Current measurements of items (1) and (2) are to be repeated after the VIDEO CAMERA/RECORDER has reached thermal stabilization.

The leakage current shall not be more than 0.5 milliampere.

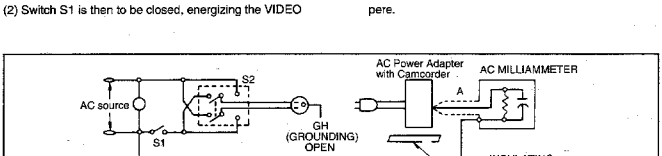


Fig. 1

AC Leakage Test

Avoid shock hazards. Do not connect this VIDEO CAMERA/RECORDER to a TV antenna, cable or accessory that exhibits excessive leakage currents. If available, the television instrument or cable to which this VIDEO CAMERA/RECORDER is connected should have the antenna cold check and the leakage current hot check performed.

PRECAUTIONS

Handling and storage

- Avoid using the VIDEO CAMERA/RECORDER in the following places:
  - extremely hot, cold or humid places,
  - dusty places,
  - near appliances generating strong magnetic fields,
  - places subject to vibration, and
  - poorly ventilated areas.
- Be careful of moisture condensation.
- If you pour a cold liquid into a glass, water vapor in the air will condense on the surface of the glass. This is called moisture condensation.
- Moisture condensation on the head drum, one of the most critical parts of the VIDEO CAMERA /RECORDER, will cause damage to the tape.
- Moisture in the air will condense on the VIDEO CAMERA/RECORDER when you move the unit from a cold place to a warm place, after heating a cold room or under extreme humidity conditions. Avoid using the VIDEO CAMERA/RECORDER under these conditions.
- Handle the VIDEO CAMERA/RECORDER carefully.
- Do not place anything heavy on the VIDEO CAMERA/RECORDER.
- In case of transportation:
  Avoid violent shocks to the VIDEO CAMERA/RECORDER during packing and transportation.
- Before packing, be sure to remove the cassette from the VIDEO CAMERA/RECORDER.

"THIS SYMBOL INDICATES "FAST OPERATING FUSE".

Ce symbole indique un "fusible à fonctionnement rapide".

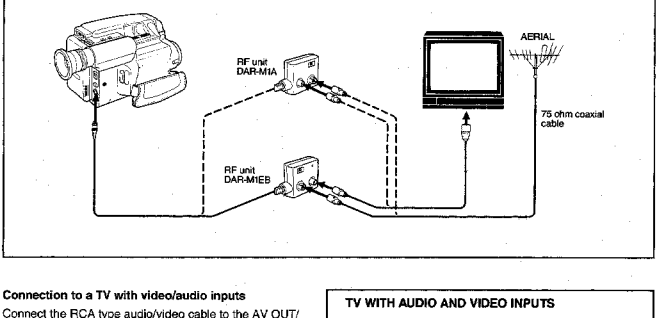
CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 1.6A, 250V FUSE.

ATTENTION: Pour une protection permanente contre un risque d'incendie, ne remplacer qu'avec un fusible de 1.6A, 250V de même type.

CONNECTION

Connection to a TV without audio/video inputs

Disconnect the antenna cable from the back of the TV. Connect antenna cable to the RF IN terminal on the RF unit. If an antenna cable other than 75 ohm coaxial cable is to be use, install the matching transformer (300 ohm →75 ohm).
Connect one end of the coaxial cable to the RF OUT terminal on the RF unit.
Connect the other end of the coaxial cable to the ANTENNA IN terminal of the TV set. If no 75 ohm terminal is abailable on the TV set, a VHF/UHF splitter must be used.
Connect the RF unit cable to the AV OUT/EDIT terminal on the VIDEO CAMERA/RECORDER.



Connection to a TV with video/audio inputs

Connect the RCA type audio/video cable to the AV OUT/ EDIT terminal on the VIDEO CAMERA/RECORDER. To do this, align the plug so that the arrow faces up and gently press it into place.
Connect the other side of the cable to the TV.

HS-CX1

AUDIO	:	To AUDIO IN terminal
VIDEO	:	To VIDEO IN terminal
EDIT	:	Do not connect

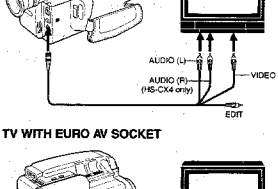
HS-CX4

AUDIO(L)	:	To AUDIO(L) IN terminal
AUDIO(R)	:	To AUDIO(R) IN terminal
VIDEO	:	To VIDEO IN terminal
EDIT	:	Do not connect

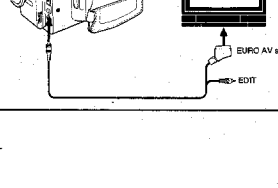
Connection to a TV with EURO AV socket

Connect the EURO AV cable to the AV OUT/EDIT terminal on the VIDEO CAMERA/RECORDER. To do this, align the plug so that the arrow faces up and gently press it into place.
Connect the other side of the cable to the EURO AV terminal on the TV.

TV WITH AUDIO AND VIDEO INPUTS



TV WITH EURO AV SOCKET



DISASSEMBLY

Note : All illustrations used in "Disassembly" are for HS-CX4.
Warning : Detach the FPC cable according to procedures indicated in this manual, or do not touch the exposed terminal of the connector directly because they can cause malfunction. Open the connector for FPC cable in the order shown by the arrows in Fig. 1 to remove the connector. (To connect the FPC cable reverse procedures of this disassembly.)
Note : FPC connectors, VE, PD, VD, VG, VS, JS, JT must be performed arrow ① in Fig. 1 only.

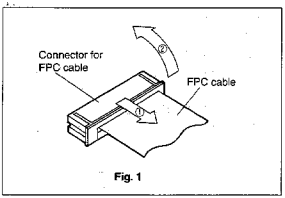


Fig. 1

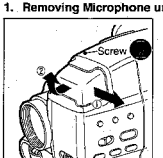
1. Case (Outer) Disassembling Procedure

Order	1 (possible in no order of these items)				2
Article name	Cassette housing	Microphone unit	Zoom switch	Tripod base	Case unit (L)
Symbol of removed No.	●	●	●	④	⑤
Screw & Terminal to be removed	Screws-2pcs.	Screw-1pc. Terminal-MN	Screw-1pc. Terminal-ZA	Screws-3pcs.	Screws-8pcs. Terminals-JS, JT

Order	3	4	5
Article name	Front panel unit	Case unit (R)	Chassis assembly & Camera assembly
Symbol of removed No.	⑥	●	⑧
Screw & Terminal to be removed	Screws-2pcs.	Screws-2pcs. Terminal-RP	Screws-2pcs. Terminals-CA, SB

Important :

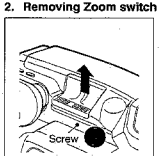
1. Removing Microphone unit



1. Remove the screw No. 2. (See figure above and the following page.)
2. Slide the Microphone unit to right slightly. Lift up the bottom of the microphone unit carefully.

Caution : Do not stretch the lead of connector MN in removing Microphone unit.

2. Removing Zoom switch

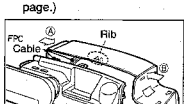


1. Remove the screw No. 3. (See figure above and the following page.)
2. Lift up carefully.

Caution : Do not stretch the lead of connector ZA in removing Microphone unit.

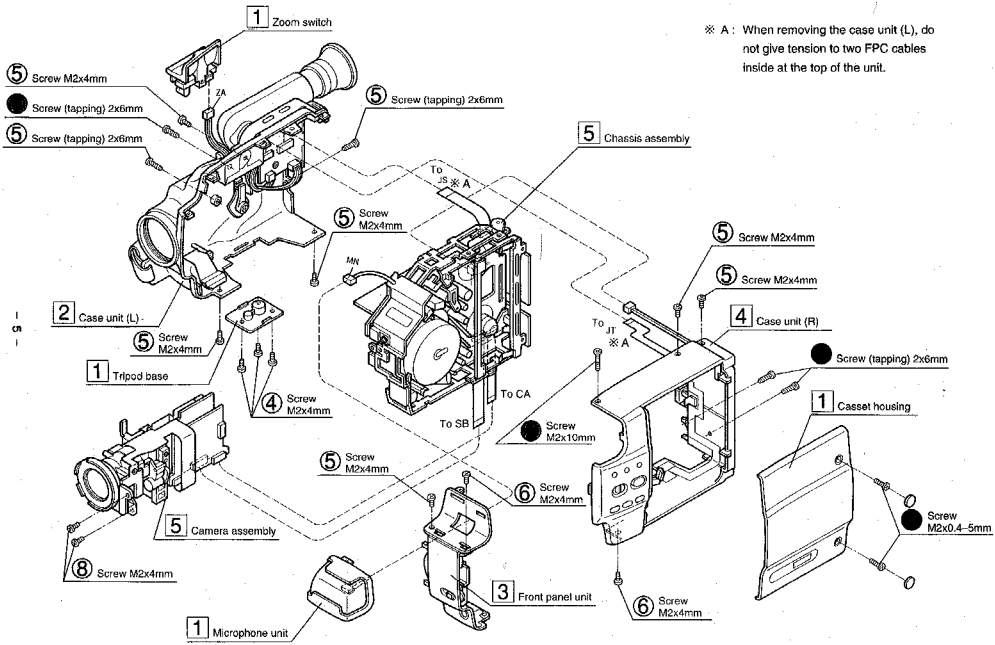
3. Removing Case unit

1. Remove the screw No. 5. (See figure above and the following page.)



2. Press points A and B as shown by the arrows in the above figure then carefully detach the rib.
3. Hold the Case unit (L) slightly away from the Case unit (R), and remove it from the bottom cast and then the top of the unit.

Caution : Do not apply tension to two the FPC cables inside of the unit at the top.



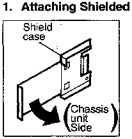
※ A : When removing the case unit (L), do not give tension to two FPC cables inside at the top of the unit.

2. Disassembling Chassis Unit

Order	1	2	3	4	5
Article name	VTR - SUB PCB ASSY	Shield case	Camera SW ASSY	VTR PCB ASSY	Rear PCB ASSY
Symbol of removed No.			●	◎	
Screw & Terminal to be removed	Terminals- PC, PD, PP, PQ		Screw-1pc. Terminal-VF	Screws - 6pcs. Terminals- VD, VE, VG, VL, VM	Terminal-RR

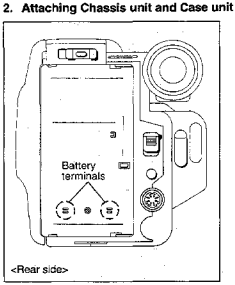
Important :

1. Attaching Shielded Case

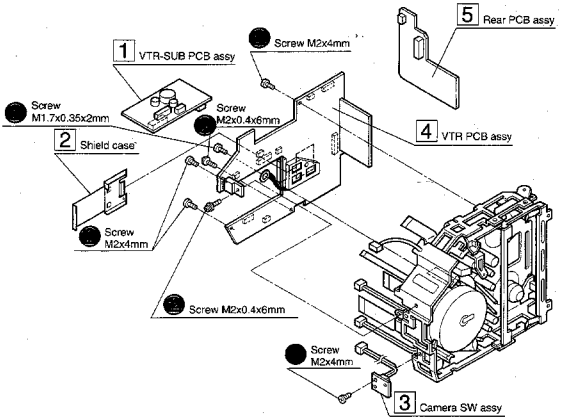


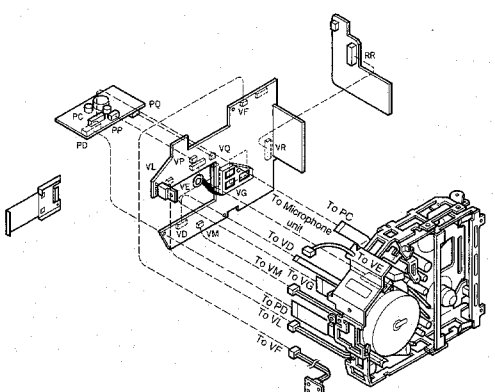
Press copper foil sheet to a direction shown by arrow in the figure to attach it the VTR PCB ASSY, avoid interfering with the FPC cable.

2. Attaching Chassis unit and Case unit (R)



Insert battery terminals on the Rear PCB Assy in the holes of the back panel of the Case unit (R) to fit the Chassis unit into the Case unit (R).


5 Rear PCB assy
1 VTR-SUB PCB assy
Screw M2x4mm
Screw M1.7x0.35x2mm
Screw M2x0.4x6mm
4 VTR PCB assy
2 Shield case
Screw M2x4mm
Screw M2x0.4x6mm
Screw M2x4mm
3 Camera SW assy


RR
PQ
PC
PP
PD
VF
VQ
VR
VP
VL
VE
VG
VD
VM
To Microphone unit
To PC
To VD
To VE
To VM
To VG
To PD
To VL
To VF

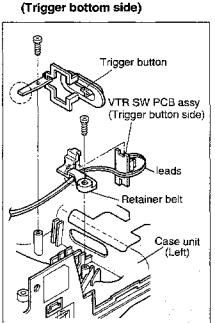
3. Disassembling Case unit (L)

Order	1	2	3	after 1	after 2
Article name	Retainer belt	VTR SW PCB assy	EVF unit	Grip belt	Trigger button
Symbol of removed No.	●	●	●		④
Screw & Terminal to be removed	Screw-1pc.	Screws-2pcs. Terminal-JB, JE	Screws-2pcs.		Screw-1pc.

Order	Possible in no order of these items
Article name	Back up battery holder
Symbol of removed No.	⑤
Screw & Terminal to be removed	Screws-2pcs. Terminal-JB

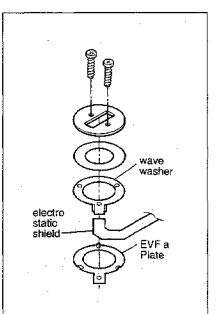
Important :

1. Leads of VTR PCB ASSY (Trigger bottom side)

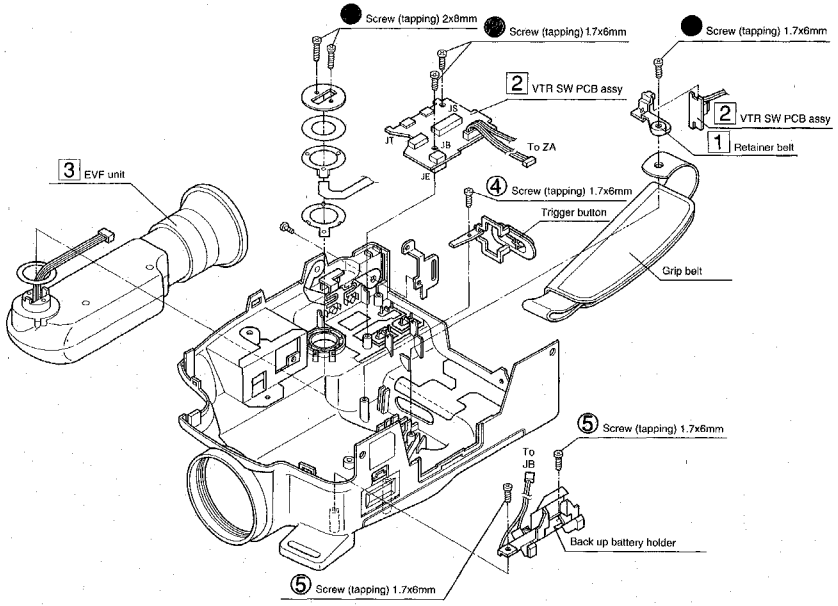


Put leads of VTR PCB ASSY (Trigger bottom side) between a rib of the trigger bottom and a retainer belt, and Case unit (L).

2. Attaching EVF Unit



Attach the EVF unit while putting electrostatic shield taped on the Case unit (L) between a wave washer and EVF a plate.
The convex side of the wave washer and EVF plate must be toward the upper side.


Screw (tapping) 2x8mm
Screw (tapping) 1.7x6mm
Screw (tapping) 1.7x6mm
2 VTR SW PCB assy
2 VTR SW PCB assy
1 Retainer belt
3 EVF unit
To ZA
4 Screw (tapping) 1.7x6mm
Trigger button
Grip belt
5 Screw (tapping) 1.7x6mm
To JB
Back up battery holder
5 Screw (tapping) 1.7x6mm
JS
JT
JB
JE

4. Disassembling Power knob of the Case unit (R)

Order	1	2
Article name	Power SW PCB assy	Power knob
Symbol of removed No.	●	
Screw & Terminal to be removed	Screw-1pc.	

5. Disassembling Eject knob of the Case unit (R)

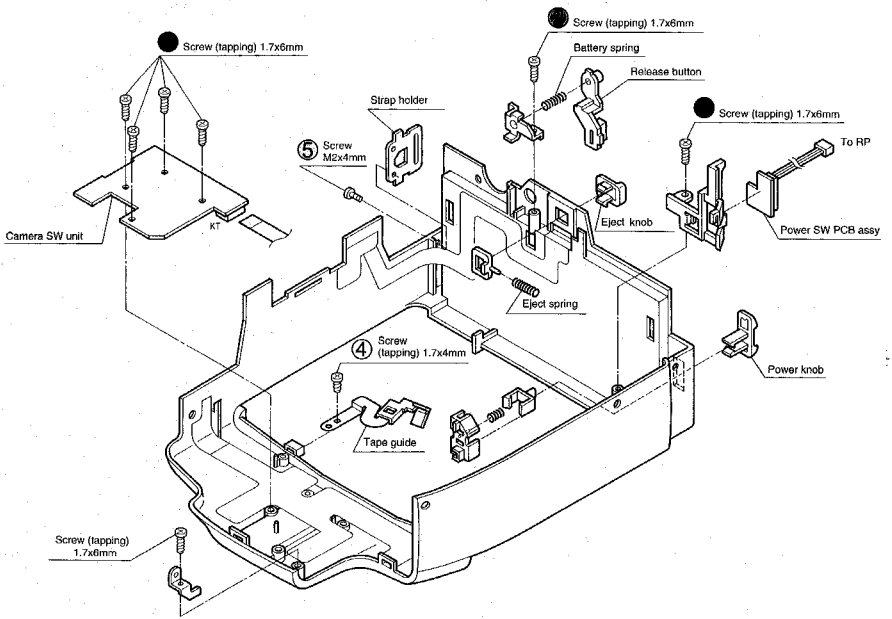
Order	1	2
Article name	Eject spring	Eject knob
Symbol of removed No.		
Screw & Terminal to be removed		

6. Disassembling Release button of the Case unit (R)

Order	1	2
Article name	Battery spring	Release button
Symbol of removed No.	●	
Screw & Terminal to be removed	Screw-1pc.	

7. Disassembling Other parts of the Case unit (R)

Order	Possible in no order of these items		
Article name	Camera SW unit	Tape guide	Strap holder
Symbol of removed No.	●	④	⑤
Screw & Terminal to be removed	Screws-4pcs. Terminal-KT	Screw-1pc.	Screw-1pc.


Screw (tapping) 1.7x6mm
Screw (tapping) 1.7x6mm
Battery spring
Release button
Strap holder
Screw (tapping) 1.7x6mm
To RP
5 Screw M2x4mm
Camera SW unit
KT
Eject knob
Power SW PCB assy
Eject spring
4 Screw (tapping) 1.7x4mm
Power knob
Tape guide
Screw (tapping) 1.7x6mm

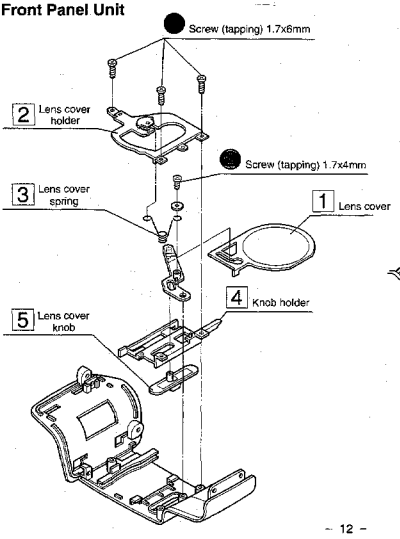
8. Disassembling Front Panel Unit

Order	1	2	3	4	5
Article name	Lens cover	Lens cover holder	Lens cover Spring	Knob holder	Lens cover knob
Symbol of removed No.		●	●		
Screw & Terminal to be removed		Screws - 3pcs.	Screw - 1pc.		

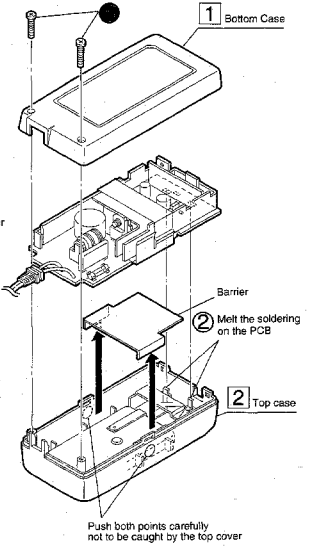
9. Disassembling AC Power Adapter

Order	1	2
Article name	Top cover	Bottom cover
Symbol of removed No.	●	②
Screw & Terminal to be removed	Screws - 2pcs.	Soldering - 2points

Front Panel Unit

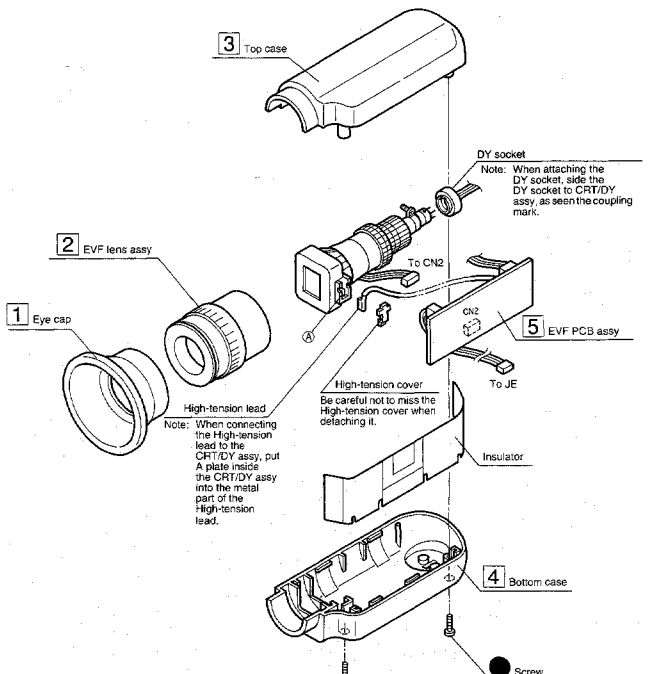


AC Power Adapter



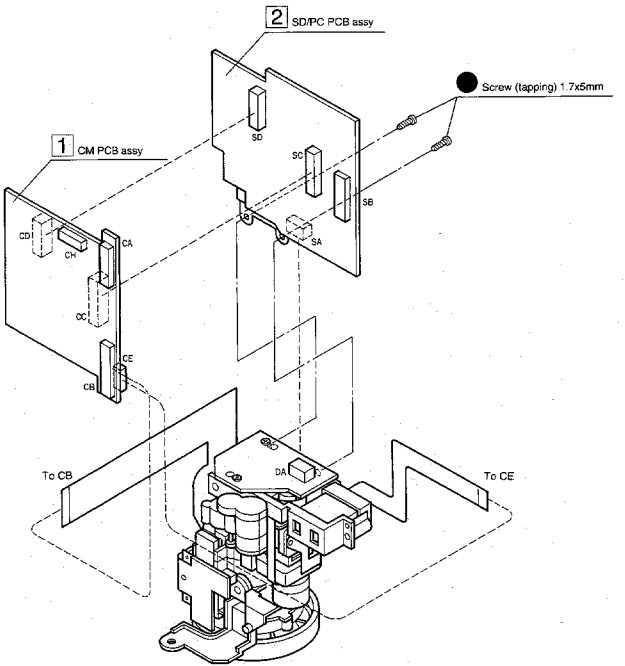
10. Disassembling EVF Unit

Order	1	2	3	4	5
Article name	Eye cap	EVF lens assy	Top case	Bottom case	EVF PCB assy
Symbol of removed No.			●		
Screw & Terminal to be removed			Screws - 2pcs.		Terminal - High - tension lead, DY socket CN2



11. Disassembling Camera Unit

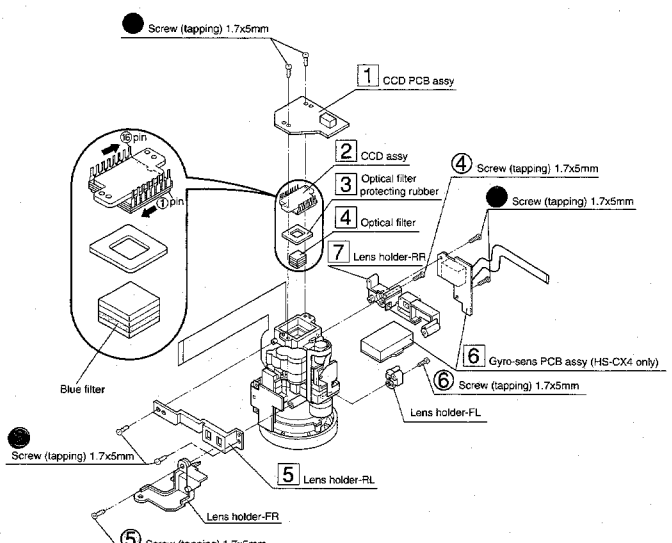
Order	1	2
Article name	CM PCB assy	SD/PC PCB assy
Symbol of removed No.		●
Screw & Terminal to be removed	Terminals-CB, CC, CD, CE	Screws-2pcs. Terminal-SA



12. Disassembling Lens Unit

Order	1	2	3	4	5
Article name	CCD PCB assy	CCD assy	Optical filter protecting rubber	Optical filter	Lens holder-RL
Symbol of removed No.	●				●
Screw & Terminal to be removed	Screws-2pcs.				Screws-2pcs.

Order	6	7	possible in no order of these items	
Article name	Gyro-sens PCB assy	Lens holder-RR	Lens holder-FR	Lens holder-FL
Symbol of removed No.	●	④	⑤	⑥
Screw & Terminal to be removed	Screws-2pcs.	Screw-1pc.	Screw-1pc.	Screw-1pc.



Replacing CCD Image Sensor

Caution : • As the CCD image sensor is a C-MOS type semi-conductor, the soldering iron must be grounded.
- Do not soil, stain or injure the transparent glass and optical filter of the CCD image sensor. If the CCD image sensor should be stained by finger print, wipe it off with silicone paper or chamois skin.
- When the CCD assy in soldered onto the PCB, do not apply excessive heat for a long time. The filter may be discolored by heat.

1. Removing

1. Take off the CCD PCB ASSY according to the disassembling procedures.
2. Remove sixteen terminals soldered on the CCD PCB ASSY to remove the CCD assy.

2. Attaching

Solder the CCD assy in the right direction on the CCD PCB ASSY.

TABLE OF EXTENSION JIGS

Extension Cable (FPC)

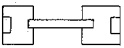
Connector	Parts No.
PD, PC, VS, to JS, VA to CA VD VG VE, VB to SB	859C543O20 859C543O10 859C543O40 859C543O30

Joint Board

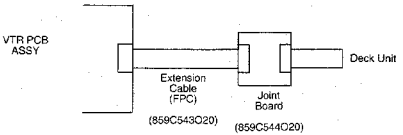
Connector	Parts No.
PD, PC VD VG VE	859C544O20 859C544O10 859C544O40 859C544O30

Board to Board

Connector	Parts No.
SD to CD SC to CC	859C545O20 859C545O30
VQ to PQ, VP to PP	859C545O10

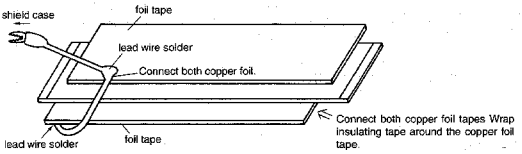


The following diagram illustrates how to connect the deck unit to the VTR PCB using the extension cable and Joint Board.



Processing Extension Cable (859C543O40, used for VG connector)

1. Apply proper length of copper foil tape to both sides of the extension cable.
2. Connect a lead between both sides of the copper foil tape and solder it on the both sides.
3. Solder another lead with clip to one side. The lead must be connected (5 cm max). from the nearest edge of the extension cable.
4. Wrap insulating tape around the copper foil tape.



USING EXTENSION JIGS

Warning :
Use and apply a Regulated power source, 6V DC.

Camera Unit
1. Remove the Case unit (L) and the Front panel unit from the Camera unit.
2. Remove two fixed screws from the Camera unit.
3. Replace FPC cables between VB and SB, and VA and CA with extension jigs specified in table below to install the Camera unit. (See figure in the following page.)
4. Connect extension jigs specified in table below to connectors on the CM PCB and the SD/PC PCB, between connectors CD and SD, and CC and SC.

Note : Do not stretch FPC cables connected to connectors CB and CE excessively.

Extension Jigs :

Connector	Parts No.
VB to SB	859C543O30
VA to CA	859C543O20

Connector	Parts No.
CD to SD	859C545O20
CC to SC	859C545O30

2. VTR PCB ASSY
Warning:
Do not check the VTR PCB ASSY only removed from the Deck unit for over two hours.
If checking over two hours, attach a radiating plate to transistor Q5A2.
The transistor Q5A2 may be damaged if power on over two hours without a radiating plate.

1. Disassemble this VIDEO CAMERA/RECORDER according to disassembling procedures. Allocate each of the units or components. (See figure in the following page.)
2. Remove the Microphone unit and the Power switch from the Front panel switch to allocate them. (See figure in the following page.)
3. Connect the Deck unit to the VTR PCB ASSY with extension jigs shown in table below, connected to FPC cables.

Extension Jigs:

Connector	Parts No.
VG	859C543O40 , 859C544O40
VE	859C543O30 , 859C544O30
VD	859C543O10 , 859C544O10

Connector	Parts No.
PC	859C543O20 , 859C544O20
PD	859C543O20 , 859C544O20
VS-JS	859C543O20

Note : To minimize noise, wrap type No. 5 extension cable with copper foil sheet and connect it to a shielded case of the VTR PCB ASSY.

4. Connect the Deck unit to the shielded case with a lead, whose outer diameter of conductor is 0.76 mm min.
5. Connect each lead from the Loading motor and the Camera SW ASSY on the VTR PCB ASSY to connectors VL and VF on the Deck unit respectively.
6. Connect the VTR-SUB PCB ASSY to the VTR PCB ASSY with extension jigs shown in table below.

Extension Jigs:

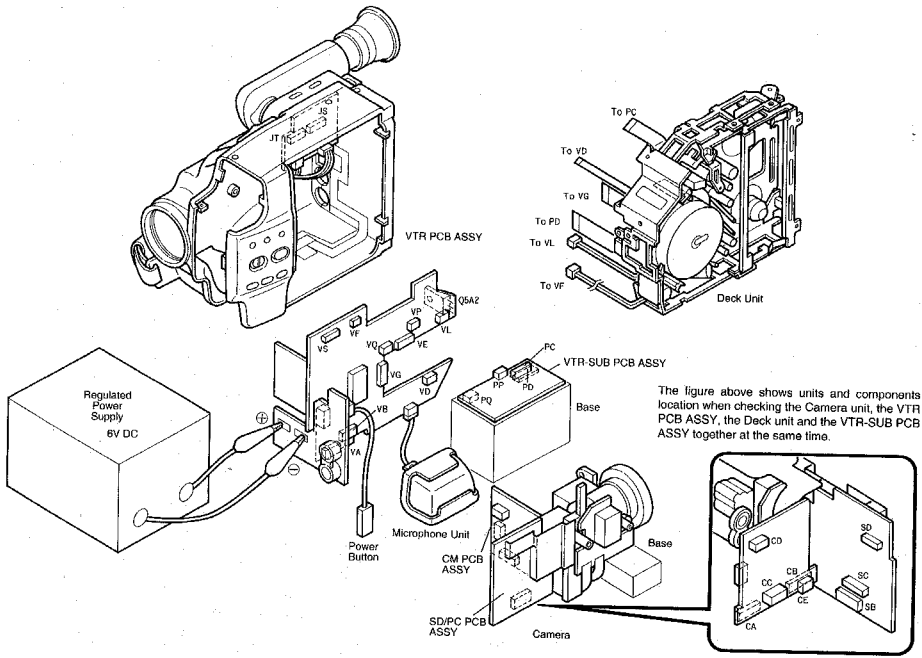
Connector	Parts No.
VP to PP	859C545O10
VQ to PQ	859C545O10

Connector	Parts No.
PC	859C543O20 , 859C544O20
PD	859C543O20 , 859C544O20

Note : Put the VTR-SUB PCB ASSY onto a insulated table without crossing any extension jigs and the FPC cable of the drum, as noise will occur in the signal of the drum.

Deck Unit
1. Perform items 1 and 2 of "Camera unit" above.
2. Perform items 2, 3, 4 and 5 of "VTR PCB ASSY" above.

VTR-SUB PCB ASSY
1. Perform items 1, 2 and 3 of "Camera unit" above.
2. Perform item 6 only of "VTR PCB ASSY" above.

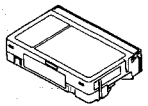
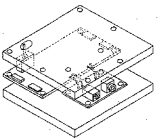


The figure above shows units and components location when checking the Camera unit, the VTR PCB ASSY, the Deck unit and the VTR-SUB PCB ASSY together at the same time.

Adjusting VCR Unit Circuit

1. Jigs and Measuring Instruments

1-1 Jigs

Alignment Tape	Video Signal Input Jig	Pincers for Mini-connectors
See NOTE 1	859C398O70	859C395O30
		

NOTE 1

PC1KC (N-VHS Colour Bar)	:859C397O70
PC1KCS (S-VHS Colour Bar)	:859C397O80
PM6KE2CS (N-VHS 2H Monoscope)	:859C397O60
PM3KE5(CH1)C (N-VHS 6H Monoscope)	:859C399O40
PMXC (N-VHS 2H Monoscope)	:859C399O50

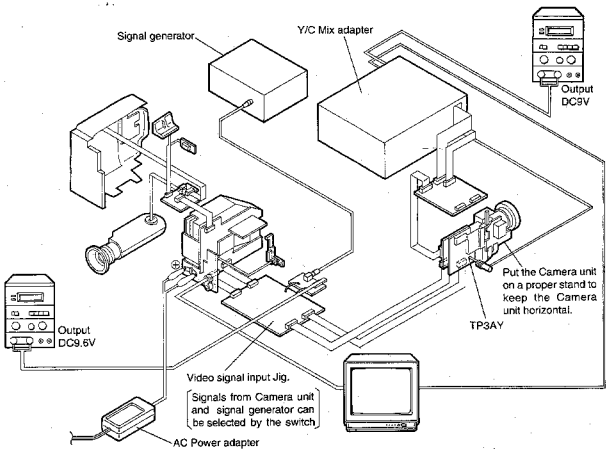
1-2 Tools and Measuring Instruments

1. Colour monitor (Colour TV: Use a monitor having two or more video input terminals.)
2. Oscilloscope
3. Colour bar generator
4. Frequency counter
5. Full set of general electric tools
6. Audio generator
7. Digital voltmeter
8. Carrier checker
9. Small screwdriver
10. Vector scope
11. Y/C Mix Adapter (859C398O90)

2. Precaution

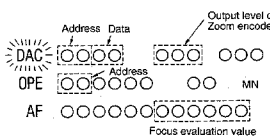
VCR unit circuit often needs adjustment after replacing mechanical parts or the video heads.
If the electrical circuit is defective, locate the defective part using some appropriate instruments and repair or replace, and then adjust it.
Do not fiddle with any controls without verifying the cause of trouble.
Do not perform all adjustments, only adjust those pertaining to a specific problem.
When recording or playing, connect EVF to input V-SYNC to JE connector.

3. Standard Location and Connection



Note: Use the video signal input tool for inputting video signal.

4. Adjusting electronic volume withY/C Mix adapter



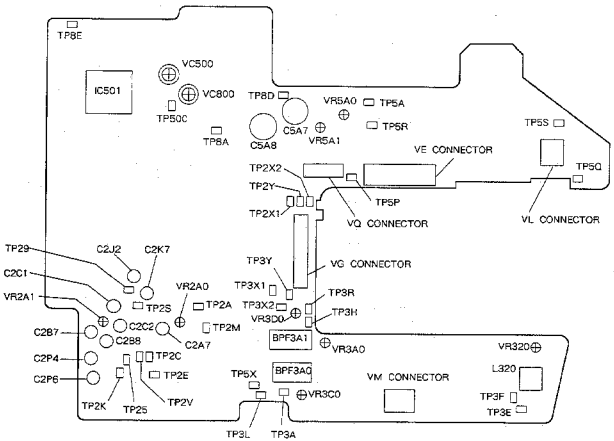
- Electronic volume adjustment requires connection of the Y/C Mix adapter.
- When displaying video output signal on a monitor, watch the display, shown in left figure, at the bottom on the screen.
  You should adjust electronic volume, watching this display on the screen.

4-1 Adjusting DAC Address

1. Turn EEPROM switch to WRITE side.
2. Press OPE•DAC button to blink "DAC" display.
3. Two-digit hexadecimal numbers displayed to the right of the "DAC" display shows the current address of DAC.
   When changing address number, press ADDRESS switch to (+) or (–) side once so that the number of address increases ±1, or keep pressing for continual change.
4. Two-digit hexadecimal numbers displayed to the right of the numbers of DAC address shows the content (data) of the current DAC address.
   When changing data of address, DATA switch to (+) or (–) side once so that the number of data increases 1, or keep pressing for continual change.
5. Press ADDRESS switch to (+) or (–) side to write the data to EEPROM.

Location of Adjustment Points (VCR Section)

PCB VTR (COMPONENT SIDE)



Note: Unless otherwise instructed, ground the head amp to the shield case.

[Power Supply Circuit]
1. Power Supply Voltage

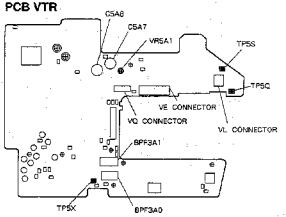
Adjustment purpose: Setting power supply voltage of VCR and camera.

Symptom when incorrectly adjusted: Malfunction.

Measuring instrument and condition		VCR set up condition	
D.V.M		Input signal	Video signal (of camera out)
Test point	Positive : TP5Q Negative : TP5S	Using tape	A tape (VHS)
EXT trigger	—	VCR condition	SP REC (VHS)
Measurement range	—	Using jig.	—

Warning : Turn VR5A1 and VR902 to the mechanical centre point and power on.
1. Adjust VR5A1 so that the D.V.M is at 5.00±0.03V.
2. Connect the positive of D.V.M to TP5X.
3. Adjust VR902 so that the D.V.M is at 8.50 ±0.03 V.

PCB VTR



PCB VTR-SUB

[Servo Circuit]
2. Playback Switching Point

Adjustment purpose: Video Head switch timing during playback.

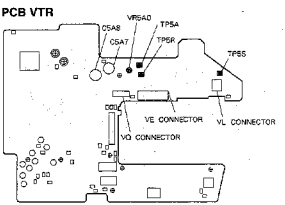
Symptom when incorrectly adjusted: Switching noise or jitter on the picture during playback.

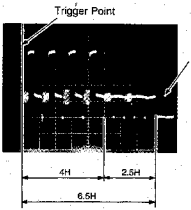
Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 10:1)		Input signal	—
Test point	AV OUT terminal (Video out)	Using tape	VHS Alignment tape (Colour bar)
EXT trigger	TP5A	VCR condition	SP REC
Measurement range	DIV : 20 mV TIM : 50 µs	Using jig.	—

1. Connect TP5R to TP5S.
2. Set the oscilloscope's slope to (–).
3. Adjust VR5A0 so that the trigger point is located at 6.5 ± 1.0 H before the vertical synchronizing signal.

Note: To recover digital tracking disconnect TR5R from TP5S and then turn off power.

PCB VTR





[Y/C Signal Circuit]
3. L.P.F Cut-Off Frequency.

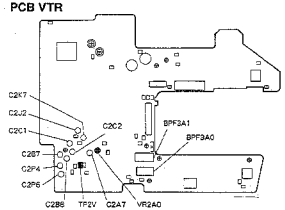
Adjustment purpose: Bandwidth of Low Pass Filter frequency to reject unnecessary signal during REC or PB.
Symptom when incorrectly adjusted: Soft picture or poor S/N.

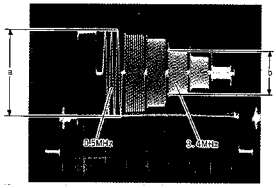
Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 10:1)		Input signal	Multiple burst
Test point	CH-1 : TP2V CH-2 : —	Using tape	A tape (VHS)
EXT trigger	—	VCR condition	LP REC
Measurement range	DIV : 10mV TIM : Variable	Using jig.	—

1. Input Mulitiburst signal.
2. When mulitiburst signal amplitude at 0.5MHz is "a" and "b" at 3.4MHz, adjust VR2A5 for b/a = 0.5, as shown below.

Note: Some signal generator cannot provide correct 3.4MHz signal.
Signal at 3.4 ± 0.3MHz may be permitted.
For location of the 3.4MHz signal, refer to the operation manual.

PCB VTR





4. Signal Level

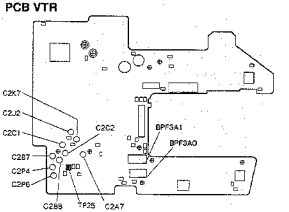
Adjustment purpose: Input level of emphasizer during recording in VHS mode.

Symptom when incorrectly adjusted: Poor sharpness of picture, white or black streaking.

Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 10:1)		Input signal	Split field stair step
Test point	CH-1 : TP25 CH-2 : —	Using tape	A tape (VHS)
EXT trigger	—	VCR condition	LP REC
Measurement range	DIV : 10 mV TIM : 10 µs	Using jig.	—

1. Set DAC address to 1F.
2. Adjust data of DAC address (1F) so that the amplitude of oscilloscope's waveform is 300 mVp-p.

PCB VTR



5. White Clip

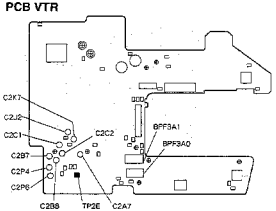
Adjustment purpose: Improve picture sharpness.

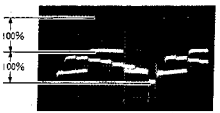
Symptom when incorrectly adjusted: Poor sharpness of picture, white or black streaking.

Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 10:1)		Input signal	Split field stair step
Test point	CH-1 : TP2E CH-2 : ——	Using tape	A tape (VHS)
EXT trigger	——	VCR condition	LP REC
Measurement range	DIV : 10 mV (Variable) TIM : 10 µs	Using jig.	——

1. Set DAC address to 20.
2. Adjust data of DAC address (20) so that overshoot of first transition in 100 % white area is 100%, where range from sync tip to white peak is assumed as 100 %.

PCB VTR





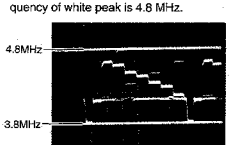
6. Carrier Set, Deviation

Adjustment purpose: FM carrier frequency and frequency deviation.

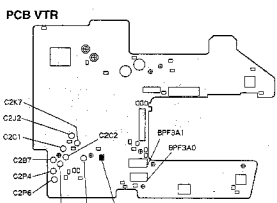
Symptom when incorrectly adjusted: Too bright or too dark picture. Poor colour bar display, horizontal noise or out of sync.

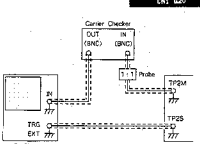
Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 1:1)		Input signal	Split field stair step
Test point	CH-1 : TP2M CH-2 : ——	Using tape	A tape (VHS)
EXT trigger	TP2S	VCR condition	LP REC
Measurement range	DIV : 0.2 V TIM : 10 µs	Using jig.	Carrier checker

1. Observe TP2M via carrier checker.
2. Set DAC address to 25.
3. Adjust data of DAC address (25) so that frequency of sync tip is 3.8 MHz.
4. Set DAC address to 1D.
5. Adjust data of DAC address (1D) so that frequency of white peak is 4.8 MHz.



PCB VTR





7. Chrominance Signal Recording Level

Adjustment purpose: Chrominance signal level during recording.

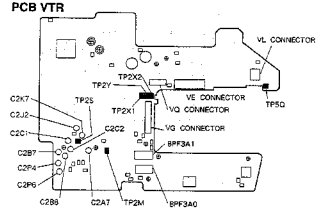
Symptom when incorrectly adjusted: Colour impurity or flicker of colour bars.

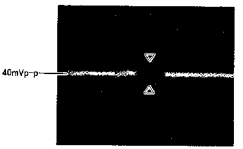
Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 10:1)		Input signal	Video signal (of camera out)
Test point	CH-1 : TP2Y (GND : TP2X2)	Using tape	A tape (VHS)
EXT trigger	TP2S	VCR condition	LP REC
Measurement range	DIV : 5 mV TIM : 2 µs	Using jig.	—

*This adjustment must be performed after finishing adjustments of all chroma signal processing circuit of the camera unit.

1. Connect TP2M to TP5Q.
2. Connect TP2X1 to TP2X2 via a capacitor (0.1µF).
3. Shade the camera's lens.
4. Set DAC address to 1C.
5. Adjust data of DAC address (1C) so that the minimum amplitude of burst is 40 mVp-p.

PCB VTR





8. Luminance Signal Recording Level

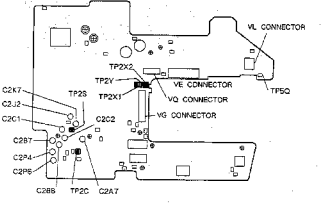
Adjustment purpose: Luminance signal level during recording.

Symptom when incorrectly adjusted: Lower luminance S/N or beat pattern.

Measuring instrument and concition		VCR set up condition	
Oscilloscope (Probe 10:1)		Input signal	Split field stair step
Test point	CH-1 : TP2Y (GND : TP2X2)	Using tape	A tape (VHS)
EXT trigger	TP2S	VCR condition	LP REC
Measurement range	DIV : 5 mV TIM : 2 µs	Using jig.	—

1. Connect TP2C to TP5Q through a resistance (1kΩ).
2. Connect TP2X1 to TP2X2 via a capacitor (0.1µF).
3. Set DAC address to 21.
4. Adjust data of DAC address (21) so that the amplitude of horizontal sync is 180 mVp-p.

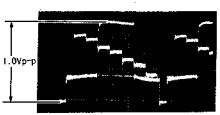
PCB VTR



9. VHS Playback Level	**Adjustment purpose:** Video output level during playback . **Symptom when incorrectly adjusted:** Poor colour bar display.

Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 10:1)		Input signal	—
Test point	CH-1 : VIDEO OUT terminal CH-2 : —	Using tape	VHS Alignment tape (colour bar)
EXT trigger	—	VCR condition	SP Playback
Measurement range	DIV : 20 mV TIM : 10 µs	Using jig.	—

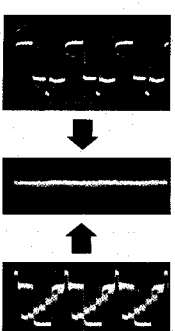
1. Terminate the video signal output terminal at 75Ω.
2. Set DAC address to 24.
3. Adjust data of DAC address (24) so that the amplitude of waveform is 1.0Vp-p.



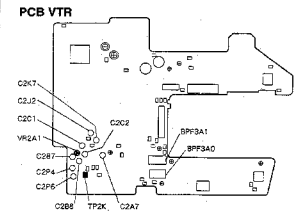
10. CCD Level	**Adjustment purpose:** Setting gain of Noise reduction circuit. **Symptom when incorrectly adjusted:** Lower video signal S/N.

Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 10:1)		Input signal	—
Test point	CH-1 : TP2K CH-2 : —	Using tape	VHS alignment tape (colour bar)
EXT trigger	—	VCR condition	SP Playback
Measurement range	DIV : 10 mV TIM : 20 µs	Using jig.	—

1. Adjust VR2A1 so that the amplitude of waveform is the minimum.



PCB VTR



[Normal Audio Circuit]
11. Audio Bias Level

Adjustment purpose: Audio bias level during recording.

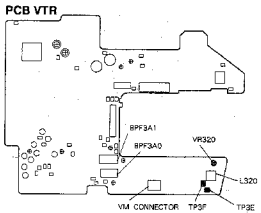
Symptom when incorrectly adjusted: Poor audio response in high frequency area.

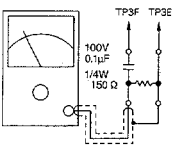
Measuring instrument and condition		VCR set up condition	
Audio Tester		Input signal	Stair step
Test point	TP3E TP3F	Using tape	A tape (VHS)
EXT trigger	—	VCR condition	SP REC
Measurement range	—	Using jig.	High pass filter

1. Connect an electrolytic capacitor (16 V min./10 µF) between pin Nos. 1 and 3, and Nos. 2 and 3 of VM connector so that pin No. 3 is negative.
2. Observe TP3E and TP3F with high pass filter.
3. Confirm no influence on precision of the audio tester from monitors or TV set, and adjust VR320 so that the audio tester is at 2.4 mVrms.

Warnings : Do not contact the audio tester with a VCR. Never play a tape when the audio tester is connected to the VCR. (The audio amplifier will be overloaded.)

PCB VTR





[Hi-Fi Audio Circuit]
12. Oscillating Frequency (HS-CX4 only)

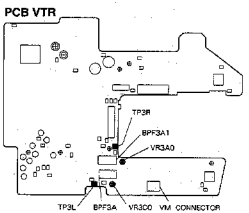
Adjustment purpose: Setting FM carrier frequency of Hi-Fi audio signal.

Symptom when incorrectly adjusted: Buzz noise.

Measuring instrument and condition		VCR set up condition	
Frequency counter		Input signal	Stair step
Test point	TP3L TP3R	Using tape	A tape (VHS)
EXT trigger	—	VCR condition	SP REC
Measurement range	—	Using jig.	—

1. Connect an electrolytic capacitor (16 V min./10 µF) between pin Nos. 1 and 3, and Nos. 2 and 3 of VM connector so that pin No. 3 is negative.
2. Adjust VR3C0 so that frequency of TP3L is 1.400 MHz ± 3.0 kHz.
3. Adjust VR3A0 so that frequency of TP3R is 1.800 MHz ± 3.0 kHz.

PCB VTR



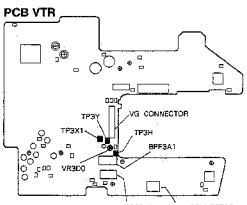
13. FM Recording Level (HS-CX4 only)	**Adjustment purpose:** Hi-Fi audio signal level during recording. **Symptom when incorrectly adjusted:** Wow and flutter in audio signal or lower S/N in video signal.

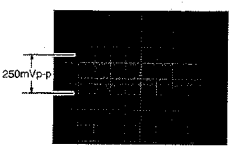
Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 10:1)		Input signal	Stair step
Test point	CH-1 : TP3Y CH-2 : —	Using tape	A tape (VHS)
EXT trigger	TP3H	VCR condition	LP REC
Measurement range	DIV : 10 mV TIM : 50 µs	Using jig.	—

1. Connect an electrolytic capacitor (16 V min./10 µF) between pin Nos. 1 and 3, and Nos. 2 and 3 of VM connector so that pin No. 3 is negative.
2. Connect ground of probe to TP3X1 through capacitor (0.1 µF).
3. Adjust VR3D0 so that the amplitude of waveform is 250 mVp-p.

Note: The earth of trigger must be connected to ground.

PCB VTR



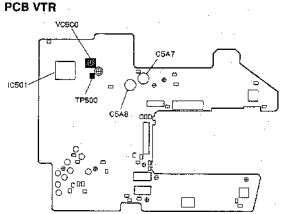


[Character display circuit] 14. PLL (HS-CX4 only)	**Adjustment purpose:** Reference clock level of character display circuit. **Symptom when incorrectly adjusted:** Character will flow in picture.

Measuring instrument and condition		VCR set up condition	
D.V.M		Input signal	Video signal (of camera out)
Test point	TP500	Using tape	—
EXT trigger	—	VCR condition	Stop
Measurement range	—	Using jig.	—

1. Adjust VC500 so that the voltage is 2.0 ± 0.1 V DC.

PCB VTR



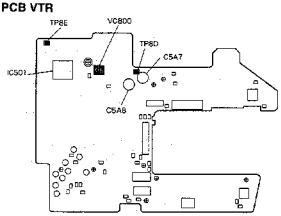
15. Character Display Position	**Adjustment purpose:** Location of character display position. **Symptom when incorrectly adjusted:** Characters will not be displayed in the regular position.

Measuring instrument and condition		VCR set up condition	
—		Input signal	Centre cross signal
Test point	—	Using tape	—
EXT trigger	—	VCR condition	Stop
Measurement range	—	Using jig.	—

Caution : In this adjustment, the view finder must be connected to JE connector.

1. Short TP8D and TP8E to display one vertical line in the picture.
2. Adjust VC800 so that the vertical line lies on the centre line of centre cross signal.

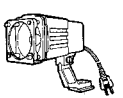
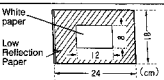
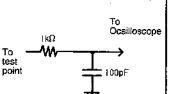
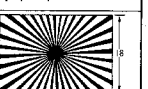
PCB VTR



Adjusting Camera Unit

1. Jigs and Measuring Instruments

1-1 Jigs

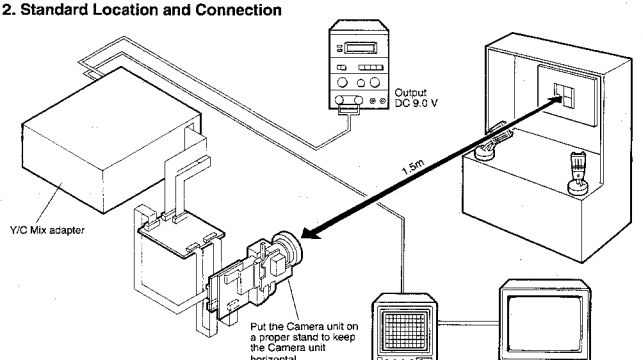
Halogen Light VLT-100 (3200 ± 50°K)	Window Chart (self-prepared)	Colour Chart (Reflection type) 859C397O4	Low Pass Filter (self-prepared)
	White paper Low Reflection Paper  Stick black paper on a square corrugated board and white paper, 12(W)x8(H) cm, at the centre on the black paper.		
Conversion Filter for Colour Temperature and Extinction filter (1/100)	J Chart (self-prepared)	Gray Scale Chart 859C361O10	Radial Chart (self-prepared)
 C2 (859C361O80) C12 (859C361O70) ND2 (859C362O40)	Stick From reverse Low Reflection Paper  Make holes at the size of 8(W)x6(H) cm on both a board and black paper and stick white paper from the reverse.		 Narrower width between lines better.

Note : Halogen light VLT-100 specified colour temperature at 3200°K available in adjustment.

1-2 Measuring Instruments

- Oscilloscope
- Vectorscope
- Illuminometer
- Digital voltmeter
- Colour monitor

2. Standard Location and Connection



3. Preparation and Check Items

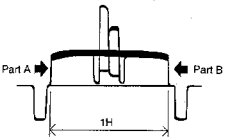
3-1 Preparation and Caution

1. You must use lamps with colour temperature at 3200°K to illuminate a chart used in adjustment, and set the lamps so that luminance on the surface of the chart is kept at about 2,000 lx. Install the illuminaires so that the chart is illuminated evenly (two or more light sources are preferable). If luminance on the surface of the chart is uneven, you cannot perform this adjustment properly.
2. When adjusting the Camera unit, you must adjust it without using any extension cable (without separating any unit of the VIDEO CAMERA/RECORDER), except where it's required.
3. Unless otherwise indicated in particular, distance between an object and the Camera unit is 1.5 m.

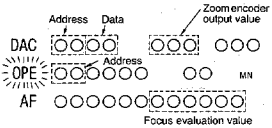
3-2 Adjusting Standard Angle of View

When shooting a chart in adjusting the Camera unit, unless otherwise indicated, shoot and adjust at the standard angle of view.

1. Shoot the Colour chart.
2. Connect the probe of oscilloscope to TP3AY or a video output terminal of the Y/C Mix adapter. Observe the waveform as shown right on the screen of oscilloscope.
3. Adjust the Power zoom button so that part A to B in the waveform are same as full effective range of horizontal signal.



3-3 Adjusting White Balance with Y/C Mix Adapter



White balance has three modes : "Auto" (OPE address is "00"), "Outdoor" ("01"), "Indoor" ("02"). OPE address is two-digit hexadecimal numbers to right of "OPE" on the screen.

1. Press OPE•DAC button to blink "OPE" display.
2. Press DATA switch to (+) side so that OPE address is 02 (Indoor) and again 00.
3. Press DATA switch to (–) side so that OPE address is 01 (Outdoor) and again 00.

Note : When changing mode from Indoor to Outdoor or the reverse, the OPE address must be changed via "00". If OPE address is changed directly, for example, "01" to "02", the mode never be selected properly.

3-4 Standard Condition

1. Unless otherwise indicated in particular, set each function mode of the Camera unit in table listed below in adjustment.

Shutter	Standard (1/50 s)
Focus	Manual
Special effects	Off
Backlight compensation	Off
White balance	Indoor(3,200°K)

Press reset button of Y/C Mix adapter to set each mode of shutter, special effects, backlight compensation as shown in table above. Setting white balance mode as referred to item 3-3 above.

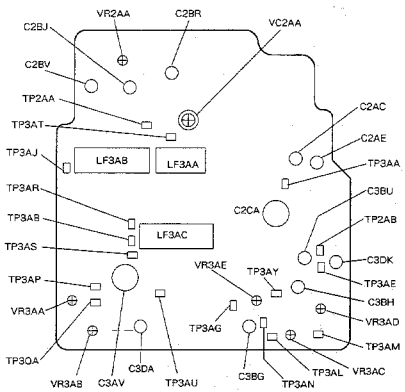
4. Adjusting Procedure for Camera Unit

The following shows all procedures to adjust each volume of the Camera unit.
You should perform some adjustment item(s) necessary for a trouble, not all.

1.	19 MHz Frequency
2.	Zoom Encoder and Photo Sensor
3.	Substrate voltage and Reset Voltage
4.	OB Offset
5.	ALC
6.	CCD Gain
7.	Setup Level
8.	APL
9.	Aperture Correction
10.	Chroma Gamma Leak
11.	R-Y and B-Y Offsets
12.	Chroma Offset and fH/2 Offset
13.	White Balance
14.	Amplifier Output of Iris Hole Element
15.	Fsc
16.	Chroma VCO
17.	Chroma R-Y and B-Y Offset, and Burst Signal
18.	Camera APL
19.	Gain of R-Y and B-Y Chroma hue

Location of Adjustment Points (Camera section)

PCB SD/PC (COMPONENT SIDE)



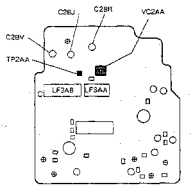
Note: Unless otherwise instructed, ground the shield case.

1. 19 MHz Frequency	**Adjustment purpose:** Reference oscillator frequency for timing of CCD drive. **Symptom when incorrectly adjusted:** Disturbance of picture and colour content screen.

Measuring instrument and condition	Frequency counter
Test point	TP2AA
EXT trigger	—
Measurement range	—
Chart used	—

1. Adjust VC2AA so that frequency of TP2AA is 19.3125MHz ± 60Hz.

PCB SD/PC



2. Zoom Encoder and Photo Sensor	**Adjustment purpose:** Back focus of lens **Symptom when incorrectly adjusted:** Out of focus in zooming

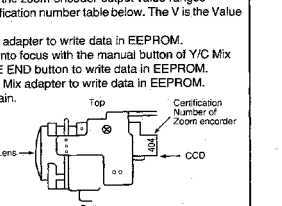
Measuring instrument and condition	—
Test point	—
EXT trigger	—
Measurement range	—
Chart used	Radial chart (or similar)

1. Locate and shoot the radial chart at a distance of 10 m min. from the Camera unit.
2. Set DAC address to 32.
3. Press a zoom button of Y/C Mix adapter to set zoom encoder output value to 232, where the zoom is at wide angle. (Refer to Page 32 Item 3-3)
4. Set the focus to the best point with view and focus evaluation value, pressing manual button of Y/C Mix adapter. (The best focusing point is obtained where focusing is evaluated at the highest.)
5. Press the zoom button for telephoto. Set the focus to the best point close to telephoto max. with view and focus evaluation value, when read the zoom encoder output value. (This zoom encoder output value is called "V".)
6. Press TELE END button of Y/C Mix adapter to write data in EEPROM.
7. Press the zoom button for wide angle. Set the focus to the best point with view and focus evaluation value, confirm that the zoom encoder output value ranges from V + y + 1 to V + y - 1. (See Certification number table below. The V is the Value at para 5.)
8. Press WIDE END button of Y/C Mix adapter to write data in EEPROM.

Note : If not focusing in item 7, bring into focus with the manual button of Y/C Mix adapter. And then press WIDE END button to write data in EEPROM.

9. Press PHOTO SENS. button of Y/C Mix adapter to write data in EEPROM.
10. Turn off the power and then on again.

Certification Number	Movement	Certification Number	Movement
396	203	410	210
397	203	411	210
398	204	412	211
399	204	413	211
400	205	414	212
401	205	415	212
402	206	416	213
403	206		
404	207		
405	207		
406	208		
407	208		
408	209		
409	209		



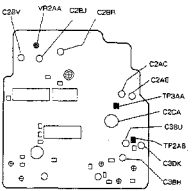
3. Substrate voltage and Reset Voltage	**Adjustment purpose:** Reference voltage for CCD drive. **Symptom when incorrectly adjusted:** S/N ratio lower or blooming

Measuring instrument and condition	Oscilloscope (Probe 10:1)
Test point	TP3AA
EXT trigger	—
Measurement range	DIV : 10 mV TIM : 10 μ s
Chart used	J chart

1. Set data of DAC address 17 to FF. Open the iris.
2. Attach a 1/100 extinction filter onto lens of the Camera unit.
3. Shoot the J chart illuminated from the rear with a halogen light at the standard angle of view.
4. Move the location of the halogen light so that level of waveform of TP3AA is at 300 *mVp-p*.
5. Detach the extinction filter from the lens.
6. Adjust VR2AA so that blooming doesn't appear on the screen.
7. Change the test point from TP3AA to TP2AB.
8. Set DAC address to 09.
9. Decrease data value of DAC address 09 from FF. When waveform shows the maximum and the level changes no longer, stop decreasing the data value.

Note : If level of the waveform isn't higher, set the data value to FF.

PCB SD/PC

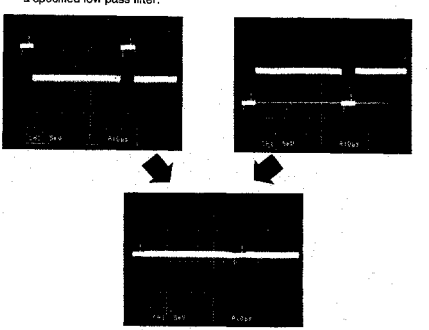


4. OB Offset	**Adjustment purpose:** Black colour level of CCD output signal **Symptom when incorrectly adjusted:** Black of CCD output signal will turn red or blue.

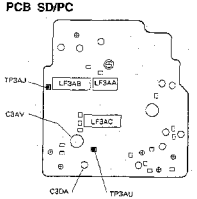
Measuring instrument and condition	Oscilloscope (Probe 10:1)
Test point	TP3AJ
EXT trigger	—
Measurement range	DIV : 5 mV TIM : 10 μ s
Chart used	Lens shaded

1. Ground TP3AU.
2. Set DAC address to 0E.
3. Adjust data of DAC address 0E so that offset is at the minimum.

Note : If it is hard to observe the waveform because of poor S/N ratio, observe it with a specified low pass filter.



PCB SD/PC



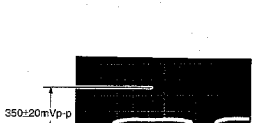
5. ALC

Adjustment purpose: Level of iris.

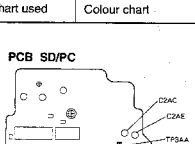
Symptom when incorrectly adjusted: Poor gradation or whiten by excessive light.

Measuring instrument and condition	Oscilloscope (Probe 10:1)
Test point	TP3AA
EXT trigger	—
Measurement range	DIV : 10 mV TIM : 10 μs
Chart used	Colour chart

1. Observe TP3AA through the low pass filter.
2. Set DAC address to 17.
3. Adjust data of DAC address 17 so that white peak to pedestal level is at 350 ± 20 mVp-p.



PCB SD/PC



6. CCD Gain

Adjustment purpose: Gain of delay line of Y/C signal.

Symptom when incorrectly adjusted: Too sharp or too soft profile in the horizontal on the screen.

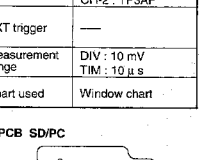
Measuring instrument and condition	Oscilloscope (Probe 10:1)
Test point	CH-1 : TP3AJ CH-2 : TP3AP
EXT trigger	—
Measurement range	DIV : 10 mV TIM : 10 μs
Chart used	Window chart

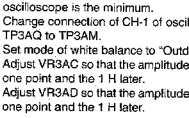
1. Adjust VR3AA so that the difference between TP3AJ and TP3AP with the oscilloscope is the minimum.

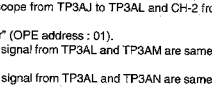
Note : Where TP3AP is observed through low pass filter.

2. Change connection of CH-2 of oscilloscope from TP3AP to TP3AQ. Detach the low pass filter of TP3AP.
3. Adjust VR3AB so that the difference between TP3AJ and TP3AQ with the oscilloscope is the minimum.
4. Change connection of CH-1 of oscilloscope from TP3AJ to TP3AL and CH-2 from TP3AQ to TP3AM.
5. Set mode of white balance to "Outdoor" (OPE address : 01).
6. Adjust VR3AC so that the amplitude of signal from TP3AL and TP3AM are same at one point and the 1 H later.
7. Adjust VR3AD so that the amplitude of signal from TP3AL and TP3AN are same at one point and the 1 H later.

PCB SD/PC

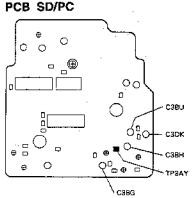


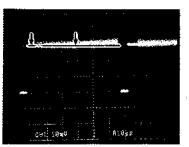




7. Setup Level		**Adjustment purpose:** Black level in video signal. **Symptom when incorrectly adjusted:** Too bright or too dark picture.
Measuring instrument and condition	Oscilloscope (Probe 10:1)	1. Set DAC address to 13. 2. Adjust data of DAC address 13 so that the setup level is at 0 ± 14 mVp-p.
Test point	TP3AY	
EXT trigger	—	
Measurement range	DIV : 10 mV TIM : 10 μ s	
Chart used	Lens shaded	

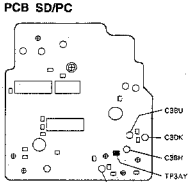
PCB SD/PC

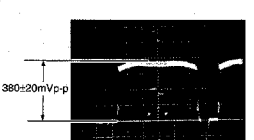




8. APL		**Adjustment purpose:** AGC of video signal processing circuit. **Symptom when incorrectly adjusted:** Too bright or too dark picture.
Measuring instrument and condition	Oscilloscope (Probe 10:1)	1. Observe TP3AY through low pass filter. 2. Set DAC address to 0A 3. Adjust data of DAC address 0A so that level of background is at 380 ± 20 mVp-p.
Test point	TP3AY	
EXT trigger	—	
Measurement range	DIV : 10 mV TIM : 10 μ s	
Chart used	Colour chart	

PCB SD/PC





9. Aperture Correction	**Adjustment purpose:** Correction of profile correcting circuit. **Symptom when incorrectly adjusted:** Too sharp or too soft picture.

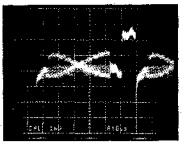
Measuring instrument and condition	—
Test point	—
EXT trigger	—
Measurement range	—
Chart used	—

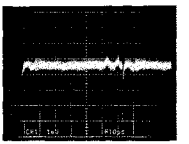
1. Set DAC address to 06.
2. Set data of DAC address 06 to 65.
3. Set DAC address to 07.
4. Set data of DAC address 07 to 70.

10. Chroma Gamma Leak	**Adjustment purpose:** Correcting leak of colour signal occurring with gamma control. **Symptom when incorrectly adjusted:** Colour impurity.

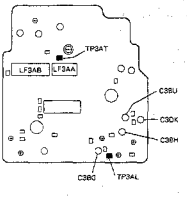
Measuring instrument and condition	Oscilloscope (Probe 10:1)
Test point	TP3AL
EXT trigger	—
Measurement range	DIV : 1 mV TIM : 10 μ s
Chart used	Gray scale chart

1. Ground TP3AT at 100 μ F.
2. Set DAC address to 15.
3. Adjust data of DAC address so that gamma leak is the minimum.





PCB SD/PC



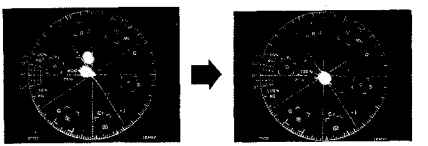
11. R-Y and B-Y Offsets

Adjustment purpose: Black level processed in colour-difference signal processing circuit.

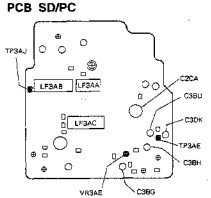
Symptom when incorrectly adjusted: Black in picture will turn red or blue.

Measuring instrument and condition	Vector scope
Test point	Y/C Mix adapter Video output terminal
EXT trigger	—
Measurement range	GAIN : Max. SATURATION: 75%
Chart used	Lens shaded

1. Set mode of white balance to "Outdoor" (OPE address : 01)
2. Ground TP3AE through a series with a resistance (27Ω) and a capacitor (100 μF).
3. Ground TP3AJ through a capacitor (100 μF).
4. Adjust VR3AE so that these two bright spots are overlapped and minimized.
5. Detach the capacitor in TP3AJ.
6. Adjust DAC addresses 0D and 0C so that the bright spot is at the centre of the vector scope.



PCB SD/PC



12. Chroma Offset and fH/2 Offset

Adjustment purpose: Black level before processing in colour-difference signal circuit.

Symptom when incorrectly adjusted: Black in picture will turn red or blue.

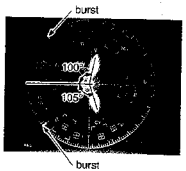
Measuring instrument and condition	Vector scope
Test point	Y/C Mix adapter Video output terminal
EXT trigger	—
Measurement range	GAIN : Max. SATURATION: 75%
Chart used	Lens shaded

1. Adjust data of DAC addresses 10 and 0F so that bright spot is the closest to the centre of the vector scope.

13. White Balance	**Adjustment purpose:** Reference in displaying "white" on the screen. **Symptom when incorrectly adjusted:** icture will turn red or blue.

Measuring instrument and condition	Vectorscope
Test point	Y/C Mix adapter Video output terminal
EXT trigger	—
Measurement range	GAIN : Variable, SATURATION : 75%
Chart used	White chart

1. Set mode of white balance to "indoor" (OPE address : 02)
2. Adjust DAC addresses 00 and 01 so that bright spot is at the centre of the vector scope.
3. Set mode of white balance to "Outdoor" (OPE address : 01)
4. Shoot the White chart with a colour filter (C2 + C12).
5. Adjust phase and gain of vectorscope so that burst signal spots at intersection of reference lines of burst and scale circle.
6. Adjust DAC addresses 02 and 03 so that bright spots is at the position in phot. below.



14. Amplifier Output of Iris Hole Element	**Adjustment purpose:** Reading sensor voltage in both sides of iris. **Symptom when incorrectly adjusted:** Poor response of Auto focus.

Measuring instrument and condition	—
Test point	—
EXT trigger	—
Measurement range	—
Chart used	—

1. Set DAC address to 37.
2. Shoot a halogen light at a distance of about one metre from the Camera unit. After one second or more, press TELE END button of the Y/C Mix adapter to write the data in EEPROM.
3. Shade the lens.
4. After shading the lens for one second or more, press WIDE END button of to Y/C Mix adapter to write the data in EEPROM.

***Adjustments from item 15 on, must be performed with the camera connected to the VCR.**

15. Fsc	**Adjustment purpose:** Frequency of reference frequency oscillator in colour signal processing circuit. **Symptom when incorrectly adjusted:** Poor colour display in picture.

Measuring instrument and condition	Frequency counter
Test point	TP6J
EXT trigger	—
Measurement range	—
Chart used	—

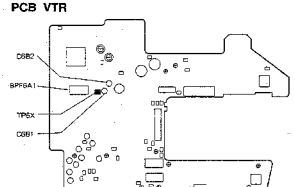
1. Play back alignment tape (colour bar).
2. Adjust VC6A1 so that the frequency is at 4.433619MHz ± 50Hz.

16. Chroma VCO	**Adjustment purpose:** Frequency of reference oscillator in low frequency colour signal processing circuit. **Symptom when incorrectly adjusted:** Poor colour display in picture.

Measuring instrument and condition	Frequency counter
Test point	TP6X
EXT trigger	—
Measurement range	—
Chart used	Lens shaded

1. Set DAC address to 1A and the data to 00.
2. Set DAC address to 19.
3. Adjust data of DAC address 19 so that the frequency is at 613 ± 3 kHz.
4. Set data of DAC address 1A to FF.

PCB VTR

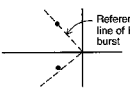


17. Chroma R-Y and B-Y Off set, and Burst Signal	**Adjustment purpose:** Setting white level in picture to the best and chroma level in video output signal to the regular. **Symptom when incorrectly adjusted:** White in picture will turn blue or red. Or, colour signal will not displayed regularly.

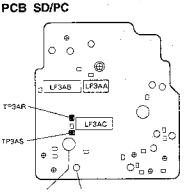
Measuring instrument and condition	Vector scope
Test point	Video output terminal
EXT trigger	—
Measurement range	GAIN : Max. SATURATION: 75%
Chart used	Colour chart

1. Adjust DAC addresses 11 and 12 so that bright spot is the closest to the centre point of the vector scope.

2. Set mode of vector scope to PAL. Rotate the gain to locate reference line of R-Y burst signal at the regular position on the vector scope.

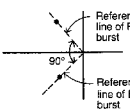


PCB SD/PC

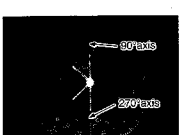


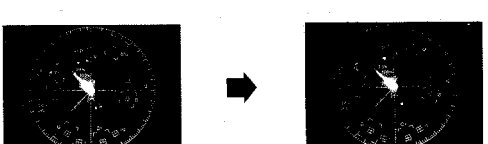
3. Ground TP3AR through a capacitor (100 μF).
4. Set DAC address to 16.
5. Adjust data of DAC address 16 so that bright spot is on the line 0°.

6. Set DAC address to 1B.
7. Adjust data of DAC address 1B so that the angle between spots of R-Y and B-Y burst signals is 90°.
8. Detach the capacitor in TP3AR.



9. Ground TP3AS through a capacitor (100 μF).
10. Set DAC address to 18.
11. Adjust data of DAC address 18 so that the longest of luminescent lines around 90° -axis is lied on the axis.
12. Set DAC address to 1B.
13. Adjust data of DAC address 1B so that the longest of luminescent lines around 270° -axis is lied on the axis.
14. Detach the capacitor in TP3AS.
15. Repeat items 2 to 7.
16. Set mode of vectorscope to NTSC.
17. Set DAC address to 16.
18. Adjust data of DAC address 16 so that two bright spots of red are overlapped each other.
19. Set DAC address to 14.
20. Adjust data of DAC address 14 so that bright spot of burst signal is at 7.

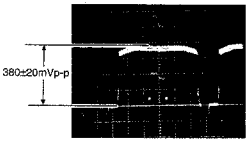




18. Camera APL	**Adjustment purpose:** Regular level of video signal. **Symptom when incorrectly adjusted:** Too bright or too dark picture.

Measuring instrument and condition	Oscilloscope (Probe 10:1)
Test point	Video output terminal (75 Ω terminated)
EXT trigger	——
Measurement range	DIV : 10 mV TIM : 10 μ s
Chart used	Colour chart

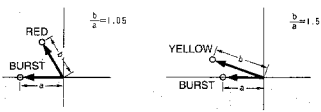
1. Set DAC address to 0A.
2. Adjust data of DAC address 0A so that background level is at 380 ± 20 mVp-p.



19. Gain of R-Y and B-Y, and Chroma hue	**Adjustment purpose:** Gain of colour-difference signal and chroma hue of composite signal. **Symptom when incorrectly adjusted:** Colour signal will not be displayed on the screen regularly.

Measuring instrument and condition	Vectorscope
Test point	Video output terminal
EXT trigger	——
Measurement range	GAIN : regular SATURATION : 75%
Chart used	Colour chart

1. Set mode of white balance to "Indoor" (OPE address : 02).
2. Set DAC address to 04.
3. Adjust data of DAC address 04 so that the distance from the centre of vectorscope to bright spot of red is 1.05 times that of burst.
4. Set DAC address to 05.
5. Adjust data of DAC address 05 so that the distance from the centre of vectorscope to the bright spot of yellow is 1.5 times that of burst.

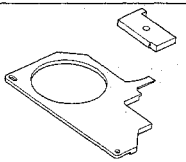
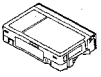


6. Set DAC address to 0B.
7. Adjust data of DAC address 0B so that phase of the spot of red is at 106 ± 2°.
8. Repeat the adjusting procedures above so that all values are set at the specified.

MECHANICAL ADJUSTMENT

1. Jigs and Measuring Instruments Required for Mechanism Adjustment

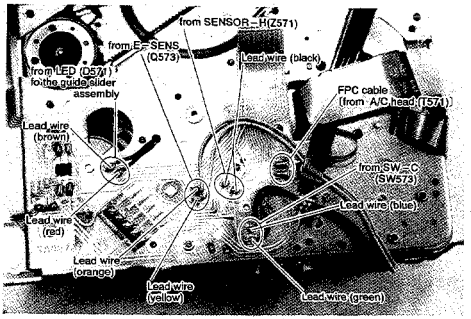
1-1. Jigs for Adjustment

Master plane	Cassette torque meter	Alignment tape
859C398050	859C360010	PM6KE2CS (859C397060) PM3KE6(CH1)C35 (859C399040) PMX – C (859C399050)
		

1-2. Other Tools and Measuring Instruments Required

① Colour monitor (Colour TV)
② Oscilloscope
③ Hex key (1.5mm, 0.7mm)
④ Box driver (3.0mm)

1-3. Soldering points of lead wire



2. CLEANING

The following parts should be routinely cleaned as part of service or to maintain top performance.

2-1 Cleaning the video heads

① Deposits of dust and similar foreign material on the head cause the head to fail to reproduce clear image. Hold a video head cleaning cloth dampened with cleaning solution, lightly against the drum. Holding the cloth, gradually rotate the drum counterclockwise.

Note:

Do not touch the head tips in to the upper drum. The head tip is very hard but not resistant against impact (particularly against force in vertical direction). Never move the head tip in vertical direction.

② Do not run a tape before the drum is fully dry. Residual solution may damage the tape.

2-2 Cleaning the tape path system

The parts along the tape path,which need cleaning are listed below:

1. Regulator tension pole
2. Supply slant pole
3. Supply impedance pole
4. Supply tape guide pole
5. Supply guide roller
6. Drum assembly
7. Takeup guide roller
8. Takeup tape guide pole
9. Takeup slant pole
10. Takeup guide arm roller
11. A/C head
12. GR-lever roller
13. Capstan motor shaft
14. Pinch roller

Note:

Use a dry cleaning cloth to clean the supply guide roller and takeup guide roller. Do not use cleaning solution.

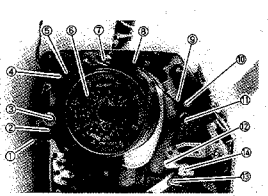


Fig. 1-1-1

2-3 Cleaning the reel disk driving system

① Clean the surface of the brake of the reel disk.
② Clean the reel disk drive member with a cleaning cloth damped with cleaning solution.
③ Do not operate the mechanism before cleaned parts are dry.

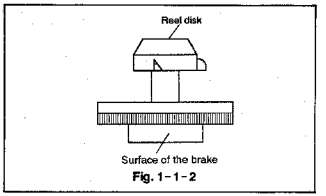


Fig. 1-1-2

3. HOW TO ATTACH THE MASTER PLANE

① Remove the cassette housing (see para. 4-1. HOW TO REPLACE THE PRINCIPAL PARTS)
② Feed the loading motor with approx. 3.5 VDC and put the deck to loading condition.
③ Place the master plane on the main plate so that the positioning pin enters the positioning hole and the plane is off the drum.

Note:

When using the master plane, firmly hold it by pressing at the point A as shown in Fig. 2-1.

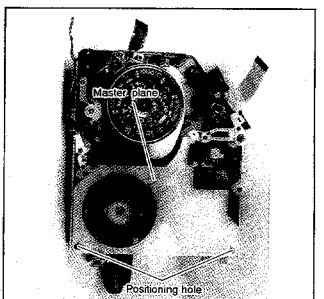


Fig. 2-1

4. HOW TO REPLACE THE PRINCIPAL PARTS

4-1 Cassette housing replacement

Removal

① Set the cassette housing to eject mode.
② Remove two screws (ⓐ, ⓑ) holding the leaf switch.
③ Remove two screws (ⓒ,ⓓ)holding the cassette housing.
④ Slide the cassette housing toward you. Push the link on supply side and takeup side (Fig.3-1-3 and 3-1-4) slightly to make clearance for the roller ; and remove the rollers from the grooves in the main plate. Remove the cassette housing.

Installation

① Set the cassette housing to eject mode.
② Push the link on supply side and takeup side (Figs. 3-1-3 and 3-1-4) slightly to make clearance for the roller; and insert the rollers into the grooves. Make sure that the sync shaft is under the fixing part of the leaf switch (see Fig. 3-1-6).
③ Referring to Fig. 3-1-5, engage the projection of the sync holder of cassette housing with the cutaway groove in the main plate.
④ Secure the cassette housing with screws ⓒ and ⓑ.
⑤ Secure the leaf switch with screws ⓐ and ⓑ.

Fig. 3-1-1

Fig. 3-1-2

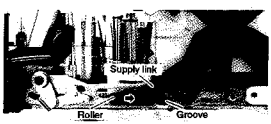


Fig. 3-1-3

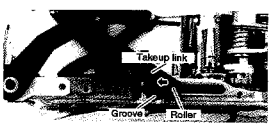


Fig. 3-1-4

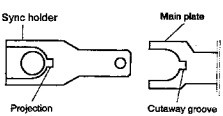


Fig. 3-1-5

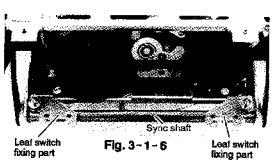


Fig. 3-1-6

4-2 Damper unit replacement

Removal

① Remove screws ⓐ and ⓑ. Remove the damper unit (damper section) by movin it in the direction of arrow.
Note:
Gears in the damper unit may fall away. Be careful not lose them.
② Remove the cassette housing (see para. 4-1).
③ Remove cut washers ⓒ and ⓓ. Remove the link of supply side and takeup side from the bottom housing shaft.
④ Slide the supply arm to the rear end. While pushing the supply arm toward side, take out the bottom housing and damper unit (lever section) off respective groove.
⑤ Remove the cut washer ⓔ and then remove the damper unit (lever section).

Installation

① Attach the cut washer ⓔ and secure the damper unit (lever section).
② Put the roller of supply arm into the groove in the damper unit (lever section) and in the bottom housing.
③ Slide the link of the supply side and takeup side onto respective pins of the bottom housing, attach cut washers ⓒ and ⓓ and secure supply side link and takeup side link.
④ Lower the damper unit (lever section) ⓐ and ⓑ secure it with screws ⓐ and ⓑ.

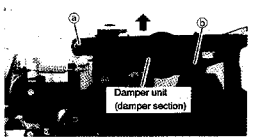


Fig. 3-2-1

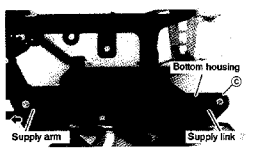


Fig. 3-2-2

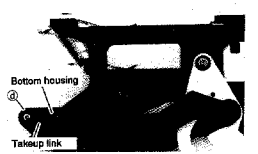


Fig. 3-2-3

Fig. 3-2-4

4-3 Drum assembly replacement

Removal

① While supporting the drum assembly, remove screws ⓐ, ⓑ and ⓒ that hold the assembly.
② Gradually lift up the drum assembly, take care to clear adjacent components.

Installation

① Insert two FPC cables from the drum assembly into the respective grooves in the main plate.
② Place the drum assembly on the main plate while taking care not to touch adjacent components. Align the positioning pin of the assembly with the positioning hole in the main plate.
③ Secure the drum assembly with screws ⓐ, ⓑ and ⓒ.

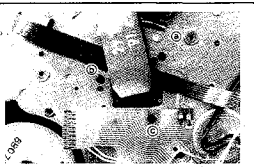


Fig. 3-3-1

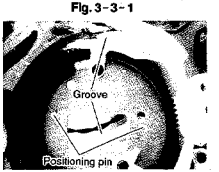


Fig. 3-3-2

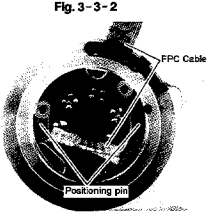


Fig. 3-3-3

4-4 Loading motor replacement

Removal

① Remove screws ⓐ and ⓑ and then remove the loading motor.

Installation

① Verify that the motor holder is placed on the loading motor mounting area of the main plate.
② Engage the loading motor gear and idler gear S. Secure the motor with screws ⓐ and ⓑ.

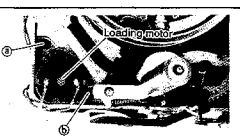


Fig. 3-4-1

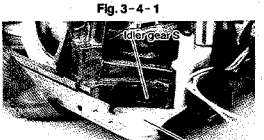


Fig. 3-4-2

4-5 Reel disk replacement

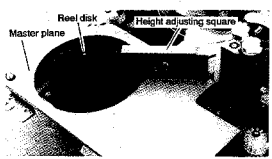
Removal

① Remove the cassette housing (see para. 4-1).
② Remove cut washer ⓐ. Remove the reel disk from the shaft of the main plate.

Installation

① Make sure that two thrust washers are on the reel disk mounting shaft on the main plate.
② Gradually place the reel disk to the shaft of the main plate. Make sure that the tension belt is attached along the brake surface of the supply reel disk.
③ Attach the cut washer ⓐ and secure the reel disk.
④ Make sure that the reel disk turns smoothly.
⑤ Attach the master plane (see para. 3).
⑥ Place a height adjusting square on the master plane.
⑦ Slide the height measuring face of the square to the edge of the reel disk, and make sure that the reel disk turns smoothly at the face A of the square (upper face of measuring part) and will not turn at face B (lower surface of measuring Block).
⑧ If the result of step (7) is not acceptable, add or remove thrust washer(s) (material code: 552C006O10) under the reel disk.
⑨ Mount the cassette housing.

Fig. 3-5-1



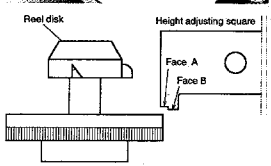


Fig. 3-5-2

4-6 Reel gear replacement

Removal

① Remove the cassette housing (see para. 4-1).
② Remove the cut washer ⓐ and then remove the gear TU1 from the main plate shaft.
③ Remove the cut washer ⓑ holding the reel gear.
④ Slightly move the clutch plate OFF in the direction of arrow and remove the reel gear from the main plate shaft.

Installation

① Make sure that the thrust washers are on the reel gear mounting shaft.
② Slightly move the clutch plate OFF in the direction of arrow and place the reel gear to the main plate shat.
③ Secure the reel with the cut washer ⓑ.
④ Make sure that the thrust washer is attached on the gear TU1 mounting shaft.
⑤ Place the gear TU1 to the mounting shaft on the main plate and secure the gear with the cut washer ⓐ.
⑥ Mount the cassette housing.

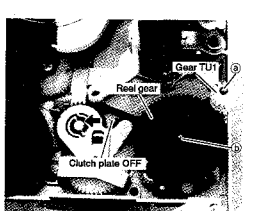


Fig. 3-6-1

4-7 Sync belt replacement

Removal

① Remove the cassette housing (see para. 4-1).
② Remove screws ⓐ and ⓑ that holding the idler unit.
③ Remove the sync belt from the capstan motor and idler unit.

Installation

① Attach the sync belt to the capstan motor and idler unit.
② Secure the idler unit with screws ⓐ and ⓑ.
③ Mount the cassette housing.

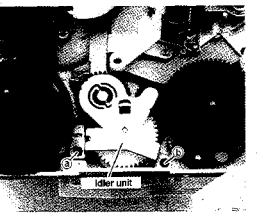


Fig. 3-7-1

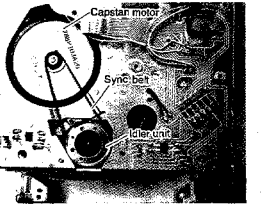


Fig. 3-7-2

4-8 Clutch unit replacement

Removal

① Remove the cassette housing (see para. 4-1).
② Remove all the parts described in para. 4-6 (Reel gear replacement).
③ Remove spring RS.
④ Remove the cut washer ⓐ and then remove the clutch unit from the main plate shaft and clutch plate OFF shaft.

Installation

① Attach the clutch unit to the main plate shaft and clutch plate OFF shaft.
② Secure the clutch unit with the cut washer ⓐ.
③ Attach the spring RS.
④ Mount all the parts described in para. 4-6 (Reel gear replacement).
⑤ Mount the cassette housing.

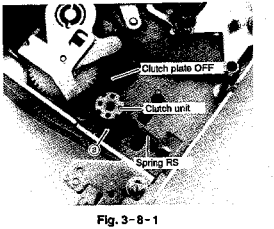


Fig. 3-8-1

4-9 A/C head replacement

Removal

① Remove the cassette housing (see para. 4-1).
② FPC cable connected to the A/C head is taped on the reverse side of the main plate with pressure sensitive adhesive double coated tape (see Fig. 3-9-1). Melt soldering of the FPC cable soldered on the FPC sensor assembly. Detach it from the tape carefully and take it off the slant T.
③ Remove nut S.
④ Pull the A/C head assembly gradually off the shaft on the capstan motor stator.
Note:
Removing the A/C head also loosens the A/C washer and spring G on the shaft. Take care not to lose them.
⑤ Pull the GR-lever roller and A/C arm spring off the A/C plate as shown in Fig. 3-9-3.
⑥ Remove screws ⓐ, ⓑ and ⓒ. Remove the A/C head and A/C plate spring from the A/C plate.
⑦ Desolder the lead wires at the A/C head.

Installation

① Solder the lead wires to the A/C head.
② Mount the A/C plate spring and A/C head on the A/C plate. Secure these parts with screws ⓐ, ⓑ and ⓒ to the dimension shown in Fig. 3-9-4.
③ Place the A/C arm spring and GR-lever to the A/C plate shaft. For mounting status of the A/C arm spring, see Fig. 3-9-2.
④ Attach the A/C head assembly to the shaft of the capstan motor stator. To do so, move the GR-lever roller in the direction of arrow in Fig.3-9-2. Orient the assembly so that the GR-lever tipR Ⓐ is inside the main plate and the A/C head phase adjuster screw Ⓑ of the A/C plate is outside the main plate.
⑤ Tighten the nut S (temporary).
⑥ Install the master plane (see para. 3).
⑦ Place the height adjusting square on the master plane.
⑧ Adjust nut S so that the center of the distance between measuring faces Ⓐ and Ⓑ of the square is at the same level as the edge of the lowerflange of GR-lever roller. This is a critical adjustment since the distance between the Ⓐ and Ⓑ faces is small.
Note:
Check the adjustment by turning the GR-lever roller. It should rotate smoothly without touching the arm pinch.
⑨ Put the FPC cable connected to the A/C head through slant T. Tape it on the reverse of the Main plate with pressure sensitive adhesive double coated tape (see Fig. 3-9-1). Solder it on the FPC sensor assembly.
⑩ Mount the cassette housing.
⑪ Following the description in para. 5 - 5, A/C head adjustment.

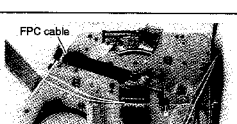


Fig. 3-9-1

Fig. 3-9-2

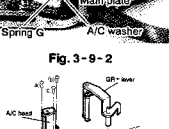


Fig. 3-9-3

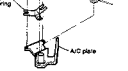


Fig. 3-9-4

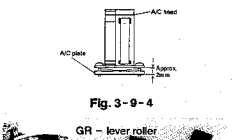


Fig. 3-9-5

4-10 Pinch roller assembly and Pinch roller replacement

4-10-1 Pinch roller assembly replacement

Removal

① Remove the cassette housing (see para. 4-1).
② Remove the A/C head assembly (see para. 4-9).
③ Pull out A/C washer and spring G off the A/C head mounting shaft.
④ Remove the cam gear TUG from the A/C head assembly mounting shaft.
⑤ Remove the pinch roller arm spring.
⑥ Remove screw ⓐ and then pinch roller washer.
⑦ Remove the pinch roller assembly from the shaft on the capstan motor stator.

Installation

① Mount the pinch roller assembly on the shaft on the capstan motor stator. Be sure to position the pin at lower part of the pinch roller assembly to the part of the takeup guide arm shown in Fig.3-10-2.
② Attach the pinch roller washer to the pinch roller assembly. Secure the pinch roller with the screw ⓐ.
③ The cam gear TUG has two positioning pins at the lower part. Attach the cam gear TUG to the takeup guide arm by first aligning the positioning pins with the positioning holes (Fig. 3-10-2) in the takeup guide.
④ Attach the spring G and A/C washer to the A/C head assembly mounting shaft.
⑤ Mount the A/C head assembly.
⑥ Mount the cassette housing.

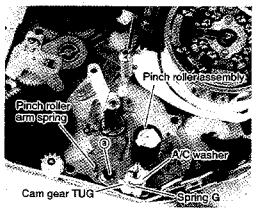


Fig. 3-10-1

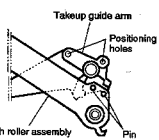


Fig. 3-10-2

4-10-2 Pinch roller replacement

Removal

① Remove the cassette housing (see para. 4-1).
② Set the deck to loaded status. Release the load just before the pinch roller touches the capstan motor shaft (see Fig. 3-10-3).
③ Move the GR-lever roller in the arrow - shown in Fig. 3-10-3, and then gradually remove the pinch roller cap.
④ Slide the pinch roller off the pinch roller arm shaft.

Installation

① Move the GR-lever roller in the direction of arrow.
② Make sure that the cam L-GR is attached on the pinch roller arm. Attach the pinch roller to the pinch roller arm shaft with orientation as shown in Fig. 3-10-4.
③ Attach the pinch roller cap to the pinch roller arm shaft with the orientation as shown in Fig. 3-10-4.

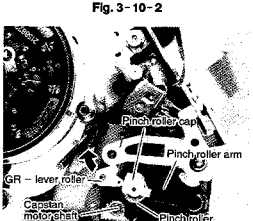


Fig. 3-10-3

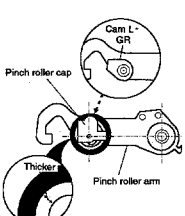


Fig. 3-10-4

4-11 Slant T replacement

Removal

① FPC cable connected to the A/C head is taped on the reverse of the main plate with pressure sensitive adhesive double coated tape (see Fig. 3-11-1). Detach it from the tape carefully and take it off the slant T.
② Remove screws ⓐ and ⓑ, and then slant T.

Installation

① Make sure that the lock arm spring and lock lever T-B are mounted as shown in Fig. 3-11-3.
② Attach the slant T to the main plate shaft.
③ Secure the slant T with screws ⓐ and ⓑ.
④ Put the FPC cable connected to the A/C head through slant T. Tape it on the reverse of the main plate with pressure sensitive adhesive double coated tape.

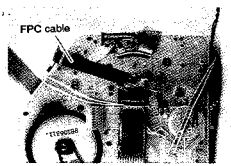


Fig. 3-11-1

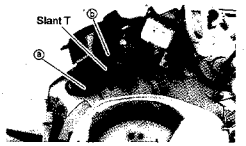


Fig. 3-11-2

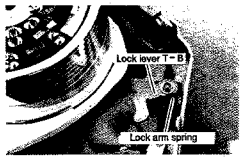


Fig. 3-11-3

4-12 Takeup guide arm replacement

Removal

① Remove the cassette housing (see para. 4-1).
② Remove the A/C head assembly (see para. 4-9).
③ Remove all the components described in para. 4-10-1 (Pinch roller assembly replacement).
④ Remove all the components described in para. 4-11 (Slant T replacement).
⑤ Remove the takeup guide arm from the stator shaft of the capstan motor and pin of the cam lever T.

Installation

① Attach the takeup guide arm to the stator shaft of the capstan motor so that the positioning pin of the cam lever T fits into the positioning hole in the link rod.
② Attach all the components described in para. 4-11 (Slant T replacement).
③ Attach all the components described in para.4-10-1 (Pinch roller assembly replacement).
④ Mount the A/C head assembly.
⑤ Mount the cassette housing.

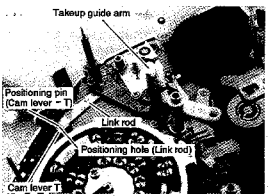


Fig. 3-12-1

4-13 Supply impedance roller replacement

Removal

① Remove the screw ⓐ and then the tape end sensor.
② Remove the impedance spring.
③ Remove the cut washer ⓑ. Pull the supply impedance roller assembly from the main plate shaft.

Installation

① Attach the supply impedance roller assembly to the main plate shaft and then secure the assembly with the cut washer ⓑ.
② Attach the impedance roller spring.
③ Secure the tape end sensor assembly with the screw ⓐ.

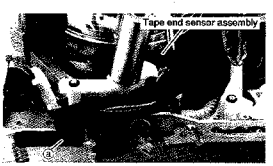


Fig. 3-13-1

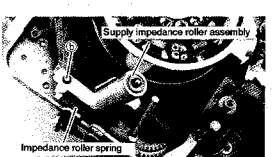


Fig. 3-13-2

4-14 Capstan motor replacement

Removal

① Remove the cassette housing (see para. 4-1).
② Remove all the components described in para. 4-6 (Reel gear replacement).
③ Remove the A/C head assembly (see para. 4-9).
④ Remove all the components described in para. 4-10-1 (Pinch roller assembly replacement).
⑤ Remove all the components described in para. 4-11 (Slant T replacement).
⑥ Remove the lock lever T-B and lock arm spring.
⑦ Remove the takeup guide arm (see para. 4-12).
⑧ Remove screws ⓐ and ⓑ and the tape pilot unit.
⑨ Remove washer ⓒ and the sub pinch roller spring.
⑩ While slightly lifting up the pinch roller lever B, remove the pin roller links A and B.
⑪ Remove the sync belt (see para. 4-7).
⑫ Remove screws ⓓ, ⓔ and ⓕ and then capstan motor.

Installation

① Pass the FPC cable of the capstan motor through the FPC entry hole in the main plate (Fig. 3-14-1) and under the pinch roller lever B; and then mount the capstan motor on the main plate.
② Secure the capstan motor with screws ⓓ, ⓔ and ⓕ.
③ Attach the sync belt.
④ While slightly liftting up the pinch roller lever B, insert the pin of the pinch roller link A into the hole of the pinch roller lever B. Mount the pinch roller links A and B.
⑤ Referring to Fig. 3-14-2, attach the sub pinch roller spring to the pinch roller link B. Secure the link B with the washer ⓒ shown in Fig. 3-14-1.
⑥ Secure the tape pilot unit with screws ⓐ and ⓑ. Tighten screw ⓐ first.
⑦ Attach the takeup guide arm.
⑧ Attach the lock arm spring and lock lever T-B.
⑨ Attach all the components described in para. 4-11 (Slant T replacement).
⑩ Attach all the components described in para. 4-10-1 (Pinch roller assembly replacement).
⑪ Mount the A/C head assembly.
⑫ Attach all the components described in para. 4-6 (Reel gear replacement).
⑬ Mount the cassette housing.

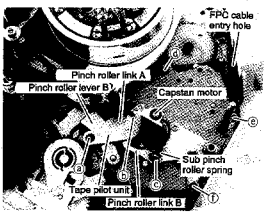


Fig. 3-14-1

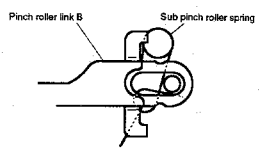


Fig. 3-14-2

4-15 Supply tape guide assembly and Supply guide roller replacement

4-15-1 Supply tape guide assembly replacement

Removal

① Remove the cassette housing (see para. 4-1).
② Remove the drum assembly (see para. 4-3).
③ Remove the reel disk (see para. 4-5).
④ Remove the supply impedance roller assembly (see para. 4-13).
⑤ On the FPC sensor board, desolder the two lead wires from the LED of the guide slider assembly.
⑥ Remove the cut washer ⓐ and then regulator tension.
⑦ Remove screws ⓑ, ⓒ and ⓓ, and then guide slider assembly.
⑧ Remove the supply tape guide assembly from the supply lever by moving the tape guide in the direction of arrow (Fig. 3-15-3).

Installation

① Attach the supply tape guide assembly to the supply lever by moving the guide in the direction opposite to arrow in Fig. 3-15-3.
② Pass the two lead wires from the LED of the guide slider assembly through the hole in the main plate. Secure the guide slider with screws ⓑ, ⓒ and ⓓ.
③ Solder the two lead wires from the LED mounted on the guide slider assembly to the FPC sensor board.
④ Secure the regulator tension with the cut washer ⓐ.
⑤ Attach the supply impedance roller assembly.
⑥ Mount the reel disk.
⑦ Mount the drum assembly.
⑧ Mount the cassette housing.

4-15-2 Supply guide roller replacement

Removal

① Remove the cassette housing (see para. 4-1).
② Load the deck to a degree so that the set screw can be turned.
③ Loosen the set screw enough for the guide roller to turn easily.
④ Turn the supply guide roller counter-clockwise and remove it from the supply tape guide.

Installation

① Turn the supply guide roller fully clockwise three times to fix it to the supply tape guide.
② Lightly tighten the set screw.
③ Mount the cassette housing.
④ Following the description in para. 5-2, check FM envelope and adjust it as necessary.

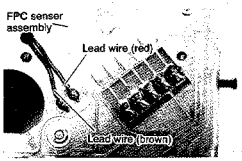


Fig. 3-15-1

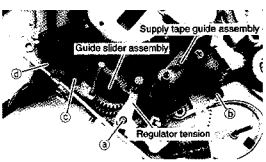


Fig. 3-15-2

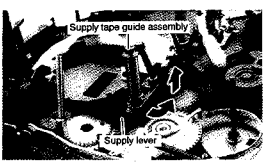


Fig. 3-15-3

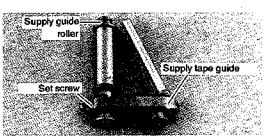


Fig. 3-15-4

4-16 Takeup tape guide assembly and Takeup guide roller replacement

4-16-1 Takeup tape guide assembly replacement

Removal

① Remove the cassette housing (see para. 4-1).
② Remove the drum assembly (see para. 4-3).
③ Remove screws ⓐ and ⓑ and then the guide slider T.
④ Slide the takeup tape guide assembly in the direction of arrow (Fig. 3-16-1) and remove it from the guide slider T.
⑤ Remove the cut washer ⓒ and then pull out the takeup tape guide assembly off the takeup arm shaft.

Installation

① Attach the takeup guide assembly to the takeup arm shaft. Secure the takeup tape guide assembly with the cut washer ⓒ.
② Attach the takeup tape guide assembly to the guide slider T by sliding the guide in the direction opposite to the arrow shown in Fig. 3-16-1.
③ Attach the junction of guide sliders T and R as shown in Fig. 3-16-1. Secure the guide slider T with screws ⓐ and ⓑ.

4-16-2 Takeup guide roller replacement

Removal

① Remove the cassette housing (see para. 4-1).
② Load the deck to a degree so that the set screw can be turned.
③ Loosen the set screw enough to allow the takeup guide roller to turn easily.
④ Turn the takeup guide roller counter-clockwise and remove it from the takeup tape guide.

Installation

① Turn the takeup guide roller fully clockwise three times to fix it to the takeup tape guide.
② Lightly tighten the set screw.
③ Mount the cassette housing.
④ Following the description in para. 5-2, check FM envelope and adjust it as necessary.

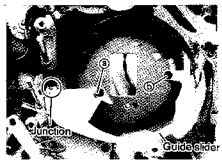


Fig. 3-16-1

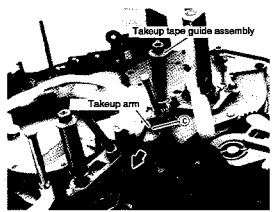


Fig. 3-16-2

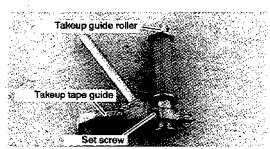


Fig. 3-16-3

4-17 Mode switch replacement

Removal

① Remove the cassette housing (see para. 4-1).
② Remove the drum assembly (see para. 4-3).
③ Remove the reel disk (see para. 4-5).
④ Remove the supply impedance roller assembly (see para. 4-14).
⑤ Following steps in para. 4-15-1(Supply tape guide assembly replacement), remove the guide slider assembly.
⑥ Remove screws ⓐ and ⓑ and then the guide slider R.
⑦ Remove the tension spring 1.
⑧ Remove the cut washer ⓒ and then the tension spring 2 and tension holder from the main plate shaft.
⑨ Remove the cut washer ⓓ and then the regulator arm from the main plate shaft.
⑩ Desolder the 5 solder terminals of the mode switch on the FPC sensor board.
⑪ Remove screws ⓔ and ⓕ, and then the mode switch.

Installation

① Make sure that the cam M positioning hole is aligned with the positioning hole in the main plate.
② Place the mode switch on the main plate so that the registration mark on the mode switch is aligned with that on the cam M. Secure the mode switch with screws ⓔ and ⓕ. Check continuity between the mode switch common terminal (COM) and each of other terminals (P0-P3).

The results should be as follows:
Between P0 ••••••• continuity
Between P1 ••••••• open
Between P2 ••••••• continuity
Between P3 ••••••• open

③ Solder the 5 solder terminals of the mode switch to the FPC board.
④ Fix the regulator arm tension holder and tension spring 2 to the main plate shaft with cut washers ⓒ and ⓓ.
⑤ Attach the tension spring 1.
⑥ Secure the guide slider R with screws ⓐ and ⓑ.
⑦ Mount the guide slider assembly, following the steps in para. 4-15-1 (Supply tape guide assembly replacement).
⑧ Mount the supply impedance roller assembly.
⑨ Mount the reel disk.
⑩ Mount the drum assembly.
⑪ Mount the cassette housing.

Fig. 3-17-1

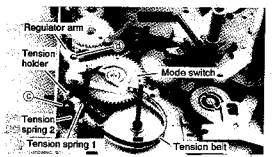


Fig. 3-17-2

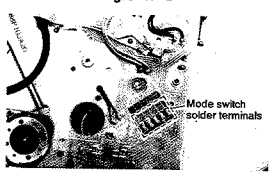


Fig. 3-17-3

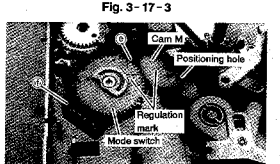


Fig. 3-17-4

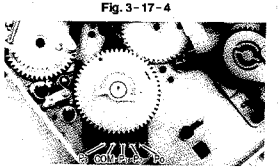


Fig. 3-17-5

4-18 Cam T replacement

Removal

① Remove the cassette housing (see para. 4-1).
② Remove the drum assembly (see para. 4-3).
③ Remove all the components described in para. 4-6 (Reel gear replacement).
④ Remove the sync belt (see para. 4-7).
⑤ Remove the A/C head assembly (see para. 4-9).
⑥ Remove the pinch roller assembly (see para. 4-10-1).
⑦ Remove all the components described in para. 4-11 (Slant T replacement).
⑧ Remove the takeup guide arm (see para. 4-12).
⑨ Remove all the components described in para. 4-14 (Capstan motor replacement).
⑩ Remove the spacer and cam lever T.
⑪ Remove the screw ⓐ and then cam T.

Installation

① Make sure that registration marks and positioning holes of components shown in Fig. 3-18-3 are aligned with corresponding mark and hole of the main plate. Secure the supply cam S and cam S.
② Make sure that the lock lever T-A is attached on the main plate shaft.
③ Align the positioning holes of lock lever T-A,main plate and cam T. Attach the cam T to the main plate mounting shaft. Make sure that the gears of the cam T and takeup ring unit are meshed with each other.
④ Secure the cam T with screw ⓐ.
⑤ Attach the cam lever T and spacer to the main plate mounting shaft. Make sure that the cam T lower pin is in the groove in the cam T.
⑥ Mount all the components described in para. 4-14 (Capstan motor replacement).
⑦ Mount the takeup guide arm.
⑧ Mount all the components described in para. 4-11 (Slant T replacement).
⑨ Attach the pinch roller assembly.
⑩ Mount the A/C head.
⑪ Attach the sync belt.
⑫ Mount all the components described in para. 4-6 (Reel gear replacement).
⑬ Mount the drum assembly.
⑭ Mount the cassette housing.
⑮ Pull out the pin off the positioning hole in the supply cam S and cam S.

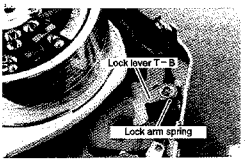


Fig. 3-18-1

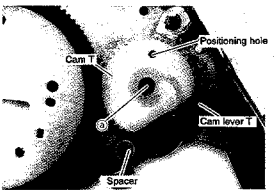


Fig. 3-18-2

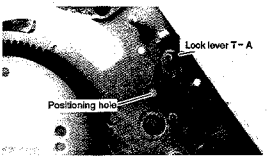


Fig. 3-18-3

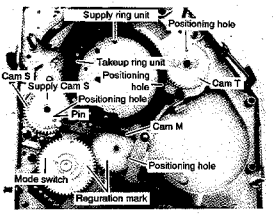


Fig. 3-18-4

4-19 Tape guide stopper assembly replacement

Removal

① Remove the cassette housing (see para. 4-1).
② Remove the drum assembly (see para. 4-3).
③ Remove one screw ⓐ on the lower to dismount the tape guide stopper assembly and two screws ⓑ and ⓒ on the upper of tape guide stopper assembly.

Installation

① Fix the tape guide stopper assembly with two screws ⓑ and ⓒ on the upper and one screw ⓐ on the lower.
② Mount the drum assembly.
③ Mount the cassette housing.

Fig. 3-19-1

Fig. 3-19-2

5. ADJUSTMENTS

5-1 Back tension and Tension pole adjustment

① Set the unit to play mode.
② Measure the distance between the regulator tension pole and the internal surface of the main plate: should be 0.7 ± 0.2 mm (Fig. 4-1-1).
③ If the measurement is outside the range, adjust the regulator tension pole position adjuster screw for 0.7 ± 0.2 mm.
④ Set the back tension meter and set the unit to play mode.
⑤ When tape running becomes stable, read the back tension meter.
⑥ The reading should be 15 ± 3 g-cm.
⑦ If not, replace the tension spring 1 with a new one.
⑧ When tape running becomes stable, read the back tension meter, it should not vary 4 g-cm or more.
⑨ If the back tension varies more than 4 g-cm, the cause may be eccentric or defective reel disk. Replace with a new one.
⑩ After adjustment, record and play and check for no skew distortion and other parameters.

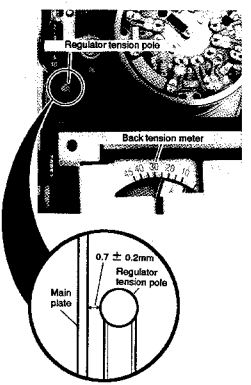


Fig. 4-1-1

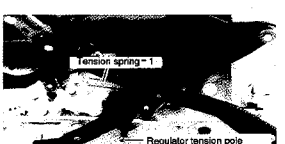


Fig. 4-1-2

5-2 FM envelope check and adjustment

5-2-1 Guide roller check

① Play back the tape recorded using the recorder being tested.
② Visually check the tape at the supply and takeup guide rollers. There should be no gap between the lower face of the upper flange of the guide roller and the upper edge of the tape; and no wrinkle or crease.
③ Play an alignment tape (staircase waveform : PM6KE2CS).
④ Connect an oscilloscope to the TP2A. Trigger on the signal on TP5A.
⑤ Connect TP5R and TP5S to ground to force the digital tracking to enter preset mode.
⑥ Make sure that the both positive and negative peaks of the waveform are flat as shown in A of Fig. 4-2-1.
⑦ If the leading portion of FM waveform (supply side of the drum) is not flat (B, C of Fig. 4-2-1), adjust the height of the supply guide roller according to para. 5-2-2. If the period between adjacent FM waveforms is not flat (as waveforms D and E, drum takeup side), adjust the height of the takeup guide roller according to para. 5-2-3.

Note :
Turn the power off, and digital tracking mode will be set.

5-2-2 Supply guide roller height adjustment

① Loosen the set screw enough for the supply guide roller to turn easily.
② If the leading edge of the FM waveform (at drum supply side) looks like B in the figure, the height of the supply guide roller is low; if looks like C, the roller is high: adjust the height of the guide roller as described below, for obtaining flat waveform (A in the figure).
- Counterclockwise to raise the roller
- Clockwise to lower the roller

③ After adjustment, go to the phase adjustment (coarse).

5-2-3 Takeup guide roller height adjustment

① Loosen the set screw enough for the takeup guide roller to turn easily.
② If the period between adjacent FM waveforms (at drum takeup side) looks like D in the figure, the height of the takeup guide roller is low; If looks like E, the roller is high: adjust the height of the guide roller as described below, for obtaining flat waveform (A in the figure).
- Counterclockwise to raise the roller
- Clockwise to lower the roller

③ After adjustment, go to the phase adjustment (coarse).

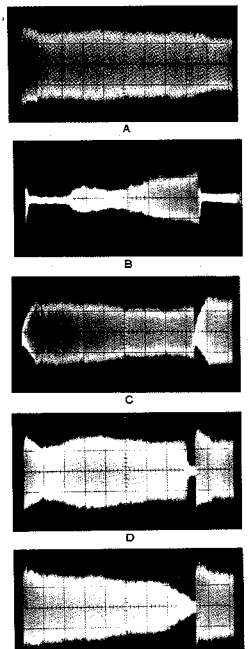


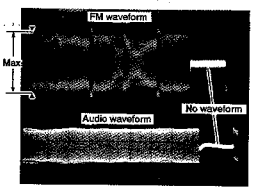
Fig. 4-2-1

5-3 Phase adjustment (coarse)

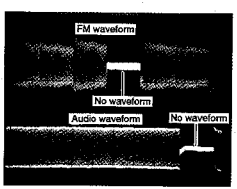
① Play the alignment tape (PMX-C).
② Connect the TP5R and TP5S of the PCB VTR to ground to force the digital tracking to enter preset mode.
③ Connect TP2A (PCB VTR) to CH-1, and audio output terminal to CH-2 of the oscilloscope. Trigger the scope on the signal from the TP5A (PCB VTR).
④ Absence of FM waveform and audio waveform should be almost conincidental (A of Fig.4-3-1).
⑤ If the absence of FM waveform and audio waveform is completely out of phase as shown in B or C of the figure, turn the phase adjuster screw clockwise until the FM waveform looks like the waveform in A.
⑥ Fine tune the phase adjuster screw fo maximum FM wave amplitude without changing its phase with respect to that of audio signal.
⑦ After adjustment, apply locking material (paint or the like) to the phase adjuster screw.

Note :

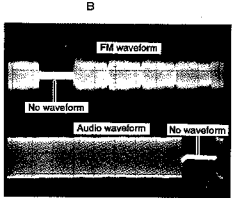
Turn the power off, and digital tracking mode will be set.



A



B



C

Fig. 4-3-1

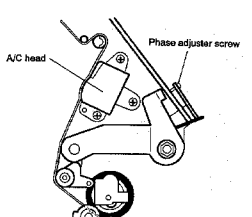


Fig. 4-3-2

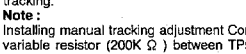
5-4 FM waveform flatness check

① Play the alignment tape (staircase waveform : PM6KE2CS).
② Connect the oscilloscope to TP2A. Trigger on the TP5A output.
③ Connect the TP5R and TP5S of the VTR board to ground to force the digtal tracking to enter the preset mode.
④ Press PAUSE button. This enters manual digital tracking mode, enabling manual adjustment of tracking.

Note :

Installing manual tracking adjustment Connect a variable resistor (200K Ω) between TP5S and TP5R.

This variable resistor is the manual tracking adjustment.



⑤ Turn the manual tracking adj., verify that the amplitude of the FM waveform varies while remaining flat.
⑥ Set the manual tracking for maximum amplitude. Adjust vertical gain of the oscilloscope so that the waveform amplitude equais 5 divisions on the scope graticule.
⑦ Adjust the manual tracking adj. so that the middle portion(Portion "b" in Fig. 4-4-1) of the waveform is 80% the maximum amplitude, i.e. 4 divisions of the scope graticule. Verify that the FM waveform amplitude at drum supply side (portion "a" in the figure) and takeup side (portion "b" in the figure)are at 3.2 divisions of graticule.
⑧ If these values are not met, repeat the adjustment steps.

Note :

Turn the power off, and digital tracking mode will be set.

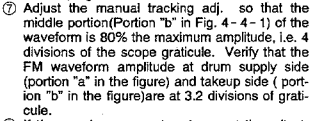


Fig. 4-4-1

5-5 A/C head adjustment

5-5-1 A/C head height, azimuth and slant adjustment

① Play the tape recorded using the recorder being adjusted.
② Alternately adjust the A/C head height adjuster screw and azimuth screw (ⓐ , ⓑ in Fig. 4-5-1) so that the top edge of the tape comes just below the top of the audio head as shown in Fig. 4-5-2.
③ Play the alignment tape (6 kHz audio signal : PM6KE2CS).
④ Connect the oscilloscope to an audio output terminal (CH R or L).
⑤ Alternately adjust A/C head height adjuster screw and azimuth adjuster screw (ⓐ, ⓑ) so that the audio output is maximum.
⑥ Play the tape used in step (1).
⑦ Verify that the tape position at the takeup guide arm roller is as shown in Fig. 4-5-4, "A" (lower tape edge is at the level of top face of the lower flange of the roller).
⑧ If the tape is positioned as shown in B or C of Fig. 4-5-4, adjust the A/C head slant adjuster screw (ⓒ in Fig. 4-5-1) to bring the tape to the position shown in A of Fig. 4-5-4.

When it looks like B: turn the screw ⓒ clockwise.

When it looks like C: turn the screw ⓒ counterclockwise.

Note :

Because the tape will not quickly respond to height adjustment, turn the screw ⓒ a little at a time, and then observe the tape for a while; and readjust as necessary.

⑨ After adjusting, disengage the tape. Reengage the tape and make sure that the tape comes at the position A of Fig. 4-5-4 in one second.
⑩ If the tape failis step ⑨, repeat steps ⑦ to ⑨.

Note :

One cycle of above steps may not bring satisfactory result. These steps may have to be repeated for fine tuning.

⑪ When the adjustment is complete, apply screw locking material (paint or the like) to A/C head adjuster screws ⓐ, ⓑ and ⓒ.

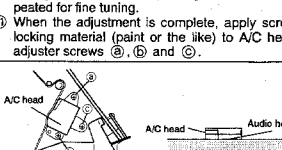


Fig. 4-5-1

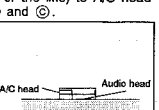


Fig. 4-5-2

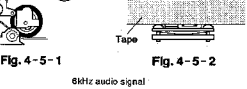


Fig. 4-5-3

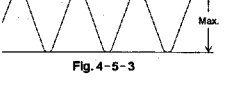


Fig. 4-5-4

5-6 GR-lever roller tape runing adjustment

Note:
This adjustment must follow the GR- lever roller height adjustment.

① Play a tape recorded using the recorder being adjusted.
② Observe status of the tape passing the GR lever roller against status illustrations in Fig. 4-6-1.
③ If the tape status looks like C or D in Fig. 4-6-1, adjust the GR-lever height adjuster nut shown in Fig. 4-6-2 so that the tape condition is A or B in Fig. 4-6-1.

Note:
Do not turn the GR-lever height adjuster nut more than 1/2 turn.

④ After adjustment, unload the tape. Load the tape again and set to play mode, and make sure the tape becomes status A or B in one second.
⑤ If not, repeat the step ③.

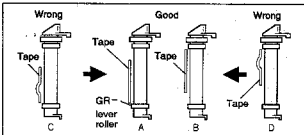


Fig. 4-6-1

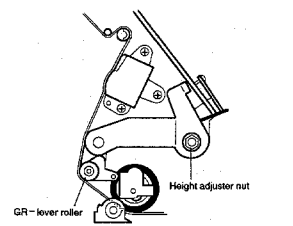
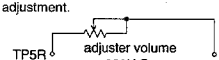


Fig. 4-6-2

5-7 Phase adjustment (fine)

① Connect the oscilloscope to TP2A and trigger on the signal from the TP5A.
② Play the alignment tape. [PM3KE6(CH1)C35]
③ Connect the TP5R and TP5S of the VTR board to ground to force the digital tracking to enter the preset mode.
④ Adjust the phase adjuster screw so that the FM waveform is maximum.
⑤ Press PAUSE button. This enters manual digital tracking mode, enabling manual adjustment of tracking.

Note:
Installing manual tracking adjustment Connect a variable resistor (200K Ω) between TP5S and TP5R.
This variable resistor is the manual tracking adjustment.



⑥ Adjust the manual tracking adj. so that the FM waveform is maximum aplitude. Adjust the vertical gain control of the oscilloscope so that the FM waveform swings across 5 divisions on the graticule.
⑦ Press the pause button. The digital tracking is now in preset mode.
⑧ Verify that the amplitude is 4.8 divisions or more on the scope graticule.
⑨ If the amplitude is lower than this value, clean the drum by following the stels of para. 2 - 1 (Cleaning the video heads).
⑩ Repeatedly load and unload a tape for use with the recorder, verify that the FM waveform won't vary.

Note :
Turn the power off, and digital tracking mode will be set.

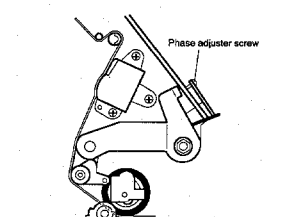


Fig. 4-7-1

Fig. 4-7-2

KEY TO ABBREVIATIONS

A/C	Audio/Control
ACC	Automatic Color Control
A.E	Audio Erase
AFC	Automatic Frequency Control
AFT-D	Automatic Fine Tuning Door Switch
AGC	Automatic Gain Control
AL	After Load
AMP	Amplifier
ANT	Antenna
A-PB	Audio-Playback
A-REC	Audio-Recording
ALC	Automatic Level Control
B-FS	Brake Forward Search
B-RS	Brake Reverse Search
BPF	Band-Pass Filter
B/W	Black and White
BS	Band SW
CASS	Cassette
CP	Capstan
CP-FG	Capstan-Frequency Generator
CP-F/R	Capstan-Forward/Reverse
CP-M	Capstan-Motor
CONV	Converter
CTL	Control
C-LAMP	Cassette Lamp
C-I LAMP	Cassette Indicator Lamp
CE	Chip Enable
$\overline{CE}$	Not Chip Enable
CK	Clock
CL	Clear
CNT	Counter
CP R-R	Capstan Reverse Rotation
CS-1	Cassette Switch 1
CS-2	Cassette Switch 2
DAL	Delay-After Loading
DEMOD	Demodulator
DET	Detector
DL	Delay Line
DL-REV	During Reverse
DL-FWD	During Forward
DOC	Drop Out Compensator
DL-SL	During Slow
DL-$\overline{SS}$	During Not Speed Search
DOP	Drop Out Pulse
EF	Emitter Follower
EMPHA	Emphasis
EQ	Equalizer
EE	Electronic-Electronic
ES	End Sensor
FE-H	Full Erase Head
FF	Fast Forward
FG	Frequency Generator
FL-SW	Front Loading SW
FLM	Front Loading Motor
F/R-SW	FF/Rewind Switch
F/R	Forward/Reverse
FS	Forward Search
G	Ground
HE	Hall Element
H-LED	Humidity-LED
H-SENS	Humidity-Sensor
HPF	High-Pass Filter
LIM	Limiter
LPF	Low-Pass Filter
LM	Loading Motor
MDA	Motor Drive Amplifier
MC	Mechanical Control
MIC	Microphone
MOD	Modulator
$\overline{N}$	Not Normal
OPE	Operation
OSC	Oscillator
O-PWV	ON/OFF Command from Remote Decoder
PB	Play Back
PG	Pulse Generator
P/R-SW	P.B/REC-SW
PCB	Printed Circuit Board
PIC	Picture Control
P/R	Play/Record
PSC	Pulse swallow control
PWT-SET	Power TV Set
PWV	ON/OFF Command to B+ Switching Circuit
REC	Recording
REF	Reference
RIS	Record Inhibit Switch
REW	Rewind
REG	Regulator
RS	Reverse Search
REC-2	Record Command for the Fine Editing Circuit
R-FS	Reel Drive Forward Search
R-P/R	Reel Drive Play/Record
S/AL	Stop After Load
SL	Slow
SLOK	Slow OK
S/P	Still/Pause
SS	Start Sensor
SRV-REC	Servo Record
$\overline{SS}$	Not Speed Search
S-STOP	Stop Command
STOK	Still OK
STW	Stop Watch
SENS	Sensor
STBY	Stand By
TM	Take up Motor
T-REC	Timer-Record
T.P	Test Point
TR	Transistor
TU-P	Tuner-Power
UL	Unload
VS	Voltage Synthesizer
V.SYNC	Vertical Sync
VCO	Voltage Controlled Oscillator
VXO	Variable Crystal Oscillator
W/D	White/Dark
X'OSC	Crystal Oscillator
Y/C	Luminance/Chrominance

CHIP PARTS REPLACEMENT

CHIP PARTS REPLACEMENT

Some resistors, shorting jumpers (0Ω resistor), ceramic capacitors, transistors and diodes are chip parts which are used for certain circuit elements. When replacing these parts, note the cautions as follows.

Cautions:

A. Use fine tipped, well insulated soldering pencil (iron) about 30 watts and the tweezers.
B. Melting the solder, remove the Chip Parts carefully not to tear off the copper foil of the printed circuit board.
C. Discard removed chips; do not reuse them.
D. Do not apply heat for more than 3 seconds to the new chip Parts.
E. Avoid using a rubbing stroke when soldering.
F. Take care not to scratch when soldering, or damage the Chip Parts.
G. Supplementary cementing is not required.

1 Removal of chip Parts (Resistors, capacitors, etc.)

A. Grasp the part with tweezers. Melting the solder at both side alternately, remove the one side of the part with a twisting motion.
B. Melt the solder at the other side and remove the part.

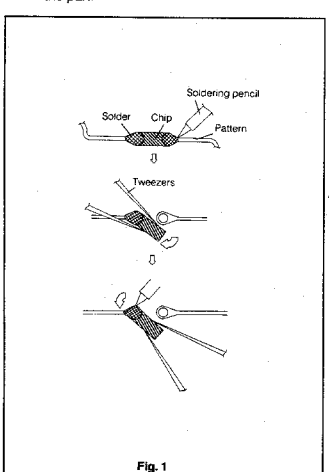


Fig. 1

2 Removal of Chip Parts (Transistors)

A. Melting the solder of one lead, Lift the side of that lead upward.
B. Simultaneously melt the solder of the two remaining leads and lift the part to remove.

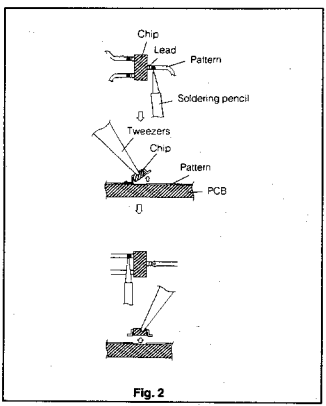


Fig. 2

3 Replacement

A. Presolder the contact points of the circuit pattern.
B. Press the part downward with tweezers and apply the soldering pencil as shown in the figure.

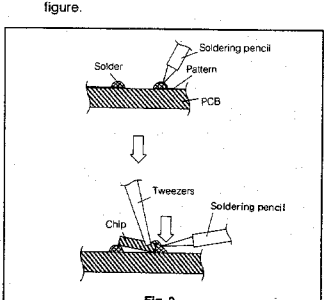
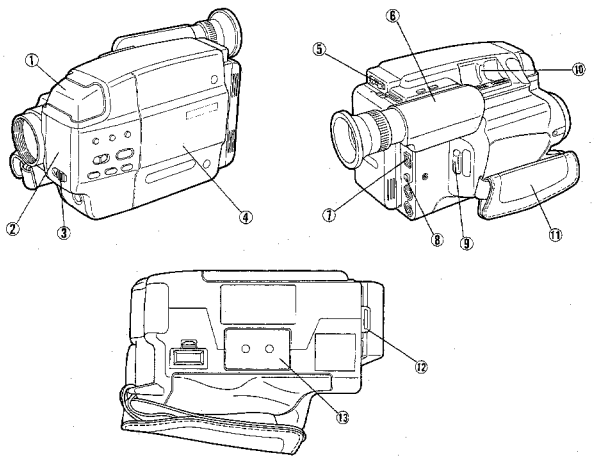


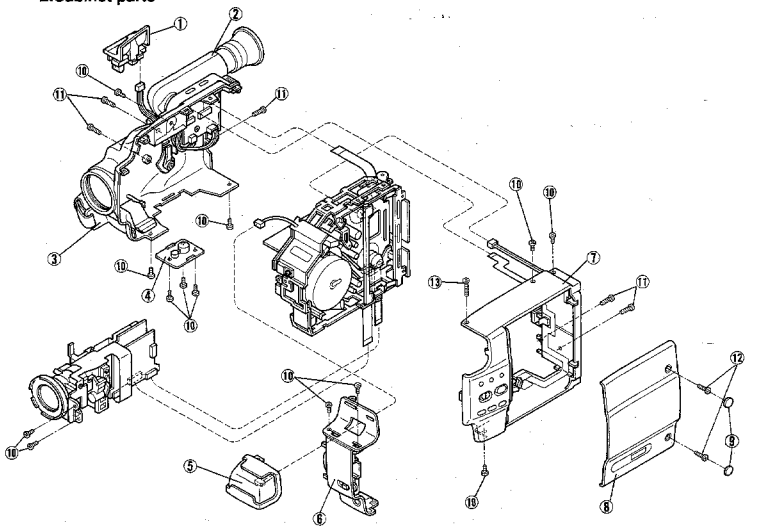
Fig. 3

PARTS LIST
1.Outer parts



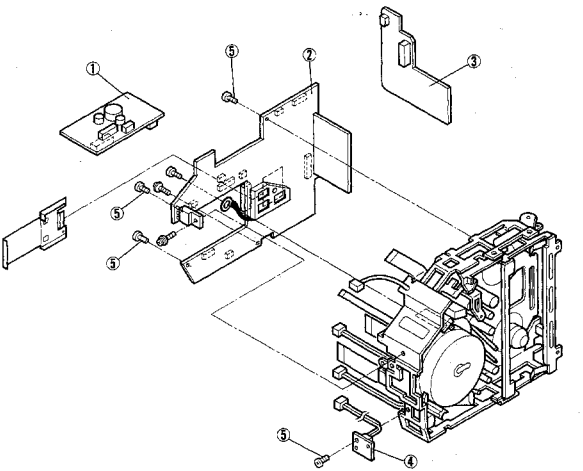
ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION
1	485P018010	MICROPHONE UNIT	[1A, 1B, 1E]
1	485P017010	MICROPHONE UNIT	[4A, 4B, 4E]
2	7018233070	FRONT PANEL UNIT	[1A, 1B, 1E]
2	7018233030	FRONT PANEL UNIT	[4A, 4B, 4E]
3	734D542010	LENS COVER KNOB	
4	7028828050	CASSETTE HOUSING	[1A, 1B, 1E]
4	7028828040	CASSETTE HOUSING	[4A, 4B, 4E]
5	704C803010	POWER KNOB	
6	939P438030	EVF-UNIT	MC9009M-3
7	704C804010	EJECT KNOB	
8	704C802010	RELEASE BUTTON	
9	704C800010	TRIGGER BUTTON	
10	439P030010	ZOOM SWITCH	
11	772C016020	GRIP BELT	
12	768D143010	STRAP HOLDER	
13	769C004010	TRIPOD BASE	

2.Cabinet parts



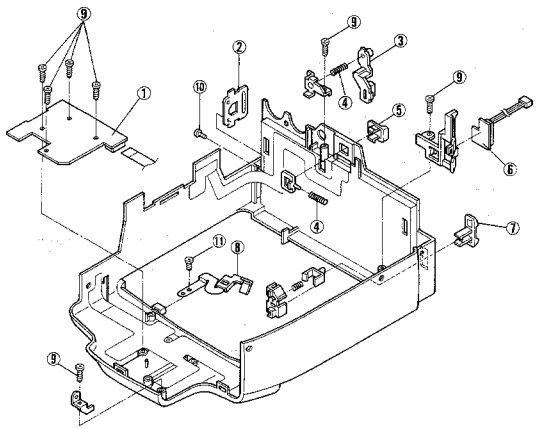
ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION
1	439P030010	ZOOM SWITCH	
2	939P438030	EVF-UNIT	MC9009M-3
3	701B231080	CASE UNIT (L)	[1A, 1B, 1E]
3	701B231040	CASE UNIT (L)	[4A, 4B, 4E]
4	769C004010	TRIPOD BASE	
5	485P018010	MICROPHONE UNIT	[1A, 1B, 1E]
5	485P017010	MICROPHONE UNIT	[4A, 4B, 4E]
6	701B233070	FRONT PANEL UNIT	[1A, 1B, 1E]
6	701B233030	FRONT PANEL UNIT	[4A, 4B, 4E]
7	701B232050	CASE UNIT (R)	[1A, 1B, 1E]
7	701B232040	CASE UNIT (R)	[4A, 4B, 4E]
8	702B828050	CASSETTE HOUSING	[1A, 1B, 1E]
8	702B828040	CASSETTE HOUSING	[4A, 4B, 4E]
9	722D007030	SEAL	[1A, 1B, 1E]
9	722D007020	SEAL	PC TO.2 [4A, 4B, 4E]
10	669D372010	SCREW	M2X4
11	669D410010	SCREW (TAPPING)	M2X6
12	669D317030	SCREW	M2X0.4-5 (10P)
13	669D372040	SCREW	M2X10

3.Chassis Assembly Parts



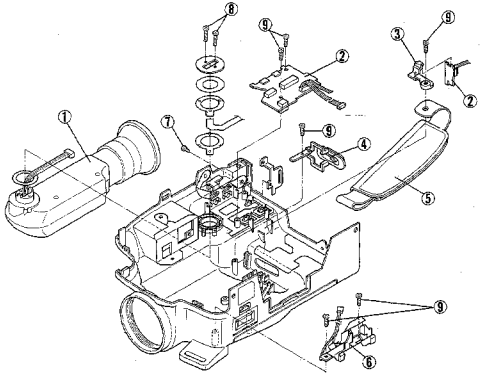
ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION
1	928C719003	VTR-SUB PCB ASSY	
2	927B512001	VTR PCB ASSY	[1A, 1B, 1E]
2	927B512002	VTR PCB ASSY	[4A, 4B, 4E]
3	928C747002	REAR PCB ASSY	[1A, 1B, 1E]
3	928C747003	REAR PCB ASSY	[4A, 4B, 4E]
4	939P439020	CAMERA SW UNIT	FADE
5	669D372010	SCREW	M2X4

4.Case Assembly(Right side) Parts



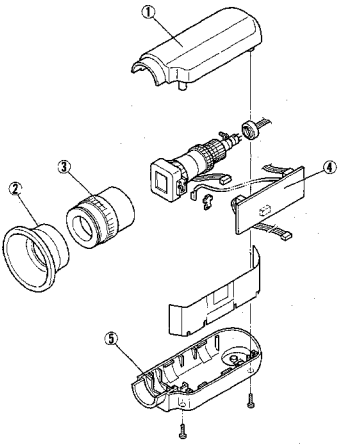
ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION
1	939P439010	CAMERA SW UNIT	MENU +
2	758D143010	STRAP HOLDER	
3	704C802010	RELEASE BUTTON	
4	572D535010	EJECT SPRING	
5	704C804010	EJECT KNOB	
6	928C725001	POWER SW PCB ASSY	
7	704C803010	POWER KNOB	
8	621D787020	TAPE GUIDE	
9	669D435030	SCREW (TAPPING)	1.7X6
10	669D372010	SCREW	M2X4
11	669D435010	SCREW (TAPPING)	1.7X4

5.Case Assembly(Left side) Parts

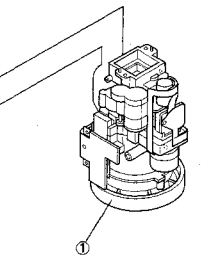


ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION
1	939P438030	EVF-UNIT	MC9C09M-3
2	928C746003	VTR SW PCB ASSY	
3	621C114010	RETAINER BELT	
4	704C800010	TRIGGER BUTTON	
5	772C016020	GRIP BELT	
6	701C025010	BACK-UP BATTERY UNIT	
7	669D372020	SCREW	M2X6 (10P)
8	669D322070	SCREW (TAPPING)	2X8
9	669D435030	SCREW (TAPPING)	1.7X6

6.EVF(Electronic View Finder) unit Parts

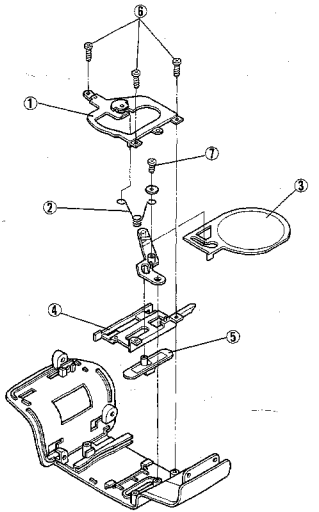


7.Camera unit Parts

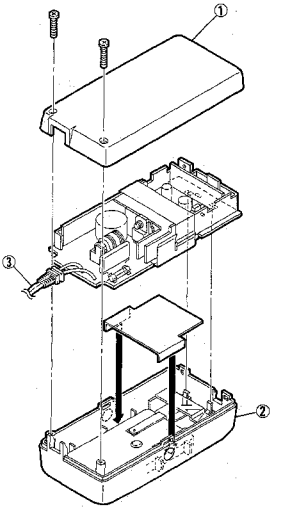


ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION
		EVF UNIT	
1	701D073050	TOP CASE	EVF
2	765D039040	EYE CAP	EVF
3	409D009070	LENS ASSY(EVF)	
4	928D041030	EVF PCB ASSY	
5	701D073060	BOTTOM CASE	EVF
		LENS UNIT	
1	490P093010	LENS UNIT	T8D

8.Front panel Assembly Parts

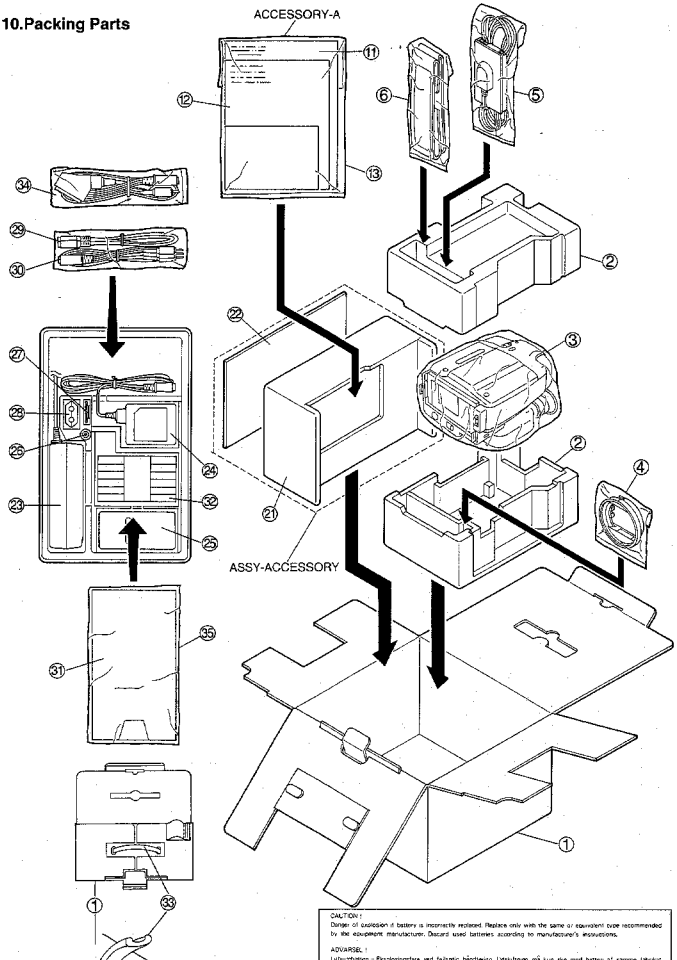


9.AC Power Adapter Parts



ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION
		FRONT PANEL UNIT	
1	621C125010	LENS COVER HOLDER	
2	572D573010	LENS COVER SPRING	
3	761D718020	LENS COVER	[1A, 1B, 1E]
3	761D718010	LENS COVER	[4A, 4B, 4E]
4	621C149010	KNOB HOLDER	
5	734D542010	LENS COVER KNOB	
6	669D435030	SCREW (TAPPING)	1.7X6
7	669D435010	SCREW (TAPPING)	1.7X4
		AC POWER ADAPTER	
1	700D029050	BOTTOM CASE	[1A, 4A]
1	700D029040	BOTTOM CASE	[1B, 4B]
1	700D029030	BOTTOM CASE	[1E, 4E]
2	700D028030	TOP CASE	
3	242D410050	AC POWER CORD	[1A, 4A]
3	242D410040	AC POWER CORD	[1B, 4B]
3	242D410030	AC POWER CORD	[1E, 4E]
		Note : Broken AC power cord must be exchanged with a new original power cord.	

10.Packing Parts



ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
		PACKING PARTS		
1	801C129090	PACKING CASE		[1A]
1	801C129080	PACKING CASE		[1B]
1	801C129070	PACKING CASE		[1E]
1	801C129060	PACKING CASE		[4A]
1	801C129050	PACKING CASE		[4B]
1	801C129040	PACKING CASE		[4E]
2	803A282010	PACKING CUSHION		
3	831D177070	PACKING BAG		
4	702C999010	ATTACHMENT RING		
5	939P437020	DC CABLE UNIT		
6	772P021020	SHOLDER BELT		
		ACCESSORY – A		
11	872C042000	INSTRUCTION BOOK	ENGLISH	[1A, 1B, 1E]
11	872C042010	INSTRUCTION BOOK	GERMAN	[1E]
11	872C042020	INSTRUCTION BOOK	SPANISH	[1E]
11	872C041070	INSTRUCTION BOOK	ENGLISH	[4A, 4B, 4E]
11	872C041080	INSTRUCTION BOOK	GERMAN	[4E]
11	872C041090	INSTRUCTION BOOK	SPANISH	[4E]
12	851B635010	SHEET CAUTION		
13	831D181020	PACKING BAG		
		ASSY – ACCESSORY		
21	803A283010	PACKING CUSHION		
22	801C130050	PACKING SHEET		[1A, 4A]
22	801C130040	PACKING SHEET		[1B, 4B]
22	801C130030	PACKING SHEET		[1E, 4E]
23	939P450030	AC ADAPTER		[1A, 4A]
23	939P450020	AC ADAPTER		[1B, 4B]
23	939P450010	AC ADAPTER		[1E, 4E]
24	295P291010	RF CONVERTER	DAR-M1A	[1A, 4A]
24	295P290010	RF CONVERTER	DAR-M1EB	[1B, 4B]
25	939P455010	BATTERY PACK		
26	----------	BATTERY		
27	283P035020	BACK UP BATTERY	Lithium battery CR2025	
28	451C072010	AC JACK		[1E, 4E]
29	2420231030	CABLE	1.5M	[1A, 1B, 4A, 4B]
30	243C111010	CABLE		[1A]
30	243C062010	AV CABLE		[4A]
31	908C137002	CASSETTE ADAPTER		
32	471P062010	C-VIDEO-CASSETTE		
33	829D094010	QUICK HAND		
34	831D252010	PACKING BAG		
35	831D252040	PACKING BAG		
36	246C139010	CABLE		[1B, 1E, 4B, 4E]

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
INTEGRATED CIRCUITS				
IC201	272P548010	IC	AN3348FBP	
IC2A1	272P572010	IC	M52351FP	
IC2AA	263P565010	IC	MN5179	
IC2AB	263P568010	IC	MN3110SA	
IC2AC	272P604010	IC	CXA1439M	
IC2AD	263P220010	IC	SC7SU04F	
IC2P1	272P749010	IC	TL8819F	
IC2R1	274P121010	IC	MB88346A	
IC2001	272P762010	IC	NJM2249M	
IC2002	272P546010	IC	MM1031XMR	
IC300	272P375010	IC	BA7757BK	
IC350	272P675010	IC	BA3308F	
IC3A0	272P541010	IC	AN3935NFHP	[4A, 4B, 4E]
IC3AA	272P700010	IC	AN2163FHP	
IC3AB	274P054010	IC	MN3819S	
IC3AC	274P053010	IC	MN3620S	
IC3AD	274P121010	IC	MB88346A	
IC3AE	274P121010	IC	MB88346A	
IC401	272P485020	IC	NJM2902V	
IC402	272P205040	IC	LM2903DB	
IC4AA	263P596010	IC	MN730333XRA	
IC4B0	272P540010	IC	VC5035	
IC4D0	272P542010	IC	LB1617M-TP-T1	
IC4G0	272P705010	IC	LM2904DB	
IC500	263P370010	IC	LC3564PML	[4A, 4B, 4E]
IC5D1	263P564010	IC	BU2707K	[4A, 4B, 4E]
IC502	272P673010	IC	AN2355AP	[4A, 4B, 4E]
IC503	272P447010	IC	NJM2235M	
IC504	272P366020	IC	LM311DB	[4A, 4B, 4E]
IC5D5	274P070010	IC	SN74HC08DB	
IC5A0	274P060010	IC	M37405M5-136FP	
IC5A1	263P440010	IC	S-8054HNM	
IC5A2	272P674010	IC	M5237ML	
IC5AA	274P001010	IC	M37450M8-470FP	
IC5AB	272P705010	IC	LM2904DB	
IC5AC	272P485010	IC	LM2902DB	
IC5AE	272P703010	IC	LM2901DB	
IC5D0	272P556010	IC	TA7291F(ER)	
IC5EA	263P427010	IC	S-29181F	
IC5FA	272P704010	IC	TB6503AF	
IC5GA	263P596020	IC	CF79104PM	[1A, 1B, 1E]
IC5GA	263P596030	IC	CF79114PM	[4A, 4B, 4E]
IC5LA	272P485010	IC	LM2902DB	
IC5RA	272P357010	IC	RST529C	
IC5ZA	272P358020	IC	TK10501M	
IC6A1	272P748010	IC	AN2465NFHP	
IC6AA	272P485010	IC	LM2902DB	[4A, 4B, 4E]
IC6AB	263P217010	IC	SC14S66F	[4A, 4B, 4E]
IC6AC	263P217010	IC	SC14S66F	[4A, 4B, 4E]
IC800	274P061010	IC	M37460M8-087FP	
IC801	263P373010	IC	S-81350HG-KD-T1	
IC802	263P375010	IC	S-80725AL-AN-T1	
IC803	263P440010	IC	S-8054HNM	

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
IC902	272P547010	IC	MB3782PF-G-BND	
TRANSISTORS				
Q 202	260P854020	TRANSISTOR(C)	2SC4098-P	
Q 205	260P854020	TRANSISTOR(C)	2SC4098-P	
Q 221	260P877020	TRANSISTOR(C)	2SC4618-P	[4A, 4B, 4E]
Q 222	260P877020	TRANSISTOR(C)	2SC4618-P	[4A, 4B, 4E]
Q 223	260P877020	TRANSISTOR(C)	2SC4618-P	[4A, 4B, 4E]
Q 224	260P877020	TRANSISTOR(C)	2SC4618-P	[4A, 4B, 4E]
Q 225	260P877020	TRANSISTOR(C)	2SC4618-P	
Q 226	260P877020	TRANSISTOR(C)	2SC4618-P	
Q 227	260P877020	TRANSISTOR(C)	2SC4618-P	
Q 228	260P877020	TRANSISTOR(C)	2SC4618-P	
Q 291	260P859050	TRANSISTOR(C)	2SA1576-R	
Q 292	260P859050	TRANSISTOR(C)	2SA1576-R	
Q 294	260P859050	TRANSISTOR(C)	2SA1576-R	
Q 2A1	260P852010	TRANSISTOR(C)	FMG2/XN1213	
Q 2A3	260P857020	TRANSISTOR(C)	DTC144EU	
Q 2A4	260P857020	TRANSISTOR(C)	DTC144EU	
Q 2A6	260P854020	TRANSISTOR(C)	2SC4098-P	
Q 2A9	260P857020	TRANSISTOR(C)	DTC144EU	
Q 2AA	260P870010	TRANSISTOR(C)	2SA1610Y34	
Q 2AB	260P869010	TRANSISTOR(C)	2SC4176B35	
Q 2AC	260P870010	TRANSISTOR(C)	2SA1610Y34	
Q 2AD	260P869010	TRANSISTOR(C)	2SC4176B35	
Q 2AE	260P854030	TRANSISTOR(C)	2SC4098-Q	
Q 2AH	260P854030	TRANSISTOR(C)	2SC4098-Q	
Q 2AJ	260P867050	TRANSISTOR(C)	2SD1949	
Q 2AK	260P859050	TRANSISTOR(C)	2SA1576-R	
Q 2D0	260P854020	TRANSISTOR(C)	2SC4098-P	
Q 2D2	260P854020	TRANSISTOR(C)	2SC4098-P	
Q 2DA	260P854030	TRANSISTOR(C)	2SC4098-Q	
Q 2H0	260P854020	TRANSISTOR(C)	2SC4098-P	
Q 2H2	260P859050	TRANSISTOR(C)	2SA1576-R	
Q 2H3	260P854020	TRANSISTOR(C)	2SC4098-P	
Q 2H4	260P859050	TRANSISTOR(C)	2SA1576-R	
Q 2P0	260P854020	TRANSISTOR(C)	2SC4098-P	
Q 2P1	260P854020	TRANSISTOR(C)	2SC4098-P	
Q 2V0	260P861050	TRANSISTOR(C)	2SA1577A-Q	
Q 2V1	260P861050	TRANSISTOR(C)	2SA1577A-Q	
Q 2001	260P854030	TRANSISTOR(C)	2SC4098-Q	
Q 2002	260P854030	TRANSISTOR(C)	2SC4098-Q	
Q 2004	260P854020	TRANSISTOR(C)	2SC4098-P	
Q 2005	260P859050	TRANSISTOR(C)	2SA1576-R	
Q 2006	260P857020	TRANSISTOR(C)	DTC144EU	
Q 2007	260P859050	TRANSISTOR(C)	2SA1576-R	
Q 2008	260P854020	TRANSISTOR(C)	2SC4098-P	
Q 2009	260P854020	TRANSISTOR(C)	2SC4098-P	
Q 300	260P856010	TRANSISTOR(C)	DTA144EU	
Q 301	260P844030	TRANSISTOR(C)	XN1501	
Q 320	260P867060	TRANSISTOR(C)	2SD1949-R	
Q 321	260P861050	TRANSISTOR(C)	2SA1577A-Q	
Q 350	260P844010	TRANSISTOR(C)	FMW1	
Q 3A0	260P855060	TRANSISTOR(C)	2SC4081-S	[4A, 4B, 4E]
Q 3A1	260P855060	TRANSISTOR(C)	2SC4081-S	

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
Q 3AB	260P849010	TRANSISTOR(C)	IMZ1	
Q 3AC	260P849010	TRANSISTOR(C)	IMZ1	
Q 3AD	260P854030	TRANSISTOR(C)	2SC4098-Q	
Q 3AE	260P859050	TRANSISTOR(C)	2SA1576-R	
Q 3AF	260P849010	TRANSISTOR(C)	IMZ1	
Q 3AG	260P854030	TRANSISTOR(C)	2SC4098-Q	
Q 3AH	260P859050	TRANSISTOR(C)	2SA1576-R	
Q 3AJ	260P854030	TRANSISTOR(C)	2SC4098-Q	
Q 3AK	260P854030	TRANSISTOR(C)	2SC4098-Q	
Q 3AL	260P859050	TRANSISTOR(C)	2SA1576-R	
Q 3AM	260P849010	TRANSISTOR(C)	IMZ1	
Q 3AN	260P852010	TRANSISTOR(C)	FMG2/XN1213	
Q 3AP	260P852010	TRANSISTOR(C)	FMG2/XN1213	
Q 3AQ	260P857020	TRANSISTOR(C)	DTC144EU	
Q 3AR	260P849010	TRANSISTOR(C)	IMZ1	
Q 3AS	260P863010	TRANSISTOR(C)	IMT1	
Q 3AT	260P863010	TRANSISTOR(C)	IMT1	
Q 3AU	260P845010	TRANSISTOR(C)	IMX1	
Q 3AV	260P845010	TRANSISTOR(C)	IMX1	
Q 3AW	260P849010	TRANSISTOR(C)	IMZ1	
Q 3AX	260P854030	TRANSISTOR(C)	2SC4098-Q	
Q 3AY	260P854030	TRANSISTOR(C)	2SC4098-Q	
Q 3AZ	260P854030	TRANSISTOR(C)	2SC4098-Q	
Q 3BB	260P857020	TRANSISTOR(C)	DTC144EU	
Q 3BC	260P852010	TRANSISTOR(C)	FMG2/XN1213	[4A, 4B, 4E]
Q 3BD	260P857020	TRANSISTOR(C)	DTC144EU	[4A, 4B, 4E]
Q 3BE	260P849010	TRANSISTOR(C)	IMZ1	
Q 3BF	260P845010	TRANSISTOR(C)	IMX1	
Q 3BG	260P854030	TRANSISTOR(C)	2SC4098-Q	
Q 3BH	260P849010	TRANSISTOR(C)	IMZ1	
Q 3BJ	260P854030	TRANSISTOR(C)	2SC4098-Q	
Q 404	260P851010	TRANSISTOR(C)	IMD2/XN4312	
Q 406	260P857020	TRANSISTOR(C)	DTC144EU	
Q 407	260P859030	TRANSISTOR(C)	2SA1576-S	
Q 500	260P857020	TRANSISTOR(C)	DTC144EU	
Q 501	260P844030	TRANSISTOR(C)	XN1501	[4A, 4B, 4E]
Q 571	268P044020	PHOTO INTERRUPTER		
Q 572	268P044020	PHOTO INTERRUPTER		
Q 573	268P041010	PHOTO TRANSISTOR	PN147	
Q 5A0	260P857020	TRANSISTOR(C)	DTC144EU	
Q 5A1	260P855070	TRANSISTOR(C)	2SD1819A-Q	
Q 5A2	260P484020	TRANSISTOR	2SB942-P	
Q 5A3	260P856010	TRANSISTOR(C)	DTA144EU	
Q 5A4	260P855070	TRANSISTOR(C)	2SD1819A-Q	
Q 5AA	260P854020	TRANSISTOR(C)	2SC4098-P	
Q 5AB	260P856010	TRANSISTOR(C)	DTA114EU	
Q 5AC	260P845010	TRANSISTOR(C)	IMX1	
Q 5AD	260P857020	TRANSISTOR(C)	DTC144EU	
Q 5AE	260P853010	TRANSISTOR(C)	FMA2/XN1113	
Q 5AG	260P852010	TRANSISTOR(C)	FMG2/XN1213	
Q 5D0	260P857020	TRANSISTOR(C)	DTC144EU	
Q 5FA	260P859050	TRANSISTOR(C)	2SA1576-R	
Q 5FB	260P854030	TRANSISTOR(C)	2SC4098-Q	
Q 5FC	260P854030	TRANSISTOR(C)	2SC4098-Q	
Q 5FD	260P854030	TRANSISTOR(C)	2SC4098-Q	

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
Q 5FG	260P859050	TRANSISTOR(C)	2SA1576-R	
Q 5FJ	260P855090	TRANSISTOR(C)	2SD1819A-S	
Q 5FK	260P855090	TRANSISTOR(C)	2SD1819A-S	
Q 5FL	260P859090	TRANSISTOR(C)	2SB1218A-S	
Q 56A	260P845010	TRANSISTOR(C)	IMX1	
Q 5KM	260P863010	TRANSISTOR(C)	IMT1	
Q 5LB	260P855050	TRANSISTOR(C)	2SC4081	
Q 5LC	260P856010	TRANSISTOR(C)	DTA114EU	
Q 6A1	260P852010	TRANSISTOR(C)	FMG2/XN1213	
Q 6A3	260P857020	TRANSISTOR(C)	DTC144EU	
Q 6A4	260P854020	TRANSISTOR(C)	2SC4098-P	
Q 6A5	260P856010	TRANSISTOR(C)	DTA144EU	
Q 6AA	260P845010	TRANSISTOR(C)	IMX1	[4A, 4B, 4E]
Q 6AB	260P855050	TRANSISTOR(C)	2SC4081	[4A, 4B, 4E]
Q 6AC	260P856010	TRANSISTOR(C)	DTA144EU	[4A, 4B, 4E]
Q 800	260P861060	TRANSISTOR(C)	2SA1577-R	
Q 801	260P864010	TRANSISTOR(C)	2SK2096R	
Q 802	260P857030	TRANSISTOR(C)	UN5213	
Q 904	260P701010	TRANSISTOR	2SA1213-Y	
Q 905	260P701010	TRANSISTOR	2SA1213-Y	
Q 906	260P701010	TRANSISTOR	2SA1213-Y	

DIODES

D 201	264P841030	DIODE(C)	MA132WA	[4A, 4B, 4E]
D 202	264P841030	DIODE(C)	MA132WA	[4A, 4B, 4E]
D 203	264P841030	DIODE(C)	MA132WA	
D 204	264P841030	DIODE(C)	MA132WA	
D 205	264P841030	DIODE(C)	MA132WA	
D 206	264P814030	DIODE(C)	MA142WA	
D 207	264P814030	DIODE(C)	MA142WA	
D 2A0	264P828010	DIODE(C)	DAN202U	
D 2A1	264P814030	DIODE(C)	MA142WA	
D 2A3	264P843010	DIODE(C)	DA221/MA133	
D 2AA	264P837010	DIODE(C)	MA141K	
D 2AD	264P837010	DIODE(C)	MA141K	
D 2AE	264P837010	DIODE(C)	MA141K	
D 2AF	264P837010	DIODE(C)	MA141K	
D 2AG	264P837010	DIODE(C)	MA141K	
D 2AH	264P849010	DIODE(C)	MA728	
D 2AJ	264P848010	DIODE(C)	MA110	
D 2AK	264P837010	DIODE(C)	MA141K	
D 2AL	264P814030	DIODE(C)	MA142WA	
D 2J0	264P814030	DIODE(C)	MA142WA	
D 2P0	264P814030	DIODE(C)	MA142WA	
D 2000	264P814030	DIODE(C)	MA142WA	
D 2001	264P844050	DIODE(C)	RD 7.5UMB2	
D 2002	264P844050	DIODE(C)	RD 7.5UMB2	
D 2004	264P844050	DIODE(C)	RD 7.5UMB2	
D 2005	264P814030	DIODE(C)	MA142WA	
D 3A0	264P814030	DIODE(C)	MA142WA	
D 3AB	264P833010	DIODE(C)	ND411G-2	
D 500	264P845010	DIODE(C)	1SV223	[4A, 4B, 4E]
D 501	264P814030	DIODE(C)	MA142WA	
D 571	264P526010	LIGHT EMITTING DIODE	LN57	
D 5A0	264P828010	DIODE(C)	DAN202U	

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
D 5A1	264P814030	DIODE(C)	MA142WA	
D 5CA	264P828010	DIODE(C)	DAN202U	
D 5D0	264P828010	DIODE(C)	DAN202U	
D 5FA	264P603010	DIODE(C)	U1GWJ44	
D 5FB	264P603010	DIODE(C)	U1GWJ44	
D 5FC	264P603010	DIODE(C)	U1GWJ44	
D 5FD	264P603010	DIODE(C)	U1GWJ44	
D 5FE	264P814030	DIODE(C)	MA142WA	
D 5LA	264P814030	DIODE(C)	MA142WA	
D 6A0	264P828010	DIODE(C)	DAN202U	
D 6A1	264P814030	DIODE(C)	MA142WA	
D 6A2	264P828010	DIODE(C)	DAN202U	
D 6AA	264P828010	DIODE(C)	DAN202U	[4A, 4B, 4E]
D 700	264P814030	DIODE(C)	MA142WA	
D 701	264P814030	DIODE(C)	MA142WA	
D 702	264P814030	DIODE(C)	MA142WA	
D 703	264P814030	DIODE(C)	MA142WA	
D 800	264P847010	DIODE(C)	MA741WA	
D 801	264P845010	DIODE(C)	MA732	
D 802	264P830020	DIODE(C)	DA204U	
D 803	264P828010	DIODE(C)	DAN202U	
D 805	264P814030	DIODE(C)	MA142WA	
D 806	264P814030	DIODE(C)	MA142WA	
D 807	264P828010	DIODE(C)	DAN202U	
D 809	264P814030	DIODE(C)	MA142WA	
D 903	264P814030	DIODE(C)	MA142WA	
D 904	264P814030	DIODE(C)	MA142WA	
D 906	264P850010	DIODE(C)	MA720	
D 907	264P850010	DIODE(C)	MA720	
D 908	264P850010	DIODE(C)	MA720	

FILTERS

	499P019010	OPTICAL FILTER		
BPF3A0	409P620010	BAND PASS FILTER(C)	RZV-397N	[4A, 4B, 4E]
BPF3A1	409P621010	BAND PASS FILTER(C)	RZV-388N	[4A, 4B, 4E]
BPF6A1	409P552010	BAND PASS FILTER(C)	H3558SK-2042MYD	
CF800	299P146010	CERAMIC RESONATOR	KBR-4.19MWS	
DE2000	409P652010	DELAY EQUALIZER(C)		
FL400	299P161010	FILTER	AFZR72YM38A1	
LF2AA	409P700010	LOW PASS FILTER	PYV-811N	
LF3AA	409P703010	LOW PASS FILTER	RZV-55VN	
LF3AB	409P702010	LOW PASS FILTER	RXV-207N	
LF3AC	409P704010	LOW PASS FILTER	RZV-75PN	
LF3AE	409P701010	LOW PASS FILTER	RYV-80LN	
LF3AF	409P710010	LOW PASS FILTER	4FUS-TH354LA1-5938	
LF3AG	409P719010	LOW PASS FILTER(C)	4FUSTH354LA15795	[4A, 4B, 4E]
LF3AH	409P701010	LOW PASS FILTER	RYV-80LN	
LF5AA	409P733010	LOW PASS FILTER(C)	4FUSTH354LA15592	

DELAY LINES

DE2001	409P745010	DELAY EQUALIZER	
DL6A1	337P185010	DELAY LINE	

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
COILS				
L 200	325C147090	COIL(C)	180 μH-J	
L 201	325C222050	COIL(C)	100 μH-J	
L 202	325C221080	COIL(C)	27 μH-J	
L 203	325C222020	COIL(C)	56 μH-J	
L 204	325C147050	COIL(C)	100 μH-J	[4A, 4B, 4E]
L 292	325C146030	COIL(C)	10 μH-J	
L 293	325C146000	COIL(C)	5.6 μH-J	
L 2A4	325C183010	COIL(C)	330 μH-M	
L 2A5	325C222050	COIL(C)	100 μH-J	
L 2AB	325C141050	COIL(C)	15 μH-K	
L 2AC	325C240030	COIL(C)	1.5 μH-M	
L 2AD	325C141070	COIL(C)	22 μH-K	
L 2AF	325C241070	COIL(C)	22 μH-K	
L 2D1	325C243090	COIL(C)	270 μH-K	
L 2D2	325C221090	COIL(C)	33 μH-J	
L 2H0	325C221090	COIL(C)	33 μH-J	
L 2H1	325C222020	COIL(C)	56 μH-J	
L 2H2	325C221070	COIL(C)	22 μH-J	
L 2P1	325C222050	COIL(C)	100 μH-J	
L 2D00	325C141060	COIL(C)	18 μH-K	
L 300	325C191050	COIL(C)	15000 μH-J	[1A, 1B, 1E]
L 320	409P695010	AUDIO BIAS OSC		
L 321	325C242070	COIL(C)	150 μH-K	
L 3A0	325C242050	COIL(C)	100 μH-K	[4A, 4B, 4E]
L 3AA	325C241070	COIL(C)	22 μH-K	
L 3AD	325C241070	COIL(C)	22 μH-K	
L 3AE	325C241070	COIL(C)	22 μH-K	
L 3AF	325C241070	COIL(C)	22 μH-K	
L 3AG	325C241070	COIL(C)	22 μH-K	
L 3AH	325C241030	COIL(C)	10 μH-K	
L 3AJ	325C242020	COIL(C)	56 μH-K	
L 3AK	325C242020	COIL(C)	56 μH-K	
L 500	325C141030	COIL(C)	10 μH-K	[4A, 4B, 4E]
L 501	325C141030	COIL(C)	10 μH-K	[4A, 4B, 4E]
L 502	325C181080	COIL(C)	27 μH-K	[4A, 4B, 4E]
L 503	325C141010	COIL(C)	6.8 μH-M	
L 5AA	325C242020	COIL(C)	56 μH-K	
L 5AD	325C242040	COIL(C)	82 μH-K	
L 6A0	325C242090	COIL(C)	220 μH-K	
L 6A1	325C221050	COIL(C)	15 μH-J	
L 6A3	325C146050	COIL(C)	15 μH-J	
L 6A4	325C141020	COIL(C)	8.2 μH-M	
L 6A5	325C147090	COIL(C)	220 μH-J	
L 6A6	325C147070	COIL(C)	150 μH-J	
L 800	325C181050	COIL(C)	15 μH-K	
L 902	351P087010	CHOKE COIL	CD54 22MHz	
L 903	351P087010	CHOKE COIL	CD54 22MHz	
L 904	351P088010	CHOKE COIL	CDR74 150MHz	
L 905	351P088010	CHOKE COIL	CDR74 150MHz	
L 906	325C242050	COIL(C)	100 μH-K	
L 907	325C242050	COIL(C)	100 μH-K	
L 908	351P087020	CHOKE COIL	CD54 120MHz	

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
TRANSFORMERS				
T 901	409P688010	TRANSFORMER		
VARIABLE RESISTORS				
VR2A0	127C261010	VR-SEMIFIXED(C)	0.05W B50KΩ	
VR2A1	127C261010	VR-SEMIFIXED(C)	0.05W B50KΩ	
VR2AA	127C221030	VR-SEMIFIXED(C)	1/10W B200KΩ-N	
VR320	127C251020	VR-SEMIFIXED(C)	0.05W B100KΩ	
VR3A0	127C260080	VR-SEMIFIXED(C)	0.05W B10KΩ	[4A, 4B, 4E]
VR3A1	127C260060	VR-SEMIFIXED(C)	0.05W B3KΩ	[4A, 4B, 4E]
VR3AA	127C220060	VR-SEMIFIXED(C)	1/10W B3KΩ-N	
VR3AB	127C220070	VR-SEMIFIXED(C)	1/10W B5KΩ-N	
VR3AC	127C220070	VR-SEMIFIXED(C)	1/10W B5KΩ-N	
VR3AD	127C220060	VR-SEMIFIXED(C)	1/10W B3KΩ-N	
VR3AE	127C220090	VR-SEMIFIXED(C)	1/10W B20KΩ-N	
VR3C0	127C260080	VR-SEMIFIXED(C)	0.05W B10KΩ	[4A, 4B, 4E]
VR3C1	127C260060	VR-SEMIFIXED(C)	0.05W B3KΩ	[4A, 4B, 4E]
VR300	127C260070	VR-SEMIFIXED(C)	0.05W B5KΩ	[4A, 4B, 4E]
VR5A0	127C261020	VR-SEMIFIXED(C)	0.05W B100KΩ	
VR5A1	127C260080	VR-SEMIFIXED(C)	0.05W B3KΩ	
VR902	127C260050	VR-SEMIFIXED(C)	0.05W B2KΩ	
RESISTORS				
R 200	103P502030	RESISTOR(C)	1/20W 680Ω-J	
R 201	103P709050	METAL RESISTOR(C)	1/16W 0Ω	
R 202	103P702050	METAL RESISTOR(C)	1/16W 1KΩ-J	
R 203	103P704030	METAL RESISTOR(C)	1/16W 33KΩ-J	
R 204	103P704000	METAL RESISTOR(C)	1/16W 18KΩ-J	
R 205	103P702080	METAL RESISTOR(C)	1/16W 1.8KΩ-J	
R 206	103P702050	METAL RESISTOR(C)	1/16W 1KΩ-J	
R 208	103P702050	METAL RESISTOR(C)	1/16W 1KΩ-J	
R 209	103P701070	METAL RESISTOR(C)	1/16W 220Ω-J	
R 211	103P701030	METAL RESISTOR(C)	1/16W 100Ω-J	
R 212	103P702090	METAL RESISTOR(C)	1/16W 2.2KΩ-J	
R 213	103P508040	RESISTOR(C)	1/20W 2.2Ω-K	
R 214	103P508040	RESISTOR(C)	1/20W 2.2Ω-K	
R 216	103P509050	RESISTOR(C)	0Ω RM1608	[1A, 1B, 1E]
R 216	103P501060	RESISTOR(C)	1/20W 180Ω-J	[4A, 4B, 4E]
R 217	103P700010	METAL RESISTOR(C)	1/16W 10Ω-J	[4A, 4B, 4E]
R 219	103P702000	METAL RESISTOR(C)	1/16W 390Ω-J	[4A, 4B, 4E]
R 220	103P702000	METAL RESISTOR(C)	1/16W 390Ω-J	[4A, 4B, 4E]
R 221	103P509050	RESISTOR(C)	0Ω RM1608	[1A, 1B, 1E]
R 221	103P501060	RESISTOR(C)	1/20W 180Ω-J	[4A, 4B, 4E]
R 222	103P509050	RESISTOR(C)	0Ω RM1608	[1A, 1B, 1E]
R 222	103P501070	RESISTOR(C)	1/20W 220Ω-J	[4A, 4B, 4E]
R 223	103P702040	METAL RESISTOR(C)	1/16W 820Ω-J	
R 224	103P500010	RESISTOR(C)	1/20W 10Ω-J	[4A, 4B, 4E]
R 225	103P702000	METAL RESISTOR(C)	1/16W 390Ω-J	[4A, 4B, 4E]
R 226	103P702000	METAL RESISTOR(C)	1/16W 390Ω-J	[4A, 4B, 4E]
R 227	103P509050	RESISTOR(C)	0Ω RM1608	[1A, 1B, 1E]
R 227	103P501050	RESISTOR(C)	1/20W 150Ω-J	[4A, 4B, 4E]
R 228	103P703000	METAL RESISTOR(C)	1/16W 2.7KΩ-J	
R 229	103P702000	METAL RESISTOR(C)	1/16W 390Ω-J	
R 230	103P702000	METAL RESISTOR(C)	1/16W 390Ω-J	

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
R 231	103P702090	METAL RESISTOR(C)	1/16W 2.2KΩ-J	
R 232	103P700010	METAL RESISTOR(C)	1/16W 10Ω-J	
R 233	103P703000	METAL RESISTOR(C)	1/16W 2.7KΩ-J	
R 234	103P702000	METAL RESISTOR(C)	1/16W 390Ω-J	
R 235	103P702090	METAL RESISTOR(C)	1/16W 2.2KΩ-J	
R 236	103P702000	METAL RESISTOR(C)	1/16W 390Ω-J	
R 237	103P702000	METAL RESISTOR(C)	1/16W 390Ω-J	
R 238	103P702000	METAL RESISTOR(C)	1/16W 390Ω-J	
R 239	103P703000	METAL RESISTOR(C)	1/16W 2.7KΩ-J	
R 240	103P702090	METAL RESISTOR(C)	1/16W 2.2KΩ-J	
R 241	103P700010	METAL RESISTOR(C)	1/16W 10Ω-J	
R 242	103P700010	METAL RESISTOR(C)	1/16W 10Ω-J	
R 243	103P700010	METAL RESISTOR(C)	1/16W 10Ω-J	
R 244	103P702000	METAL RESISTOR(C)	1/16W 390Ω-J	
R 245	103P703000	METAL RESISTOR(C)	1/16W 2.7KΩ-J	
R 246	103P702090	METAL RESISTOR(C)	1/16W 2.2KΩ-J	
R 247	103P702000	METAL RESISTOR(C)	1/16W 390Ω-J	
R 248	103P702020	METAL RESISTOR(C)	1/16W 560Ω-J	
R 249	103P703040	METAL RESISTOR(C)	1/16W 5.6KΩ-J	
R 250	103P702070	METAL RESISTOR(C)	1/16W 1.5KΩ-J	
R 251	103P508040	RESISTOR(C)	1/20W 2.2Ω-K	
R 252	103P508040	RESISTOR(C)	1/20W 2.2Ω-K	
R 253	103P508040	RESISTOR(C)	1/20W 2.2Ω-K	
R 254	103P508040	RESISTOR(C)	1/20W 2.2Ω-K	
R 255	103P701070	METAL RESISTOR(C)	1/16W 220Ω-J	
R 256	103P508040	RESISTOR(C)	1/20W 2.2Ω-K	[4A, 4B, 4E]
R 257	103P508040	RESISTOR(C)	1/20W 2.2Ω-K	[4A, 4B, 4E]
R 258	103P508040	RESISTOR(C)	1/20W 2.2Ω-K	
R 259	103P508040	RESISTOR(C)	1/20W 2.2Ω-K	
R 260	103P409050	RESISTOR(C)	1/10W 0Ω	[1A, 1B, 1E]
R 261	103P509050	RESISTOR(C)	0Ω RM1608	[1A, 1B, 1E]
R 263	103P509050	RESISTOR(C)	0Ω RM1608	[1A, 1B, 1E]
R 264	103P509050	RESISTOR(C)	0Ω RM1608	[1A, 1B, 1E]
R 265	103P509050	RESISTOR(C)	0Ω RM1608	[1A, 1B, 1E]
R 266	103P409050	RESISTOR(C)	1/10W 0Ω	[1A, 1B, 1E]
R 267	103P409050	RESISTOR(C)	1/10W 0Ω	[1A, 1B, 1E]
R 268	103P509050	RESISTOR(C)	0Ω RM1608	[1A, 1B, 1E]
R 269	103P509050	RESISTOR(C)	0Ω RM1608	[1A, 1B, 1E]
R 270	103P509050	RESISTOR(C)	0Ω RM1608	[1A, 1B, 1E]
R 271	103P509050	RESISTOR(C)	0Ω RM1608	[1A, 1B, 1E]
R 273	103P409050	RESISTOR(C)	1/10W 0Ω	[1A, 1B, 1E]
R 275	103P703040	METAL RESISTOR(C)	1/16W 5.6KΩ-J	[4A, 4B, 4E]
R 279	103P702040	METAL RESISTOR(C)	1/16W 820Ω-J	[4A, 4B, 4E]
R 289	103P501010	RESISTOR(C)	1/20W 68Ω-J	
R 290	103P502020	RESISTOR(C)	1/20W 560Ω-J	
R 291	103P503070	RESISTOR(C)	1/20W 10KΩ-J	
R 292	103P503090	RESISTOR(C)	1/20W 15KΩ-J	
R 293	103P501060	RESISTOR(C)	1/20W 180Ω-J	
R 294	103P501090	RESISTOR(C)	1/20W 330Ω-J	
R 295	103P501010	RESISTOR(C)	1/20W 68Ω-J	
R 296	103P508040	RESISTOR(C)	1/20W 2.2Ω-K	
R 297	103P508040	RESISTOR(C)	1/20W 2.2Ω-K	
R 298	103P504070	RESISTOR(C)	1/20W 68KΩ-J	
R 2A5	103P703070	METAL RESISTOR(C)	1/16W 10KΩ-J	
R 2A6	103P703070	METAL RESISTOR(C)	1/16W 10KΩ-J	

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 2A7	103P504060	RESISTOR(C)	1/20W 56KΩ-J
R 2A9	103P704050	METAL RESISTOR(C)	1/16W 47KΩ-J
R 2AA	103P493080	METAL RESISTOR(C)	1/16W 3.6KΩ-F
R 2AB	103P495080	METAL RESISTOR(C)	1/16W 24KΩ-F
R 2AC	103P506010	RESISTOR(C)	1/20W 1MΩ-J
R 2AD	103P502030	RESISTOR(C)	1/20W 680Ω-J
R 2AE	103P502040	RESISTOR(C)	1/20W 820Ω-J
R 2AF	103P506010	RESISTOR(C)	1/20W 1MΩ-J
R 2AG	103P502020	RESISTOR(C)	1/20W 560Ω-J
R 2AH	103P502020	RESISTOR(C)	1/20W 560Ω-J
R 2AJ	103P506010	RESISTOR(C)	1/20W 1MΩ-J
R 2AK	103P502040	RESISTOR(C)	1/20W 820Ω-J
R 2AL	103P501040	RESISTOR(C)	1/20W 120Ω-J
R 2AM	103P501040	RESISTOR(C)	1/20W 120Ω-J
R 2AN	103P509050	RESISTOR(C)	0Ω RM1608
R 2AQ	103P509050	RESISTOR(C)	0Ω RM1608
R 2AR	103P501030	RESISTOR(C)	1/20W 100Ω-J
R 2AS	103P501030	RESISTOR(C)	1/20W 100Ω-J
R 2AU	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J
R 2AV	103P502010	RESISTOR(C)	1/20W 470Ω-J
R 2B1	103P492050	METAL RESISTOR(C)	1/16W 1.0KΩ-F
R 2B2	103P493070	METAL RESISTOR(C)	1/16W 3.3KΩ-F
R 2B3	103P504030	RESISTOR(C)	1/20W 33KΩ-J
R 2B4	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 2B5	103P493050	METAL RESISTOR(C)	1/16W 2.7KΩ-F
R 2B6	103P492010	METAL RESISTOR(C)	1/16W 680Ω-F
R 2B7	103P702010	METAL RESISTOR(C)	1/16W 470Ω-J
R 2B8	103P701030	METAL RESISTOR(C)	1/16W 100Ω-J
R 2B9	103P503040	RESISTOR(C)	1/20W 5.6KΩ-J
R 2BA	103P501020	RESISTOR(C)	1/20W 82Ω-J
R 2BB	103P501070	RESISTOR(C)	1/20W 220Ω-J
R 2BC	103P501070	RESISTOR(C)	1/20W 220Ω-J
R 2BD	103P503050	RESISTOR(C)	1/20W 6.8KΩ-J
R 2BE	103P500080	RESISTOR(C)	1/20W 39Ω-J
R 2BF	103P501070	RESISTOR(C)	1/20W 220Ω-J
R 2BG	103P501070	RESISTOR(C)	1/20W 220Ω-J
R 2BJ	103P506010	RESISTOR(C)	1/20W 1MΩ-J
R 2BK	103P504030	RESISTOR(C)	1/20W 33KΩ-J
R 2BM	103P501060	RESISTOR(C)	1/20W 180Ω-J
R 2BP	103P409050	RESISTOR(C)	1/10W 0Ω
R 2C0	103P704050	METAL RESISTOR(C)	1/16W 47KΩ-J [1B, 4A]
R 2C1	103P509050	RESISTOR(C)	0Ω RM1608
R 2C3	103P704010	METAL RESISTOR(C)	1/16W 22KΩ-J
R 2C4	103P504010	RESISTOR(C)	1/20W 22KΩ-J [1A, 1B, 1E, 4B, 4E]
R 2C4	103P503090	RESISTOR(C)	1/20W 15KΩ-J [4A]
R 2C5	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 2C6	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 2C7	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 2C8	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 2CA	103P509050	RESISTOR(C)	0Ω RM1608
R 2C8	103P503010	RESISTOR(C)	1/20W 3.3KΩ-J
R 2CC	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 2CD	103P501030	RESISTOR(C)	1/20W 100Ω-J
R 2CE	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 2CF	103P503000	RESISTOR(C)	1/20W 2.7KΩ-J
R 2CG	103P501030	RESISTOR(C)	1/20W 100Ω-J
R 2D0	103P703000	METAL RESISTOR(C)	1/16W 2.7KΩ-J
R 2D1	103P701030	METAL RESISTOR(C)	1/16W 100Ω-J
R 2D2	103P702010	METAL RESISTOR(C)	1/16W 470Ω-J
R 2D3	103P702010	METAL RESISTOR(C)	1/16W 470Ω-J [1A, 1B, 1E]
R 2D3	103P702020	METAL RESISTOR(C)	1/16W 560Ω-J [4A, 4B, 4E]
R 2D4	103P702040	METAL RESISTOR(C)	1/16W 820Ω-J
R 2D5	103P704030	METAL RESISTOR(C)	1/16W 33KΩ-J
R 2D6	103P704000	METAL RESISTOR(C)	1/16W 18KΩ-J
R 2D7	103P509040	RESISTOR(C)	1/20W 2.2Ω-K
R 2D8	103P509040	RESISTOR(C)	1/20W 2.2Ω-K
R 2DA	103P503040	RESISTOR(C)	1/20W 5.6KΩ-J
R 2DB	103P501010	RESISTOR(C)	1/20W 68Ω-J
R 2DC	103P509050	RESISTOR(C)	0Ω RM1608
R 2DF	103P500030	METAL RESISTOR(C)	1/16W 15Ω-J
R 2D6	103P500030	METAL RESISTOR(C)	1/16W 15Ω-J
R 2DH	103P501090	RESISTOR(C)	1/20W 330Ω-J
R 2E0	103P702060	METAL RESISTOR(C)	1/16W 1.2KΩ-J
R 2E1	103P702090	METAL RESISTOR(C)	1/16W 2.2KΩ-J
R 2E3	103P701030	METAL RESISTOR(C)	1/16W 100Ω-J
R 2E4	103P701030	METAL RESISTOR(C)	1/16W 100Ω-J
R 2E5	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 2G5	103P704060	METAL RESISTOR(C)	1/16W 56KΩ-J
R 2G6	103P702050	METAL RESISTOR(C)	1/16W 1KΩ-J
R 2H0	103P703030	METAL RESISTOR(C)	1/16W 4.7KΩ-J
R 2H1	103P703020	METAL RESISTOR(C)	1/16W 3.9KΩ-J
R 2H2	103P702050	METAL RESISTOR(C)	1/16W 1KΩ-J
R 2H3	103P702020	METAL RESISTOR(C)	1/16W 560Ω-J
R 2H4	103P702040	METAL RESISTOR(C)	1/16W 820Ω-J [1A, 1E, 4B, 4E]
R 2H4	103P702080	METAL RESISTOR(C)	1/16W 1.8KΩ-J [1B, 4A]
R 2H6	103P702050	METAL RESISTOR(C)	1/16W 1KΩ-J
R 2H7	103P702050	METAL RESISTOR(C)	1/16W 1KΩ-J
R 2H8	103P702090	METAL RESISTOR(C)	1/16W 2.2KΩ-J
R 2H9	103P702040	METAL RESISTOR(C)	1/16W 820Ω-J
R 2L0	103P702050	METAL RESISTOR(C)	1/16W 1KΩ-J
R 2P0	103P502070	RESISTOR(C)	1/20W 1.5KΩ-J
R 2P1	103P493020	METAL RESISTOR(C)	1/16W 2KΩ-F
R 2P2	103P491080	METAL RESISTOR(C)	1/16W 510Ω-F
R 2P3	103P702050	METAL RESISTOR(C)	1/16W 1KΩ-J
R 2P4	103P701030	METAL RESISTOR(C)	1/16W 100Ω-J
R 2P5	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 2P6	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 2P7	103P504070	RESISTOR(C)	1/20W 68KΩ-J
R 2P8	103P501030	RESISTOR(C)	1/20W 100Ω-J
R 2R0	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 2R1	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 2V0	103P702080	METAL RESISTOR(C)	1/16W 1.8KΩ-J
R 2V1	103P703030	METAL RESISTOR(C)	1/16W 4.7KΩ-J
R 2V2	103P702090	METAL RESISTOR(C)	1/16W 1.8KΩ-J
R 2V3	103P703030	METAL RESISTOR(C)	1/16W 4.7KΩ-J
R 2000	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 2001	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 2002	103P492010	METAL RESISTOR(C)	1/16W 680Ω-F
R 2003	103P492010	METAL RESISTOR(C)	1/16W 680Ω-F

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 2004	103P492040	RESISTOR(C)	1/16W 910Ω-F
R 2005	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 2006	103P509090	RESISTOR(C)	1/20W 75Ω-J
R 2007	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 2008	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 2009	103P502030	RESISTOR(C)	1/20W 680Ω-J [4A, 4B, 4E]
R 2010	103P502030	RESISTOR(C)	1/20W 680Ω-J
R 2011	103P504000	RESISTOR(C)	1/20W 18KΩ-J
R 2012	103P496000	METAL RESISTOR(C)	1/16W 30KΩ-F
R 2015	103P501030	RESISTOR(C)	1/20W 100Ω-J
R 2016	103P509050	RESISTOR(C)	0Ω RM1608 [1A, 1B, 1E]
R 2017	103P501030	RESISTOR(C)	1/20W 100Ω-J
R 2018	103P495030	METAL RESISTOR(C)	1/16W 15KΩ-F
R 2019	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 2020	109P117010	FUSE	0.025-M(3.15A)
R 2021	103P493070	METAL RESISTOR(C)	1/16W 3.3KΩ-F
R 2022	103P501030	RESISTOR(C)	1/20W 100Ω-J
R 2023	103P502030	RESISTOR(C)	1/20W 680Ω-J
R 2024	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 2025	103P502070	RESISTOR(C)	1/20W 1.5KΩ-J
R 2026	103P503000	RESISTOR(C)	1/20W 2.7KΩ-J
R 2027	103P503040	RESISTOR(C)	1/20W 5.6KΩ-J
R 2028	103P501030	RESISTOR(C)	1/20W 100Ω-J
R 2029	103P503080	RESISTOR(C)	1/20W 12KΩ-J
R 2030	103P504090	RESISTOR(C)	1/20W 100KΩ-J
R 2031	103P492060	METAL RESISTOR(C)	1/16W 1.1KΩ-F
R 2032	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 2033	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 300	103P702090	METAL RESISTOR(C)	1/16W 2.2KΩ-J
R 301	103P703030	METAL RESISTOR(C)	1/16W 4.7KΩ-J
R 302	103P704000	METAL RESISTOR(C)	1/16W 18KΩ-J
R 303	103P701090	METAL RESISTOR(C)	1/16W 330Ω-J [1A, 1E]
R 303	103P702010	METAL RESISTOR(C)	1/16W 470Ω-J [1B, 4A]
R 303	103P702090	METAL RESISTOR(C)	1/16W 390Ω-J [4B, 4E]
R 304	103P703050	METAL RESISTOR(C)	1/16W 6.8KΩ-J
R 306	103P701070	METAL RESISTOR(C)	1/16W 220Ω-J [1A, 1B, 1E]
R 307	103P701090	METAL RESISTOR(C)	1/16W 330Ω-J [1A, 1B, 1E]
R 308	103P500010	RESISTOR(C)	1/20W 10Ω-J
R 309	103P704010	METAL RESISTOR(C)	1/16W 22KΩ-J
R 310	103P701040	METAL RESISTOR(C)	1/16W 120Ω-J
R 311	103P705000	METAL RESISTOR(C)	1/16W 120KΩ-J
R 312	103P703040	METAL RESISTOR(C)	1/16W 5.6KΩ-J
R 313	103P703010	METAL RESISTOR(C)	1/16W 3.3KΩ-J
R 314	103P503090	RESISTOR(C)	1/20W 15KΩ-J
R 315	103P503010	RESISTOR(C)	1/20W 3.3KΩ-J
R 316	103P705000	METAL RESISTOR(C)	1/16W 120KΩ-J
R 317	103P705000	METAL RESISTOR(C)	1/16W 120KΩ-J [4A, 4B, 4E]
R 318	103P503020	RESISTOR(C)	1/20W 3.9KΩ-J [4A, 4B, 4E]
R 318	103P492060	METAL RESISTOR(C)	1/16W 1.1KΩ-F [1A, 1B, 1E]
R 319	103P709050	METAL RESISTOR(C)	1/16W 0Ω [1A, 1B, 1E]
R 320	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 321	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 322	103P703050	METAL RESISTOR(C)	1/16W 6.8KΩ-J
R 323	103P503000	RESISTOR(C)	1/20W 2.7KΩ-J
R 324	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 325	103P502000	RESISTOR(C)	1/20W 390Ω-J
R 350	103P703070	METAL RESISTOR(C)	1/16W 10KΩ-J [1A, 1E, 4B, 4E]
R 350	103P702090	METAL RESISTOR(C)	1/16W 2.2KΩ-J [1B, 4A]
R 351	103P702090	METAL RESISTOR(C)	1/16W 2.2KΩ-J [4A]
R 351	103P703070	METAL RESISTOR(C)	1/16W 10KΩ-J [4B, 4E]
R 352	103P703070	METAL RESISTOR(C)	1/16W 10KΩ-J [1A, 1B, 1E]
R 353	103P709050	METAL RESISTOR(C)	1/16W 0Ω [1A, 1B, 1E]
R 354	103P703060	METAL RESISTOR(C)	1/16W 8.2KΩ-J
R 355	103P703060	METAL RESISTOR(C)	1/16W 8.2KΩ-J [4A, 4B, 4E]
R 356	103P704050	METAL RESISTOR(C)	1/16W 47KΩ-J
R 357	103P704050	METAL RESISTOR(C)	1/16W 47KΩ-J [4A, 4B, 4E]
R 358	103P704050	METAL RESISTOR(C)	1/16W 47KΩ-J
R 359	103P704050	METAL RESISTOR(C)	1/16W 47KΩ-J [4A, 4B, 4E]
R 360	103P703020	METAL RESISTOR(C)	1/16W 3.9KΩ-J
R 361	103P703020	METAL RESISTOR(C)	1/16W 3.9KΩ-J [4A, 4B, 4E]
R 362	103P501020	RESISTOR(C)	1/20W 82Ω-J
R 363	103P501020	RESISTOR(C)	1/20W 82Ω-J [4A, 4B, 4E]
R 364	103P706040	METAL RESISTOR(C)	1/16W 1.8MΩ-J
R 365	103P701020	METAL RESISTOR(C)	1/16W 82Ω-J
R 366	103P502010	RESISTOR(C)	1/20W 470Ω-J
R 367	103P703070	METAL RESISTOR(C)	1/16W 10KΩ-J [4A, 4B, 4E]
R 368	103P703070	METAL RESISTOR(C)	1/16W 10KΩ-J
R 3A0	103P503070	RESISTOR(C)	1/20W 10KΩ-J [4A, 4B, 4E]
R 3A1	103P493040	METAL RESISTOR(C)	1/16W 2.4KΩ-F [4A, 4B, 4E]
R 3A2	103P504010	RESISTOR(C)	1/20W 22KΩ-J [4A, 4B, 4E]
R 3A3	103P703030	METAL RESISTOR(C)	1/16W 4.7KΩ-J [4A, 4B, 4E]
R 3A4	103P704010	METAL RESISTOR(C)	1/16W 22KΩ-J [4A, 4B, 4E]
R 3A5	103P704050	METAL RESISTOR(C)	1/16W 47KΩ-J [4A, 4B, 4E]
R 3A6	103P702040	METAL RESISTOR(C)	1/16W 820Ω-J [4A, 4B, 4E]
R 3A7	103P702090	METAL RESISTOR(C)	1/16W 2.2KΩ-J [4A, 4B, 4E]
R 3AA	103P509050	RESISTOR(C)	0Ω RM1608
R 3AC	103P503020	RESISTOR(C)	1/20W 3.9KΩ-J
R 3AD	103P504030	RESISTOR(C)	1/20W 33KΩ-J
R 3AF	103P509050	RESISTOR(C)	0Ω RM1608
R 3AH	103P504030	RESISTOR(C)	1/20W 33KΩ-J
R 3AJ	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 3AK	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 3AL	103P503060	RESISTOR(C)	1/20W 8.2KΩ-J
R 3AM	103P503090	RESISTOR(C)	1/20W 15KΩ-J
R 3AN	103P504040	RESISTOR(C)	1/20W 39KΩ-J
R 3AP	103P501070	RESISTOR(C)	1/20W 220Ω-J
R 3AQ	103P501070	RESISTOR(C)	1/20W 220Ω-J
R 3AR	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 3AS	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 3AT	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J
R 3AU	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J
R 3AW	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 3AX	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 3AY	103P505000	RESISTOR(C)	1/20W 120KΩ-J
R 3B0	103P504010	RESISTOR(C)	1/20W 22KΩ-J [4A, 4B, 4E]
R 3B8	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 3BC	103P502080	RESISTOR(C)	1/20W 2.7KΩ-J
R 3BD	103P503080	RESISTOR(C)	1/20W 12KΩ-J
R 3BE	103P494070	METAL RESISTOR(C)	1/16W 8.2KΩ-F

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 38F	103P504000	RESISTOR(C)	1/20W 18KΩ-J
R 38G	103P506010	RESISTOR(C)	1/20W 1MΩ-J
R 38H	103P505080	RESISTOR(C)	1/20W 560KΩ-J
R 38J	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 38K	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 38L	103P504070	RESISTOR(C)	1/20W 68KΩ-J
R 39N	103P504000	RESISTOR(C)	1/20W 18KΩ-J
R 39P	103P502010	RESISTOR(C)	1/20W 470Ω-J
R 39Q	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 39R	103P503030	RESISTOR(C)	1/20W 4.7KΩ-J
R 38S	103P495070	METAL RESISTOR(C)	1/16W 22KΩ-F
R 38T	103P495070	METAL RESISTOR(C)	1/16W 22KΩ-F
R 38U	103P503090	RESISTOR(C)	1/20W 15KΩ-J
R 38V	103P502070	RESISTOR(C)	1/20W 1.5KΩ-J
R 38W	103P502070	RESISTOR(C)	1/20W 1.5KΩ-J
R 38X	103P503090	RESISTOR(C)	1/20W 15KΩ-J
R 3BY	103P502060	RESISTOR(C)	1/20W 1.2KΩ-J
R 3C0	103P495030	METAL RESISTOR(C)	1/16W 15KΩ-F [4A, 4B, 4E]
R 3C1	103P493040	METAL RESISTOR(C)	1/16W 2.4KΩ-F [4A, 4B, 4E]
R 3C2	103P504010	RESISTOR(C)	1/20W 22KΩ-J [4A, 4B, 4E]
R 3C3	103P703030	METAL RESISTOR(C)	1/16W 4.7KΩ-J [4A, 4B, 4E]
R 3C4	103P709050	METAL RESISTOR(C)	1/16W 0Ω [1A, 1B, 1E]
R 3C4	103P704010	METAL RESISTOR(C)	1/16W 22KΩ-J [4A, 4B, 4E]
R 3C5	103P704050	METAL RESISTOR(C)	1/16W 47KΩ-J
R 3C6	103P702040	METAL RESISTOR(C)	1/16W 820Ω-J
R 3C7	103P702090	METAL RESISTOR(C)	1/16W 2.2KΩ-J
R 3CA	103P504060	RESISTOR(C)	1/20W 56KΩ-J
R 3CB	103P503050	RESISTOR(C)	1/20W 6.8KΩ-J
R 3CC	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 3CD	103P503010	RESISTOR(C)	1/20W 3.3KΩ-J
R 3CF	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 3CG	103P505000	RESISTOR(C)	1/20W 120KΩ-J
R 3CH	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J
R 3CJ	103P502070	RESISTOR(C)	1/20W 1.5KΩ-J
R 3CK	103P504080	RESISTOR(C)	1/20W 82KΩ-J
R 3CL	103P503080	RESISTOR(C)	1/20W 8.2KΩ-J
R 3CM	103P503090	RESISTOR(C)	1/20W 15KΩ-J
R 3CN	103P504020	RESISTOR(C)	1/20W 27KΩ-J
R 3CO	103P501050	RESISTOR(C)	1/20W 150Ω-J
R 3CR	103P505030	RESISTOR(C)	1/20W 220KΩ-J
R 3CS	103P505030	RESISTOR(C)	1/20W 220KΩ-J
R 3CT	103P503080	RESISTOR(C)	1/20W 12KΩ-J
R 3CU	103P501030	RESISTOR(C)	1/20W 100Ω-J
R 3CW	103P505000	RESISTOR(C)	1/20W 120KΩ-J
R 3CX	103P492040	RESISTOR(C)	1/16W 910Ω-F
R 3CZ	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 3D0	103P703010	METAL RESISTOR(C)	1/16W 3.3KΩ-J [4A, 4B, 4E]
R 3D1	103P504020	RESISTOR(C)	1/20W 27KΩ-J [4A, 4B, 4E]
R 3D2	103P503000	RESISTOR(C)	1/20W 2.7KΩ-J [4A, 4B, 4E]
R 3D3	103P702070	METAL RESISTOR(C)	1/16W 1.5KΩ-J [4A, 4B, 4E]
R 3D4	103P701050	METAL RESISTOR(C)	1/16W 150Ω-J [4A, 4B, 4E]
R 3D5	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J [4A, 4B, 4E]
R 3D6	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J [4A, 4B, 4E]
R 3D7	103P702060	METAL RESISTOR(C)	1/16W 1.2KΩ-J [4A, 4B, 4E]
R 3DA	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 3DB	103P494090	METAL RESISTOR(C)	1/16W 10KΩ-F
R 3DD	103P494090	METAL RESISTOR(C)	1/16W 10KΩ-F
R 3DE	103P503060	RESISTOR(C)	1/20W 8.2KΩ-J
R 3DF	103P503030	RESISTOR(C)	1/20W 4.7KΩ-J
R 3DG	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 3DH	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 3DJ	103P503060	RESISTOR(C)	1/20W 8.2KΩ-J
R 3DK	103P502020	RESISTOR(C)	1/20W 560Ω-J
R 3DL	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 3DM	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 3DN	103P503060	RESISTOR(C)	1/20W 2.7KΩ-J
R 3DP	103P502020	RESISTOR(C)	1/20W 560Ω-J
R 3DQ	103P494070	METAL RESISTOR(C)	1/16W 8.2KΩ-F
R 3DR	103P494090	METAL RESISTOR(C)	1/16W 10KΩ-F
R 3DS	103P503060	RESISTOR(C)	1/20W 8.2KΩ-J
R 3DT	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 3DU	103P504000	RESISTOR(C)	1/20W 18KΩ-J
R 3DV	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 3DW	103P505040	RESISTOR(C)	1/20W 270KΩ-J
R 3DX	103P504030	RESISTOR(C)	1/20W 33KΩ-J
R 3DY	103P509050	RESISTOR(C)	0Ω RM1608
R 3EA	103P503010	RESISTOR(C)	1/20W 3.3KΩ-J
R 3EB	103P503010	RESISTOR(C)	1/20W 3.3KΩ-J
R 3EC	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 3ED	103P509050	RESISTOR(C)	0Ω RM1608
R 3EF	103P496030	RESISTOR(C)	1/16W 39KΩ-F
R 3EG	103P495000	METAL RESISTOR(C)	1/16W 11KΩ-F
R 3EH	103P503060	RESISTOR(C)	1/20W 8.2KΩ-J
R 3EK	103P503010	RESISTOR(C)	1/20W 3.3KΩ-J
R 3EL	103P494090	METAL RESISTOR(C)	1/16W 10KΩ-F
R 3EM	103P493080	METAL RESISTOR(C)	1/16W 3.6KΩ-F
R 3EN	103P502030	RESISTOR(C)	1/20W 680Ω-J
R 3EQ	103P502070	RESISTOR(C)	1/20W 1.5KΩ-J
R 3ER	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 3EU	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 3EV	103P503020	RESISTOR(C)	1/20W 3.9KΩ-J
R 3EW	103P503020	RESISTOR(C)	1/20W 3.9KΩ-J
R 3EX	103P501070	RESISTOR(C)	1/20W 220Ω-J
R 3EY	103P502080	RESISTOR(C)	1/20W 2.7KΩ-J
R 3EZ	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 3FA	103P490070	METAL RESISTOR(C)	1/16W 180Ω-F
R 3FB	103P493010	METAL RESISTOR(C)	1/16W 1.8KΩ-F
R 3FC	103P493010	METAL RESISTOR(C)	1/16W 1.8KΩ-F
R 3FD	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 3FE	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 3FF	103P502060	RESISTOR(C)	1/20W 1.2KΩ-J
R 3FG	103P501070	RESISTOR(C)	1/20W 220Ω-J
R 3FH	103P503020	RESISTOR(C)	1/20W 3.9KΩ-J
R 3FJ	103P503030	RESISTOR(C)	1/20W 4.7KΩ-J
R 3FK	103P509050	RESISTOR(C)	0Ω RM1608
R 3FL	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 3FM	103P502070	RESISTOR(C)	1/20W 1.5KΩ-J
R 3FN	103P501030	RESISTOR(C)	1/20W 100Ω-J
R 3FP	103P493020	METAL RESISTOR(C)	1/16W 2KΩ-F
R 3FQ	103P502070	RESISTOR(C)	1/20W 1.5KΩ-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 3FR	103P503020	RESISTOR(C)	1/20W 3.9KΩ-J
R 3FS	103P502030	RESISTOR(C)	1/20W 680Ω-J
R 3FT	103P503030	RESISTOR(C)	1/20W 4.7KΩ-J
R 3FU	103P503030	RESISTOR(C)	1/20W 4.7KΩ-J
R 3FW	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 3FX	103P504040	RESISTOR(C)	1/20W 39KΩ-J
R 3FY	103P504090	RESISTOR(C)	1/20W 100KΩ-J
R 3FZ	103P505010	RESISTOR(C)	1/20W 150KΩ-J
R 3GE	103P496030	RESISTOR(C)	1/16W 39KΩ-F [4A, 4B, 4E]
R 3GF	103P503070	RESISTOR(C)	1/20W 10KΩ-J [4A, 4B, 4E]
R 3GG	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J
R 3GH	103P501030	RESISTOR(C)	1/20W 100Ω-J
R 3GJ	103P492050	METAL RESISTOR(C)	1/16W 1.0KΩ-F [4A, 4B, 4E]
R 3GK	103P492050	METAL RESISTOR(C)	1/16W 1.0KΩ-F
R 3GL	103P496030	RESISTOR(C)	1/16W 39KΩ-F [4A, 4B, 4E]
R 3GM	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J
R 3GN	103P503000	RESISTOR(C)	1/20W 2.7KΩ-J
R 3GP	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 3GQ	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 3GR	103P503080	RESISTOR(C)	1/20W 12KΩ-J
R 3GT	103P502050	RESISTOR(C)	1/20W 1KΩ-J [1A, 1B, 1E]
R 3GU	103P501070	RESISTOR(C)	1/20W 220Ω-J
R 3GW	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 3GX	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 3GY	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J
R 3GZ	103P503030	RESISTOR(C)	1/20W 4.7KΩ-J
R 3HA	103P502060	RESISTOR(C)	1/20W 1.2KΩ-J
R 3HB	103P504020	RESISTOR(C)	1/20W 27KΩ-J
R 3HC	103P502020	RESISTOR(C)	1/20W 560Ω-J
R 3HD	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J
R 3HE	103P504060	RESISTOR(C)	1/20W 18KΩ-J
R 3HJ	103P501030	RESISTOR(C)	1/20W 100Ω-J
R 3HK	103P504090	RESISTOR(C)	1/20W 100KΩ-J
R 3HL	103P501030	RESISTOR(C)	1/20W 100Ω-J
R 3HM	103P501030	RESISTOR(C)	1/20W 100Ω-J
R 3HN	103P501070	RESISTOR(C)	1/20W 220Ω-J
R 3HP	103P509050	RESISTOR(C)	0Ω RM1608
R 3HS	103P505090	RESISTOR(C)	1/20W 680KΩ-J
R 3HT	103P504090	RESISTOR(C)	1/20W 100KΩ-J
R 3VA	103P502060	RESISTOR(C)	1/20W 1.2KΩ-J
R 400	103P503000	RESISTOR(C)	1/20W 2.7KΩ-J
R 401	103P504070	RESISTOR(C)	1/20W 68KΩ-J
R 402	103P505010	RESISTOR(C)	1/20W 150KΩ-J
R 403	103P505050	RESISTOR(C)	1/20W 330KΩ-J
R 404	103P505010	RESISTOR(C)	1/20W 150KΩ-J
R 405	103P503060	RESISTOR(C)	1/20W 8.2KΩ-J
R 406	103P504030	RESISTOR(C)	1/20W 33KΩ-J
R 407	103P504030	RESISTOR(C)	1/20W 33KΩ-J
R 408	103P505010	RESISTOR(C)	1/20W 150KΩ-J
R 409	103P503010	RESISTOR(C)	1/20W 3.3KΩ-J
R 410	103P503030	RESISTOR(C)	1/20W 4.7KΩ-J
R 411	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 412	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 414	103P495020	METAL RESISTOR(C)	1/16W 13KΩ-F
R 415	103P495010	METAL RESISTOR(C)	1/16W 12KΩ-F

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 418	103P498020	METAL RESISTOR(C)	1/16W 240KΩ-F
R 421	103P504090	RESISTOR(C)	1/20W 100KΩ-J
R 422	103P503040	RESISTOR(C)	1/20W 5.6KΩ-J
R 423	103P501070	RESISTOR(C)	1/20W 220Ω-J
R 424	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 425	103P505020	RESISTOR(C)	1/20W 180KΩ-J
R 426	103P504020	RESISTOR(C)	1/20W 27KΩ-J
R 427	103P505080	RESISTOR(C)	1/20W 560KΩ-J
R 431	103P503040	RESISTOR(C)	1/20W 5.6KΩ-J
R 432	103P503040	RESISTOR(C)	1/20W 5.6KΩ-J
R 433	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 434	103P506010	RESISTOR(C)	1/20W 1MΩ-J
R 435	103P509050	RESISTOR(C)	0Ω RM1608
R 439	103P504090	RESISTOR(C)	1/20W 100KΩ-J
R 443	103P494090	METAL RESISTOR(C)	1/16W 10KΩ-F
R 444	103P494090	METAL RESISTOR(C)	1/16W 10KΩ-F
R 4AA	103P494010	METAL RESISTOR(C)	1/16W 4.7KΩ-F
R 4B0	103P505030	RESISTOR(C)	1/20W 220KΩ-J
R 4B1	103P505040	RESISTOR(C)	1/20W 270KΩ-J
R 4B2	103P504020	RESISTOR(C)	1/20W 27KΩ-J
R 4B3	103P502080	RESISTOR(C)	1/20W 2.7KΩ-J
R 4B4	103P497010	METAL RESISTOR(C)	1/16W 82KΩ-F
R 4B5	103P496030	RESISTOR(C)	1/16W 39KΩ-F
R 4B6	103P495090	METAL RESISTOR(C)	1/16W 11KΩ-F
R 4B7	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 4B8	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 4B9	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 4BF	103P503030	RESISTOR(C)	1/20W 4.7KΩ-J
R 4C0	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 4C1	103P501050	RESISTOR(C)	1/20W 150Ω-J
R 4C2	103P508050	RESISTOR(C)	1/16W 2.7Ω-K
R 4C3	103P508050	RESISTOR(C)	1/16W 2.7Ω-K
R 4C4	103P508050	RESISTOR(C)	1/16W 2.7Ω-K
R 4C5	103P508050	RESISTOR(C)	1/16W 2.7Ω-K
R 4C6	103P501080	RESISTOR(C)	1/20W 180Ω-J
R 4C7	103P504030	RESISTOR(C)	1/20W 33KΩ-J
R 4C8	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 4CP	103P503030	RESISTOR(C)	1/20W 4.7KΩ-J
R 4D0	103P504020	RESISTOR(C)	1/20W 27KΩ-J
R 4D1	103P504030	RESISTOR(C)	1/20W 33KΩ-J
R 4D2	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 4D3	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 4D4	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 4D6	103P501070	RESISTOR(C)	1/20W 220Ω-J
R 4G0	103P496050	METAL RESISTOR(C)	1/16W 47KΩ-F
R 4G1	103P496050	METAL RESISTOR(C)	1/16W 47KΩ-F
R 4G2	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 4G3	103P504060	RESISTOR(C)	1/20W 56KΩ-J
R 4G4	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 4G5	103P504020	RESISTOR(C)	1/20W 27KΩ-J
R 4G6	103P505040	RESISTOR(C)	1/20W 270KΩ-J
R 4G7	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 4G8	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 4JL	103P509050	RESISTOR(C)	0Ω RM1608
R 4JP	103P509050	RESISTOR(C)	0Ω RM1608

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 500	103P703070	METAL RESISTOR(C)	1/16W 10KΩ-J [4A, 4B, 4E]
R 501	103P702070	METAL RESISTOR(C)	1/16W 1.5KΩ-J [4A, 4B, 4E]
R 502	103P703070	METAL RESISTOR(C)	1/16W 10KΩ-J [4A, 4B, 4E]
R 503	103P505000	RESISTOR(C)	1/20W 120KΩ-J [4A, 4B, 4E]
R 504	103P504030	RESISTOR(C)	1/20W 33KΩ-J [4A, 4B, 4E]
R 505	103P504030	RESISTOR(C)	1/20W 33KΩ-J
R 506	103P503010	RESISTOR(C)	1/20W 3.3KΩ-J [4A, 4B, 4E]
R 507	103P495040	METAL RESISTOR(C)	1/16W 16KΩ-F
R 508	103P495030	METAL RESISTOR(C)	1/16W 15KΩ-F
R 509	103P495020	METAL RESISTOR(C)	1/16W 13KΩ-F
R 510	103P495050	METAL RESISTOR(C)	1/16W 18KΩ-F
R 511	103P503000	RESISTOR(C)	1/20W 2.7KΩ-J [4A, 4B, 4E]
R 512	103P503040	RESISTOR(C)	1/20W 5.6KΩ-J [4A, 4B, 4E]
R 513	103P503090	RESISTOR(C)	1/20W 15KΩ-J [4A, 4B, 4E]
R 514	103P501080	RESISTOR(C)	1/20W 270Ω-J [4A, 4B, 4E]
R 515	103P503030	RESISTOR(C)	1/20W 4.7KΩ-J [4A, 4B, 4E]
R 516	103P503000	RESISTOR(C)	1/20W 2.7KΩ-J [4A, 4B, 4E]
R 517	103P503050	RESISTOR(C)	1/20W 6.8KΩ-J [4A, 4B, 4E]
R 518	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 519	103P504060	RESISTOR(C)	1/20W 56KΩ-J [4A, 4B, 4E]
R 520	103P503040	RESISTOR(C)	1/20W 5.6KΩ-J [4A, 4B, 4E]
R 521	103P505090	RESISTOR(C)	1/20W 120KΩ-J [4A, 4B, 4E]
R 522	103P495010	METAL RESISTOR(C)	1/16W 12KΩ-F [4A, 4B, 4E]
R 523	103P504030	RESISTOR(C)	1/20W 33KΩ-J [4A, 4B, 4E]
R 524	103P503010	RESISTOR(C)	1/20W 3.3KΩ-J [4A, 4B, 4E]
R 525	103P509050	RESISTOR(C)	0Ω RM1608 [1A, 1B, 1E]
R 526	103P509050	RESISTOR(C)	0Ω RM1608 [1A, 1B, 1E]
R 527	103P509050	RESISTOR(C)	0Ω RM1608 [1A, 1B, 1E]
R 528	103P502080	RESISTOR(C)	1/20W 2.7KΩ-J
R 529	103P509050	RESISTOR(C)	0Ω RM1608 [1A, 1B, 1E]
R 571	103P352020	RESISTOR(C)	1/8W 560Ω-J
R 572	103P359050	RESISTOR(C)	1/8W 0Ω
R 5A1	103P501020	RESISTOR(C)	1/20W 82Ω-J
R 5A2	103P501030	RESISTOR(C)	1/20W 100Ω-J
R 5A3	103P497030	METAL RESISTOR(C)	1/16W 100KΩ-F
R 5A4	103P458070	METAL RESISTOR(C)	1/16W 390KΩ-F
R 5A5	103P502080	RESISTOR(C)	1/20W 2.7KΩ-J
R 5A6	103P502080	RESISTOR(C)	1/20W 2.7KΩ-J
R 5A7	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J
R 5A8	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 5A9	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 5AA	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 5AB	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 5AC	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J
R 5AD	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J
R 5AE	103P503030	RESISTOR(C)	1/20W 4.7KΩ-J
R 5AF	103P503030	RESISTOR(C)	1/20W 4.7KΩ-J
R 5AG	103P500070	RESISTOR(C)	1/20W 33Ω-J
R 5AH	103P494000	METAL RESISTOR(C)	1/16W 4.3KΩ-F
R 5AJ	103P501040	RESISTOR(C)	1/20W 120Ω-J
R 5AL	103P495040	METAL RESISTOR(C)	1/16W 16KΩ-F
R 5AM	103P495040	METAL RESISTOR(C)	1/16W 16KΩ-F
R 5AP	103P505030	RESISTOR(C)	1/20W 220KΩ-J
R 5AQ	103P504060	RESISTOR(C)	1/20W 56KΩ-J
R 5AR	103P505030	RESISTOR(C)	1/20W 220KΩ-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 5AS	103P504000	RESISTOR(C)	1/20W 18KΩ-J
R 5AT	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 5AU	103P504070	RESISTOR(C)	1/20W 68KΩ-J
R 5AV	103P504070	RESISTOR(C)	1/20W 68KΩ-J
R 5AW	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 5AX	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 5AY	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 5B1	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 5B2	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 5B3	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 5B4	103P504000	RESISTOR(C)	1/20W 18KΩ-J
R 5B5	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 5B6	103P506010	RESISTOR(C)	1/20W 1MΩ-J
R 5B7	103P504000	RESISTOR(C)	1/20W 18KΩ-J
R 5B8	103P504030	RESISTOR(C)	1/20W 33KΩ-J
R 5BA	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 5B9	103P504060	RESISTOR(C)	1/20W 56KΩ-J
R 5BC	103P505030	RESISTOR(C)	1/20W 220KΩ-J
R 5BD	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 5BE	103P504060	RESISTOR(C)	1/20W 56KΩ-J
R 5BF	103P505030	RESISTOR(C)	1/20W 220KΩ-J
R 5BG	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 5BH	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 5BK	103P496030	RESISTOR(C)	1/16W 39KΩ-F
R 5C1	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 5C2	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 5C4	103P504020	RESISTOR(C)	1/20W 27KΩ-J
R 5CB	103P503030	RESISTOR(C)	1/20W 4.7KΩ-J
R 5D0	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 5D1	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 5D2	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 5D3	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 5DH	103P504050	RESISTOR(C)	1/20W 47KΩ-J [1A, 1B, 1E]
R 5DV	103P504050	RESISTOR(C)	1/20W 47KΩ-J [1A, 1B, 1E]
R 5E0	103P501070	RESISTOR(C)	1/20W 220Ω-J
R 5E1	103P503080	RESISTOR(C)	1/20W 12KΩ-J
R 5E2	103P503010	RESISTOR(C)	1/20W 3.3KΩ-J
R 5E3	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 5E4	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 5E6	103P509050	RESISTOR(C)	0Ω RM1608 [1A, 1B, 1E]
R 5EA	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 5ED	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 5EF	103P503020	RESISTOR(C)	1/20W 3.9KΩ-J
R 5FA	103P503020	RESISTOR(C)	1/20W 3.9KΩ-J
R 5FB	103P494020	METAL RESISTOR(C)	1/16W 5.1KΩ-F
R 5FC	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 5FD	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J
R 5FE	103P501030	RESISTOR(C)	1/20W 100Ω-J
R 5FF	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 5FG	103P501070	RESISTOR(C)	1/20W 220Ω-J
R 5FH	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 5FJ	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 5FK	103P501090	RESISTOR(C)	1/20W 330Ω-J
R 5FL	103P502030	RESISTOR(C)	1/20W 680Ω-J
R 5FN	103P503070	RESISTOR(C)	1/20W 10KΩ-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 5FQ	103P494020	METAL RESISTOR(C)	1/16W 5.1KΩ-F
R 5FS	103P503050	RESISTOR(C)	1/20W 6.8KΩ-J
R 5FT	103P503050	RESISTOR(C)	1/20W 6.8KΩ-J
R 5FU	103P502020	RESISTOR(C)	1/20W 560Ω-J
R 5FV	103P502020	RESISTOR(C)	1/20W 560Ω-J
R 5FW	103P502020	RESISTOR(C)	1/20W 560Ω-J
R 5FX	103P501030	RESISTOR(C)	1/20W 100Ω-J
R 5FY	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 5FZ	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 5GA	103P493020	METAL RESISTOR(C)	1/16W 2KΩ-F
R 5GB	103P492080	RESISTOR(C)	1/16W 1.3KΩ-F
R 5GC	103P492080	RESISTOR(C)	1/16W 1.3KΩ-F
R 5GD	103P501070	RESISTOR(C)	1/20W 220Ω-J
R 5GE	103P502040	RESISTOR(C)	1/20W 820Ω-J
R 5JK	103P509050	RESISTOR(C)	0Ω RM1608
R 5JL	103P509050	RESISTOR(C)	0Ω RM1608
R 5JP	103P509050	RESISTOR(C)	0Ω RM1608
R 5JQ	103P509050	RESISTOR(C)	0Ω RM1608
R 5KE	103P502010	RESISTOR(C)	1/20W 470Ω-J
R 5KL	103P501020	RESISTOR(C)	1/20W 82Ω-J
R 5KM	103P509010	METAL RESISTOR(C)	1/16W 8.2Ω-K
R 5LC	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J
R 5LD	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 5LE	103P505050	RESISTOR(C)	1/20W 330KΩ-J
R 5LF	103P505020	RESISTOR(C)	1/20W 180KΩ-J
R 5LG	103P492010	METAL RESISTOR(C)	1/16W 680Ω-F
R 5LH	103P495070	METAL RESISTOR(C)	1/16W 22KΩ-F
R 5LJ	103P494070	METAL RESISTOR(C)	1/16W 8.2KΩ-F
R 5LK	103P506050	RESISTOR(C)	1/20W 2.2MΩ-J
R 5LL	103P503030	RESISTOR(C)	1/20W 4.7KΩ-J
R 5LM	103P504060	RESISTOR(C)	1/20W 56KΩ-J
R 5LN	103P402000	RESISTOR(C)	1/10W 390Ω-J
R 5LP	103P491080	METAL RESISTOR(C)	1/16W 510Ω-F
R 5LQ	103P492090	RESISTOR(C)	1/16W 1.5KΩ-F
R 5LR	103P495010	METAL RESISTOR(C)	1/16W 12KΩ-F
R 5LS	103P497060	METAL RESISTOR(C)	1/16W 130KΩ-F
R 5LT	103P498040	METAL RESISTOR(C)	1/16W 300KΩ-F
R 5LU	103P497050	METAL RESISTOR(C)	1/16W 120KΩ-F
R 5LV	103P493070	METAL RESISTOR(C)	1/16W 3.3KΩ-F
R 5LW	103P495070	METAL RESISTOR(C)	1/16W 22KΩ-F
R 5LX	103P[illegible]90	METAL RESISTOR(C)	1/16W 10KΩ-F
R 5LY	103P495010	METAL RESISTOR(C)	1/16W 12KΩ-F
R 5LZ	103P502080	RESISTOR(C)	1/20W 2.2KΩ-J
R 5MA	103P508060	METAL RESISTOR(C)	1/16W 5.6KΩ-K
R 5MB	103P508060	METAL RESISTOR(C)	1/16W 5.6KΩ-K
R 5MJ	103P509050	RESISTOR(C)	0Ω RM1608
R 5MK	103P509050	RESISTOR(C)	0Ω RM1608
R 5RA	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 5US	103P409050	RESISTOR(C)	1/10W 0Ω
R 5ZA	103P493090	METAL RESISTOR(C)	1/16W 3.9KΩ-F
R 5ZB	103P492050	METAL RESISTOR(C)	1/16W 1.0KΩ-F
R 5ZC	103P495000	METAL RESISTOR(C)	1/16W 11KΩ-F
R 6A0	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 6A1	103P502060	RESISTOR(C)	1/20W 1.2KΩ-J
R 6A2	103P502050	RESISTOR(C)	1/20W 1KΩ-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 6A3	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 6A4	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 6A5	103P502060	RESISTOR(C)	1/20W 1.2KΩ-J
R 6A6	103P501080	RESISTOR(C)	1/20W 270Ω-J
R 6A8	103P504090	RESISTOR(C)	1/20W 100KΩ-J
R 6A9	103P504090	RESISTOR(C)	1/20W 100KΩ-J
R 6AA	103P503060	RESISTOR(C)	1/20W 8.2KΩ-J [4A, 4B, 4E]
R 6AB	103P506010	RESISTOR(C)	1/20W 1MΩ-J [4A, 4B, 4E]
R 6AC	103P505090	RESISTOR(C)	1/20W 680KΩ-J [4A, 4B, 4E]
R 6AF	103P505090	RESISTOR(C)	1/20W 680KΩ-J [4A, 4B, 4E]
R 6AG	103P506010	RESISTOR(C)	1/20W 1MΩ-J [4A, 4B, 4E]
R 6AH	103P503060	RESISTOR(C)	1/20W 8.2KΩ-J [4A, 4B, 4E]
R 6AJ	103P505090	RESISTOR(C)	1/20W 680KΩ-J [4A, 4B, 4E]
R 6AM	103P505090	RESISTOR(C)	1/20W 680KΩ-J [4A, 4B, 4E]
R 6AN	103P494090	METAL RESISTOR(C)	1/16W 10KΩ-F [4A, 4B, 4E]
R 6AP	103P495040	METAL RESISTOR(C)	1/16W 16KΩ-F [4A, 4B, 4E]
R 6AQ	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J [4A, 4B, 4E]
R 6AR	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J [4A, 4B, 4E]
R 6AS	103P500070	RESISTOR(C)	1/20W 33Ω-J [4A, 4B, 4E]
R 6AT	103P500070	RESISTOR(C)	1/20W 33Ω-J [4A, 4B, 4E]
R 6AU	103P504090	RESISTOR(C)	1/20W 100KΩ-J [4A, 4B, 4E]
R 6AV	103P504090	RESISTOR(C)	1/20W 100KΩ-J [4A, 4B, 4E]
R 6AW	103P505090	RESISTOR(C)	1/20W 680KΩ-J [4A, 4B, 4E]
R 6AX	103P509050	RESISTOR(C)	0Ω RM1608 [4A, 4B, 4E]
R 6AY	103P509050	RESISTOR(C)	0Ω RM1608 [4A, 4B, 4E]
R 6B4	103P509050	RESISTOR(C)	0Ω RM1608 [1A, 1E, 4B, 4E]
R 6B5	103P509050	RESISTOR(C)	0Ω RM1608 [1A, 1E, 4B, 4E]
R 6B6	103P503030	RESISTOR(C)	1/20W 4.7KΩ-J
R 6B8	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 6B9	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 6BA	103P503060	RESISTOR(C)	1/20W 8.2KΩ-J [4A, 4B, 4E]
R 6BB	103P503060	RESISTOR(C)	1/20W 8.2KΩ-J [4A, 4B, 4E]
R 6C1	103P506050	RESISTOR(C)	1/20W 2.2MΩ-J
R 6C2	103P503090	RESISTOR(C)	1/20W 15KΩ-J
R 6C4	103P503070	RESISTOR(C)	1/20W 10KΩ-J
R 6C5	103P502040	RESISTOR(C)	1/20W 820Ω-J
R 6C6	103P502070	RESISTOR(C)	1/20W 1.5KΩ-J
R 6C7	103P502050	RESISTOR(C)	1/20W 1KΩ-J
R 6C9	103P509050	RESISTOR(C)	0Ω RM1608
R 6D0	103P505010	RESISTOR(C)	1/20W 150KΩ-J
R 6D2	103P509050	RESISTOR(C)	0Ω RM1608
R 6D3	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 6D4	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 6D5	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 6D6	103P508040	RESISTOR(C)	1/20W 2.2Ω-K
R 6D8	103P504060	RESISTOR(C)	1/20W 56KΩ-J
R 6D9	103P504020	RESISTOR(C)	1/20W 27KΩ-J
R 6E0	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 6E1	103P509050	RESISTOR(C)	0Ω RM1608
R 6E2	103P509050	RESISTOR(C)	0Ω RM1608
R 6E3	103P504010	RESISTOR(C)	1/20W 22KΩ-J
R 6E4	103P503090	RESISTOR(C)	1/20W 15KΩ-J
R 6E5	103P504000	RESISTOR(C)	1/20W 18KΩ-J
R 6E6	103P504050	RESISTOR(C)	1/20W 47KΩ-J
R 6E7	103P503070	RESISTOR(C)	1/20W 10KΩ-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
R 6R3	103P504060	RESISTOR(C)	1/20W 56KΩ-J	
R 6ZA	103P505070	RESISTOR(C)	1/20W 470KΩ-J	[4A]
R 6ZB	103P505070	RESISTOR(C)	1/20W 470KΩ-J	[4A]
R 6ZC	103P504050	RESISTOR(C)	1/20W 47KΩ-J	[4A]
R 6ZG	103P505070	RESISTOR(C)	1/20W 470KΩ-J	[4A]
R 6ZH	103P505070	RESISTOR(C)	1/20W 470KΩ-J	[4A]
R 6ZJ	103P504050	RESISTOR(C)	1/20W 47KΩ-J	[4A]
R 800	103P504020	RESISTOR(C)	1/20W 27KΩ-J	
R 801	103P504090	RESISTOR(C)	1/20W 100KΩ-J	
R 802	103P504050	RESISTOR(C)	1/20W 47KΩ-J	
R 803	103P504050	RESISTOR(C)	1/20W 47KΩ-J	
R 804	103P504050	RESISTOR(C)	1/20W 47KΩ-J	
R 805	103P504060	RESISTOR(C)	1/20W 47KΩ-J	
R 806	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J	
R 807	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J	
R 808	103P505030	RESISTOR(C)	1/20W 220KΩ-J	
R 809	103P505030	RESISTOR(C)	1/20W 220KΩ-J	
R 810	103P505030	RESISTOR(C)	1/20W 220KΩ-J	
R 812	103P502050	RESISTOR(C)	1/20W 1KΩ-J	
R 813	103P502060	RESISTOR(C)	1/20W 1.2KΩ-J	
R 814	103P506050	RESISTOR(C)	1/20W 2.2MΩ-J	
R 815	103P503070	RESISTOR(C)	1/20W 10KΩ-J	
R 817	103P506010	RESISTOR(C)	1/20W 1MΩ-J	
R 818	103P504050	RESISTOR(C)	1/20W 47KΩ-J	
R 820	103P527030	METAL RESISTOR(C)	1/10W 100KΩ-D	
R 821	103P524030	METAL RESISTOR(C)	1/10W 5.6KΩ-D	
R 822	103P527030	METAL RESISTOR(C)	1/10W 100KΩ-D	
R 824	103P502050	RESISTOR(C)	1/20W 1KΩ-J	
R 825	103P503070	RESISTOR(C)	1/20W 10KΩ-J	
R 829	103P503060	RESISTOR(C)	1/20W 8.2KΩ-J	
R 833	103P504090	RESISTOR(C)	1/20W 100KΩ-J	
R 840	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J	
R 841	103P506070	RESISTOR(C)	1/16W 3.3MΩ-K	
R 842	103P506070	RESISTOR(C)	1/16W 3.3MΩ-K	
R 843	103P506070	RESISTOR(C)	1/16W 3.3MΩ-K	
R 845	103P509050	RESISTOR(C)	0Ω RM1608	
R 846	103P509050	RESISTOR(C)	0Ω RM1608	[1A, 1B, 1E]
R 847	103P509050	RESISTOR(C)	0Ω RM1608	[1A, 1B, 1E]
R 852	103P502050	RESISTOR(C)	1/20W 1KΩ-J	
R 853	103P502050	RESISTOR(C)	1/20W 1KΩ-J	[4A, 4B, 4E]
R 854	103P502050	RESISTOR(C)	1/20W 1KΩ-J	[4A, 4B, 4E]
R 855	103P503030	RESISTOR(C)	1/20W 4.7KΩ-J	
R 856	103P502090	RESISTOR(C)	1/20W 2.2KΩ-J	
R 906	103P503070	RESISTOR(C)	1/20W 10KΩ-J	
R 907	103P503010	RESISTOR(C)	1/20W 3.3KΩ-J	
R 908	103P505090	RESISTOR(C)	1/20W 680KΩ-J	
R 909	103P505010	RESISTOR(C)	1/20W 150KΩ-J	
R 910	103P505060	RESISTOR(C)	1/16W 390KΩ-J	
R 911	103P496030	RESISTOR(C)	1/16W 39KΩ-F	
R 912	103P495050	METAL RESISTOR(C)	1/16W 18KΩ-F	
R 913	103P503090	RESISTOR(C)	1/20W 15KΩ-J	
R 914	103P503070	RESISTOR(C)	1/20W 10KΩ-J	
R 915	103P502000	RESISTOR(C)	1/20W 390Ω-J	
R 916	103P402010	RESISTOR(C)	1/10W 470Ω-J	
R 917	103P502000	RESISTOR(C)	1/20W 390Ω-J	
R 918	103P402010	RESISTOR(C)	1/10W 470Ω-J	
R 919	103P501050	RESISTOR(C)	1/20W 150Ω-J	
R 920	103P481070	METAL RESISTOR(C)	1/4W 220Ω-J	
R 921	103P496010	METAL RESISTOR(C)	1/16W 33KΩ-F	
R 922	103P494010	METAL RESISTOR(C)	1/16W 4.7KΩ-F	
R 923	103P500090	RESISTOR(C)	1/20W 47Ω-J	

CAPACITORS AND TRIMMERS

	154P333030	CAPACITOR(C)	CH50V 82pF-J
C 200	154P355000	CAPACITOR(C)	SL50V 390pF-J
C 201	154P355000	CAPACITOR(C)	SL50V 390pF-J
C 202	154P353080	CAPACITOR(C)	SL50V 100pF-J
C 203	141P140090	CAPACITOR(C)	B50V 1000pF-K
C 204	154P351060	CAPACITOR(C)	SL50V 15pF-J
C 205	141P141070	CAPACITOR(C)	B50V 4700pF-K
C 207	154P354000	CAPACITOR(C)	SL50V 150pF-J
C 208	141P136030	CAPACITOR(C)	F16V 1μF-Z
C 209	141P136030	CAPACITOR(C)	F16V 1μF-Z
C 211	141P135070	CAPACITOR(C)	F16V 1μF-Z [4A, 4B, 4E]
C 212	141P135070	CAPACITOR(C)	F16V 1μF-Z [4A, 4B, 4E]
C 213	141P135070	CAPACITOR(C)	F16V 1μF-Z [4A, 4B, 4E]
C 214	141P144020	CAPACITOR(C)	F25V/16V 0.1μF-Z [4A, 4B, 4E]
C 215	141P144020	CAPACITOR(C)	F25V/16V 0.1μF-Z [4A, 4B, 4E]
C 216	154P355040	CAPACITOR(C)	SL25V 560pF-J [4A, 4B, 4E]
C 217	141P143080	CAPACITOR(C)	F50V 0.01μF-Z [4A, 4B, 4E]
C 218	154P355040	CAPACITOR(C)	SL25V 560pF-J [4A, 4B, 4E]
C 219	141P143080	CAPACITOR(C)	F50V 0.01μF-Z [4A, 4B, 4E]
C 220	141P144020	CAPACITOR(C)	F25V/16V 0.1μF-Z [4A, 4B, 4E]
C 221	141P135070	CAPACITOR(C)	F16V 1μF-Z [4A, 4B, 4E]
C 222	141P144020	CAPACITOR(C)	F25V/16V 0.1μF-Z [4A, 4B, 4E]
C 223	141P135070	CAPACITOR(C)	F16V 1μF-Z [4A, 4B, 4E]
C 224	141P144020	CAPACITOR(C)	F25V/16V 0.1μF-Z [4A, 4B, 4E]
C 225	154P355060	CAPACITOR(C)	SL25V 680pF-J [4A, 4B, 4E]
C 226	141P143080	CAPACITOR(C)	F50V 0.01μF-Z [4A, 4B, 4E]
C 227	141P144020	CAPACITOR(C)	F25V/16V 0.1μF-Z [4A, 4B, 4E]
C 228	141P144020	CAPACITOR(C)	F25V/16V 0.1μF-Z [4A, 4B, 4E]
C 229	154P355060	CAPACITOR(C)	SL25V 680pF-J [4A, 4B, 4E]
C 230	141P143080	CAPACITOR(C)	F50V 0.01μF-Z [4A, 4B, 4E]
C 231	141P144020	CAPACITOR(C)	F25V/16V 0.1μF-Z [4A, 4B, 4E]
C 232	141P135070	CAPACITOR(C)	F16V 1μF-Z [4A, 4B, 4E]
C 233	141P144020	CAPACITOR(C)	F25V/16V 0.1μF-Z
C 234	141P135070	CAPACITOR(C)	F16V 1μF-Z
C 235	141P143080	CAPACITOR(C)	F50V 0.01μF-Z
C 236	154P353000	CAPACITOR(C)	SL50V 56pF-J
C 237	141P144020	CAPACITOR(C)	F25V/16V 0.1μF-Z
C 238	141P143080	CAPACITOR(C)	F50V 0.01μF-Z
C 239	141P135070	CAPACITOR(C)	F16V 1μF-Z
C 240	154P353000	CAPACITOR(C)	SL50V 56pF-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 241	141P144020	CAPACITOR(C)	F25V/16V 0.1 μF-Z
C 242	141P135070	CAPACITOR(C)	F16V 1 μF-Z
C 243	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 244	154P353000	CAPACITOR(C)	SL50V 56pF-J
C 245	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 246	154P353000	CAPACITOR(C)	SL50V 56pF-J
C 247	141P144020	CAPACITOR(C)	F25V/16V 0.1 μF-Z
C 248	141P135070	CAPACITOR(C)	F16V 1 μF-Z
C 249	141P135070	CAPACITOR(C)	F16V 1 μF-Z
C 250	141P135070	CAPACITOR(C)	F16V 1 μF-Z
C 254	141P135070	CAPACITOR(C)	F16V 1 μF-Z
C 255	141P135070	CAPACITOR(C)	F16V 1 μF-Z
C 256	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 257	141P144020	CAPACITOR(C)	F25V/16V 0.1 μF-Z
C 258	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 259	141P144020	CAPACITOR(C)	F25V/16V 0.1 μF-Z
C 260	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 261	141P144020	CAPACITOR(C)	F25V/16V 0.1 μF-Z
C 262	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 263	141P144020	CAPACITOR(C)	F25V/16V 0.1 μF-Z
C 280	141P144020	CAPACITOR(C)	F25V/16V 0.1 μF-Z [4A, 4B, 4E]
C 281	141P141080	CAPACITOR(C)	B50V 5600pF-K
C 282	141P141070	CAPACITOR(C)	B50V 4700pF-K
C 283	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 284	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 285	141P135070	CAPACITOR(C)	F16V 1 μF-Z
C 286	141P135070	CAPACITOR(C)	F16V 1 μF-Z
C 289	141P144020	CAPACITOR(C)	F25V/16V 0.1 μF-Z
C 291	154P352040	CAPACITOR(C)	SL50V 33pF-J
C 292	154P353060	CAPACITOR(C)	SL50V 100pF-J
C 293	154P353060	CAPACITOR(C)	SL50V 100pF-J
C 294	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 295	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 297	154P342030	CAPACITOR(C)	CH50V 33pF-J
C 298	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 299	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z [4A, 4B, 4E]
C 2A0	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 2A1	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 2A2	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 2A3	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 2A4	141P143090	CAPACITOR(C)	F50V 0.022 μF-Z
C 2A5	154P342030	CAPACITOR(C)	CH50V 33pF-J
C 2A6	154P344070	CAPACITOR(C)	CH25V 330pF-J [1A, 1B, 1E, 4B, 4E]
C 2A6	154P344050	CAPACITOR(C)	CH25V/50V [4A]
C 2A7	181P509020	CAPACITOR(C)	0.4W 35V 2.2 μF-M
C 2A8	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 2A9	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 2AA	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 2AB	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 2AC	181P509090	CAPACITOR(C)	0.4W 25V 4.7 μF-M
C 2AD	181P502040	CAPACITOR(C)	0.4W 16V 22 μF-M
C 2AE	181P508090	CAPACITOR(C)	0.4W 16V 10 μF-M
C 2AF	189P123070	CAPACITOR(C)	16V 10 μF-M
C 2AG	154P340060	CAPACITOR(C)	CH50V 5pF-C

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 2AL	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 2AM	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 2AN	141P140090	CAPACITOR(C)	B50V 1000pF-K
C 2AP	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 2AQ	154P341050	CAPACITOR(C)	CH50V 15pF-J
C 2AU	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 2AV	154P343010	CAPACITOR(C)	CH50V 68pF-J
C 2B4	154P334090	CAPACITOR(C)	CH50V 390pF-J
C 2B5	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 2B6	141P136040	CAPACITOR(C)	F25V/16V 2.2 μF-Z
C 2B7	181P509080	CAPACITOR(C)	0.4W 50V 1 μF-M
C 2B9	141P136040	CAPACITOR(C)	F25V/16V 2.2 μF-Z
C 2BB	154P341030	CAPACITOR(C)	CH50V 12pF-J
C 2BC	154P342010	CAPACITOR(C)	CH50V 27pF-J
C 2BD	141P133080	CAPACITOR(C)	F50V 0.01 μF-Z
C 2BE	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 2BF	154P341030	CAPACITOR(C)	CH50V 12pF-J
C 2BG	154P342010	CAPACITOR(C)	CH50V 27pF-J
C 2BH	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 2BJ	181P508050	CAPACITOR(C)	0.4W 6.3V 22 μF-M
C 2BK	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 2BL	141P135070	CAPACITOR(C)	F16V 1 μF-Z
C 2BM	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 2BN	141P135070	CAPACITOR(C)	F16V 1 μF-Z
C 2BQ	141P135010	CAPACITOR(C)	F25V 0.33 μF-Z
C 2BR	181P509090	CAPACITOR(C)	0.4W 50V 2.2 μF-M
C 2BS	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 2C0	141P142010	CAPACITOR(C)	B25V 0.01 μF-K
C 2C1	181P509090	CAPACITOR(C)	0.4W 50V 2.2 μF-M
C 2C2	181P509030	CAPACITOR(C)	0.4W 35V 3.3 μF-M
C 2C3	181P508050	CAPACITOR(C)	0.4W 6.3V 22 μF-M
C 2C5	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 2C9	154P354020	CAPACITOR(C)	SL50V 180pF-J
C 2CB	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 2D0	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 2D1	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 2D2	154P354040	CAPACITOR(C)	SL50V 220pF-J
C 2D4	154P352040	CAPACITOR(C)	SL50V 33pF-J
C 2D5	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 2DA	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 2DB	181P508070	CAPACITOR(C)	0.4W 16V 4.7 μF-M
C 2DC	141P134010	CAPACITOR(C)	F50V 0.047 μF-Z
C 2DD	141P134010	CAPACITOR(C)	F50V 0.047 μF-Z
C 2E0	154P351060	CAPACITOR(C)	SL50V 15pF-J
C 2E1	154P353060	CAPACITOR(C)	SL50V 100pF-J [4E]
C 2H0	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 2H1	154P353040	CAPACITOR(C)	SL50V 82pF-J
C 2H2	154P352060	CAPACITOR(C)	SL50V 39pF-J
C 2H3	154P351060	CAPACITOR(C)	SL50V 15pF-J
C 2H4	154P351040	CAPACITOR(C)	SL50V 12pF-C
C 2P0	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 2P1	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 2P2	154P341090	CAPACITOR(C)	CH50V 22pF-J
C 2P3	154P343030	CAPACITOR(C)	CH50V 82pF-J
C 2P4	181P509020	CAPACITOR(C)	0.4W 35V 2.2 μF-M

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 2P5	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 2P6	181P509080	CAPACITOR(C)	0.4W 50V 1 μF-M
C 2P7	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 2R0	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 2R1	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 2R2	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 2V0	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 2V1	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 2000	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 2001	181P508050	CAPACITOR(C)	0.4W 6.3V 22 μF-M
C 2002	181P508080	CAPACITOR(C)	0.4W 16V 10 μF-M
C 2003	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 2004	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 2005	181P508010	CAPACITOR(C)	4V 220 μF-M
C 2006	181P508010	CAPACITOR(C)	4V 220 μF-M
C 2007	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 2008	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 2009	181P500030	CAPACITOR(C)	0.4W 6.3V 47 μF-M
C 2010	181P508050	CAPACITOR(C)	0.4W 6.3V 22 μF-M
C 300	189P120050	CAPACITOR(C)	4V 22 μF-M
C 301	181P510070	CAPACITOR(C)	0.4W 10V 10 μF-M
C 302	141P135070	CAPACITOR(C)	F16V 1 μF-Z
C 303	172P341090	CAPACITOR(C)	16V 0.033 μF-J [1A, 1B, 1E]
C 304	172P341060	CAPACITOR(C)	16V 0.018 μF-J [1A, 1B, 1E]
C 305	154P354040	CAPACITOR(C)	SL50V 220pF-J
C 306	189P125010	C-TANTALUM(C)	25V
C 307	154P355060	CAPACITOR(C)	SL25V 680pF-J
C 308	154P327000	CAPACITOR(C)	SL50V 2700pF-J
C 309	189P120050	CAPACITOR(C)	4V 22 μF-M
C 310	141P132030	CAPACITOR(C)	B50V 0.015 μF-K
C 311	181P508050	CAPACITOR(C)	0.4W 6.3V 22 μF-M
C 312	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 313	189P122010	CAPACITOR(C)	10V 2.2 μF-M
C 314	189P122010	CAPACITOR(C)	10V 2.2 μF-M
C 320	141P141040	CAPACITOR(C)	B50V 2700pF-K
C 321	141P137080	CAPACITOR(C)	B50V 0.047 μF-K
C 323	154P354040	CAPACITOR(C)	SL50V 220pF-J
C 324	189P096020	C-PLASTIC-PP	100V 3300pF-J
C 325	141P136030	CAPACITOR(C)	F16V 1 μF-Z
C 352	181P509030	CAPACITOR(C)	0.4W 35V 3.3 μF-M
C 353	181P509030	CAPACITOR(C)	0.4W 35V 3.3 μF-M [4A, 4B, 4E]
C 354	172P312070	CAPACITOR(C)	25V 0.15 μF-J
C 355	172P312070	CAPACITOR(C)	25V 0.15 μF-J [4A, 4B, 4E]
C 356	172P312070	CAPACITOR(C)	25V 0.15 μF-J
C 357	172P312070	CAPACITOR(C)	25V 0.15 μF-J [4A, 4B, 4E]
C 358	154P353060	CAPACITOR(C)	SL50V 100pF-J
C 359	154P353060	CAPACITOR(C)	SL50V 100pF-J [4A, 4B, 4E]
C 360	181P507080	CAPACITOR(C)	4V 33 μF-M
C 361	181P507080	CAPACITOR(C)	4V 33 μF-M [4A, 4B, 4E]
C 362	181P508070	CAPACITOR(C)	0.4W 16V 4.7 μF-M
C 363	181P500040	CAPACITOR(C)	6.3V 100 μF-M
C 364	181P508050	CAPACITOR(C)	0.4W 6.3V 22 μF-M
C 3A0	189P120050	CAPACITOR(C)	4V 22 μF-M [4A, 4B, 4E]
C 3A1	154P326080	CAPACITOR(C)	SL50V 2200pF-J [4A, 4B, 4E]

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 3A2	189P120030	C-TANTALUM(C)	4V 10 μF-M [4A, 4B, 4E]
C 3A3	141P142010	CAPACITOR(C)	B25V 0.01 μF-K [4A, 4B, 4E]
C 3A4	189P122010	CAPACITOR(C)	10V 2.2 μF-M [4A, 4B, 4E]
C 3A5	181P507080	CAPACITOR(C)	4V 33 μF-M [4A, 4B, 4E]
C 3A6	141P136040	CAPACITOR(C)	F25V/16V 2.2 μF-Z [4A, 4B, 4E]
C 3A7	172P341030	CAPACITOR(C)	16V 0.01 μF-J [4A, 4B, 4E]
C 3A8	141P138060	CAPACITOR(C)	B25V 0.22 μF-K [4A, 4B, 4E]
C 3A9	141P136040	CAPACITOR(C)	F25V/16V 2.2 μF-Z [4A, 4B, 4E]
C 3AA	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 3AB	141P144020	CAPACITOR(C)	F25V/16V 0.1 μF-Z
C 3AC	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 3AD	141P144020	CAPACITOR(C)	F25V/16V 0.1 μF-Z
C 3AE	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 3AF	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 3AG	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 3AH	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 3AJ	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 3AK	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 3AL	189P121050	CAPACITOR(C)	6.3V 15 μF-M
C 3AM	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 3AN	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 3AP	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 3AR	181P512020	CAPACITOR(C)	0.4W 16V 4.7 μF-M
C 3AS	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 3AT	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 3AU	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 3AW	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 3AX	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 3AY	189P122010	CAPACITOR(C)	10V 2.2 μF-M
C 3AZ	154P343050	CAPACITOR(C)	CH50V 100pF-J
C 3B0	141P135070	CAPACITOR(C)	F16V 1 μF-Z [4A, 4B, 4E]
C 3B1	181P508050	CAPACITOR(C)	0.4W 6.3V 22 μF-M [4A, 4B, 4E]
C 3B2	181P508050	CAPACITOR(C)	0.4W 6.3V 22 μF-M [4A, 4B, 4E]
C 3B3	141P135070	CAPACITOR(C)	F16V 1 μF-Z [4A, 4B, 4E]
C 3B5	141P134020	CAPACITOR(C)	F50V 0.1 μF-Z [4A, 4B, 4E]
C 3BA	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 3BB	189P122010	CAPACITOR(C)	10V 2.2 μF-M
C 3BC	189P123010	CAPACITOR(C)	16V 1 μF-M
C 3BD	141P135060	CAPACITOR(C)	F25V 0.1 μF-Z
C 3BE	141P135060	CAPACITOR(C)	F25V 0.1 μF-Z
C 3BF	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 3BG	181P508050	CAPACITOR(C)	0.4W 6.3V 22 μF-M
C 3BH	181P508080	CAPACITOR(C)	0.4W 16V 10 μF-M
C 3BL	141P135070	CAPACITOR(C)	F16V 1 μF-Z
C 3BM	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 3BN	141P135070	CAPACITOR(C)	F16V 1 μF-Z
C 3BP	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z
C 3BQ	189P121020	CAPACITOR(C)	6.3V 4.7 μF-M
C 3BR	189P121020	CAPACITOR(C)	6.3V 4.7 μF-M
C 3BS	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 3BT	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z
C 3BU	181P508050	CAPACITOR(C)	0.4W 6.3V 22 μF-M

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 3BV	141P143080	CAPACITOR(C)	F50V 0.01μF-Z
C 3C0	189P120050	CAPACITOR(C)	4V 22μF-M [4A, 4B, 4E]
C 3C1	154P326080	CAPACITOR(C)	SL50V 2200pF-J [4A, 4B, 4E]
C 3C2	189P120030	C-TANTALUM(C)	4V 10μF-M [4A, 4B, 4E]
C 3C3	141P142010	CAPACITOR(C)	B25V 0.01μF-K [4A, 4B, 4E]
C 3C4	189P122010	CAPACITOR(C)	10V 2.2μF-M [4A, 4B, 4E]
C 3C5	181P507080	CAPACITOR(C)	4V 33μF-M [4A, 4B, 4E]
C 3C6	141P136040	CAPACITOR(C)	F25V/16V 2.2μF-Z [4A, 4B, 4E]
C 3C7	172P341030	CAPACITOR(C)	16V 0.01μF-J [4A, 4B, 4E]
C 3C8	141P136060	CAPACITOR(C)	B25V 0.22μF-K [4A, 4B, 4E]
C 3C9	141P136040	CAPACITOR(C)	F25V/16V 2.2μF-Z
C 3CA	141P135070	CAPACITOR(C)	F16V 1μF-Z
C 3CB	141P135070	CAPACITOR(C)	F16V 1μF-Z
C 3CC	141P143080	CAPACITOR(C)	F50V 0.01μF-Z
C 3CE	141P143080	CAPACITOR(C)	F50V 0.01μF-Z
C 3CF	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 3CG	141P140090	CAPACITOR(C)	B50V 1000pF-K
C 3CH	154P342070	CAPACITOR(C)	CH50V 47pF-J
C 3CJ	154P342070	CAPACITOR(C)	CH50V 47pF-J
C 3CK	154P342010	CAPACITOR(C)	CH50V 27pF-J
C 3CM	141P135070	CAPACITOR(C)	F16V 1μF-Z
C 3CN	141P135070	CAPACITOR(C)	F16V 1μF-Z
C 3CP	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 3CQ	141P140090	CAPACITOR(C)	B50V 1000pF-K
C 3CR	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 3CS	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 3CT	141P143080	CAPACITOR(C)	F50V 0.01μF-Z
C 3D0	141P143080	CAPACITOR(C)	F50V 0.01μF-Z [4A, 4B, 4E]
C 3D1	141P143080	CAPACITOR(C)	F50V 0.01μF-Z [4A, 4B, 4E]
C 3D2	141P135070	CAPACITOR(C)	F16V 1μF-Z [4A, 4B, 4E]
C 3D3	141P142010	CAPACITOR(C)	B25V 0.01μF-K [4A, 4B, 4E]
C 3D4	141P135080	CAPACITOR(C)	F25V 0.1μF-Z [4A, 4B, 4E]
C 3D5	141P143080	CAPACITOR(C)	F50V 0.01μF-Z [4A, 4B, 4E]
C 3D6	141P143080	CAPACITOR(C)	F50V 0.01μF-Z [4A, 4B, 4E]
C 3D7	154P354040	CAPACITOR(C)	SL50V 220pF-J [4A, 4B, 4E]
C 3D8	141P143080	CAPACITOR(C)	F50V 0.01μF-Z [4A, 4B, 4E]
C 3D9	141P143080	CAPACITOR(C)	F50V 0.01μF-Z [4A, 4B, 4E]
C 3DA	181P509090	CAPACITOR(C)	0.4W 25V 4.7μF-M
C 3DB	141P144000	CAPACITOR(C)	F25V 0.033μF-Z
C 3DD	154P343050	CAPACITOR(C)	CH50V 100pF-J
C 3DE	141P140090	CAPACITOR(C)	B50V 1000pF-K
C 3DF	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 3DG	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 3DL	141P143080	CAPACITOR(C)	F50V 0.01μF-Z
C 3EC	141P144020	CAPACITOR(C)	F25V/16V 0.1μF-Z
C 3VA	154P341010	CAPACITOR(C)	CH50V 10pF-C
C 401	181P508050	CAPACITOR(C)	0.4W 6.3V 22μF-M
C 402	181P508050	CAPACITOR(C)	0.4W 6.3V 22μF-M
C 403	141P132030	CAPACITOR(C)	B50V 0.015μF-K
C 404	141P140090	CAPACITOR(C)	B50V 1000pF-K
C 405	141P140090	CAPACITOR(C)	B50V 1000pF-K
C 407	181P508030	CAPACITOR(C)	0.4W 6.3V 47μF-M
C 408	181P508030	CAPACITOR(C)	0.4W 6.3V 47μF-M
C 409	141P137080	CAPACITOR(C)	B50V 0.047μF-K

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 410	141P138050	CAPACITOR(C)	B25V 0.18μF-K
C 412	181P508080	CAPACITOR(C)	0.4W 16V 10μF-M
C 413	141P140020	CAPACITOR(C)	B50V 270pF-K
C 414	181P508080	CAPACITOR(C)	0.4W 16V 10μF-M
C 415	141P137080	CAPACITOR(C)	B50V 0.047μF-K
C 418	189P122010	CAPACITOR(C)	10V 2.2μF-M
C 419	141P139030	CAPACITOR(C)	B25V 0.1μF-K
C 420	141P141050	CAPACITOR(C)	B50V 3300pF-K
C 4AA	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 4AB	154P343050	CAPACITOR(C)	CH50V 100pF-J
C 4B0	141P136030	CAPACITOR(C)	F16V 1μF-Z
C 4B1	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 4B2	189P123010	CAPACITOR(C)	16V 1μF-M
C 4B3	141P142010	CAPACITOR(C)	B25V 0.01μF-K
C 4B4	141P139030	CAPACITOR(C)	B25V 0.1μF-K
C 4B5	181P509000	CAPACITOR(C)	0.4W 25V 4.7μF-M
C 4B6	181P509000	CAPACITOR(C)	0.4W 25V 4.7μF-M
C 4B7	181P509000	CAPACITOR(C)	0.4W 25V 4.7μF-M
C 4B8	154P343050	CAPACITOR(C)	CH50V 100pF-J
C 4C0	141P134010	CAPACITOR(C)	F50V 0.047μF-Z
C 4C1	154P325080	CAPACITOR(C)	SL50V 820pF-J
C 4C2	181P509090	CAPACITOR(C)	0.4W 50V 2.2μF-M
C 4C3	141P141050	CAPACITOR(C)	B50V 3300pF-K
C 4C4	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 4D0	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 4D1	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 4D2	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 4D3	141P136030	CAPACITOR(C)	F16V 1μF-Z
C 4D4	141P136030	CAPACITOR(C)	F16V 1μF-Z
C 4D5	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 4G0	141P139000	CAPACITOR(C)	B25V 0.056μF-K
C 4G1	141P132010	CAPACITOR(C)	B50V 0.01μF-K
C 4G2	154P352000	CAPACITOR(C)	SL50V 22pF-J
C 4G3	141P139030	CAPACITOR(C)	B25V 0.1μF-K
C 500	141P142010	CAPACITOR(C)	B25V 0.01μF-K [4A, 4B, 4E]
C 501	141P142010	CAPACITOR(C)	B25V 0.01μF-K [4A, 4B, 4E]
C 502	141P142010	CAPACITOR(C)	B25V 0.01μF-K [4A, 4B, 4E]
C 503	141P135070	CAPACITOR(C)	F16V 1μF-Z [4A, 4B, 4E]
C 505	154P343010	CAPACITOR(C)	CH50V 68pF-J [4A, 4B, 4E]
C 506	141P142040	CAPACITOR(C)	B25V/16V 0.018μF-K [4A, 4B, 4E]
C 507	141P139030	CAPACITOR(C)	B25V 0.1μF-K [4A, 4B, 4E]
C 508	141P142070	CAPACITOR(C)	B25V/16V 0.033μF-K [4A, 4B, 4E]
C 509	154P341030	CAPACITOR(C)	CH50V 12pF-J [4A, 4B, 4E]
C 510	141P139030	CAPACITOR(C)	B25V 0.1μF-K [4A, 4B, 4E]
C 511	141P139030	CAPACITOR(C)	B25V 0.1μF-K [4A, 4B, 4E]
C 512	141P139030	CAPACITOR(C)	B25V 0.1μF-K [4A, 4B, 4E]
C 513	181P508080	CAPACITOR(C)	0.4W 16V 10μF-M
C 514	141P139030	CAPACITOR(C)	B25V 0.1μF-K [4A, 4B, 4E]
C 515	141P139030	CAPACITOR(C)	B25V 0.1μF-K [4A, 4B, 4E]
C 516	141P139030	CAPACITOR(C)	B25V 0.1μF-K [4A, 4B, 4E]
C 517	141P135070	CAPACITOR(C)	F16V 1μF-Z
C 518	181P508080	CAPACITOR(C)	0.4W 16V 10μF-M [4A, 4B, 4E]

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 519	141P142010	CAPACITOR(C)	B25V 0.01μF-K [4A, 4B, 4E]
C 520	141P135070	CAPACITOR(C)	F16V 1μF-Z
C 521	141P135080	CAPACITOR(C)	F25V 0.1μF-Z [4A, 4B, 4E]
C 522	154P341030	CAPACITOR(C)	CH50V 12pF-J [4A, 4B, 4E]
C 523	141P143080	CAPACITOR(C)	F50V 0.01μF-Z
C 524	154P344010	CAPACITOR(C)	CH50V 180pF-J [4A, 4B, 4E]
C 525	141P140090	CAPACITOR(C)	B50V 1000pF-K
C 5A2	172P341090	CAPACITOR(C)	16V 0.033μF-J
C 5A3	141P136030	CAPACITOR(C)	F16V 1μF-Z
C 5A4	154P341030	CAPACITOR(C)	CH50V 12pF-J
C 5A5	154P341070	CAPACITOR(C)	CH50V 18pF-J
C 5A6	141P137060	CAPACITOR(C)	B50V 0.033μF-K
C 5A8	181P502060	CAPACITOR(C)	16V 47μF-M
C 5AA	181P508050	CAPACITOR(C)	0.4W 6.3V 22μF-M
C 5AB	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5AC	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5AD	181P508050	CAPACITOR(C)	0.4W 6.3V 22μF-M
C 5AE	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5AG	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5AH	189P125030	CAPACITOR(C)	25V 1μF-M
C 5AJ	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5AK	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5AL	141P135070	CAPACITOR(C)	F16V 1μF-Z
C 5AM	141P135070	CAPACITOR(C)	F16V 1μF-Z
C 5AN	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5AP	141P135070	CAPACITOR(C)	F16V 1μF-Z
C 5AQ	141P135070	CAPACITOR(C)	F16V 1μF-Z
C 5AR	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5AS	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5AT	141P135070	CAPACITOR(C)	F16V 1μF-Z
C 5AU	181P508050	CAPACITOR(C)	0.4W 6.3V 22μF-M
C 5CB	154P341030	CAPACITOR(C)	CH50V 12pF-J
C 5D0	181P500080	CAPACITOR(C)	0.4W 10V 33μF-M
C 5E0	154P353060	CAPACITOR(C)	SL50V 100pF-J
C 5E1	154P353060	CAPACITOR(C)	SL50V 100pF-J
C 5E2	154P353060	CAPACITOR(C)	SL50V 100pF-J
C 5E3	154P353060	CAPACITOR(C)	SL50V 100pF-J
C 5FA	154P343050	CAPACITOR(C)	CH50V 100pF-J
C 5FB	154P343050	CAPACITOR(C)	CH50V 100pF-J
C 5FC	154P344050	CAPACITOR(C)	CH25V/50V
C 5FD	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5FE	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5FG	154P342030	CAPACITOR(C)	CH50V 33pF-J
C 5FH	154P342030	CAPACITOR(C)	CH50V 33pF-J
C 5FL	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5FM	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5FP	154P329020	CAPACITOR(C)	SL50V/25V 4700pF-J
C 5FQ	154P329020	CAPACITOR(C)	SL50V/25V 4700pF-J
C 5FS	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5FT	141P141050	CAPACITOR(C)	B50V 3300pF-K
C 5FU	181P500080	CAPACITOR(C)	0.4W 10V 33μF-M
C 5FY	181P508050	CAPACITOR(C)	0.4W 6.3V 22μF-M
C 5FZ	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5GA	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5GB	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5GC	141P135070	CAPACITOR(C)	F16V 1μF-Z
C 5GD	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5GE	141P135070	CAPACITOR(C)	F16V 1μF-Z
C 5KB	189P121010	CAPACITOR(C)	6.3V 3.3μF-M
C 5LA	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5LB	141P140090	CAPACITOR(C)	B50V 1000pF-K
C 5LC	141P139030	CAPACITOR(C)	B25V 0.1μF-K
C 5LD	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5LE	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5RA	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 5ZA	141P135090	CAPACITOR(C)	F25V 0.22μF-Z
C 5ZB	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 6A0	141P139030	CAPACITOR(C)	B25V 0.1μF-K
C 6A1	141P143080	CAPACITOR(C)	F50V 0.01μF-Z
C 6A3	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 6A4	141P143080	CAPACITOR(C)	F50V 0.01μF-Z
C 6A5	141P143080	CAPACITOR(C)	F50V 0.01μF-Z
C 6A6	141P135080	CAPACITOR(C)	F25V 0.1μF-Z
C 6A7	181P508000	CAPACITOR(C)	0.4W 4V 100μF-M
C 6A8	141P143080	CAPACITOR(C)	F50V 0.01μF-Z
C 6A9	181P509020	CAPACITOR(C)	0.4W 35V 2.2μF-M
C 6AA	141P141080	CAPACITOR(C)	B50V 5600pF-K [4A, 4B, 4E]
C 6AB	181P515000	ELECTROLYTIC-C(C)	35V 10μF-M [4A, 4B, 4E]
C 6AD	141P137040	CAPACITOR(C)	B25V 0.022μF-K[4A, 4B, 4E]
C 6AF	141P141080	CAPACITOR(C)	B50V 5600pF-K [4A, 4B, 4E]
C 6AG	181P515000	ELECTROLYTIC-C(C)	35V 10μF-M [4A, 4B, 4E]
C 6AJ	181P508050	CAPACITOR(C)	0.4W 6.3V 22μF-M [4A, 4B, 4E]
C 6AL	181P508050	CAPACITOR(C)	0.4W 6.3V 22μF-M [4A, 4B, 4E]
C 6AM	141P137040	CAPACITOR(C)	B25V 0.022μF-K[4A, 4B, 4E]
C 6AN	181P508050	CAPACITOR(C)	0.4W 6.3V 22μF-M [4A, 4B, 4E]
C 6AP	181P508050	CAPACITOR(C)	0.4W 6.3V 22μF-M [4A, 4B, 4E]
C 6AQ	181P508050	CAPACITOR(C)	0.4W 6.3V 22μF-M [4A, 4B, 4E]
C 6AR	181P508050	CAPACITOR(C)	0.4W 6.3V 22μF-M [4A, 4B, 4E]
C 6AU	181P509070	CAPACITOR(C)	0.4W 50V 0.47μF-M [4A]
C 6AU	181P509050	CAPACITOR(C)	0.7W 50V 0.22μF-M[4B, 4E]
C 6AV	181P509070	CAPACITOR(C)	0.4W 50V 0.47μF-M [4A]
C 6AV	181P509050	CAPACITOR(C)	0.7W 50V 0.22μF-M[4B, 4E]
C 6B0	141P135000	CAPACITOR(C)	F25V 0.22μF-Z
C 6B1	181P509080	CAPACITOR(C)	0.4W 50V 1μF-M
C 6B2	181P509080	CAPACITOR(C)	0.4W 50V 1μF-M
C 6B3	141P135000	CAPACITOR(C)	F25V 0.22μF-Z
C 6B4	141P135000	CAPACITOR(C)	F25V 0.22μF-Z
C 6B5	141P135000	CAPACITOR(C)	F25V 0.22μF-Z
C 6B6	141P135000	CAPACITOR(C)	F25V 0.22μF-Z
C 6B7	189P122050	CAPACITOR(C)	10V 10μF-M
C 6B8	141P136030	CAPACITOR(C)	F16V 1μF-Z
C 6B9	141P132020	CAPACITOR(C)	B50V 0.012μF-K
C 6C0	189P122050	CAPACITOR(C)	10V 10μF-M
C 6C3	141P144020	CAPACITOR(C)	F25V/16V 0.1μF-Z
C 6C4	141P136040	CAPACITOR(C)	F25V/16V 2.2μF-Z

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
C 6C5	189P124040	CAPACITOR(C)	20V 2.2 μF-M	
C 6C6	141P131080	CAPACITOR(C)	B50V 5600pF-K	
C 6C7	154P340050	CAPACITOR(C)	CH50V 4pF-C	
C 6D1	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z	
C 6D2	141P144020	CAPACITOR(C)	F25V/16V 0.1 μF-Z	
C 6D3	141P135080	CAPACITOR(C)	F25V 0.1 μF-Z	
C 6D4	154P341010	CAPACITOR(C)	CH50V 10pF-C	
C 6D5	141P136030	CAPACITOR(C)	F16V 1 μF-Z	
C 6D6	141P136030	CAPACITOR(C)	F16V 1 μF-Z	
C 6D7	141P136030	CAPACITOR(C)	F16V 1 μF-Z	
C 6D8	141P136030	CAPACITOR(C)	F16V 1 μF-Z	
C 6E1	189P122050	CAPACITOR(C)	10V 10 μF-M	
C 6E2	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z	
C 6E3	189P122050	CAPACITOR(C)	10V 10 μF-M	
C 6E4	154P353000	CAPACITOR(C)	SL50V 56pF-J	
C 6E5	154P353000	CAPACITOR(C)	SL50V 56pF-J	
C 6ZA	141P139010	CAPACITOR(C)	B25V 0.068 μF-K	[4A]
C 6ZB	141P137060	CAPACITOR(C)	B50V 0.047 μF-K	[4A]
C 6ZC	141P137060	CAPACITOR(C)	B50V 0.047 μF-K	[4A]
C 6ZD	141P139030	CAPACITOR(C)	B25V 0.1 μF-K	[4A]
C 6ZE	141P139010	CAPACITOR(C)	B25V 0.068 μF-K	[4A]
C 6ZF	141P137060	CAPACITOR(C)	B50V 0.047 μF-K	[4A]
C 6ZG	141P137060	CAPACITOR(C)	B50V 0.047 μF-K	[4A]
C 6ZH	141P139030	CAPACITOR(C)	B25V 0.1 μF-K	[4A]
C 803	141P144000	CAPACITOR(C)	F25V 0.033 μF-Z	
C 801	141P143080	CAPACITOR(C)	F50V 0.01 μF-Z	
C 803	154P341050	CAPACITOR(C)	CH50V 15pF-J	
C 804	154P341050	CAPACITOR(C)	CH50V 15pF-J	
C 805	154P342050	CAPACITOR(C)	CH50V 39pF-J	
C 806	141P135070	CAPACITOR(C)	F16V 1 μF-Z	
C 807	181P500080	CAPACITOR(C)	0.4W 10V 33 μF-M	
C 808	141P135070	CAPACITOR(C)	F16V 1 μF-Z	
C 809	181P500040	CAPACITOR(C)	6.3V 100 μF-M	
C 810	141P149090	CAPACITOR(C)	B50V 1000pF-K	
C 812	141P140010	CAPACITOR(C)	B50V 220pF-K	
C 901	141P139030	CAPACITOR(C)	B25V 0.1 μF-K	
C 907	141P142010	CAPACITOR(C)	B25V 0.01 μF-K	
C 908	189P123010	CAPACITOR(C)	16V 1 μF-M	
C 909	141P141050	CAPACITOR(C)	B50V 3300pF-K	
C 910	154P355060	CAPACITOR(C)	SL25V 680pF-J	
C 911	141P142010	CAPACITOR(C)	B25V 0.01 μF-K	
C 917	181P502060	CAPACITOR(C)	16V 47 μF-M	
C 918	181P500080	CAPACITOR(C)	0.4W 10V 33 μF-M	
C 919	181P505000	CAPACITOR(C)	0.4W 35V 10 μF-M	
C 922	141P139030	CAPACITOR(C)	B25V 0.1 μF-K	
VC2AA	202P220010	CAPACITOR(C)	3pF-10pF	
VC500	202P220040	TRIMMER CAPACITOR(C)	9pF-40pF 4KA	[4A, 4B, 4E]
VC9A1	202P220020	TRIMMER CAPACITOR(C)	5pF-20pF 4KA	
VC800	202P220050	TRIMMER CAPACITOR(C)	13pF-50pF 4K	

SWITCHES

S 2000	432P088010	KEY BOARD SWITCH	EJECT
S 711	432P094010	KEY BOARD SWITCH	FF
S 713	432P093010	KEY BOARD SWITCH	PB
S 715	432P094010	KEY BOARD SWITCH	REW
S 717	432P093010	KEY BOARD SWITCH	STOP
S 721	432P093010	KEY BOARD SWITCH	STILL
S 725	432P090010	KEY BOARD SWITCH	START/STOP
S 730	431C074050	SLIDE SWITCH	POWER SW
SW571	439P027010	LEAF SWITCH	
SW573	439P013020	LIMIT SWITCH	
SW574	439P026010	MODE SWITCH	

MISCELLANEOUS

	939P450030	AC ADAPTER	[1A, 4A]
	939P450020	AC ADAPTER	[1B, 4B]
	939P450010	AC ADAPTER	[1E, 4E]
	215B511030	FPC CABLE	VA-CA
	215B511040	FPC CABLE	VB-SB
	215B511050	FPC CABLE	VS-JS
	440C227020	JACK BOARD	
	451C137010	EARPHONE JACK	
	295P291010	RF CONVERTER	DAR-M1A [1A, 4A]
	295P290010	RF CONVERTER	DAR-M1EB [1B, 4B]
1C2DA	272D008010	CCD-ASSY	
M 571	288P103020	CAPSTAN MOTOR	
M 572	288P105020	LOADING MOTOR	
T 571	460P103020	A/C HEAD	
TP 25	299P136090	TEST POINT	
TP 2A	299P136090	TEST POINT	
TP 2C	299P136090	TEST POINT	
TP 2E	299P136090	TEST POINT	
TP 2K	299P136090	TEST POINT	
TP 2M	299P136090	TEST POINT	
TP 2S	299P136090	TEST POINT	
TP 2V	299P136090	TEST POINT	
TP 2Y	299P136090	TEST POINT	
TP 3A	299P136090	TEST POINT	[4A, 4B, 4E]
TP 3E	299P136090	TEST POINT	
TP 3F	299P136090	TEST POINT	
TP 3H	299P136090	TEST POINT	[4A, 4B, 4E]
TP 3L	299P136090	TEST POINT	[4A, 4B, 4E]
TP 3R	299P136090	TEST POINT	[4A, 4B, 4E]
TP 3Y	299P136090	TEST POINT	[4A, 4B, 4E]
TP 5A	299P136090	TEST POINT	
TP 5P	299P136090	TEST POINT	
TP 5Q	299P136090	TEST POINT	
TP 5R	299P136090	TEST POINT	
TP 5S	299P136090	TEST POINT	
TP 5X	299P136090	TEST POINT	
TP 6J	299P136090	TEST POINT	
TP 6X	299P136090	TEST POINT	
TP 8A	299P136090	TEST POINT	
TP 8D	299P136090	TEST POINT	
TP 8E	299P136090	TEST POINT	
TP2AA	299P136090	TEST POINT	
TP2AB	299P136090	TEST POINT	
TP2X1	299P136090	TEST POINT	
TP2X2	299P136090	TEST POINT	
TP3AA	299P136090	TEST POINT	

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
TP3AB	299P136090	TEST POINT		
TP3AE	299P136090	TEST POINT		
TP3AG	299P136090	TEST POINT		
TP3AJ	299P136090	TEST POINT		
TP3AL	299P136090	TEST POINT		
TP3AM	299P136090	TEST POINT		
TP3AN	299P136090	TEST POINT		
TP3AP	299P136090	TEST POINT		
TP3AQ	299P136090	TEST POINT		
TP3AR	299P136090	TEST POINT		
TP3AS	299P136090	TEST POINT		
TP3AT	299P136090	TEST POINT		
TP3AY	299P136090	TEST POINT		
TP3X1	299P136090	TEST POINT		[4A, 4B, 4E]
TP500	299P136090	TEST POINT		[4A, 4B, 4E]
TP5GA	299P136090	TEST POINT		
TP5GD	299P136090	TEST POINT		
TP5GU	299P136090	TEST POINT		
TP5HL	299P136090	TEST POINT		
X 2AA	285P165010	CRYSTAL RESONATOR	19.3125MHz	
X 5A0	285P102030	CRYSTAL RESONATOR	AT-49	
X 6A1	285P167010	CRYSTAL RESONATOR	HC-49/U-S	
X 8D0	285P054020	CRYSTAL RESONATOR		
Z 571	299P168010	DEW SENSOR	SHS-A3	
Z 5A0	299P137010	PROTECTOR(C)	1A	
Z 5AA	299P137010	PROTECTOR(C)	1A	
Z 6AA	299P162010	ANGLE SENSOR	ENC-05S-01	[4A, 4B, 4E]
Z 6AB	299P162010	ANGLE SENSOR	ENC-05S-01	[4A, 4B, 4E]
Z 901	299P137010	PROTECTOR(C)	1A	
Z 903	299P137040	SURGE ABSORBER	0.4A	

PRINTED CIRCUIT BOARD ASSY'S

928C722004	CCD PCB ASSY	
928C724004	CM PCB ASSY	[1A, 1B, 1E]
928C724005	CM PCB ASSY	[4A, 4B, 4E]
928D041030	EVF PCB ASSY	
928C749001	GYRO SENS PCB ASSY	[4A, 4B, 4E]
928C725001	POWER SW PCB ASSY	
928C747002	REAR PCB ASSY	[1A, 1B, 1E]
928C747003	REAR PCB ASSY	[4A, 4B, 4E]
928C723006	SD/PC PCB ASSY	[1A, 1B, 1E]
928C723005	SD/PC PCB ASSY	[4A, 4B, 4E]
928C748003	VTR SW PCB ASSY	
927B512001	VTR PCB ASSY	[1A, 1B, 1E]
927B512002	VTR PCB ASSY	[4A, 4B, 4E]
928C719003	VTR-SUB PCB ASSY	
939P439020	CAMERA SW UNIT	FADE

12. AC POWER ADAPTER

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
INTEGRATED CIRCUITS			
IC 101	266D113040	IC	FA5311S
IC 201	267D001010	IC	
TRANSISTORS			
Q 101	260D213040	TRANSISTOR	2SK1572/2SK1821
Q 201	260D213050	TRANSISTOR	
Q 202	260D213060	TRANSISTOR	
DIODES			
D 104	264D121030	DIODE	ERA22-08
D 101	264D141040	DIODE	SYM660S
D 102	264D141050	DIODE	ERA91-02AL01Z
D 103	264D141050	DIODE	ERA91-02AL01Z
D 201	264D141080	DIODE	
D 202	264D141090	DIODE	
PD 201	264D124040	DIODE	
PD 202	264D124040	DIODE	
ZD 101	264D141060	DIODE	
ZD 102	264D141070	DIODE	
ZD 103	264D141070	DIODE	
ZD 201	264D124050	DIODE	
COILS			
L 101	351D046010	CHOKE COIL	18mH
L 102	351D046010	CHOKE COIL	18mH
L 201	351D045020	CHOKE COIL	10 μH
TRANSFORMERS			
T 101	350D041050	TRANS	
RESISTORS			
R 102	103P401030	CHIP RESISTOR	1/10W 100Ω
R 104	103P400090	CHIP RESISTOR	1/10W 47Ω
R 106	103P354090	CHIP RESISTOR	1/8W 100kΩ
R 108	103P354090	CHIP RESISTOR	1/8W 100kΩ
R 109	103P354090	CHIP RESISTOR	1/8W 100kΩ
R 110	103P355030	CHIP RESISTOR	1/8W 220kΩ
R 111	103P402060	CHIP RESISTOR	1/10W 390Ω
R 113	103P403050	CHIP RESISTOR	1/10W 6.8kΩ
R 115	103P354090	CHIP RESISTOR	1/8W 100kΩ
R 116	103P354090	CHIP RESISTOR	1/8W 100kΩ
R 117	103P355030	CHIP RESISTOR	1/8W 220kΩ
R 118	103P355030	CHIP RESISTOR	1/8W 220kΩ
R 119	103P355030	CHIP RESISTOR	1/8W 220kΩ
R 201	103P401090	CHIP RESISTOR	1/10W 330Ω
R 203	103P400050	CHIP RESISTOR	1/10W 22Ω
R 206	103P405060	CHIP RESISTOR	1/10W 390kΩ
CAPACITORS			
C 110	1850070010	ELECTORLYTIC-C	400V 47μF

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
MISCELLANEOUS				
PC 101	268D015020	PHOTO COUPLER		
CN 201	4510057020	JACK		
F 101	2830086050	FUSE	250V 1.6A	[1E, 4E]
F 101	2830086060	FUSE	250V 1.6A	[1A, 1B, 4A, 4E]
COSMETIC PARTS				
	242D410050	AC POWER CORD		[1A, 4A]
	242D410040	AC POWER CORD		[1B, 4B]
	242D410030	AC POWER CORD		[1E, 4E]
	700D028030	CASE (TOP)		
	700D029050	CASE (BOTTOM)		[1A, 4A]
	700D029040	CASE (BOTTOM)		[1B, 4B]
	700D029030	CASE (BOTTOM)		[1E, 4E]

Note :
Broken AC power cord must be exchanged with a new original power cord.

〔MEMO〕

871C509O30

Printed in Japan

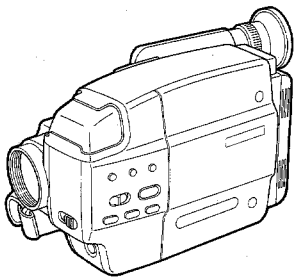
1991

MITSUBISHI

Service Manual

VIDEO CAMERA / RECORDER

CIRCUIT DIAGRAMS



VHS C

MODEL

HS-CX1(A)
HS-CX1(B)
HS-CX1(E)
HS-CX4(A)
HS-CX4(B)
HS-CX4(E)

- Only cassettes marked VHS-C can be used with this VIDEO CAMERA/RECORDER.
- Design and specifications are subject to change without notice.

MITSUBISHI ELECTRIC

871C509O30
Printed in Japan

PCB-CM

IC 4AA

PIN No.	
1	0.1V
2	—
3	—
4	—
5	—
6	0.5~1.5V
7	—
8	—
9	3~4V
10	—
11	—
12	—
13	—
14	4.8V
15	—
16	—
17	0V
18	—
19	—
20	0.1V
21	—
22	0V
23	—
24	—
25	4.8V
26	0.1V
27	0.8~1.5V
28	4.4V
29	4.8V
30	0V
31	—
32	—
33	—
34	0V
35	0V
36	0V
37	0V
38	2.4V
39	4.8V
40	—
41	
42	0.4V
43	—
44	—

IC 5AA

PIN No.		PIN No.	
1	—	41	—
2	0V	42	0V
3	0~3V	43	4.7V
4	4.8V	44	0~2V
5	0V	45	0.3V
6	0V	46	0V
7	0V	47	0V
8	4.8V	48	~
9	0V	49	4.7V
10	~	50	4.8V
11	~	51	0V
12	4.8V	52	0V
13	4.8V	53	0V
14	4.7V	54	0V
15	4.8V	55	0V
16	4.8V	56	0V
17	4~5V	57	0V
18	0.5V	58	2.3V
19	0V	59	2.5V
20	—	60	2V
21	—	61	0V
22	—	62	4.8V
23	—	63	0V
24	—	64	3.6V
25	0V	65	4.3V
26	4.8V	66	4.8V
27		67	2.4V
28	2.2V	68	4.8V
29	—	69	4.8V
30	—	70	0V
31	—	71	4.8V
32	0V	72	4.8V
33	4.8V	73	0V
34	0V	74	0.5V
35	0V	75	4.8V
36	~	76	4.8V
37	0V	77	4.8V
38	4.8V	78	0V
39	0V	79	~
40	0.8~2V	80	—

IC 5AB

PIN No.	
1	0V
2	0V
3	0V
4	0V
5	1.8V
6	1.8V
7	2.2V
8	4.8V

IC 5AC

PIN No.	
1	1.8V
2	1.8V
3	1.8V
4	4.8V
5	1.8V
6	1.9V
7	1.9V
8	1.8V
9	1.8V
10	1.8V
11	0V
12	1.8V
13	1.8V
14	1.8V

IC 5AE

PIN No.	
1	0V
2	
3	4.8V
4	1.8V
5	1.8V
6	1.8V
7	1.2V
8	2V
9	1.8V
10	1.8V
11	1.8V
12	0V
13	0V
14	0V

IC 5EA

PIN No.	
1	—
2	4.8V
3	0V
4	4.8V
5	~
6	0.1V
7	0V
8	3V

IC 5FA

PIN No.	
1	—
2	1.9V
3	0V
4	4.8V
5	0~3V
6	—
7	0V
8	4.8V
9	—
10	—
11	0V
12	—
13	4.8V
14	6.5V
15	~
16	—
17	-0.1V
18	-0.1V
19	~
20	~
21	0.1V
22	—
23	0V
24	—
25	~
26	—
27	6.5V
28	4.8V
29	—
30	4.8V

IC 5GA

PIN No.		PIN No.	
1	4.8V	33	0.8~1.5V
2	4.8V	34	0.8~1.5V
3	4.8V	35	4.8V
4	2.1V	36	0.7V
5	4.8V	37	0V
6	0.6V	38	0.6V
7	0V	39	0V
8	0.7V	40	0.7V
9	0V	41	0V
10	0V	42	0.6V
11	0V	43	0.6V
12	0V	44	0V
13	0V	45	0.7V
14	0V	46	0~1.5V
15	0V	47	0~1.5V
16	0V	48	1.2V
17	0~0.5V	49	4.8V
18	0.1V	50	0V
19	0.1V	51	0V
20	2.3V	52	0~1.2V
21	2.4V	53	4.8V
22	0V	54	0.8~2V
23	2V	55	2.2V
24	0V	56	4.8V
25	4.8V	57	0V
26	2.4V	58	2.1V
27	4.8V	59	-0.1V
28	0.4V	60	~
29	0.4V	61	0V
30	0.7V~1.2V	62	0V
31	0.6V~1.2V	63	0V
32	0V	64	0V

IC 5LB

PIN No.	
1	1.8v
2	1.8v
3	0v
4	4.8v
5	4.8v

IC 5RA

PIN No.	
1	4.8v
2	0v
3	4.8v

IC 5LA

PIN No.	
1	1.9V
2	2V
3	2V
4	4.8V
5	4.3V
6	1V
7	3.6V
8	1.8V
9	1.8V
10	1.8V
11	0V
12	1.9V
13	1.8V
14	3.6V

TRANSISTOR

SYMBOL	1	2	3	4	5
Q 5AE	1.8V	1.8V	0V	1.8V	0V
Q 5AG	1.8V	1.8V	0.1V	1.8V	0.1V

TRANSISTOR

SYMBOL	1	2	3	4	5	6
Q 5AC	4.8V	2.4V	1.8V	4.8V	4.8V	4.2V
Q 5GA	4.8V	1.3V	0.7V	4.8V	2.7V	2.1V

TRANSISTOR

SYMBOL	(E)	(B)	(C)
Q 5AB	4.8V	4.7V	4.6V
Q 5AD	0V	0.5~1.5V	1.2V
Q 5FC	0.7V	1.4V	1.6V
Q 5FD	2V	2.7V	4.8V
Q 5FE	2.5V	1.9V	0V
Q 5FG	2.5V	1.9V	0V
Q 5FH	0.6V	1.2V	4.8V
Q 5FJ	0.7V	1.2V	4.8V
Q 5FL	1.3V	0.7V	0V
Q 5LB	2.9V	3.6V	3.9V
Q 5LC	4.8V	4.8V	0V

IC 5ZA

PIN No.	
1	-0.1V
2	-0.1V
3	0V
4	6.5V
5	0.9V
6	—
7	0V
8	0V

PCB-GYRO-SENS (LENS CAP ON)

IC 6AA

PIN No.	
1	2.3V
2	2.3V
3	2.3V
4	4.9V
5	2.2V
6	2.3V
7	2.3V
8	2.3V
9	2.3V
10	2.2V
11	0V
12	2.3V
13	2.3V
14	2.4V

TRANSISTOR

SYMBOL	(E)	(B)	(C)
Q 6AB	2.3V	0V	4.9V
Q 6AC	4.9V	4.9V	0V

TRANSISTOR

SYMBOL	1	2	3	4	5	6
Q 6AA	4.9V	2.9V	2.3V	4.9V	3V	2.3V

SENSOR-DRIVE (LENS-CAP ON)

IC 2AA

PIN No.		PIN No.	
1	2.4V	23	0V
2	0V	24	4.9V
3	0V	25	4.9V
4	0V	26	2.8V
5	0V	27	2.3V
6	—	28	0.9V
7	0V	29	0V
8	2.5V	30	2.4V
9	—	31	2.3V
10	0.1V	32	1.2V
11	0.2V	33	1.2V
12	2.4V	34	0V
13	0.4V	35	2.4V
14	0.1V	36	2.4V
15	0.1V	37	0V
16	0.1V	38	0V
17	4.9V	39	0V
18	0V	40	4.9V
19	4.7V	41	0.8V
20	4.7V	42	0.8V
21	4.9V	43	0V
22	4.9V	44	2.4V

IC 2AB

PIN No.	
1	-7.1V
2	-7.1V
3	0.6V
4	0V
5	-0.1V
6	4.8V
7	0.1V
8	4.9V
9	0.1V
10	4.9V
11	—
12	4.7V
13	4.9V
14	4.7V
15	0V
16	15V
17	-6.7V
18	-6.7V
19	0.9V
20	18V

IC 2AD

PIN No.	
1	—
2	2.5V
3	0V
4	2.4V
5	4.9V

IC 2AC

PIN No.	
1	4.9V
2	2.7V
3	2.7V
4	4.9V
5	1.2V
6	1.2V
7	0V
8	1.7V

TRANSISTOR

SYMBOL	(E)	(B)	(C)
Q 2AC	8.4V	8.3V	5.6V
Q 2AH	2.1V	2.8V	4.9V
Q 2AJ	15V	15.6V	18V
Q 2AK	2.4V	1.7V	0V

PCB-CCD (LENS CAP ON)

IC 2DA

PIN No.	
1	15V
2	3.8V
3	15V
4	10.2V
5	3.1V
6	4.4V
7	3.1V
8	3.9V
9	15V
10	7V
11	-7.9V
12	-0.1V
13	0.8V
14	-6.7V
15	-6.7V
16	0V

PROCESS (LENS CAP ON)

IC 3AA

PIN No.		PIN No.	
1	0V	41	1.9V
2	0.6V~1.2V	42	1.1V
3	1.8V	43	—
4	1V	44	1.8V
5	1.9V	45	0.7V
6	1.4V	46	3.1V
7	2.4V	47	1.9V
8	0V	48	1.8V
9	4.4V	49	1.8V
10	1.8V	50	3.2V
11	1.8V	51	2.1V
12	4.9V	52	2.2V
13	1.8V	53	1.8V
14	1.8V	54	4.9V
15	2.2V	55	—
16	1.9V	56	2.8V
17	1.9V	57	1.8V
18	1.6V	58	—
19	2.4V	59	1.8V
20	3.1V	60	1.8V
21	2.3V	61	1.8V
22	0V	62	—
23	—	63	2.5V
24	1.8V	64	0V
25	2.3V	65	1.2V
26	3.2V	66	1.7V
27	—	67	1V
28	1.8V	68	3V
29	1.8V	69	1V
30	3.2V	70	1.8V
31	1.9V	71	1.8V
32	3.2V	72	1.8V
33	2V	73	0.6V
34	1.8V	74	3.1V
35	1.9V	75	3.1V
36	1.8V	76	2.1V
37	—	77	1.9V
38	3.2V	78	1.8V
39	1.6V	79	2.9V
40	1.8V	80	2.1V

IC 3AB

PIN No.	
1	-2.4V
2	—
3	—
4	2.3V
5	2.5V
6	1.9V
7	—
8	—
9	—
10	0V
11	—
12	—
13	2.2V
14	—
15	4.9V
16	8.4V

IC 3AC

PIN No.	
1	0V
2	2.4V
3	8.4V
4	—
5	—
6	5V
7	2V
8	2.1V
9	2.1V
10	0V
11	2V
12	—
13	—
14	2.4V
15	2.5V
16	2.4V

IC 3AD

PIN No.	
1	0V
2	2.8V
3	1.8V
4	2.7V
5	1.6V
6	1.5V
7	1.1V
8	1.5V
9	3.1V
10	4.9V
11	4.9V
12	1.5V
13	1.4V
14	~
15	0V
16	4.8V
17	~
18	1.9V
19	1.9V
20	0V

IC 3AE

PIN No.	
1	0V
2	2.6V
3	0V
4	2.3V
5	2V
6	0.1V
7	0.1V
8	1.8V
9	3.3V
10	4.9V
11	4.9V
12	2.8V
13	2V
14	~
15	0V
16	4.7V
17	~
18	2.3V
19	1.6V
20	0V

TRANSISTOR

SYMBOL	(E)	(B)	(C)
Q 3AD	3V	3.6V	4.9V
Q 3AG	1.3V	2V	4.9V
Q 3AH	3V	2.4V	0V
Q 3AJ	3.1V	3.7V	4.9V
Q 3AK	1.8V	2.4V	4.9V
Q 3AL	1.8V	0V	0V
Q 3AQ	0V	4.8V	0V
Q 3AY	1.2V	1.8V	4.9V
Q 3AZ	1.8V	1V	1.8V
Q 3BB	1.8V	0.2V	1.8V
Q 3BD	0V	0V	1.8V
Q 3BG	1.3V	1.9V	4.9V
Q 3BJ	0V	0.1V	2~3V

TRANSISTOR

SYMBOL	1	2	3	4	5
Q 3AN	1.8V	1.8V	2~3V	1.8V	0V
Q 3AP	0V	0V	4.8V	0V	4.8V
Q 3BC	4.2V	0V	4.2V	0V	0V

TRANSISTOR

SYMBOL	1	2	3	4	5	6
Q 3AM	0V	7.7V	0V	8.4V	0.6V	0V
Q 3AS	0V	2.7V	2.4V	0V	1.8V	2.4V
Q 3AW	4.9V	1.2V	1.8V	0V	1.6V	1.2V
Q 3BF	4.9V	1.8V	1.2V	4.9V	0V	1.2V
Q 3BH	4.9V	3.1V	3.7V	0V	3.7V	3.1V

The voltages parenthesised are on SP recording mode.
While those without parenthesised on SP play back mode.

CHROMA

IC 6A1

Pin		Pin		Pin		Pin	
1	3.4V(3.8V)	17	2.1V	33	~	49	2.5V
2	0.5V	18	1.5V	34	0V	50	2.2V
3	2.6V	19	0V	35	0.4V	51	0V
4	0V	20	1.5V	36	4.8V	52	3V(2.6V)
5	0V	21	2.1V	37	~	53	5V
6	0V	22	2.1V	38	4.8V	54	5V
7	3V	23	1.6V(2.3V)	39	0.2V	55	0V
8	3.4V(3.8V)	24	2.1V	40	3.4V	56	2.3V(1.9V)
9	2.3V	25	0.9V	41	2.2V	57	0V
10	2.7V(4.2V)	26	4.8V(2.3V)	42	2.5V	58	3.1V
11	3V(4.1V)	27	0V(0.3V)	43	2.1V	59	2.8V
12	4.8V	28	0V	44	0V	60	2.9V
13	2V	29	0V	45	2.5V	61	4.8V
14	1.6V	30	0V(4.3V)	46	2.5V	62	2.6V
15	3V	31	0.4V	47	2.5V(1.8V)	63	4.2V(3V)
16	2.1V	32	0V	48	3V	64	1.6V

TRANSISTOR

SYMBOL	(E)	(B)	(C)
Q6A3	0V	0V	0.4V
Q6A4	4.2V	5V	5V
Q6A5	4.8V	0.1V(5V)	4.8V(2.3V)

TRANSISTOR

SYMBOL	1	2	3	4	5
Q6A1	0V(0.2V)	0V(0.3V)	2.6V(0V)	0V	2.6V(0V)

TELOP

IC 502

Pin	
1	—
2	0V
3	0.7V(1.6V)
4	0.7V(0.1V)
5	2.2V
6	5V
7	3.4V(2.6V)
8	—
9	—
10	1V(1.8V)
11	0.7V(1.6V)
12	0V
13	5V
14	0V
15	0V
16	—
17	—
18	1.6V
19	1.4V
20	0V
21	0.9V
22	0.9V
23	0.9V
24	—
25	—
26	1.6V
27	1.6V
28	1.4V
29	2.3V
30	0.7V(1.6V)
31	0.7V(1.6V)
32	—

IC 500

Pin	
1	—
2	1~3V
3	2~3V
4	2~3V
5	2~3V
6	2.5V
7	2.4V
8	2.5V
9	2V
10	2V
11	0.2V
12	0.2V
13	0.2V
14	0V
15	0.2V
16	0.2V
17	0.2V
18	0.2V
19	0.2V
20	0V
21	1~3V
22	0V
23	1~3V
24	2~3V
25	2~3V
26	0V
27	5V
28	5V

IC 501

Pin		Pin	
1	2.5V	23	5V
2	2.4V	24	0V
3	2.4V	25	0V
4	2~3V	26	5V
5	2~3V	27	—
6	2~3V	28	0V
7	1~3V	29	1~3V
8	—	30	2~3V
9	4.5V(5V)	31	1~3V
10	5V	32	0V
11	5V	33	1~3V
12	0V	34	0.2V
13	0V	35	0.2V
14	0V	36	0.3V
15	0V	37	0.3V
16	0V	38	0.3V
17	0V	39	5V
18	3.5V(0V)	40	2V
19	2.3V	41	2V
20	2.5V	42	0.2V
21	0V	43	0.2V
22	5V	44	0.2V

IC 503

Pin	
1	2.3V
2	0V
3	2.4V
4	0V
5	3V
6	5V
7	1.6V
8	0V

IC 504

Pin	
1	0V
2	1V(1.8V)
3	1.8V
4	0V
5	5V
6	5V
7	5V(1.7V)
8	5V

IC 505

Pin	
1	0V
2	5V
3	0V
4	0.4V
5	4.7V
6	0.3V
7	0V
8	0V
9	5V
10	0V
11	0V
12	5V
13	0V
14	5V

TRANSISTOR

SYMBOL	(E)	(E)	(E)
Q500	0V	0.2V	5V

TRANSISTOR

SYMBOL	1	2	3	4	5
Q501	5V	4.5V	0V	0V	0V

Y

IC 2A1

Pin		Pin		Pin		Pin	
1	2V	15	2.1V	29	5V	43	2.7V (0V)
2	2.5V	16	5V	30	2.4V	44	4.6V (1.3V)
3	3.1V(4.2V)	17	2.4V	31	2.4V	45	3.4V
4	2.1V(4.2V)	18	1.2V	32	3.7V (0.5V)	46	3.1V (4.3V)
5	2.7V	19	~	33	3V	47	5V
6	0.8V	20	0V	34	4.2V (1V)	48	5V
7	2.7V	21	0V	35	3.6V (0V)	49	0.4V
8	0V	22	2.7V	36	4.3V (5V)	50	0V
9	2.8V	23	0V	37	2.5V (4V)	51	3.7V (2.1V)
10	2.8V	24	3.1V	38	3V	52	3.1V (0V)
11	1.7V	25	3.8V	39	0.4V (0V)	53	3.7V (2V)
12	2.3V	26	4.3V (3V)	40	2.5V (0.4V)	54	0.2V
13	2V	27	0V	41	0.3V (0V)	55	2.1V
14	2.2V	28	4.8V	42	4.5V	56	2.7V

TRANSISTOR

SYMBOL	(E)	(B)	(C)
Q2P1	2.5V (0V)	3.3V (0V)	5V (0V)
Q2V0	5V	5V (4.2V)	0V (5V)
Q2V1	5V	4.3V (5V)	5V (0V)

IC 2P1

Pin	
1	—
2	0V
3	5V (0V)
4	3.3V (0V)
5	1.4V (0.1V)
6	2.6V (0V)
7	2.4V (0V)
8	—

IC 2R1

Pin	
1	0V
2	5V
3	2.3V
4	3.8V
5	2.1V
6	2.2V
7	2.3V
8	2.5V
9	5V
10	5V
11	5V
12	3V
13	3V
14	—
15	0V
16	4.7V
17	~
18	2.3V
19	2.5V
20	0V

HEAD-AMP

IC 201

Pin		Pin		Pin		Pin	
1	—	17	0.6V	33	0V (4~5V)	49	0~0.7V(0V)
2	0V (4.6V)	18	0V (3~5V)	34	1.4V	50	1.4V
3	~	19	0V	35	0~0.7V(0V)	51	4.8V
4	0V	20	0.6V	36	0.6V	52	~
5	2.4V (4V)	21	0~0.7V (~)	37	0V	53	~
6	4.7V	22	1.4V	38	0V (4~5V)	54	0~0.4V
7	0V (2.6V)	23	0V (3~5V)	39	0.6V	55	5V (0V)
8	0V (1.6V)	24	1.4V	40	0~0.7V(0V)	56	0V (5V)
9	—	25	0~0.7V (~)	41	1.3V	57	0V (1.6V)
10	4.4V (0V)	26	0.6V	42	0V (4~5V)	58	0V (2.7V)
11	0~0.4V	27	0V (3~5V)	43	1.3V	59	0~0.8V(0.8V)
12	~	28	0V	44	0~0.7V(0V)	60	0~0.8V(0.7V)
13	~	29	0.6V	45	0.6V	61	3.8V
14	4.7V	30	0~0.7V (~)	46	0V	62	2.4V (4V)
15	1.4V	31	1.4V (1V)	47	0V (4~5V)	63	3.8V
16	0~0.7V (~)	32	0V (3~5V)	48	0.6V	64	3.8V

TRANSISTOR

SYMBOL	(E)	(B)	(C)
Q202	0V (0.9V)	0V (1.6V)	0V (3.1V)
Q205	0V (2.5V)	0V (3.1V)	0V (5V)
Q291	0V (2.6V)	0V (2.1V)	0V
Q292	0V (4.4V)	0V (3.8V)	0V
Q294	0V (4.4V)	0V (3.8V)	0V

OPERATION

IC 800

Pin		Pin		Pin		Pin	
1	5V	21	5V	41	0.1V	61	0V
2	5V	22	4.8V	42	5V (0V)	62	0V
3	0.7V	23	4.8V	43	4~5V (0V)	63	4.4V (0V)
4	3.2V	24	4~5V	44	0V	64	—
5	4.5V	25	0.5V (0V)	45	5V	65	0V
6	0V	26	0.4V	46	4.5V	66	0V
7	~	27	0V	47	5V	67	—
8	4.3V	28	5V	48	5V	68	—
9	5V	29	5V	49	0V	69	0V
10	4~5V	30	2.2V	50	0V	70	2~4V
11	5V	31	1.1V	51	4.8V	71	3~4V
12	5V	32	0V	52	4.9V	72	5V
13	5V	33	3~5V	53	5V	73	0V
14	0V	34	0~0.6V(0~1V)	54	4.5V (0V)	74	4~5V
15	0V (5V)	35	0~0.6V(0~1V)	55	~	75	0.3V
16	2~3V	36	0~0.6V(0~1V)	56	5V	76	5V
17	~	37	0~0.6V(0~1V)	57	0V	77	0V
18	5V	38	0~0.6V(0~1V)	58	5V	78	0.1V
19	5V	39	—	59	5V (1.6V)	79	5V
20	5V	40	4.8V	60	5V	80	5V

TRANSISTOR

SYMBOL	(E)	(B)	(C)
Q802	0V	1.6V	0V

IC 803

Pin	
1	4.3V
2	5V
3	0V

IC 801

Pin	
1	5V
2	0V
3	6.5V

I/O REAR

IC 2001

Pin	
1	2.3V
2	0V
3	1V (3V)
4	0V
5	0V
6	5V
7	1.5V
8	0V

IC 2002

Pin	
1	2V
2	5V
3	2.3V
4	0V

TRANSISTOR

SYMBOL	(E)	(B)	(C)
Q2000	0V (3V)	0V (2.4V)	0V
Q2001	2.5V	3.2V	3.7V
Q2002	3V	3.7V	4.8V
Q2004	2.4V	0V (3.1V)	5V
Q2006	0V	0V (5V)	0.7V (0V)
Q2009	0V	0.7V (0V)	0V (1.3V)

MIC-AMP

IC 350

Pin		Pin	
1	1.8V	8	—
2	0V	9	0V
3	—	10	1.8V
4	0V	11	1.8V
5	4.8V	12	—
6	—	13	0V
7	1.8V	14	—

TRANSISTOR

SYMBOL	1	2	3	4	5
Q350	0V	0V	0.6V	0V	0.6V

AUDIO

TRANSISTOR

SYMBOL	1	2	3	4	5
Q301	0V	0V	0.7V(-15.2V)	0V (-6V)	0.7 (-15.5V)

TRANSISTOR

SYMBOL	(E)	(B)	(C)
Q320	0V	0V	0V (4.5V)
Q3A0	0V	0V	0V
Q3A1	0V	0V	0V

IC 300

Pin		Pin	
1	2.5V	17	0V
2	2.5V	18	3.1V
3	—	19	—
4	2.5V	20	—
5	0V	21	—
6	—	22	0V
7	0V	23	0V
8	0.1V	24	2V
9	2.5V	25	0V
10	0.2V (5V)	26	2V
11	0V (5V)	27	5V
12	2.5V	28	2V
13	4.4V (0V)	29	5V
14	2.5V	30	2V
15	0V	31	2.5V
16	0V	32	2.5V

IC 3A0

Pin		Pin		Pin		Pin	
1	2.3V	17	2.5V	33	0V	49	2.3V
2	3.3V	18	2.5V	34	5V	50	0.2V (2V)
3	2.5V	19	2.5V	35	2.5V	51	3.1V (4.3V)
4	2.5V	20	0V	36	2.5V	52	0V (5V)
5	2.5V	21	2.5V	37	2.5V	53	0V
6	0.5V	22	2.5V	38	2.5V	54	2.7V (3.2V)
7	1.8V	23	—	39	2.5V	55	3.4V (0V)
8	0V	24	2.5V	40	2.5V	56	5V
9	2.5V	25	5V	41	0V	57	3.2V
10	2.5V	26	—	42	1.8V	58	0V
11	2.5V	27	2.5V	43	0.5V	59	2V (4.1V)
12	2.5V	28	5V	44	2.5V	60	—
13	2.5V	29	0V	45	2.5V	61	0V
14	2.5V	30	0V	46	2.5V	62	0V
15	—	31	2.5V	47	0V	63	3.1V (4.4V)
16	0.6V	32	2.5V	48	3.3V	64	0.1V (2V)

CONTROL

IC 401

Pin	
1	2.5v
2	2.5v
3	2.4v
4	5v
5	2.5v
6	2.5v
7	2.6v
8	1.5v
9	2.4v
10	2.4v
11	0v
12	1.6v
13	1.5v
14	1.5v

IC 5A1

Pin	
1	5V
2	5V
3	0V

IC 5D0

Pin	
1	0V
2	—
3	—
4	0.2V
5	4.6V
6	—
7	0V
8	—
9	0V
10	—
11	5V
12	—
13	0.3V
14	—
15	6.5V
16	—

IC 5A2

Pin	
1	1.2V
2	0V
3	5.7V

IC 5A0

Pin		Pin		Pin		Pin	
1	0V	21	5V	41	2.6V (0V)	61	2.5V
2	0V	22	0V	42	5V (0V)	62	2~3V (2.4V)
3	~ (0V)	23	~	43	~	63	0.7V (0V)
4	4.2V (1V)	24	~	44	0V	64	0V
5	~	25	0~0.4V	45	0V	65	0V (5V)
6	2~3V	26	5V	46	5V	66	0~0.4V
7	~	27	0V	47	0V	67	0V
8	~	28	5V	48	4.4V	68	0V (5V)
9	2.5V (~)	29	2.1V	49	0~0.4V	69	0V
10	—	30	1.1V (1.8V)	50	—	70	0V
11	—	31	—	51	2~3V	71	0~0.7V
12	5V	32	0V	52	~	72	0V
13	5V	33	0.1V (5V)	53	5V	73	5V
14	~	34	5V (0.1V)	54	5V	74	5V
15	0V	35	4.4V (0V)	55	0V	75	5V
16	~	36	4.4V	56	0V	76	4.8V
17	5V (0V)	37	0~0.4V	57	0~0.4V	77	0~0.4V (0V)
18	0V (5V)	38	0.5V (0V)	58	2~3V	78	5V
19	5V	39	0V (5V)	59	2.5V	79	~
20	5V	40	3.5 (0V)	60	2.5V	80	~

TRANSISTOR

SYMBOL	(E)	(B)	(C)
Q406	0V	5V	0V
Q407	2.5V (~)	4.3V (~)	2.5V (~)
Q5A0	5V	0V	4.6V
Q5A1	0~0.5V	0~0.5V	6.5V
Q5A2	6.5V	5.8V	5V
Q5A4	0V	0.6V	0V

TRANSISTOR

SYMBOL	1	2	3	4	5
Q402	~	2~3V	1~2V	0V	~

TRANSISTOR

SYMBOL	1	2	3	4	5	6
Q404	2~3V	1~2V	5V	5V	1~2V	0V

POWER / MDA

IC 4B0

Pin	
1	5V
2	0V
3	2.5V
4	2.5V
5	2.5V
6	1.5V
7	1V
8	1.5V
9	1.2V
10	4.4V
11	2.3V
12	1.2V
13	1.9V
14	1.3V
15	0V
16	1.3V
17	4.1V
18	1.3V
19	2.2V
20	2.1V
21	0.7V
22	0.7V
23	3.5V
24	3.5V
25	4.4V
26	2.5V
27	2.5V
28	2.5V
29	0.2V
30	1~2V

IC 4D0

Pin	
1	0V
2	0V
3	—
4	0~3V
5	0~3V
6	0~3V
7	0V
8	2.5V
9	6.5V
10	5V
11	5V
12	—
13	—
14	0V
15	0V
16	0V
17	0V
18	1.4V
19	0V
20	4.4V
21	2V
22	0.9V
23	1.7V
24	1.7V
25	1.7V
26	1.7V
27	1.7V
28	1.7V
29	0V
30	0V

IC 902

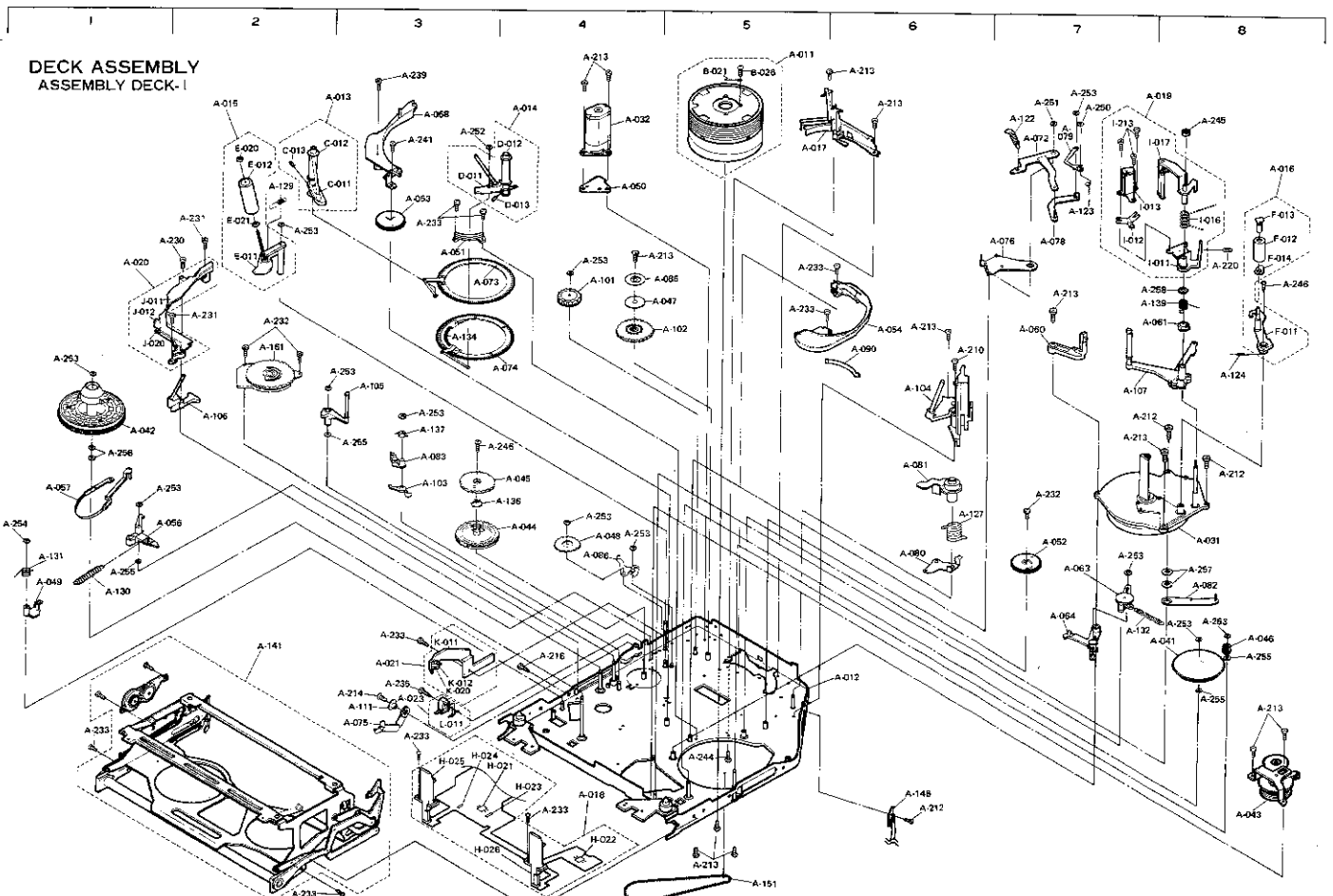
Pin	
1	2.5V
2	1.6V
3	1.2V
4	1.2V
5	1.2V
6	1.5V
7	2.5V
8	3.7V
9	0V
10	4.6V
11	1.7V
12	1.5V
13	1.2V
14	0V
15	5V
16	2.5V
17	1.4V
18	1.2V
19	4.9V
20	6.5V

TRANSISTOR

SYMBOL	(E)	(B)	(C)
Q904	6.5V	6.1V	2.6V
Q905	6.5V	6V	4.1V
Q906	6.5V	6.2V	0V

DECK ASSEMBLY

ASSEMBLY DECK-I



* Settelled Service Parts

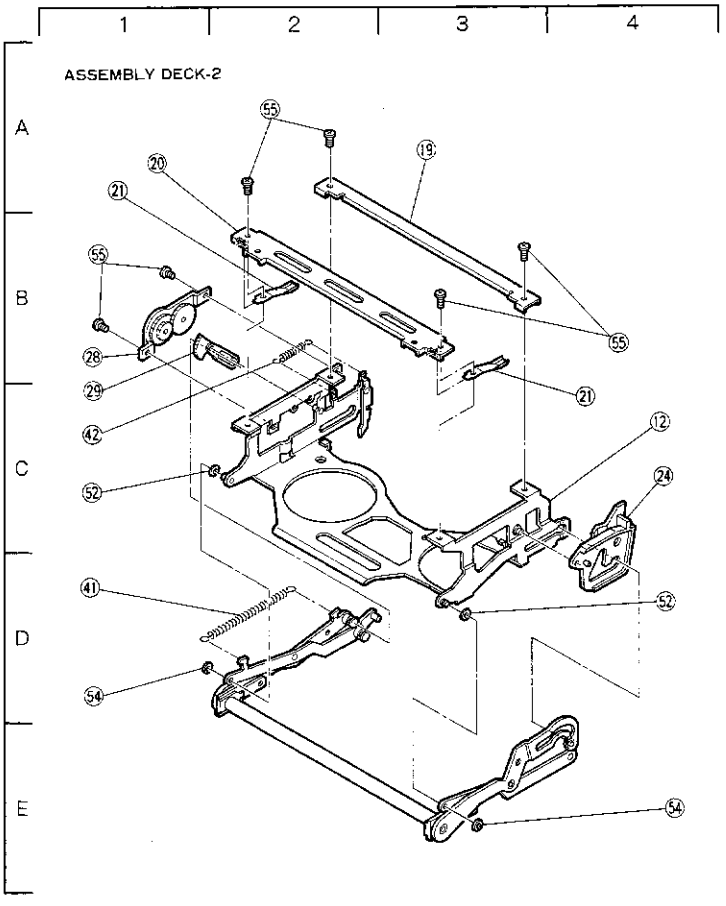
ITEM	PARTS No.	*	ADDRESS	PARTS NAME	DESCRIPTION	Qt.
A-011	9488279006	○	A-5	ASSY-DRUM	(HS-CX4E/B/A)	01
A-011	9488308003	○	A-5	ASSY-DRUM	(HS-CX1E/B/A)	01
B-021	2990028010	○	A-5	BRUSH		01
B-026	6690315020		A-5	SCREW	(M1.7X0.35-2)	01
A-012	9488280002		D-6	ASSY-PLATE-MAIN		01
A-013	9480029001	○	A-3	ASSY-TAPE-GUIDE-S		01
C-011	6358069010	○	A-3	TAPE-GUIDE-SP		01
C-012	5228050016	○	A-3	GUIDE-ROLLER-U2		01
C-013	6690419010		A-2	SET-SCREW	(M1.4X0.3)	01
A-014	9480030001	○	A-4	ASSY-TAPE-GUIDE-T		01
D-011	6358070010	○	A-3	TAPE-GUIDE-T		01
D-012	5228047010	○	A-4	GUIDE-ROLLER		01
D-013	6690419010		A-4	SET-SCREW	(M1.4X0.3)	01
A-015	9480031001	○	A-2	ASSY-IMP-ROLLER		01
E-011	6418443010		B-2	ARM-IMP		01
E-012	6310266010		A-2	ROLLER-IMP		01
E-020	5520009020	○	A-2	CUT-WASHER		01
E-021	5520901010	○	B-2	WASHER-THRUST		01
A-016	9480032001	○	A-8	ASSY-PINCH-ROLLER		01
F-011	5918706010		B-8	ARM-PINCH		01
F-012	5220286010	○	B-8	PINCH-ROLLER		01
F-013	6410995010		B-8	CAP-PINCH		01
F-014	6210601010		B-8	CAM-L-GR		01
A-017	9480033001	○	A-5	ASSY-STOPPER-TG		01
A-018	928C729003	○	E-4	ASSY-FPC-SENS		01
H-021	288P044020	○	E-3	PHOTO-INTERRUPTER	(D571 ON2270.M1)	01
H-022	288P044020	○	E-4	PHOTO-INTERRUPTER	(D572 ON2270.M1)	01
H-023	103P352026	○	E-4	CHIP METAL RESISTOR	(R571 1/8W 560Ω)	01
H-024	103P359050	○	E-4	CHIP METAL RESISTOR	(R572 1/8W 0Ω)	01
H-025	439P027016	○	E-4	SW-LEAF	(SW571)	01
A-019	928C730001	○	A-8	ASSY-A/C-HEAD		01
I-011	5930082010		B-8	PLATE-AC		01
I-012	572D451010		B-7	SPRING-PLATE-AC		01
I-013	460P103020	○	A-7	HEAD-AC	(T571)	01
I-016	572D453010		B-8	SPRING-ARM-AC		01
I-017	5960632010		A-8	LEVER-GR		01
I-213	6690420040		A-7	SCREW	(M1.7X0.35X3)	03
A-020	9280039002	○	B-1	ASSY-GUIDE-SLIDER		01
J-011	5418431010		B-1	GUIDE-SLIDER-L		01
J-012	541C999010		B-1	HOLDER-LED		01
J-020	264P526010	○	B-1	DIODE-LE	(D571 LN-57)	01
A-021	9280040002	○	D-3	ASSY-E-SENS		01
K-011	6418457010		D-3	HOLDER-E-SENS		01
K-012	6210770010		D-3	COVER-E-SENS		01
K-020	268P041010	○	D-3	PHOTO-TRANSISTOR	(Q573 PN147)	01
A-023	9280046001	○	A-6	ASSY-SW-C		01
L-011	439P013020	○	E-3	SW-LIMIT	(SW573)	01
A-031	288P103020	○	C-8	MOTOR-CP	(M571)	01
A-032	288P105020	○	A-4	MOTOR-LOADING	(M572)	01
A-041	5228044010	○	D-8	GEAR-REEL		01
A-042	5228045010	○	C-1	REEL-DISK		01
A-043	5228046020	○	E-8	UNIT-IDLER		01
A-044	621C021010	○	C-4	CAM-S		01
A-045	621C022010	○	C-4	CAM-S-SP		01
A-046	6210711010	○	D-8	GEAR-TU1		01

* Settelled Service Parts

ITEM	PARTS No.	*	ADDRESS	PARTS NAME	DESCRIPTION	Qt.
A-047	6210718010	○	B-5	GEAR-GUIDE		01
A-048	6210721010	○	C-4	GEAR-LOAD-S		01
A-049	6210727010		D-1	HOLDER-TENS		01
A-050	6210728010		A-4	HOLDER-L-MD		01
A-051	621C058010		B-3	RING-GUIDE-SP		01
A-052	6418428020	○	C-7	CAM-T		01
A-053	6418429010	○	A-3	CAM-M		01
A-054	6418432010		B-6	GUIDE-SLIDER-T		01
A-055	621C060010	○	C-2	ARM-REGULATOR		01
A-057	6418437010	○	C-1	BELT-TENS		01
A-058	6418438010		A-3	GUIDE-SLIDER-R		01
A-060	621C156010		B-7	HOLDER-CP-CAS		01
A-061	6410984010	○	B-8	CAM-GEAR-TUG		01
A-063	522C088010	○	D-8	UNIT-CLUCH-2		01
A-064	583C199010		D-7	PLATE-CLUTCH-OFF2		01
A-072	5918705010		A-7	LEVER-PINCH-R		01
A-073	5918709010	○	B-3	UNIT-RING-S		01
A-074	5918710010	○	B-4	UNIT-RING-TU		01
A-075	5918711010		E-3	ARM-EJECT		01
A-076	593C011010		B-7	LEVER-PINCH-A		01
A-078	593C012010		B-7	LINK-PINCH-A		01
A-079	593C013010		A-7	LINK-PINCH-B		01
A-080	593C216010		D-6	LEVER-ROCK-T-A2		01
A-081	593C217010		C-6	LEVER-LOCK-T-B2		01
A-082	593C015010		D-7	LEVER-CAM-T		01
A-083	593C022010		C-3	SET-ARM-S		01
A-085	595D384010	○	B-5	STOPPER-RING-S		01
A-086	593C065010		D-4	LEVER-EJECT		01
A-090	595D445010		B-6	PLATE-SLIDER-T		01
A-101	635D065010	○	B-4	GEAR-IDLER-S		01
A-102	520D161010	○	B-5	GEAR-LOAD-T		01
A-103	635D067010		C-3	LEVER-TENS-OFF		01
A-104	5418538010	○	C-6	SLANT-T		01
A-105	5418499010	○	C-3	TENS-REGULATOR		01
A-106	5418531010	○	C-2	SLANT-SP		01
A-107	6358074026	○	C-7	GUIDE-ARM-TU		01
A-111	631D299010		E-3	SLEEVE-EJECT		01
A-122	5720454010	○	A-7	SPRING-PINCH		01
A-123	5720455010		A-7	SPRING-PINCH-SUB		01
A-124	5720458010		B-8	SPRING-ARM-PINCH		01
A-127	5720541010	○	C-6	SPRING-ARM-LOCK2		01
A-129	5720461010		A-2	SPRING-IMP		01
A-130	5720462010	○	D-1	SPRING-TENS-1		01
A-131	5720463010	○	D-1	SPRING-TENS-2		01
A-132	5720541010		E-8	SPRING-RS2		01
A-134	5720465010		B-3	SPRING-F		01
A-136	5720537010		C-4	SPRING-PUSH		01
A-137	5720468010		C-3	SPRING-PUSH2		01
A-139	5720516010	○	B-8	SPRING-G		01
A-141	5918712020	○	D-2	UNIT-C-HOU-U		01
A-146	299P168010	○	E-6	SENSOR-R	(Z571)	01
A-151	521D072010	○	E-5	BELT-SYNC		01
A-161	439P029010	○	B-2	SW-MODE	(SW574)	01
A-210	6690420011		B-6	SCREW	(M1.7X0.35X10)	01
A-212	6690420020		C-7 C-8 E-6	SCREW	(M1.7X0.35X2)	03
A-213	6690420040		A-4 A-6 B-4 B-6 B-7 C-7 E-5 E-8	SCREW	(M1.7X0.35X3)	13
A-214	6690420050		D-3	SCREW	(M1.7X0.35X4)	01
A-216	6690420070		D-4	SCREW	(M1.7X0.35X6)	01
A-220	6690405010	○	B-8	SCREW	(M1.7X0.35X3)	01
A-230	6690421010		B-2	SCREW	(M1.7X0.35X10)	01
A-231	6690421030		B-2	SCREW	(M1.7X0.35X2.5)	02
A-232	668S421020		B-2 C-7	SCREW	(M1.7X0.35X2)	03

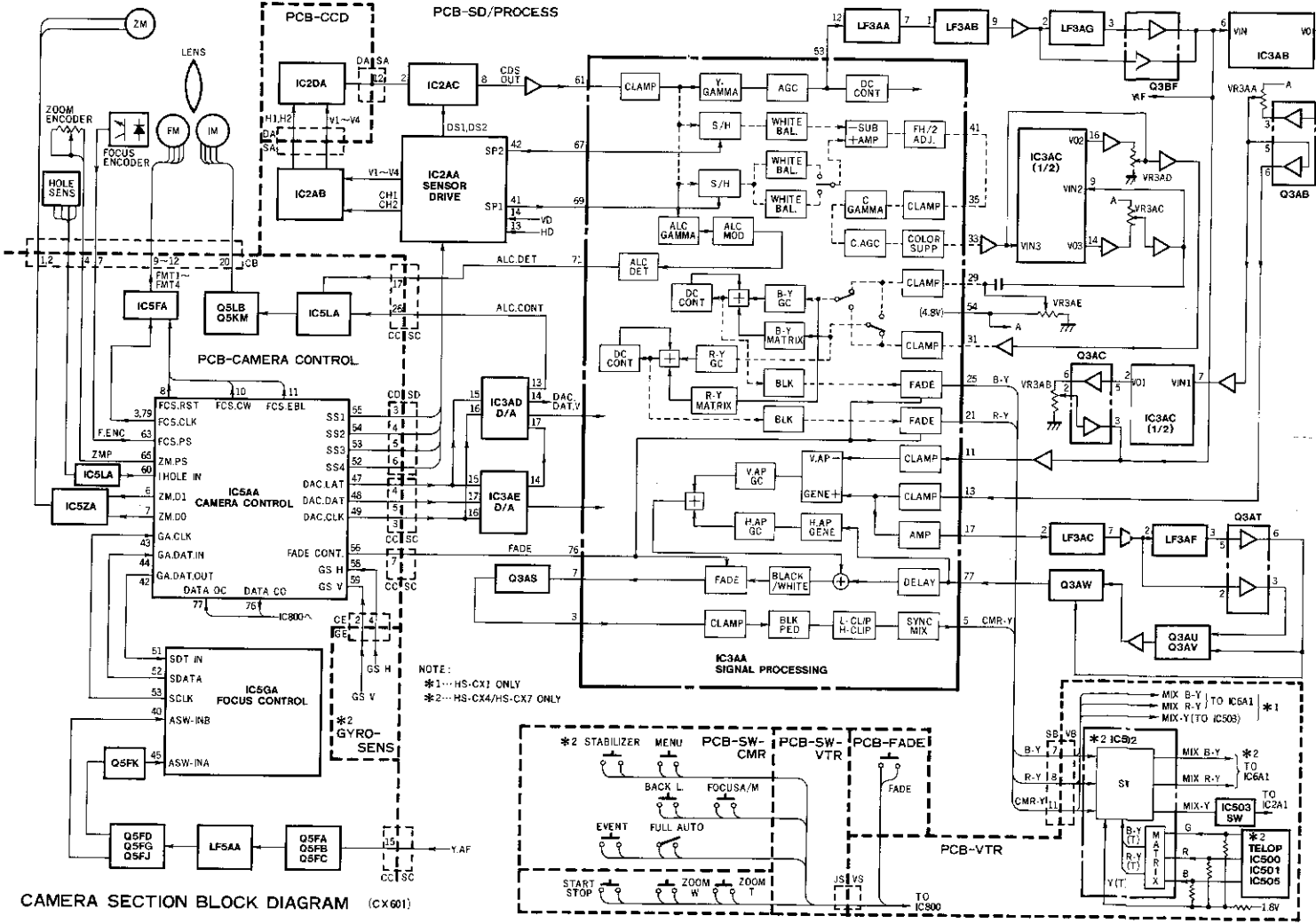
* Settelled Service Parts

ITEM	PARTS No.	*	ADDRESS	PARTS NAME	DESCRIPTION	Qt.
A-233	6690421040		B-3 B-5 D-3 E-1 E-2 E-3 E-4	SCREW	(M1.7X0.35X3)	09
A-235	6690421060		D-3	SCREW	(M1.7X0.35X5)	01
A-236	6690421090		A-3	SCREW	(M1.7X0.35X9)	01
A-241	6690344020		A-3	SCREW-FLANGE	(M1.7X0.35-2)	01
A-244	6690423060		E-5	SCREW	(M1.4X0.3 L=3.5)	01
A-245	6740093010		A-8	NUT-S	(M2X0.4)	01
A-246	6690443010		B-6 C-3	SCREW	(M1.7X0.35X3)	02
A-250	552C018010		A-7	WASHER		01
A-251	552C007010	○	A-7	CUT-WASHER		01
A-252	552C009010	○	A-3	CUT-WASHER		01
A-253	552C009020	○	A-7 B-1 B-2 B-3 B-4 C-2 C-3 C-4 D-8	CUT-WASHER		12
A-254	552C099040	○	C-1	CUT-WASHER		01
A-255	552C001010	○	C-3 D-1 D-8	WASHER-THRUST		04
A-256	552C006010	○	C-1	WASHER-THRUST		02
A-257	552C014010		D-7	WASHER-THRUST		02
A-258	683D120010		B-8	WASHER-AC		01

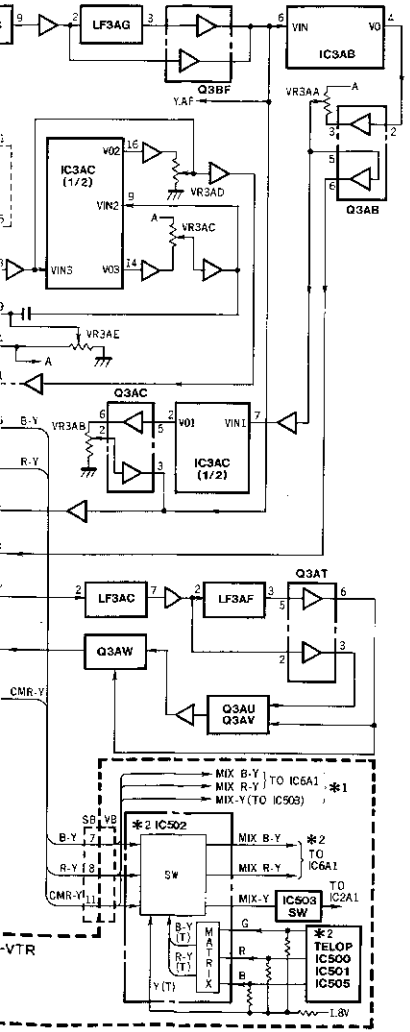


* Settelled Service Parts

ITEM	PARTS No.	*	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
12	5916716020		C-4		BOTTOM-ROU-U		01
19	5960396010		A-3		PLATE-TOP-D		01
20	5960397010		A-1		PLATE-TOP-C		01
21	5960398010		A-1	C-4	PLATE-HOLD		02
28	521C049010		B-1		UNIT-DAMPER		01
28	521C049010	○	B-1		UNIT-DAMPER		01
29	521D792010	○	C-1		LEVER-DAMPER		01
41	572D473010	○	D-1		SPRING-LIFT		01
42	572D472010	○	C-1		SPRING-HOOK		01
52	----------		C-1	D-4	WASHER THRUST		02
54	----------		D-1	E-4	CUT-WASHER		02
55	----------		A-1	A-2	SCREW	M1.7	06
			B-4				



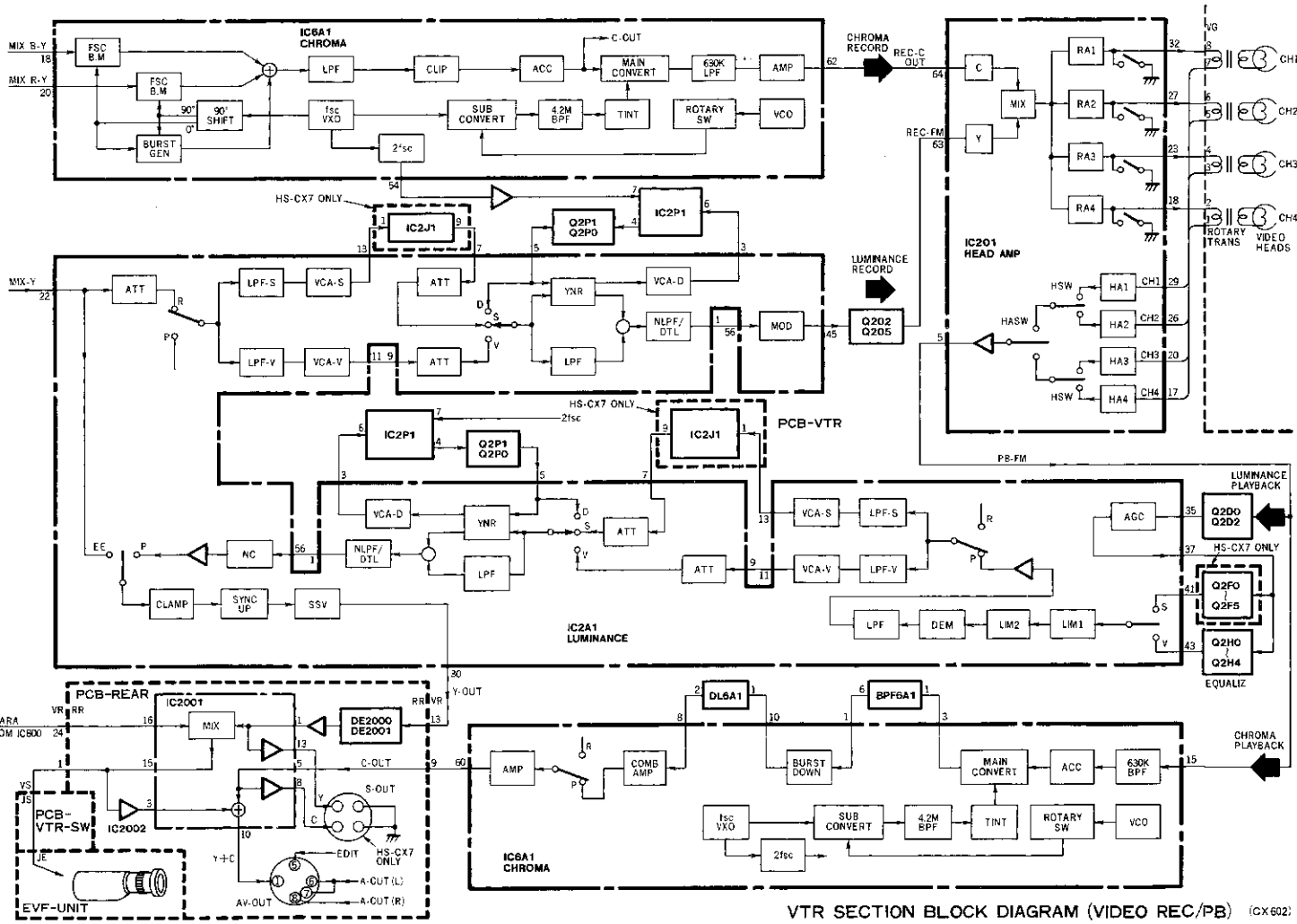
CAMERA SECTION BLOCK DIAGRAM (CX601)



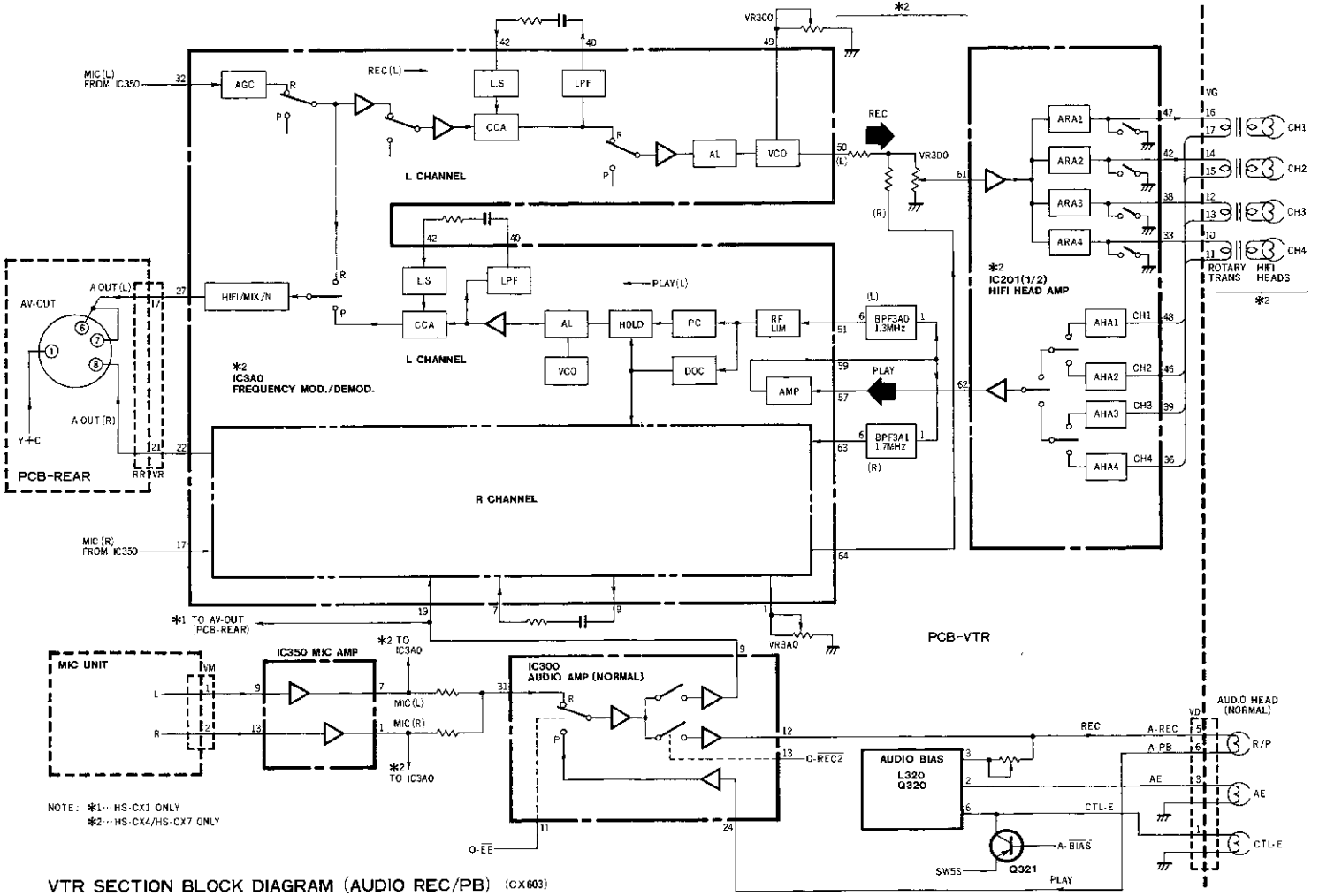
CAMERA CONTROL μ COMPUTER FUNCTION (IC 5AA)

PIN NO.	NAME	I/O	FUNCTION
2	LTR-BLK	O	Letter Box blanking pulse
3	FCS.CLK	O	Focus Lens drive pulse
4	$\overline{P.DET}$	O	Special effect switch signal in Ski mode
5	ZM.SPD	O	Zoom speed control signal, high speed at "H"
6	ZM.D1	O	Zoom Lens is driven in the direction of "TELE".
7	ZM.D0	O	Zoom Lens is driven in the direction of "WIDE".
8	FCS.RST	O	fixed at "H".
10	FCS.CW	O	Focus Lens is driven in the direction of "∞" at "H".
11	FCS.EBL	O	Focus motor power is saved at "H".
12	ALC.CNTL	O	Iris control signal
13	27/$\overline{36}$	I	Jumper lead input to select Picture Element number of CCD.
14	$\overline{RST.PL}$	O	"L" output for about 400 μsec synchronized with VD.
15	DL.PWR	O	Signal to rise 9V power supply
16	PAL/$\overline{NTSC}$	I	Jumper lead input to select PAL or NTSC.
17	S.STRB	I	Strobe signal input from operational microcomputer.
18	HD	I	H sync signal
19	VD	I	V sync signal
25	CNVSS	—	GND
26	$\overline{RST}$	I	"L" input when μ computor is reset.
28	XIN	I	System Clock input
32	VSS	—	GND
33	LED.ON	O	"L" output to light LED for center detection
35	GA.HLSB	O	Stabilizer horizontal address data
36	SEL.1MRL	O	Signal to select 1MHz or 500kHz (1MHZ at "H")
37	FCS.AREA	O	Signal to select Focus Area (fixed at "L")
38	HF.ENABL	O	Signal to select Stabilizer ON or OFF.
39	GA.STRB	O	Strobe signal output to IC 5GA
40	GA.READY	I	Ready signal input from IC 5GA
42	GA.DAT.OUT	O	Stabilizer address data output to IC 5GA
43	GA.CLK	O	Clock signal output to IC 5GA
44	GA.DAT.IN	I	Focus Evaluation data input from IC 5GA
45	E2.DAT.IN	I	Serial data input from EEPROM
46	E2.LAT	O	Chip select signal to EEPROM
47	DAC.LAT	O	Chip select signal to D/A converter
48	DAC.DAT	O	Data to D/A converter and EEPROM
49	DAC.CLK	O	Serial clock to D/A converter and EEPROM
50	$\overline{WBLK.DIS}$	O	Special effect switch signal in Party mode

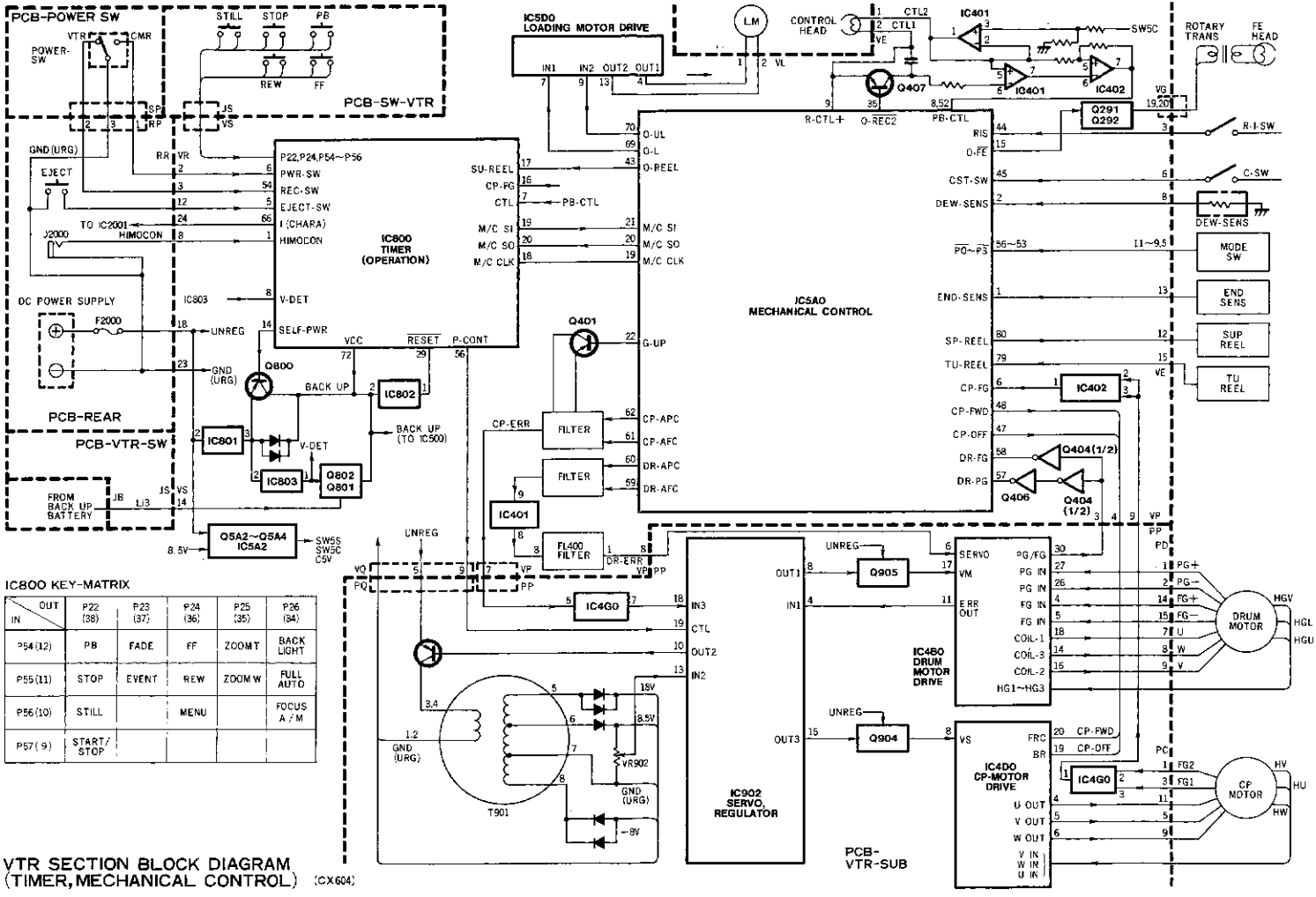
PIN NO.	NAME	I/O	FUNCTION
52	SS4	O	Shutter speed control signal
53	SS3		
54	SS2		
55	SS1		
56	B.COMP	I	White balance control input
57	R.COMP		
58	GS-H	I	Signal from Angular velocity sensor
59	GS-V		
60	I.HOLE.IN	I	Signal from Iris sensor
61	APLX	I	Signal from Y signal integration circuit
62	APL		
63	FCS.PS	I	Signal from Focus encoder.
64	ZM.PSX4	I	Signal from Zoom encoder
65	ZM.PS		
66	FADE.CNTL	O	Fader control signal output
67	FLK.CNTL	O	Flicker compensation signal output
68	DAVREF	I	Reference voltage input for D/A converter
69	ADVREF	I	Reference voltage input for A/D converter
70	AVSS	—	GND for D/A converter and A/D converter
71	AVCC	I	Power source input for A/D converter
72	VCC	I	Power source input for μ computer
73	VSS	—	GND
75	C.CLK	I	Serial data and clock between this μ computer and operation μ computer.
76	DATA.CO	O	
77	DATA.OC	I	
79	FCS.CLK	O	Focus Lens drive pulse



VTR SECTION BLOCK DIAGRAM (VIDEO REC/PB) (CX602)



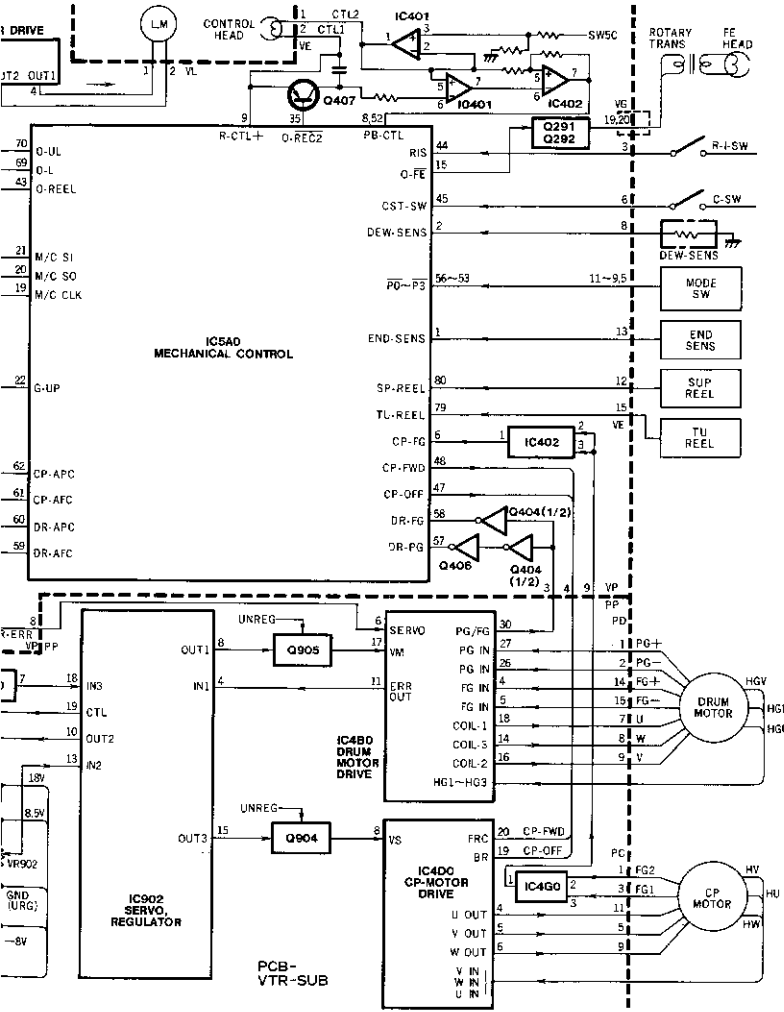
VTR SECTION BLOCK DIAGRAM (AUDIO REC/PB) (CX603)



IC800 KEY-MATRIX

IN \ OUT	P22 (38)	P23 (37)	P24 (36)	P25 (35)	P26 (34)
P54(12)	PB	FADE	FF	ZOOM T	BACK LIGHT
P55(11)	STOP	EVENT	REW	ZOOM W	FULL AUTO
P56(10)	STILL		MENU		FOCUS A / M
P57(9)	START/ STOP				

VTR SECTION BLOCK DIAGRAM (TIMER, MECHANICAL CONTROL) (CX604)



M/C μ COMPUTER FUNCTION (IC 5A0)

PIN NO.	NAME	I/O	FUNCTION
1	END-SENS	I	"H" input when tape end is detected.
2	DEW-SENS	I	"H" input when dew falls on the deck.
3	A-ENV	I	Playback Audio level signal
4	V-ENV	I	Playback Video level signal
5	A-FF25/ A-FF30	O	Audio Head switch signal
6	CP-FG	I	Capstan FG signal
7	V-FF25/ V-FF30	O	Video Head switch signal
8	CTL	I	Control signal from CTL Head
9	RECCTL+	O	Control signal to CTL Head
14	A-FF25/ A-FF30	O	Audio Head switch signal
15	O-$\overline{FE}$	O	"L" output when FE Head is ON.
16	A-FF25 IN A-FF30 IN	I	Audio Head switch signal input
17	PB-PROT	I	PB-5V input
18	REC-PROT	I	REC-5V input
19	M/C CLK	I	Serial data and clock between M/C and OPE μ computer.
20	DATA SO	O	
21	DATA SI	I	
22	G-UP	O	Capstan motor control signal
23	V-FF12.5/ V-FF15	O	Video Head switch signal
24	A-FF12.5/ A-FF15	O	Audio Head switch signal
25	V-OVL	O	Control signal to Head Amp
26	$\overline{VSYNC}$	I	V-Sync input
27	CNVSS	—	GND
28	$\overline{RESET}$	I	"L" input when μ computer is reset.
29	X-IN	—	oscillator
30	X-OUT		
32	VSS	—	GND
33	O-$\overline{PB}$	O	"L" output in Playback mode
34	O-$\overline{REC}$	O	"L" output in Recording mode
35	O-$\overline{REC2}$	O	REC control signal ("L" during Recording)
36	D-ON	O	"H" output when drum motor is ON.
37	A-OVL	O	Control signal to Head Amp
38	O-SP	O	"H" output in SP mode
39	O-$\overline{PB2}$	O	"H" output in Playback mode
40	O-$\overline{EE1}$	O	"L" output in EE mode (Recording or Stop mode)
41	O-$\overline{EE2}$	O	
42	HF-$\overline{REC2}$	O	"L" output during HiFi recording
43	O-REEL	O	Reel pulse output
44	RIS	I	Recording Inhibit signal ("L" input when recording is possible.)
45	CST-SW	I	Cassel Housing is open at "H"

PIN NO.	NAME	I/O	FUNCTION
46	O-$\overline{EDIT}$	O	"L" output in Editing mode
47	CP-OFF	O	"L" output when Capstan motor is ON.
48	CP-FWD	O	"H" output to drive Capstan motor forward direction
49	DR-PG IN	I	Drum PG signal input
51	DR-FG	I	Drum FG signal input
52	PB-CTL	I	Control signal from CTL Head
53	$\overline{P3}$	I	Deck mode switch input
54	$\overline{P2}$		
55	$\overline{P1}$		
56	$\overline{P0}$		
57	DR-PG	I	Drum PG signal input
58	DR-FG	I	Drum FG signal input
59	DR-APC	O	Drum servo speed error output
60	DR-APC	O	Drum servo phase error output
61	CP-AFC	O	Capstan servo speed error output
62	CP-APC	O	Capstan servo phase error output
63	O-$\overline{N}$	O	"H" output in special playback mode
64	O-LP	O	"H" output in LP mode
65	O-EE	O	"H" output in EE mode
66	ES-LED	O	pulse output to light ES-LED
67	O-MUTE	O	"H" output in special playback mode
68	O-REC	O	"H" output in Recording mode
69	O-L	O	Loading motor drive output
70	O-UL		
71	PG-MM	I	PG-MM control signal
72	AVSS	—	GND
73	VCC	I	Power source input
74	AVCC		
75	VREF		
76	$\overline{SS-VSYNC}$	O	Quasi-sync signal for special playback
77	2/3PG OUT	O	Quasi-Drum PG signal output
78	TR-ADJ	O	TR-MM signal output
79	TU-REEL	I	Reel pulse input
80	SP-REEL	I	

CHIP PARTS SHAPES

(4-1)

DESCRIPTION	IMPRINTING	PARTS No.	SHAPES
CHIP TRANSISTOR			
2SA1235-F,G	MF, MG	260P852090	
2SA1576-R/2SB1218A-R 2SB1218A-C	FR, BR BQ	260P859020 260P859070	
2SA1576-R	FR	260P859060	
2SA1577-Q/2SB1219A-R	HC, DR	260P861020	
2SA1577-Q 2SA1577-R	HQ HR	260P861050 260P861060	
2SA1610-Y34	Y34	260P870010	
2SC4081-Q/2SD1819A-Q	BQ, ZQ	260P855010	
2SC4081-R/2SD1819A-R 2SC4081-S/2SD1819A-S	BR, ZR BS, ZS	260P855020 260P855030	
2SC4096-R/2SC3936-B	AP, KB	260P854020	
2SC4096-Q/2SC3936-C	AC, KC	260P854030	
2SC4176-B34	B34	260P859020	
2SC4176-B35	B35	260P859010	
2SD1819A-Q	ZC	260P855070	
2SD1949-Q/2SD1820A-R	YQ, XR	260P867020	
2SD1949-R	YR	260P867060	
DTA144EU/UN5113	16, 8C	263P856010	
DTC114EK	24	260P808010	
DTC144EU/UN5213	26, 8C	260P857010	
DTC144EU	26	263P857020	
DTA114EU/UN5111	14, 8A	260P856010	
2SB798-DK	DK	260P482010	
2SB1114-ZL	ZL	260P847010	
2SC3738-DK	DK	260P866010	
2SD999-DK	DK	260P865010	
2SK209GR	XG	260P864010	
2SC2873-Y	MY	260P868010	
2SA1213-Y	NY	260P701010	
DTA124EU	15	260P871020	
DTC124EU	25	260P872020	
2SC4616-P/2SC4655-B DTA144EE/UN9113 DTC144EE/UN9213	AP, KB 16, 8C 26, 8C	260P877020 260P879010 260P880010	

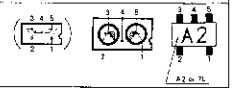
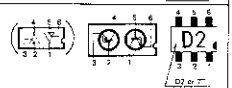
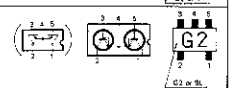
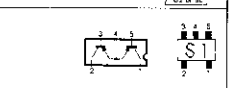
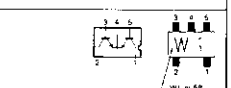
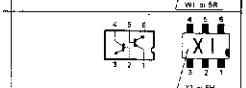
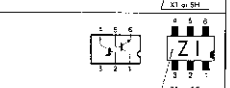
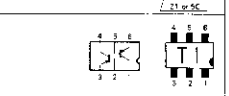
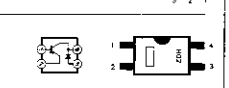
(4-2)

DESCRIPTION	IMPRINTING	PARTS No	SHAPES
CHIP TRANSISTOR			
FMA2/XN1113	A2 or 7L	260P853010	
IMD2/XN4312	D2 or 7T	260P851010	
FMG2/XN1213	G2 or 9L	260P852010	
FMS1	S1	260P843010	
FMW1/XN150*	W1 or 5R	260P844020	
IMX1/XN460*	X1 or 5H	260P845020	
IMZ1/XN460*	Z1 or 5C	260P849020	
IMT1	T1	260P863010	
SAH02-V1L	H02	260P873010	

DESCRIPTION	IMPRINTING	PARTS No	S
CHIP IC			
SC14501F	C8	263P223010	
SC14566F	C9	263P217010	
SC7SU04F	E6	263P220010	
SC7S00F	E1	263P230010	
S-81250-HG-RD-T1	RD	272P369010	
NJM2408F	1	272P364010	
PST629C	T629C	272P357010	
S-80725AL-AN-T1	AN	263P375010	
S-8054ALB-LM-T1	LM	272P362010	
S-8054HNW	CQ	263P440010	
S-81215AG-RK-T1 /RH5RA16AA	RK or BA	272P359010	
NJM2107F	2	272P592010	
M5236ML M5237ML	36 37	272P294010 272P674010	
S-8135GHG-KD-T1	KD	263P373010	

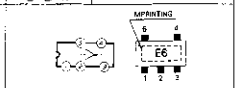
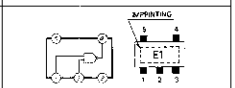
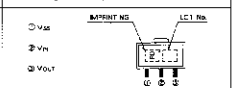
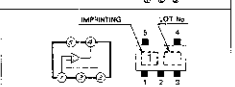
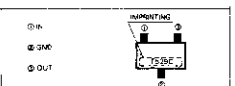
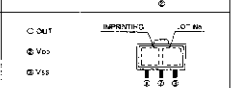
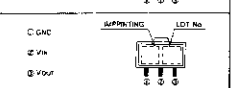
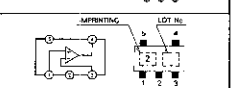
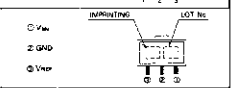
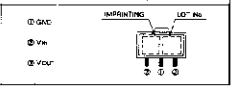
(4-2)

CHIP TRANSISTOR

IMPRINTING	PARTS No.	SHAPES
A2 or 7L	260PB53010	
D2 or 7T	260PB51010	
G2 or 9L	260PB52010	
S1	260PB43010	
W1 or 5R	260PB44020	
X1 or 5H	260PB45020	
Z1 or 5C	260PB49020	
T1	260PB63C10	
H02	260PB73C10	

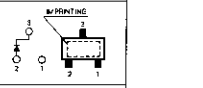
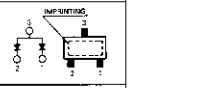
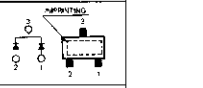
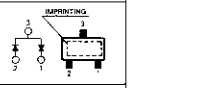
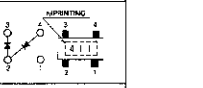
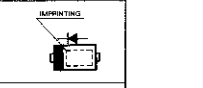
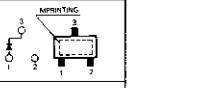
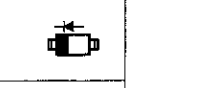
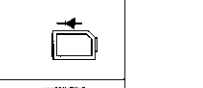
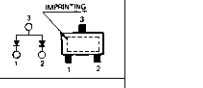
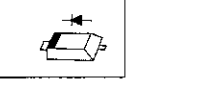
(4-3)

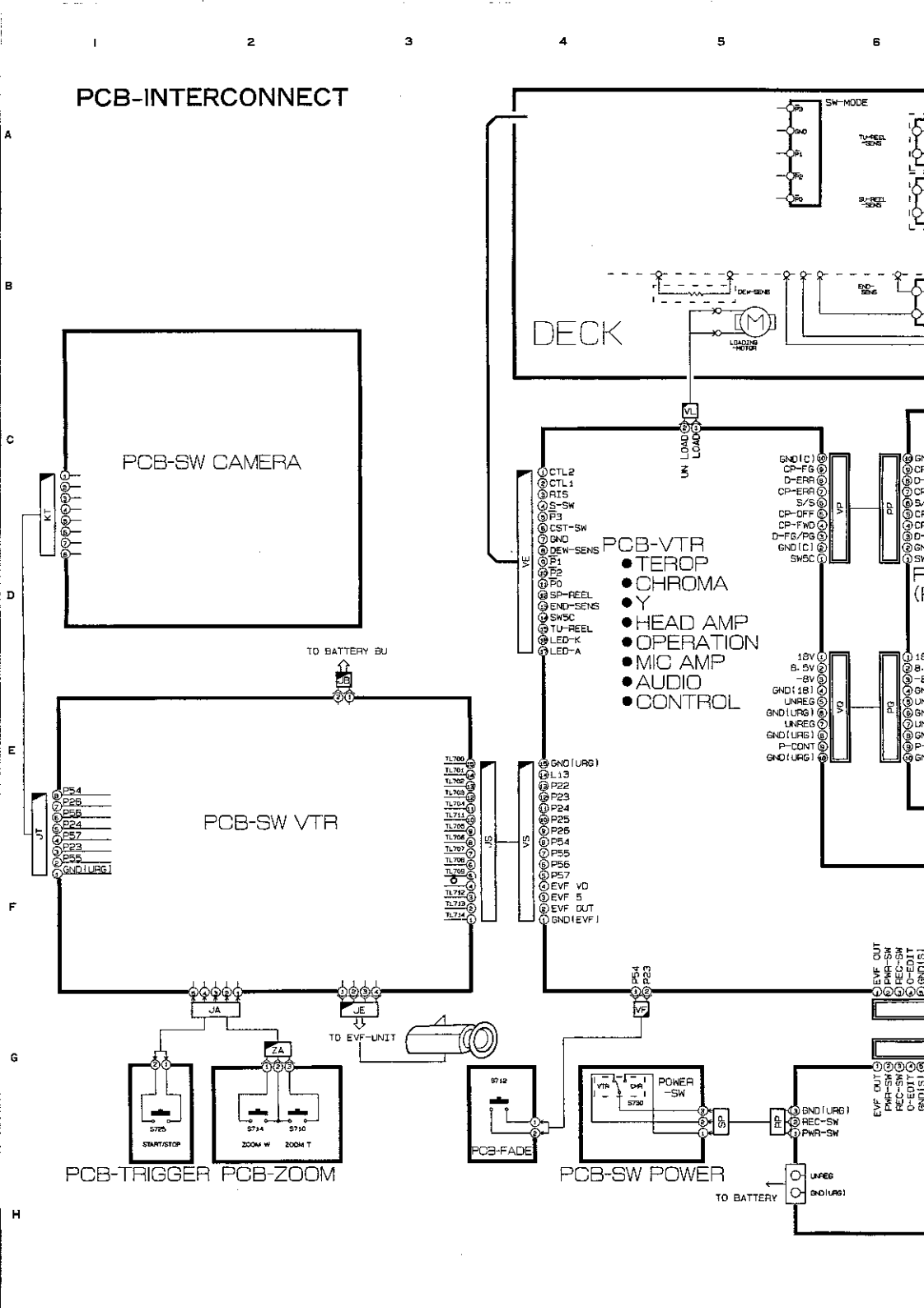
CHIP IC

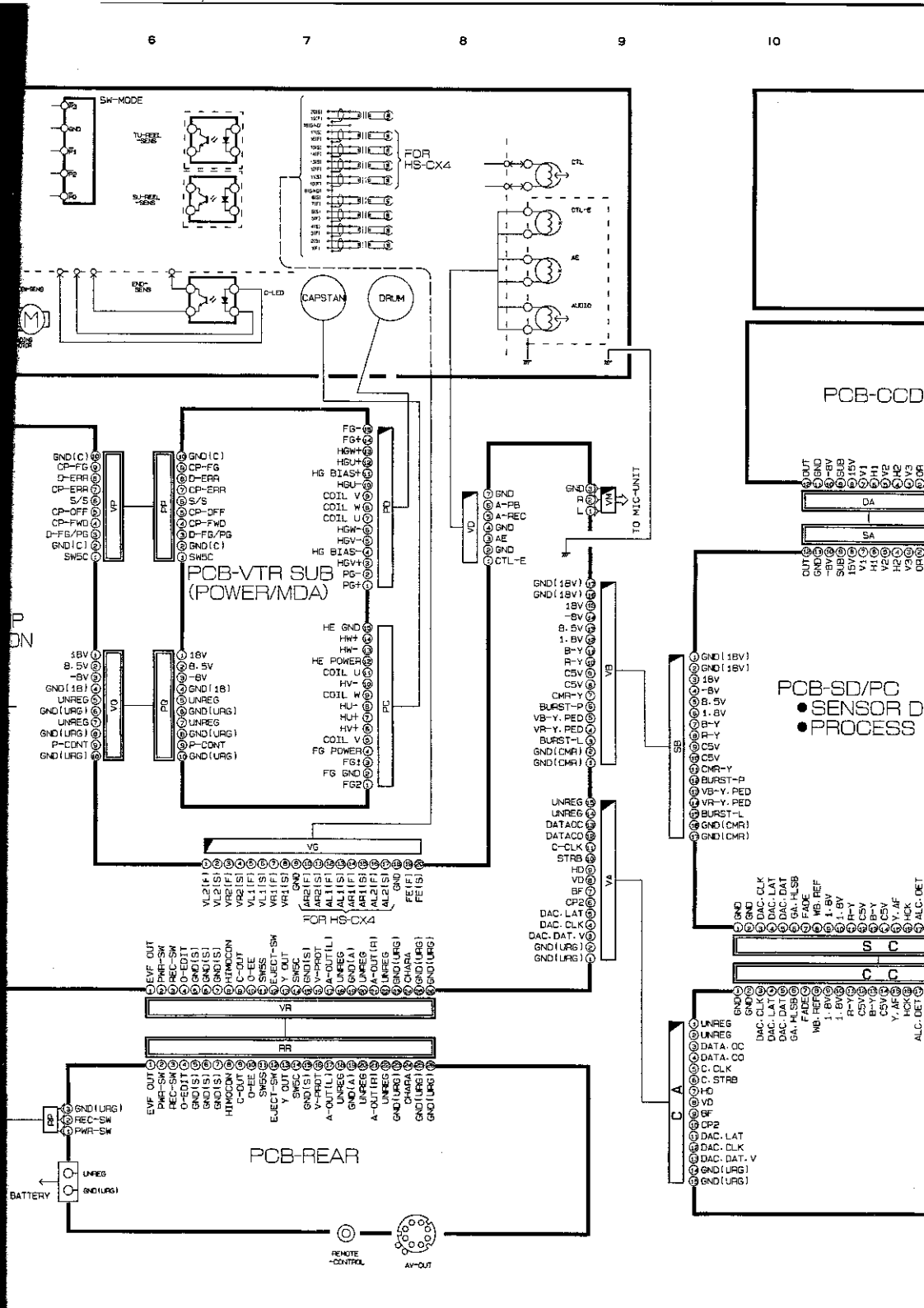
DESCRIPTION	IMPRINTING	PARTS No.	SHAPES
SC1450*F	C9	263P223010	
SC1466F	C9	263P217010	
SC7SU04F	E6	263P220010	
SC7S00F	E1	263P230010	
S-81250HG-RD-T*	PD	272P360010	
NJM2406F	1	272P364C10	
PST529C	T529C	272P357010	
S-8072SAL-AN-T*	AN	263P375010	
S-8054ALB-LM-T1	LM	272P362010	
S-8054HNM	CO	263P440010	
S-81215AG-RK-T1 /RH5RA16AA	RK or 6A	272P359010	
NJM2107F	2	272P592010	
M5238ML	36	272P394010	
M5237ML	37	272P674010	
S-81350HG-KD-T1	KD	263P373010	

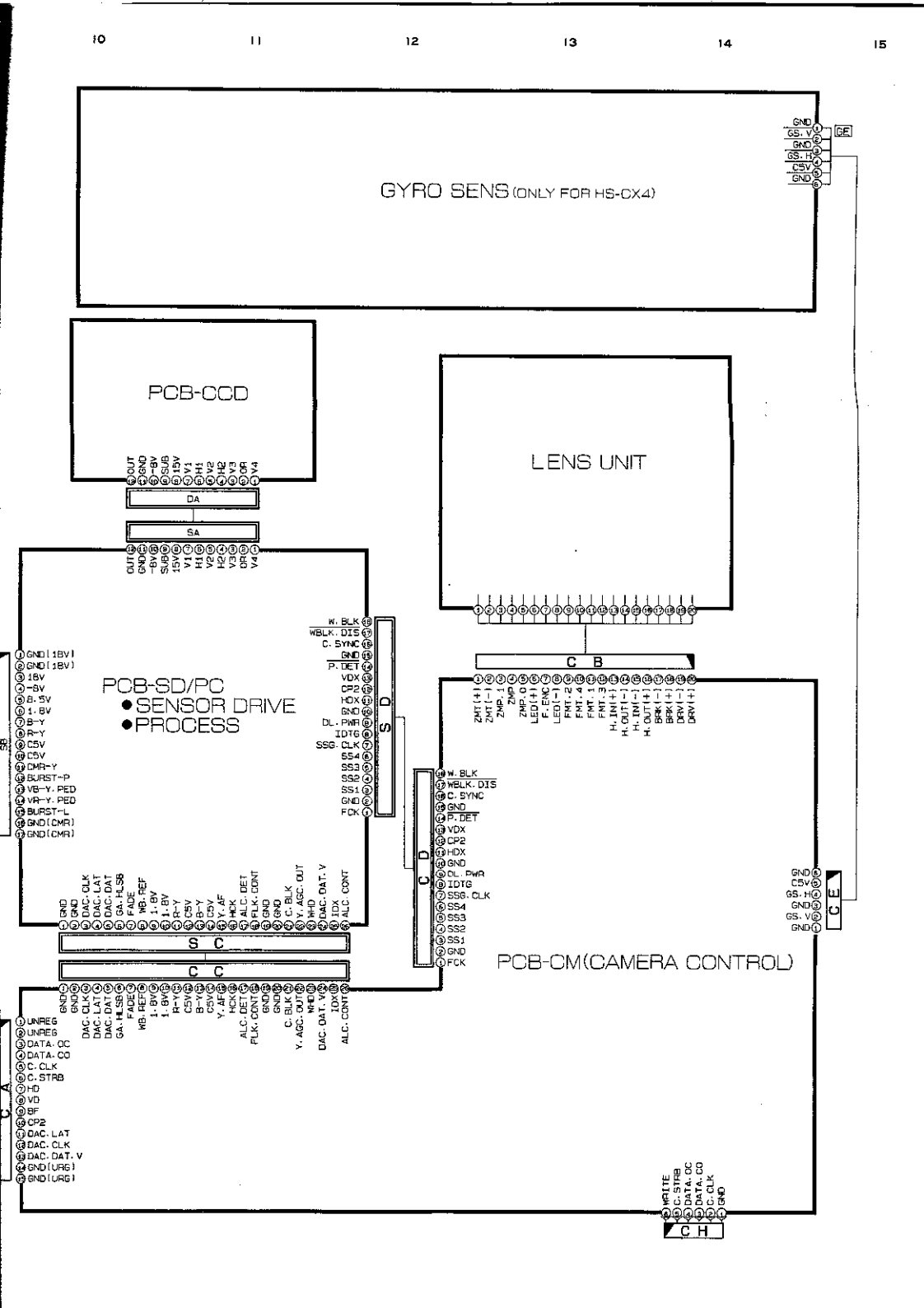
(4-4)

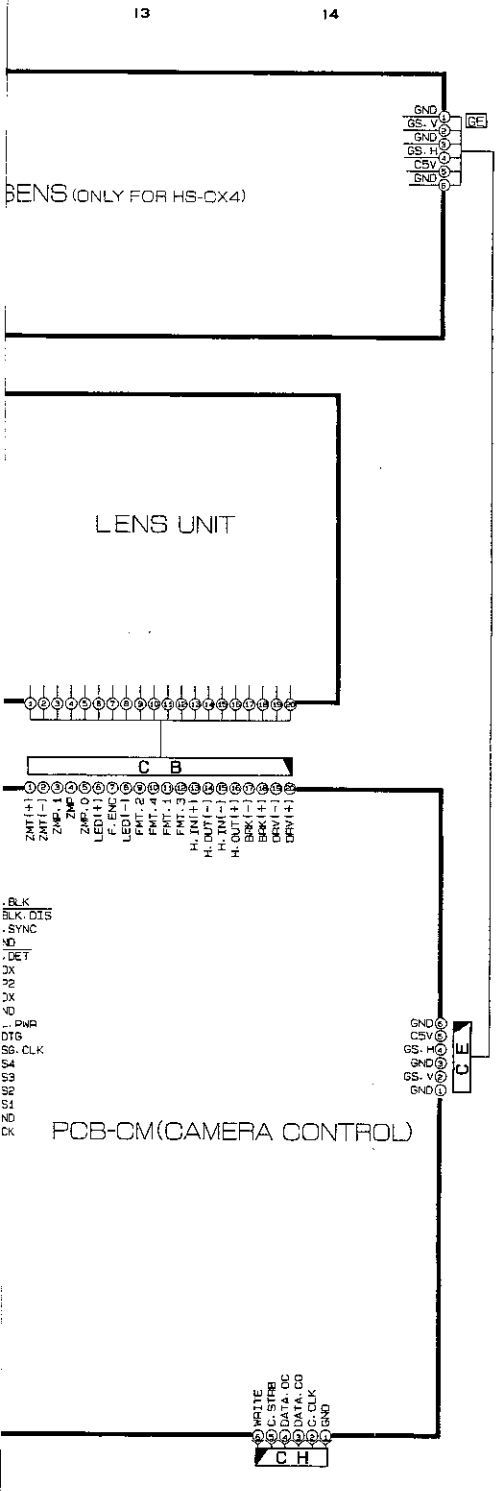
CHIP DIODE

DESCRIPTION	IMPRINTING	PARTS No.	SHAPES
RD2.4MB	24	264P815010	
RD5.1M81	511	264P815060	
RD6.8M81	681	264P816040	
RD7.5MB2	752	264P816050	
RD10MB	100	264P816080	
RD11MB2	1102	264P816090	
DAP202U/MA142WA	P or MO	264P814010	
MA142WA	MO	264P814030	
MA132WA	MO	264P941030	
DAN202U/MA142WK	N or MU	264P828010	
DA204U	K	264P830020	
DA221/MA133	K, MP	264P843010	
ND411G-2	411	264P833010	
U1GWJ44	GW	264P803010	
SPB-54V	B54	264P831010	
SPB-84V	B84	264P832010	
MA141K	MH	264P837010	
MA720	M2W	264P850010	
1SV206		264P838010	
1SV223		264P845010	
MA341		264P834010	
RD7.5UMB2		264P844050	
UN1351C		264P839010	
MA741WA	M2P	264P847010	
MA110	1A	264P848010	
MA728	2A	264P848010	
MA732	2C	264P846010	


PCB-INTERCONNECT
DECK
SW-MODE
TU-REEL -SENS
SU-REEL -SENS
DEW-SENS
END-SENS
LOADING -MOTOR
PCB-SW CAMERA
PCB-VTR
TEROP
CHROMA
Y
HEAD AMP
OPERATION
MIC AMP
AUDIO
CONTROL
TO BATTERY BU
PCB-SW VTR
TO EVF-UNIT
PCB-TRIGGER
PCB-ZOOM
PCB-FADE
PCB-SW POWER
TO BATTERY
START/STOP
ZOOM W
ZOOM T
POWER -SW


6
7
8
9
10
SW-MODE
TU-REEL SENS
SU-REEL SENS
FOR HS-CX4
CTL
CTL-E
AE
AUDIO
END SENS
C-LED
CAPSTAN
DRUM
PCB-VTR SUB (POWER/MDA)
VP
PP
PD
VD
TO MIC-UNIT
VA
PCB-CCD
DA
SA
PCB-SD/PC
SENSOR D
PROCESS
VB
SB
VC
VG
FOR HS-CX4
VR
RR
RP
PCB-REAR
BATTERY
REMOTE CONTROL
AV-OUT


10
11
12
13
14
15
GYRO SENS (ONLY FOR HS-CX4)
GND
GS.V
GND
GS.H
C5V
GND
CE
PCB-CCD
OUT
GND
-8V
SUB
15V
V1
H1
V2
H2
V3
OR
V4
DA
SA
LENS UNIT
C B
PCB-SD/PC
● SENSOR DRIVE
● PROCESS
S D
C D
S C
C C
PCB-CM(CAMERA CONTROL)
C E
C A
C H
GND (1BV)
GND (1BV)
1BV
-8V
8.5V
1.8V
B-Y
R-Y
C5V
C5V
CMR-Y
BURST-P
VB-Y. PED
VR-Y. PED
BURST-L
GND (CMR)
GND (CMR)
W. BLK
WBLK. DIS
C. SYNC
GND
P. DET
VDX
CP2
HDX
GND
DL. PWR
IDTG
SSG. CLK
SS4
SS3
SS2
SS1
GND
FCK
ZMT (+)
ZMT (-)
ZMP. 1
ZMP
ZMP. 0
LED (+)
LED (-)
F. EMC
FMT. 2
FMT. 4
FMT. 1
FMT. 3
H. IN (+)
H. OUT (-)
H. IN (-)
H. OUT (+)
BRK (-)
BRK (+)
DRV (-)
DRV (+)
GND
C5V
GS. H
GND
GS. V
GND
UNREG
UNREG
DATA. OC
DATA. CO
C. CLK
C. STRB
HD
VD
BF
CP2
DAC. LAT
DAC. CLK
DAC. DAT. V
GND (URG)
GND (URG)
MOTITE
C. STRB
DATA. OC
DATA. CO
C. CLK
GND



SCHEMATIC DIAGRAM

NOTE 1:

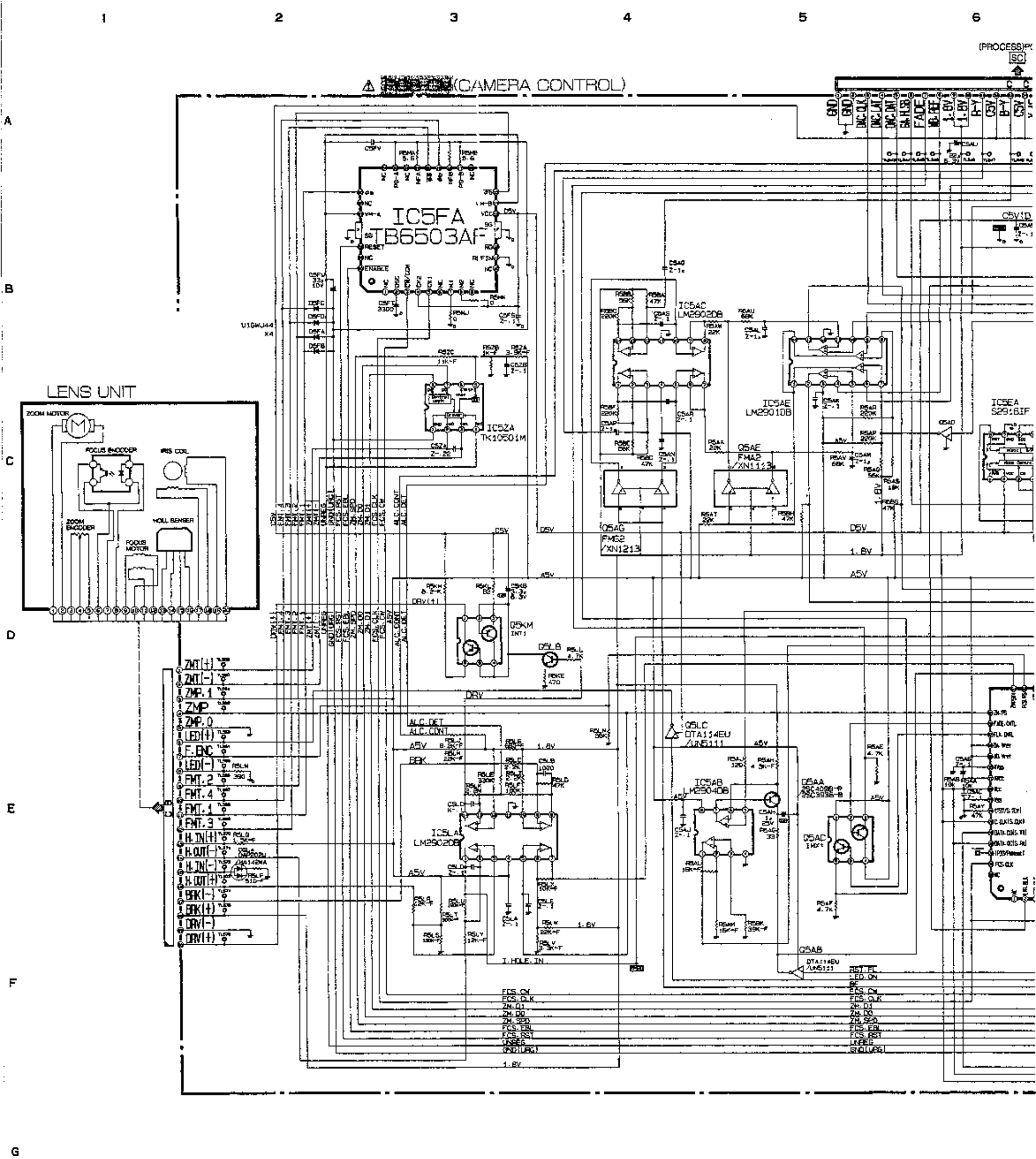
- DC voltages were measured from points indicated to the circuit ground with a Digital voltmeter.
- Waveforms of camera section were taken with the four color chart.
- Waveforms of VTR section were taken with standard color bar signal.
- The unit of resistance "ohm" entirely omitted,
  Accordingly, K=1000 ohms,
  M=1000K ohms.
- Resistors, not specifically designated, are R-M-chip resistors.
- The tolerance of resistor value, not specifically designated, is: ±5%.
- The unit of capacitance, not specifically designated, is:
  a) μF, for numbers less than 1
  b) PF, for numbers more than 1
- Capacitors, not specifically designated are Ceramic chip capacitors except electrolytic capacitors.
- The marks of capacitors are as follows:
  TAN : Tantalum capacitor
  ✱ : Electrolytic capacitor
- The tolerance of capacitor value, not specifically designated is: ±10%
  and J = ±5% K = ±10% M = ±20% P = $^{+100\%}_{-\ 0\%}$
  C = ±0.25PF D = ±0.5PF F = ± 1PF Z = $^{+80\%}_{-20\%}$ N = ±30%
- Ceramic capacitors with the marks RH, UJ, SL, etc. are temperature compensating types.

SPECIFIC SYMBOL	
Zener Diode	Crystal unit
LE Diode	
Photo Diode	Ceramic filter

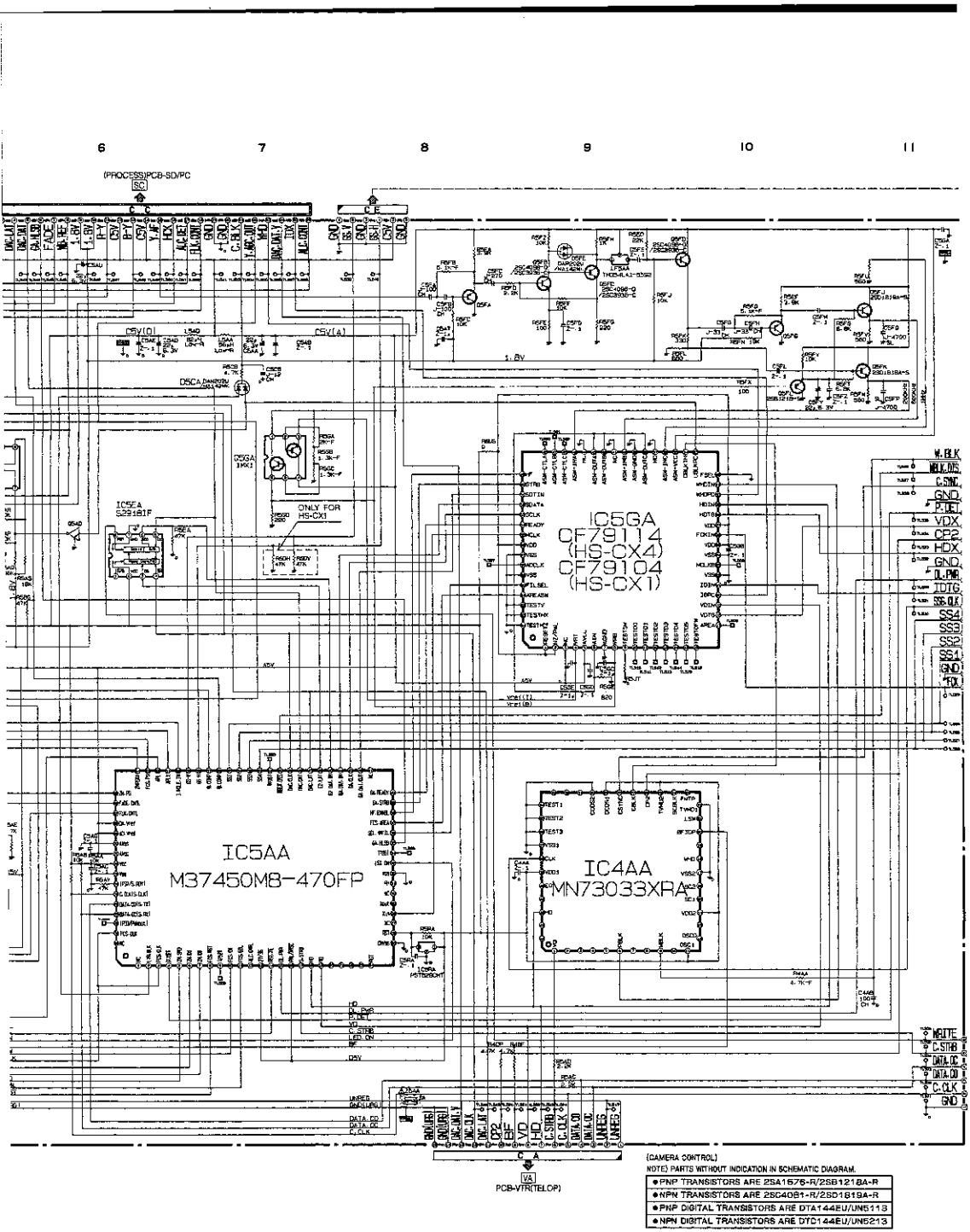
This is a basic schematic diagram. Some sets may be subject to modification according to engineering improvement.

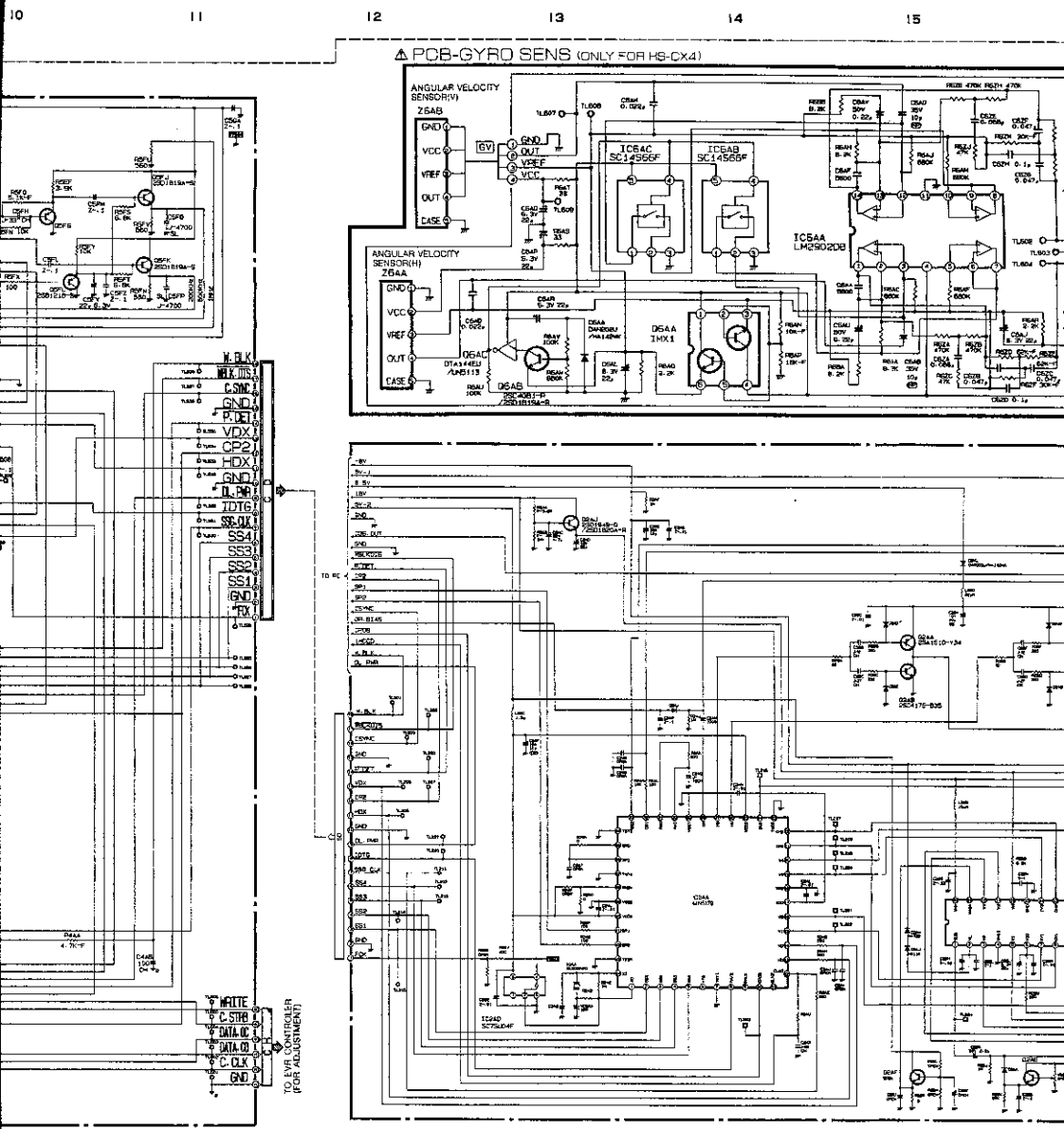
⚠
SERVICING PRECAUTION

SYMBOLS INDICATE COMPONENTS HAVING SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY AND PERFORMANCE. THEREFOR REPLACEMENT OF ANY SAFETY PARTS SHOULD BE IDENTICAL IN VALUE AND CHARACTERISTICS.
DON'T DEGRADE THE SAFETY OF THE VCR THROUGH IMPROPER SERVICING.



(CAMERA CONTROL)
(PROCESS)
LENS UNIT
ZOOM MOTOR
FOCUS ENCODER
IRIS COIL
ZOOM ENCODER
FOCUS MOTOR
HOLL SENSER
IC5FA
TB6503AF
IC5ZA
TK10501M
IC5AC
LM2902DB
IC5AE
LM2901DB
IC5EA
S2916IF
Q5AE
FMA2
/XN1113
Q5AG
FMS2
/XN1213
Q5KM
IC5LA
LM2902DB
IC5AB
LM2904DB
Q5LC
DTA114EU
/UN5111
Q5AA
2SC4098
Q5AB
DTA114EU
/UN5111
ZMT(+)
ZMT(-)
ZMP.1
ZMP
ZMP.0
LED(+)
F.ENC
LED(-)
FMT.2
FMT.4
FMT.1
FMT.3
H.IN(+)
H.OUT(-)
H.IN(-)
H.OUT(+)
BRK(-)
BRK(+)
DRV(-)
DRV(+)
GND
DAC.CLK
DAC.LAT
DAC.DAT
FADE
C5V
D5V
A5V
1.8V
DRV
ALC.DET
ALC.CONT
FCS.CW
FCS.CLK
ZM.D1
ZM.D0
ZM.SPD
FCS.ENL
FCS.RST
UNREG
GND(UREG)
I.HOLE.IN


6
7
8
9
10
11
(PROCESS)PCB-SD/PC
IC5GA
CF79114
(HS-CX4)
CF79104
(HS-CX1)
IC5AA
M37450M8-470FP
IC4AA
MN73033XRA
IC5EA
S29181F
ONLY FOR
HS-CX1
1.8V
C5V(D)
C5V(A)
W.BLK
C.SYNC
GND
P.DET
VDX
CP2
HDX
GND
DLPHL
IDTG
SSCLK
SS4
SS3
SS2
SS1
GND
FDX
MSUTE
C.STRB
DATA-DO
DATA-DI
C.CLK
GND
C A
PCB-VTR(TELOP)
(CAMERA CONTROL)
NOTE) PARTS WITHOUT INDICATION IN SCHEMATIC DIAGRAM.
• PNP TRANSISTORS ARE 2SA1576-R/2SB1218A-R
• NPN TRANSISTORS ARE 2SC4081-R/2SD1819A-R
• PNP DIGITAL TRANSISTORS ARE DTA144EU/UN5113
• NPN DIGITAL TRANSISTORS ARE DTC144EU/UN5213

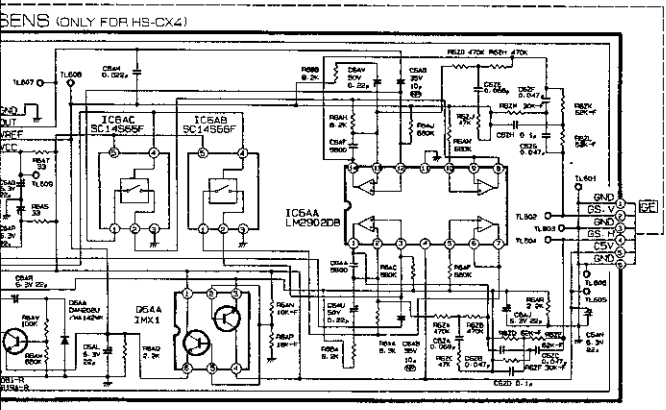


DICATION IN SCHEMATIC DIAGRAM.

S ARE 2SA1576-R/2SB1218A-R
S ARE 2SC4081-R/2SD1819A-R
NSISTORS ARE DTA144EU/UN5113
NSISTORS ARE DTC144EU/UN5218

13 14 15 16 17 18

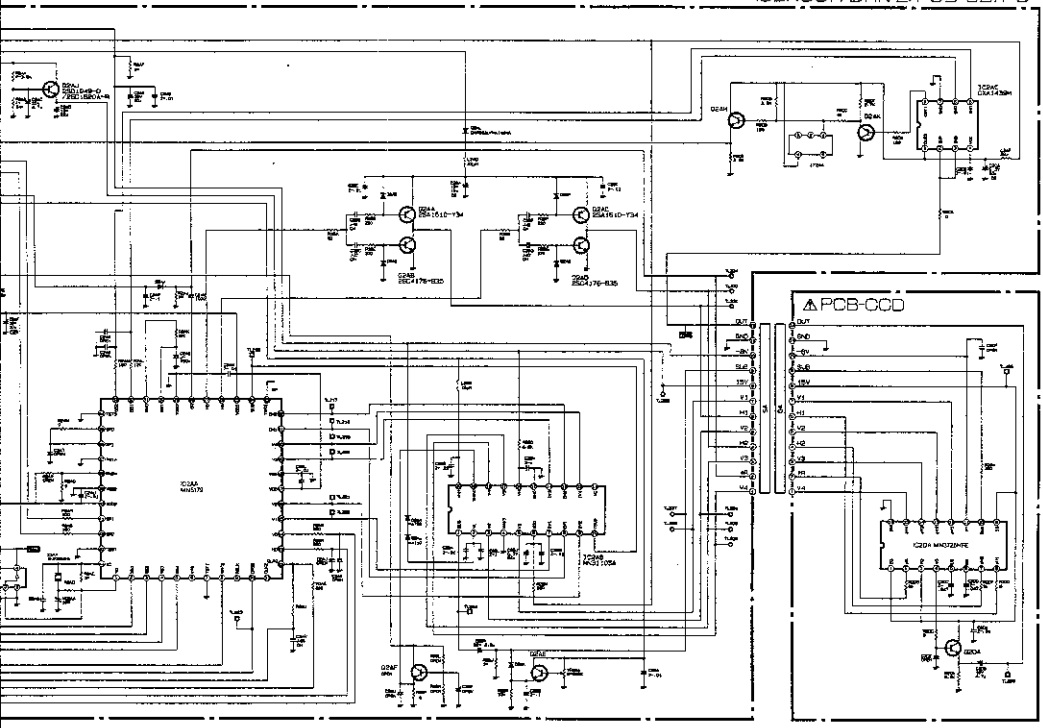
SENS (ONLY FOR HS-CX4)

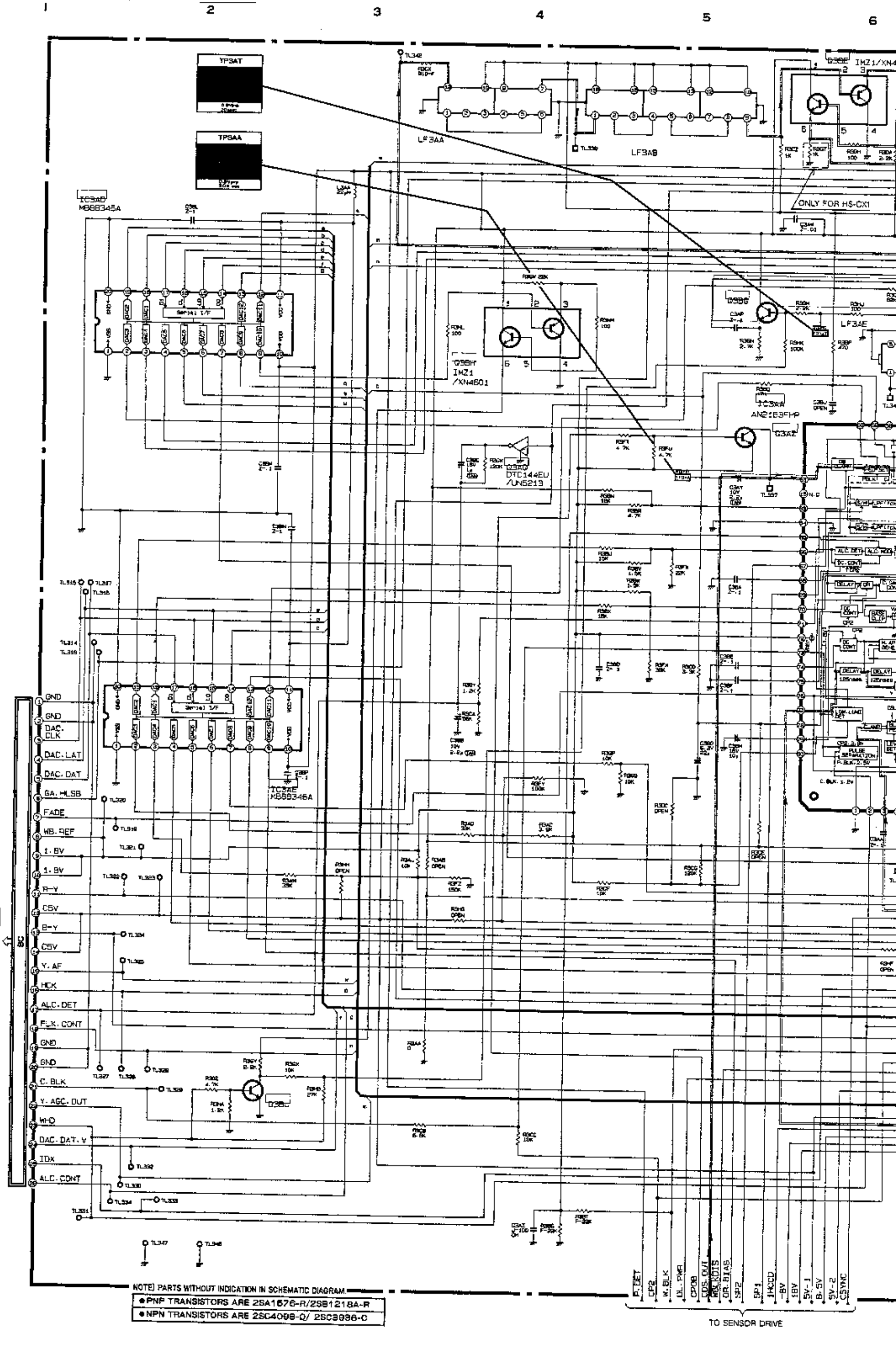


(SENSOR DRIVE)
NOTE) PARTS WITHOUT INDICATION IN SCHEMATIC DIAGRAM.

- DIODE ARE MA141K
- PNP TRANSISTORS ARE 2SA1576-R/2SB1218A-R
- NPN TRANSISTORS ARE 2SC4098-Q/2SC3936-C

⚠ (SENSOR DRIVE) PCB-SD/PC

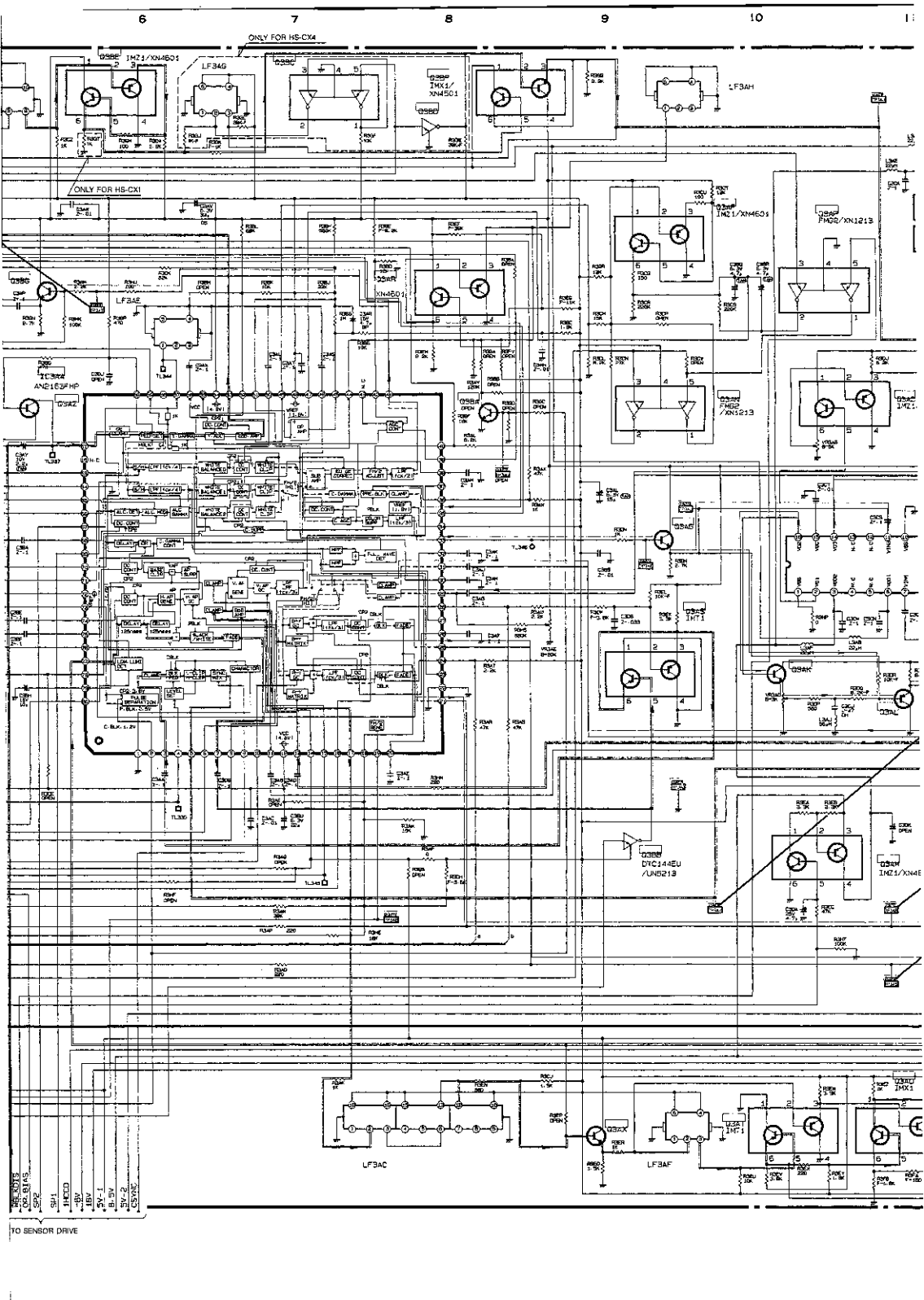


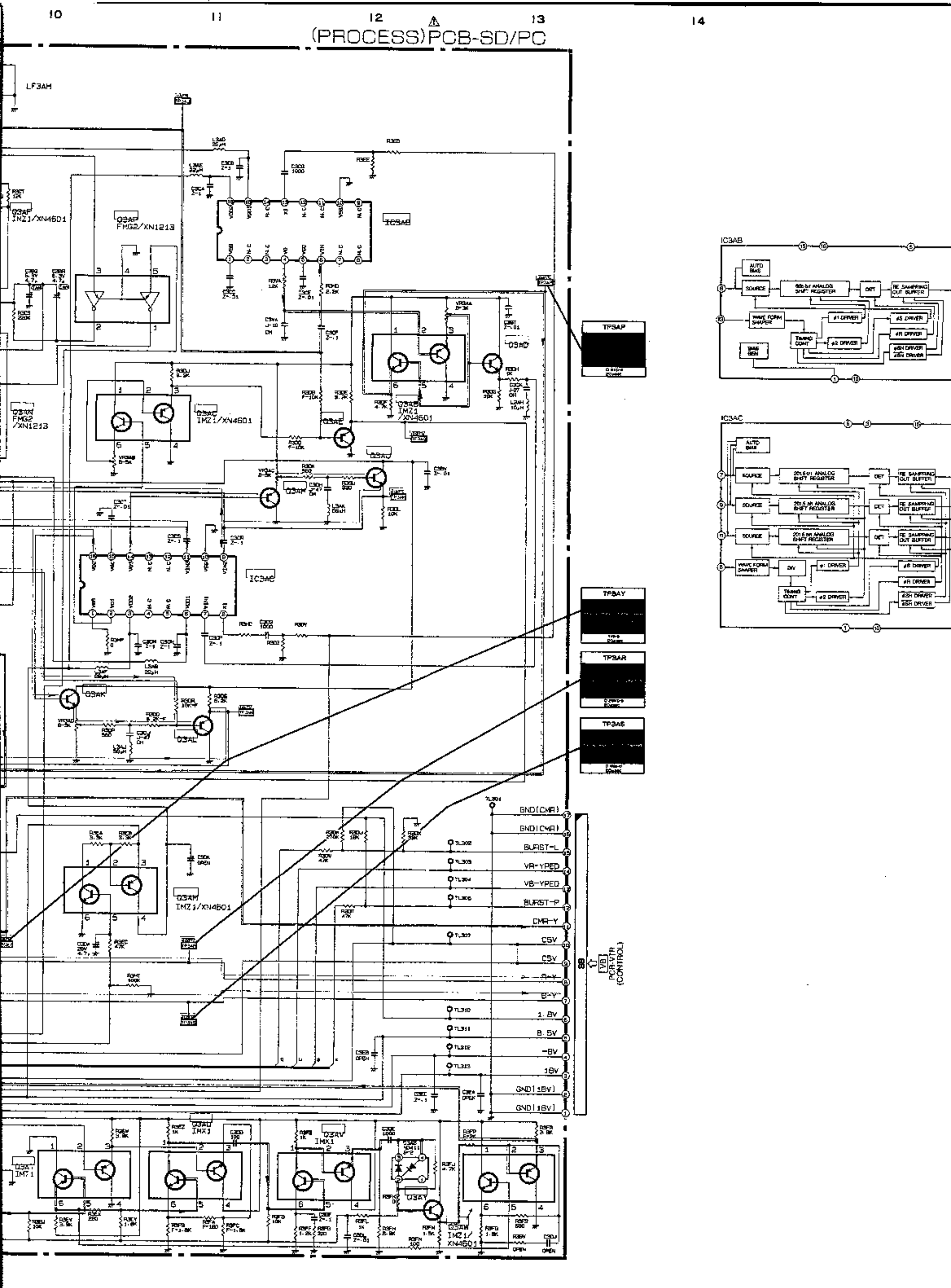


1
2
3
4
5
6
A
B
C
D
E
F
G
H
TP3AT
TP3AA
LF3AA
LF3AB
IMZ1/XN4
ONLY FOR HS-CX1
IC3AD
MB88346A
Serial I/F
Q3BH
IMZ1
/XN4601
Q3BG
LF3AE
IC3AA
AN2163FHP
Q3AZ
Q3AD
DTC144EU
/UN5213
IC3AE
MB88346A
Q3BJ
TO PCB-CM CC
8C
GND
GND
DAC. CLK
DAC. LAT
DAC. DAT
GA. HLSB
FADE
WB. REF
1. 8V
1. 8V
R-Y
C5V
B-Y
C5V
Y. AF
HCK
ALC. DET
FLK. CONT
GND
GND
C. BLK
Y. AGC. OUT
WHD
DAC. DAT. V
IDx
ALC. CONT
P. DET
CP2
W. BLK
DL. PWR
CPOB
CDS. OUT
REG. KDIS
DR. BIAS
SP2
SP1
1HCCD
-8V
18V
B. 5V
5V-1
5V-2
CSYNC
TO SENSOR DRIVE

NOTE) PARTS WITHOUT INDICATION IN SCHEMATIC DIAGRAM

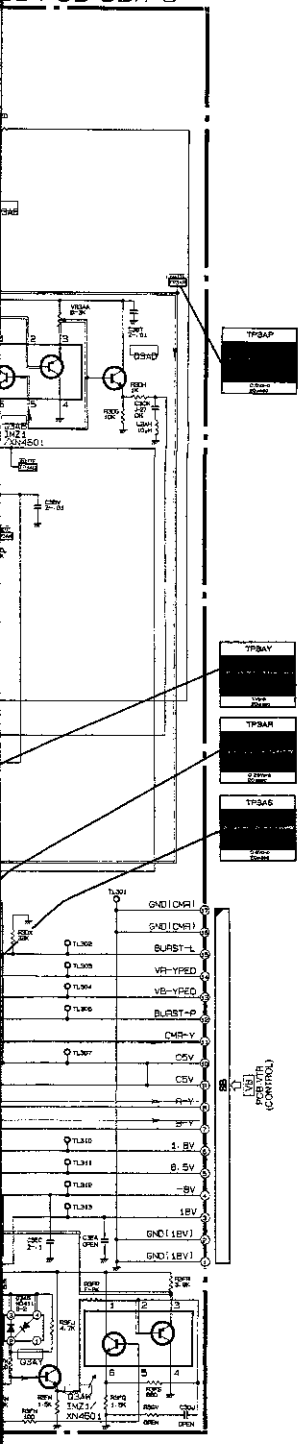
- PNP TRANSISTORS ARE 2SA1576-R/2SB1218A-R
- NPN TRANSISTORS ARE 2SC4098-Q/ 2SC3986-C

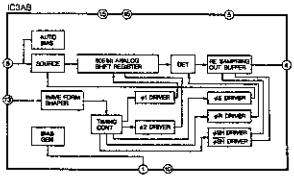

6
7
8
9
10
ONLY FOR HS-CX4
ONLY FOR HS-CX1
IMZ1/XN4601
LF3AG
IMX1/XN4501
LF3AH
LF3AE
XN4601
IMZ1/XN4601
FMG2/XN1213
AN2165FHP
DYC144EU/UN5213
LF3AC
LF3AF
TO SENSOR DRIVE

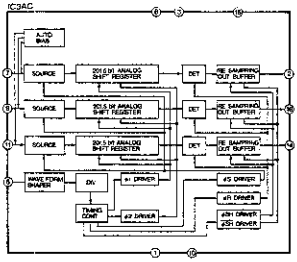


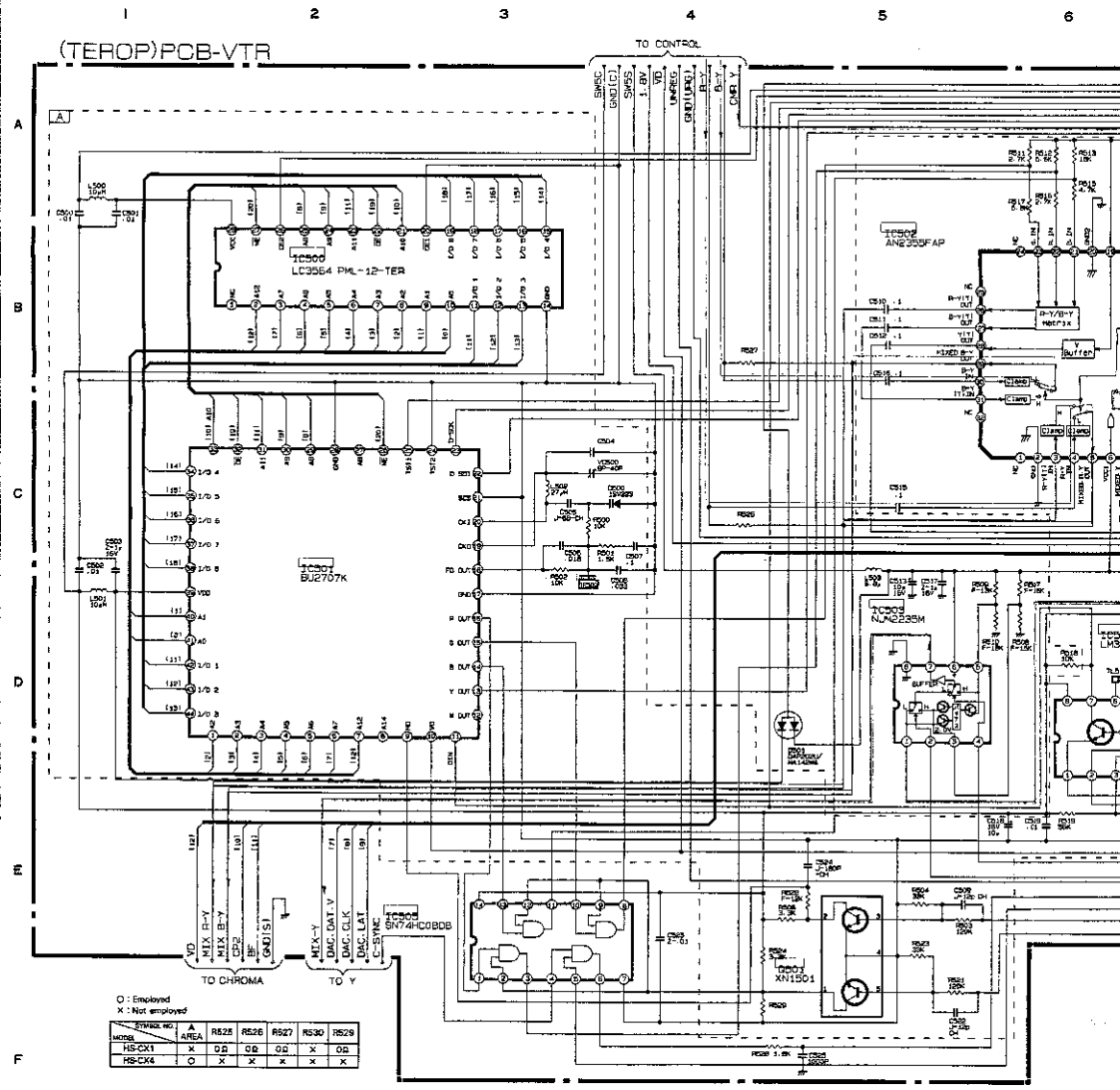
10
11
12
13
14
(PROCESS)PCB-SD/PC
IC3AB
IC3AC
TP3AP
TP3AY
TP3AR
TP3AS
GND(CMR)
BURST-L
VR-YPED
VB-YPED
BURST-P
CMR-Y
C5V
R-Y
B-Y
1.8V
8.5V
-8V
18V
GND(18V)
VB
PCR-VTR (CONTROL)

SS)PCB-SD/PC

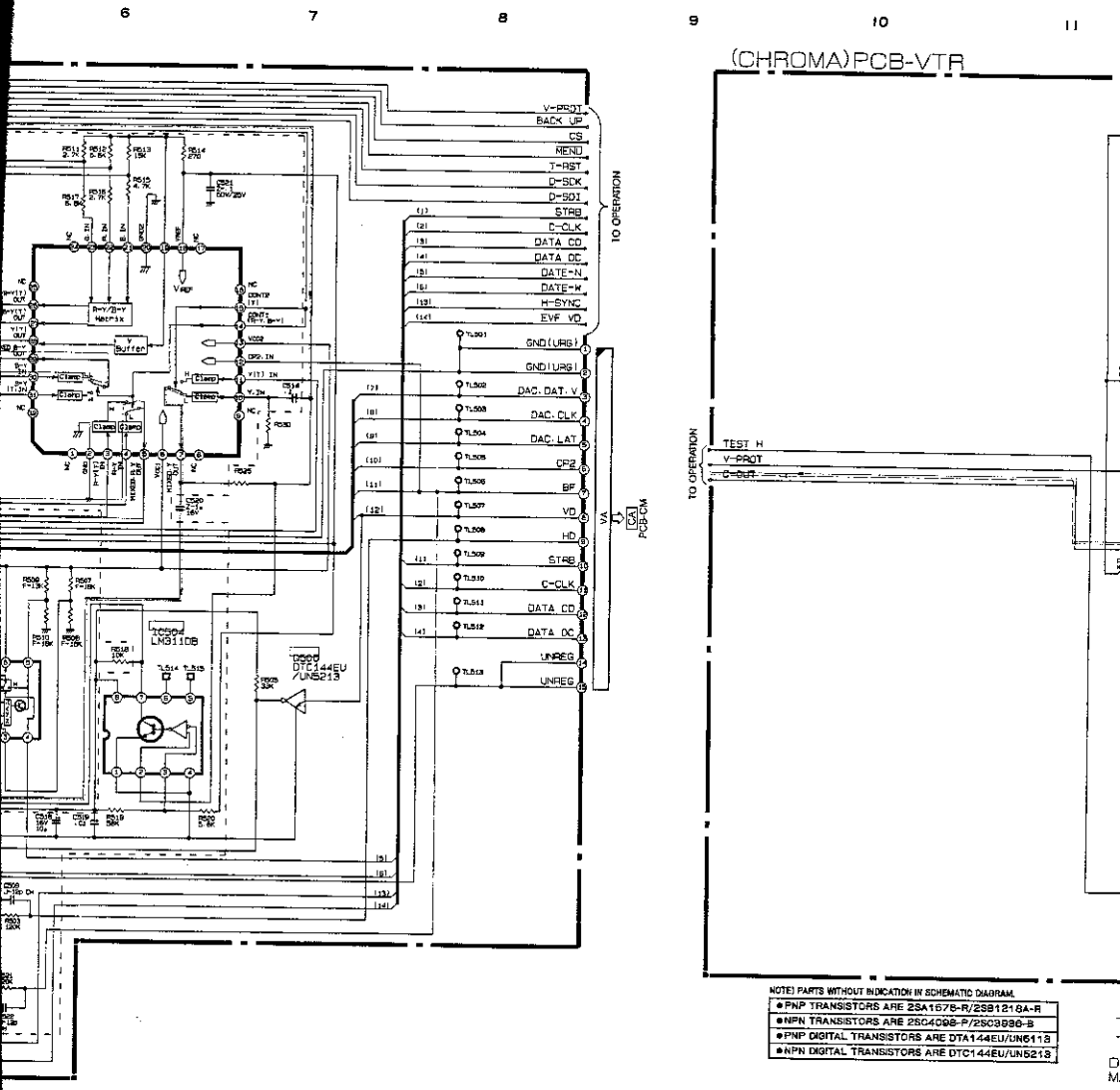

TP3AP
TP3AV
TP3AR
TP3AS
GND(CHR)
GND(CHR)
BURST-L
VR-YPED
VB-YPED
BURST-P
CHR-Y
C5V
C5V
R-Y
B-Y
1.8V
8.5V
-8V
18V
GND(18V)
GND(18V)
PCB VTR (CONTROL)


IC3AB
AUTO BIAS
SOURCE
DET
RE SAMPLING OUT BUFFER
WAVE FORM SHAPER
TIMING GENT
BIAS GEN


IC3AC
AUTO BIAS
SOURCE
DET
RE SAMPLING OUT BUFFER
WAVE FORM SHAPER
TIMING GENT



SYMBOL NO. / MODEL	A AREA	R525	R526	R527	R530	R529
HS-CX1	×	0Ω	0Ω	0Ω	×	0Ω
HS-CX4	○	×	×	×	×	×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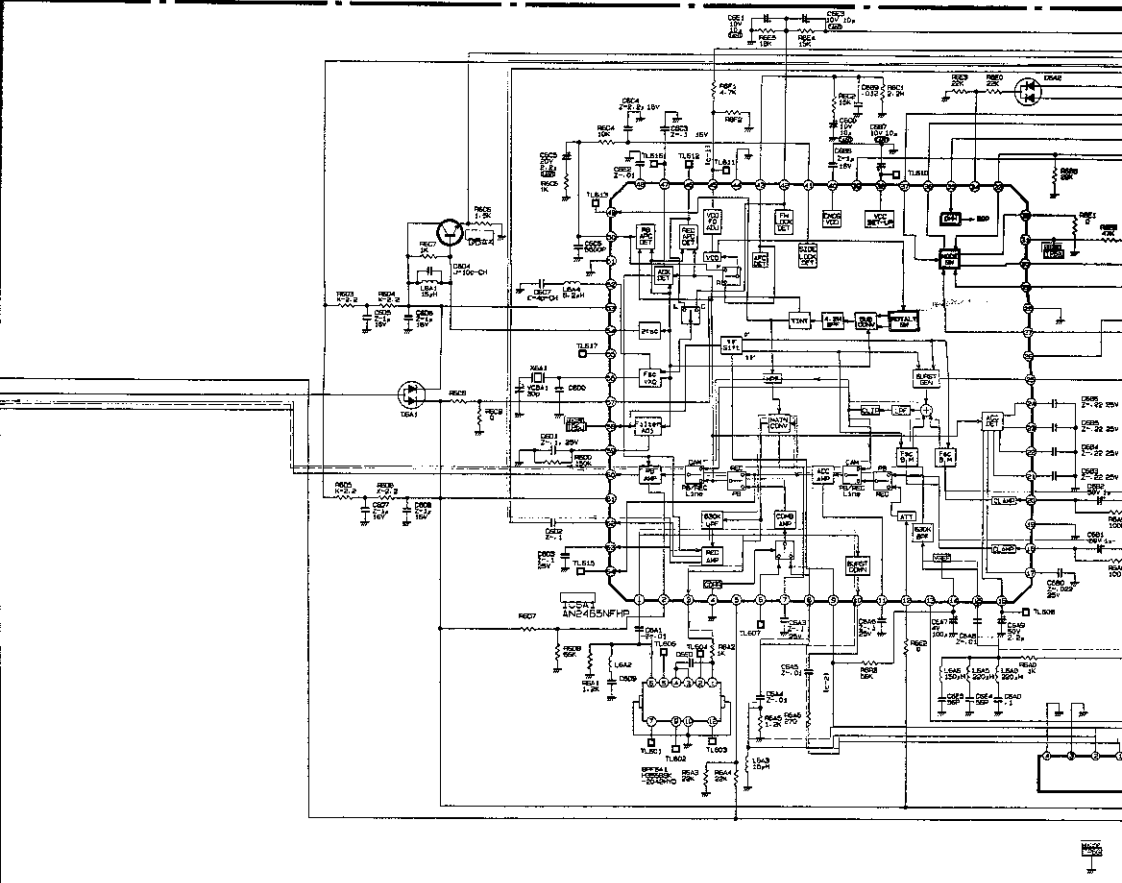
(CHROMA) PCB-VTR
V-PROT
BACK UP
CS
MEND
T-RST
C-SDK
C-SDI
STRB
C-CLK
DATA CD
DATA OC
DATE-N
DATE-M
H-SYNC
EVF VD
TO OPERATION
GND(URG)
GND(URG)
DAC. DAT. V
DAC. CLK
DAC. LAT.
CP2
BP
VD
HD
STRB
C-CLK
DATA CD
DATA OC
UNREG
UNREG
VA
CA1
PCB-CM
TEST H
V-PROT
C-OUT
TO OPERATION
LM311DB
DTC144EU
/UN5213
V Buffer
R-Y/B-Y Matrix
NOTE) PARTS WITHOUT INDICATION IN SCHEMATIC DIAGRAM.
● PNP TRANSISTORS ARE 2SA1576-R/2SB1218A-R
● NPN TRANSISTORS ARE 2SC4098-P/2SC3930-B
● PNP DIGITAL TRANSISTORS ARE DTA144EU/UN5113
● NPN DIGITAL TRANSISTORS ARE DTC144EU/UN5213

(OMA) PCB-VTR

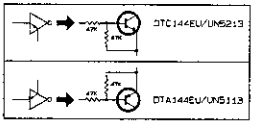


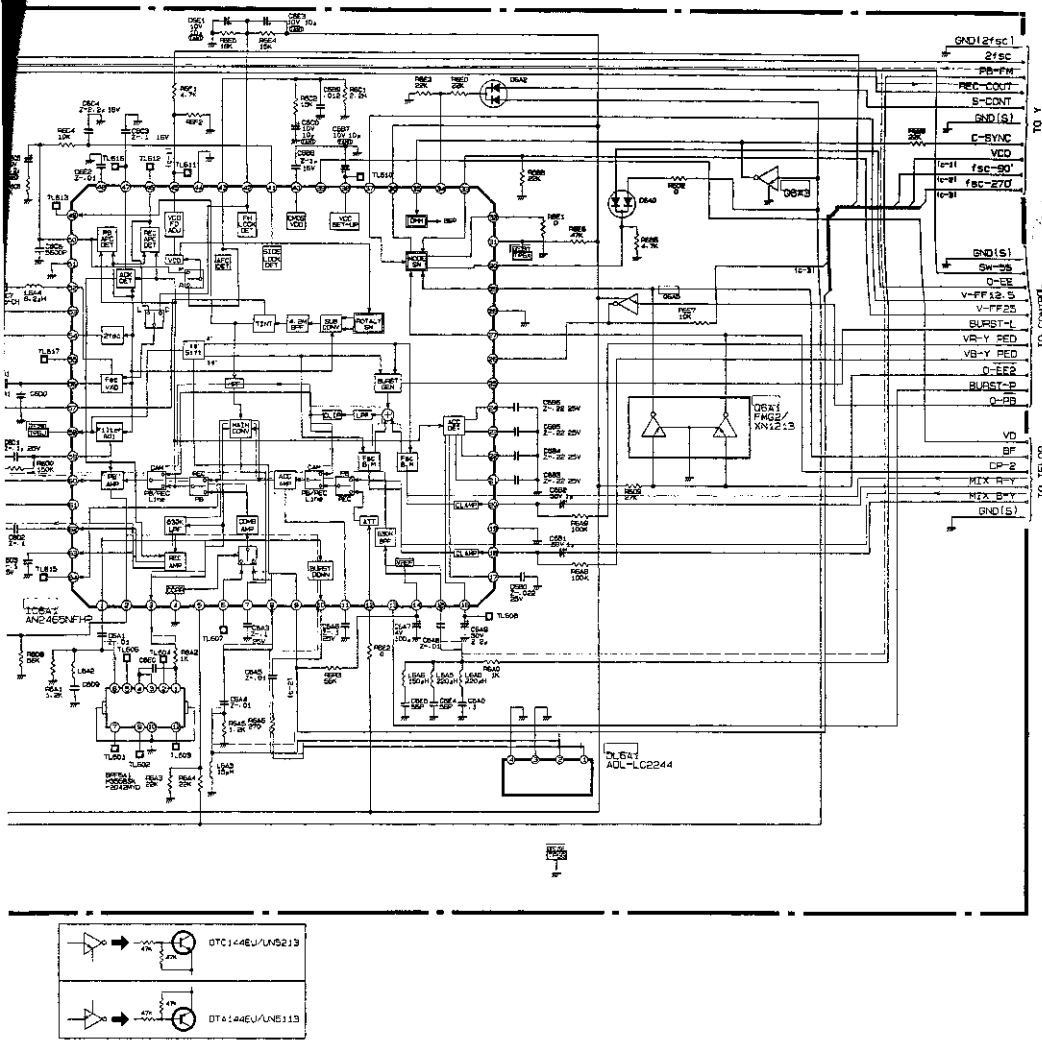
NOTE) PARTS WITHOUT INDICATION IN SCHEMATIC DIAGRAM.

- PNP TRANSISTORS ARE 2SA1576-R/2SB1218A-R
- NPN TRANSISTORS ARE 2SC4098-P/2SC3936-R
- PNP DIGITAL TRANSISTORS ARE DTA144EU/UN5113
- NPN DIGITAL TRANSISTORS ARE DTC144EU/UN5213

DAP202U
MA142WA

DAN202U
MA142WK

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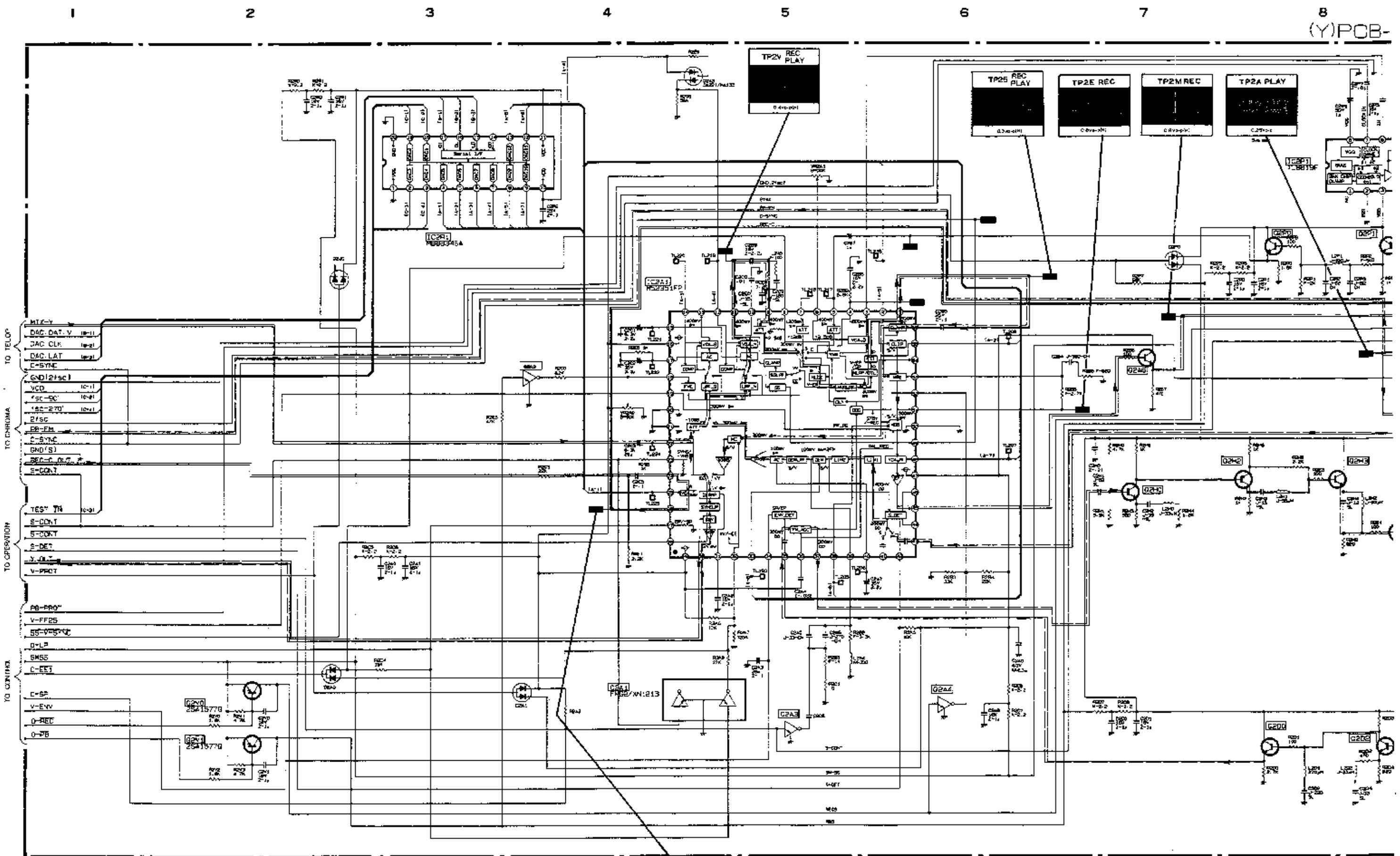
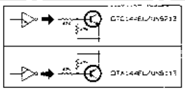
GND(2fsc)
2fsc
PB-FM
REC-COUT
S-CONT
GND(S)
C-SYNC
VCD
fsc-90°
fsc-270
GND(S)
SW-25
O-EE
V-FF12.5
V-FF25
BURST-L
VR-Y PED
VB-Y PED
O-EE2
BURST-P
O-PB
VD
BF
DP-2
MIX R-Y
MIX B-Y
GND(S)
TO Y
TO CONTROL
TO TELOP
DTC144EU/UN5213
DTC144EU/UN5113



(Y)

SYMBOL NO / MODELS	R2D3	Q2A3	C2C8
HS-CX1	470	×	×
HS-CX4	560	×	×



A-1	C-LEV	A-7	FM-LEV
A-2	DEV	A-8	PB-LEV
A-3	S-VHS-LEV	C-1	VCO
A-4	VHS-LEV	C-2	fsc-90°
A-5	CLIP-LEV	C-3	TEST IN
A-6	CAR-SET	C-4	fsc-270°

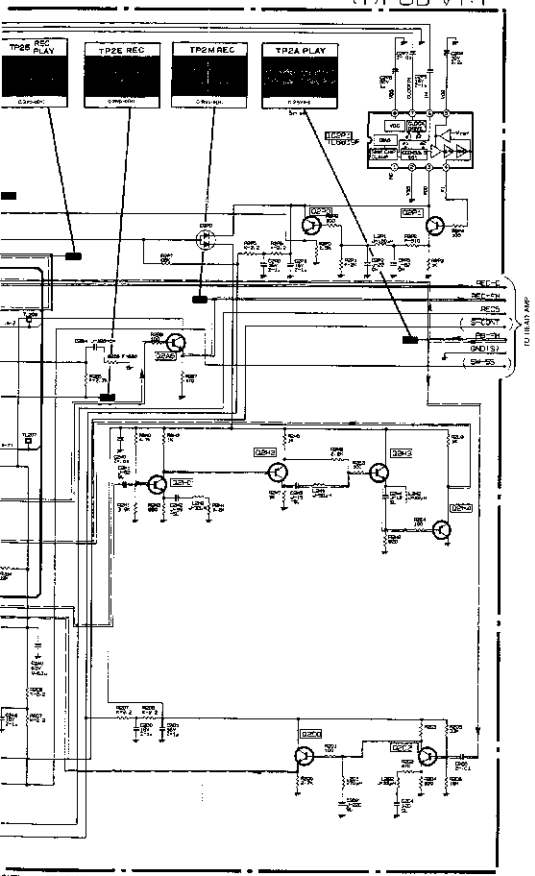
NOTE) PARTS WITHOUT INDICATION IN SCHEMATIC DIAGRAM.

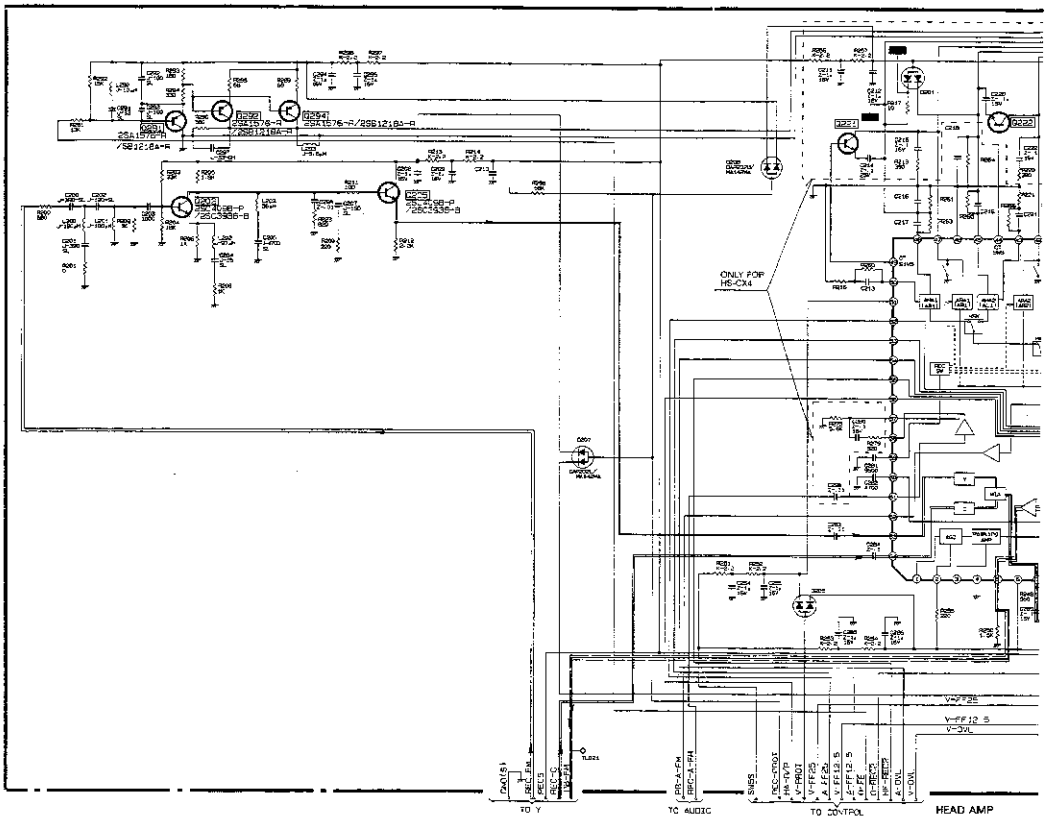
● PNP TRANSISTORS ARE 2SA1576-R/2SB1218A-R
● NPN TRANSISTORS ARE 2SC4098-P/2SC3936-B
● PNP DIGITAL TRANSISTORS ARE DTA144EU/UN5113
● NPN DIGITAL TRANSISTORS ARE DTC144EU/UN5213

DAP202U
MA142WA

DAN202U
MA142WK

(Y)PCB-VTR





CIEMATIC DIAGRAM.

1576-R/2SB1218A-R
4098-P/2SC3986-B
RE DTA144EU/UN5113
RE DTC144EU/UN5213

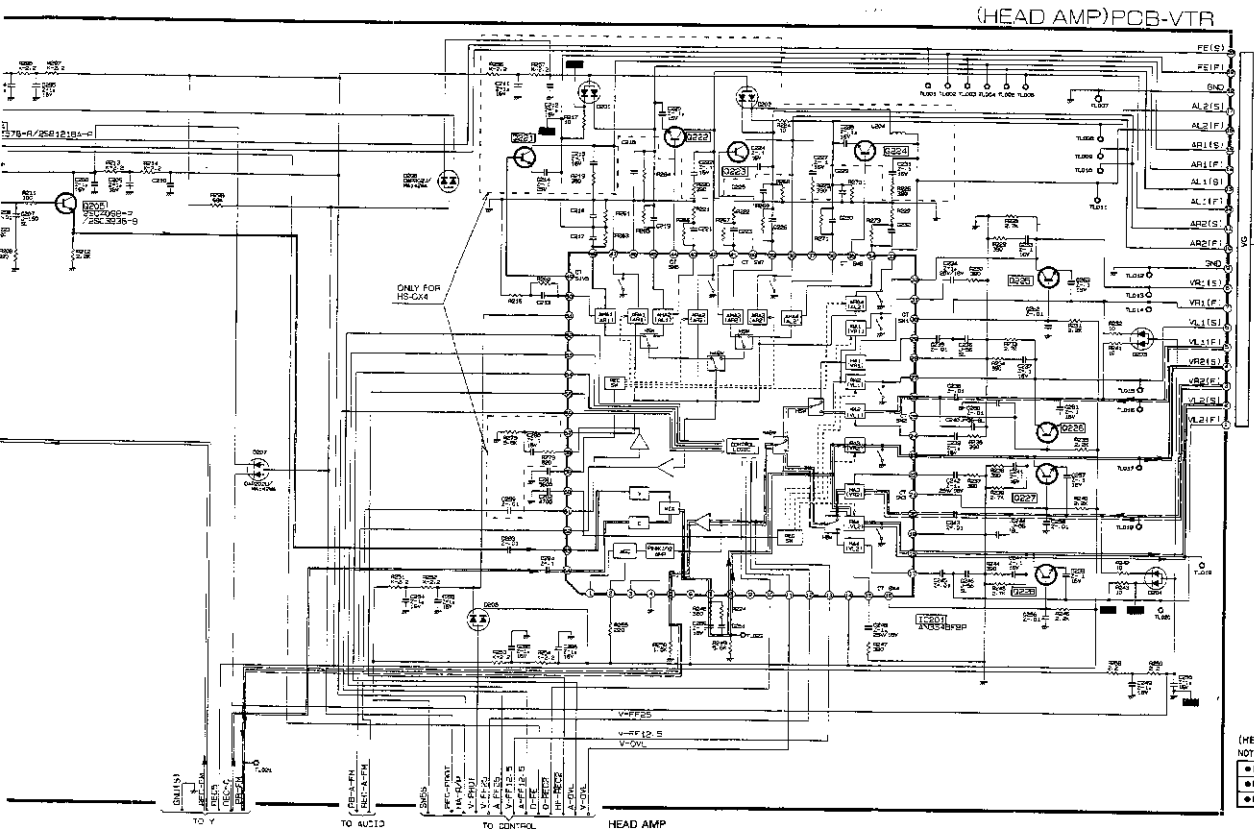
DAP202U
MA142WA

DAN202J
MA142WK

Recording of Luminance Signal
Playback of Luminance Signal
Recording of Color Signal
Playback of Color Signal

HEAD AMP

SYMBOLING / MODELS	RZO
HS-CX4	x
HS-CX1	1.2



MA132WA

(HEAD AMP)

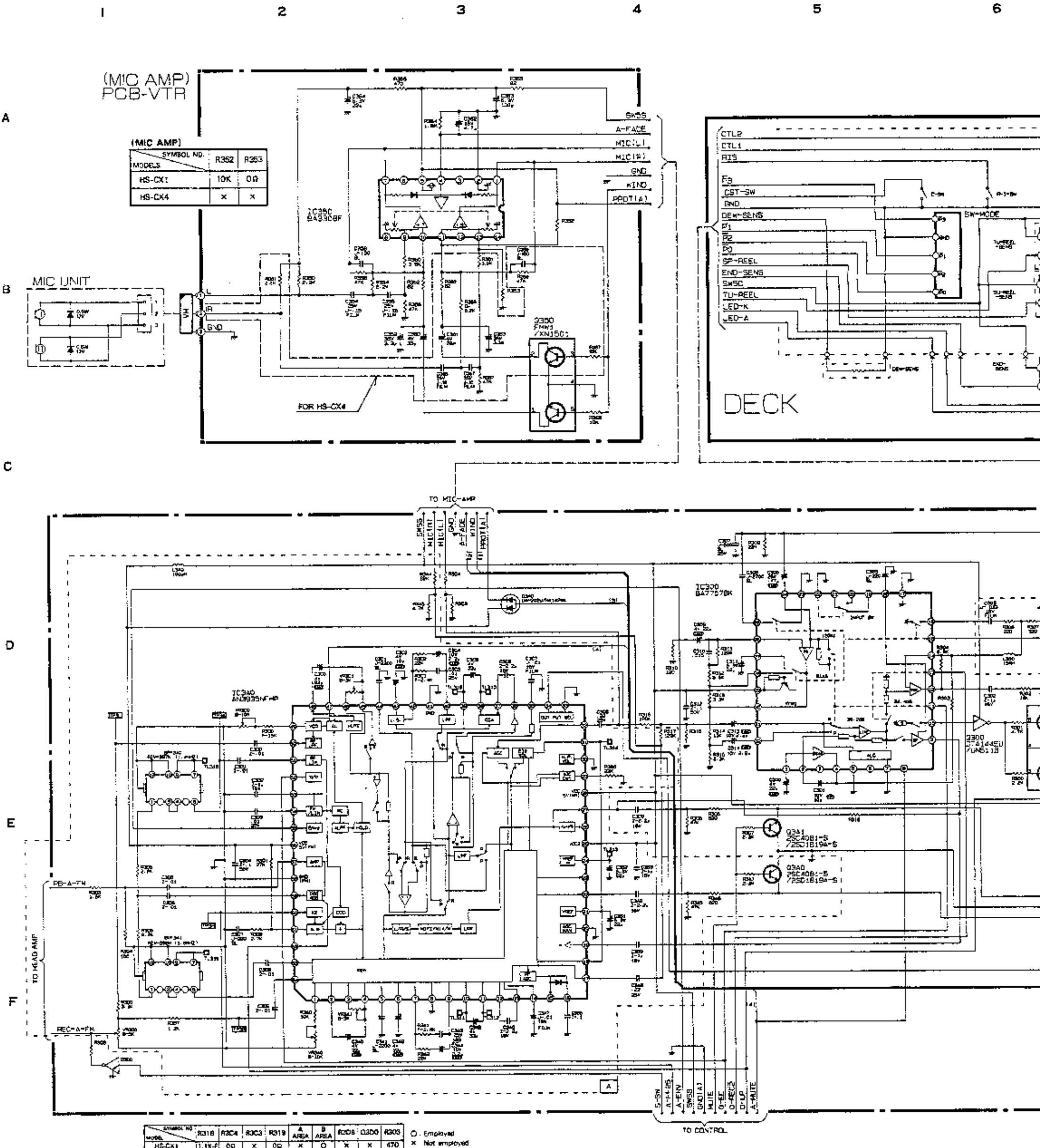
NOTE) PARTS WITHOUT INDICATION IN SCHEMATIC DIAGRAM.

- ●NPN TRANSISTORS ARE 2SC4618-P/2SC4656-6
- ●PNP DIGITAL TRANSISTORS ARE DTA144EU/UN5113
- ●NPN DIGITAL TRANSISTORS ARE DTC144EU/UN5213

HEAD AMP

SYMBOL NO. / MODELS	R208	C205	R209	R221 R216	R222	C223 C232 C213 C221	R263 R261 R260 R273	R287 R266 R265 R264	R271 R270 R269 R268	L204	C229 C225	C230 C217 C219 C226	C218	R227
HS-CX4	×	×	390	180	220	2.1μ	×	×	×	100μH	J-680 SL	2.01	560	150
HS-CX1	1.2K	J-33 SL	220	0Ω	0Ω	×	0Ω	0Ω	0Ω	×	×	×	×	0Ω

HS-CX1(A)/(B)/(E)
HS-CX4(A)/(B)/(E)(3/7)

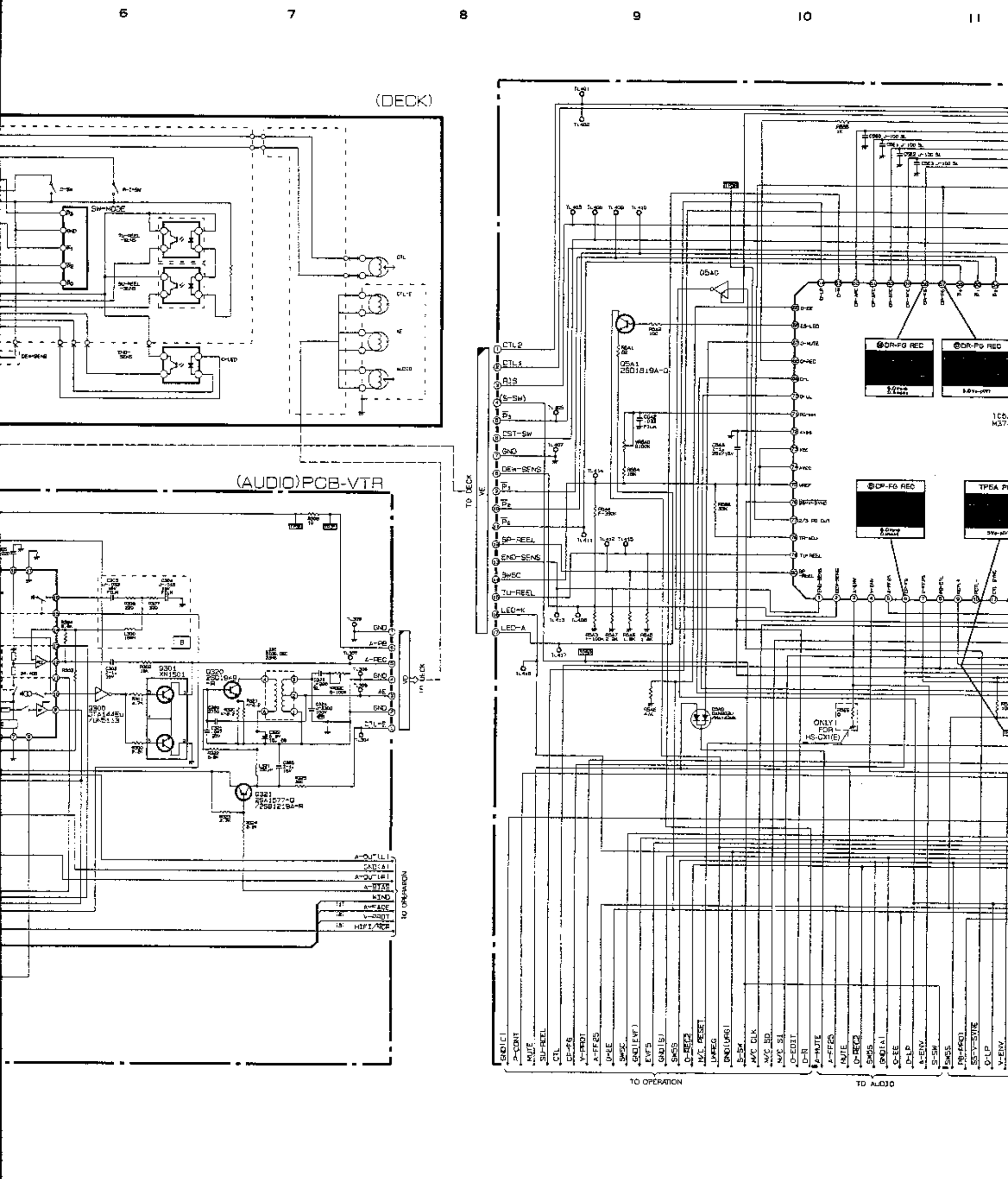


(MIC AMP)

SYMBOL NO. / MODELS	R352	R353
HS-CX1	10K	0Ω
HS-CX4	×	×

SYMBOL NO / MODEL	R318	R304	R303	R319	A AREA	B AREA	R308	Q300	R303
HS-CX1	1.1K-F	0Ω	×	0Ω	×	○	×	×	470
HS-CX4	3.9K	22K	4.7K	×	○	×	×	×	470

○ : Employed
× : Not employed



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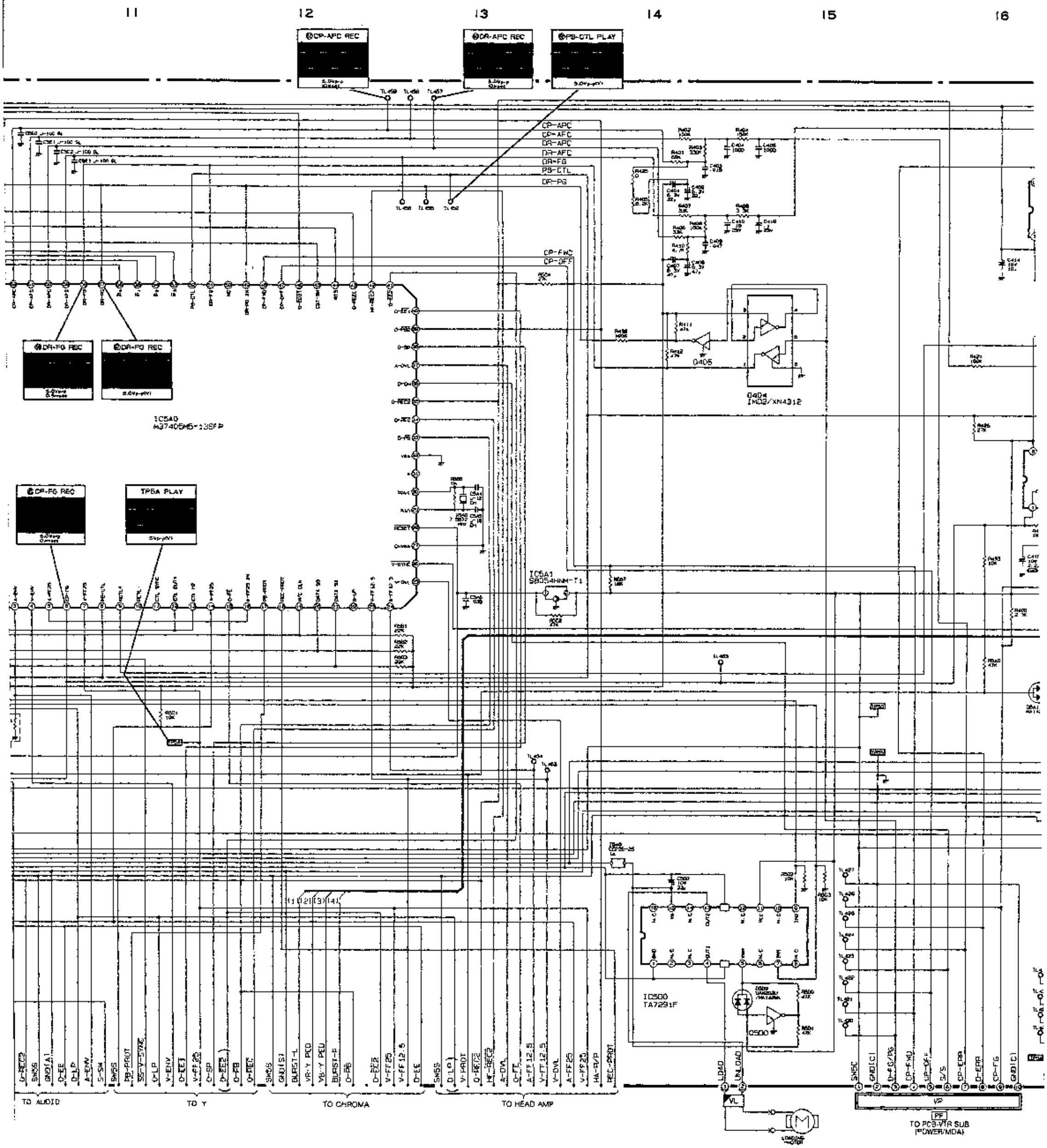
(DECK)
SW-MODE
CTL
AE
(AUDIO)PCB-VTR
TO DECK
Q5A1
2SD1819A-Q
Q5A0
CTL2
CTL1
A1S
(S-SW)
CST-SW
GND
DEW-SENS
SP-REEL
END-SENS
SW5C
TU-REEL
LED-K
LED-A
Q301
XN1501
Q320
2SD1819
Q321
2SA1577-Q
/2SB1218A-R
Q300
DTA144Eu
/UN5113
A-PB
A-REC
CTL-E
A-OUT(L)
GND(A)
A-OUT(R)
A-BIAS
KIND
A-FADE
V-PROT
HIFI/REC
TO OPERATION
ONLY FOR HS-CX1(E)
GND(C)
P-CONT
MUTE
SU-REEL
CTL
CP-FG
V-PROT
A-FF25
D-EE
SW5C
GND(EVF)
EVF5
GND(S)
SW5S
D-REC3
M/C RESET
UNREG
GND(UNREG)
S-SW
M/C CLK
M/C SO
M/C SI
D-EDIT
D-R
A-MUTE
A-FF25
MUTE
D-REC2
SW5S
GND(A)
D-EE
D-LP
A-ENV
S-SW
SW5S
PB-FREQ
SS-V-SYNC
D-LP
V-ENV
TO AUDIO



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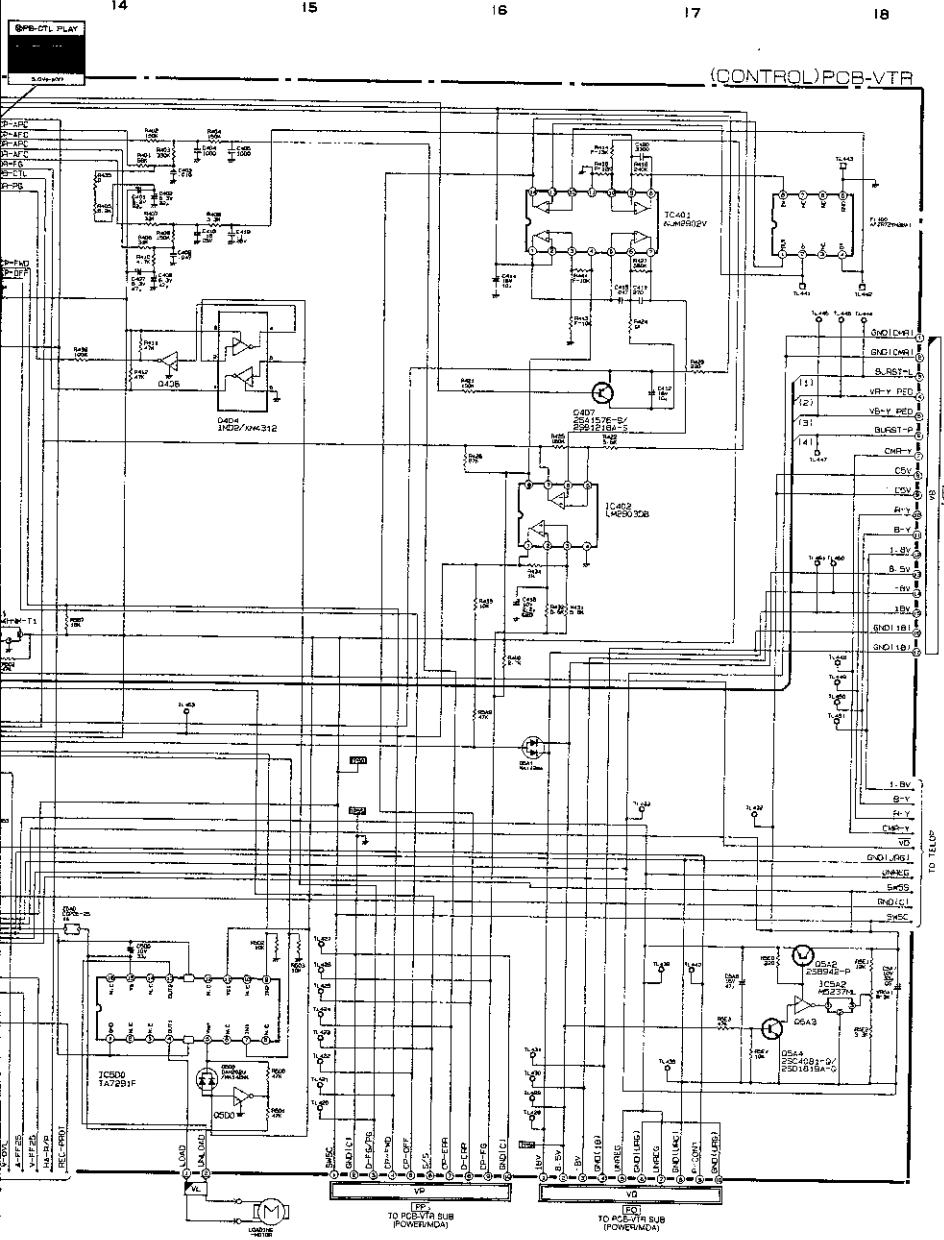
CP-APC REC
DR-APC REC
PB-CTL PLAY
DR-FG REC
CP-FG REC
TP5A PLAY
CP-APC
CP-AFC
DR-APC
DR-AFC
DR-FG
PB-CTL
DR-PG
CP-FWD
CP-OFF
IC5A0
Q405
Q404
IC5A1
IC500
TA7291F
Q500
TO AUDIO
TO Y
TO CHROMA
TO HEAD AMP
LOAD
UNLOAD
VL
VP
PF
TO PCB-VTR SUB
(POWER/MDA)
D-REC2
SW5S
GND(A)
D-EE
D-LP
A-ENV
S-SW
PB-PROT
D-LP
V-ENV
D-EE1
V-FF25
D-SP
D-EE5
D-PB
D-REC
GND(S)
BURST-L
VR-Y PED
VB-Y PED
BURST-H
D-PB
D-EE2
V-FF25
V-FF12.5
D-EE
V-PROT
D-REC2
HF-REC2
A-DVL
D-FF
A-FF12.5
V-FF12.5
V-DVL
A-FF25
V-FF25
HA-R/P
REC-PROT
SW5C
GND(C)
D-FG/PG
CP-FWD
CP-OFF
S/S
CP-ERR
D-ERR
CP-FG
GND(C)


14
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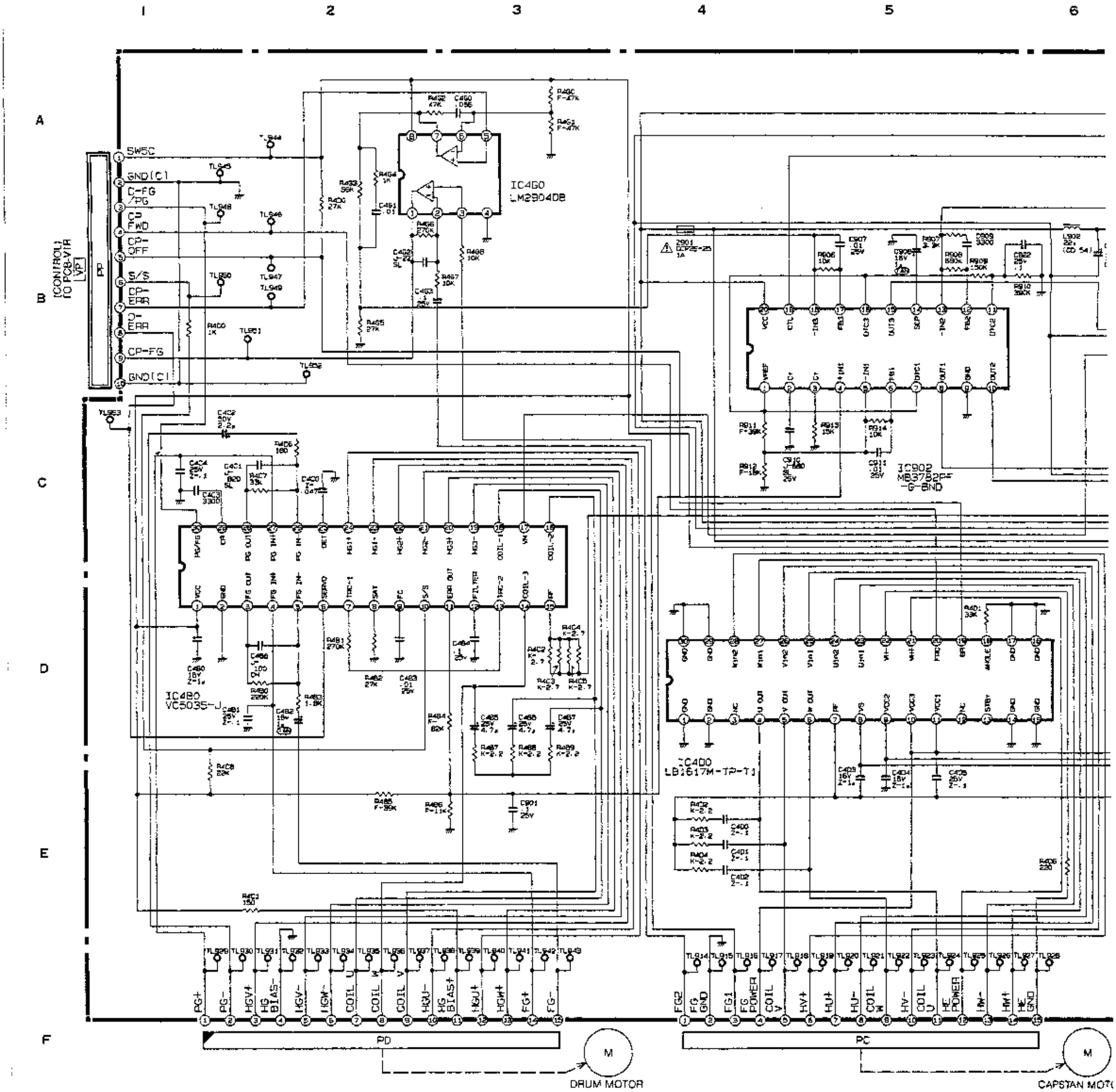
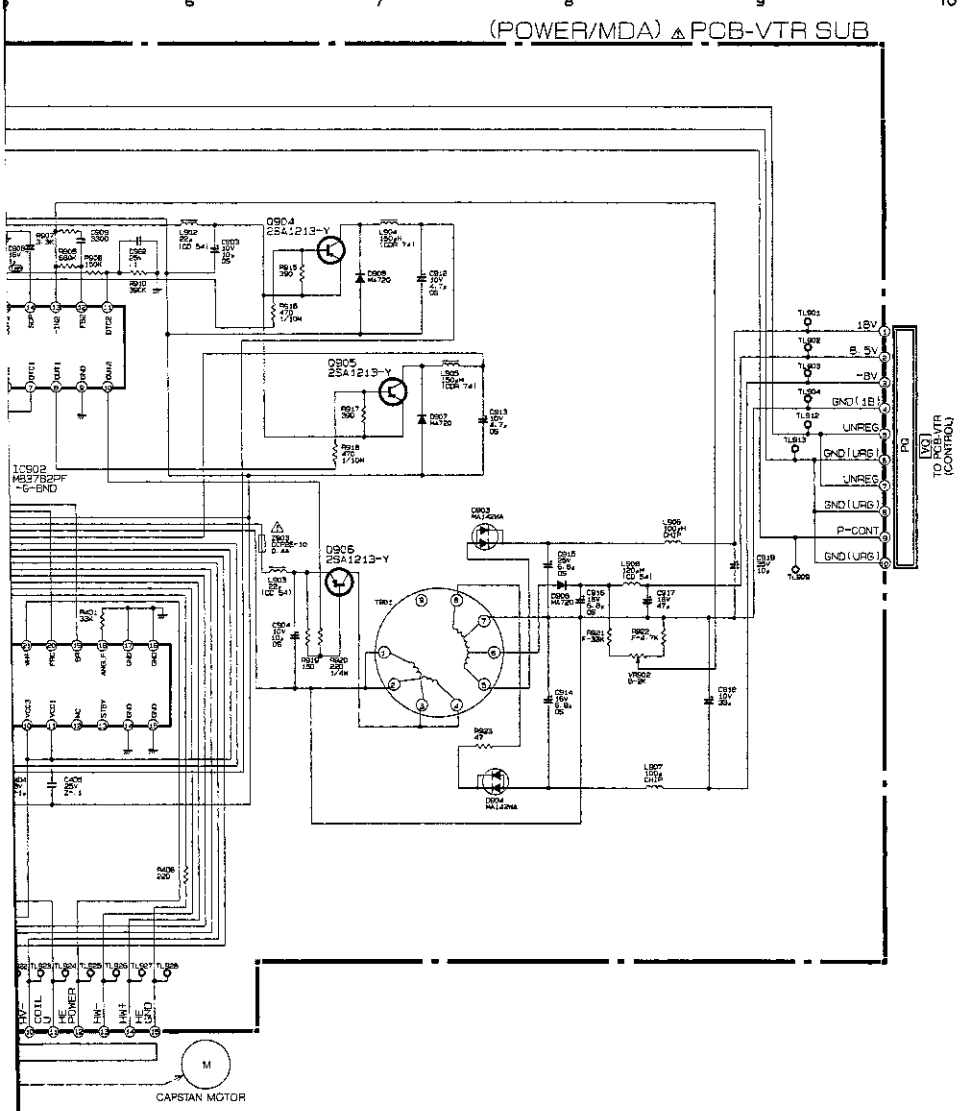
(CONTROL)PCB-VTR
TO TELOP
TO PCB-VTR SUB (POWER/MDA)
TO ACE-VTR SUB (POWER/MDA)



[CONTROL] TO PCB-VTR
VP
PP
SW5C
GND(C)
D-FG /PG
CP FWD
CP-OFF
S/S
CP-ERR
D-ERR
CP-FG
GND(C)
IC460 LM2904DB
IC480 VC5035-J
IC902 MB3782PF-G-BND
IC400 LB1617M-TP-T1
PG+
PG-
HGV+
HG BIAS-
HGV-
HGW-
COIL U
COIL W
COIL V
HGU-
HG BIAS+
HGU+
HGW+
FG+
FG-
PD
DRUM MOTOR
FG2
FG GND
FG1
FG POWER
COIL V
HV+
HU+
HU-
COIL W
HV-
COIL U
HE POWER
HW-
HW+
HE GND
PC
CAPSTAN MOTOR

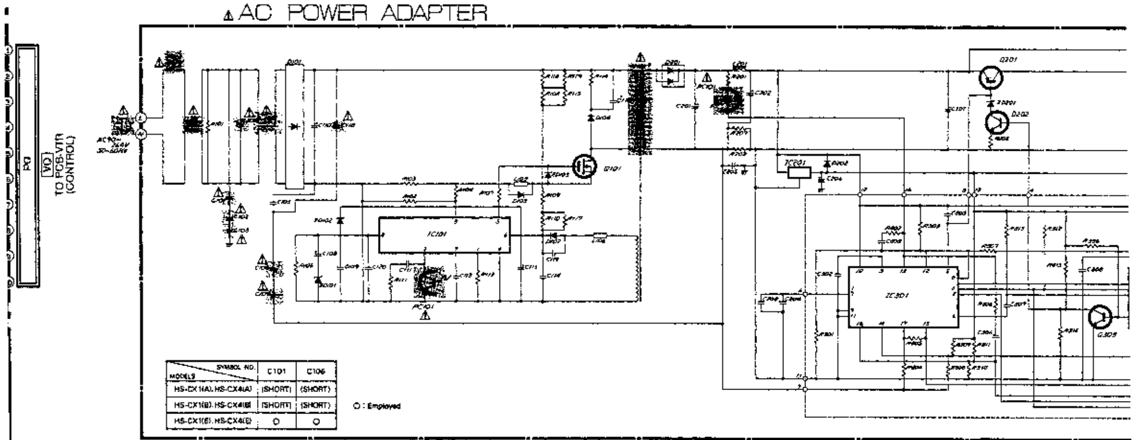
6 7 8 9 10

(POWER/MDA) ⚠ PCB-VTR SUB



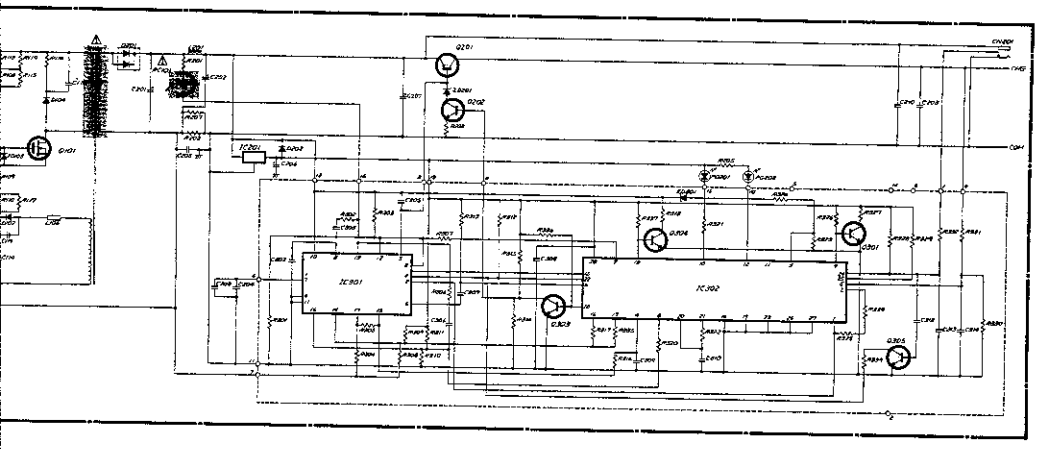
10 11 12 13 14 15

⚠AC POWER ADAPTER



MODELS \ SYMBOL NO.	C101	C106
HS-CX1(A), HS-CX4(A)	(SHORT)	(SHORT)
HS-CX1(B), HS-CX4(B)	(SHORT)	(SHORT)
HS-CX1(E), HS-CX4(E)	○	○

○ : Employed


IC301
IC302
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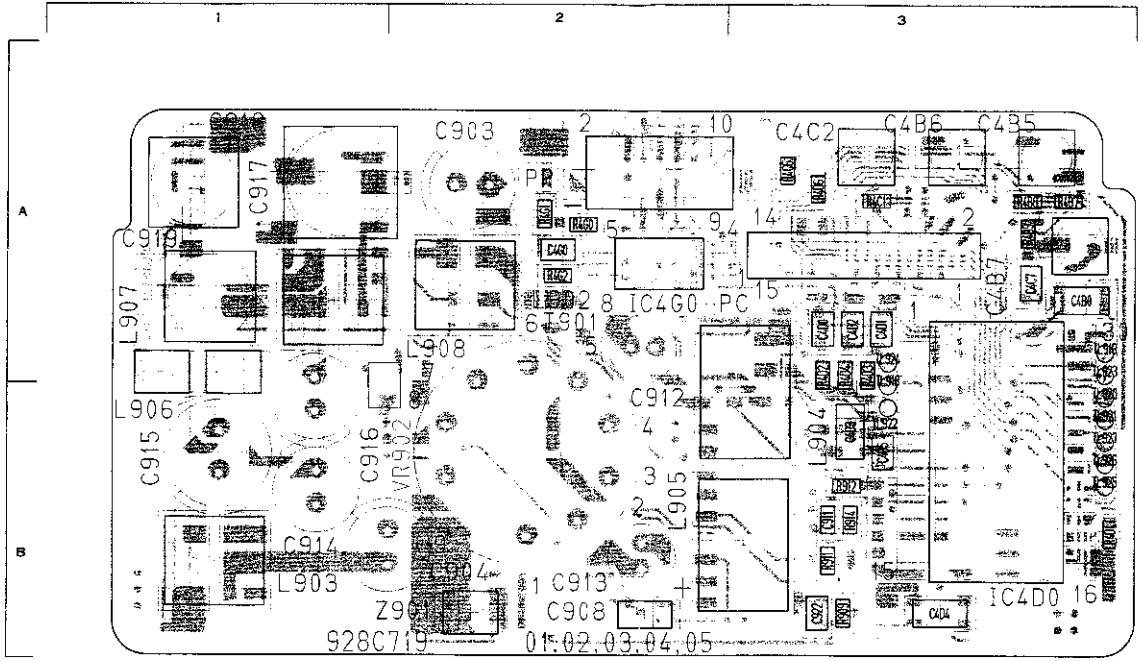
PCB-VTR SUB(A SIDE)

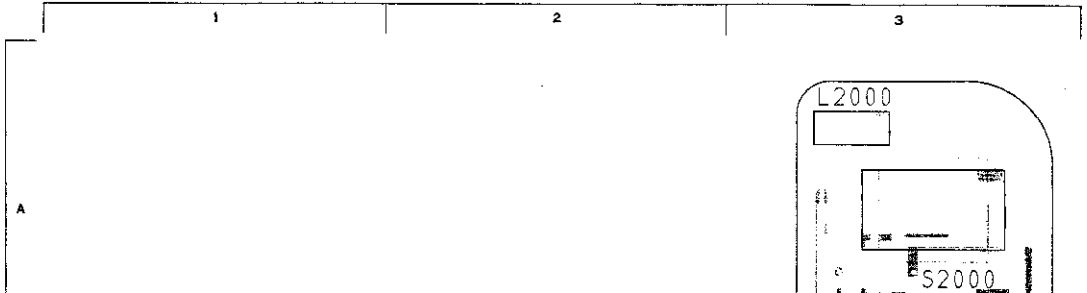


PCB – VTR SUB (A SIDE)

SYMBOL NO.	ADDRESS
C4B0	A-3
C4B5	A-3
C4B6	A-3
C4B7	A-3
C4C2	A-3
C4C7	A-3
C4D0	A-3
C4D1	A-3
C4D2	A-3
C4D3	B-3
C4D4	B-3
C4D5	B-3
C4G0	A-2
C903	A-2
C904	B-2
C908	B-2
C911	B-3
C912	B-2
C913	B-2
C914	B-1
C915	B-1
C916	B-1
C917	A-1
C918	A-1
C919	A-1
C922	B-3
IC4D0	B-3
IC4G0	A-2
L902	A-2
L903	B-1
L904	B-3
L905	B-2

SYMBOL NO.	ADDRESS
L906	B-1
L907	A-1
L908	A-2
R4B7	A-3
R4B8	A-3
R4B9	A-3
R4C1	A-3
R4C6	A-3
R4D1	B-3
R4D2	A-3
R4D3	A-3
R4D4	A-3
R4D6	A-3
R4G0	A-2
R4G1	A-2
R4G2	A-2
R909	B-3
R911	B-3
R912	B-3
R914	B-3
T901	A-2
VR902	B-2
Z901	B-2

PCB-REAR(A SIDE)



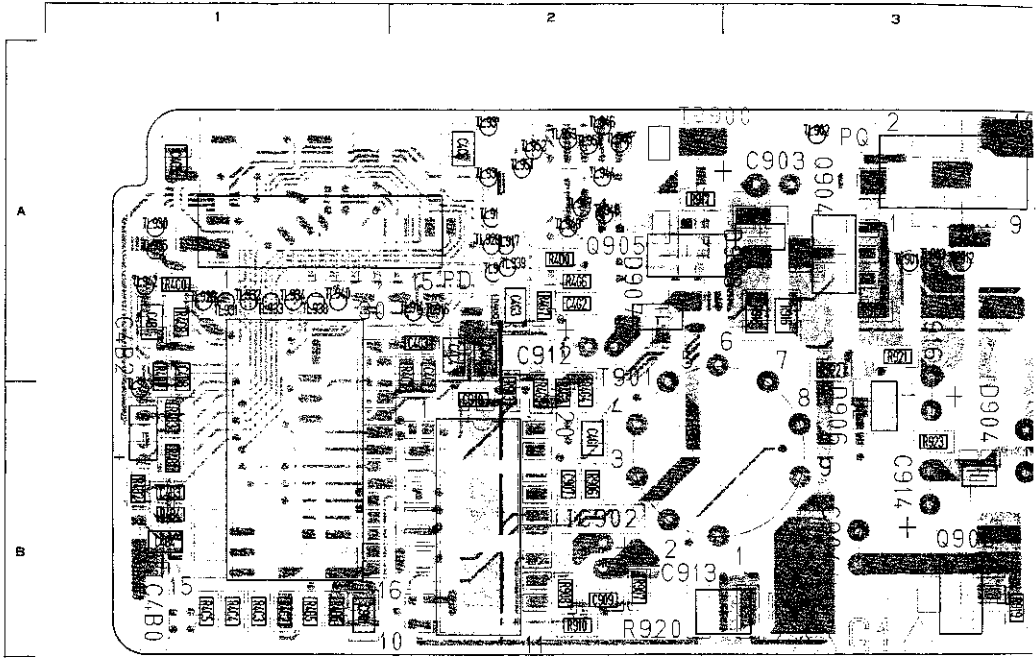
PCB – REAR (A SIDE)

SYMBOL NO.	ADDRESS
C2001	C-2
C2002	C-2
C2005	C-3
C2006	B-3
C2007	C-2
C2008	C-2
C2010	B-3
D2004	C-3
DE2000	C-1
DE2001	C-2
DE2002	C-1
IC2001	C-2
IC2002	C-2

PCB – VTR SUB (A SIDE)

SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS
C4B0	A-3	L906	B-1
C4B5	A-3	L907	A-1
C4B6	A-3	L908	A-2
C4B7	A-3		
C4C2	A-3	R4B7	A-3
C4C7	A-3	R4B8	A-3
C4D0	A-3	R4B9	A-3
C4D1	A-3	R4C1	A-3
C4D2	A-3	R4C6	A-3
C4D3	B-3	R4D1	B-3
C4D4	B-3	R4D2	A-3
C4D5	B-3	R4D3	A-3
C4G0	A-2	R4D4	A-3
C903	A-2	R4D6	A-3
C904	B-2	R4G0	A-2
C908	B-2	R4G1	A-2
C911	B-3	R4G2	A-2
C912	B-2	R909	B-3
C913	B-2	R911	B-3
C914	B-1	R912	B-3
C915	B-1	R914	B-3
C916	B-1		
C917	A-1	T901	A-2
C918	A-1		
C919	A-1	VR902	B-2
C922	B-3		
		Z901	B-2
IC4D0	B-3		
IC4G0	A-2		
L902	A-2		
L903	B-1		
L904	B-3		
L905	B-2		

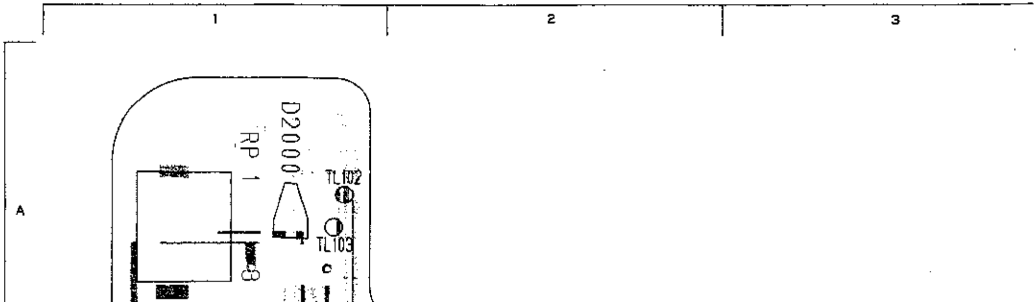
PCB-VTR SUB(B SIDE)



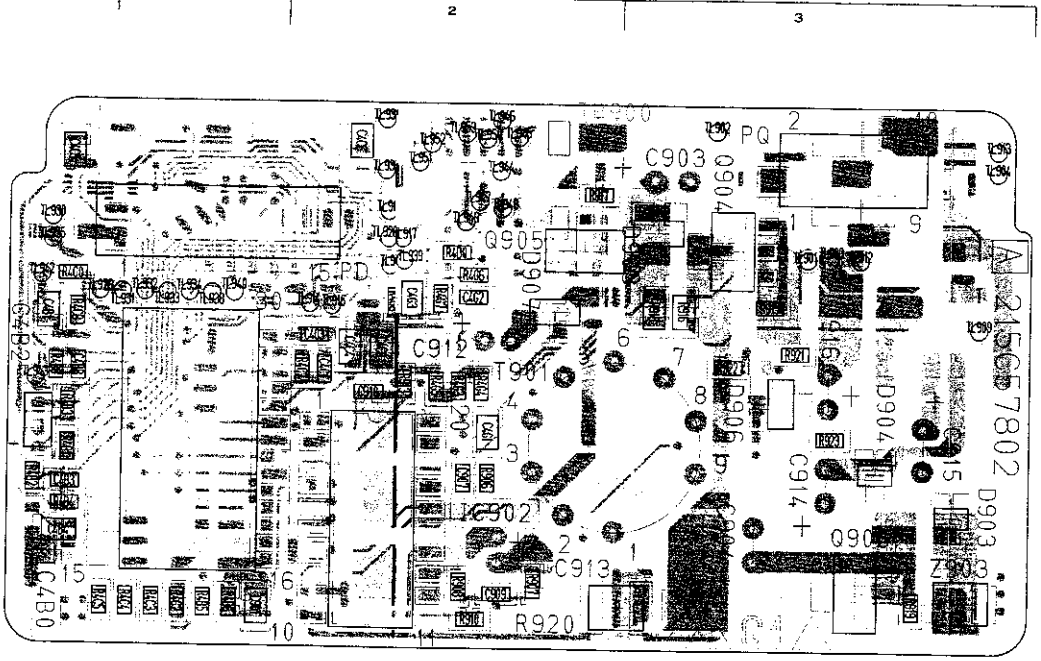
PCB – REAR (A SIDE)

SYMBOL NO.	ADDRESS
C2001	C-2
C2002	C-2
C2005	C-3
C2006	B-3
C2007	C-2
C2009	C-2
C2010	B-3
D2004	C-3
DE2000	C-1
DE2001	C-2
DE2002	C-1
IC2001	C-2
IC2002	C-2
L2000	A-3

PCB-REAR(B SIDE)



PCB-VTR SUB(B SIDE)

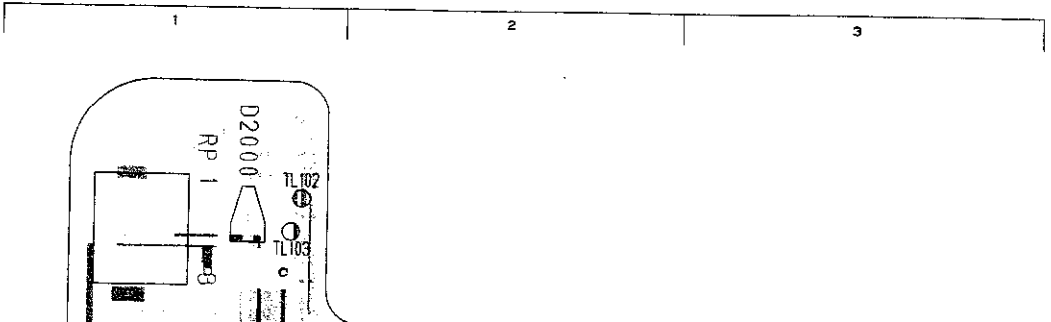


PCB – VTR SUB (B SIDE)

SYMBOL NO.	ADDRESS
C481	A-1
C482	A-1
C483	B-1
C484	B-1
C488	A-1
C4C0	A-2
C4C1	A-2
C4C3	A-2
C4C4	A-2
C4C5	A-1
C4C6	A-2
C4G1	B-2
C4G2	A-2
C4G3	A-2
C901	B-1
C903	A-3
C904	B-3
C907	B-2
C908	B-2
C910	B-2
C912	A-2
C913	B-2
C914	B-3
C915	B-3
C916	A-3
D903	B-3
D904	B-3
D906	B-3
D907	A-2
D908	A-3
IC480	B-1
IC902	B-2
Q904	A-3
Q905	A-2
Q906	B-3
R480	A-1
R481	B-1

SYMBOL NO.	ADDRESS
R482	B-1
R483	B-1
R484	B-1
R485	B-1
R486	B-1
R4C0	A-1
R4C2	B-1
R4C3	B-1
R4C4	B-1
R4C5	B-1
R4C7	A-2
R4C8	A-1
R4D0	A-2
R4G3	B-2
R4G4	B-2
R4G5	B-2
R4G6	A-2
R4G7	A-2
R4G8	A-2
R906	B-2
R907	B-2
R908	B-2
R910	B-2
R913	B-2
R915	A-3
R916	A-3
R917	A-2
R918	A-3
R919	B-3
R920	B-2
R921	A-3
R922	A-3
R923	B-3
T901	A-2
TP900	A-2
Z903	B-3

PCB-REAR(B SIDE)

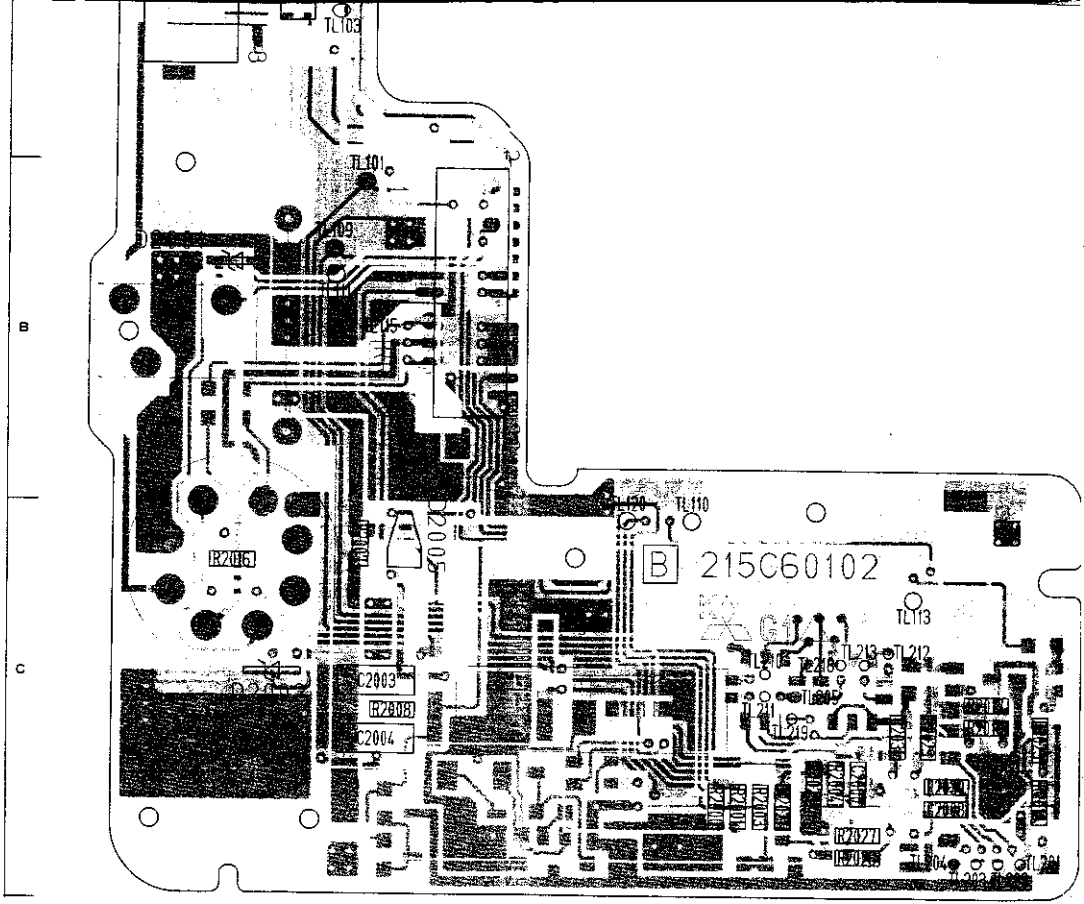


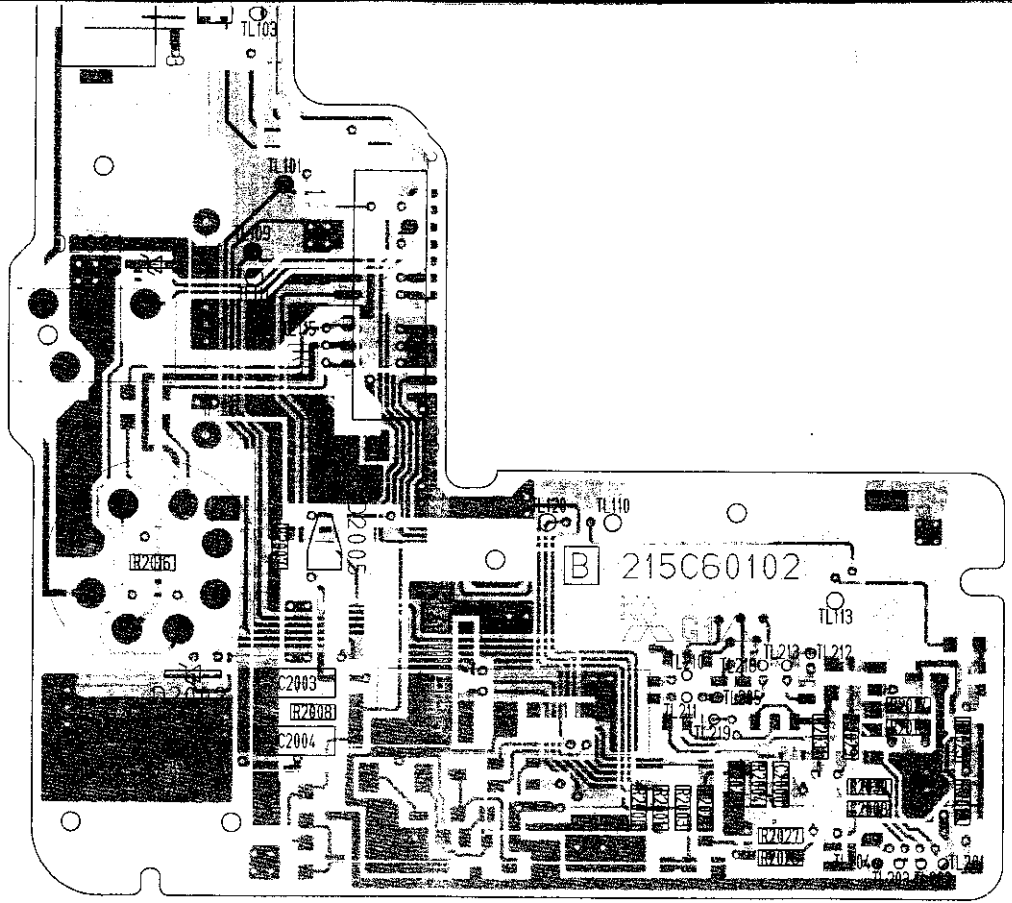
PCB – REAR (B SIDE)

SYMBOL NO.	ADDRESS
C2000	C-3
C2003	C-1
C2004	C-1
C2008	C-3
D2000	A-1
D2001	B-1
D2002	C-1
D2005	C-2
R2000	C-2
R2001	C-3
R2003	C-3
R2004	C-3
R2007	C-1
R2008	C-2
R2016	C-1

IC2001	C-2
IC2002	C-2
L2000	A-3
Q2001	C-2
Q2002	C-2
Q2004	C-1
Q2005	C-1
Q2006	C-1
Q2007	C-1
Q2008	C-1
Q2009	C-1
R2002	C-2
R2005	C-2
R2006	C-3
R2009	B-3
R2010	B-3
R2011	C-1
R2012	C-2
R2013	C-3
R2015	C-2
R2020	B-3
R2022	C-1
R2024	C-1
R2028	C-1
R2032	C-1
R2033	C-1
S2000	A-3

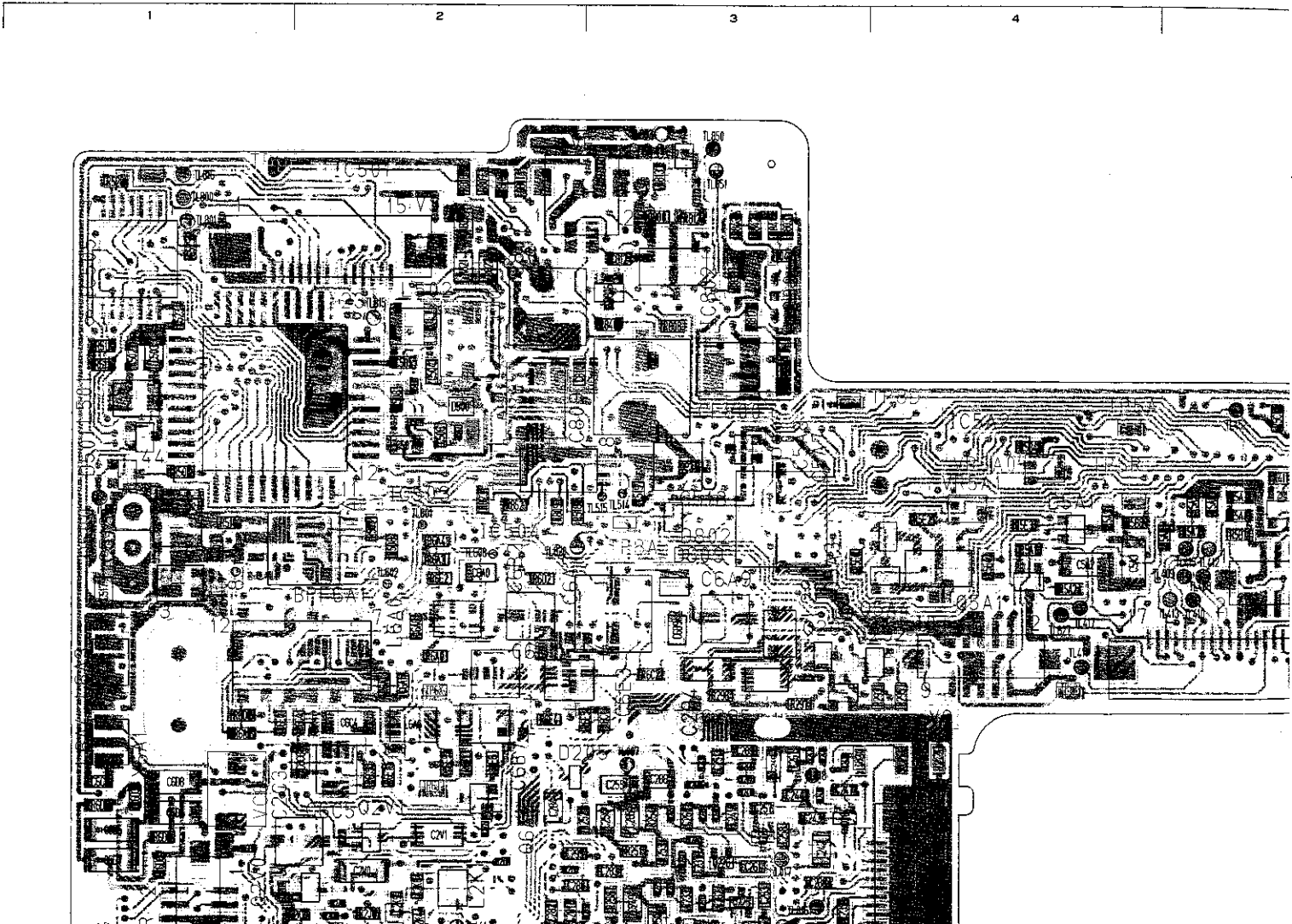
	C-2
2	C-2
	A-3
	C-2
	C-2
	C-1
	C-1
	C-1
	C-1
	C-1
	C-2
	C-2
	C-3
	B-3
	B-3
	C-1
	C-2
	C-3
	C-2
	B-3
	C-1
	C-1
	C-1
	C-1
	A-3

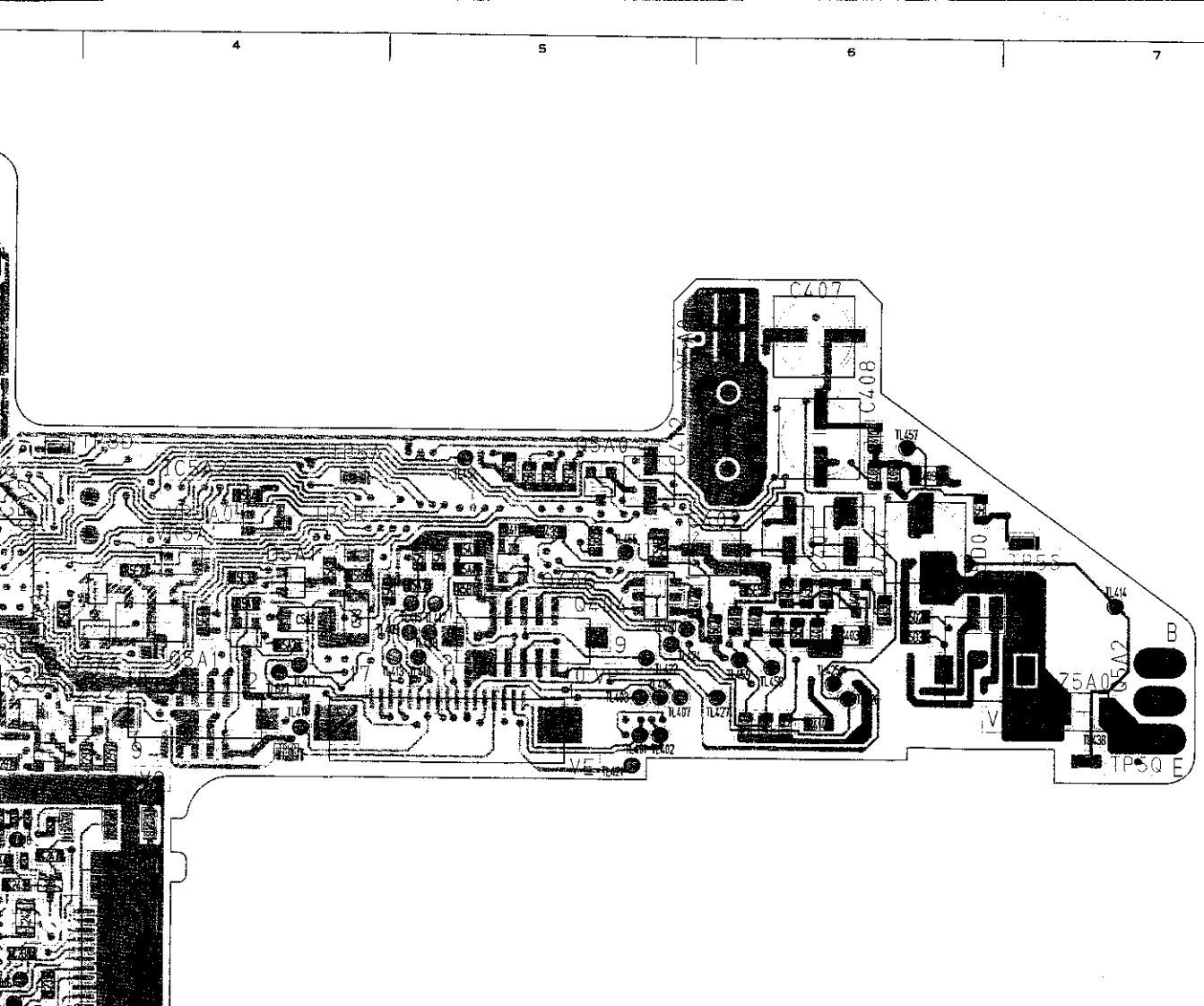




R2001	C-3
R2003	C-3
R2004	C-3
R2007	C-1
R2008	C-2
R2016	C-1
R2017	C-3
R2018	C-3
R2019	C-3
R2021	C-3
R2023	C-3
R2025	C-3
R2026	C-3
R2027	C-3
R2029	C-3
R2030	C-3
R2031	C-3

PCB-VTR(A SIDE)

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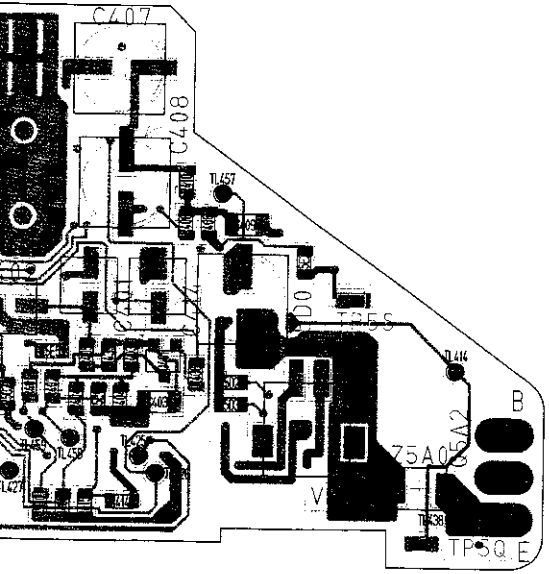
C407
C408
TL457
TL414
TL438
TP50
B
E

PCB – VTR (A SIDE)



SYMBOL NO.	ADDRESS
BPF3A0	E-4
BPF3A1	E-3
BPF6A1	B-2
C204	E-3
C211	D-3
C212	D-3
C215	D-3
C218	D-2
C220	D-2
C221	D-2
C222	D-3
C224	D-3
C225	D-3
C226	D-3
C227	D-3
C228	D-3
C229	D-3
C230	D-3
C233	C-3
C235	D-3
C236	D-3
C237	C-3
C238	C-3
C241	C-3
C242	C-3
C243	C-3
C244	C-3
C247	C-3
C248	C-3
C249	C-3
C250	D-3
C251	C-3
C254	C-3
C255	C-3
C257	C-3
C258	C-3
C260	C-3
C261	C-3
C262	C-3
C263	C-3
C267	C-3
C275	E-3
C278	D-3
C280	C-2
C281	D-2
C282	D-2
C283	C-3
C284	C-2
C285	C-3
C286	C-3
C289	C-3
C294	C-3
C295	C-3
C298	D-3
C299	C-2
C2A2	D-2
C2A3	D-2
C2A4	E-2
C2A7	D-2

SYMBOL NO.	ADDRESS
C2A8	E-2
C2A9	E-2
C2B0	E-2
C2B5	E-2
C2B6	E-1
C2B7	D-1
C2B8	E-1
C2B9	E-2
C2C0	E-2
C2C1	D-1
C2C2	D-1
C2C3	C-1
C2C5	D-2
C2C7	E-2
C2C9	E-2
C2E0	E-2
C2E1	D-2
C2F5	E-3
C2H0	E-3
C2H3	E-3
C2J2	D-2
C2J3	D-2
C2J4	D-2
C2K2	D-2
C2K3	D-2
C2K4	D-2
C2K5	D-2
C2K6	D-2
C2K7	D-2
C2K8	C-2
C2K9	C-2
C2P4	E-1
C2P5	E-1
C2P6	E-1
C2V0	C-2
C2V1	C-2
C301	E-6
C310	E-6
C311	E-6
C312	E-6
C313	E-6
C314	E-6
C320	E-6
C321	E-6
C322	E-6
C323	E-6
C324	E-6
C352	E-5
C353	E-5
C360	E-5
C361	E-5
C362	E-5
C363	E-5
C364	E-5
C3A0	E-4
C3A2	E-4
C3A4	E-4
C3A5	E-5
C3A6	E-5
C3B1	E-4

SYMBOL NO.	ADDRESS
C3B2	E-4
C3C0	E-4
C3C2	E-4
C3C4	E-4
C3C5	E-4
C3C8	E-4
C3D0	E-3
C401	B-6
C402	B-6
C403	B-6
C404	B-6
C405	C-6
C407	A-6
C408	B-6
C409	B-6
C412	B-5
C414	B-6
C502	B-1
C503	B-1
C504	B-2
C505	B-2
C506	B-2
C507	B-2
C508	B-2
C513	B-1
C517	B-1
C518	B-3
C519	B-3
C523	A-1
C525	A-1
C5A2	B-4
C5A3	B-4
C5A6	B-6
C5A7	B-3
C5A8	B-3
C5D0	B-6
C5E0	C-6
C5E1	B-6
C5E2	B-6
C6A0	B-2
C6A1	C-2
C6A2	B-2
C6A7	B-2
C6A8	C-2
C6A9	B-3
C6B1	C-2
C6B2	B-2
C6B7	C-2
C6B9	C-3
C6C4	C-2
C6C5	C-2
C6C6	C-2
C6C7	C-1
C6D5	C-1
C6D6	C-1
C6D7	C-1
C6D8	C-1
C6E0	C-1
C6E3	C-3
C6E5	C-2

SYMBOL NO.	ADDRESS
C800	A-3
C801	A-2
C803	A-3
C804	A-3
C807	A-2
C809	B-2
C810	B-2
C812	A-3
CF800	B-3
D201	D-2
D202	D-3
D204	C-3
D205	C-2
D206	C-3
D207	D-3
D208	D-3
D2A1	E-2
D500	B-2
D501	B-1
D5A1	B-4
D801	A-3
D802	B-3
D806	A-3
D807	B-3
D809	B-3
IC501	A-2
IC503	B-2
IC504	B-2
IC505	A-1
IC5A2	B-4
IC802	A-3
L202	E-3
L203	E-3
L204	D-3
L293	B-3
L2A5	E-2
L2F3	E-3
L2H0	E-3
L2H1	E-3
L2K1	C-2
L300	E-6
L320	E-6
L501	B-1
L502	A-2
L503	B-1
L6A0	C-2
L6A0	C-2
L6A3	C-1
L6A4	C-1
L6A6	C-2
Q200	D-3
Q202	D-3
Q203	D-3
Q222	D-3
Q223	D-3

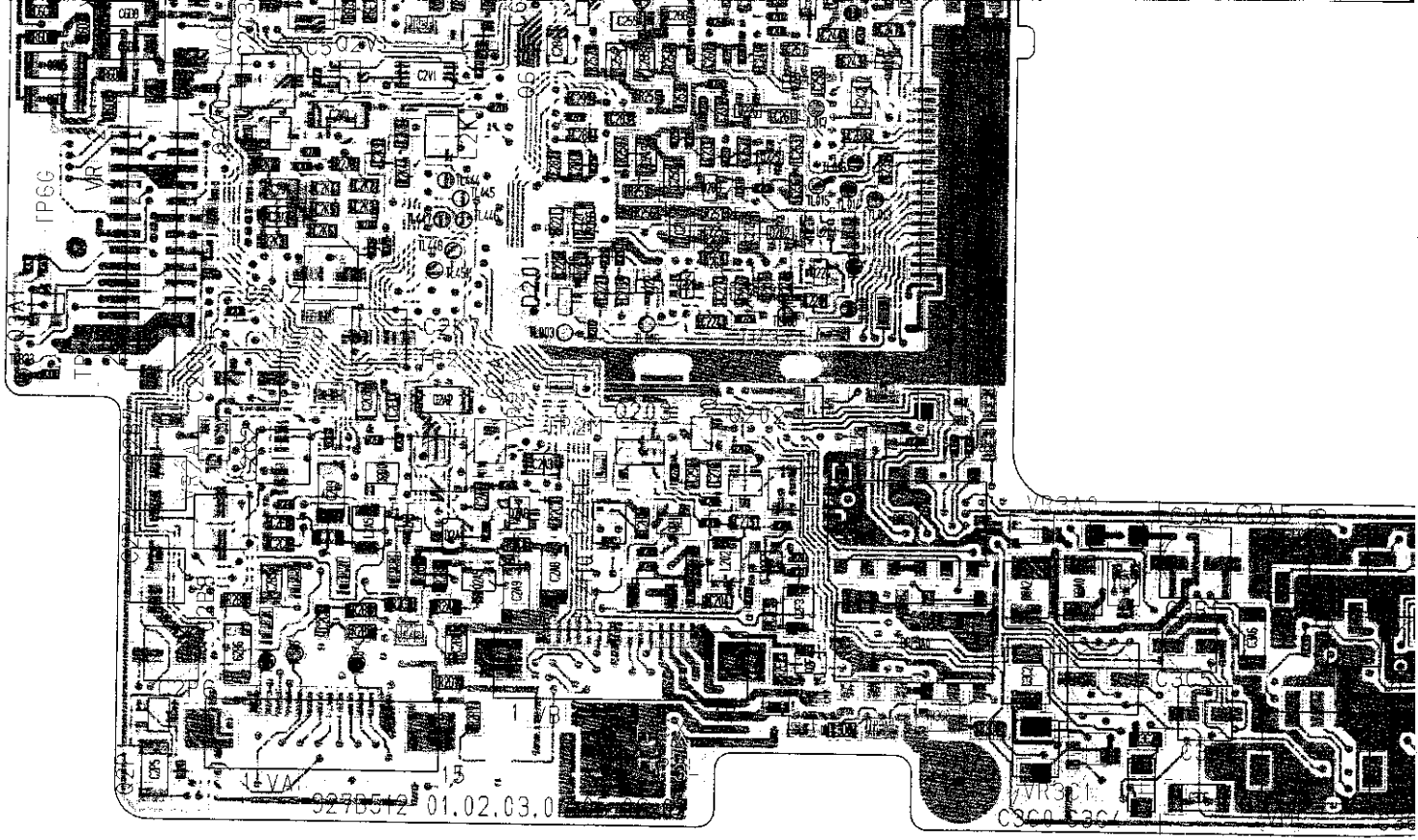
SYMBOL NO.	ADDRESS
Q224	D-3
Q225	D-3
Q226	C-3
Q227	C-3
Q292	C-4
Q295	C-3
Q2A5	E-2
Q2A6	E-2
Q2A8	E-2
Q2B0	D-2
Q2F4	E-3
Q2F5	E-3
Q2H1	E-3
Q2P1	E-1
Q2V0	C-1
Q2V1	C-2
Q3A1	D-1
Q3D0	D-3
Q401	B-6
Q404	B-5
Q406	B-5
Q500	B-1
Q5A0	B-5
Q5A1	B-4
Q5A2	B-7
Q5A3	B-3
Q5A4	B-4
Q6A5	C-2
R204	D-3
R206	E-3
R207	C-3
R208	E-3
R215	E-3
R217	D-3
R218	E-3
R219	D-3
R220	D-3
R221	D-2
R223	D-3
R224	D-3
R225	D-3
R228	C-3
R229	C-3
R231	D-3
R232	D-3
R233	C-3
R234	C-3
R235	C-3
R238	C-3
R239	C-3
R240	C-3
R241	D-3
R242	C-3
R243	C-3
R244	C-3
R247	C-3
R248	C-3
R249	C-3
R250	C-3

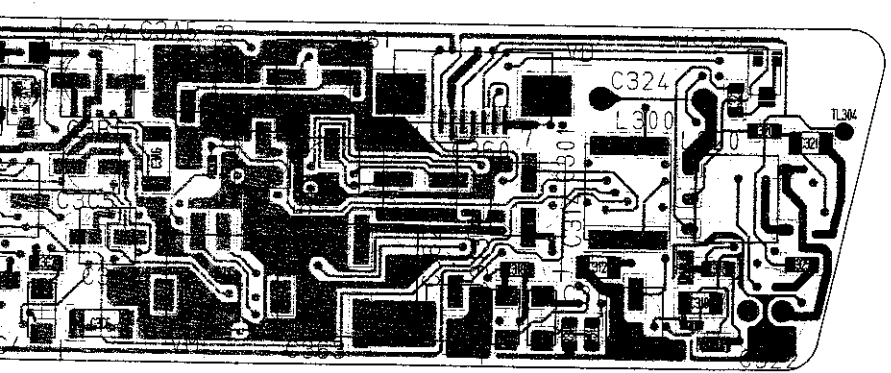
SYMBOL NO.	ADDRESS
R251	C-3
R252	C-2
R253	C-3
R254	C-3
R256	D-3
R257	D-3

SYMBOL NO.	ADDRESS
R315	E-6
R318	E-6
R319	E-5
R325	E-6
R352	E-5

SYMBOL NO.	ADDRESS
R5E0	B-3
R5E2	B-3
R5E3	B-4
R5E4	B-4
R5E5	B-6

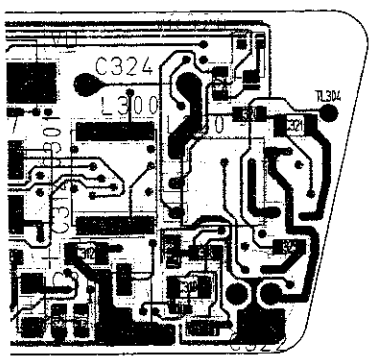
SYMBOL NO.	ADDRESS
TP3E	E-6
TP3F	E-6
TP3H	D-4
TP3L	E-3
TP3R	D-4





SYMBOL NO.	ADDRESS
R251	C-3
R252	C-2
R253	C-3
R254	C-3
R256	D-3
R257	D-3
R258	C-3
R259	D-3
R264	D-2
R265	D-2
R268	D-3
R269	D-3
R270	D-3
R271	D-3
R275	D-3
R279	C-2
R293	C-4
R295	C-4
R296	C-3
R297	C-3
R2A3	E-2
R2A4	E-2
R2B3	E-2
R2B4	E-2
R2B5	E-2
R2B6	E-2
R2B8	E-2
R2B9	E-1
R2C2	E-2
R2C3	D-1
R2C7	E-2
R2C8	E-2
R2C9	D-2
R2D7	E-2
R2E0	E-2
R2E1	D-2
R2E2	E-3
R2E6	D-2
R2G1	E-3
R2G2	E-3
R2G3	E-3
R2H4	E-3
R2H5	E-3
R2J6	D-2
R2J8	D-2
R2J9	D-2
R2K0	D-2
R2K1	D-2
R2K2	D-2
R2K3	D-2
R2K4	D-2
R2P4	E-1
R2P7	E-2
R2V0	C-2
R2V1	C-1
R2V2	C-2
R2V3	C-2
R308	E-6
R311	E-6
R314	E-6

SYMBOL NO.	ADDRE
R315	E-6
R318	E-6
R319	E-5
R325	E-6
R352	E-5
R3A7	D-1
R3C0	E-4
R3C2	E-4
R3C6	D-1
R3C7	D-1
R3D0	D-4
R3D7	D-4
R3D8	D-4
R401	B-6
R402	B-6
R403	B-6
R404	B-6
R405	B-6
R406	B-6
R408	B-6
R410	B-6
R411	B-5
R412	B-6
R414	C-6
R415	C-6
R435	B-6
R436	B-6
R439	B-5
R500	B-2
R501	B-2
R502	B-2
R505	B-1
R507	B-2
R508	B-2
R509	B-1
R510	B-1
R511	B-1
R513	B-1
R518	B-2
R526	A-1
R5A1	B-4
R5A2	B-4
R5A3	B-5
R5A4	B-5
R5A5	B-5
R5A6	B-5
R5A7	B-5
R5A8	B-5
R5A9	B-4
R5B1	B-5
R5B2	B-5
R5B3	B-5
R5B4	B-4
R5B5	B-5
R5B7	B-5
R5B8	B-4
R5C1	B-5
R5C2	B-8
R5D2	B-6
R503	B-6



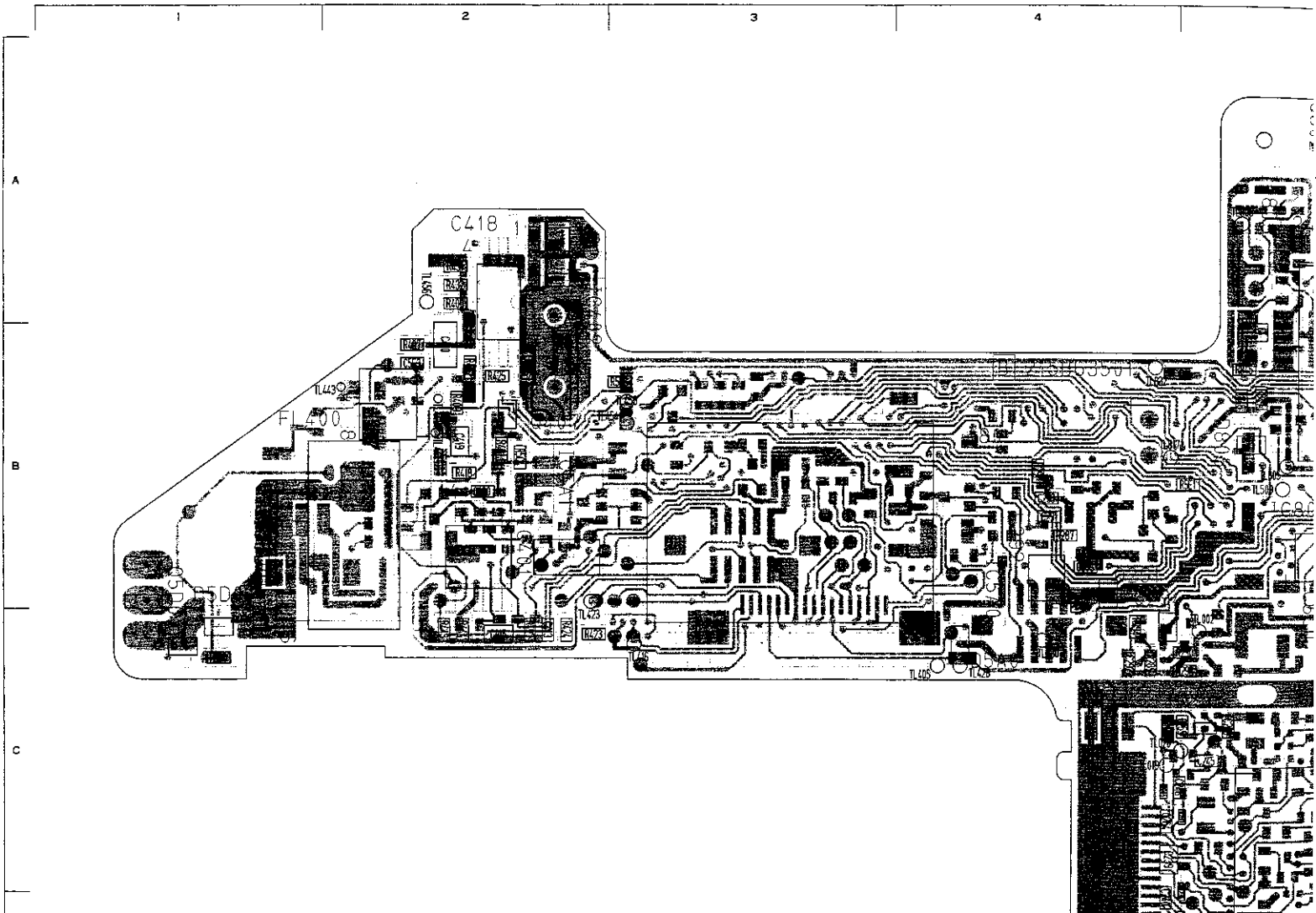
SYMBOL NO.	ADDRESS
R251	C-3
R252	C-2
R253	C-3
R254	C-3
R256	D-3
R257	D-3
R258	C-3
R259	D-3
R264	D-2
R266	D-2
R268	D-3
R269	D-3
R270	D-3
R271	D-3
R275	D-3
R279	C-2
R293	C-4
R295	C-4
R296	C-3
R297	C-3
R2A3	E-2
R2A4	E-2
R2B3	E-2
R2B4	E-2
R2B5	E-2
R2B6	E-2
R2B8	E-2
R2B9	E-1
R2C2	E-2
R2C3	D-1
R2C7	E-2
R2C8	E-2
R2C9	D-2
R2D7	E-2
R2E0	E-2
R2E1	D-2
R2E2	E-3
R2E6	D-2
R2G1	E-3
R2G2	E-3
R2G3	E-3
R2H4	E-3
R2H5	E-3
R2J6	D-2
R2J8	D-2
R2J9	D-2
R2K0	D-2
R2X1	D-2
R2K2	D-2
R2K3	D-2
R2K4	D-2
R2P4	E-1
R2P7	E-2
R2V0	C-2
R2V1	C-1
R2V2	C-2
R2V3	C-2
R308	E-6
R311	E-6
R314	E-6

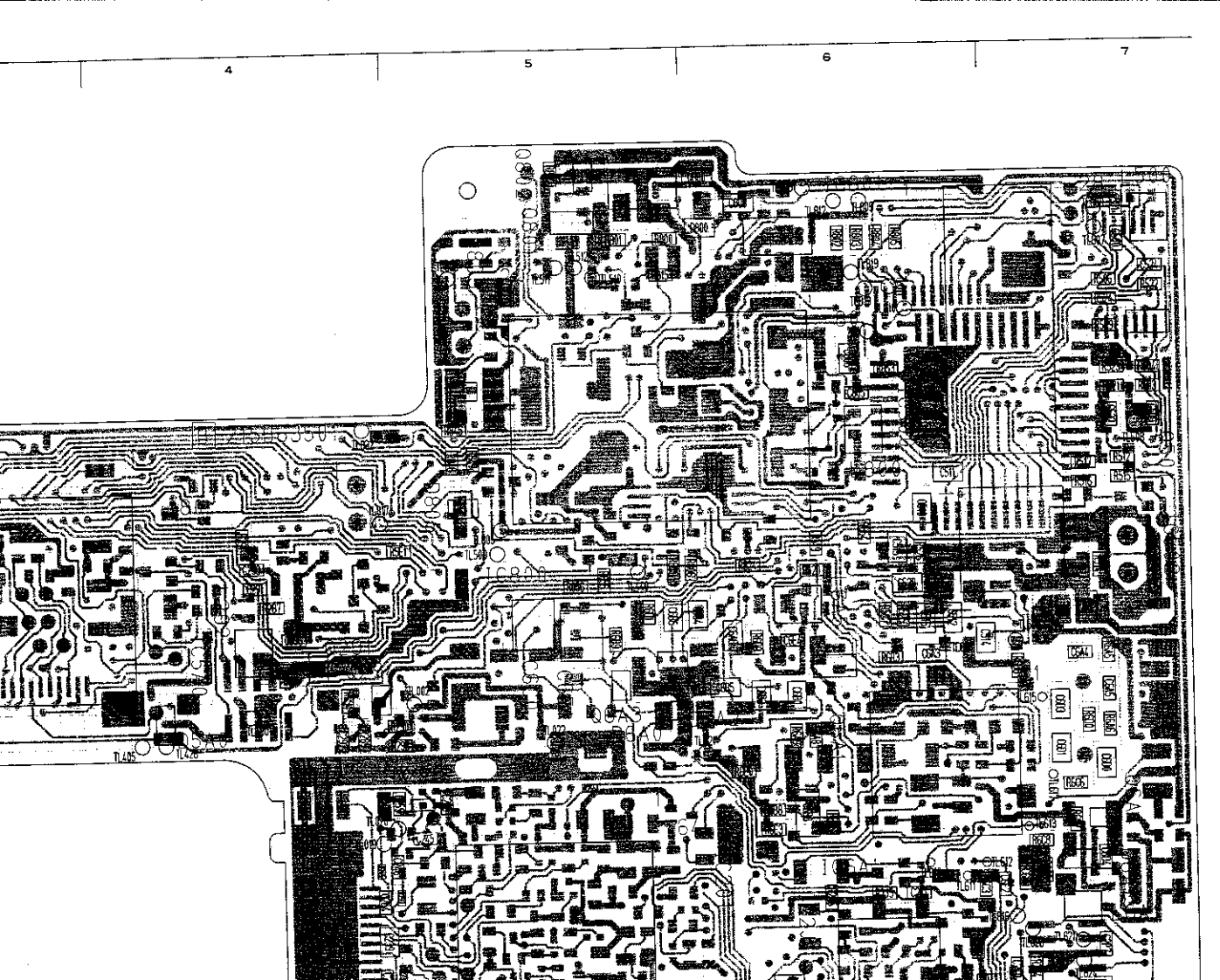
SYMBOL NO.	ADDRESS
R315	E-6
R318	E-6
R319	E-5
R325	E-6
R352	E-5
R3A7	D-1
R3C0	E-4
R3C2	E-4
R3C6	D-1
R3C7	D-1
R3D0	D-4
R3D7	D-4
R3D8	D-4
R401	B-6
R402	B-6
R403	B-6
R404	B-6
R405	B-6
R406	B-6
R408	B-6
R410	B-6
R411	B-5
R412	B-6
R414	C-6
R415	C-6
R435	B-6
R436	B-6
R439	B-5
R500	B-2
R501	B-2
R502	B-2
R505	B-1
R507	B-2
R508	B-2
R509	B-1
R510	B-1
R511	B-1
R513	B-1
R518	B-2
R52B	A-1
R5A1	B-4
R5A2	B-4
R5A3	B-5
R5A4	B-5
R5A5	B-5
R5A6	B-5
R5A7	B-5
R5A8	B-5
R5A9	B-4
R5B1	B-6
R5B2	B-5
R5B3	B-5
R5B4	B-4
R5B5	B-5
R5B7	B-5
R5B8	B-4
R5C1	B-5
R5C2	B-6
R5D2	B-6
R5D3	B-6

SYMBOL NO.	ADDRESS
R5E0	B-3
R5E2	B-3
R5E3	B-4
R5E4	B-4
R5E5	B-6
R6A0	C-2
R6A1	C-2
R6A2	C-1
R6A3	B-2
R6A4	B-2
R6C1	C-3
R6C2	C-3
R6C4	C-2
R6C5	C-2
R6D2	B-3
R6D3	C-1
R6D4	C-1
R6D5	C-1
R6D6	C-1
R6D7	C-1
R6E1	C-2
R6E4	C-2
R6E5	C-2
R6E6	C-2
R6E7	C-2
R6F2	C-1
R6J7	C-2
R807	A-2
R808	A-3
R809	B-2
R810	A-2
R812	A-3
R813	A-3
R817	A-3
R818	A-2
R820	A-2
R821	A-2
R822	A-2
R823	B-2
R833	A-3
R840	A-3
R841	A-3
R842	A-3
R843	A-3
R852	B-2
TP25	E-1
TP29	D-2
TP2A	D-2
TP2C	E-2
TP2E	E-2
TP2K	E-1
TP2L	D-1
TP2M	D-2
TP2S	D-2
TP2V	E-2
TP2X1	C-3
TP2X2	C-4
TP2Y	C-4
TP3A	E-3

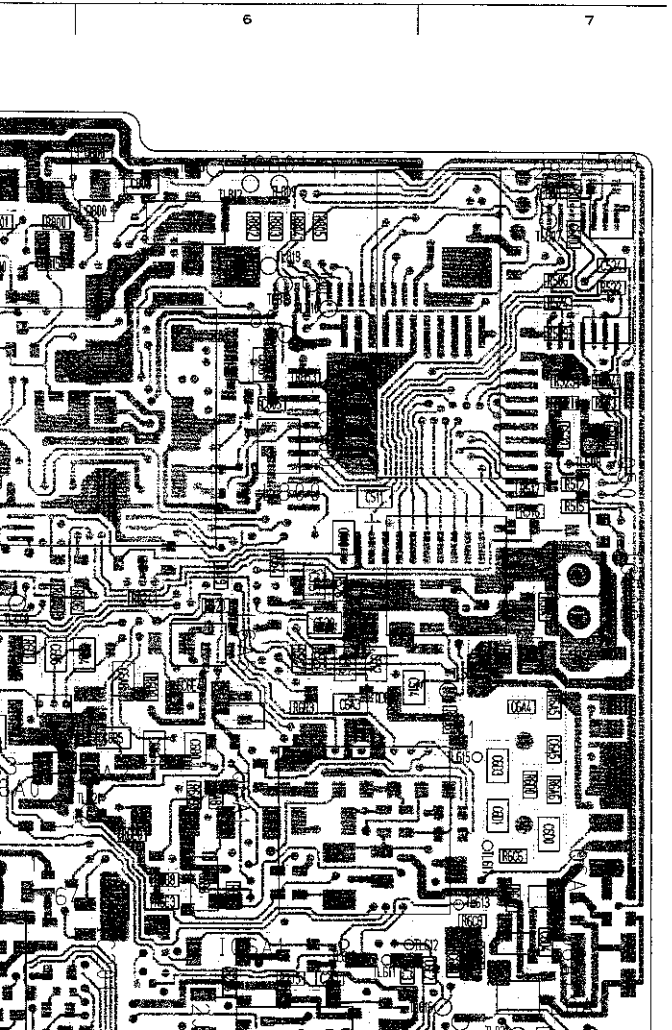
SYMBOL NO.	ADDRESS
TP3E	E-6
TP3F	E-5
TP3H	D-4
TP3L	E-3
TP3R	D-4
TP3X1	D-3
TP3X2	D-3
TP3Y	D-3
TP500	B-2
TP5A	B-4
TP5P	C-4
TP5Q	C-7
TP5R	B-4
TP5S	B-7
TP5X	E-3
TP86	D-7
TP8J	C-2
TP8X	C-2
TP8A	B-3
TP8D	B-4
TP8E	A-1
VC500	B-2
VC6A1	C-1
VC800	B-2
VR2A0	D-2
VR2A1	D-1
VR320	E-6
VR3A0	E-4
VR3A1	E-4
VR3C0	E-4
VR3C1	E-4
VR3D0	D-4
VR5A0	B-4
VR5A1	B-4
X5A0	A-5
X6A1	C-1
X800	A-3
Z5A0	B-7

PCB-VTR(B SIDE)





PCB – VTR (B SIDE)



SYMBOL NO.	ADDRESS
C200	D-5
C201	D-5
C202	D-5
C203	D-5
C205	E-5
C206	D-5
C207	D-5
C208	D-4
C209	D-4
C210	D-4
C213	D-6
C214	D-5
C216	D-5
C217	D-5
C219	D-5
C223	D-5
C231	D-5
C232	D-5
C234	D-4
C239	C-4
C240	D-4
C245	C-5
C246	C-5
C256	C-5
C259	C-5
C264	C-4
C266	D-4
C291	B-4
C292	C-4
C293	B-4
C296	B-4
C297	D-4
C2A0	D-7
C2A0	D-6
C2A5	E-6
C2A6	E-6
C2B1	E-6
C2B2	E-6
C2B3	E-6
C2B4	E-6
C2C6	E-6
C2C8	E-6
C2D0	E-6
C2D1	E-6
C2D2	E-5
C2D3	E-5
C2D4	E-5
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C2F0	E-5
C2F1	E-5
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C2F9	E-5
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C2H2	E-5
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C2J9	D-6
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C2P7	C-7
C2P8	E-6
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C308	E-2
C309	E-2
C325	E-2
C355	E-3
C356	E-3
C358	E-3
C357	E-3
C358	E-3
C359	E-2
C3A1	E-4
C3A3	E-4
C3A7	E-3
C3A8	E-3
C3A9	E-3
C3B0	E-3
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C3D8	E-4
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C410	B-2
C413	C-2
C415	C-2
C418	A-2
C419	B-2
C42D	B-2
C500	A-7
C501	A-7
C509	B-7
C510	B-6
C511	B-6
C512	B-6
C514	B-6
C515	B-6
C518	B-6
C520	B-6
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C5E3	B-2
C6A3	B-6
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C6A5	C-7
C6A6	B-6
C6B0	C-6
C6B3	C-6
C6B4	B-6
C6B5	C-6
C6B6	B-5
C6B7	C-6
C6B8	C-6
C6C9	B-5
C6C8	C-7
C6D0	C-7
C6D1	C-7
C6D2	C-7
C6D3	C-7
C6D4	C-7
C6E1	C-5
C6E2	C-7
C6E4	B-6
C803	A-5
C805	B-6
C808	A-6
C8D8	A-6
D2A0	D-6
D2A2	D-6
D2A3	E-6
D2A4	E-6
D2J0	D-7
D2P0	E-6
E3A0	E-4
E5A0	C-4
E5D0	B-1
E6A0	C-5
E6A1	C-7
E6A2	C-6
E800	A-6
E803	A-5
E805	B-5
EL6A1	D-7
FL400	B-2
IC201	C-6
IC2A1	D-6
IC2J1	C-6
IC2P1	E-7
IC2R1	D-7
IC300	E-2
IC350	E-2
IC5A0	E-4
IC401	B-2
IC402	A-2
IC500	B-6
IC502	B-7
IC5A0	B-4
IC5A1	B-2
IC5D0	B-1
IC6A1	C-6
IC800	B-5
IC801	A-6
IC803	A-5
L200	E-5
L201	D-5
L292	B-4
L2A2	E-6
L2A4	E-6
L2D1	E-5
L2D2	E-5
L2F0	E-5
L2F1	E-5
L2F2	E-5
L2H2	D-6
L2P1	E-6
L321	E-1
L3A0	E-4
L500	A-7
L6A1	C-7
L6A5	B-6
L800	B-6
Q201	D-5
Q205	D-5
Q221	D-6
Q228	C-5
Q291	B-4
Q294	B-4
Q2A1	D-5
Q2A3	E-6
Q2A4	E-6
Q2A7	E-6
Q2A9	D-6
Q2D0	E-5
Q2D1	E-5
Q2D2	E-6
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Q2H2	E-5
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Q5D0	B-1
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Q6A3	C-5
Q6A4	C-7
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Q802	A-5
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R265	D-5
R267	D-5
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R289	C-4
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R292	B-4
R294	C-4
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R2A6	D-6
R2A7	D-5
R2A8	D-6
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R2B1	E-6
R2B2	E-6
R2B7	D-6
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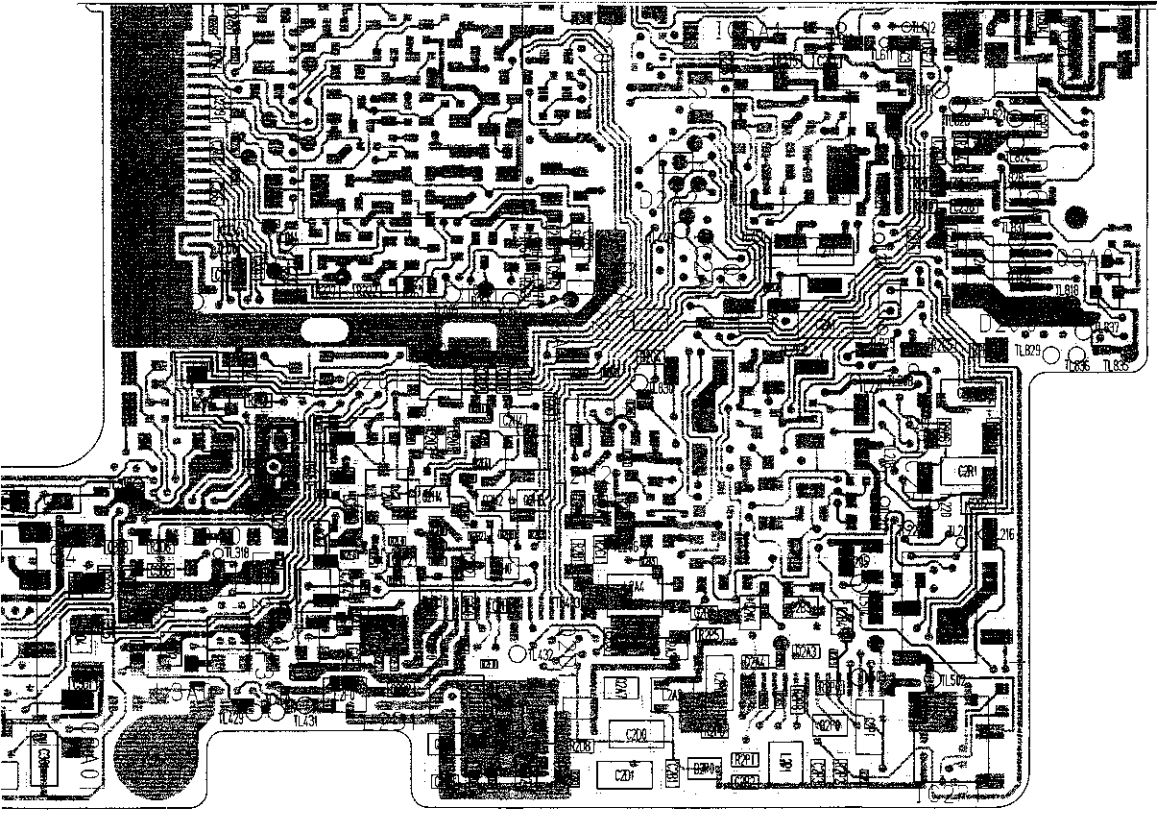

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R2C6	D-7		R307
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R2E4	D-5		R323
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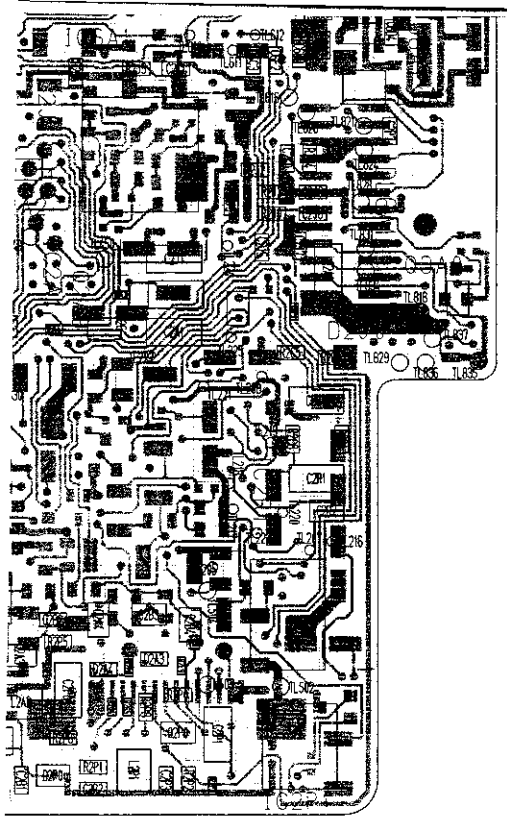

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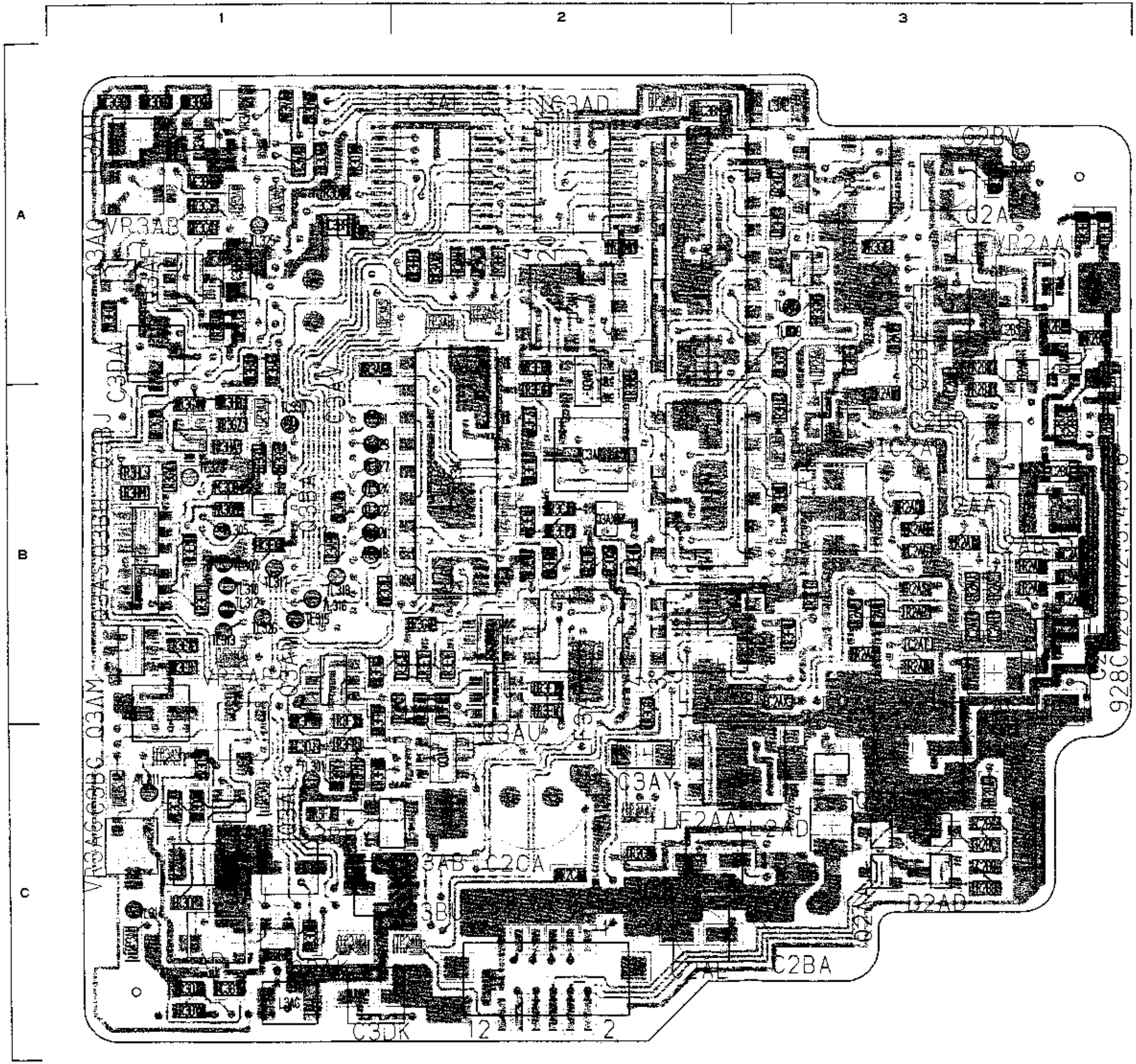
TL456	A-2
TL463	A-2
TL606	A-5

HS-CX1(A)/(B)/(E)
HS-CX4(A)/(B)/(E)(6/7)

PCB-SD/PC(A SIDE)



PCB – SD／PC (A SIDE)

SYMBOL NO.	ADDRESS
C2AC	C-2
C2AD	C-3
C2AE	C-2
C2AF	B-3
C2AG	B-3
C2AH	B-3
C2AJ	B-3
C2AK	B-3
C2AL	B-3
C2AT	B-3
C2AU	B-3
C2AV	B-3
C2AX	B-3
C2BA	C-3
C2BB	C-3
C2BC	C-3
C2BE	A-3
C2BG	C-1
C2BJ	A-3
C2BM	B-3
C2BN	B-3
C2BQ	B-3
C2BR	B-3
C2BS	A-3
C2BU	B-3
C2BV	A-3
C2CA	C-2
C3AR	B-2
C3AV	B-1
C3AY	C-2
C3BH	C-1
C3BM	A-2
C3BP	A-1
C3BT	A-1
C3BU	C-2
C3BV	C-1
C3CJ	C-1
C3CK	A-1
C3DA	A-1
C3DB	B-1
C3DC	B-2
C3DD	A-1
C3DJ	C-1
C3DK	C-1
C3VA	A-1
D2AD	C-3
D2AE	C-3
D2AK	A-3
D2AL	B-3
D3AB	C-2
IC2AD	B-3
IC3AD	A-2
IC3AE	A-2
L2AB	B-3
L2AC	B-3
L2AD	C-3
L3AE	A-3

SYMBOL NO.	ADDRESS
L3AG	C-1
L3AH	A-1
L3AJ	C-1
LF2AA	C-2
LF3AA	B-2
LF3AB	A-2
LF3AC	B-2
LF3AE	B-2
LF3AF	B-2
LF3AG	A-3
LF3AH	A-2
Q2AA	C-3
Q2AB	C-3
Q2AE	A-3
Q2AF	A-3
Q3AD	A-1
Q3AF	A-1
Q3AK	C-1
Q3AL	C-1
Q3AM	B-1
Q3AQ	A-1
Q3AR	A-2
Q3AS	B-1
Q3AT	B-2
Q3AU	C-2
Q3AV	C-2
Q3AW	B-1
Q3AX	B-2
Q3BA	B-1
Q3BG	A-3
Q3BH	B-1
Q3BJ	B-1
R2AC	B-3
R2AD	B-3
R2AE	B-3
R2AG	B-3
R2AH	B-3
R2AN	B-3
R2AP	B-3
R2AQ	B-3
R2AR	B-3
R2AS	B-3
R2AT	B-3
R2AU	B-3
R2AV	A-3
R2AW	B-3
R2BA	C-3
R2BB	C-3
R2BC	C-3
R2BD	B-3
R2BJ	B-3
R2BK	A-3
R2BL	A-3
R2BM	A-3
R2BP	B-3
R2CA	C-2
R2CB	C-2

SYMBOL NO.	ADDRE
R3AK	A-1
R3AL	A-2
R3AP	B-1
R3AQ	B-1
R3AW	A-2
R3AX	A-2
R3BA	A-1
R3BC	A-1
R3BF	A-2
R3BH	B-3
R3BP	B-2
R3BQ	A-2
R3CB	B-1
R3CC	B-2
R3CJ	B-2
R3CQ	A-1
R3CS	A-1
R3CT	A-1
R3CU	A-1
R3DG	A-1
R3DH	A-1
R3DM	C-1
R3DP	C-1
R3DQ	C-1
R3DS	C-1
R3DT	A-1
R3DU	A-1
R3DV	A-1
R3DW	A-1
R3DY	C-1
R3DZ	C-1
R3EA	B-1
R3EB	B-1
R3EC	A-1
R3ED	A-3
R3EE	A-3
R3EF	A-2
R3EG	B-2
R3EK	B-1
R3EL	B-1
R3EM	B-1
R3EN	B-2
R3EP	B-2
R3EQ	B-2
R3ER	B-2
R3EU	B-2
R3EV	B-2
R3EW	B-2
R3EX	B-2
R3EY	B-2
R3EZ	B-2
R3FA	B-2
R3FB	B-2
R3FC	B-2
R3FJ	C-1
R3FK	C-1
R3FM	C-1
R3FN	B-1
R3FP	C-1
R3FQ	B-1

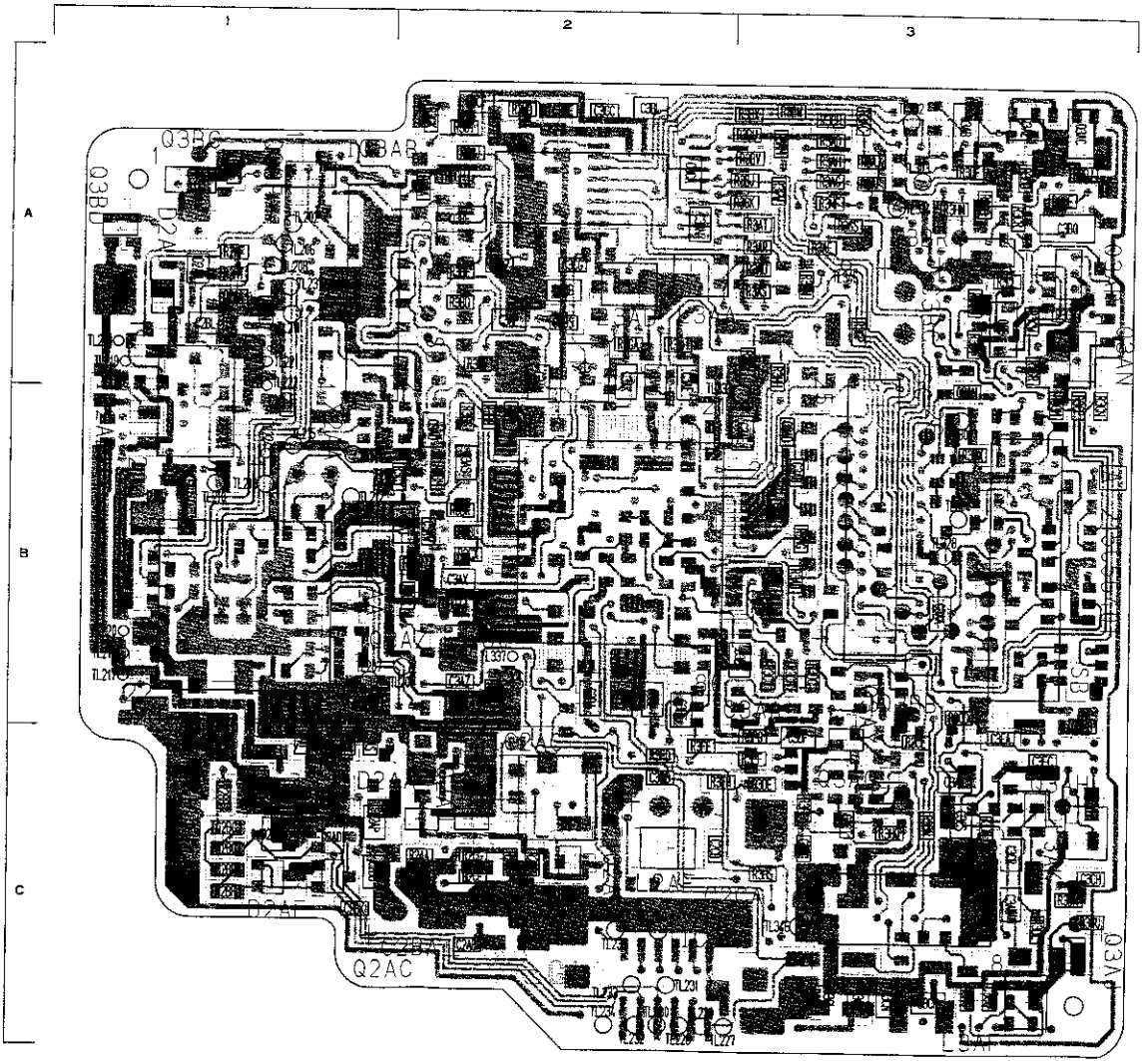
SIDE)

SYMBOL NO.	ADDRESS
L3AG	C-1
L3AH	A-1
L3AJ	C-1
LF2AA	C-2
LF3AA	B-2
LF3AB	A-2
LF3AC	B-2
LF3AE	B-2
LF3AF	B-2
LF3AG	A-3
LF3AH	A-2
Q2AA	C-3
Q2AB	C-3
Q2AE	A-3
Q2AF	A-3
Q3AD	A-1
Q3AF	A-1
Q3AK	C-1
Q3AL	C-1
Q3AM	B-1
Q3AQ	A-1
Q3AR	A-2
Q3AS	B-1
Q3AT	B-2
Q3AU	C-2
Q3AV	C-2
Q3AW	B-1
Q3AX	B-2
Q3BA	B-1
Q3BG	A-3
Q3BH	B-1
Q3BJ	B-1
R2AC	B-3
R2AD	B-3
R2AE	B-3
R2AG	B-3
R2AH	B-3
R2AN	B-3
R2AP	B-3
R2AQ	B-3
R2AR	B-3
R2A5	B-3
R2AT	B-3
R2AU	B-3
R2AV	A-3
R2AW	B-3
R2BA	C-3
R2BB	C-3
R2BC	C-3
R2BD	B-3
R2BJ	B-3
R2BK	A-3
R2BL	A-3
R2BM	A-3
R2BP	B-3
R2CA	C-2
R2CB	C-2

SYMBOL NO.	ADDRESS
R3AK	A-1
R3AL	A-2
R3AP	B-1
R3AQ	B-1
R3AW	A-2
R3AX	A-2
R3BA	A-1
R3BC	A-1
R3BF	A-2
R3BH	B-3
R3BP	B-2
R3BQ	A-2
R3CB	B-1
R3CC	B-2
R3CJ	B-2
R3CD	A-1
R3CS	A-1
R3CT	A-1
R3CU	A-1
R3DG	A-1
R3DH	A-1
R3DM	C-1
R3DP	C-1
R3DQ	C-1
R3DS	C-1
R3DT	A-1
R3DU	A-1
R3DV	A-1
R3DW	A-1
R3DY	C-1
R3DZ	C-1
R3EA	B-1
R3EB	B-1
R3EC	A-1
R3ED	A-3
R3EE	A-3
R3EF	A-2
R3EG	B-2
R3EK	B-1
R3EL	B-1
R3EM	B-1
R3EN	B-2
R3EP	B-2
R3EQ	B-2
R3ER	B-2
R3EU	B-2
R3EV	B-2
R3EW	B-2
R3EX	B-2
R3EY	B-2
R3E2	B-2
R3FA	B-2
R3FB	B-2
R3FC	B-2
R3FJ	C-1
R3FK	C-1
R3FM	C-1
R3FN	B-1
R3FP	C-1
R3FQ	B-1

SYMBOL NO.	ADDRESS
R3FR	B-1
R3FS	B-1
R3FT	B-3
R3FU	B-3
R3FY	B-2
R3FZ	B-2
R3G8	B-1
R3GC	B-1
R3GD	B-1
R3GE	A-3
R3GG	A-3
R3GL	A-3
R3GM	A-3
R3GN	A-3
R3GQ	B-2
R3GV	C-1
R3GW	B-1
R3GX	B-1
R3GY	B-1
R3GZ	B-1
R3HA	B-1
R3HB	B-1
R3HE	A-2
R3HJ	B-3
R3HK	A-3
R3HL	B-1
R3HM	B-1
R3HR	B-2
R3VA	A-1
TP2AA	A-3
TP2AB	C-2
TP3AA	C-2
TP3AB	A-2
TP3AE	C-1
TP3AG	B-1
TP3AJ	A-2
TP3AL	C-1
TP3AM	C-1
TP3AN	C-1
TP3AP	A-1
TP3AQ	A-1
TP3AR	A-2
TP3AS	A-1
TP3AT	B-3
TP3AU	B-1
TP3AY	C-1
VC2AA	B-3
VR2AA	A-3
VR3AA	A-1
VR3AB	A-1
VR3AC	C-1
VR3AD	C-1
VR3AE	B-1
X2AA	B-3

PCB-SD/PC(B SIDE)



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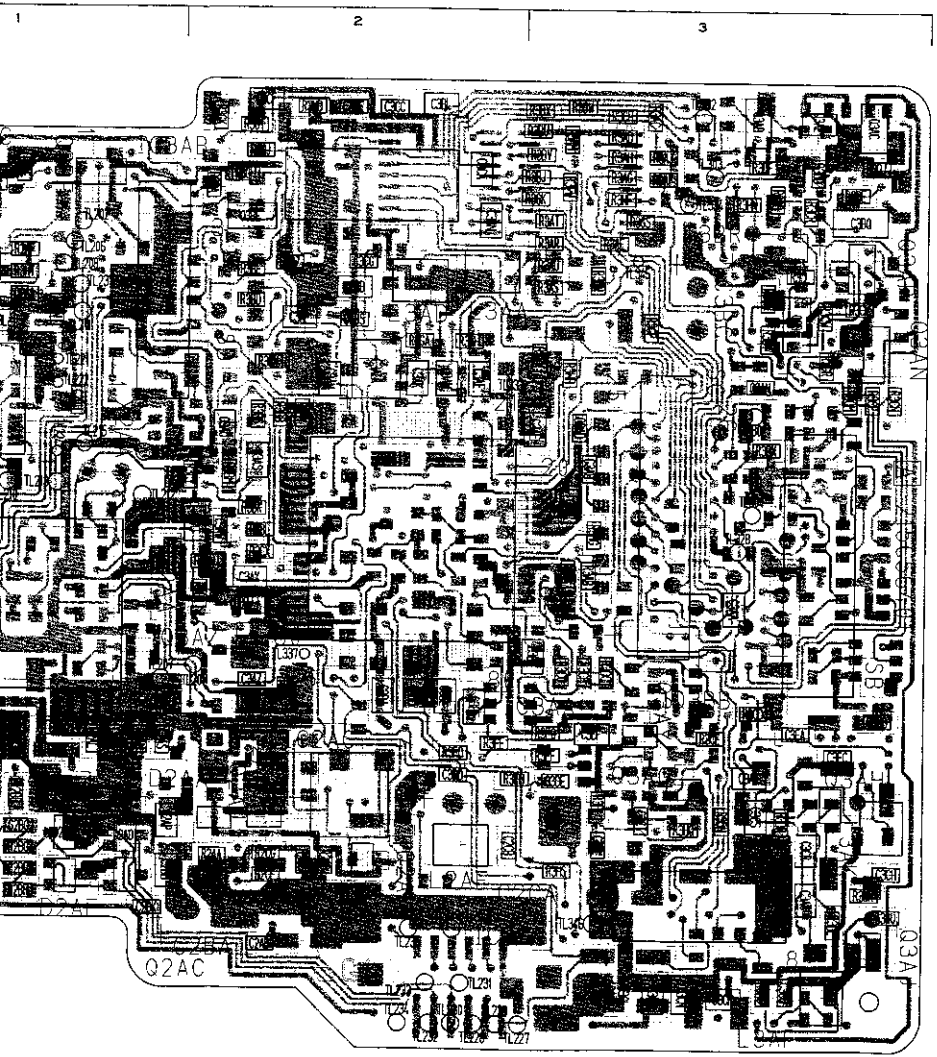


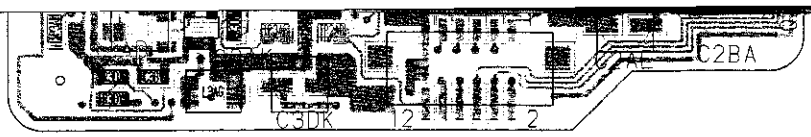
PCB – SD/PC (B SIDE)

SYMBOL NO.	ADDRESS
C2AA	A-1
C2AB	C-2
C2AM	C-1
C2AN	C-1
C2AP	C-1
C2AQ	C-1
C2AR	C-1
C2AS	C-1
C2AW	B-1
C2BA	C-2
C2BD	C-1
C2BF	C-1
C2BG	C-1
C2BH	B-1
C2BK	C-1
C2BL	A-1
C2CA	C-3
C2CB	C-2
C3AA	B-3
C3AB	B-3
C3AC	B-3
C3AD	B-3
C3AE	B-3
C3AF	A-2
C3AG	C-3
C3AH	A-2
C3AJ	C-3
C3AK	A-2
C3AL	A-2
C3AM	A-2
C3AN	A-3
C3AP	A-2
C3AS	B-2
C3AT	B-2
C3AU	B-2
C3AW	B-2
C3AX	B-2
C3AZ	B-2
C3BA	B-2
C3BC	A-3
C3BC	A-3
C3BD	B-2
C3BE	B-2
C3BF	B-2
C3BJ	B-2
C3BL	A-2
C3BN	A-2
C3BQ	A-3
C3BR	A-3
C3BS	A-2
C3CA	A-2
C3CB	A-2
C3CC	A-2
C3CE	A-2
C3CF	A-2
C3CG	A-2
C3CH	C-3
C3CL	C-3
C3CM	C-3
C3CN	C-3

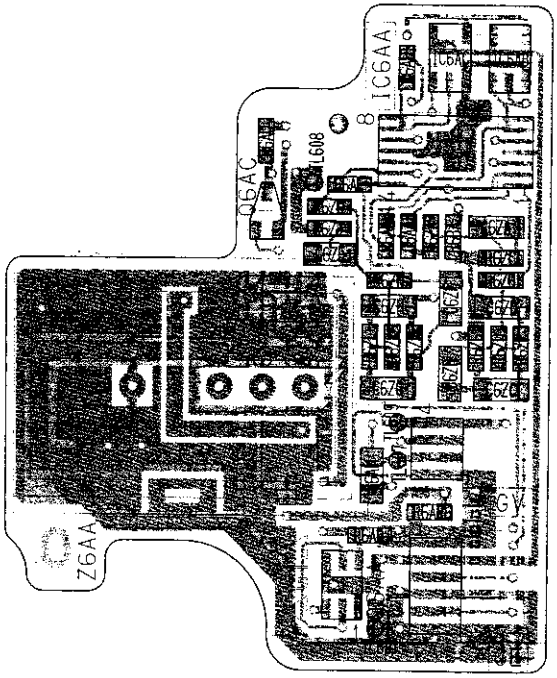
SYMBOL NO.	ADDRESS
C3CP	C-3
C3CQ	C-3
C3CR	C-3
C3CS	C-3
C3CT	C-3
C3DD	C-2
C3DE	C-3
C3DF	C-3
C3DG	B-3
C3DL	C-3
C3EA	C-3
C3EB	B-3
C3EC	C-3
D2AA	C-1
D2AF	C-1
D2AG	C-1
D2AH	A-1
D2AJ	A-1
IC2AA	B-1
IC2AB	B-1
IC2AC	C-2
IC3AA	B-3
IC3AB	A-1
IC3AC	C-2
L2AF	C-2
L3AA	A-2
L3AD	A-2
L3AF	C-3
L3AK	C-3
Q2AC	C-1
Q2AD	C-1
Q2AH	C-2
Q2AJ	C-2
Q2AK	C-2
Q3AB	A-3
Q3AC	A-3
Q3AE	A-3
Q3AG	C-3
Q3AH	C-3
Q3AJ	C-3
Q3AN	A-3
Q3AP	A-3
Q3AY	B-3
Q3AZ	B-2
Q3BB	B-3
Q3BC	A-1
Q3BD	A-1
Q3BE	A-2
Q3BF	A-1
R2AA	C-2
R2AB	C-2
R2AF	A-1
R2AJ	C-1
R2AK	C-1
R2AL	C-1

SYMBOL NO.	ADDRESS
R2AM	C-1
R2BE	C-1
R2BF	C-1
R2BG	C-1
R2BN	A-1
R2CC	C-2
R2CD	C-2
R2CE	C-2
R2CF	C-2
R2CG	C-2
R3AA	B-3
R3AB	B-3
R3AC	A-3
R3AD	A-3
R3AE	A-3
R3AF	A-3
R3AG	A-3
R3AH	A-3
R3AJ	A-3
R3AM	A-3
R3AN	A-3
R3AR	A-3
R3AS	A-3
R3AT	A-3
R3AU	A-3
R3AY	B-2
R3BB	B-2
R3BD	A-2
R3BE	A-2
R3BG	B-2
R3BJ	A-3
R3BK	B-2
R3BL	B-2
R3BM	B-2
R3BN	B-2
R3BR	B-2
R3BS	B-2
R3BT	B-2
R3BU	A-3
R3BV	A-3
R3BW	A-3
R3BX	A-3
R3BY	A-3
R3CA	A-3
R3CD	B-3
R3CE	C-3
R3CF	B-3
R3CG	B-3
R3CH	A-3
R3CK	A-3
R3CL	A-3
R3CM	B-3
R3CN	B-3
R3CP	B-3
R3CR	A-3
R3CV	A-3
R3CW	A-3
R3CX	B-2
R3CY	B-2
R3CZ	A-2

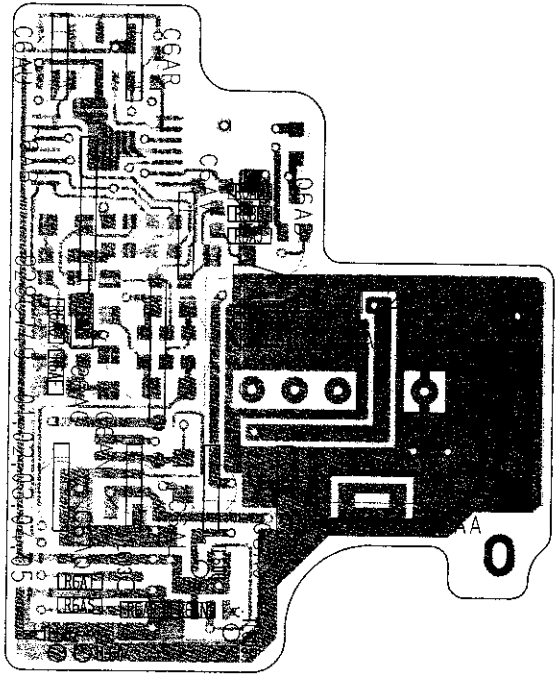
SYMBOL NO.	ADDRESS
R3DA	A-2
R3DB	A-3
R3DC	B-3
R3DD	A-3
R3DE	A-3
R3DF	A-3
R3DJ	A-3
R3DK	C-3
R3DL	C-3
R3DM	C-3
R3DR	C-3
R3DX	B-3
R3EH	A-2
R3FD	C-2
R3FE	C-2
R3FF	C-3
R3FG	C-3
R3FH	C-2
R3FL	C-3
R3FV	A-2
R3FW	A-3
R3FX	A-3
R3GA	A-2
R3GF	A-1
R3GH	A-2
R3GJ	A-2
R3GK	A-2
R3GP	A-3
R3GR	A-3
R3GS	A-3
R3GT	A-2
R3GU	C-3
R3HC	C-3
R3HD	A-2
R3HF	A-3
R3HG	B-3
R3HH	A-3
R3HN	A-3
R3HP	C-3
R3HQ	C-3
R3HS	C-3
R3HT	A-1
XZAA	B-1

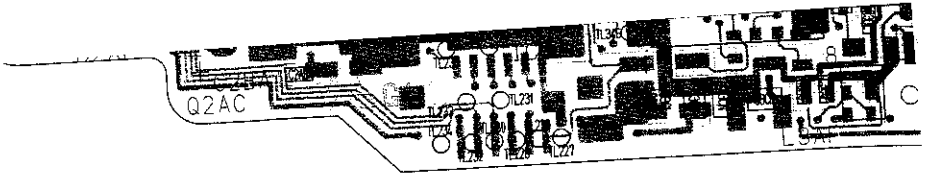


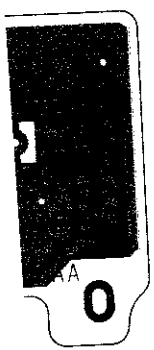
PCB-GYRO SENS(A SIDE) (HS-CX4 model only)



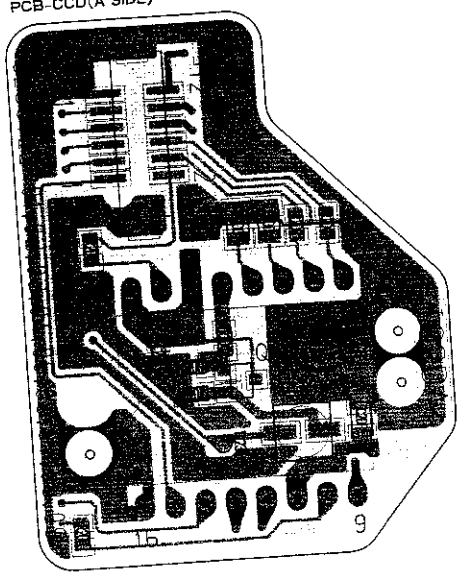
PCB-GYRO SENS(B SIDE) (HS-CX4 model only)



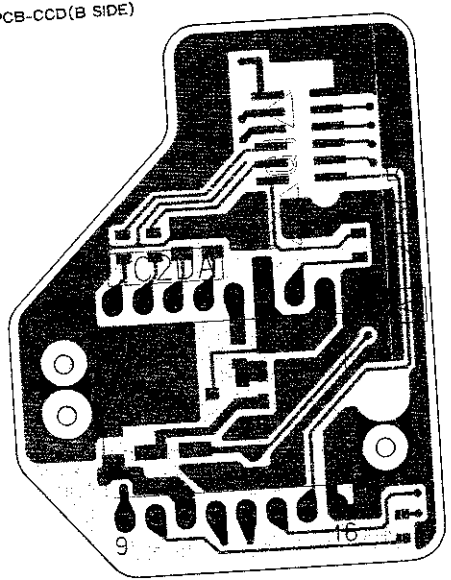


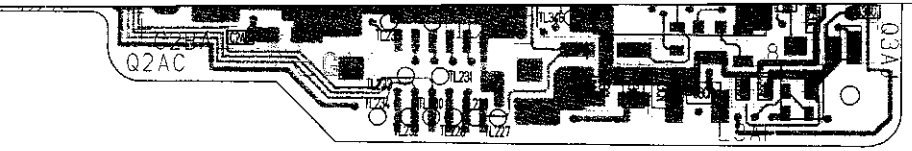


PCB-CCD(A SIDE)



PCB-CCD(B SIDE)



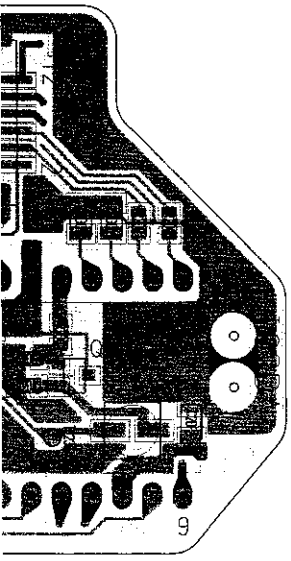


C3CM	C-3
C3CN	C-3

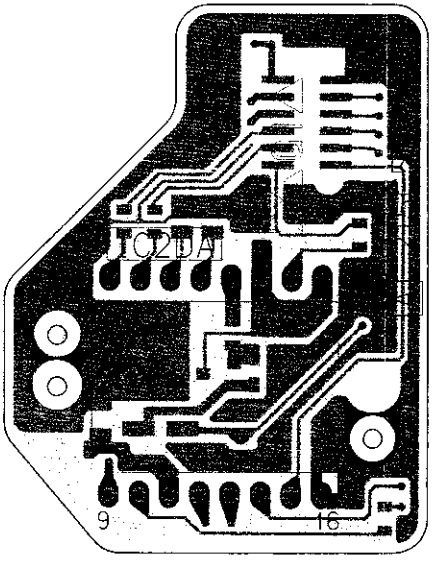
R2AJ	C-1
R2AK	C-1
R2AL	C-1

R3CX	B-2
R3CY	B-2
R3CZ	A-2

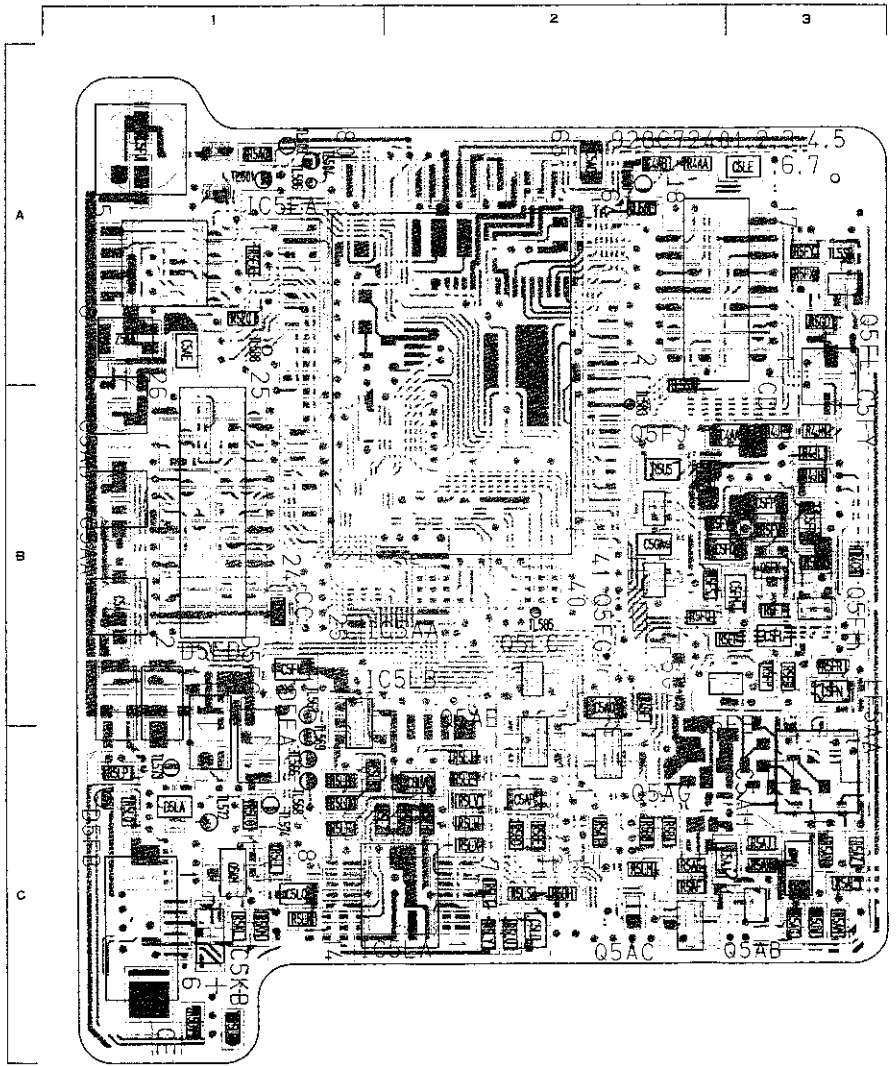
E)



PCB-CCD(B SIDE)



PCB-CM(A SIDE)



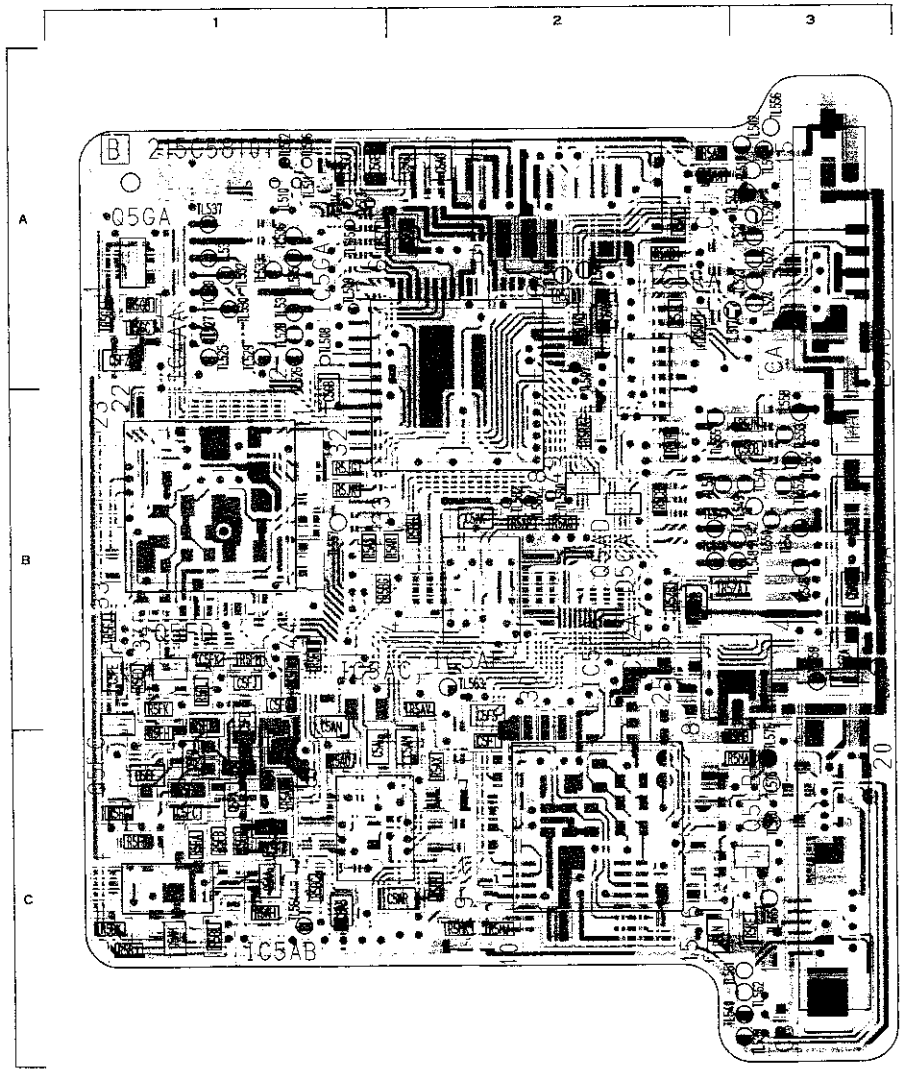
PCB – CM (A SIDE)

SYMBOL NO.	ADDRESS
C4AA	B-3
C4AB	A-2
C5AA	B-1
C5AC	A-2
C5AD	B-1
C5AE	A-1
C5AH	C-3
C5AJ	C-3
C5AP	C-2
C5AQ	B-2
C5AU	B-1
C5FL	B-3
C5FM	B-3
C5FN	B-3
C5FP	B-3
C5FQ	B-3
C5FR	B-3
C5FU	A-1
C5FV	B-1
C5FY	B-3
C5GA	B-2
C5KB	C-1
C5LA	C-2
C5LB	C-1
C5LC	C-1
C5LD	C-2
C5LE	A-3
C5FA	B-1
C5FB	C-1
C5FC	B-1
C5FD	B-1
C5LA	C-1
IC5AA	B-2
IC5EA	A-1
IC5LA	C-2
IC5LB	B-2
LF5AA	B-3
Q5AB	C-3
Q5AC	C-2
Q5AE	B-2
Q5AG	C-2
Q5FE	B-2
Q5FG	B-2
Q5FH	B-3
Q5FJ	B-2
Q5FK	B-3
Q5FL	A-3
Q5KM	C-1
Q5LC	B-2
R4AA	A-2
R4BF	B-2
R4CP	B-3
R4JH	B-3
R4JL	B-3
R4JN	B-3

SYMBOL NO.	ADDRESS
R4JP	B-3
R5AC	A-1
R5AE	C-2
R5AF	C-2
R5AG	C-3
R5AJ	C-3
R5AK	C-3
R5AL	C-3
R5AM	C-3
R5AN	C-3
R5AT	C-2
R5AZ	C-3
R5BA	C-2
R5BB	C-2
R5BD	C-2
R5BE	C-2
R5DN	C-2
R5DV	C-1
R5EA	A-1
R5EE	B-3
R5EF	B-3
R5FP	B-3
R5FQ	B-2
R5FR	B-3
R5FS	B-2
R5FT	B-3
R5FU	B-3
R5FV	B-2
R5FW	B-3
R5FX	A-3
R5FY	A-3
R5GD	A-3
R5JW	C-3
R5KL	C-1
R5KM	C-1
R5LB	C-1
R5LC	C-1
R5LD	C-1
R5LE	C-2
R5LF	C-1
R5LG	C-2
R5LH	C-2
R5LJ	C-2
R5LK	C-1
R5LL	C-1
R5LM	C-2
R5LP	C-1
R5LQ	C-1
R5LR	C-1
R5LS	C-2
R5LT	C-2
R5LU	C-2
R5LV	C-2
R5LW	C-2
R5LX	C-2
R5LY	C-2
R5LZ	C-1
R5US	B-2
R5ZC	A-1

SYMBOL NO.	ADDRESS
TP5GA	B-2
TP5GD	A-1
TP5GU	A-1
TP5HL	C-2
Z5AA	A-1

PCB-CM(B SIDE)



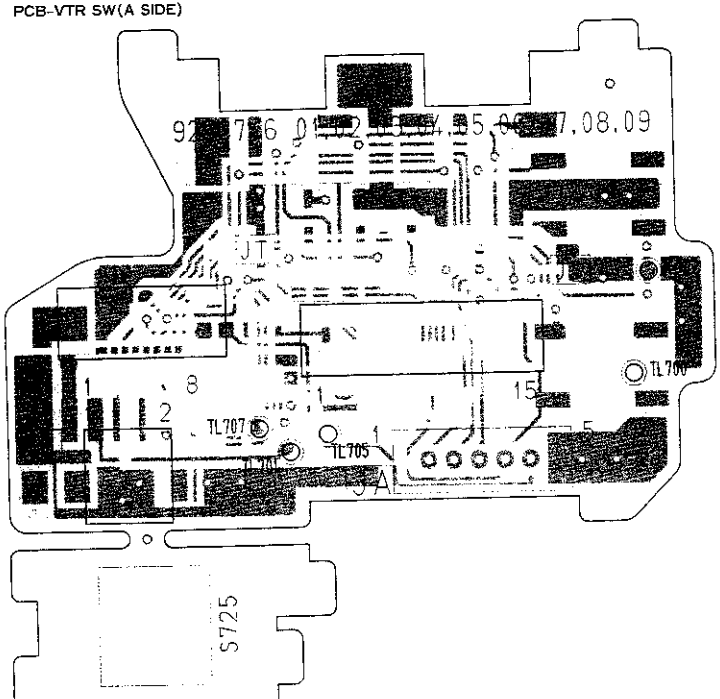
SYMBOL NO.	ADDRESS
6A	B-2
6D	A-1
6U	A-1
5HL	C-2
AA	A-1

PCB – CM (B SIDE)

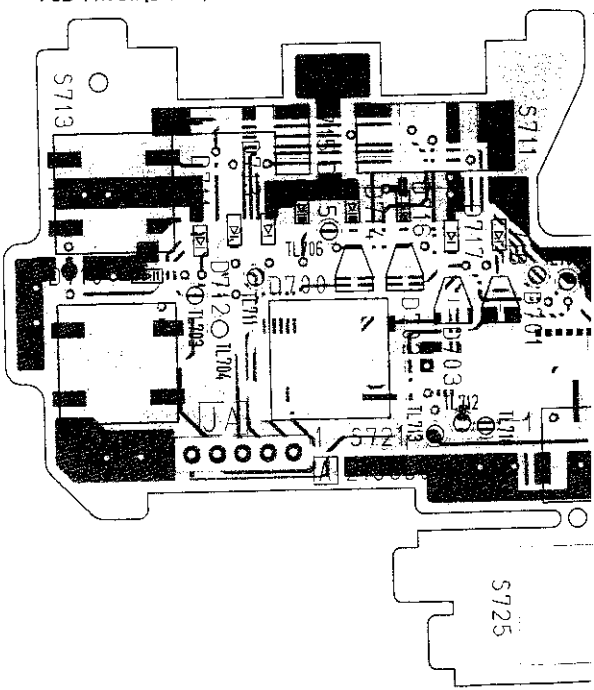
SYMBOL NO.	ADDRESS
C5AB	B-3
C5AG	A-2
C5AK	B-2
C5AL	C-1
C5AM	C-2
C5AN	B-1
C5AR	C-2
C5AS	C-1
C5AT	C-1
C5CB	B-3
C5FA	C-1
C5FB	C-1
C5FC	C-1
C5FD	B-1
C5FE	B-1
C5FG	B-1
C5FH	B-1
C5FJ	B-1
C5FK	B-1
C5FS	B-2
C5FT	C-2
C5FZ	A-1
C5GC	A-1
C5GD	A-2
C5GE	A-1
C5RA	A-2
C5ZA	B-3
C5ZB	B-2
D5CA	B-2
D5FE	C-1
IC4AA	A-1
IC5AB	C-1
IC5AC	B-1
IC5AE	B-2
IC5FA	B-2
IC5GA	A-1
IC5RA	A-2
IC5ZA	B-2
L5AA	B-3
L5AD	A-3
Q5AA	C-1
Q5AD	B-2
Q5AH	C-1
Q5FA	C-1
Q5FB	C-1
Q5FC	C-1
Q5FD	B-1
Q5GA	A-1
Q6LB	C-3
R4FE	C-1
R5AA	A-2
R5AB	A-2
R5AD	A-2
R5AH	C-1
R5AP	B-2

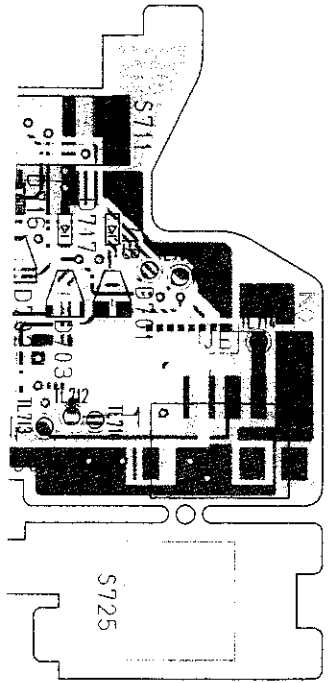
SYMBOL NO.	ADDRESS
R5AQ	B-2
R5AR	B-2
R5AS	B-1
R5AU	C-1
R5AV	B-2
R5AW	C-1
R5AX	C-2
R5AY	A-2
R5BC	C-1
R5BF	C-2
R5BG	B-1
R5BH	B-2
R5BJ	C-1
R5BK	C-1
R5BL	C-1
R5CB	B-2
R5ED	B-1
R5FA	C-1
R5FB	C-1
R5FC	C-1
R5FD	C-1
R5FF	C-1
R5FG	C-1
R5FH	C-1
R5FJ	B-1
R5FK	B-1
R5FL	B-1
R5FM	B-1
R5FN	B-1
R5FZ	B-1
R5GA	A-1
R5GB	A-1
R5GC	A-1
R5GE	A-2
R5JG	B-1
R5JH	A-2
R5JK	B-1
R5JL	A-2
R5JM	A-2
R5JN	B-3
R5JP	B-2
R5JQ	A-2
R5JT	A-1
R5KE	C-3
R5LN	C-2
R5MA	C-3
R5MB	C-3
R5MJ	C-2
R5MK	C-2
R5RA	B-2
R5ZA	B-3
R5ZB	B-2

PCB-VTR SW(A SIDE)

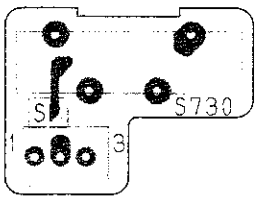


PCB-VTR SW(B SIDE)

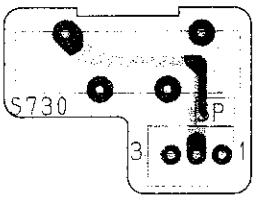


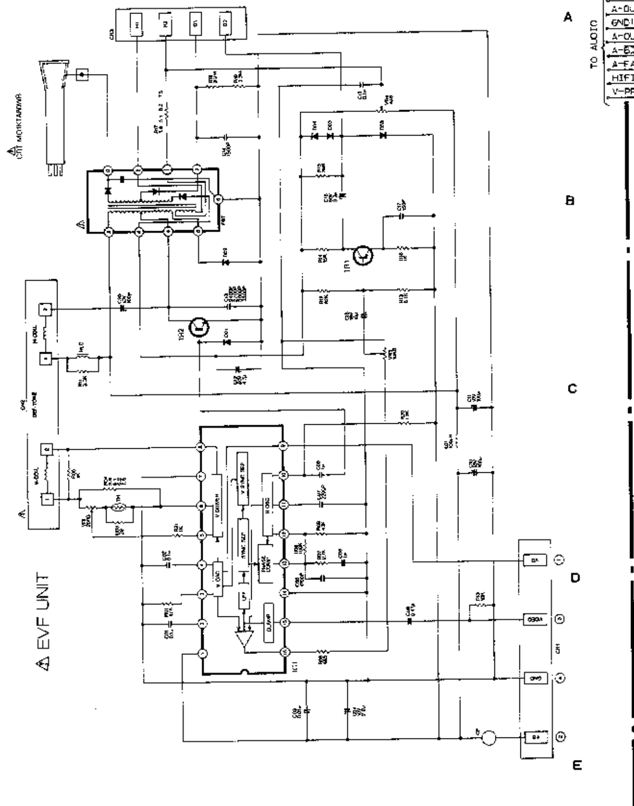


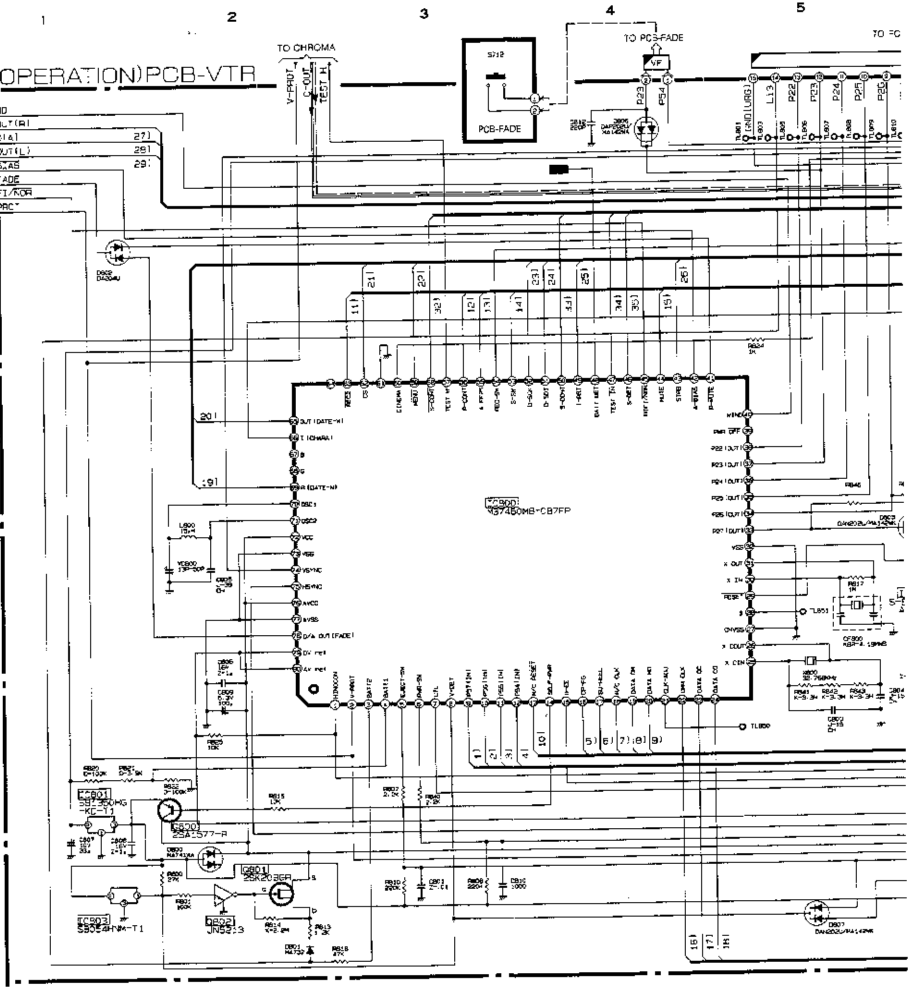
PCB-POWER SW(A SIDE)



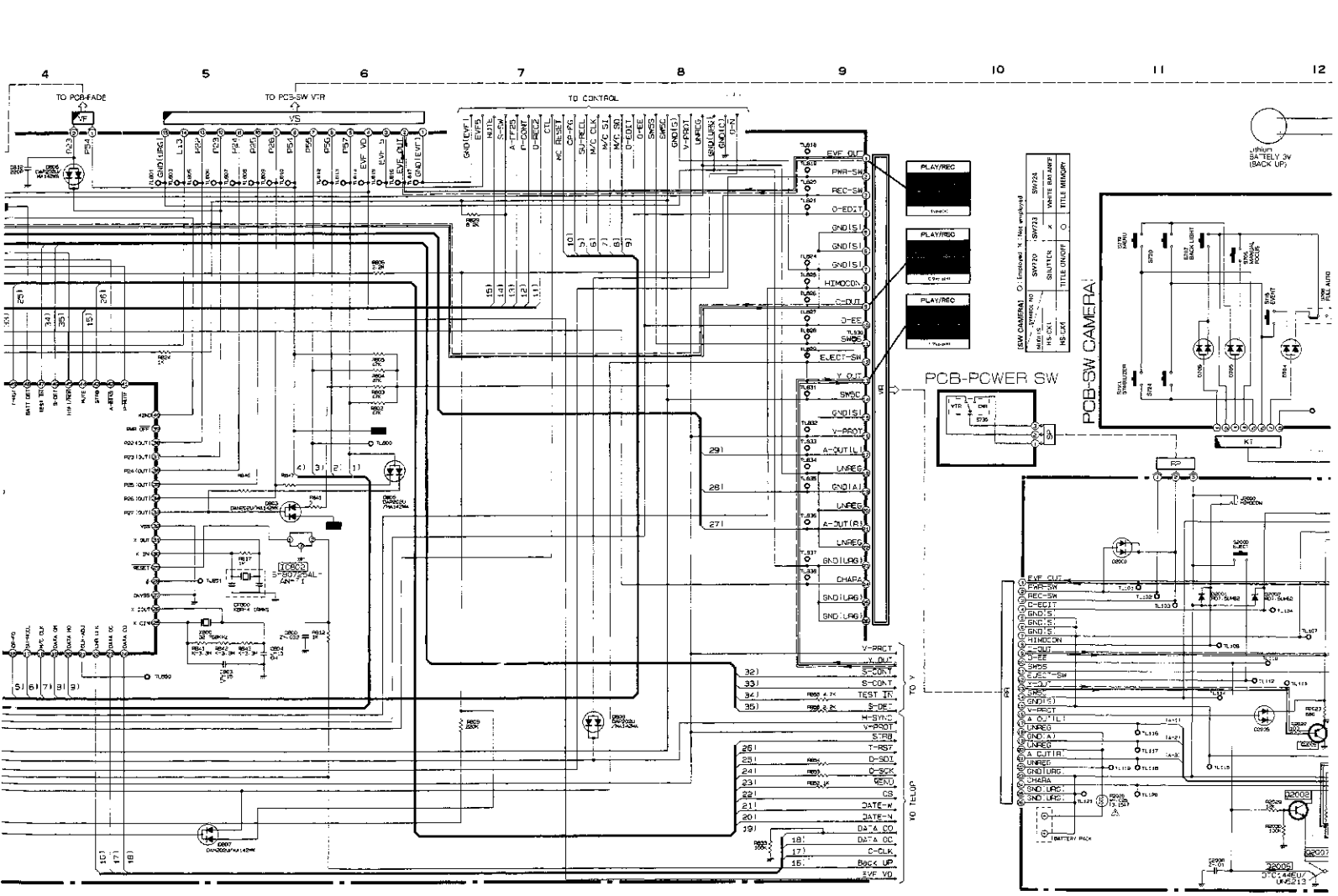
PCB-POWER SW(B SIDE)

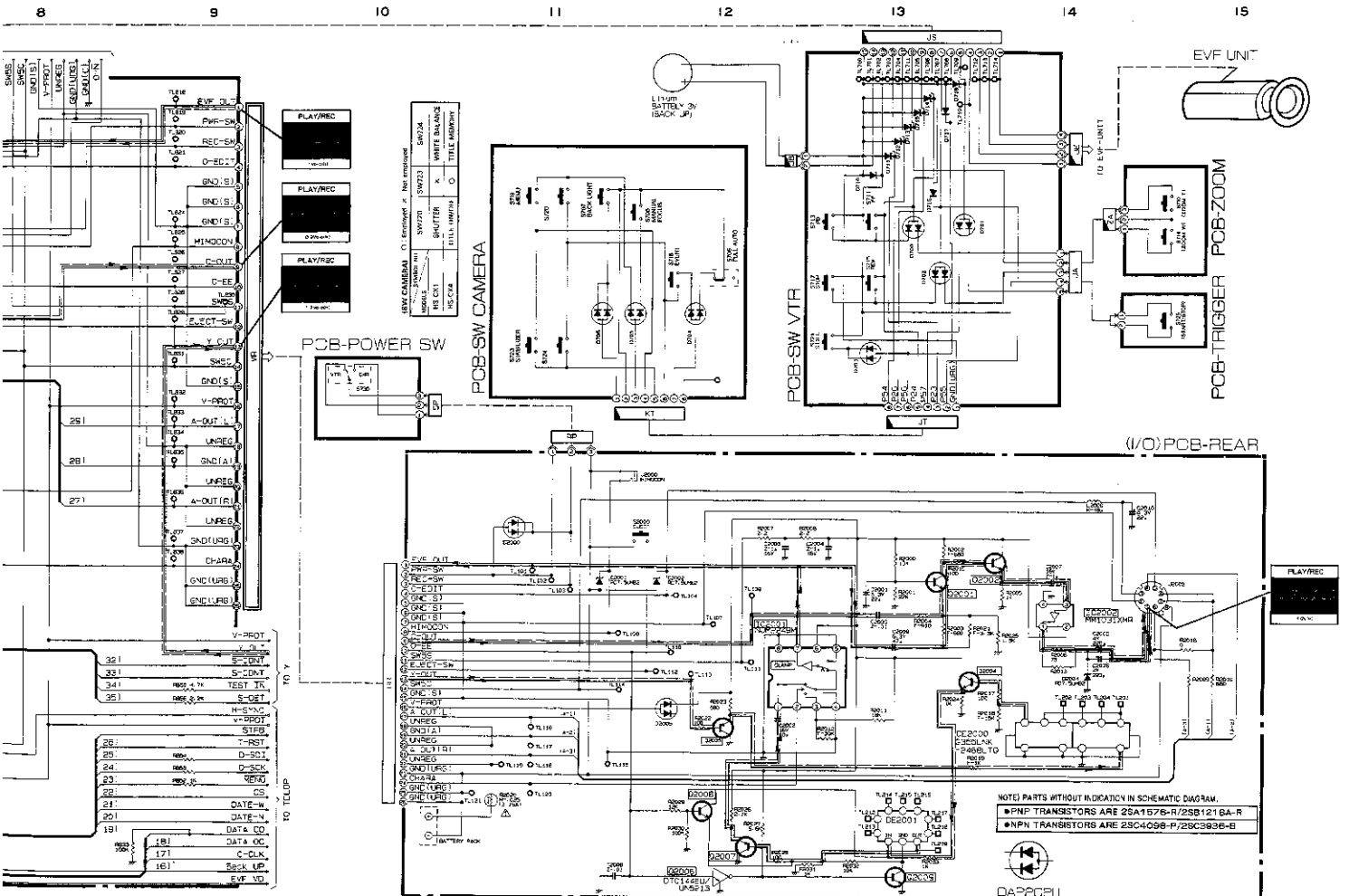






SYMBOL NO / MODEL	R846	R847	R853	R854
HS-CX1	0Ω	0Ω	×	×
HS-CX4	×	×	1kΩ	1kΩ


TO PCB-FADE
TO PCB-SW VTR
TO CONTROL
PCB-PCWER SW
PCB-SW CAMERA
PLAY/REC
PLAY/REC
PLAY/REC
TO Y
TO TELUP
Lithium BATTELY 3V (BACK UP)


8
9
10
11
12
13
14
15
EVF UNIT
PCB-SW CAMERA
PCB-SW VTR
PCB-TRIGGER
PCB-ZOOM
PCB-POWER SW
(I/O) PCB-REAR
PLAY/REC
TO Y
TO TCLOP
NOTE) PARTS WITHOUT INDICATION IN SCHEMATIC DIAGRAM.
•PNP TRANSISTORS ARE 2SA1576-R/2SB1218A-R
•NPN TRANSISTORS ARE 2SC4098-R/2SC3936-R
DAP2C2U
MA142WA