

Service Manual

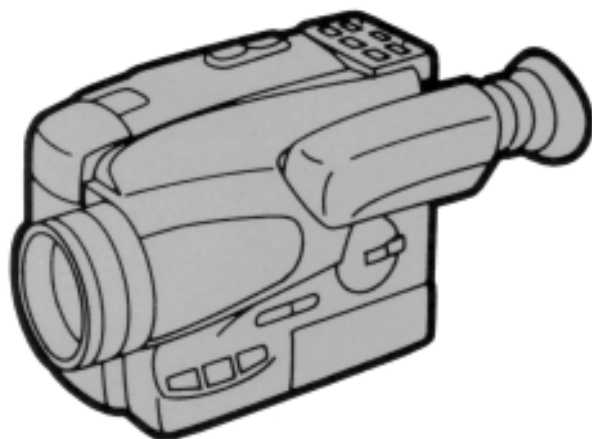
Panasonic **VHS**

PAL

HQ

VHS-C Movie

NV-S20E



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ADJUSTMENT PROCEDURES

LOCATION OF TEST POINTS & CONTROLS

BLOCK DIAGRAMS & SCHEMATIC DIAGRAMS

Auto focus block diagram

CCD drive block diagram

Process block diagram

Power block diagram

System control and servo block diagram

Luminance/chrominance and head amp block diagram

Auto focus schematic diagram

CCD drive schematic diagram

Process schematic diagram

Power schematic diagram

Audio schematic diagram

System control and servo schematic diagram

Luminance/chrominance and head amp schematic diagram

EVF schematic diagram

DC jack schematic diagram

AV jack schematic diagram

Drive schematic diagram

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Circuit board layout

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Mechanical replacement parts list

Electrical replacement parts list

Panasonic

SPECIFICATIONS

ITEM	SPECIFICATION	ITEM	SPECIFICATION
POWER	Source: BATTERY; DC 6.0V Consumption; Recording mode; 7.1 W (Battery operation)	VIDEO	HEADS: 4 rotary heads, 1 fling erase head OUTPUT: PHONO CONNECTOR; 1.0V _{p-p} 75Ω unbalanced
VIDEO RECORDING SYSTEM	4 rotary heads, helical scanning system PAL	AUDIO	HEAD: 1 Stationary head (Normal Audio) INPUT: MIC IN (M3); -70dB, 4.7kΩ or more unbalanced OUTPUT: PHONO CONNECTOR; -8dB, 47kΩ loaded
TAPE FORMAT	VHS-C Cassette Tape (Tape width 12.7mm)	WEIGHT	Approx. 950g (without Battery Pack)
TAPE SPEED	23.39mm/s Record/Playback Time 45 min. with NV-EC45XG FF/REW Time less than 5 min. with NV-EC45XG	DIMENSIONS	129(W) × 121(H) × 247(D)mm
CAMERA	PICK-UP ELEMENT: CCD (Charge Coupled Device) STANDARD ILLUMINATION: 1,400 lux MINIMUM REQUIRED ILLUMINATION: 1 lux (Low Light Mode) LENS: Built-in 8 : 1 2-Speed Power Zoom Lens with Digital AI Auto Focus, Auto Iris, F1.4 (5~40mm), Filter Diameter 49mm IMAGE SENSOR: 1/3 inch CCD Image Sensor VIEW FINDER: 0.6" Electric View Finder	STANDARD ACCESSORIES	1 pc. AC Adaptor 1 pc. Battery Pack 1 pc. Cassette Adaptor 1 pc. Shoulder Strap 1 pc. AV Output Cable 1 pc. DC Input Cable 1 pc. Battery for Cassette Adaptor Operation 1 pc. Battery for Clock Operation

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

SECTION 2 ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY PROCEDURES

1. Removal of Tripod Frame

Remove.....3 screws(A)

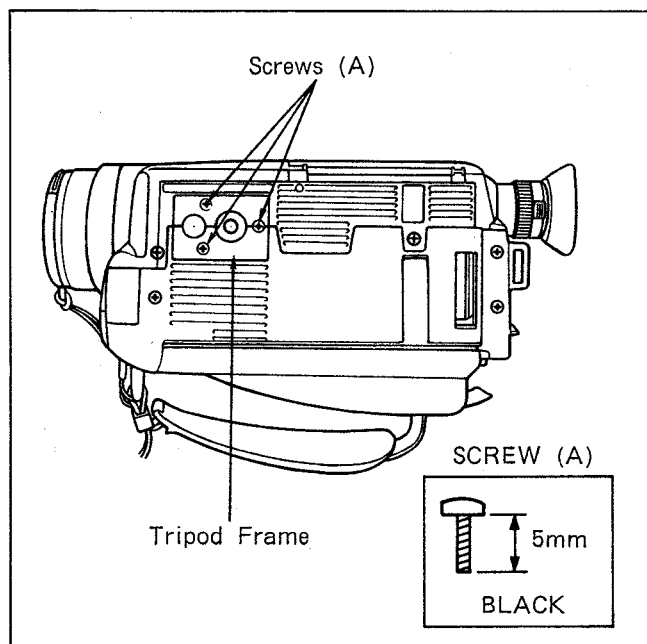


Fig. D1

2. Removal of Side Case (R)

Remove.....3 screws (B) and screw (C)

Disconnect.....EVF Connector(P3001)

Disconnect.....Cam Operation Connector(B302)

AV Jack Connector(B4003)

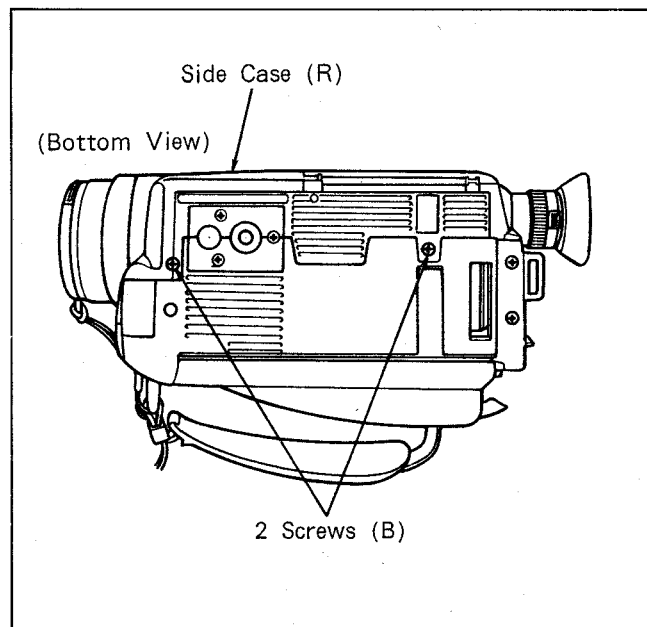


Fig. D2-1

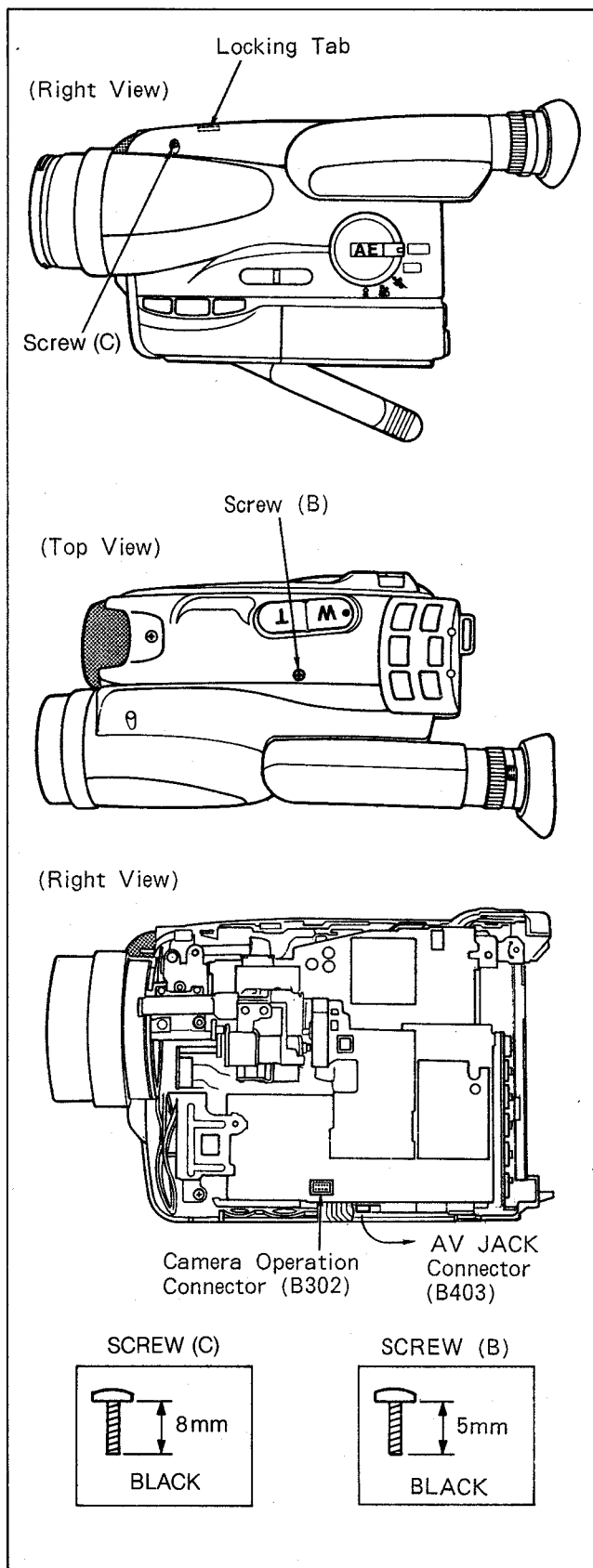


Fig. D2-2

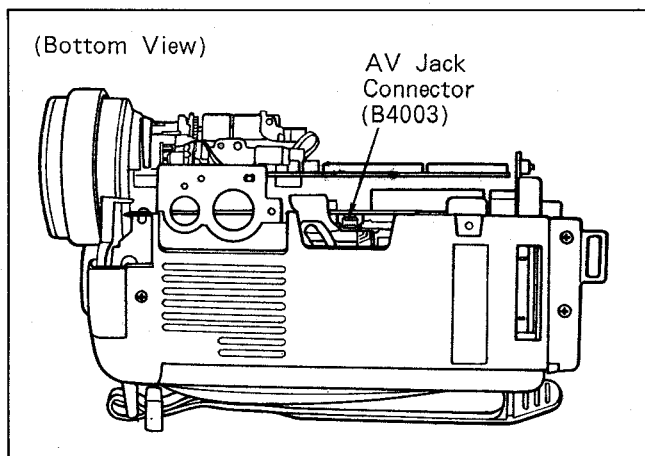


Fig. D2-3

3. Removal of Top Operation Panel

- Remove.....Screw (C)
- Disconnect.....Connector (B6003) and P6001

Note:
When disconnect the Connector, pay attention to do not damage to the VTR Operation C.B.A.

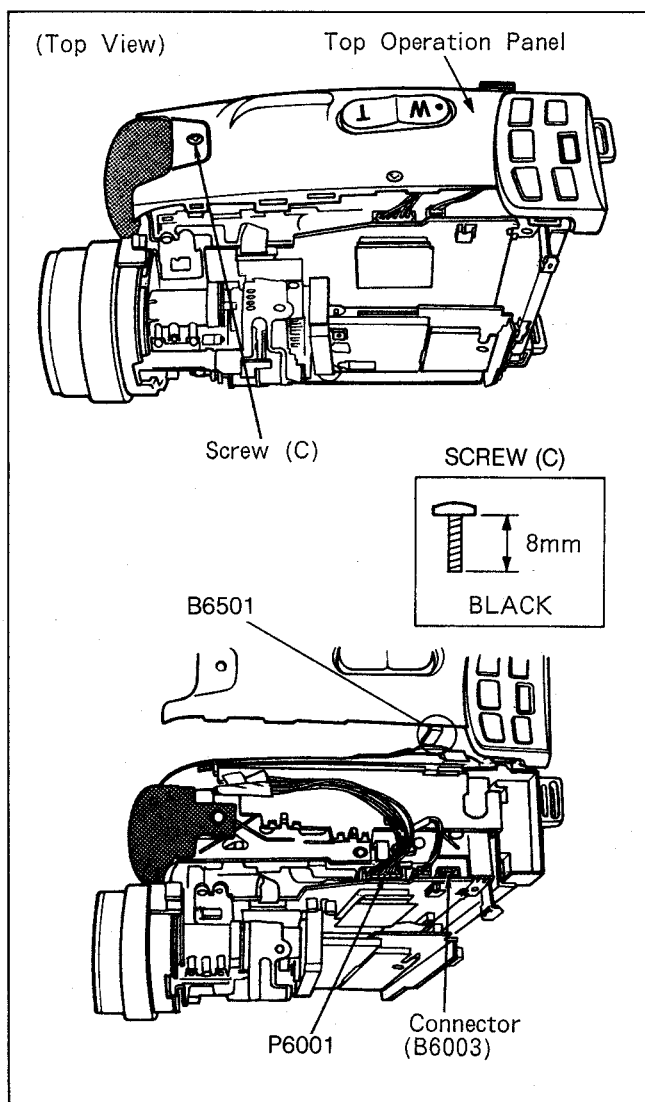


Fig. D3

4. Removal of Side Case (L)

- Remove.....5 Screws(D)
- Eject to Open the Cassette Cover
- Remove.....Battery Case and Lens Cap
- Disconnect.....Connector(P6001)
- Disconnect.....Connector(B6501)
- Remove.....Top Case
- Remove.....Side Case(L)

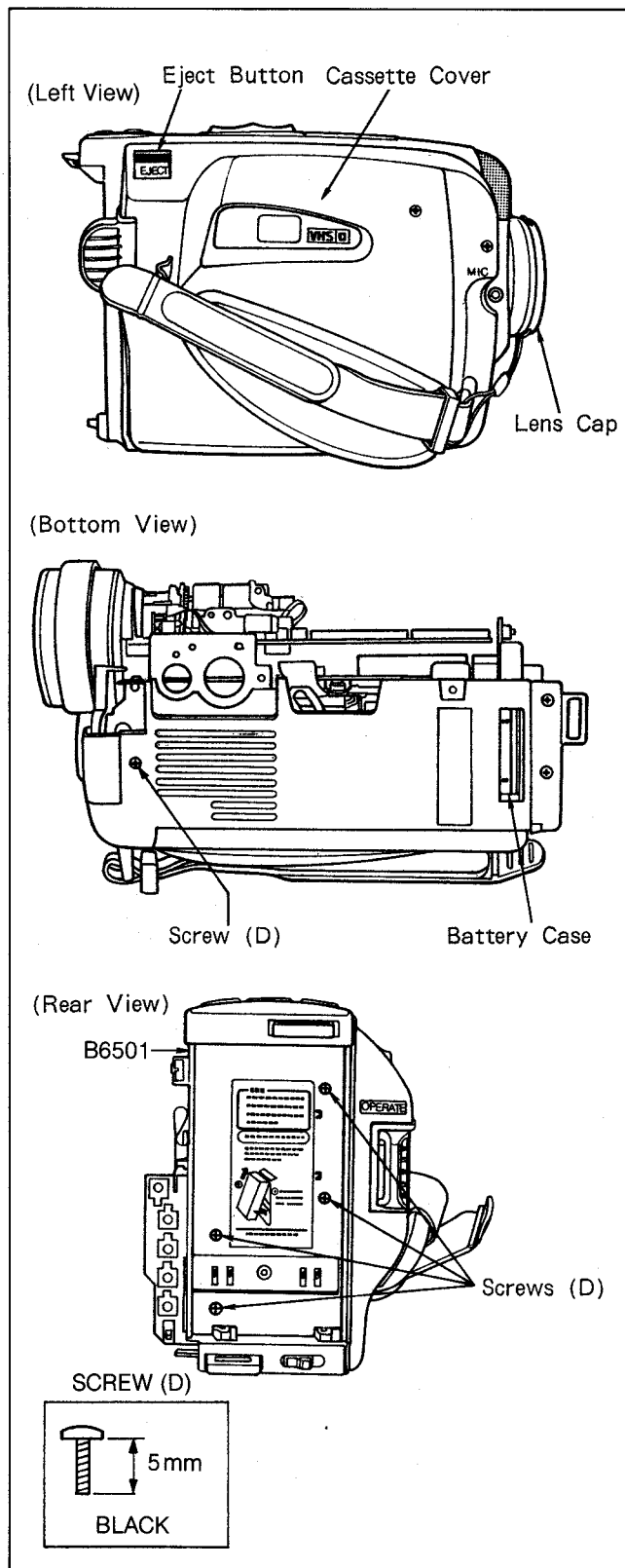


Fig. D4-1

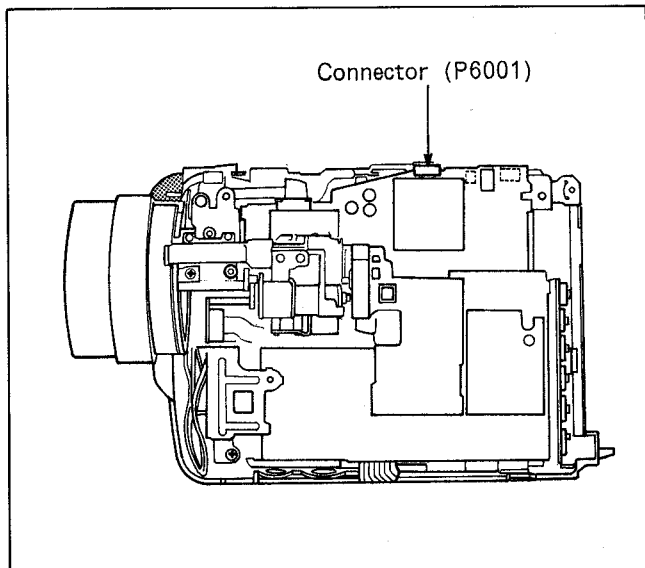


Fig. D4-2

5. Removal of the Front Case

Remove.....Connector P4001

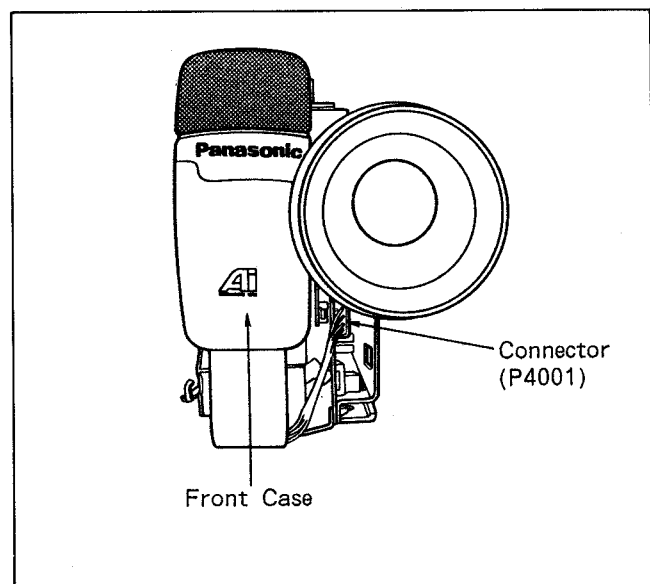


Fig. D5

6. Remove of Camera Unit

Remove.....2 screws(E)

Unlock.....3 locking portions

Disconnect.....Connector(FP1002)

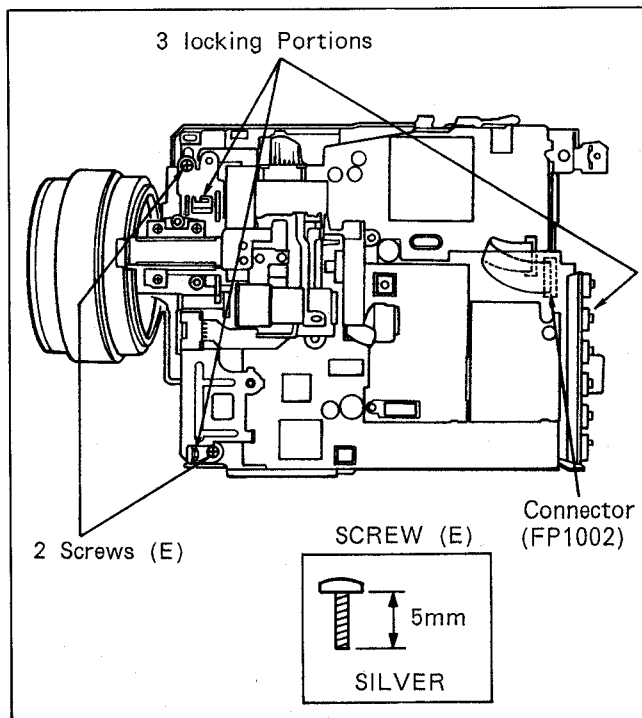


Fig. D6

7. Removal of VTR Main C.B.A. and Jack C.B.A.

Disconnect.....Connectors (FP4002, FP6001, FP5001 and P6002)

Remove.....4 screws(F) and (G)

Disconnect.....Direct Connector (B6001)

Unlock.....locking portions

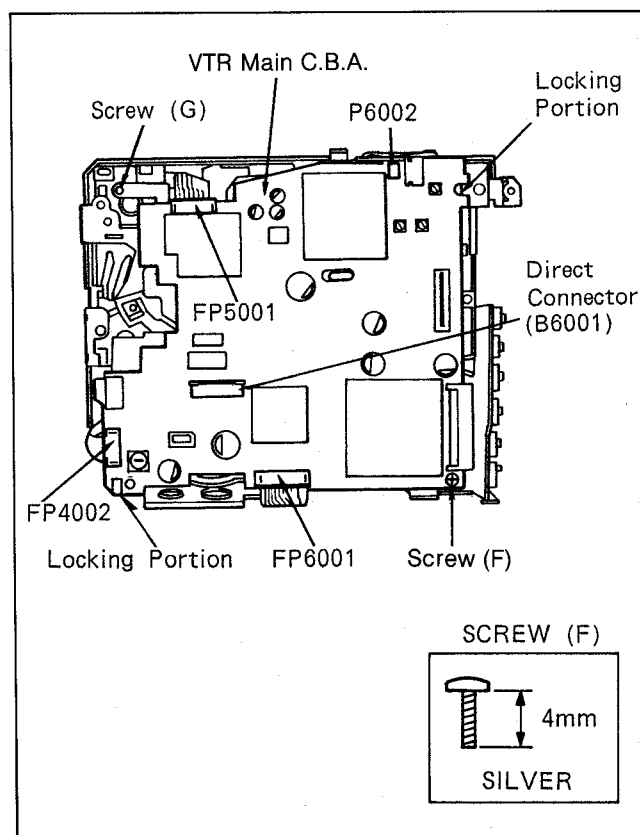


Fig. D7-1

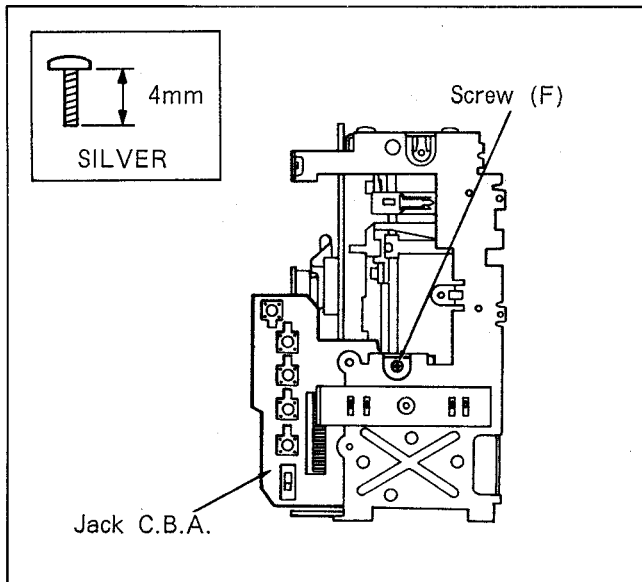


Fig. D7-2

8. REMOVAL OF THE MECHANISM FLEXIBLE CARD C.B.A. AND DRIVE C.B.A.

[DRIVE C.B.A.]

Remove.....3 Screws(V)
 Disconnect.....2 Connectors(P2102,P2103)
 Unsolder.....4 Soldering Portions(W)

[MECHANISM FLEXIBLE CARD C.B.A.]

Remove.....4 Screws(X)
 Unsolder.....15 Soldering Portions(Y)

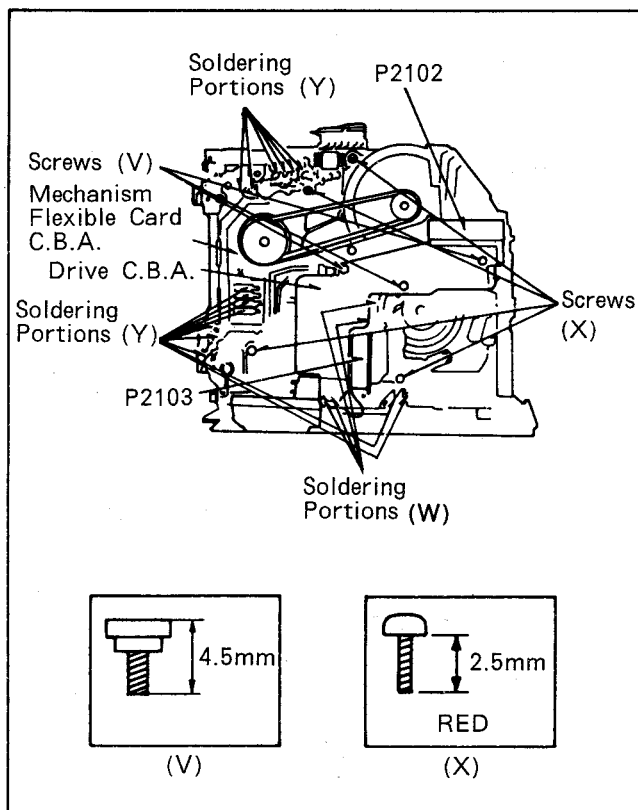


Fig. D8

2-2. REPLACEMENT OF THE CYLINDER UNIT

2-2-1. UPPER CYLINDER UNIT REPLACEMENT

Use extreme care when removing or installing the Upper Cylinder Unit. Do not touch the video heads during servicing.

1. Remove 2 screws as shown in Fig. D9.
2. Unsolder 20 solder points indicated by arrows on the Circuit Board.
3. Remove the Upper Cylinder Unit by lifting it upward.
4. Reinstall the Upper Cylinder Unit by reversing the removal procedure. When reinstalling the Upper Cylinder be careful that the white portions of the Upper Cylinder circuit board correctly matches the white portion of the bottom cylinder.

Note :

If the Upper Cylinder Unit is installed so that the white portions of the upper and if lower cylinder are reversed, no colour will appear when playing back a pre-recorded tape.

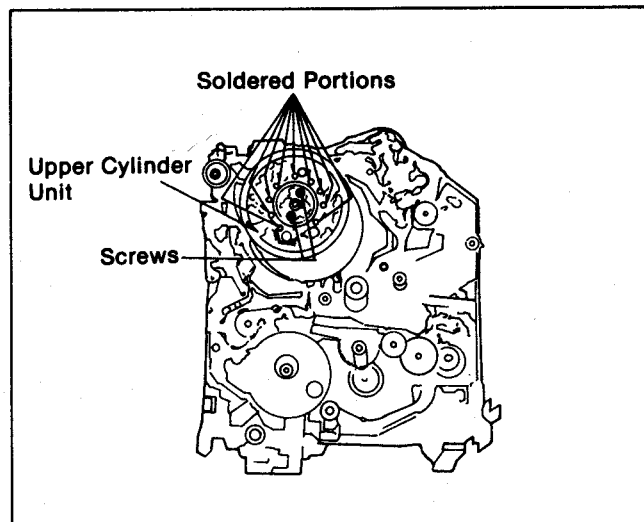


Fig. D9

2-2-2. DD CYLINDER UNIT REPLACEMENT

1. Disconnect connectors and remove the 3 screws.
2. Remove DD Cylinder.

Note:

Since there is very little clearance between the DD Cylinder and the chassis use extreme care when removing the DD Cylinder Unit. Do not touch the Video Heads while servicing.

3. Reinstall the DD Cylinder Unit, install 3 screws and reconnect the connectors.

Note:

After installing the DD Cylinder Unit:

- 1) Gently rub the video heads in the direction of tape travel with a head cleaning stick.
- 2) Check DD Cylinder performance. If further maintenance is required see "Tape Interchangeability Adjustment"

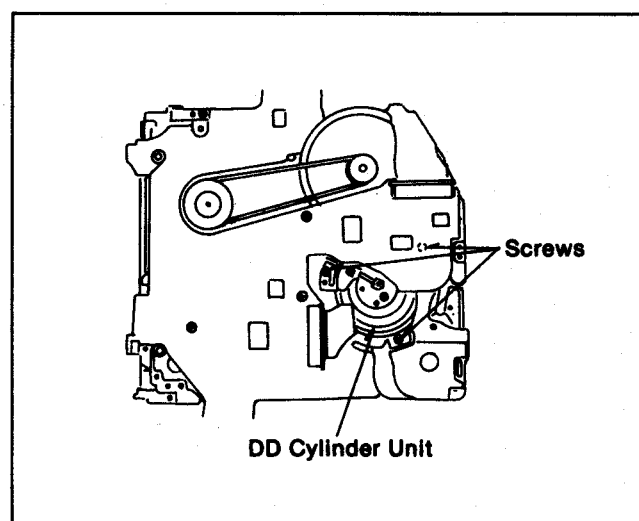


Fig. D10

2-3. DISASSEMBLY PROCEDURES OF ZOOM MOTOR AND FOCUS MOTOR

The following flowchart describes order or steps for removing the Lens Units and certain Printed Circuit Boards in order to make access to the items needing service.

To reassemble the unit follow the steps in reverse order.

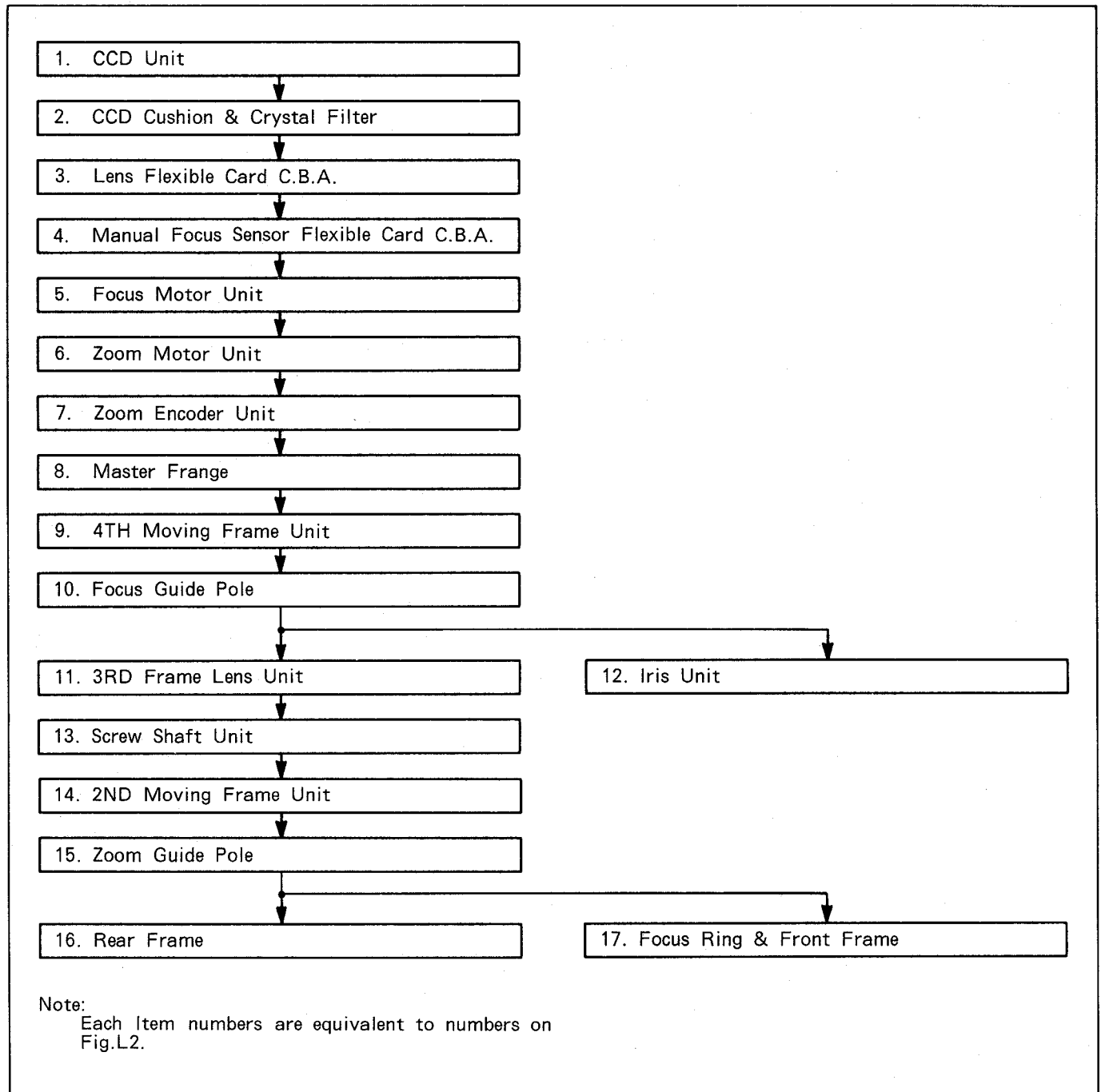


Fig. L1

2-4. ASSEMBLY ADJUSTMENT PROCEDURES OF MECHANISM

The mechanism of this model is mostly engaged to the system control circuit, through the mode select switch.

Therefore the relation between the mode select switch and cam gear decides all further mechanical movement of the mechanical parts such as levers, gears, rollers and so on. If these parts are fixed improperly, the units will be unloaded or compulsory stopped.

And it will result being damaged at any mechanical or electrical parts.

TOP VIEW

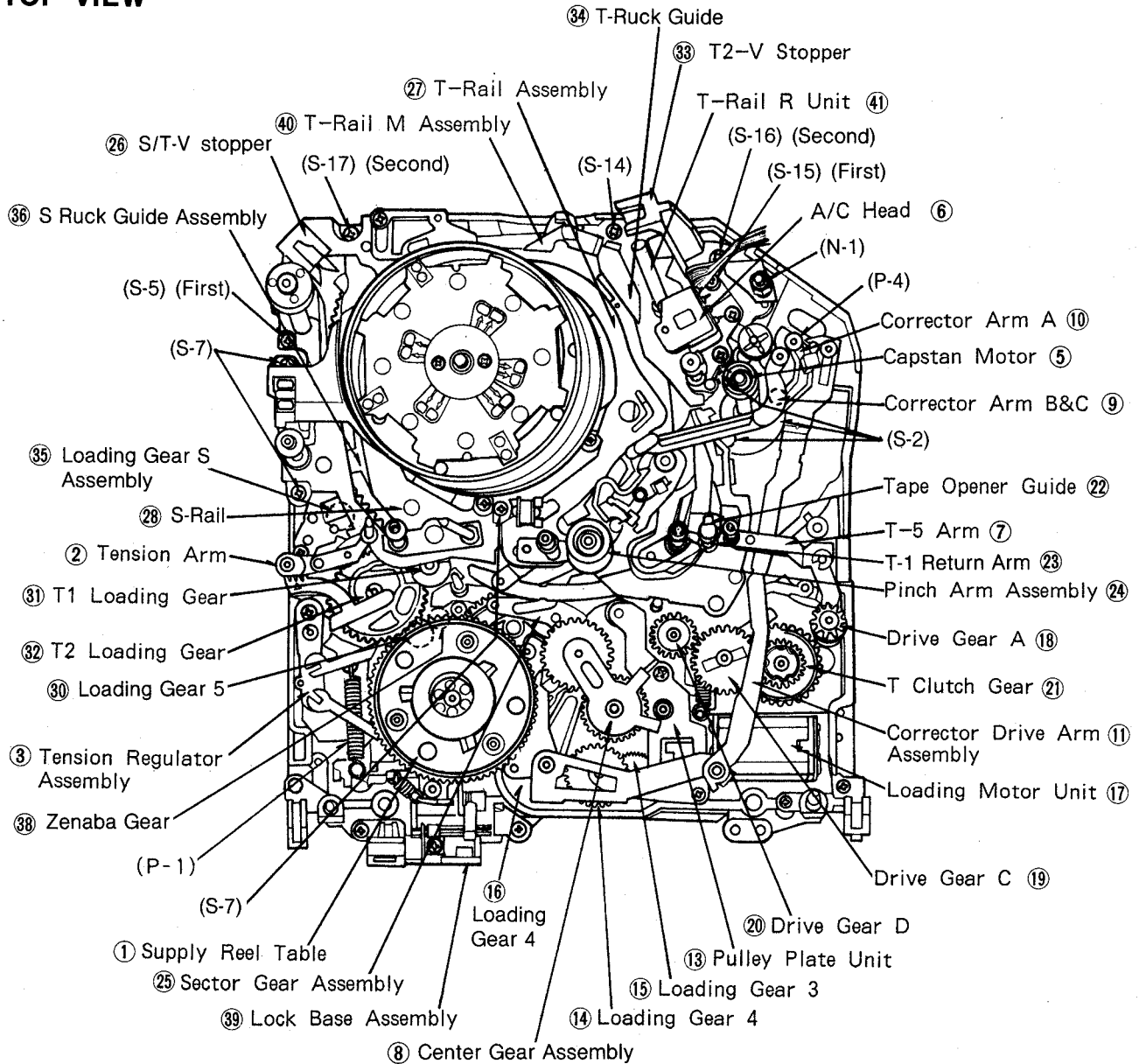


Fig. M1

BOTTOM VIEW

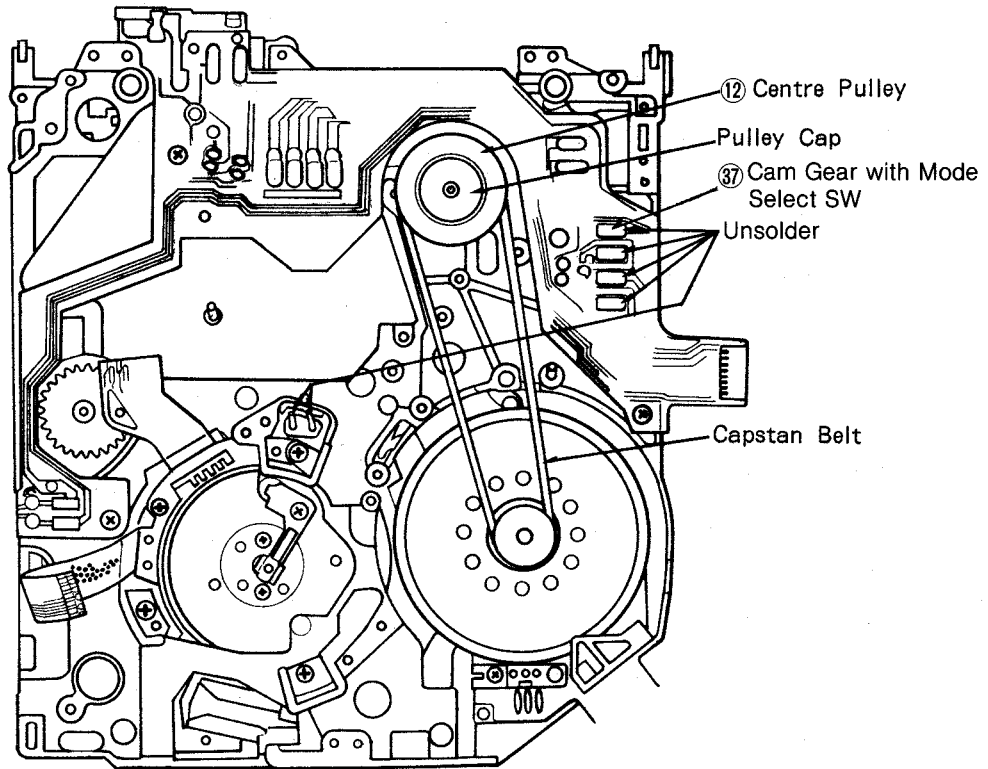


Fig. M2

2-4-1 Disassembly of Mechanism

Prior to disassembly of the mechanism remove the Mechanism Flexible Card CBA and Drive CBA [13] of [2-2-1] and DD Cylinder [2-2-2].

Note:

To prevent accidental damage to the DD Cylinder, removal of the DD Cylinder is recommended before complete or partial disassembly of mechanism.

- 1) Remove 2 red screws and lift the cassette holder assembly off of the mechanism assembly.
- 2) Remove the supply reel table C-ring and supply reel table. See Fig. M3.

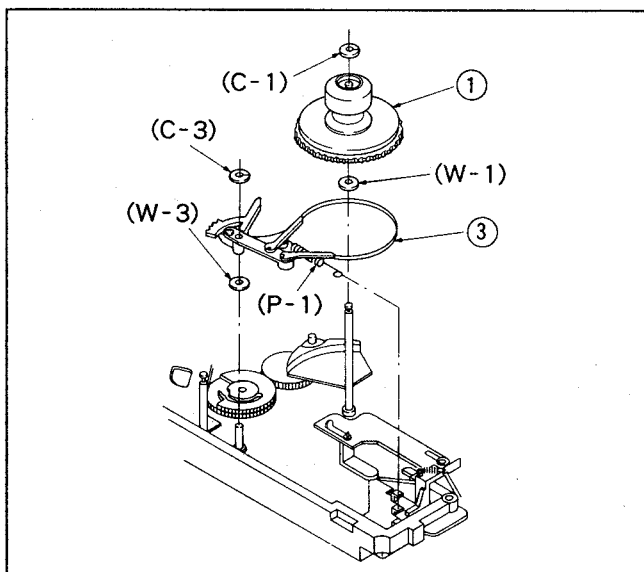


Fig. M3

- 3) Remove a C-ring and Tension Arm Assembly.

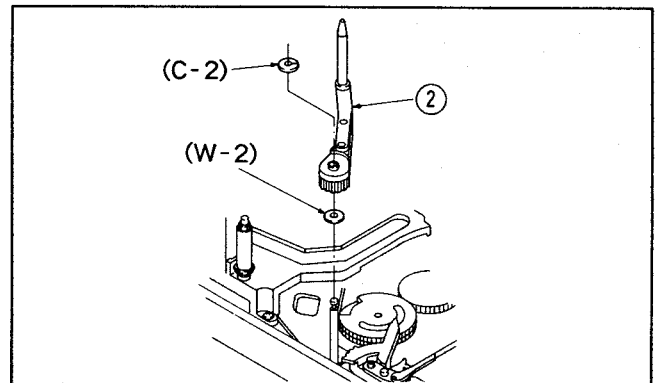


Fig. M4

- 4) Remove tension regulator assembly.
- 5) Remove tension regulator band from tension regulator assembly.
- 6) Remove T-5 arm unit. See Fig M5

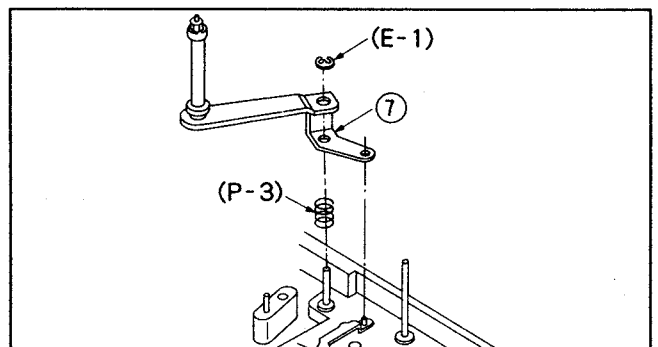


Fig. M5

- 7) Place corrector arm spring in initial hook position. See Fig. M6-A. Remove corrector arm C and B. See Fig. M6

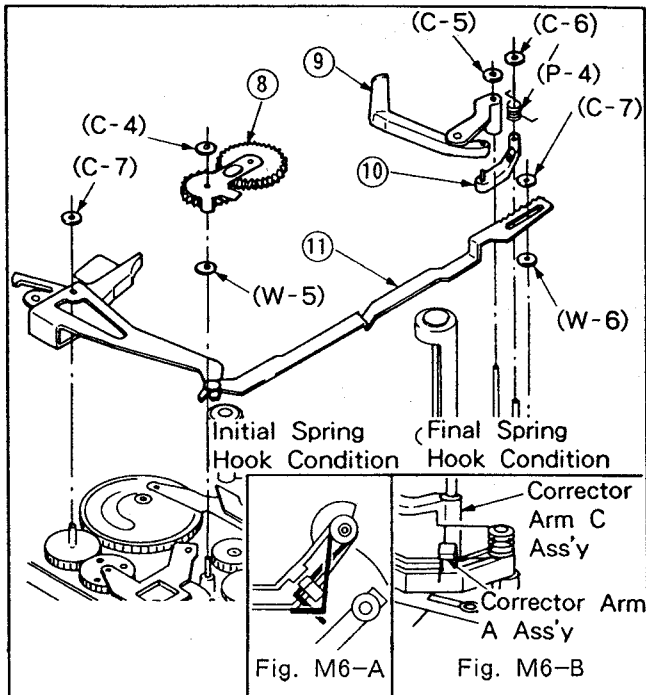


Fig. M6

- 8) Remove corrector arm A and spring.
9) Remove corrector drive arm assembly.
10) Remove centre gear assembly. See Fig. M1 & 7.

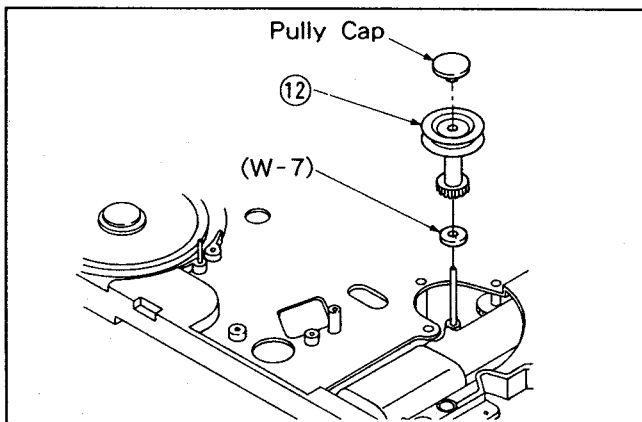


Fig. M7

- 12) Remove pulley cap and centre pulley.
13) Remove pulley plate unit. See Fig. M8.

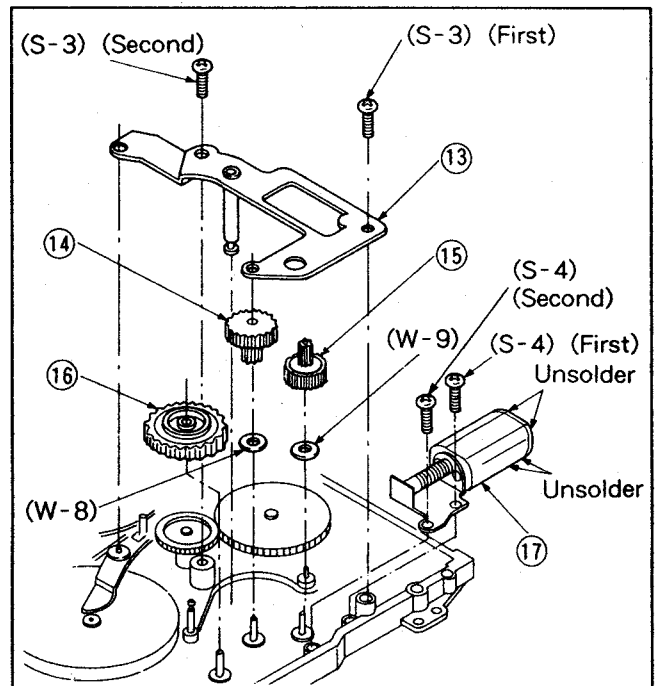


Fig. M8

- 14) Remove loading gear 3.
15) Remove loading gear 2.
16) Remove loading gear 4.
17) Remove loading gear motor unit.
18) Rotate the main cam gear clockwise to the fully loaded position then rotate counter-clockwise 90 degrees.
19) Remove the tape opener guide. See Fig. M9

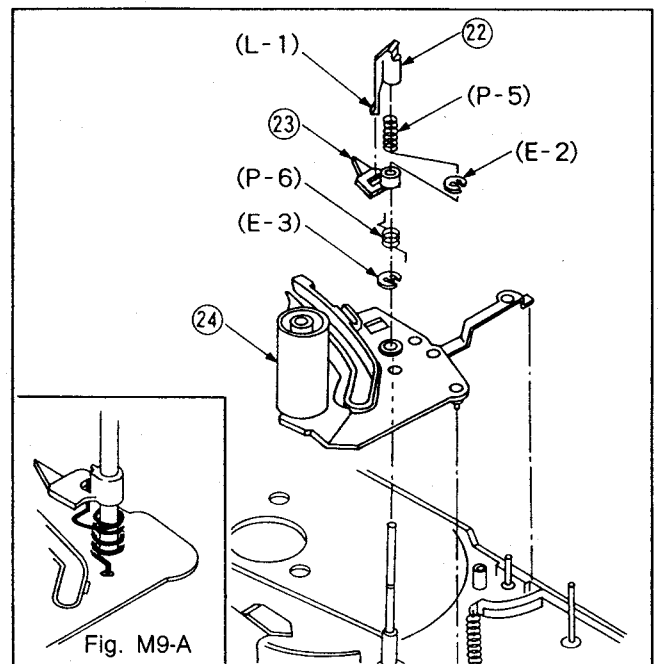


Fig. M9

- 20) Remove E-ring, T-1 return arm and spring.
- 21) Remove E-ring and pinch arm unit.
- 22) Remove drive gear A. See Fig. 10
- 23) Remove drive gear D.
- 24) Remove drive gear C.
- 25) Remove T-clutch gear assembly.
- 26) Remove sector gear assembly. See Fig M11
- 27) Rotate cam gear counter clockwise until T-post is partially unloaded to remove S/T-V stopper unit.
- 28) Remove S/T-V stopper unit. See fig M1
- 29) Remove S-rail.
- 30) Remove T-rail. See fig. M12.
- 31) Remove band guide. See fig. M13
- 32) Remove loading gear 5.
- 33) Remove T-1 loading gear.
- 34) Remove T-2 loading gear unit.

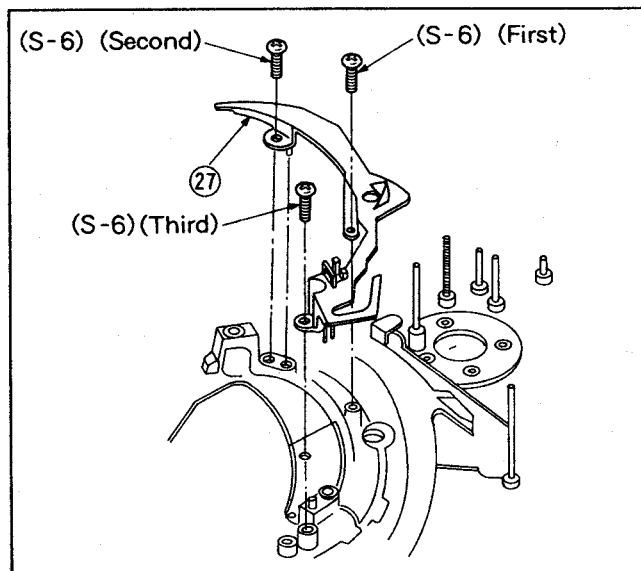


Fig. M12

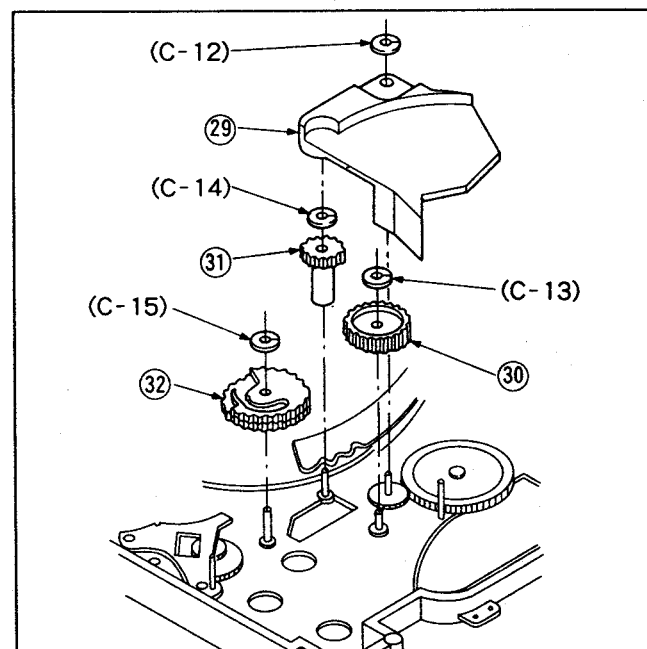


Fig. M13

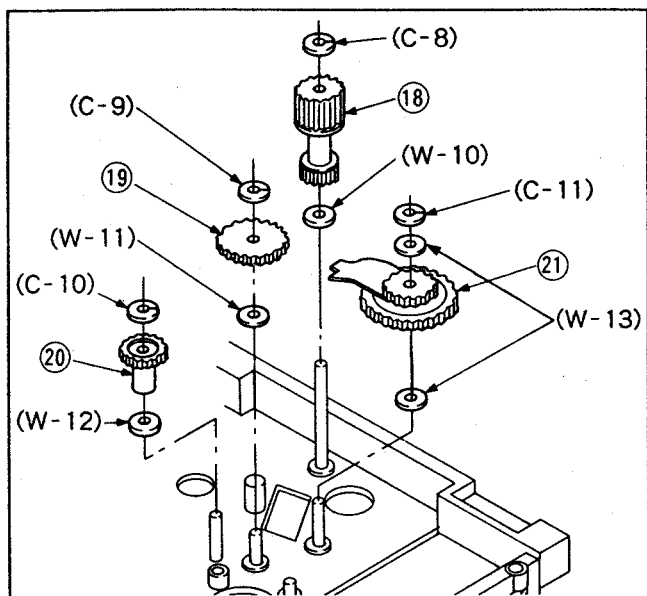


Fig. M10

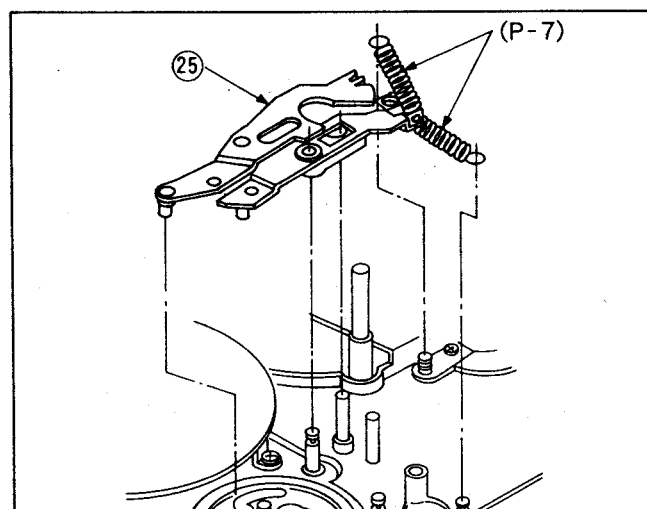


Fig. M11

- 36) Remove capstan drive motor. See fig. M1.
- 37) Remove T-rail R unit. See Fig. M15.
- 38) Remove T rack guide unit. See Fig. M16.
- 39) Remove loading gear S assembly. See Fig. M17.
- 40) Remove S rack guide assembly. See fig. M18.
- 41) Remove cam gear/mode select switch assembly. See fig. M19.
- 42) Remove zenaba gear.
- 43) Remove the lock base assembly. See Fig. M20.
- 44) Remove T-rail M assembly. See fig. M1.
- 45) Remove T2-V stopper.

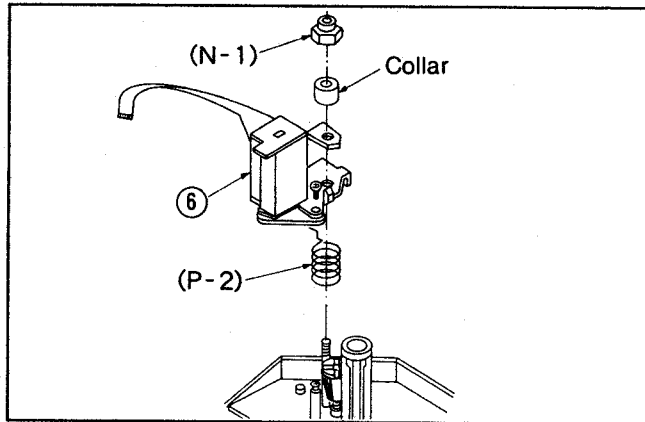


Fig. M14

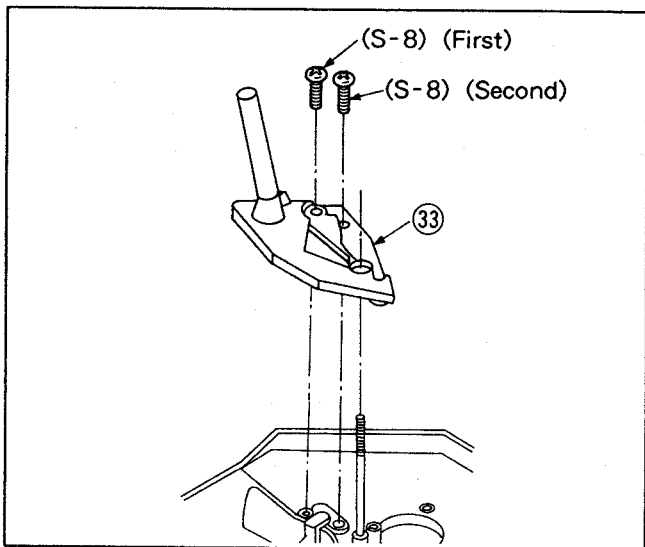


Fig. M15

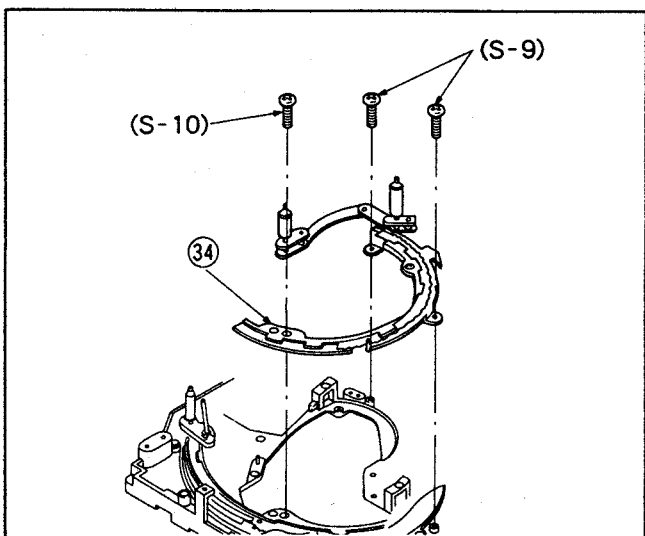


Fig. M16

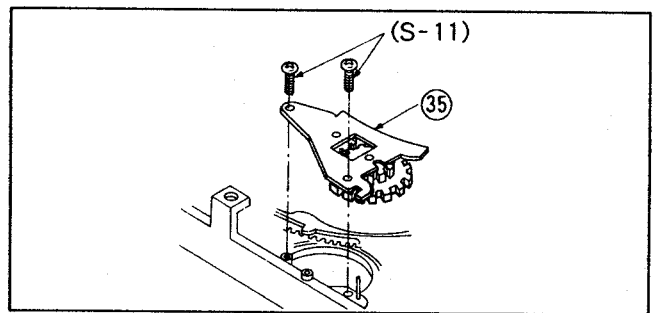


Fig. M17

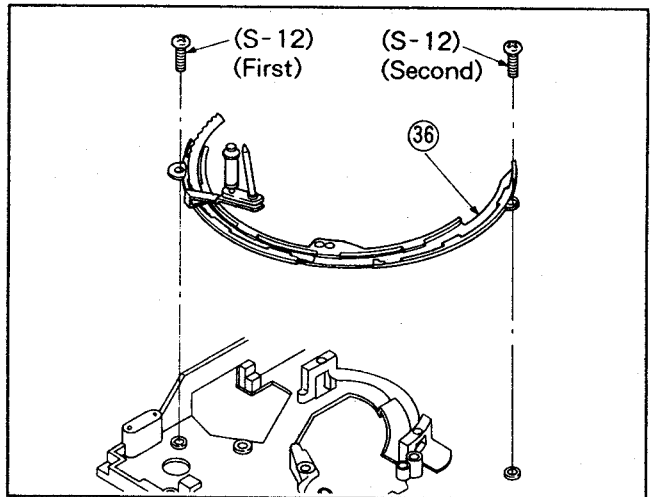


Fig. M18

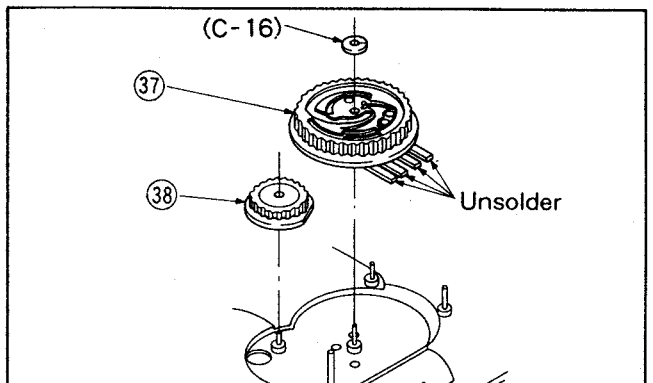


Fig. M19

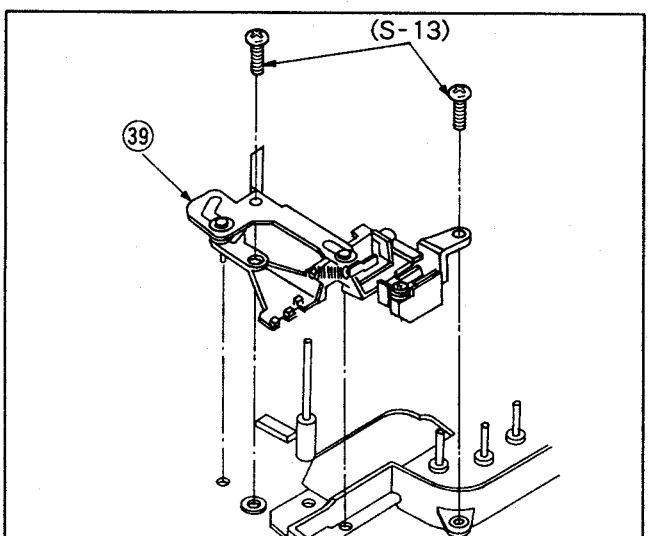


Fig. M20

2-4-2 Assembly of Mechanism

Note:

Alignment procedures in this section are critical.

Note:

All C-rings and E-rings should be replaced not re-used.

- 1) Reinstall T2-V stopper. Tighten screws as shown in fig M1.
- 2) Reinstall T-rail M assembly.
- 3) Reinstall lock base assembly. See fig. M20.
- 4) Reinstall cam gear/mode select switch. See fig.M19. Position the V-punch mark on the cam gear as shown in fig. A1.

Note:

If the eject lever prevents the cam gear from seating properly, rotate the cam gear until it seats then position the V-punch mark.

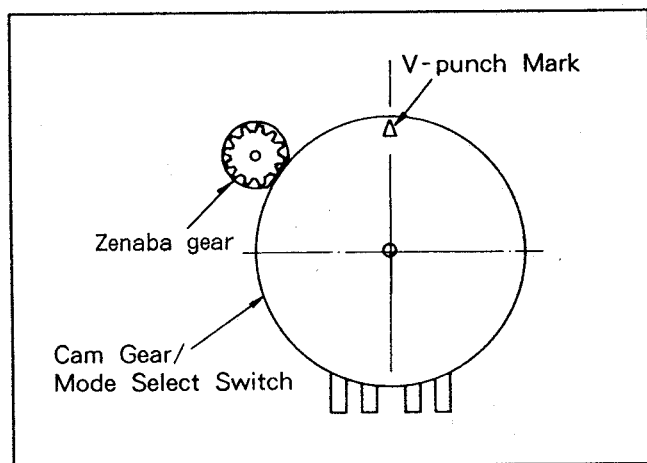


Fig. A1

- 5) Reinstall the zenaba gear so that the cut out of the zenaba gear is positioned towards the cam gear.
- 6) Reinstall the S rack assembly. See Fig. M18.
- 7) Reinstall the loading gear S assembly. See Fig.M17. See Fig. A3 for alignment procedure.

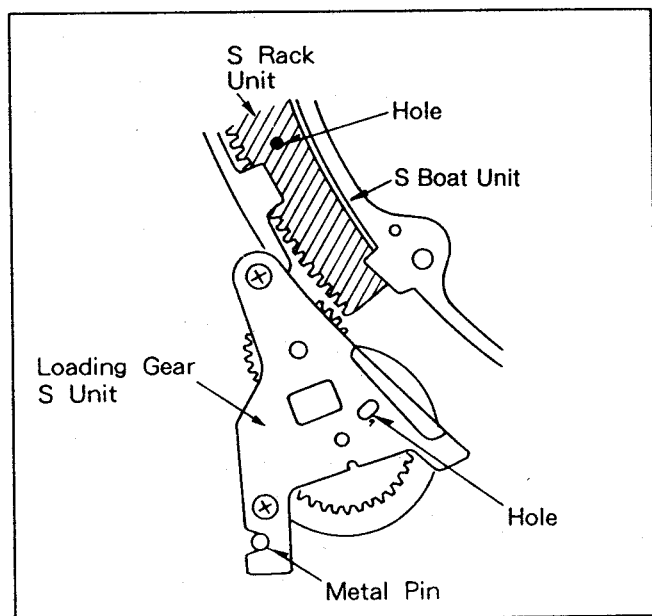


Fig. A3

- 8) Reinstall T rack guide assembly. See Fig. M16.
- 9) Reinstall T rail R Unit. Tighten screws as shown in Fig. DM15.
- 10) Check loading gear S assembly alignment as shown in Fig. A3. reinstall T2 loading gear. See Fig.M13. See Fig. A4 for alignment procedure.
- 11) Reinstall T1 loading gear aligning the small indentation on the T1 gear with the timing mark on the T rack guide unit. See Fig. A4.

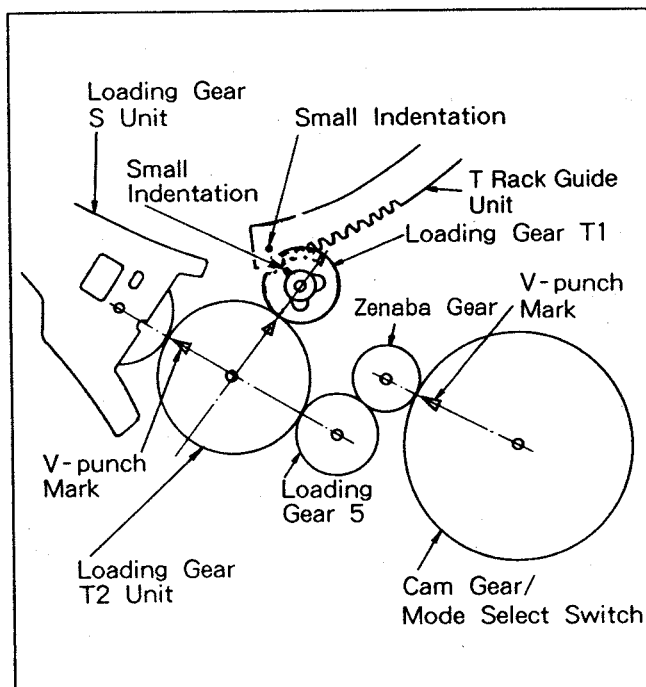


Fig. A4

- 12) Align V-punch mark on the cam gear with the shaft of the zenaba gear. See Fig. A2. Reinstall loading gear 5 with the flat side down.

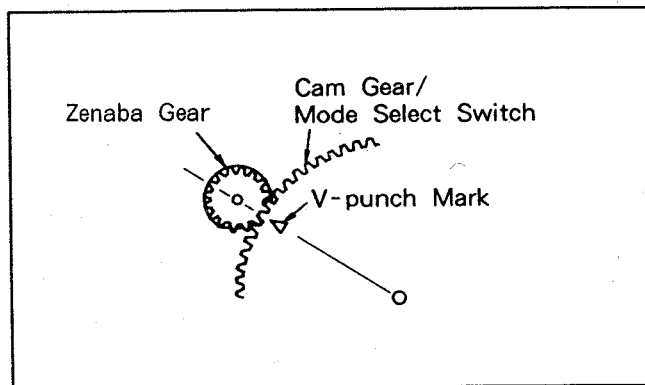


Fig. A2

- 13) Reinstall the band guide.
- 14) Reinstall the S rail unit. See Fig. M1.
- 15) Reinstall the T rail unit. Tighten the screws in the order shown in Fig. M12.
- 16) Rotate the cam gear counter clockwise to move the post to the fully loaded position.
- 17) Reinstall S/T-V stopper unit. Tighten screws in the order shown in Fig. M1.
- 18) Reinstall sector gear assembly. Install the pin on the sector gear assembly into the outer slot of the cam gear. See Fig. M11.
- 19) Rotate the cam gear clockwise to the fully loaded position then rotate the cam gear back 90 degrees.
- 20) Reinstall the pinch arm assembly. Install the E-ring. See Fig. M9 & A 5.

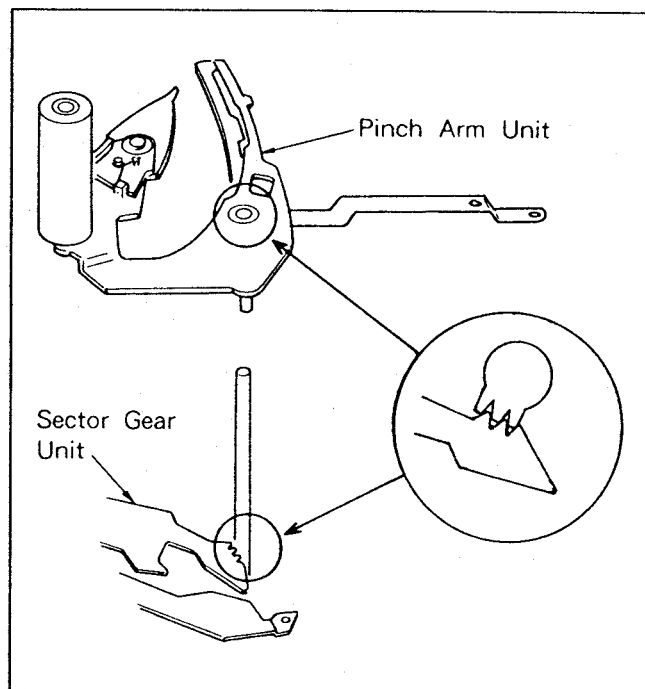


Fig. A5

- 21) Reinstall T1 return arm spring and T1 return arm. Install the E-ring. See Fig. M9-A.
- 22) Reinstall the tape opener guide.
- 23) Reinstall the T clutch gear unit. See Fig. M10.
- 24) Reinstall drive gear D.
- 25) Reinstall drive gear C with the flat side up.
- 26) Reinstall drive gear A.
- 27) Reinstall loading motor unit. Tighten the screws in the order shown in Fig. M8.
- 28) Reinstall the drive gear 2.
- 29) Reinstall drive gear 4 with the flat side down.
- 30) Reinstall the drive gear 3.
- 31) Reinstall the pulley plate unit. Tighten the screws in the order shown in Fig. M8.
- 32) Reinstall the centre pulley and centre pulley cap. See Fig. M7.
- 33) Reinstall the corrector drive arm assembly. Place the corrector drive arm pin in the outer slot of the cam gear.
- 34) Reinstall the spring on corrector arm A as shown in Fig. DM6-A.
- 35) Reinstall corrector arm A so that the first tooth on the corrector arm engages the first groove of the corrector drive arm. See Fig. A6.

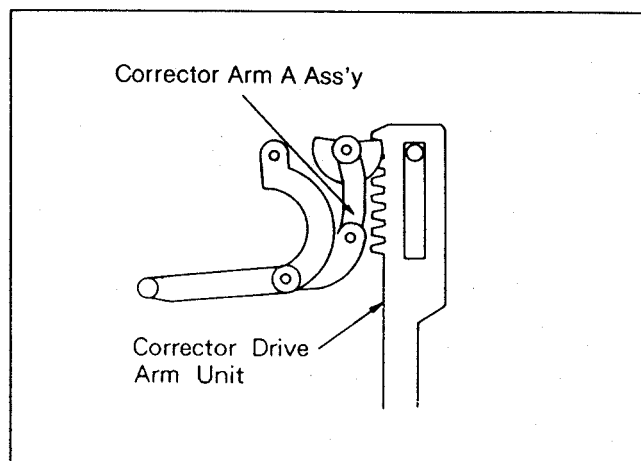


Fig. A6

- 36) Reinstall corrector arm C.
- 37) Reposition the spring on corrector arm A as shown in Fig. M6-B.
- 38) Reinstall the centre gear assembly.
- 39) Reinstall the T5 arm. See Fig. M5.
- 40) Reinstall the capstan motor unit. See Fig. M1.
- 41) Reinstall the A/C head. See Fig. M14. Position the spring as shown in Fig. M7.

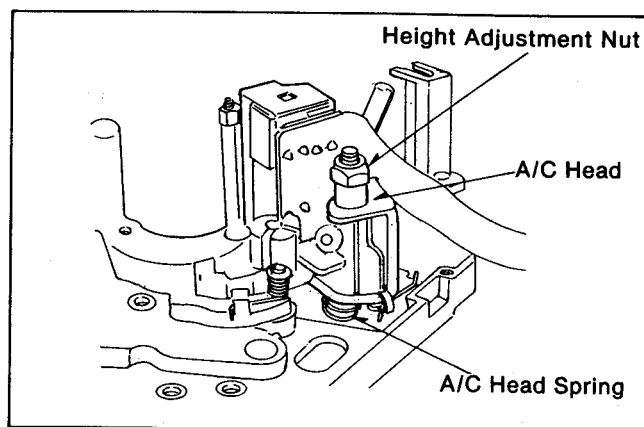


Fig. A7

- 42) Reinstall the capstan belt. See Fig. M2.
- 43) Reinstall the tension regulator band on the tension regulator assembly. See Fig. M3.
- 44) Reinstall the tension regulator assembly. Place the tension regulator assembly pin into the slot of T2 loading gear unit.
- 45) Reinstall the tension arm so that the U-notch on the tension arm unit aligns with the V-punch mark on the tension regulator assembly. See Fig. A8.

2-5. INTERCHANGEABILITY ADJUSTMENT

2-5-1. ADJUSTMENT OF BACK TENSION

*Equipment Required.

Tension meter

Alignment tape (VFM8180HUPF)

Specification 17 $\pm$ 2g.

- (1) Remove the Impedance Roller.
- (2) Insert the cassette tape and playback the tape.
- (3) Insert the Tension Meter to Mechanism as shown Fig.T1.

If Back tension is high, spring position change to (a) position as shown in Fig.T2.

If Back tension is low, spring position change to (c) position as shown in Fig.T2.

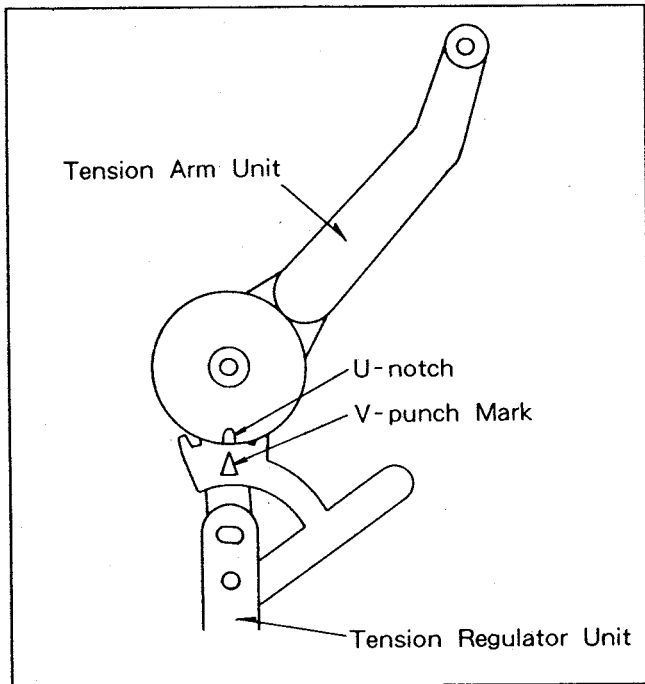


Fig. A8

- 46) Clean the rotating surface of the supply reel table with a soft dry cloth.
- 47) Reinstall the supply reel table.

Reinstall the DD Cylinder. See 2-2-2.

Reinstall the Mechanism Flexible Card CBA and Drive C.B.A.

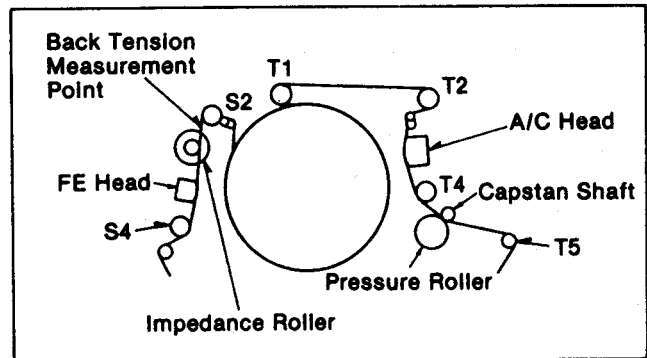


Fig.T1

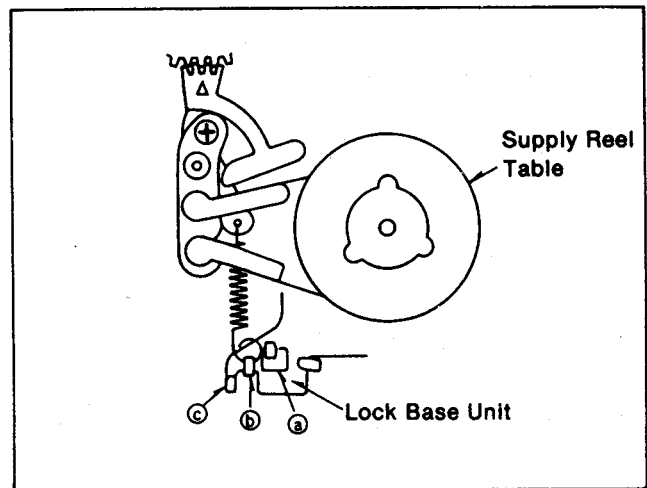


Fig.T2 S-REEL TABLE LOCK.BASE UNIT

- (4) After check the Back tension, install the impedance Roller.

2-5-2. HEIGHT ADJUSTMENT OF TAPE GUIDE POST (PRELIMINARY ADJUSTMENT)

Height adjustment of S4 Post, T4 POST, T5 Post specification.

S4 Post: $17.125 \pm 0.025 \text{ mm}$

T5 Post: $17.175 \pm 0.025 \text{ mm}$

T4 Post: $17.175 \pm 0.025 \text{ mm}$

- (1) For adjustment S4 Post height, turn 4mm Nut(A) Slightly in either direction as necessary to the correct clearance between the upper edge of lower tape guide on S4 Post and lower portion of Mecha chassis as shown in Fig.T3.

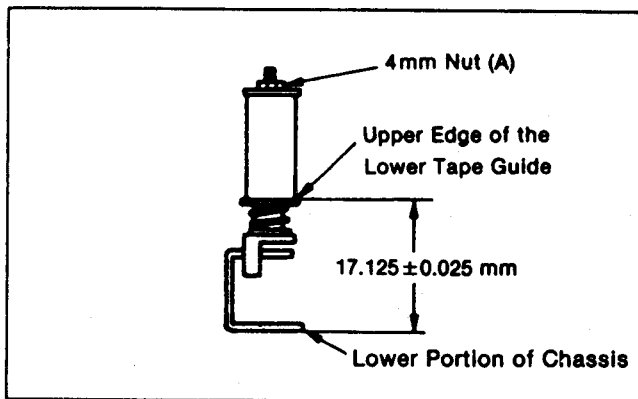


Fig. T3

Confirmation of Tape Travel

- (1) Playback a cassette tape and confirm that the tape travels without curling at upper and lower guides on posts T4, T2, S4 and S2 as shown in Fig.T4.

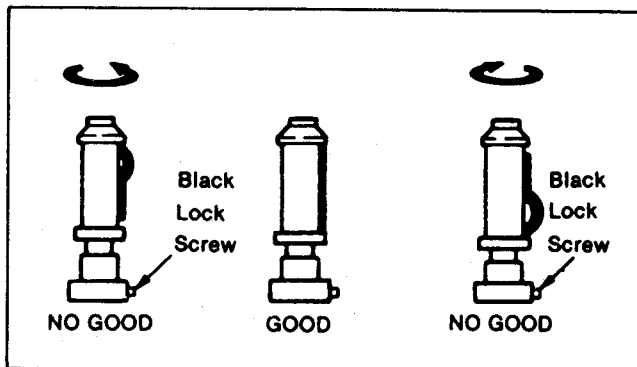


Fig. T4

- (2) If curling is apparent adjust the height of posts by turning the top of post with Hex Wrench.

Note:

Before turning S2 and T1, slightly loosen the Black Lock Screw using the Screw Driver.

2-5-3. TAPE INTERCHANGEABILITY ADJUSTMENT

NOTE:

- 1) To perform these adjustment / confirmation procedures make sure that the Tracking Control is set in fixed position by pushing both of the Tracking Control Up/Down switches simultaneously.
- 2) Before these adjustment/confirmation procedures, remove the cassette protective tape cover from a cassette tape or the Alignment tape (VFM8180HUPF).

*Equipment Required

Dual Trace Oscilloscope

Alignment tape (VFM8180HUPF)

2-5-4. CONFIRMATION OF TAPE TRAVEL

- (1) Confirmation of A/C Head. This confirmation is required when the A/C Head or capstan Motor is replaced and for preliminary height adjustment
- (2) Looking at the lower edge of the Control Head with the tape in motion, ensure that lower edge of the tape runs 0.25mm above the lower edge of Control Head. If it doesn't turn the A/C Head Height Adjustment Nut slightly in either direction as necessary to correct it.

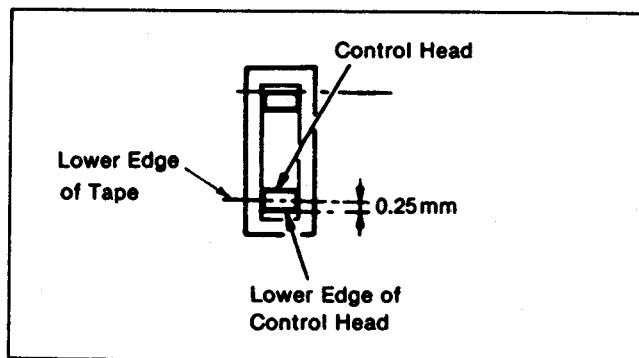


Fig.T5.

2-5-5. AZIMUTH ADJUSTMENT OF A/C HEAD.

- (1) Connect the oscilloscope to Audio Line Output.
- (2) Playback the Monoscope portion (6KHz, Mono) of the Alignment Tape.
- (3) Adjust the Azimuth Adjustment Screw on the A/C Head Base as shown in Fig.T6 so that output level is at a maximum.

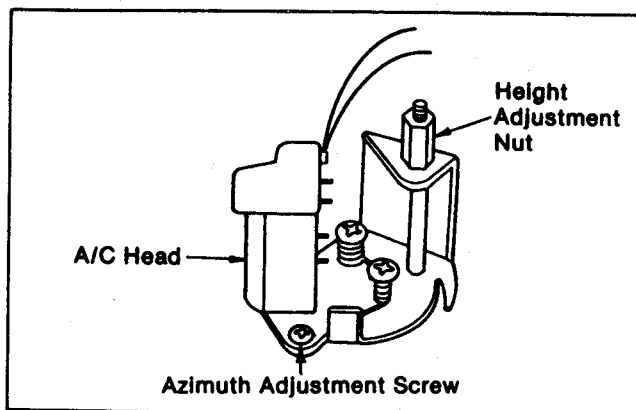


Fig. T6

2-5-6. HORIZONTAL POSITION ADJUSTMENT OF A/C HEAD

- (1) Set the Tracking Control to the fixed position by pushing both of the Tracking Control Up/Down switches simultaneously. Connect the oscilloscope to TP8002.
- (2) Playback the monoscope portion of the alignment tape and confirm that RF envelope appears as show Fig. T7

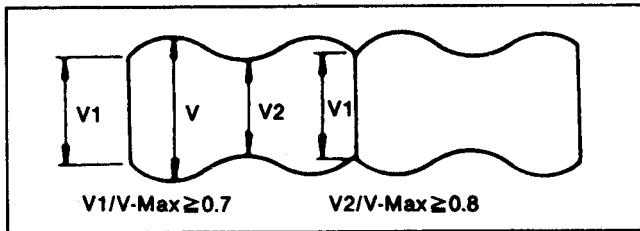


Fig. T7

- (3) If adjustment is required, slowly move the A/C Head Base back and forth using the H-Position adjustment screwdriver(VFK0743) by turning screw(D) so that envelope is at a maximum.

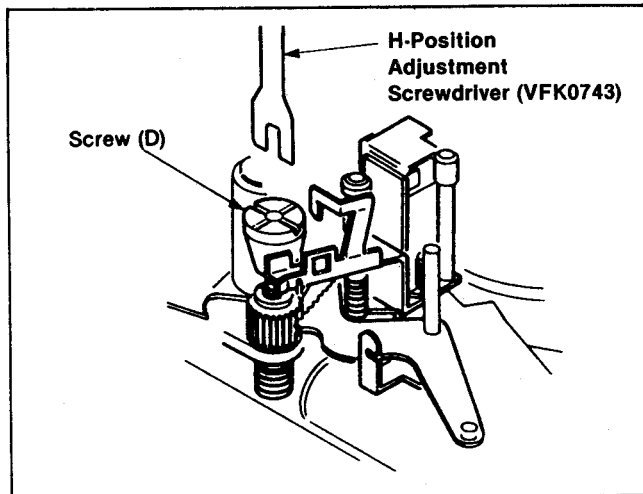


Fig. T8

- (4) Confirmation of the correct adjustment can be made by alternately pushing the Tracking Control Up/Down Switches, to check the symmetry of the envelope.
- (5) Reconfirm the symmetry of the envelope. If it has changed, repeat step(3) and (4).

2-5-7. CONFIRMATION/ADJUSTMENT OF ENVELOPE OUTPUT

- (1) Set the Tracking Control to the fixed position by pushing both of the Tracking Control Up/Down Switches simultaneously, connect the Oscilloscope to TP8002.
- (2) Playback the Monoscope portion of the Alignment Tape and adjust the height of posts S2, T1 posts watching the scope display so that the envelope becomes as flat as possible. ($V1/V-MAX \geq 0.7$, $V2/V-MAX \geq 0.8$) If adjustment is required, turn top of post with Hex, wrench for adjustment of S2 and T1.

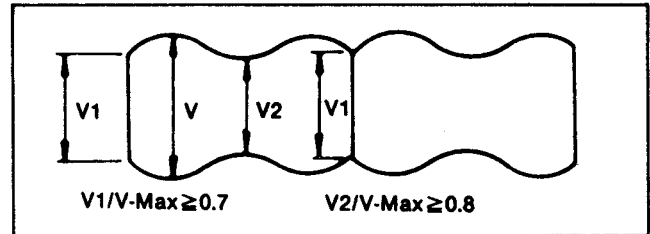


Fig. T9

- (3) When the scope display is shown in Fig. T10 adjust the height of S2 so that the wave looks like Fig.T12.

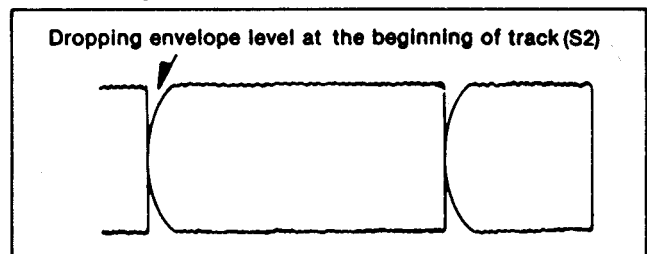


Fig. T10

- (4) When the scope display is shown in Fig.T11, adjust the height of T1 so that the wave looks like Fig.T12.

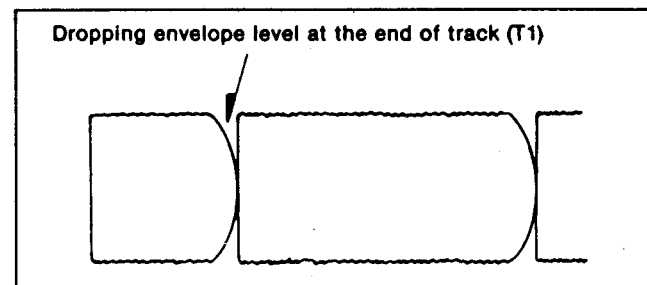


Fig. T11

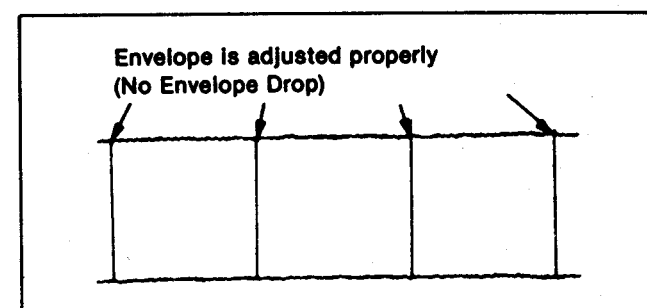


Fig. T12

Note: Adjustment procedure supplement for camera unit is separate volume from now.
Please refer to following manual for detail of adjustment procedure of camera.
Order number for adjustment procedure (camera) supplement: VMD9301M104.
(It will be supplied a few weeks later.)

2-6. ELECTRICAL ADJUSTMENT PROCEDURES

2-6-1. ELECTRICAL ADJUSTMENT FOR VTR SECTION

TEST EQUIPMENT AND TOOLS

The following equipment is required for adjustment of the VTR section of VHS-Movie.

1. VTVM (Vacuum Tube Volt Meter)
DVM (Digital Volt Meter)
Voltage Range: 0.01-50V
2. Dual Trace Oscilloscope
Voltage Range: 0.06-50V/div
Frequency Range: 0-50MHz
Probe: 10:1 or 1:1
3. Frequency counter
Frequency Range: 0-10MHz
4. Signal Generator (Sinewave)
Frequency Range: 0-10MHz
5. Video Sweep Generator
Frequency Range: 0-10MHz
6. Colour Monitor TV
7. Plastic Tip Driver
8. VHS-C-Movie Alignment Tape (VFM8180HUPF)
9. VHS-C Blank Tape
10. Pattern Generator
11. Vectorscope
12. DC Power Supply

PREPARATION

1. Remove the casing panels.
(Refer to the disassembly method)
2. Connect the extension cable is necessary.
VFK0825
(Camera Main (FP301) to VTR Main (FP1002))
VFK0885
(Camera Main (P301) to EVF (P802))
VFK0888
(Camera Main (B302) to Camera Operation)
VFK0888
(VTR Main (B4003) to AV-JACK)

HOW TO READ THE ADJUSTMENT PROCEDURES

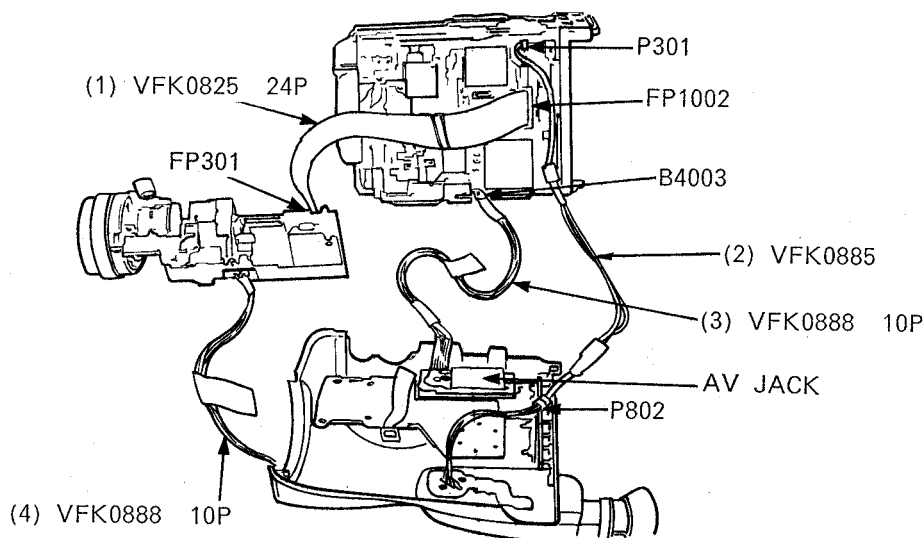
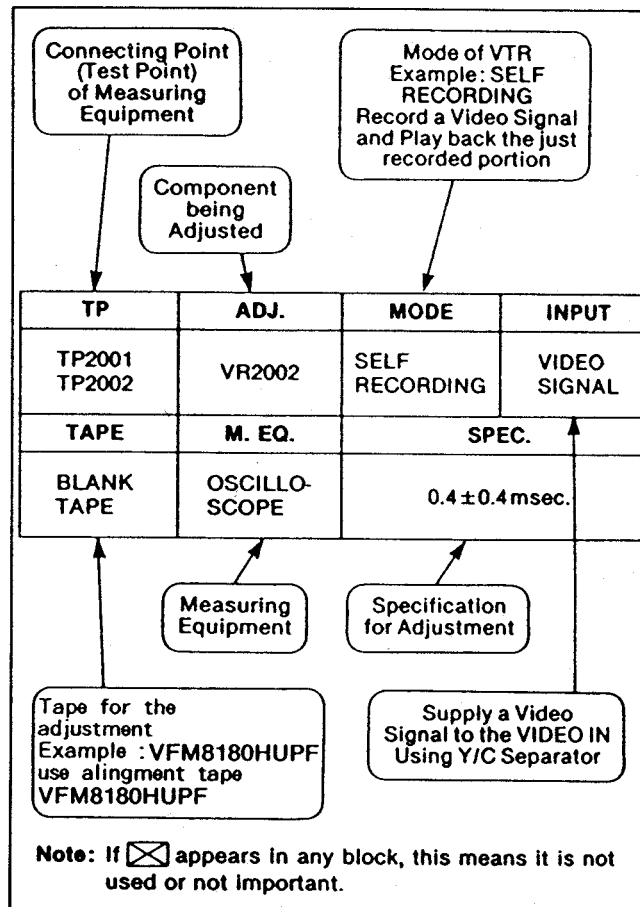
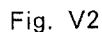


Fig. V1

TRIGGERING THE OSCILLOSCOPE

H. rate : (video output)
V. rate : CKE6(B6002-6) (Head Switching signal)

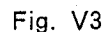


1. PG SHIFTER ADJUSTMENT

Q. Determine the Head Switching point during play-back.

May cause Head Switching Noise and/or Vertical jitter in the picture.

TP	ADJ.	MODE	INPUT
B6002 ⑥ CKE-6 VIDEO OUT	VR6701	PLAY	
TAPE	M. EQ.	SPEC.	
ALIGNMENT TAPE (VFM8180HUPF)	OSCILLO- SCOPE	6.5H±0.5H	



2. RECORDING CURRENT ADJUSTMENT

REC CHROMA LEVEL ADJUSTMENT

Set the optimum Record Chroma Level.

If the Record Chroma Level is too high, Beats may be seen in the picture.
If the Level is too low, Picture will be Black and White.

TP	ADJ.	MODE	INPUT
TL5001 (HOT) TL5002 (GND)	VR8001	VHS REC/PLAY	COLOUR BAR
TAPE	M. EQ.	SPEC.	
VHS BLANK TAPE	OSCILLO- SCOPE	12+ - 2mVp-p	

9. Cover the Lens cap.

2. Minimize the luminance recording current by turning VR3001 before this adjustment.

1. Connect the oscilloscope to TL5001(HOT) and TL5002(GND)
2. Make recording with SP mode.
3. Eliminate luminance signal by turning off.
4. Adjust the VR8001 so that chroma level is 12+-
2mVp-p.

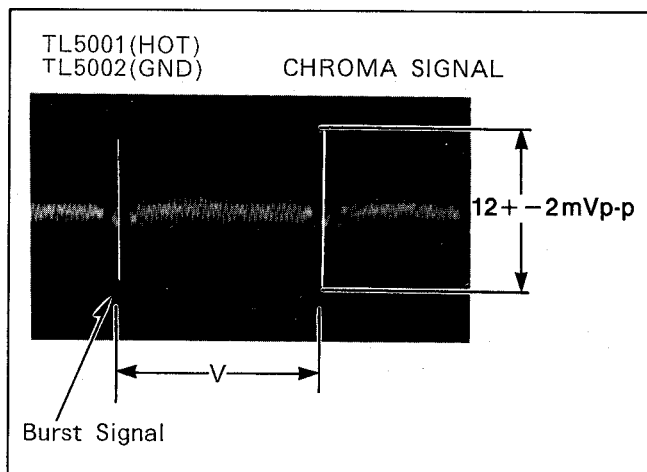


Fig. V4

3. LUMINANCE RECORDING CURRENT ADJUSTMENT

Purpose:

Set the optimum Recording Lumnance Level.

Symptom of Misadjustment:

If the Record Luminance Level is too high, video may overload.

If the Level is too low, the S/N Ratio deteriorates.

TP	ADJ.	MODE	INPUT
TL5001 (HOT) TL5002 (GND)	VR3001	VHS REC/PLAY	DARK PICTURE
TAPE	M. EQ.	SPEC.	
VHS-C BLANK TAPE	OSCILLO- SCOPE	110±4mVp-p.	

Note:

Cover the Lens with cap.

1. Connect the oscilloscope to TL5001(HOT) and TL5002(GND).
2. Aim the camera a colour bar.
3. Make recording with SP mode.
4. Adjust the VR3001 so that luminance level is 110±4mVp-p.

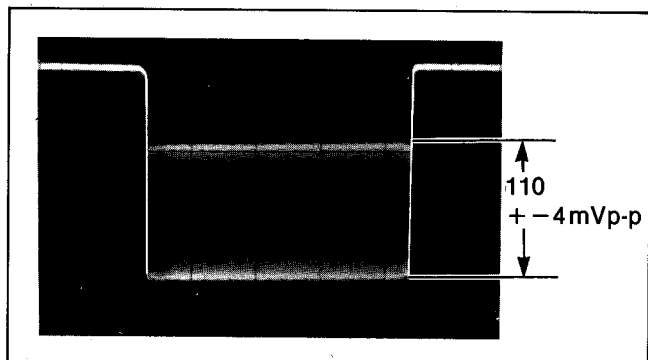


Fig. V5

4. YNR ADJUSTMENT

Purpose:

Improve the overall S/N Ratio especially in the Low Frequency component.

Symptom of Misadjustment:

TP	ADJ.	MODE	CHART
TL3004	VR3002	PLAY	COLOUR BAR
TAPE	M. EQ.	SPEC.	
ALIGNMENT TAPE VFM8180HUPF	OSCILLO- SCOPE	SIGNAL IS MINIMIZED (LESS THAN 50mV)	

1. Play Back the Alignment tape.
2. Connect the ocilloscope to TL3004.
3. Adjust VR3002 so that signal is minimized.

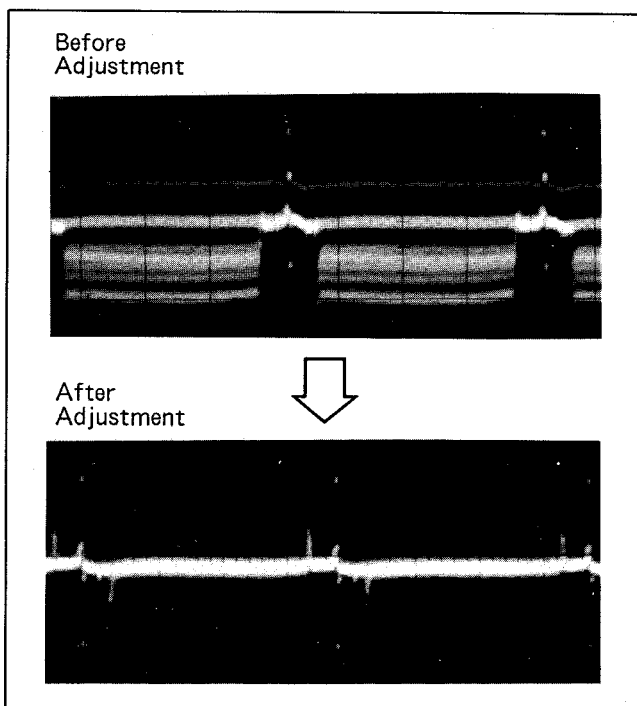


Fig. V6

5. HEAD AMP FREQUENCY RESPONSE ADJUSTMENT

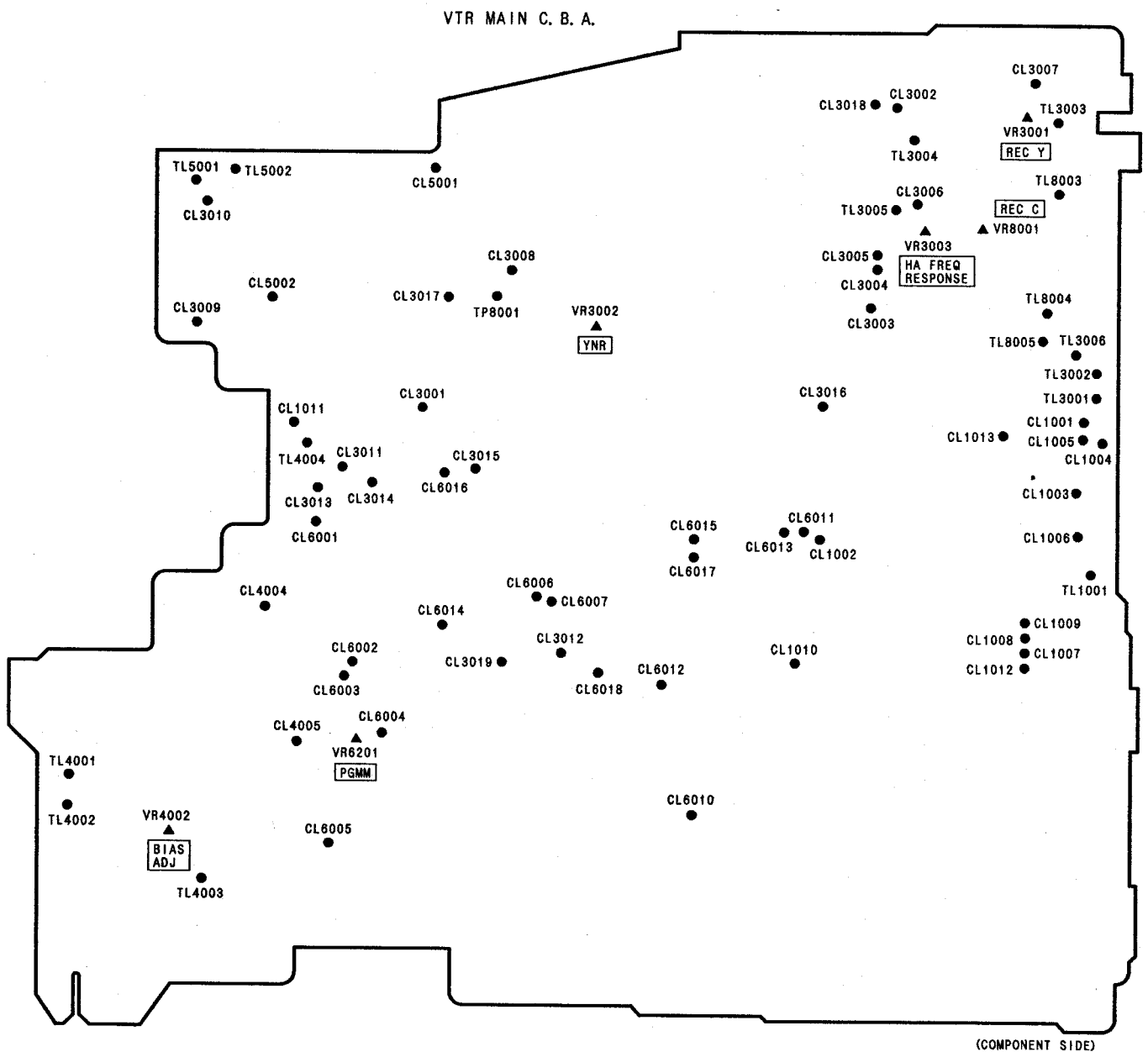
Purpose:

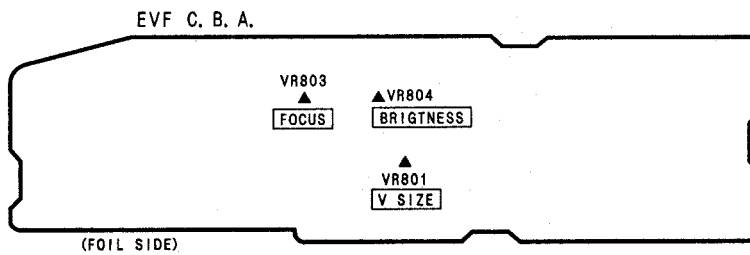
To improve Video Frequency Response Level.

Symptom of Misadjustment:

Video Frequency Response deteriorates.
Picture is noisy.

LOCATION OF TEST POINTS & CONTROLS





2-6-2. ELECTRICAL ADJUSTMENT FOR E.V.F. SECTION

The following adjustment are for Electric Viewfinder.

- (1) Connect the Viewfinder plug to the E.V.F. connector on the unit.
- (2) The camera circuit must be completely aligned before viewfinder adjustments are made.

1. CENTERING ADJUSTMENT

- (1) Aim the camera at the registration chart.
- (2) Adjust the deflection Yoke centering magnets turning them so that the picture on monitor TV is centered.

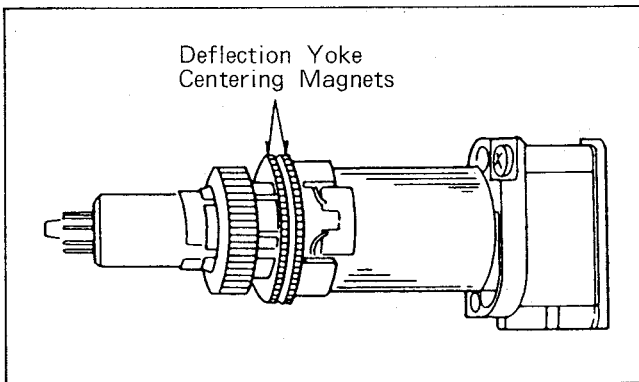


Fig. E1

2. FOCUS ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
X	VR803	NO	BALL CHART
M. EQ.		SPEC.	
VIEWFINDER		BEST RESOLUTION	

NOTE VR803: E.V.F. C.B.A.

- 1) Aim the connect at Ball chart.
- 2) Adjust the VR803 for best resolution in viewfinder.

3. V.SIZE ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
X	VR801	NO	GRAY SCALE CHART
M. EQ.		SPEC.	
VIEWFINDER		VERTICAL SIZE IS FIXED	

NOTE:

VR801 : E.V.F. C.B.A.

- (1) Aim the camera at the gray scale chart.
- (2) Adjust the vertical size(VR801) so that the Vertical size is correct and the picture does not roll as shown in Fig.E2.

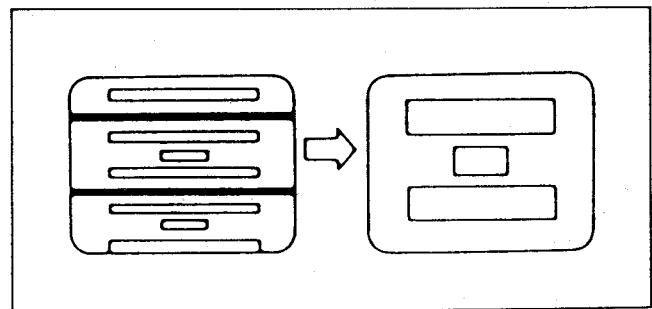


Fig. E2

4. BRIGHTNESS ADJUSTMENT

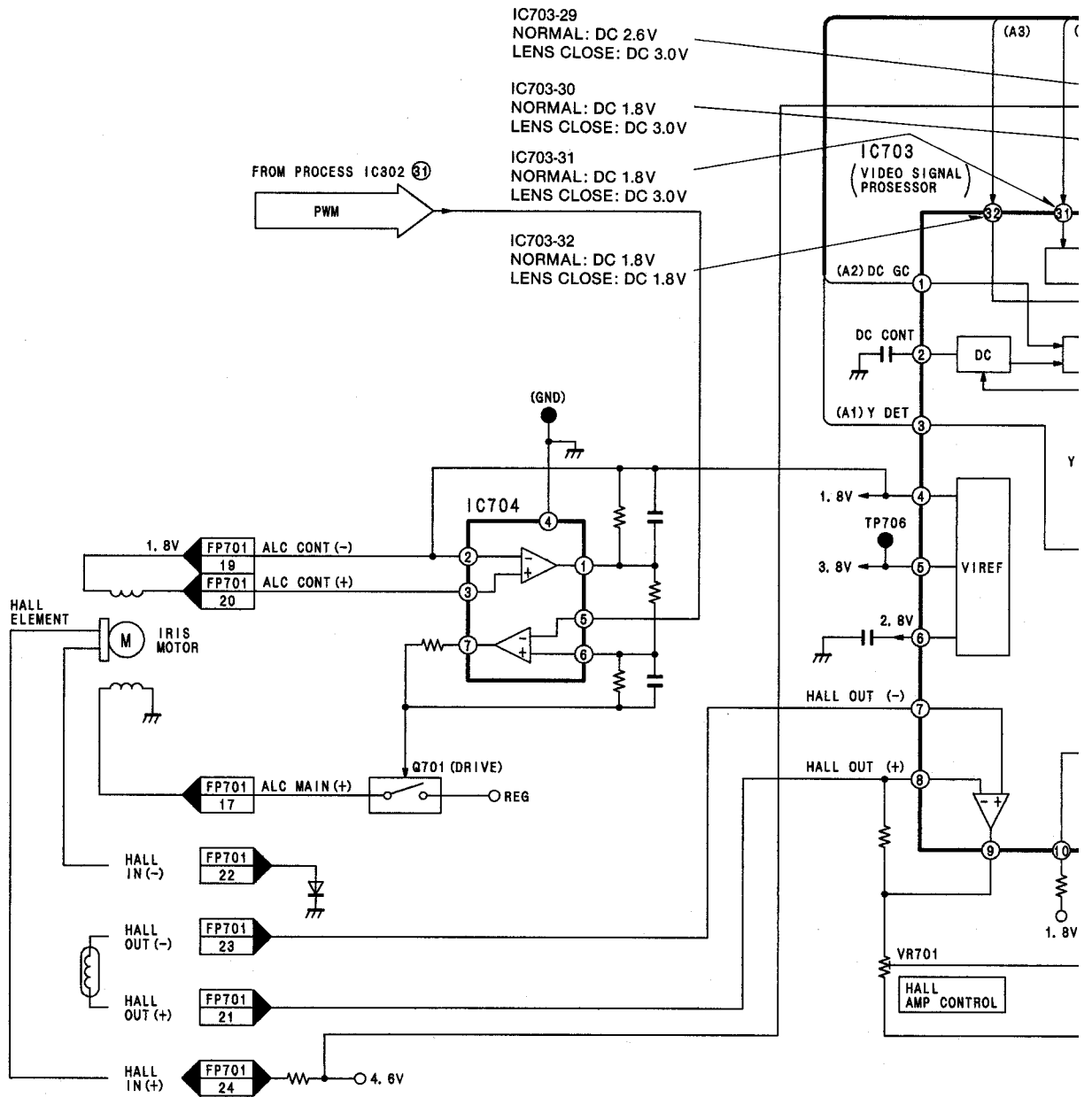
TP	ADJ.	LENS CAP	CHART
X	VR804	NO	GRAY SCALE CHART
M. EQ.		SPEC.	
VIEWFINDER		NATURAL GRADATION	

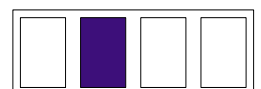
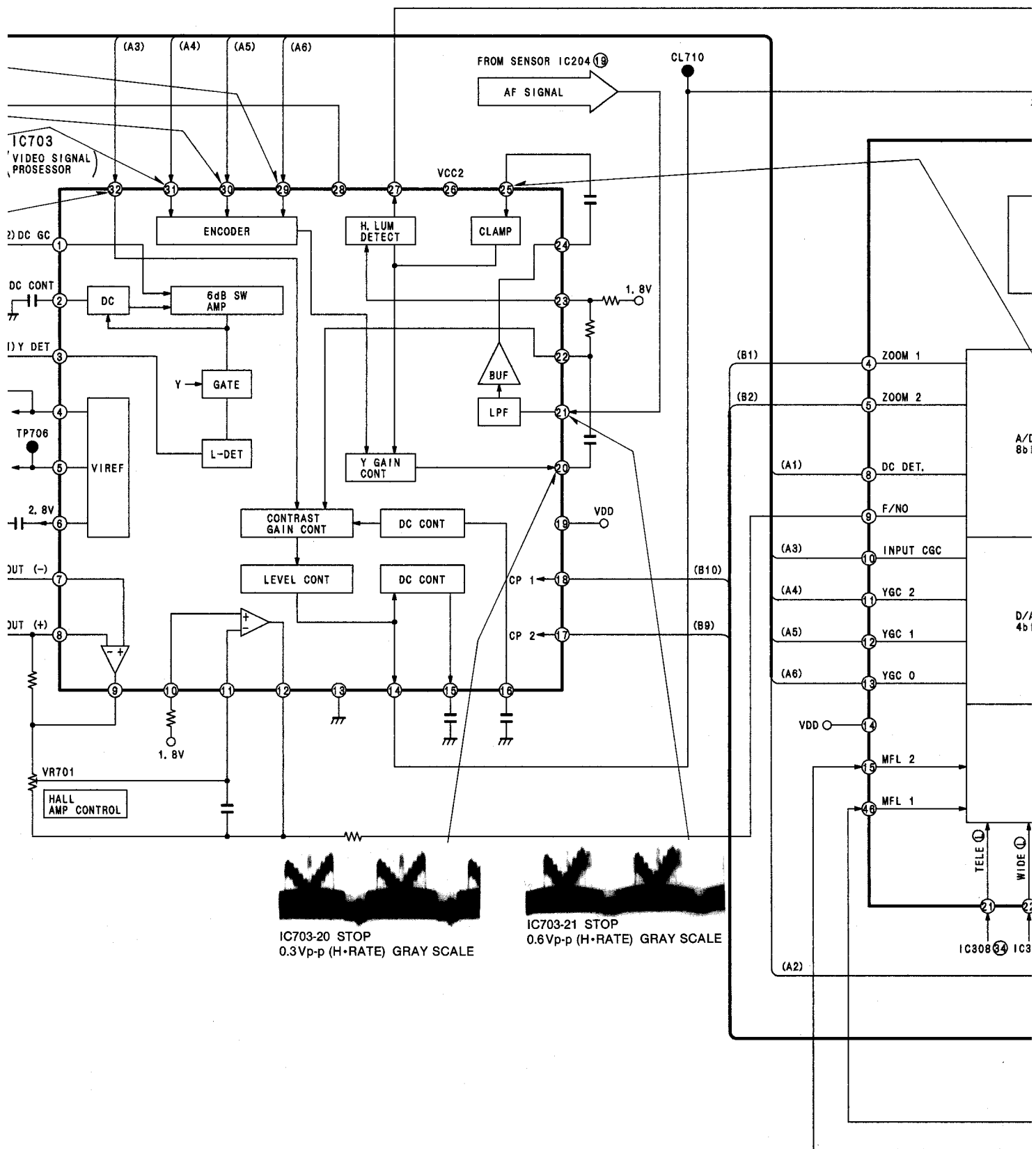
NOTE:

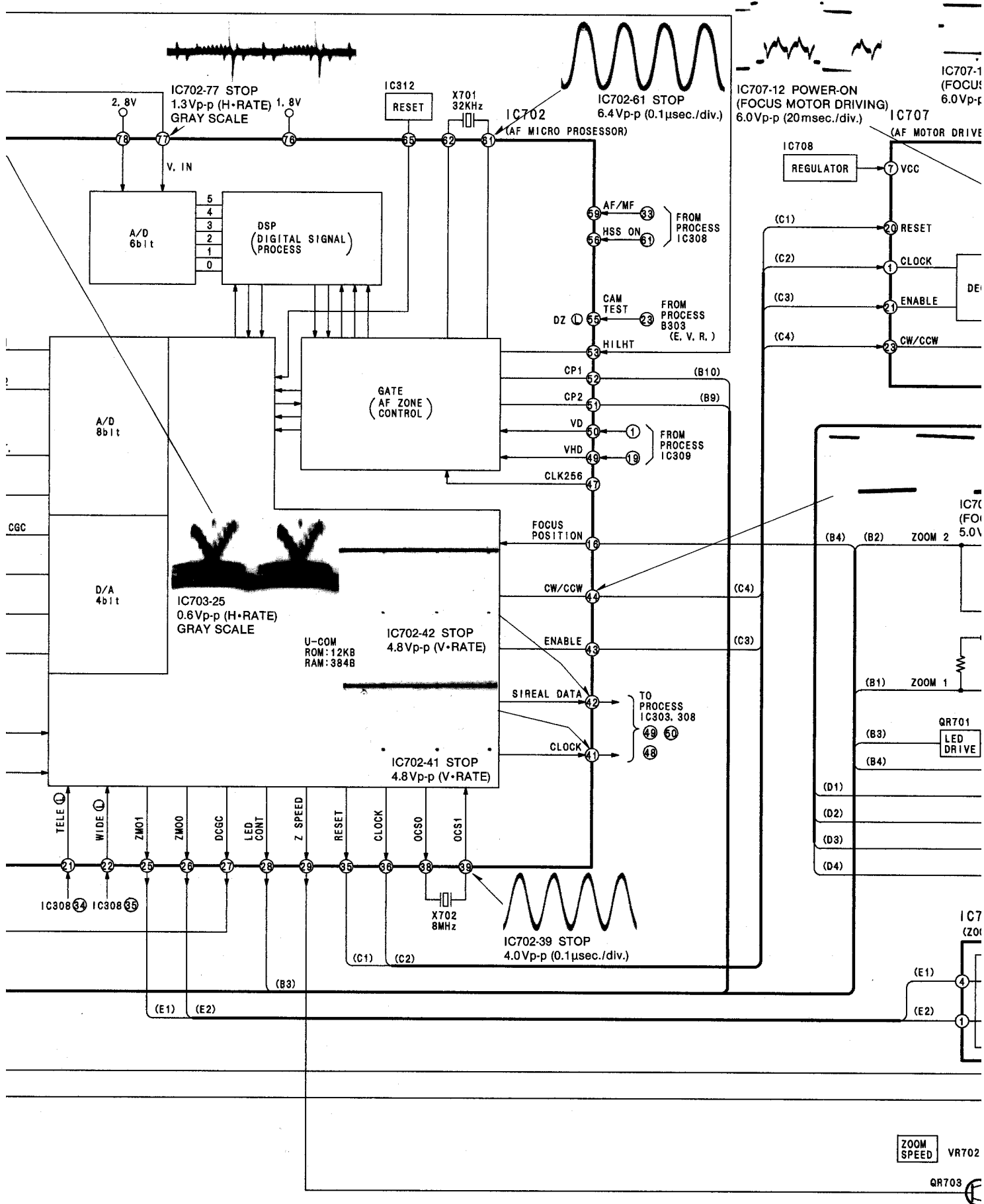
VR804 : E.V.F. C.B.A.

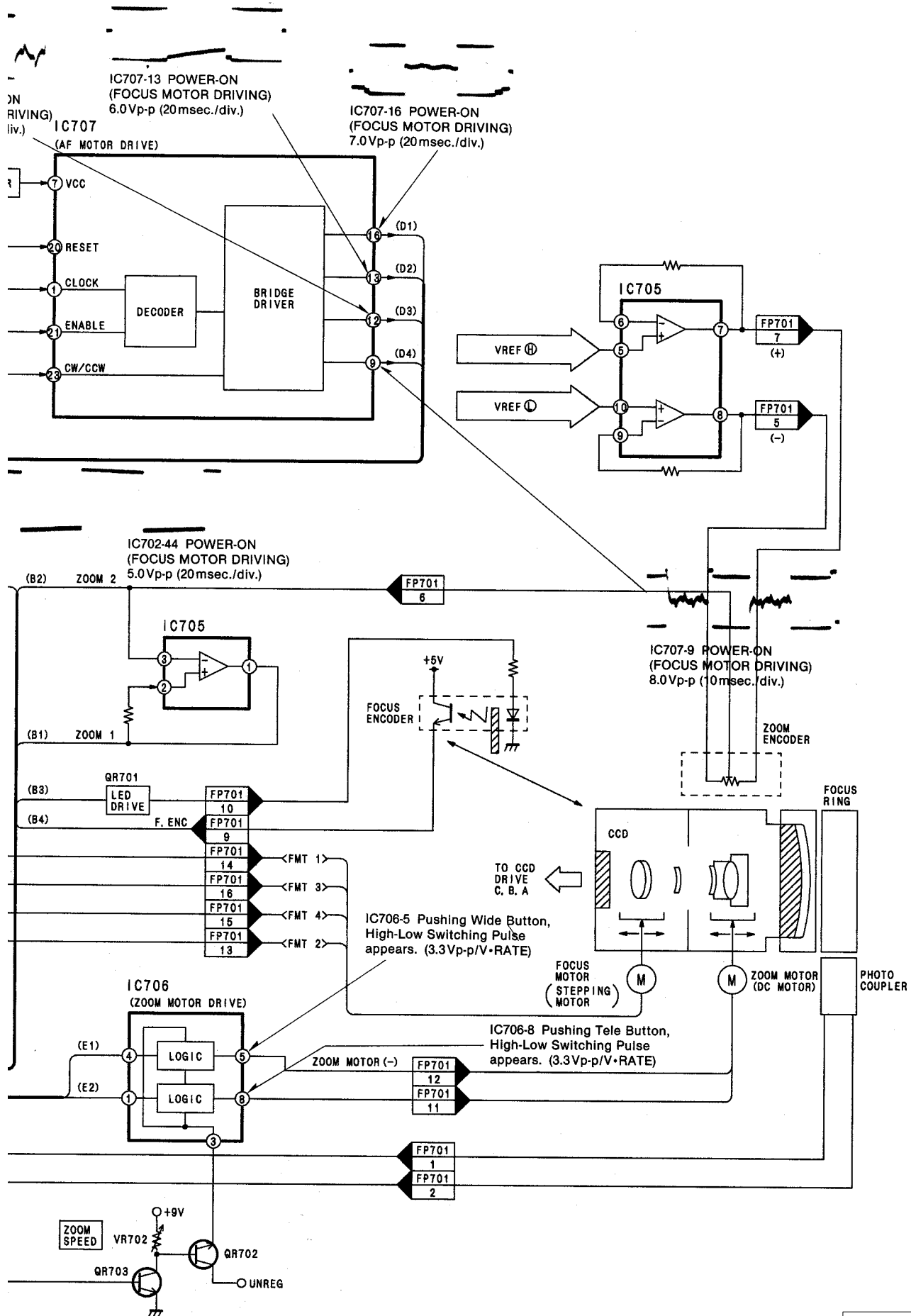
- (1) Aim the camera at gray scale chart.
- (2) Adjust the brightness control(VR804) so that the black and white bars in the E.V.F. screen are the same as they are in the monitor TV screen.

3-2. AUTO FOCUS BLOCK DIAGRAM

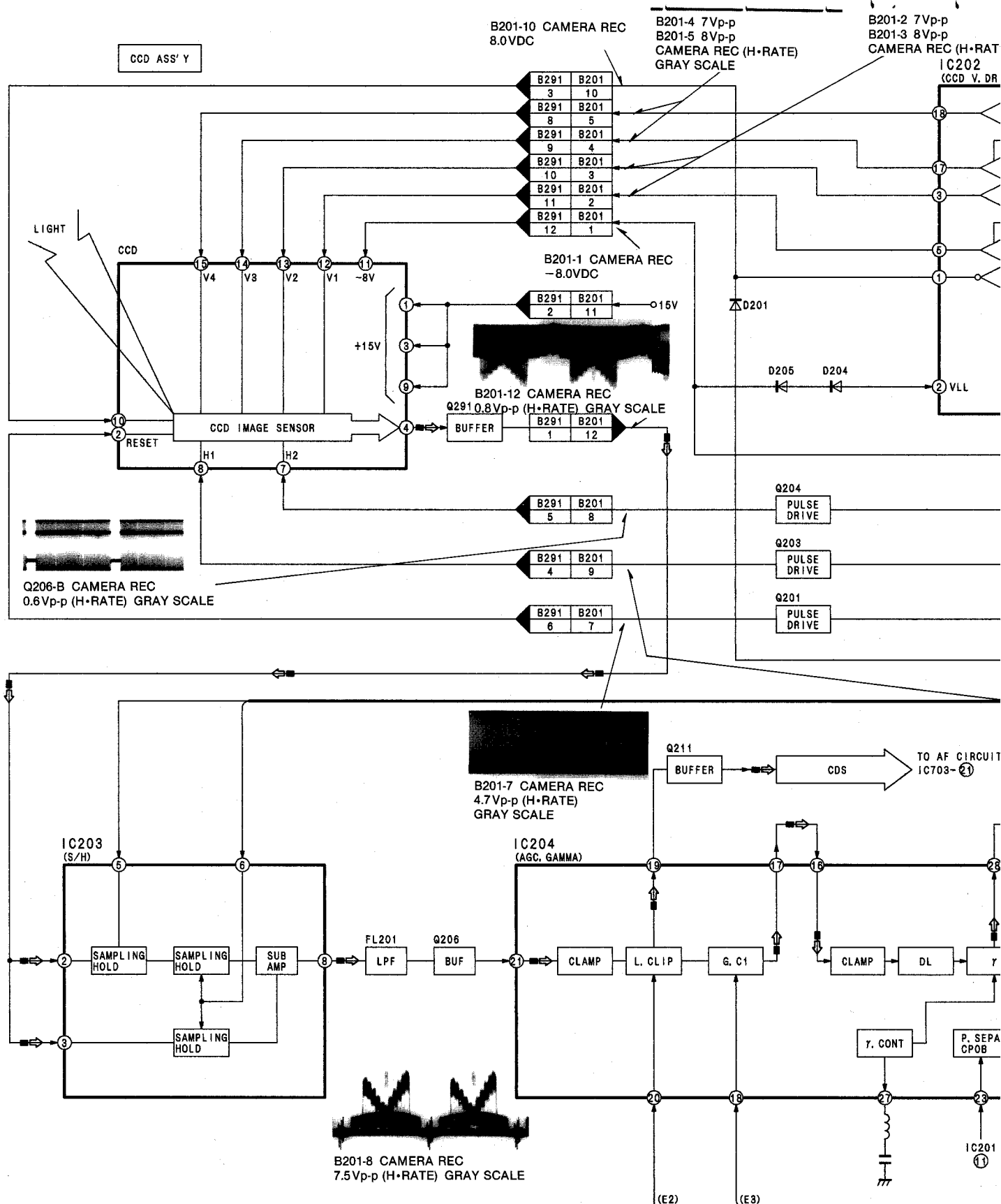






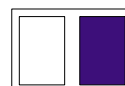
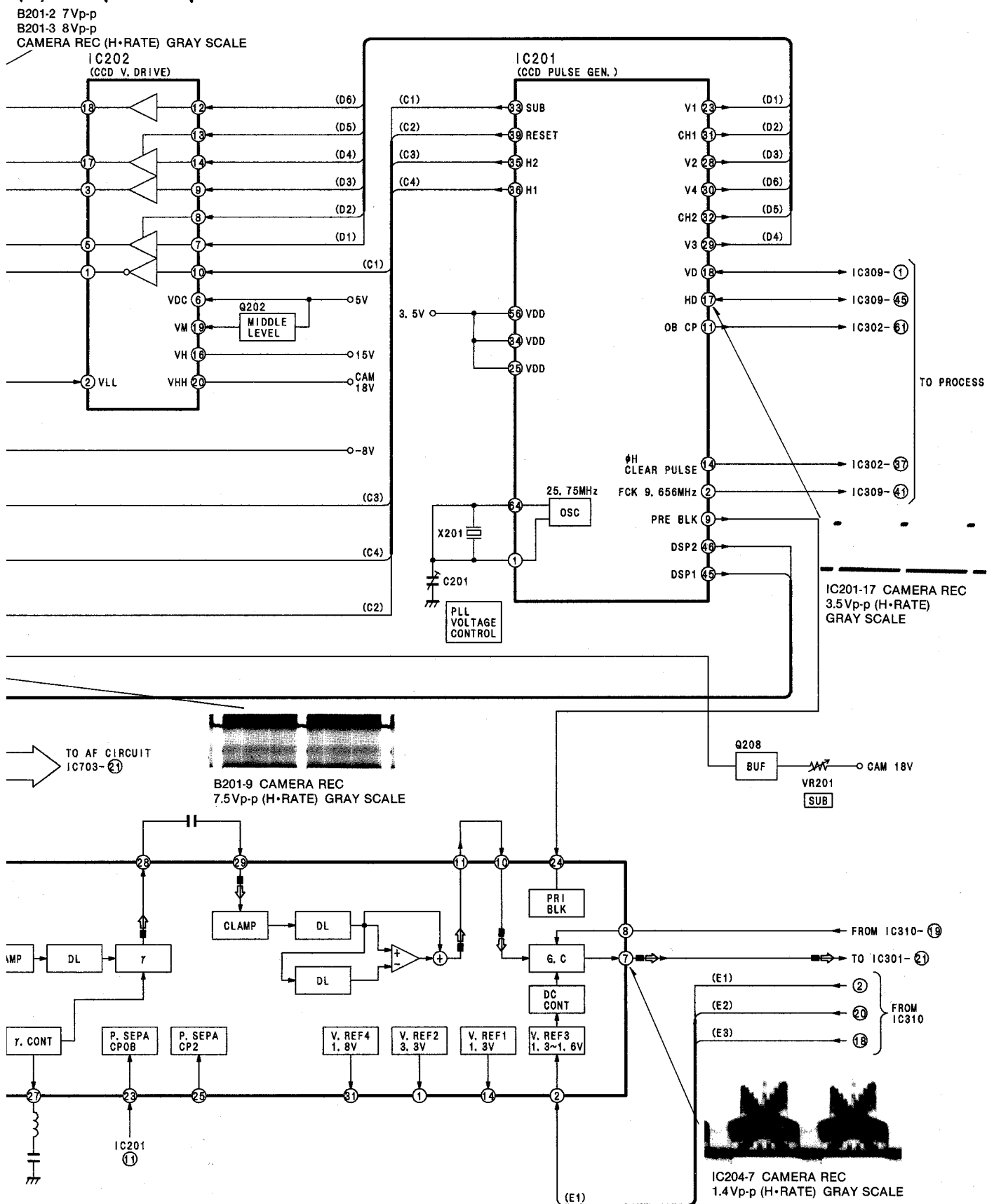


3-3. CCD DRIVE BLOCK DIAGRAM

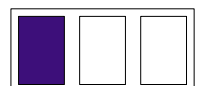
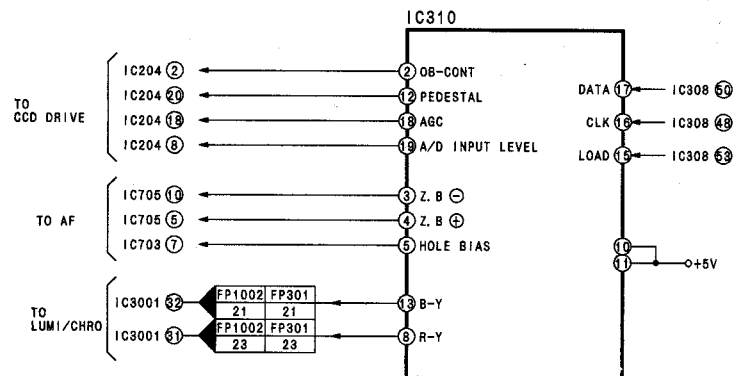
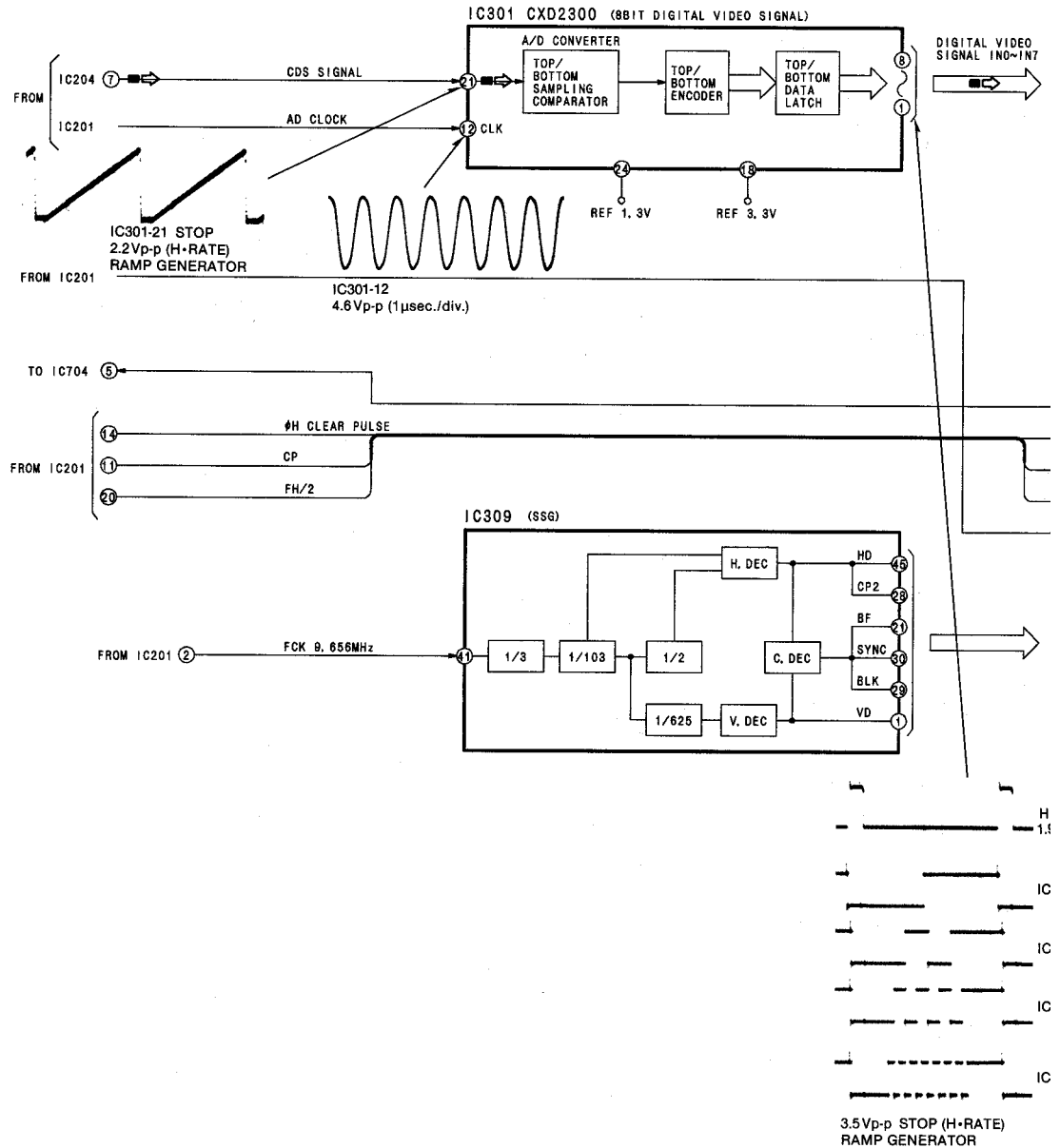


CCD DRIVE & PROCESS Section

◀ VIDEO SIGNAL



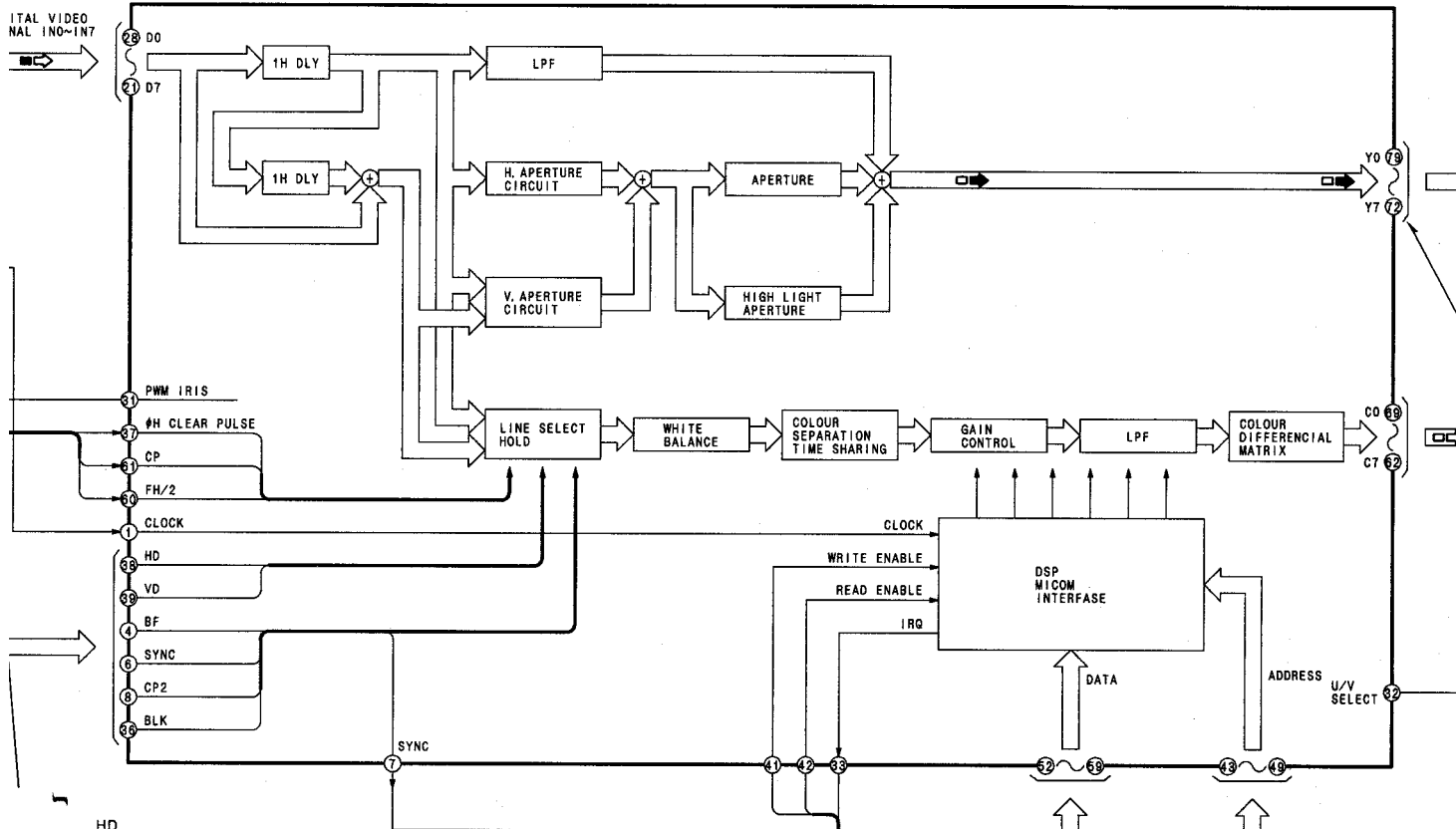
3-4. PROCESS BLOCK DIAGRAM



VIDEO SIGNAL
DIGITAL Y SIGNAL

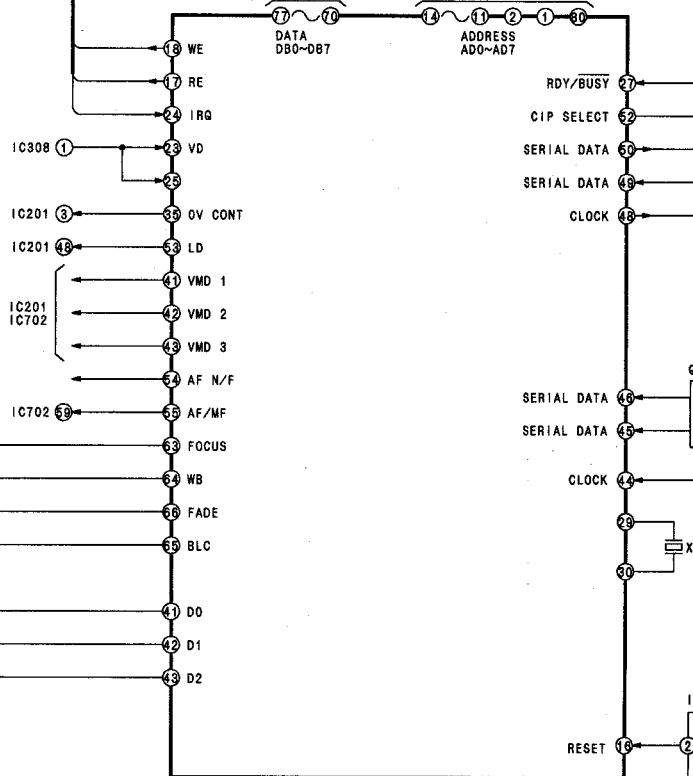
DIGITAL C SIGNAL
Y SIGNAL

IC302 (LSI:Y/C DIGITAL SIGNAL PROCESS)

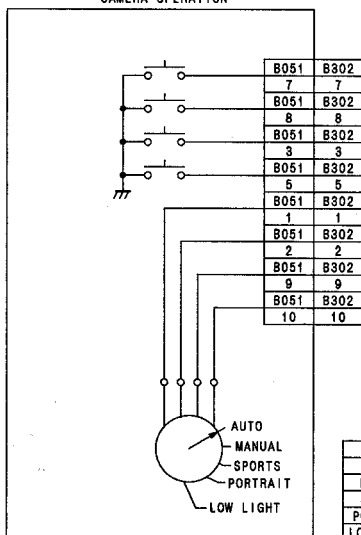


HD 1.9Vp-p
IC301-8
IC301-7
IC301-6
IC301-5
-RATE)
OR

IC308
(DSP MICRO PROCESSOR)

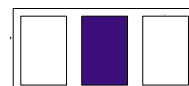


CAMERA OPERATION



	D0	D1	D2
AUTO	H	H	H
MANUAL	L	H	H
SPORTS	L	L	H
PORTRAIT	H	L	H
LOW LIGHT	H	L	L

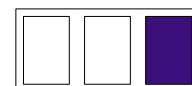
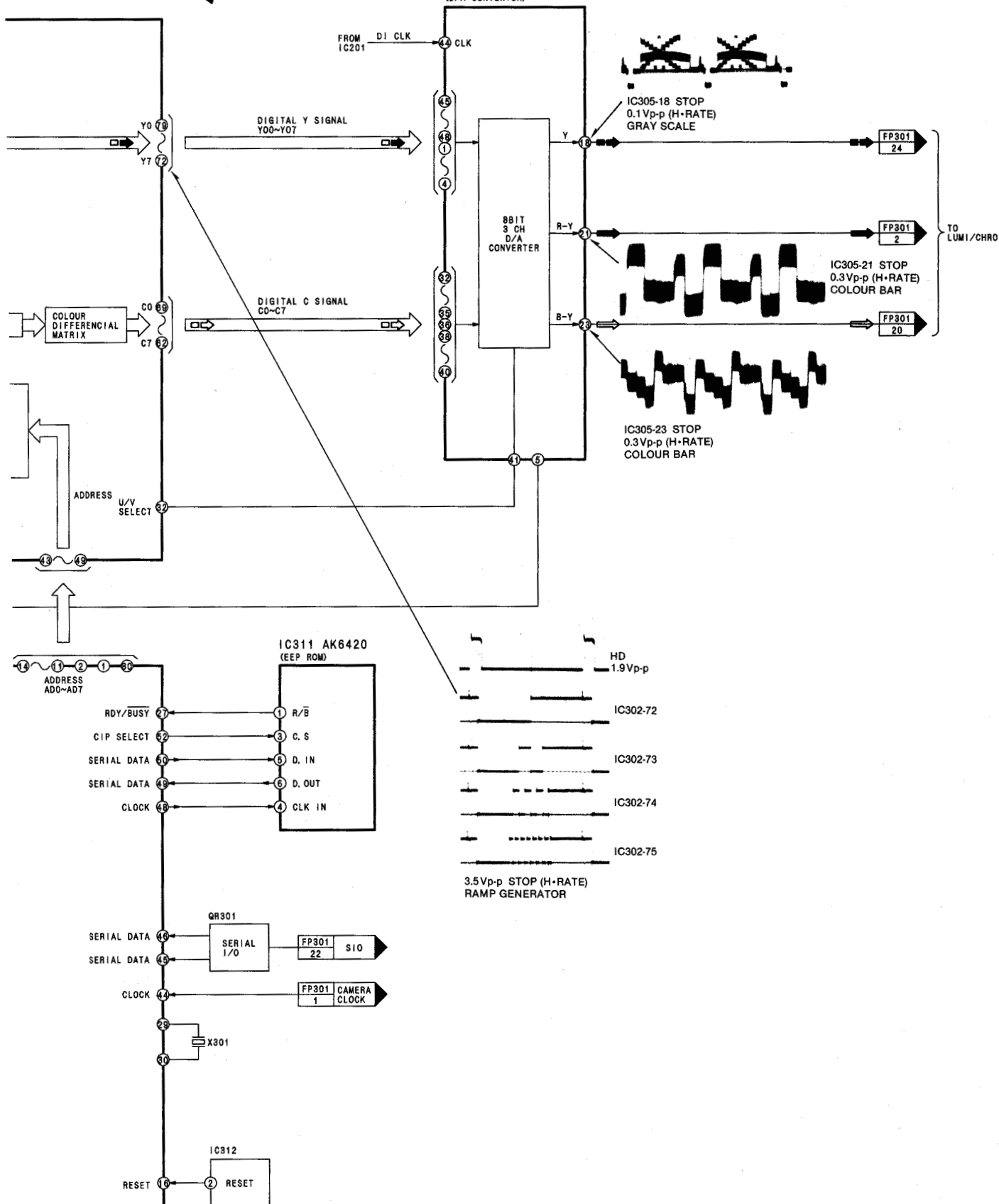
H: OPEN
L: CONNECT TO COMMON
TERMINAL



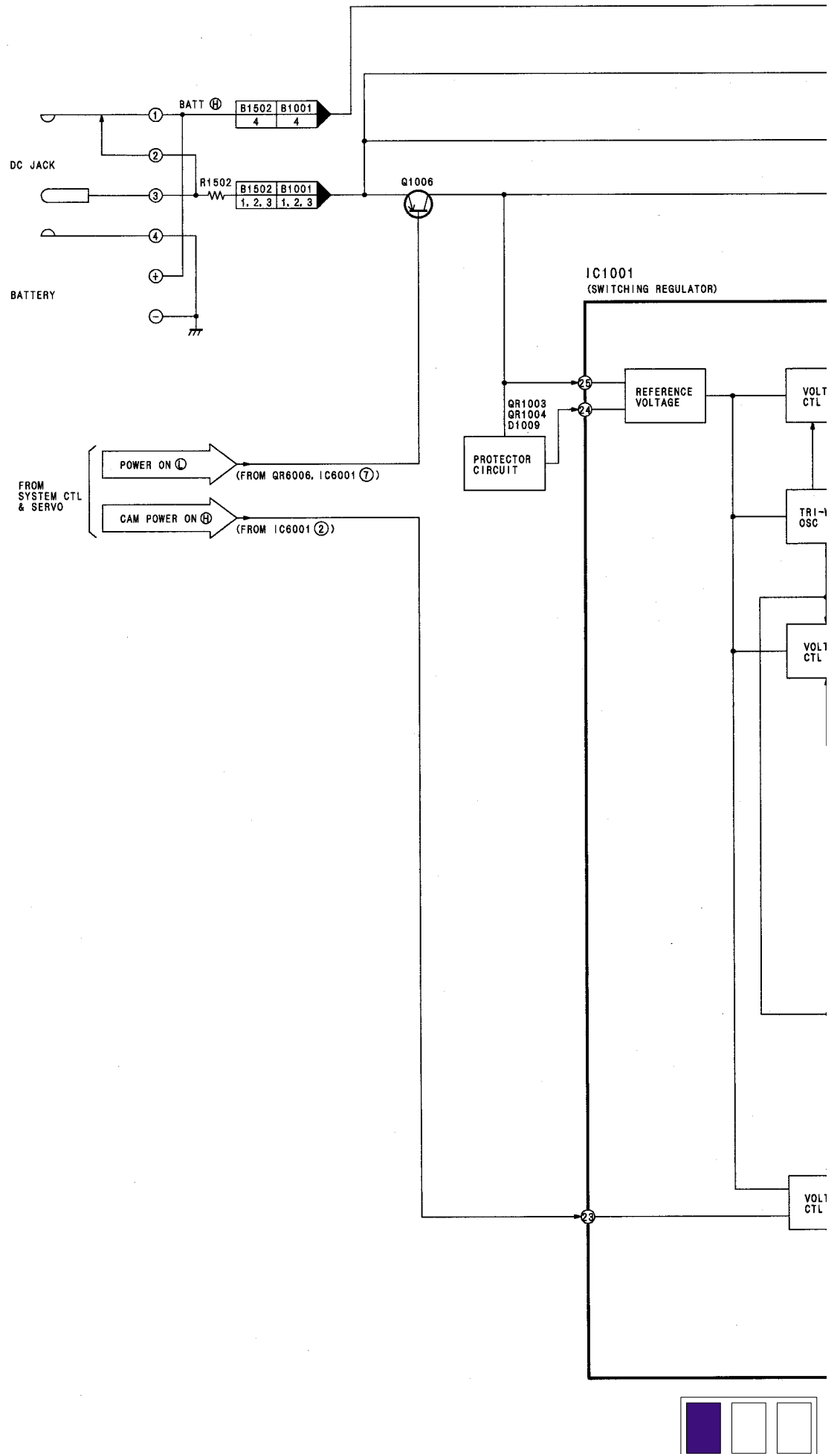
L C SIGNAL
IAL

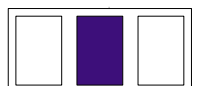
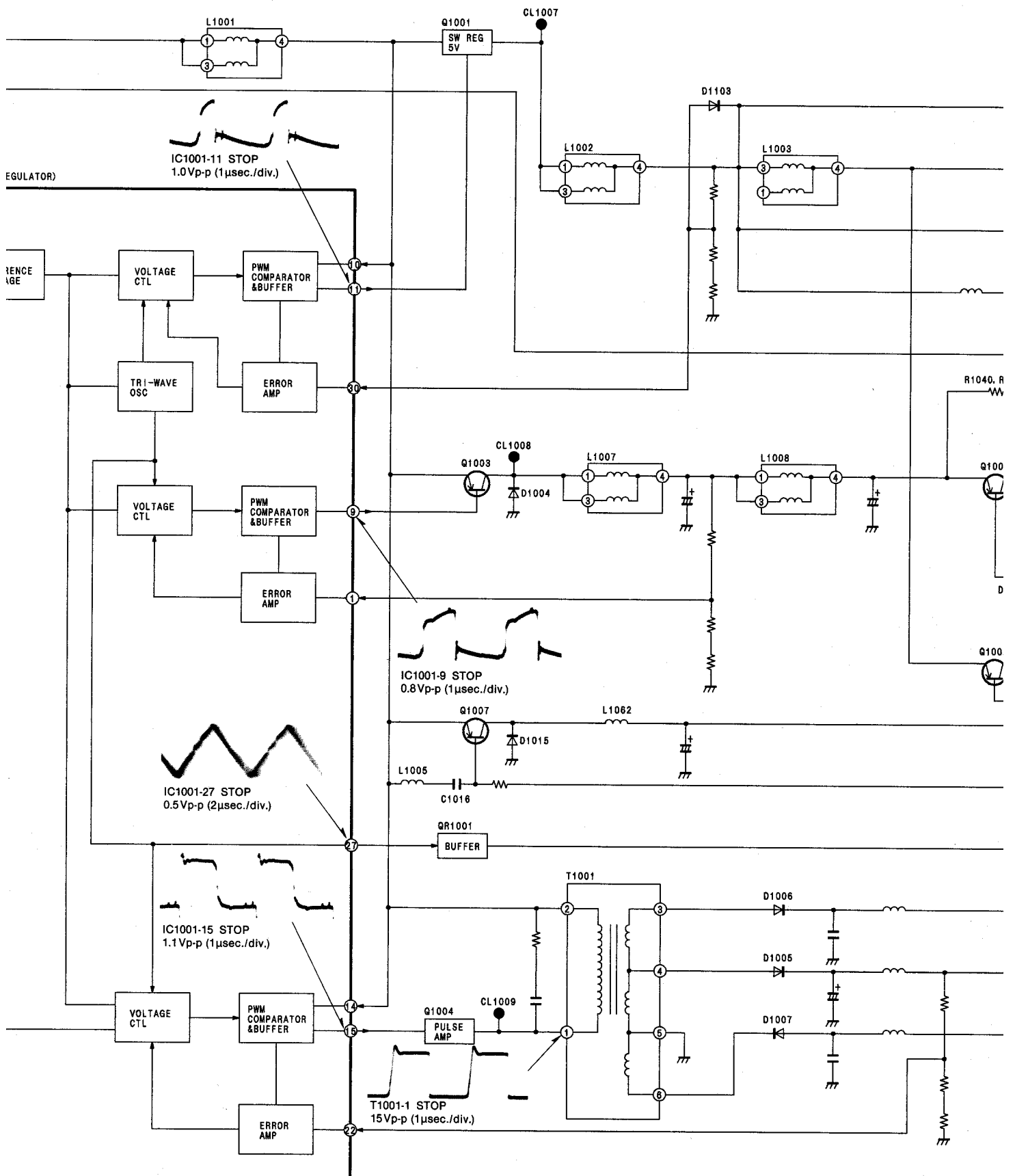
← R-Y SIGNAL
← B-Y SIGNAL

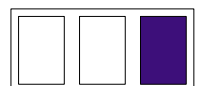
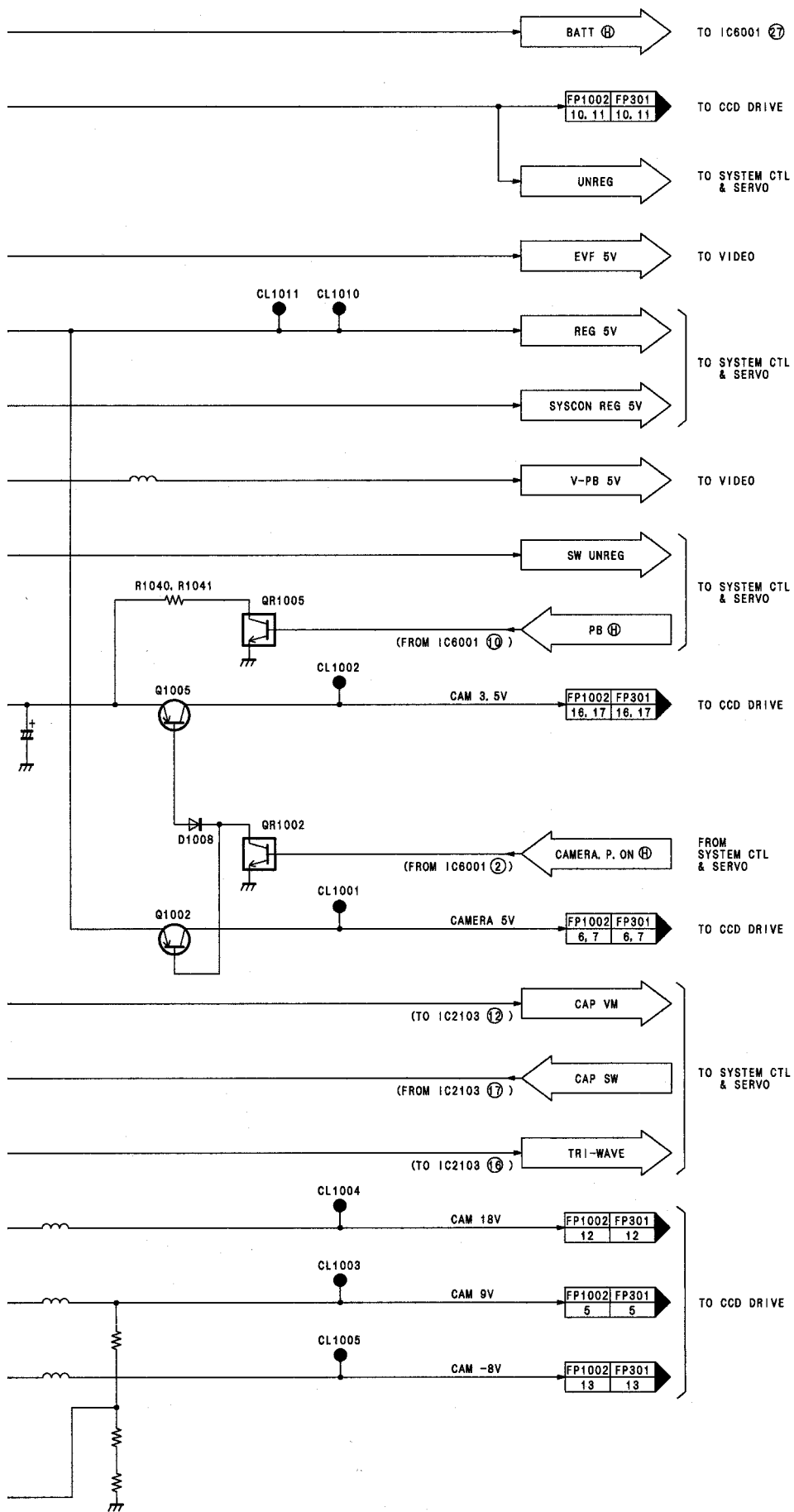
IC305
(D/A CONVERTOR)



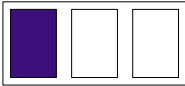
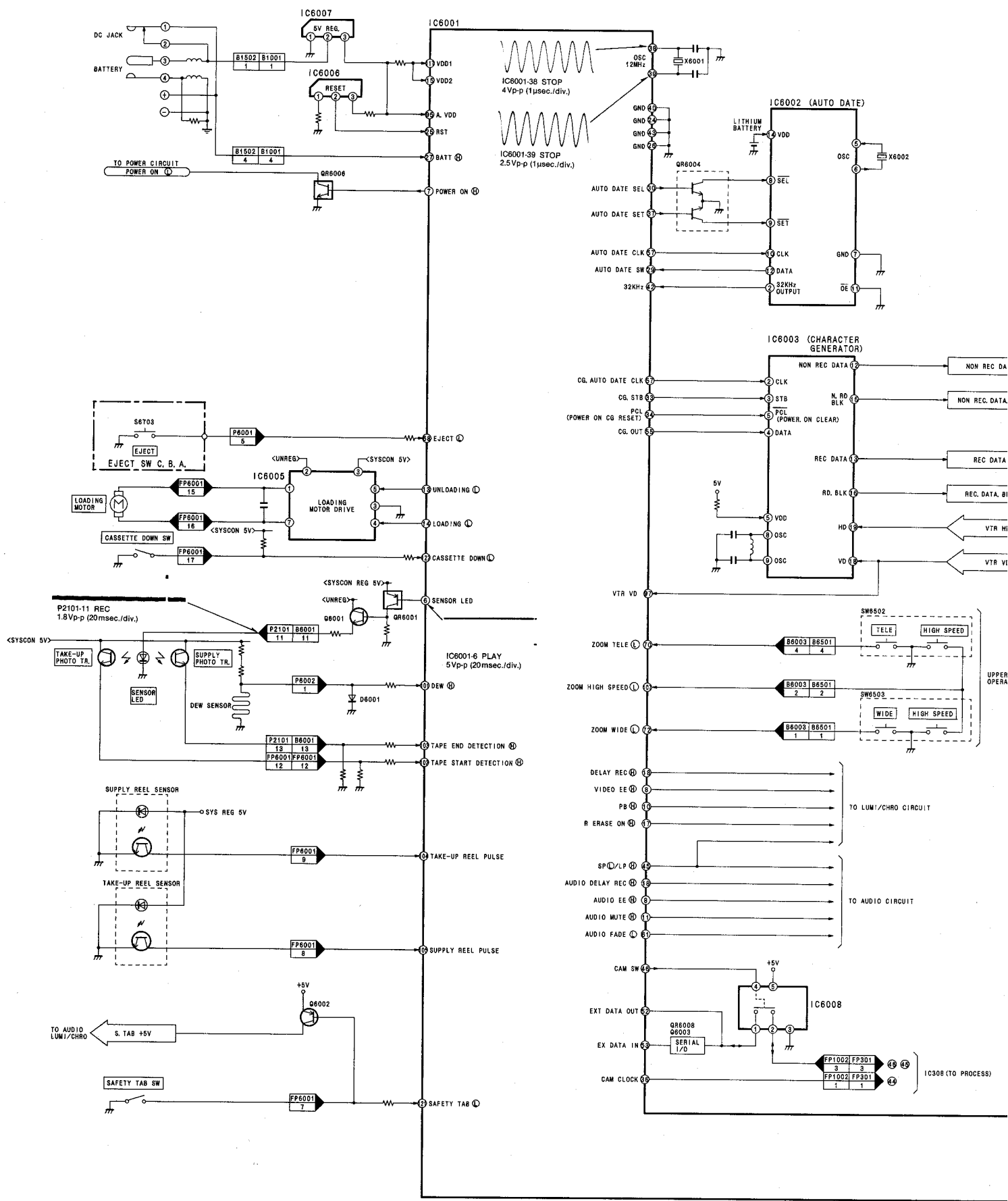
3-5. POWER BLOCK DIAGRAM

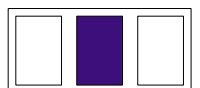
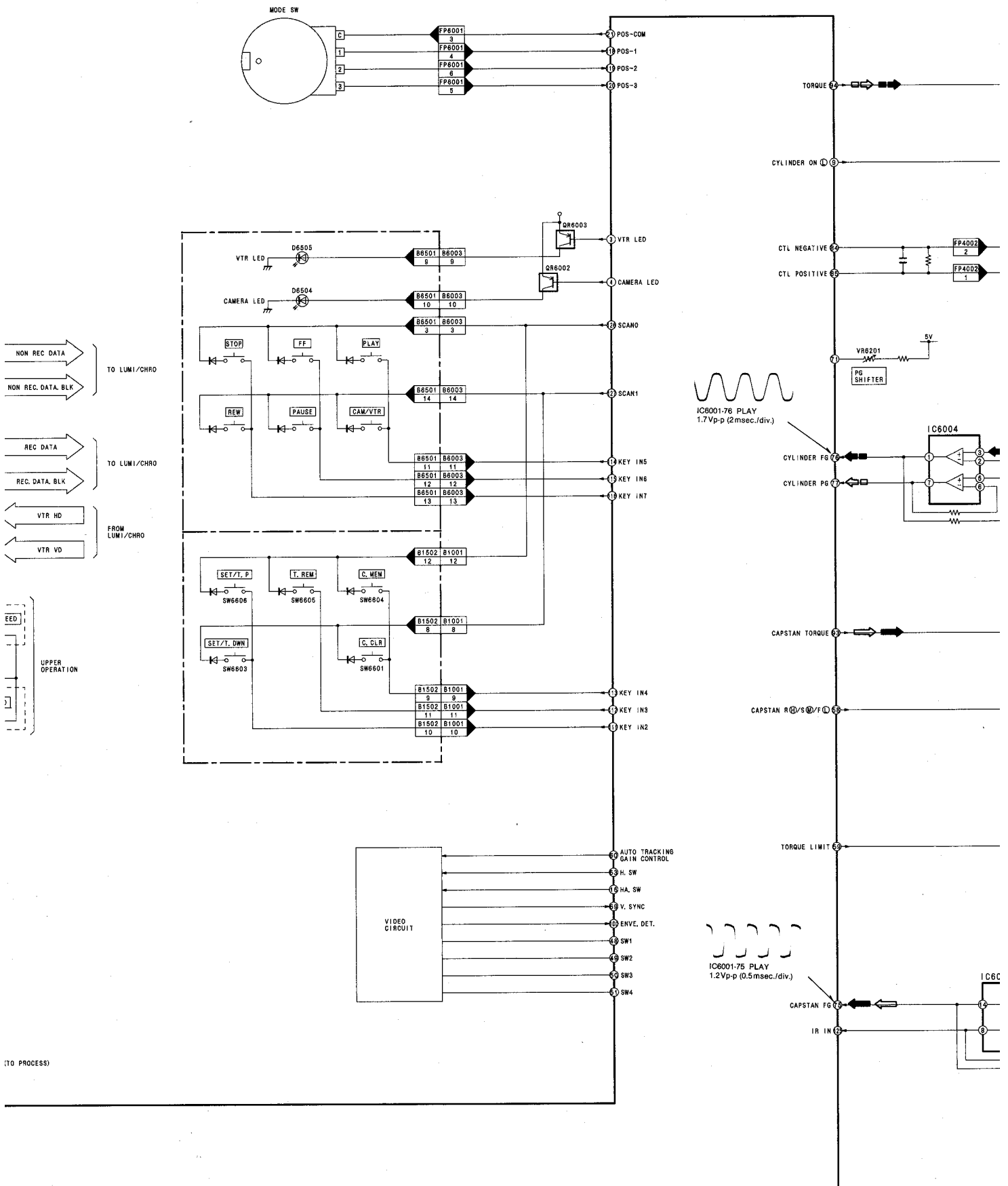






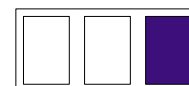
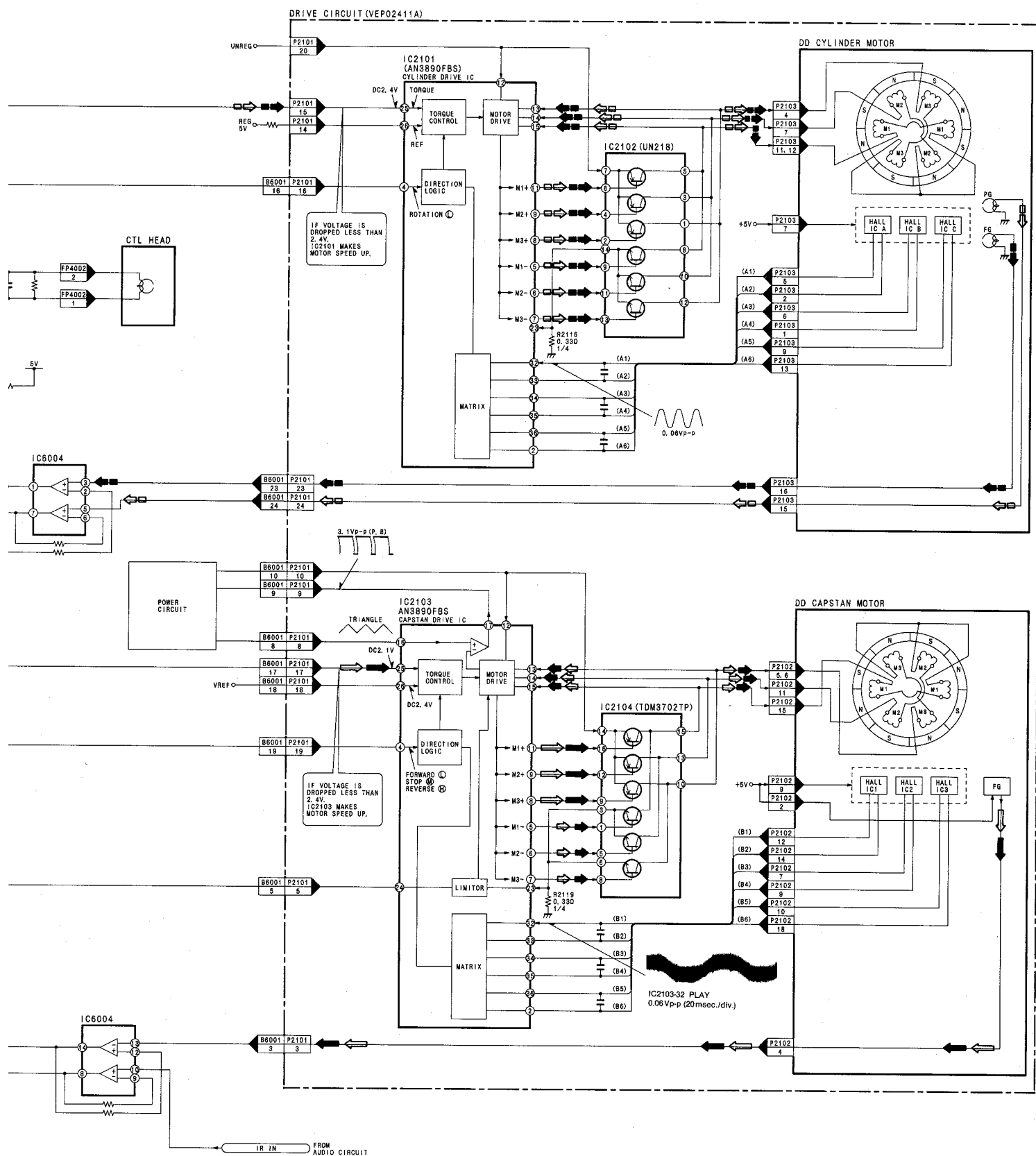
3-6. SYSTEM CONTROL AND SERVO BLOCK DIAGRAM



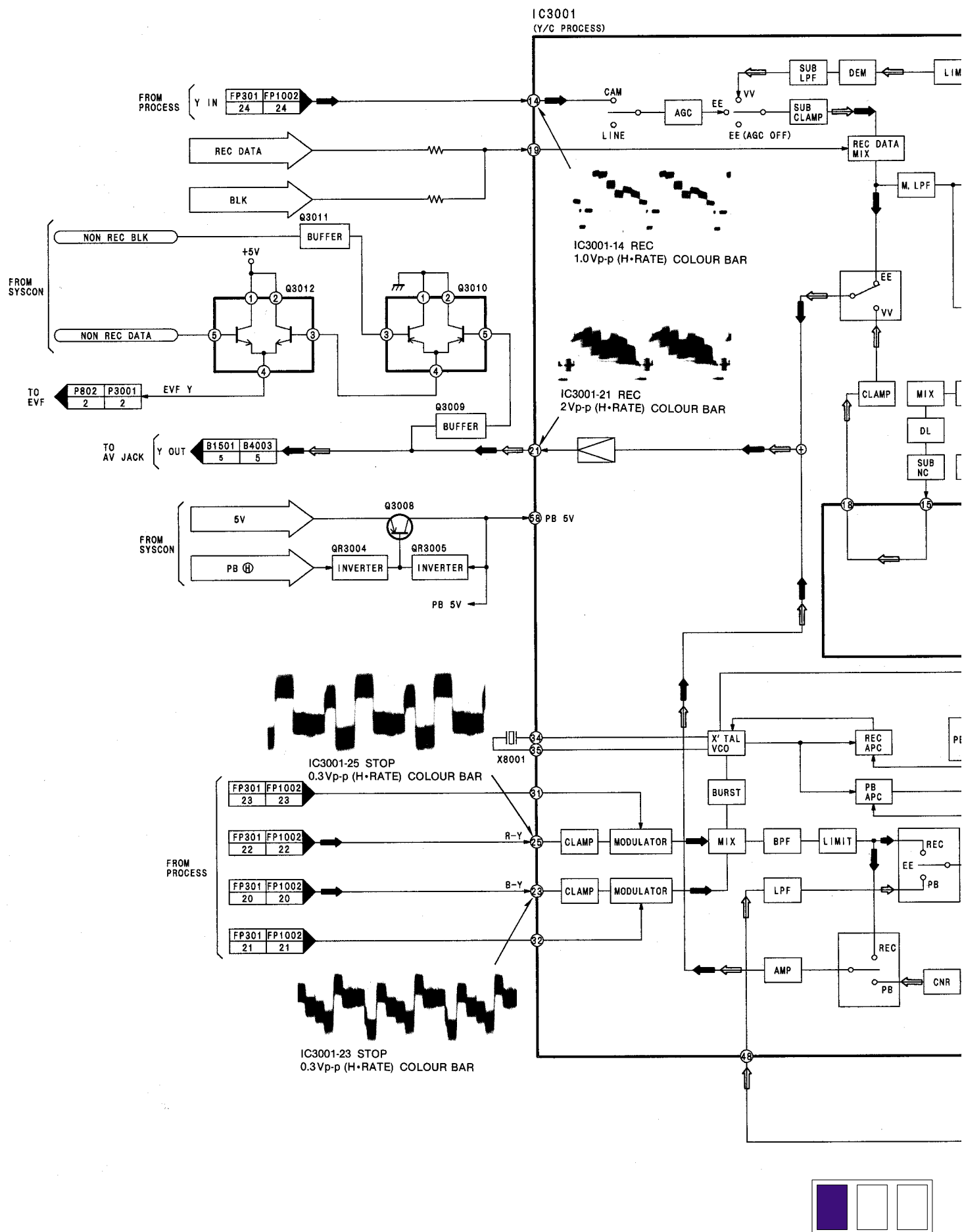


 CAPSTAN SERVO SPEED LOOP
 CAPSTAN SERVO PHASE LOOP

 CYLINDER SERVO SPEED LOOP
 CYLINDER SERVO PHASE LOOP



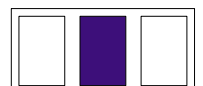
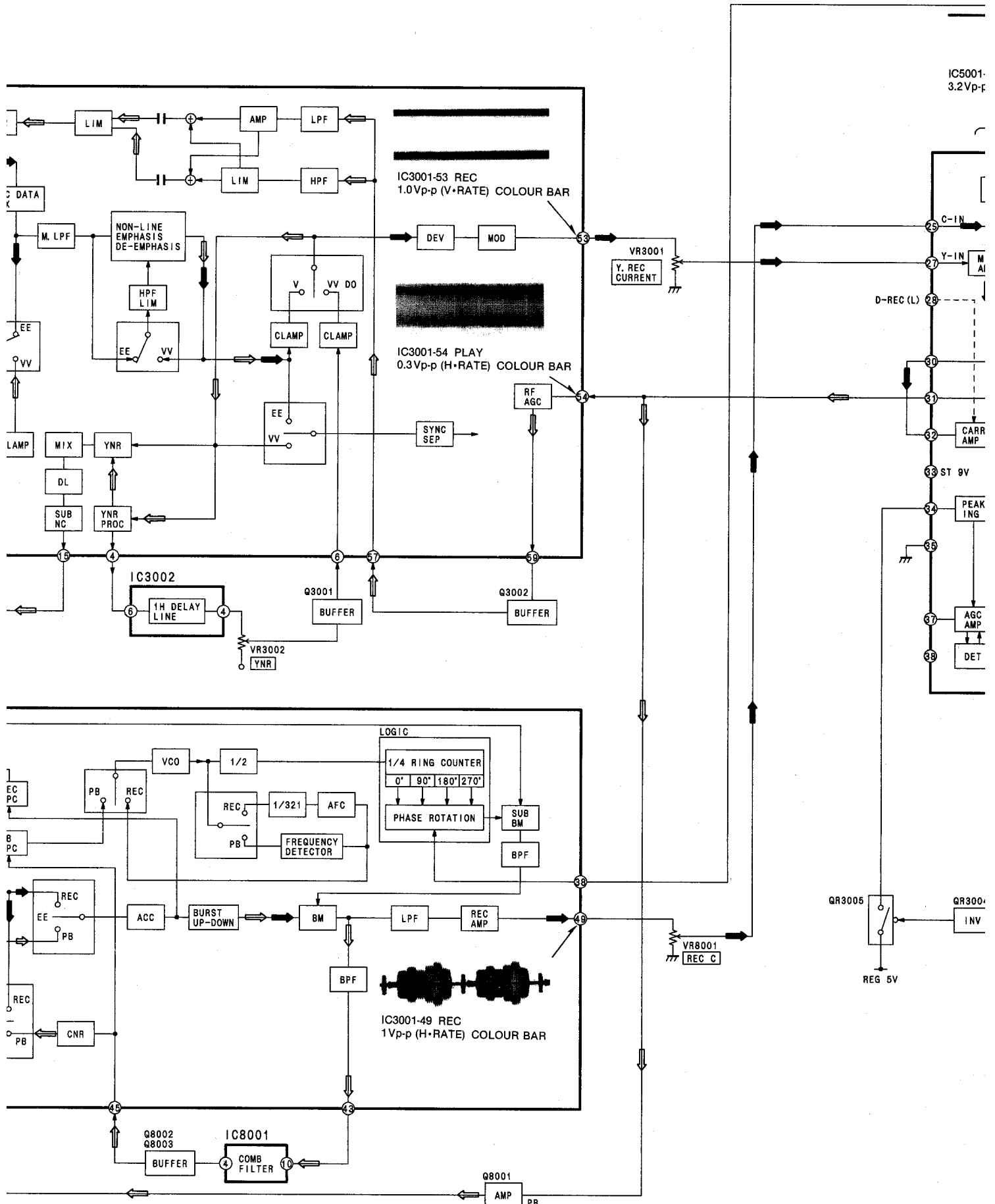
3-7. LUMINANCE/CHROMINANCE AND HEAD AMP BLOCK DIAGRAM



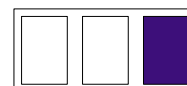
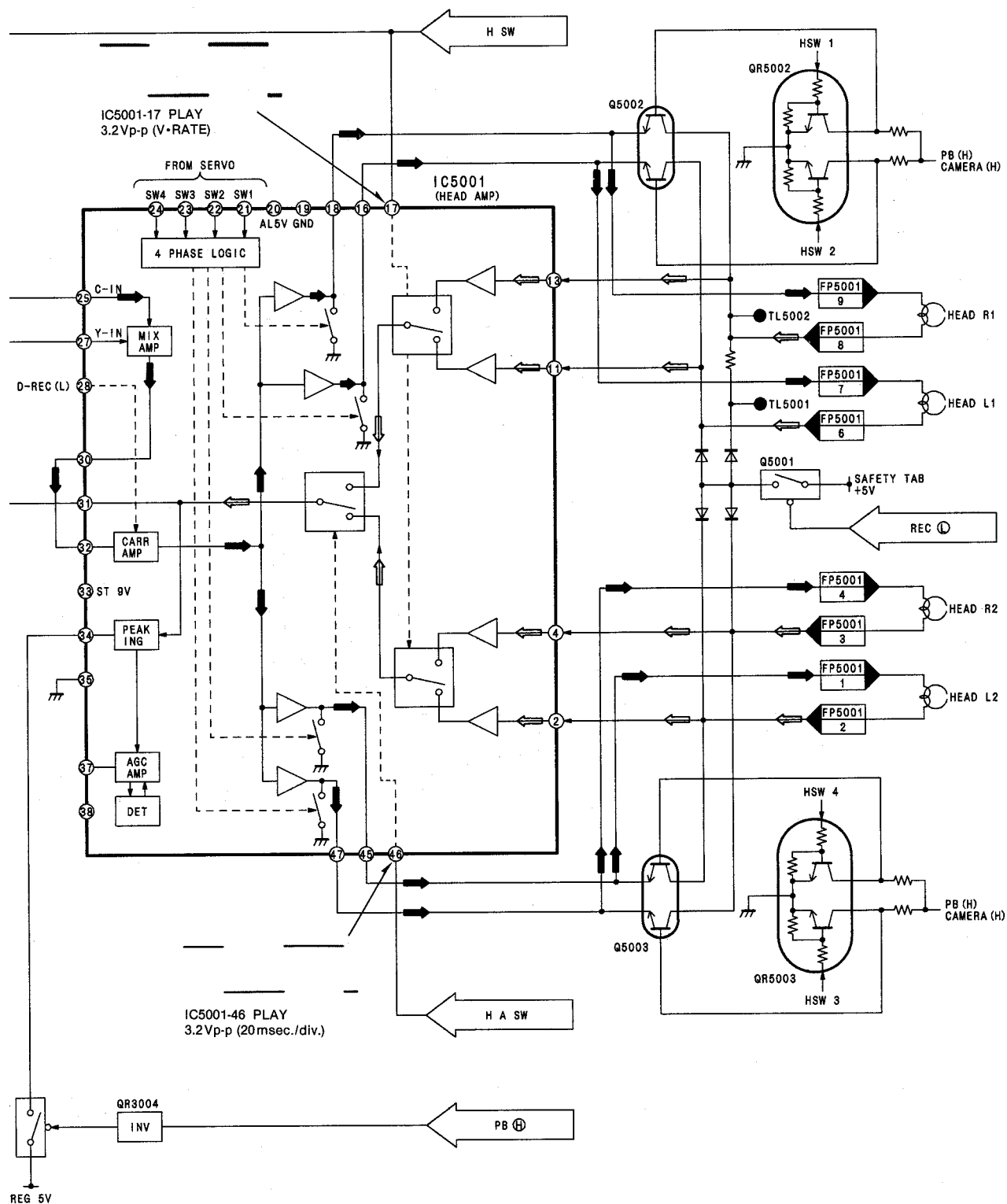
AM



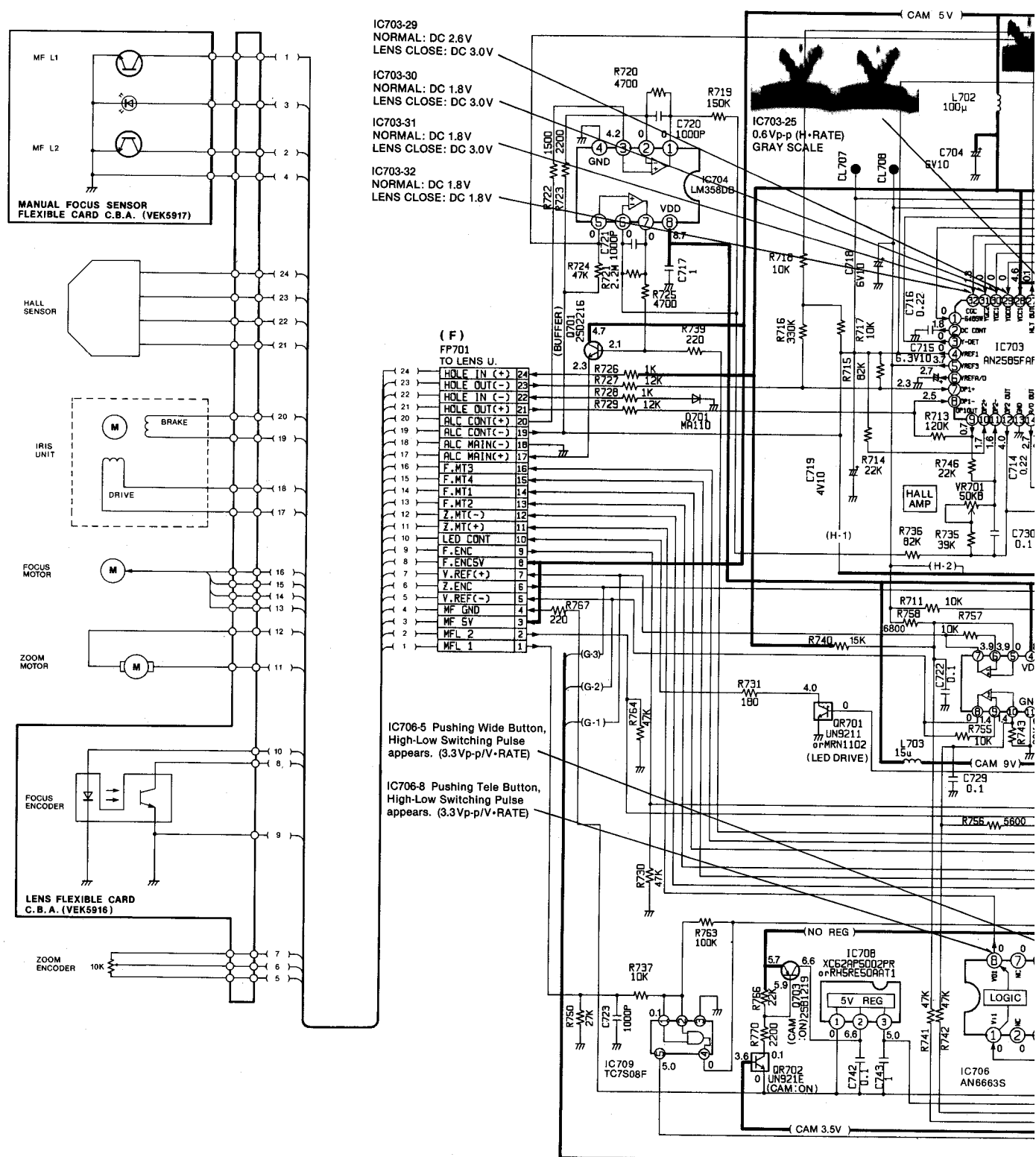
MAIN SIGNAL PATH IN REC MODE



LUMI/CHRO & HA Section



3-8. AUTO FOCUS SCHEMATIC DIAGRAM



NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

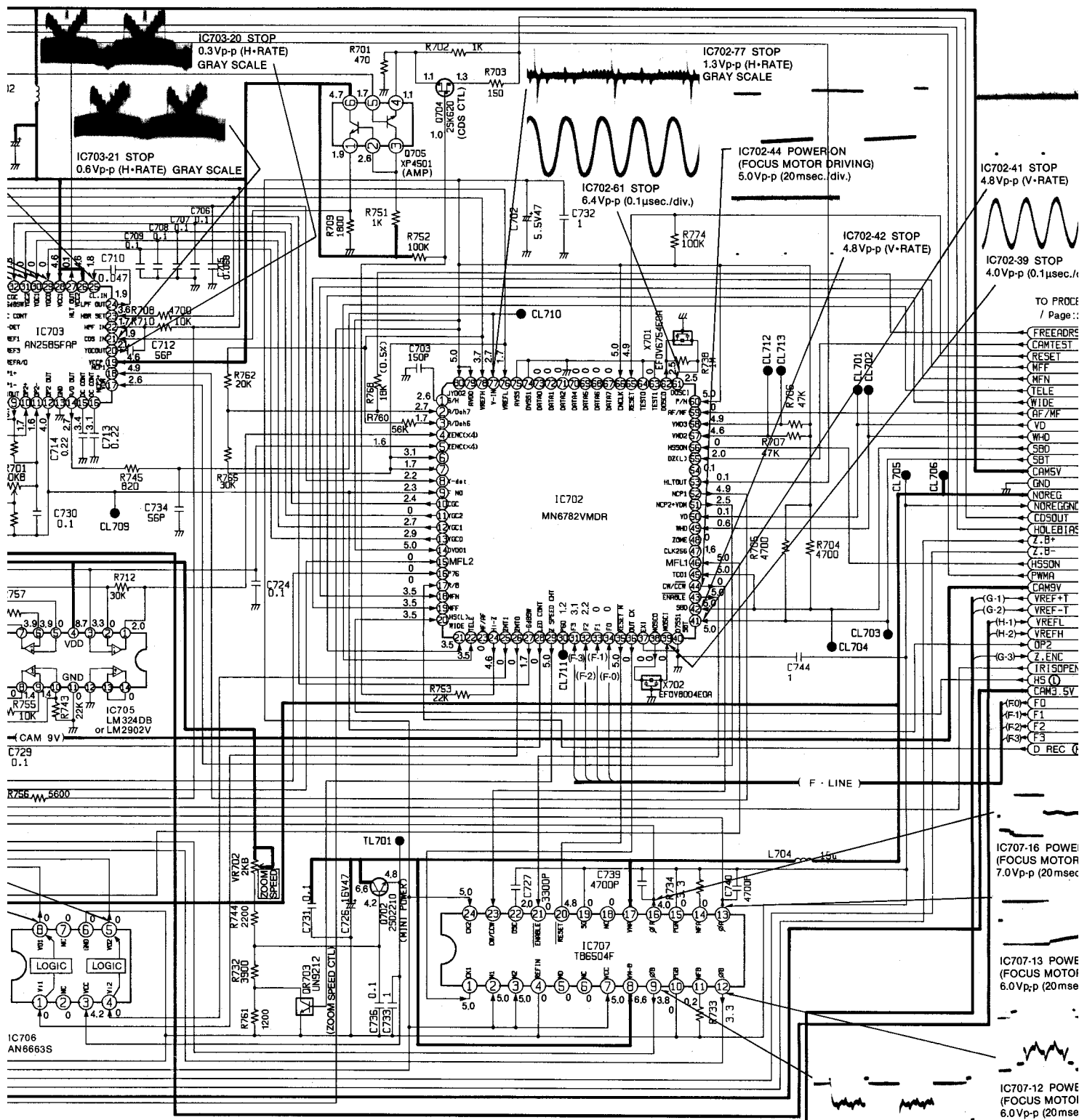


DIAGRAM FOR
RTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE
WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

IC707-9 POWER-ON
(FOCUS MOTOR DRIVING)
8.0Vp-p (10msec./div.)

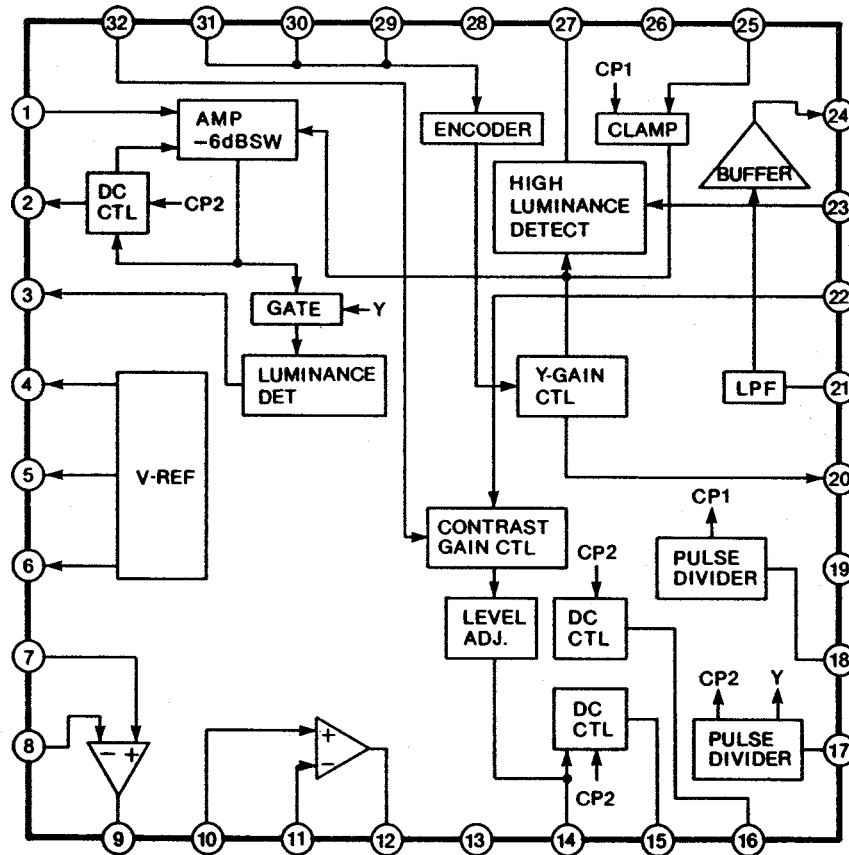
IC707-16 POWER-ON
(FOCUS MOTOR DRIVING)
7.0Vp-p (20msec)

IC707-13 POWER-ON
(FOCUS MOTOR DRIVING)
6.0Vp-p (20msec)

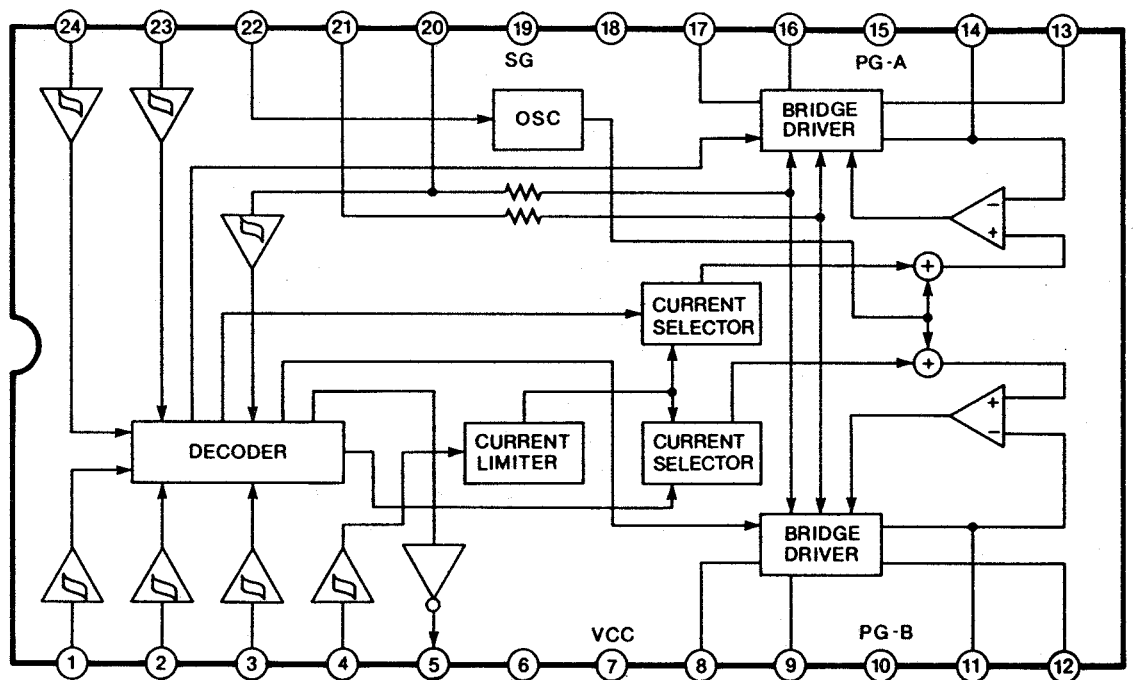
IC707-12 POWER-ON
(FOCUS MOTOR DRIVING)
6.0Vp-p (20msec)



IC703 (AN2585FAP)



IC707 (TB6504F)



02-41 STOP
Vp-p (V-RATE)



702-39 STOP
1Vp-p (0.1μsec./div.)

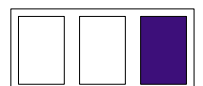
TO PROCESS
/ Page: 3-27

FRCEADRS	1
CAMTEST	2
RESET	3
MFF	4
MFN	5
TELE	6
WIDE	7
RF/MF	8
VD	9
WHD	10
SBD	11
SBT	12
CAMEV	13
GND	14
NOREG	15
NOREGEND	16
CDSOUT	17
HOLEBIAS	18
Z.B+	19
Z.B-	20
HSSEN	21
PWMA	22
CAMGV	23
VREF+T	24
VREF-T	25
VREFL	26
VREFH	27
CP2	28
Z.ENC	29
IRISOPEN	30
HS (D)	31
CAM3.5V	32
F0	33
F1	34
F2	35
F3	36
D REC (H)	37

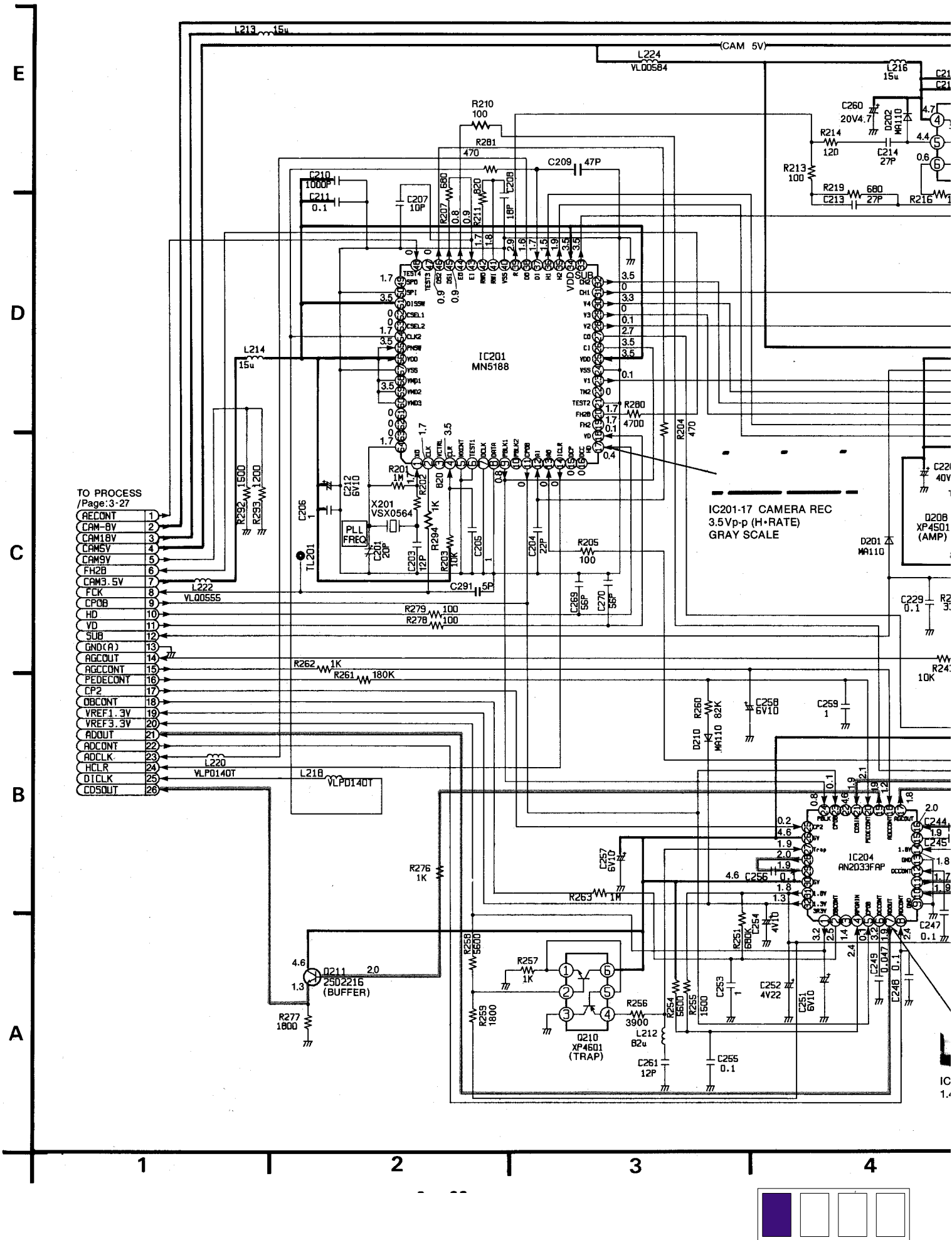
C707-16 POWER-ON
FOCUS MOTOR DRIVING)
.0Vp-p (20msec./div.)

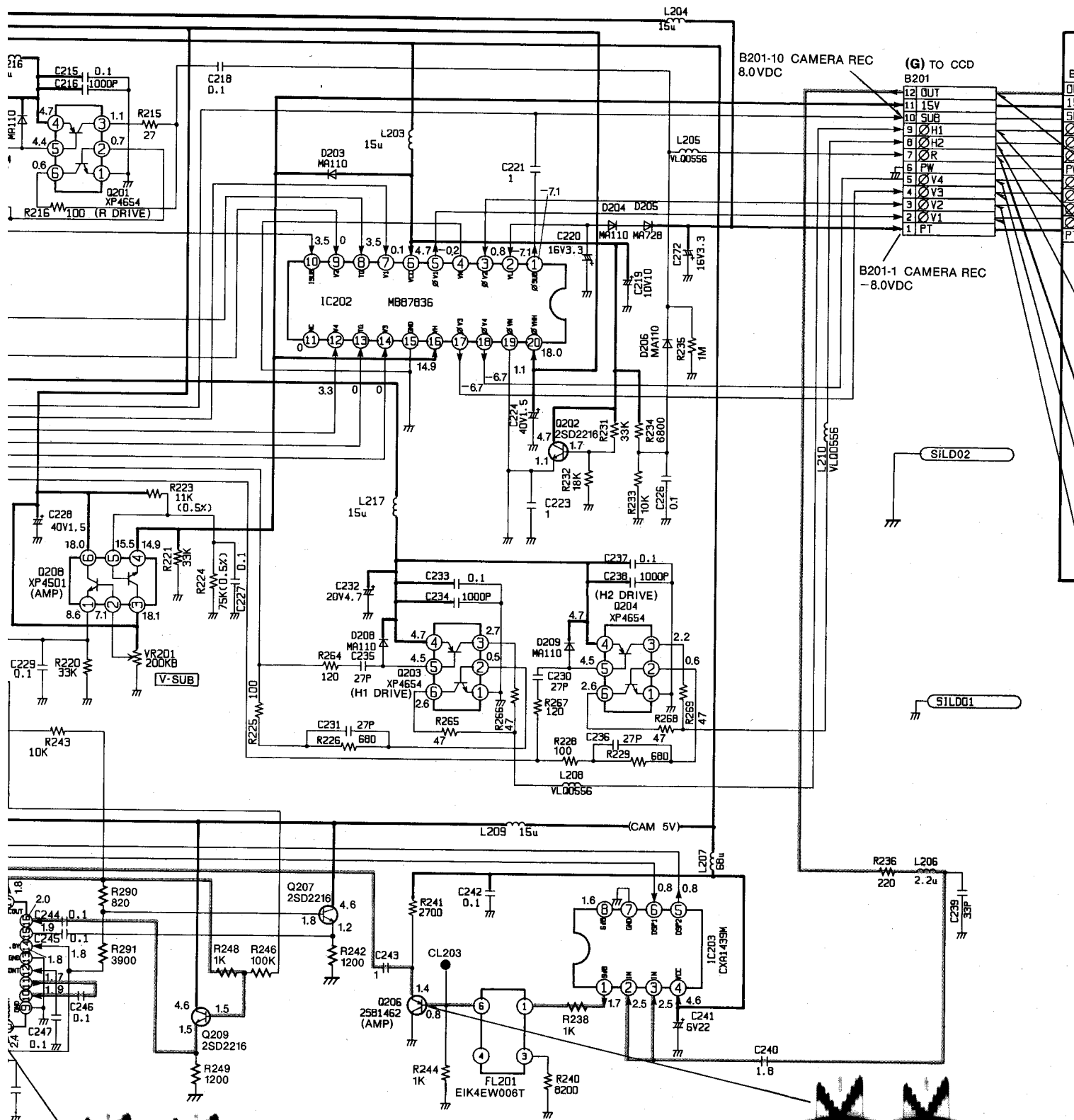
C707-13 POWER-ON
FOCUS MOTOR DRIVING)
3.0Vp-p (20msec./div.)

C707-12 POWER-ON
FOCUS MOTOR DRIVING)
3.0Vp-p (20msec./div.)



3-9. CCD DRIVE SCHEMATIC DIAGRAM



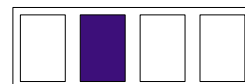


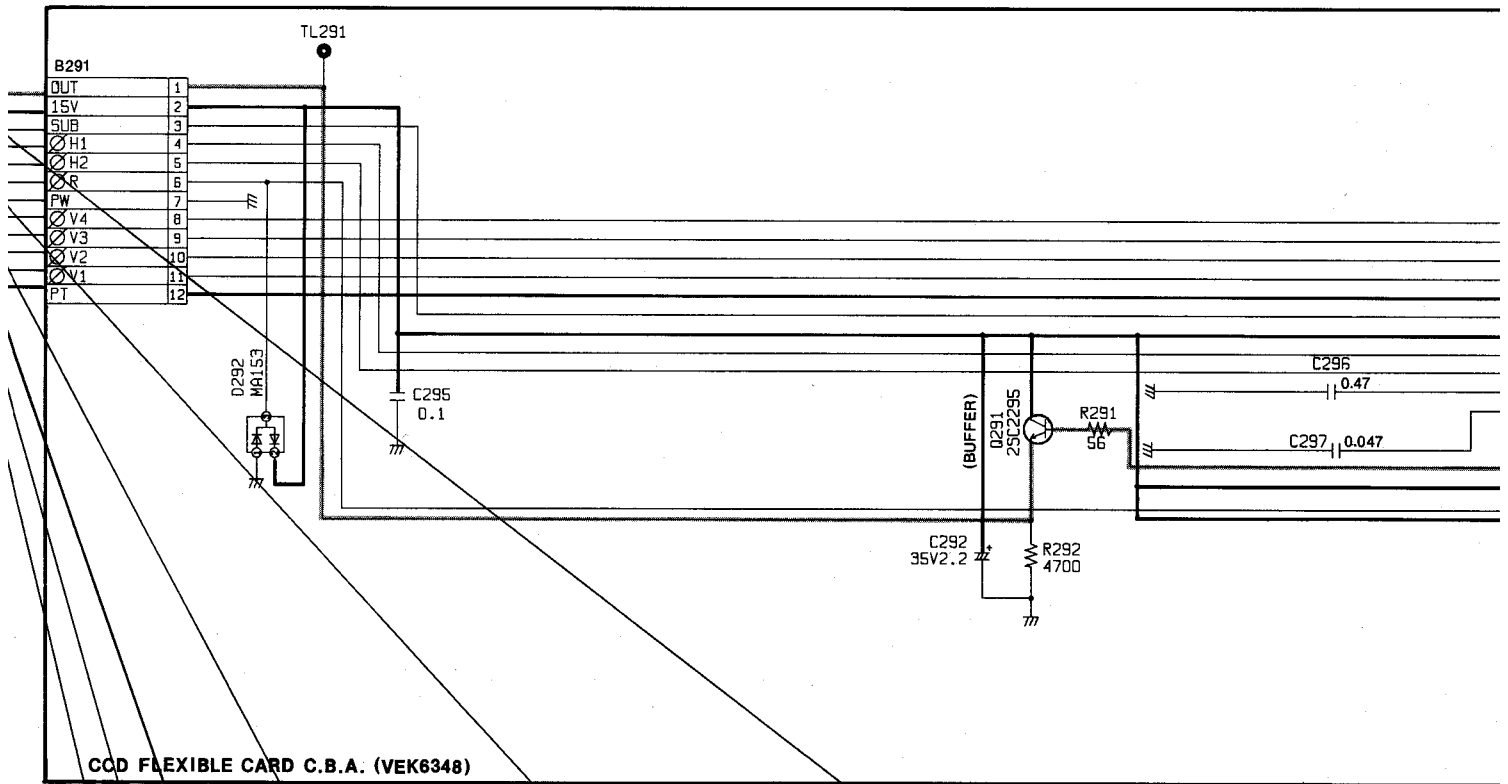
IC204-7 CAMERA REC
1.4Vp-p (H+RATE) GRAY SCALE

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

Q206-B CAMERA REC
0.6Vp-p (H+RATE) GRAY SCALE

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.





B201-8 CAMERA REC
7.5Vp-p (H•RATE) GRAY SCALE

B201-9 CAMERA REC
7.5Vp-p (H•RATE) GRAY SCALE

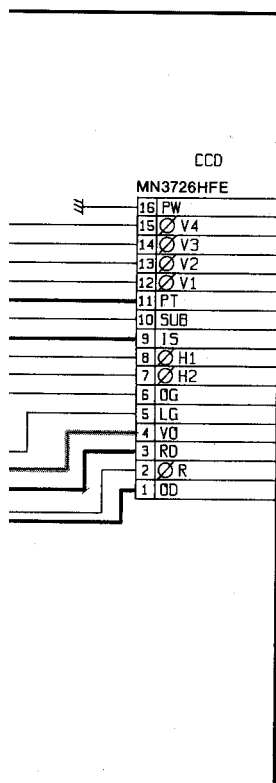
B201-12 CAMERA REC
0.8Vp-p (H•RATE) GRAY SCALE

B201-7 CAMERA REC
4.7Vp-p (H•RATE)
GRAY SCALE

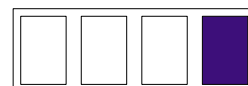
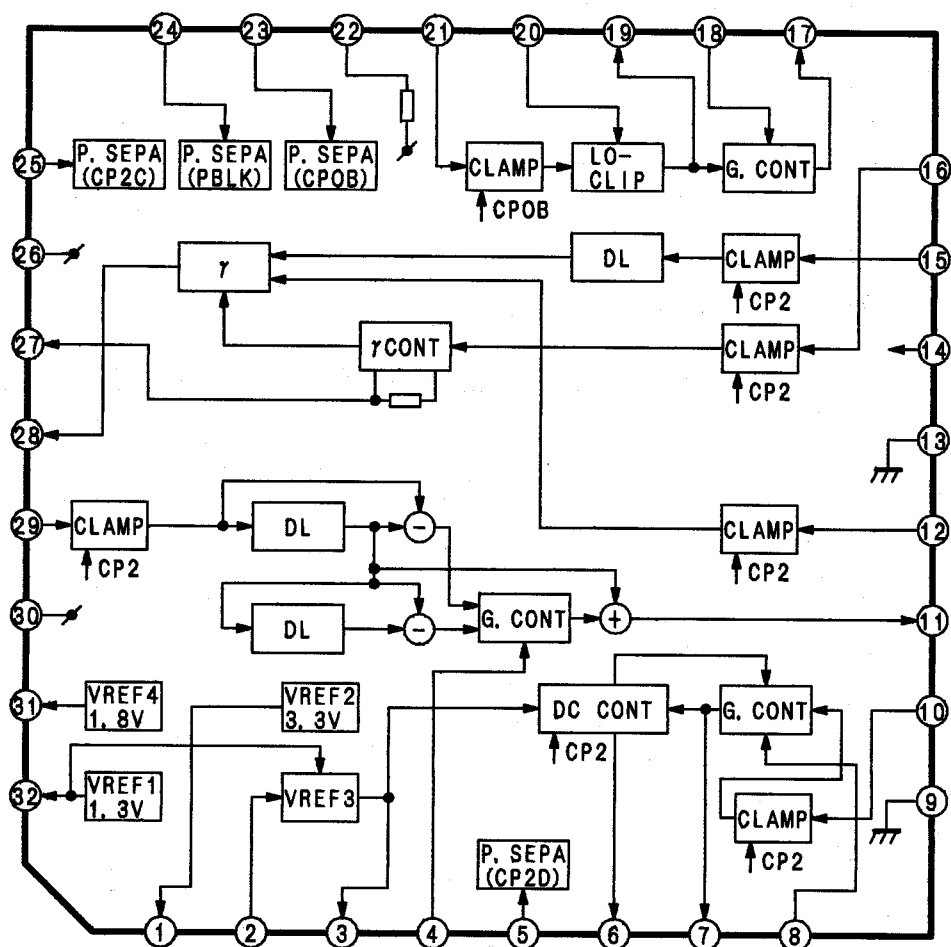
B201-4 7Vp-p
B201-5 8Vp-p
CAMERA REC (H•RATE)
GRAY SCALE

B201-2 7Vp-p
B201-3 8Vp-p
CAMERA REC (H•RATE)
GRAY SCALE

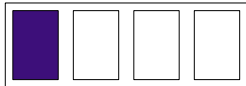
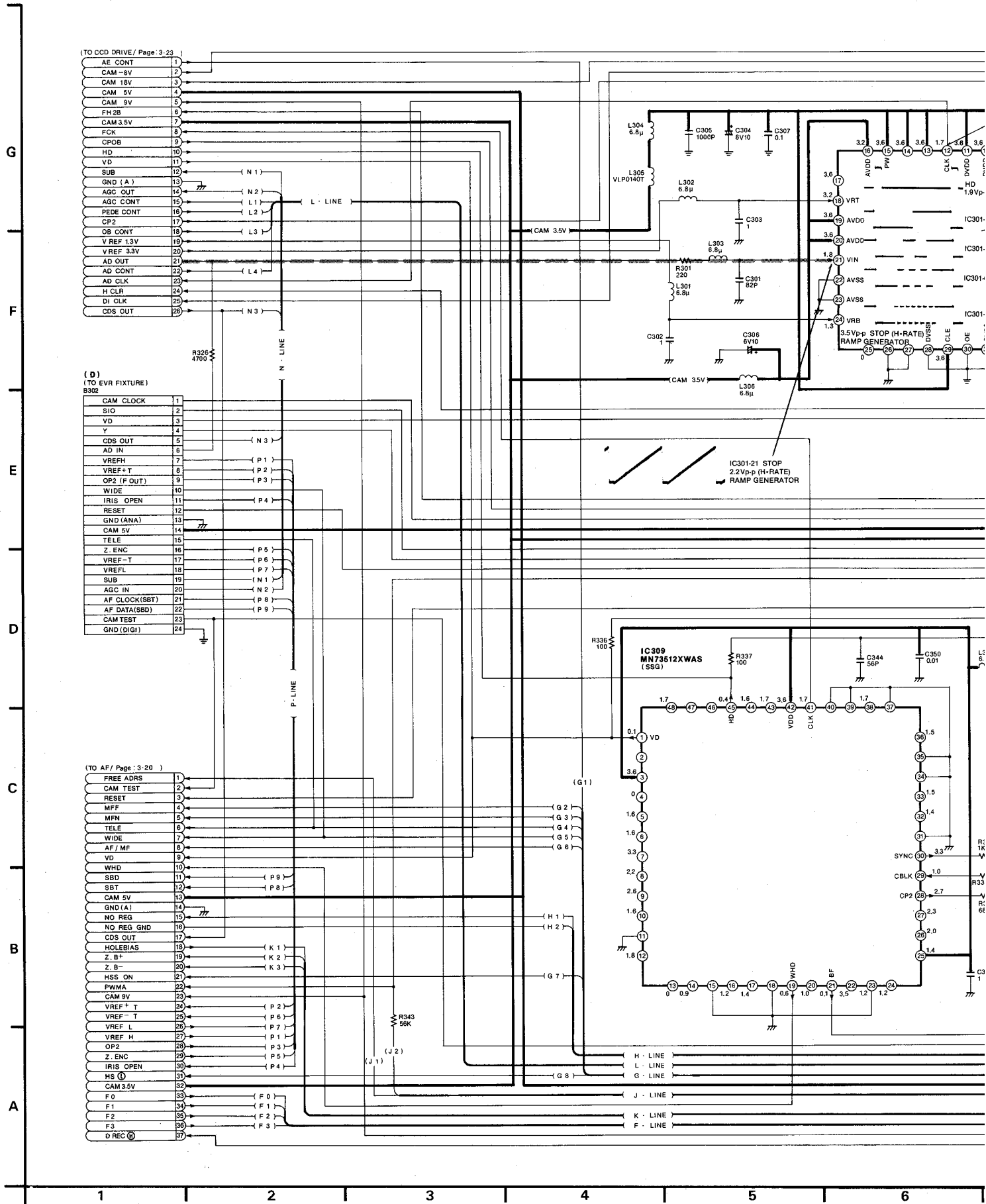
VIDEO SIGNAL



IC204 (AN2033FAP)

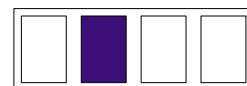
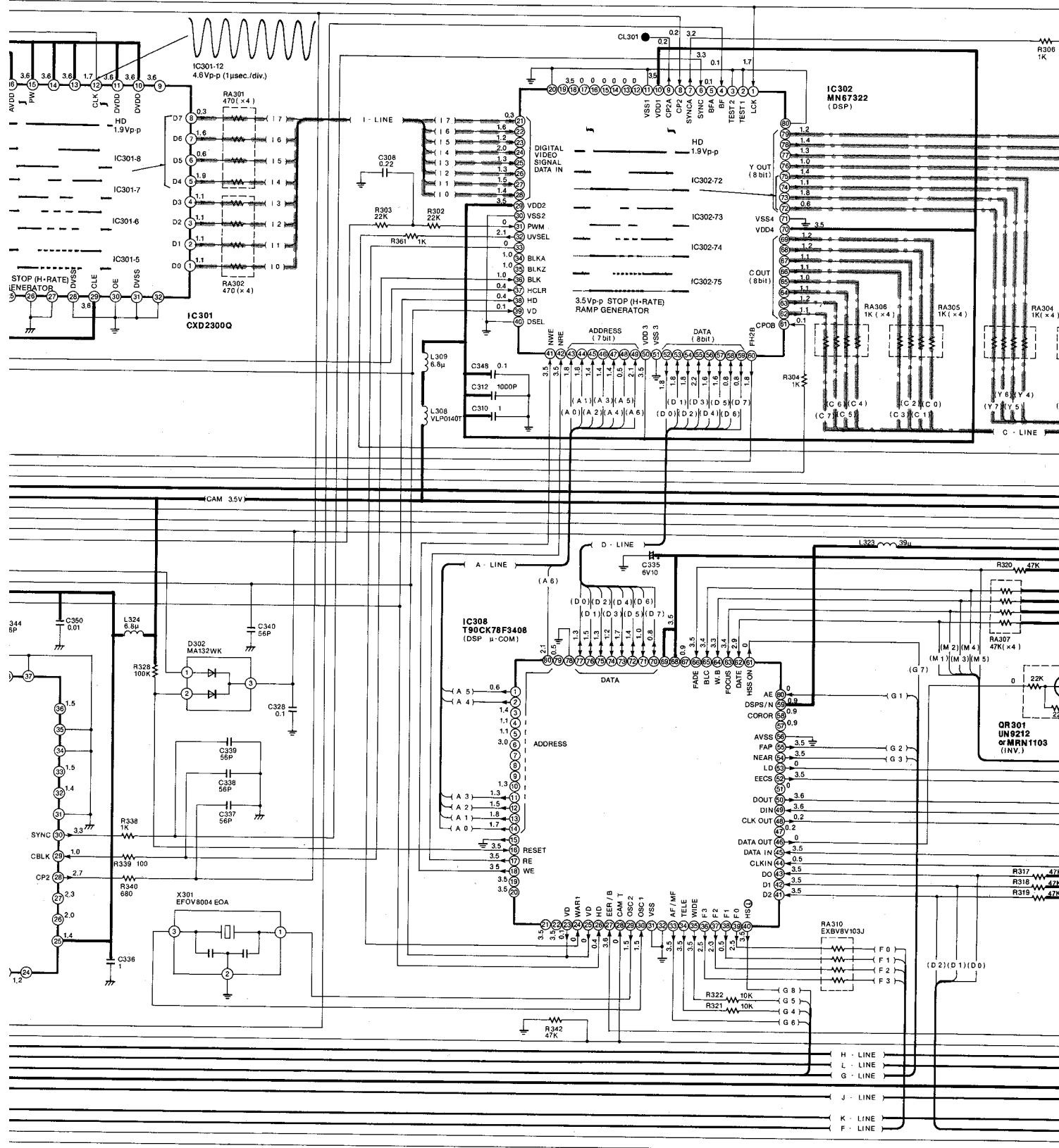


3-10. PROCESS SCHEMATIC DIAGRAM



VIDEO SIGNAL

DIGITAL Y SIC

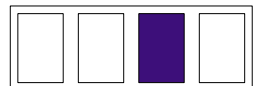
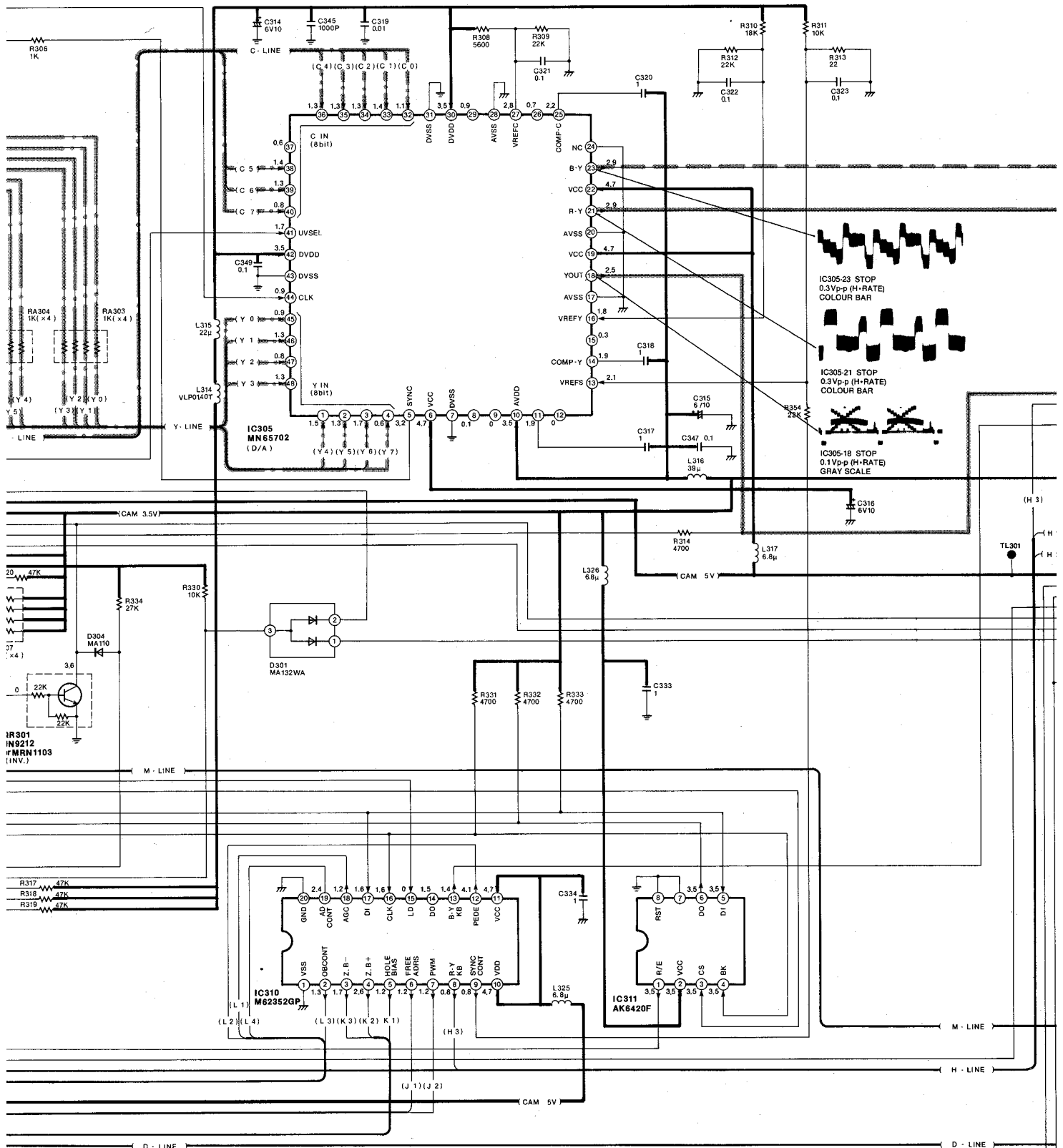


SIGNAL

DIGITAL C SIGNAL

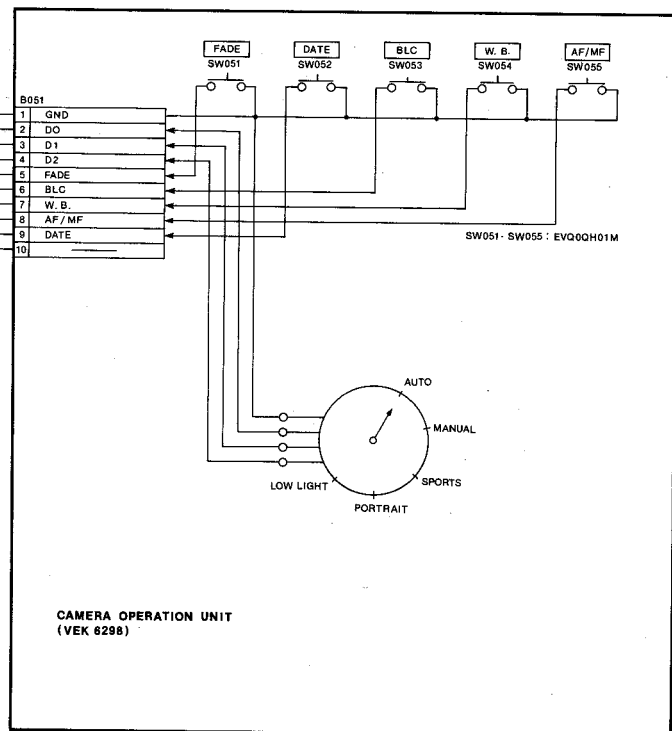
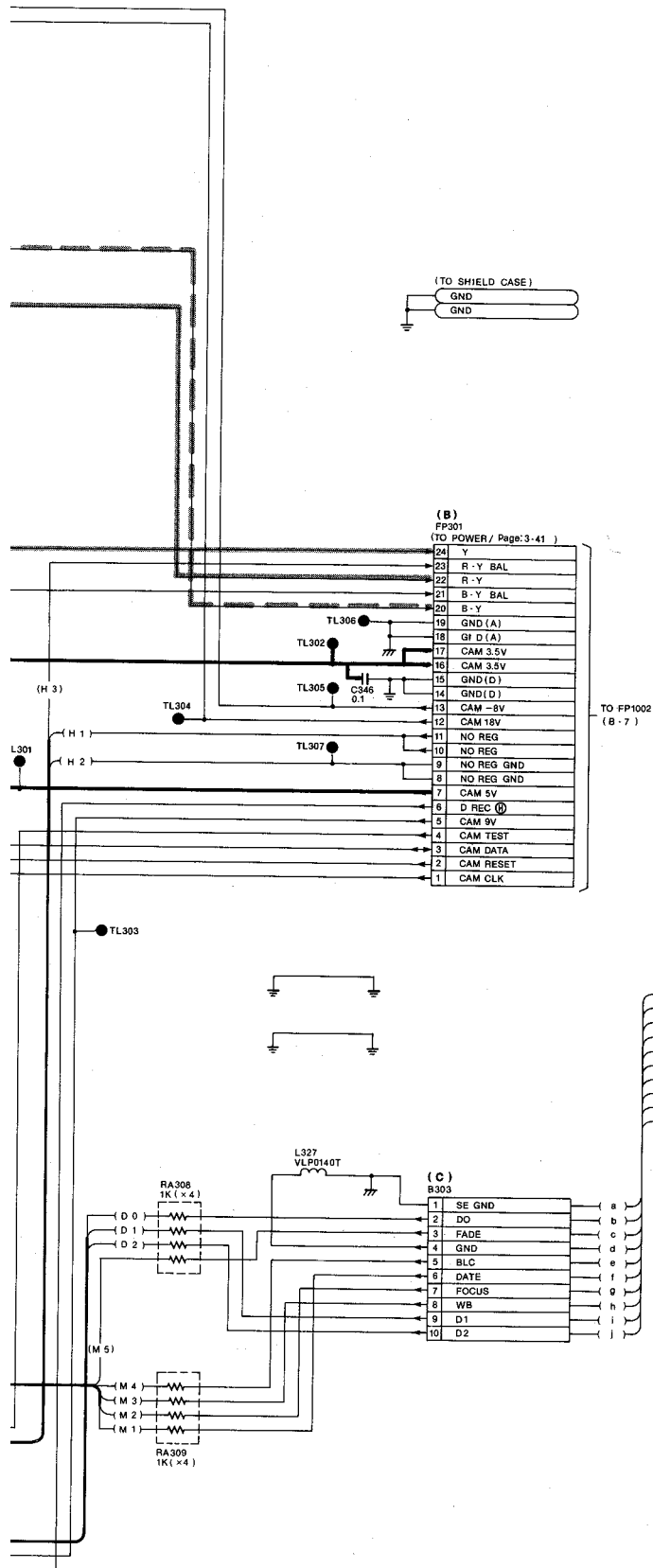
Y SIGNAL

R-Y SIGNAL



SIGNAL

B-Y SIGNAL



NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

18

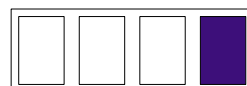
19

20

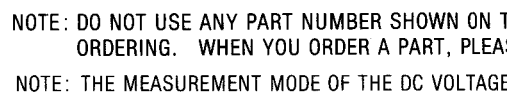
21

22

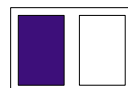
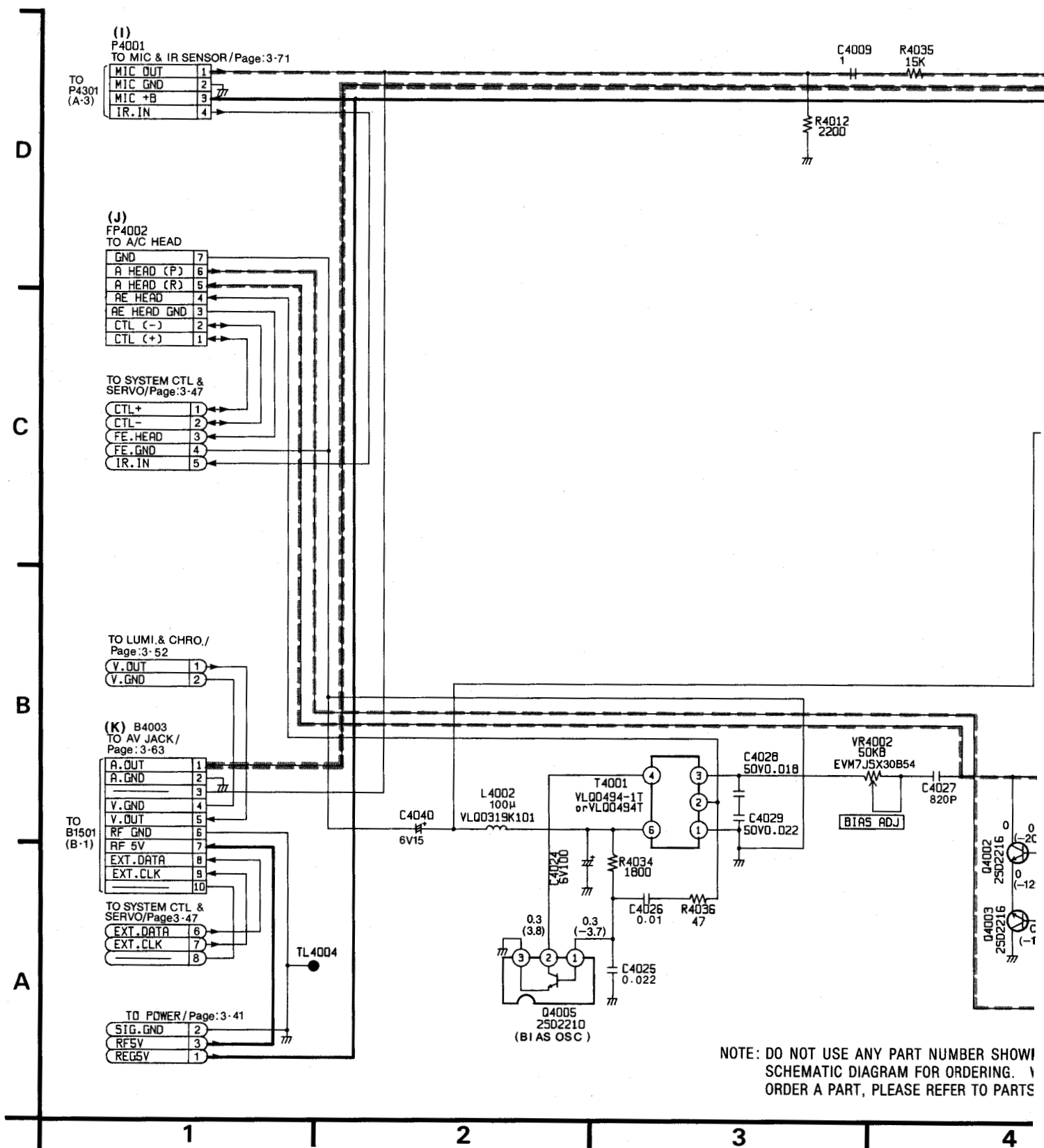
23



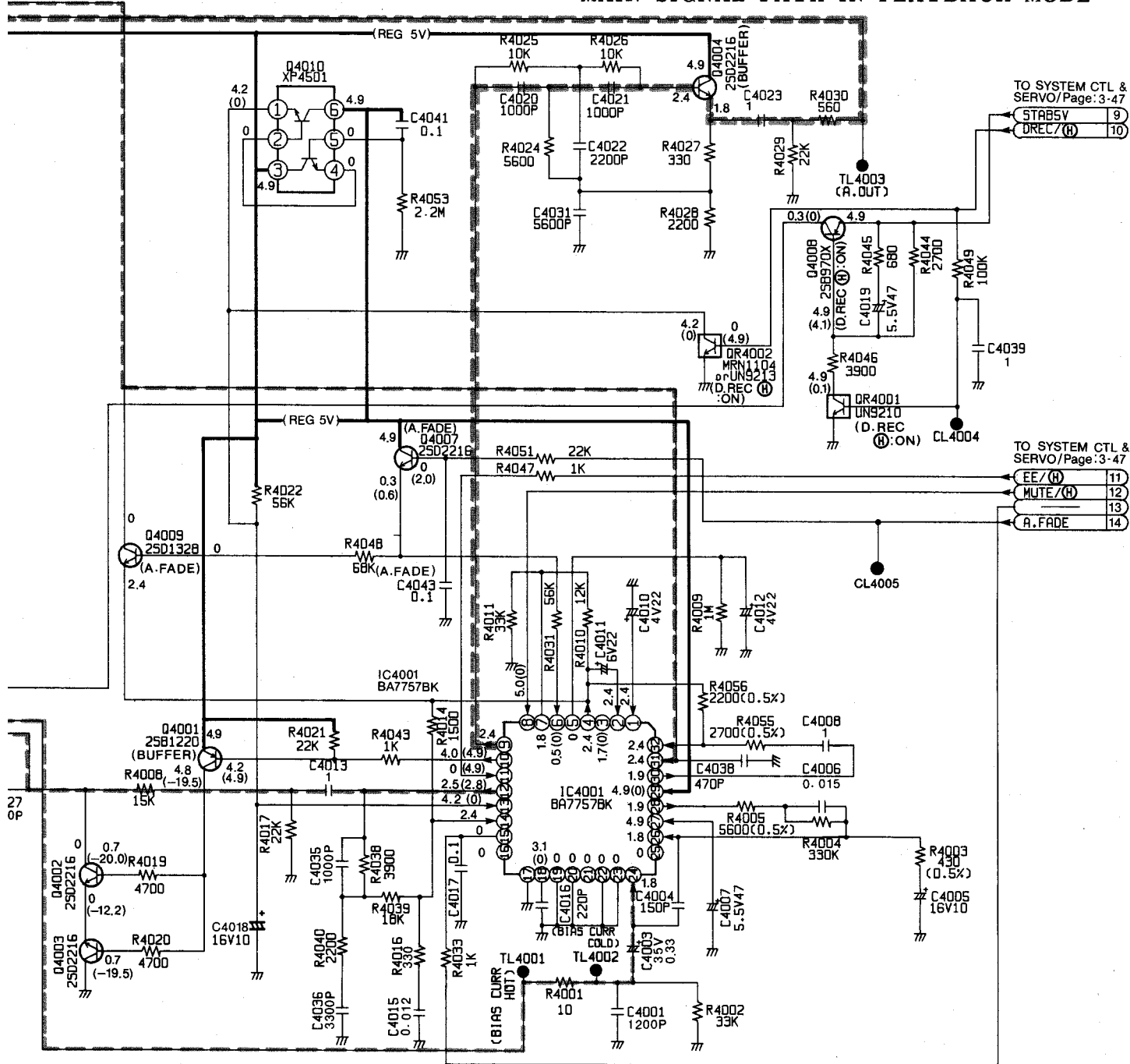
A
B
C
D
E



3-14. AUDIO SCHEMATIC DIAGRAM



--- MAIN SIGNAL PATH IN REC MODE
 --- MAIN SIGNAL PATH IN PLAYBACK MODE

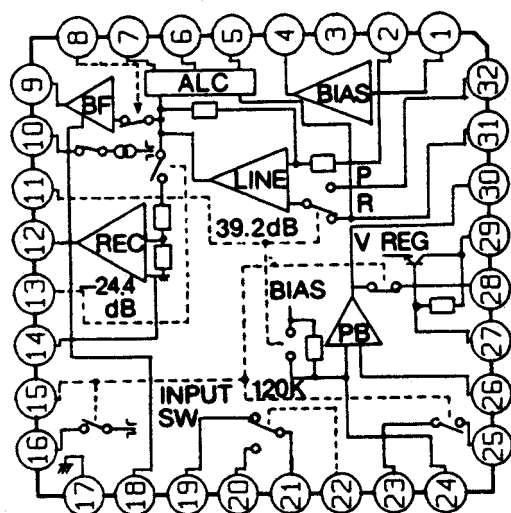


NUMBER SHOWN ON THIS ORDERING. WHEN YOU REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS () ON THIS DIAGRAM IS RECORD MODE
 THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE



IC4001 (BA7757BK)

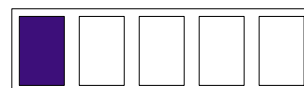


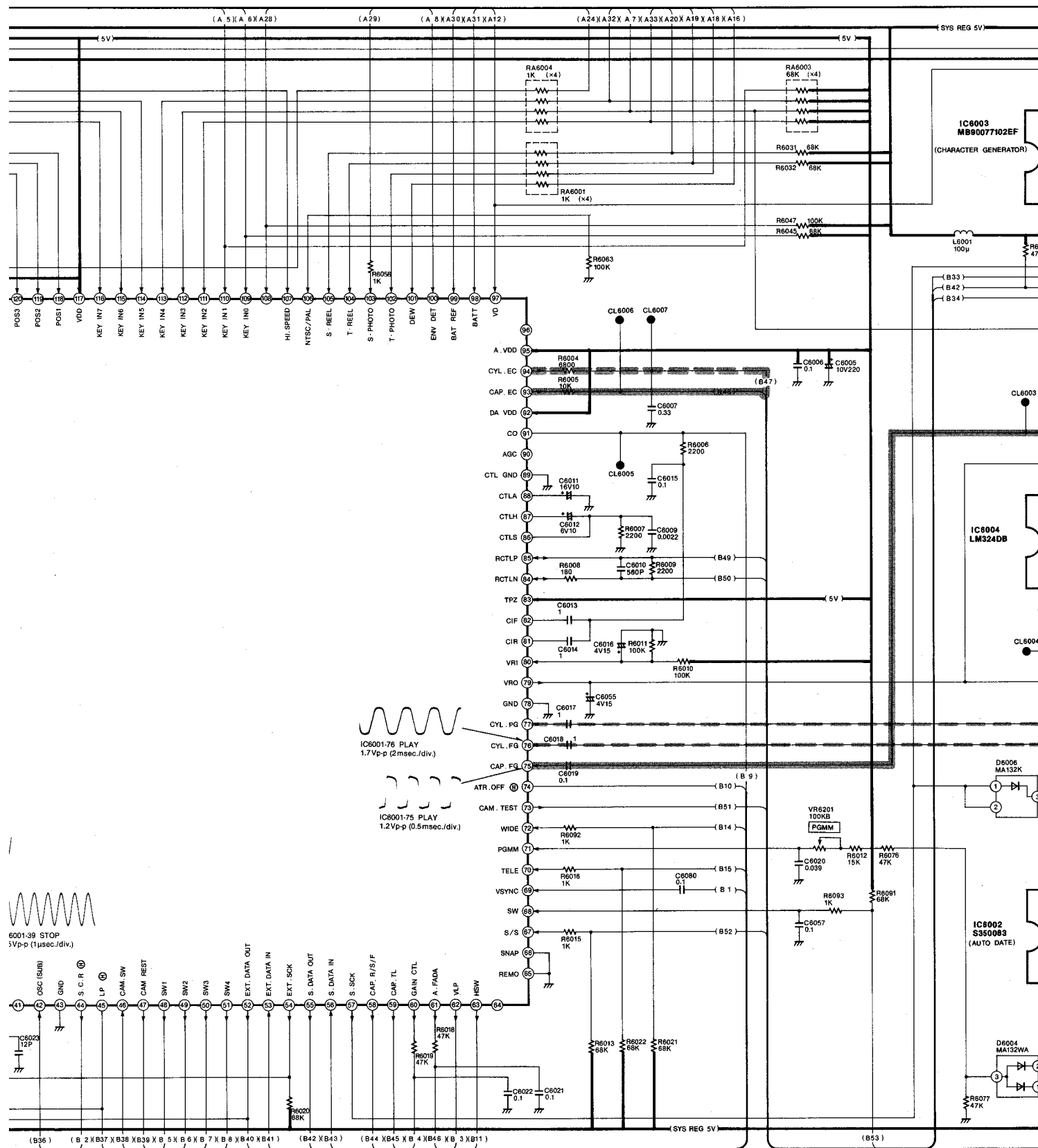
SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	4.9	4.9	0	4.9	4.9	4.9	4.9	0	0	0	4.9	0	0	4.9	0	0	0	0	0
REC/PLAY	0	4.9	4.9	0	4.9	4.9	4.9	4.9	0	0	0	4.9	0	0	5.0	4.9	0	4.9	4.9	0
F.F	0	4.9	0	5.0	5.0	4.6	5.0	5.0	0	0	5.0	5.0	0	0	5.0	5.0	0	0	0	0
REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	0	2.0	0	4.9	0	0	0	0.4	0	0	0	0	0	4.7	4.8	5.0	2.3	2.4	0
REC/PLAY	0	0	2.0	0	4.9	0	0	0	0.4	0	0	0	0	0	4.8	4.7	4.9	2.3	2.3	0
F.F	0	0	2.0	0	5.0	0	0	0	0.4	0	0	0	0	0	4.8	4.8	4.9	2.3	2.3	0
REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	5.0	0	0	0	0	0.5	5.0	0	5.0	0	0	4.3	4.6	4.2	4.8	4.8	4.7	2.0	0.2	1.0
REC/PLAY	4.9	0	0	0	0	1.1	4.9	0	4.9	0.3	2.2	4.4	4.6	4.4	4.7	4.4	4.7	0	0.2	1.0
F.F	5.0	0	0	0.4	0	0.6	0.6	4.9	0	0	0	0	4.7	4.3	4.7	4.4	4.7	0	0.2	1.0
REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	0	0	0	0	0	4.8	4.9	2.0	4.8	0.4	4.8	0	1.8	2.4	2.5	2.5	0	2.5	0.7
REC/PLAY	0	0	4.9	0	0	0	4.8	4.9	2.0	4.2	1.6	4.8	0	1.8	2.4	2.5	2.5	0	2.5	2.5
F.F	0	0	4.7	0	0	0	4.8	4.9	2.0	4.8	1.6	4.8	0	2.0	2.5	2.5	2.5	0	2.5	2.5
REF. NO.	IC6001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	2.2	2.7	5.0	0	0	0	2.5	2.5	0	2.6	2.6	5.0	0.1	5.0	5.0	2.0	4.8	3.0	2.5	0
REC/PLAY	2.2	2.7	5.0	—	—	0	2.5	2.4	0	2.6	2.5	5.0	2.2	2.4	5.0	2.6	4.8	2.9	2.5	0.2
F.F	—	2.7	5.0	0	0	0	2.5	3.2	0	2.9	3.1	5.0	3.1	3.1	5.0	3.1	4.8	2.9	2.5	1.2
REF. NO.	IC6001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
STOP	0	0	0	0.1	4.1	0	4.8	4.8	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	0.1	4.9
REC/PLAY	0	0	0.6	3.8	3.8	0.5	4.8	4.7	4.9	4.9	4.9	4.8	4.9	4.9	4.9	4.9	4.9	3.0	3.0	2.8
F.F	0.1	0.7	0.9	3.3	3.3	1.3	3.6	3.6	3.9	3.5	3.9	3.6	4.0	4.0	3.7	3.5	5.0	4.0	3.7	0.3
REF. NO.	IC6001																			
MODE	121	122	123	124	125	126	127	128												
STOP	0	4.8	5.0	5.0	3.7	5.0	5.0	0												
REC/PLAY	0	4.8	5.0	5.0	3.7	4.9	4.9	0.2												
F.F	0.1	3.8	5.0	5.0	3.7	4.9	4.9	2.7												
REF. NO.	IC6002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	0	0	0	0	0	0.1	0	0.2	0	4.9	0	0.1	0	0.2						
REC/PLAY	0	0	0	0.8	0.4	0.4	0	0.2	0.2	4.9	0	0.5	0	0.2						
F.F	0	0	0	0	0.4	0.3	0	0.2	0.2	4.9	0	0.1	0	0.2						
REF. NO.	IC6003																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	4.7	0	4.7	0	4.8	0.9	2.3	0	0	0	0	0	0	0	0	0	4.8	4.0	0
REC/PLAY	0	4.7	0	4.7	0	4.8	0.9	2.3	2.3	0	0	0	0	0	0.1	0	0	4.8	4.0	0.1
F.F	0	4.7	0	4.7	0	4.8	0	2.3	2.3	0	0	0	0	0	0.1	0	0	4.8	4.0	0
REF. NO.	IC6004																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	2.5	2.5	2.5	4.8	2.5	2.5	2.5	0	3.7	0.3	0	2.5	2.5	2.4						
REC/PLAY	2.5	2.5	2.4	4.8	1.8	2.5	2.4	3.7	3.4	1.6	0	2.5	2.5	2.5						
F.F	2.5	2.5	2.5	4.8	1.1	2.5	2.4	3.7	3.7	0.2	0	2.5	2.5	2.5						
REF. NO.	IC6005										IC6006									
MODE	1	2	3	4	5	6	7	8			1	2	3							
STOP	0	6.8	4.8	0	0	3.8	0	0			0	0	5.1							
REC/PLAY	2.7	6.6	4.8	0	0	3.8	3.2	0			0	4.9	5.0							
F.F	2.2	6.5	4.8	0	0	3.8	2.8	0			0	4.9	5.0							
REF. NO.	IC6007										IC6008									
MODE	1	2	3								1	2	3	4	5					
STOP	0	6.8	5.1								4.6	3.6	0	1.1	4.8					
REC/PLAY	0	6.6	5.1								4.4	3.5	0	1.1	4.8					
F.F	0	6.5	1.5								4.4	3.5	0	1.1	4.8					

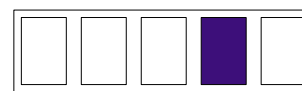
SYSTEM CONTROL & SERVO TRANSISTORS DC VOLTAGE CHART

REF. NO.	Q6001			Q6002			Q6003			Q6004								
MODE	E	C	B	E	C	B	E	C	B	E	C	B						
STOP	0	6.8	0	4.9	4.9	4.2	0	4.8	0	0	4.7	0						
REC/PLAY	0	6.6	0	4.9	4.8	4.1	0	4.8	0	0	4.7	0						
F.F	0.9	6.5	0.8	4.9	4.9	4.2	0	4.6	0	0	4.7	0						
REF. NO.	QR6001			QR6002			QR6003			QR6004					QR6005			
MODE	E	C	B	E	C	B	E	C	B	1	2	3	4	5		E	C	B
STOP	4.8	0	5.0	5.0	0	5.0	4.8	0	0	0.2	0.2	0	0	0		0	4.4	0.1
REC/PLAY	4.8	0	4.9	5.0	4.9	0	4.8	0.1	0	0.2	0.2	0	0	0		0	0.1	0.1
F.F	4.8	0.8	4.2				4.8	4.8	0	0.2	0.2	0	0	0		0	4.4	0.1
REF. NO.	QR6006			QR6007			QR6008			QR6013								
MODE	E	C	B	E	C	B	E	C	B	E	C	B						
STOP	0	0	5.0	0	0	4.7	0	0	4.5	0	1.1	0						
REC/PLAY	0	0.1	4.9	0	0	4.7	0	0	4.4	0	1.1	0						
F.F	0	0.1	5.0	0	0	4.7	0	0	4.4	0	1.1	0						



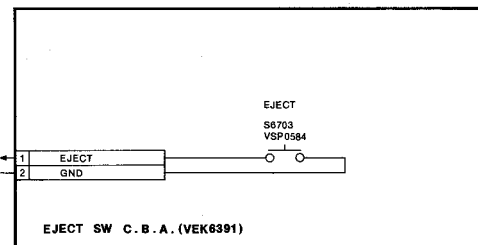
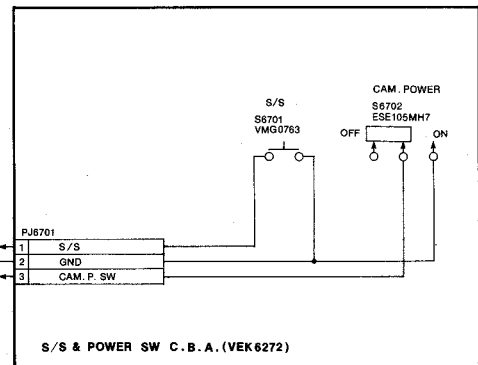
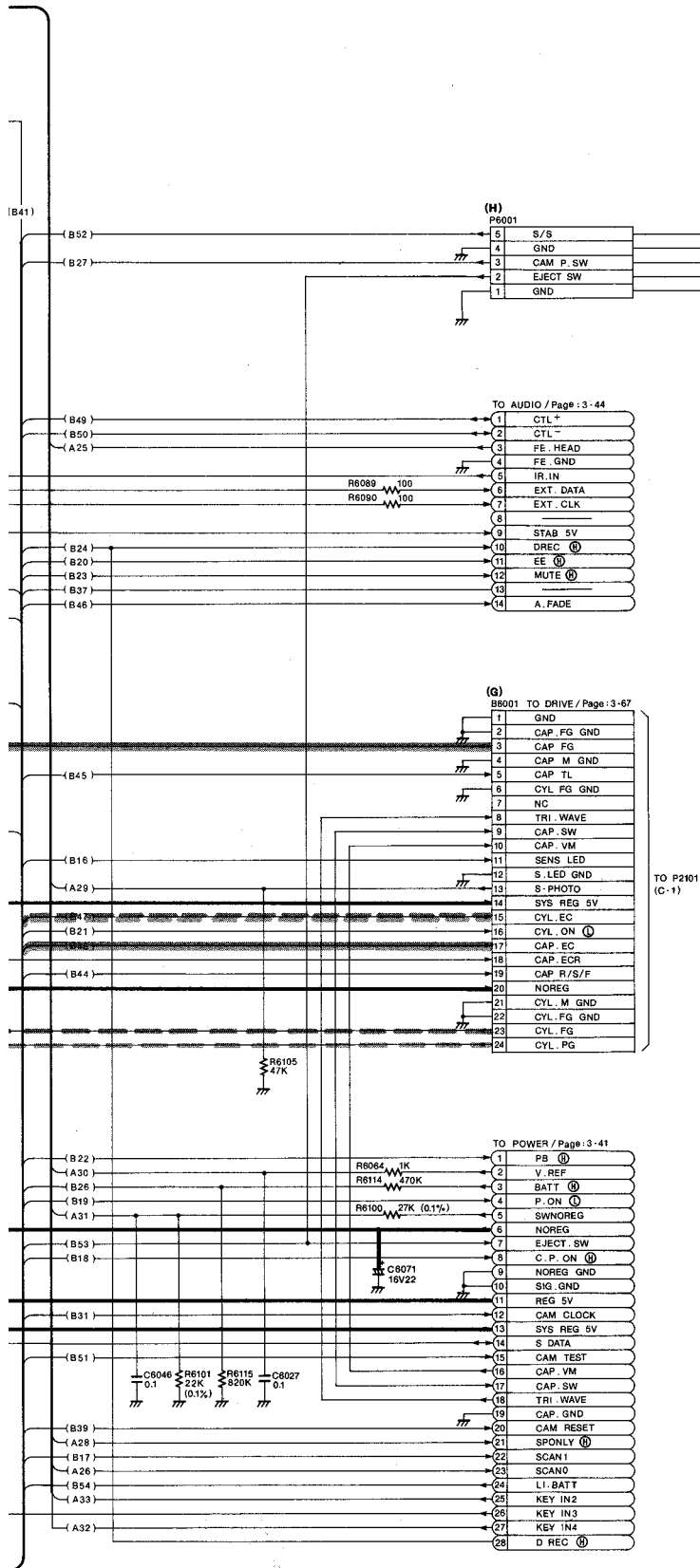


CYLINDE



CYLINDER SERVO SPEED LOOP

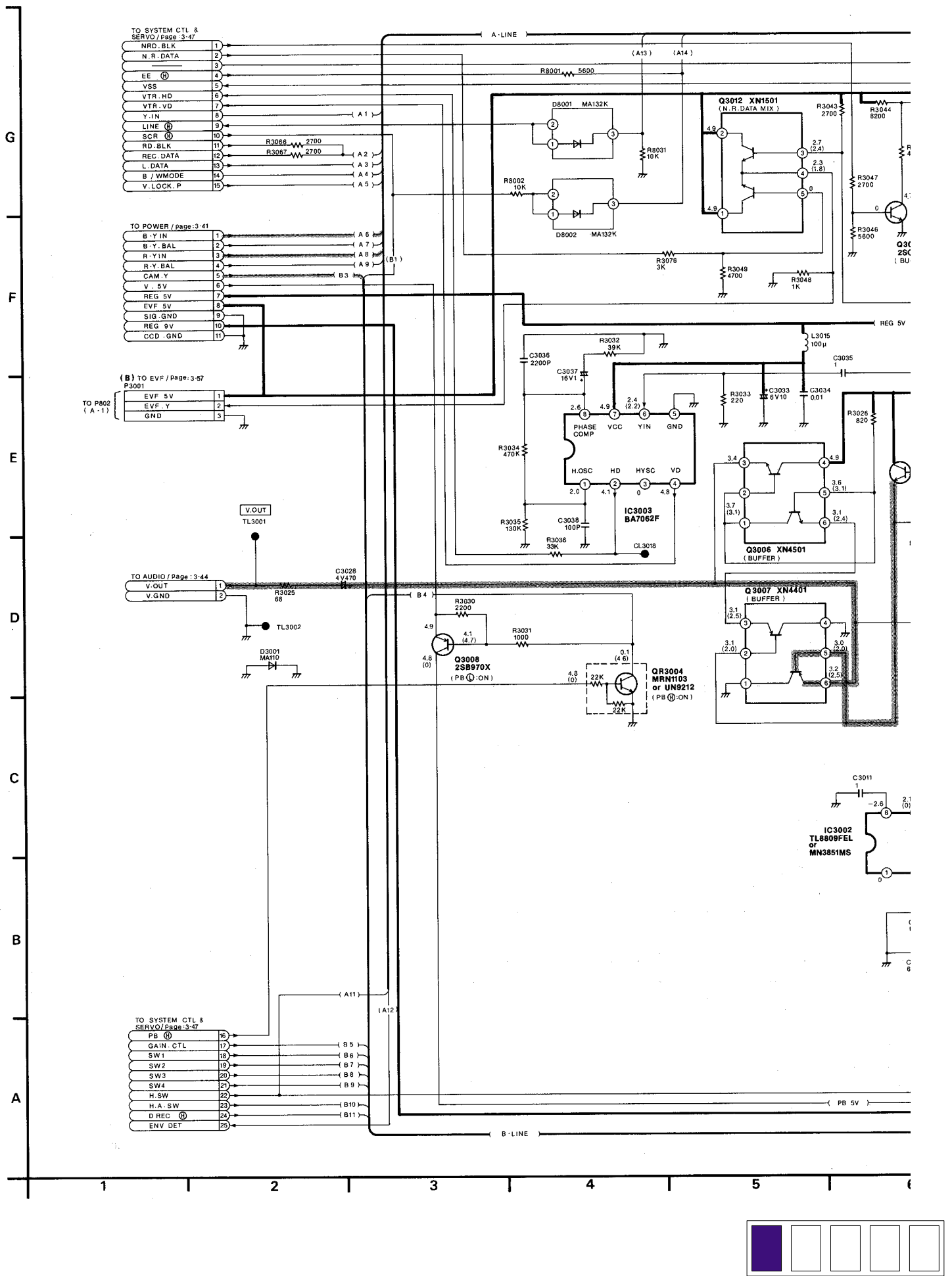
CYLINDER SERVO PHASE LOOP



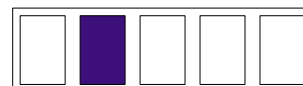
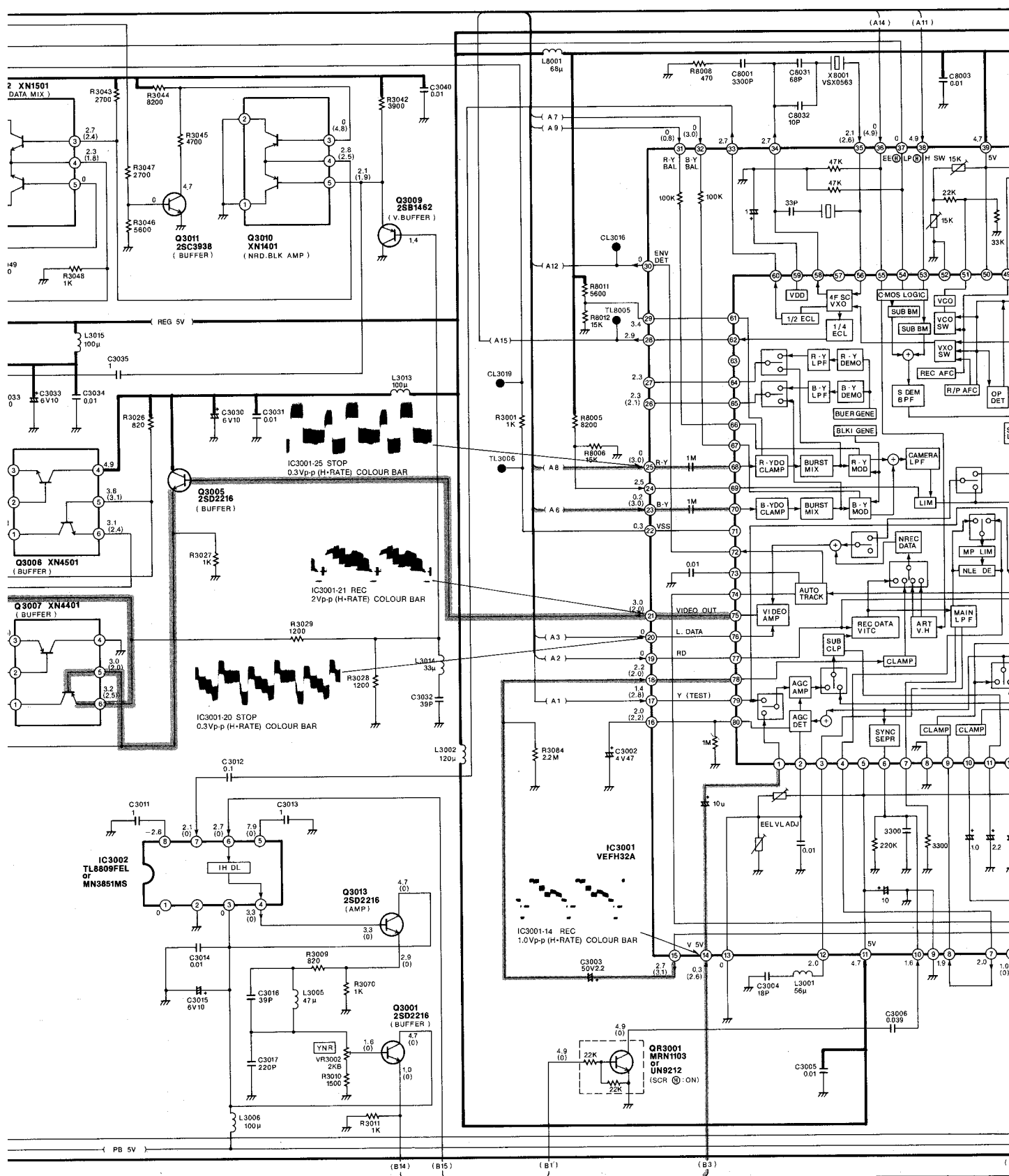
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

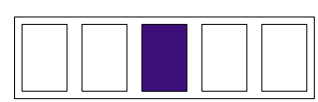
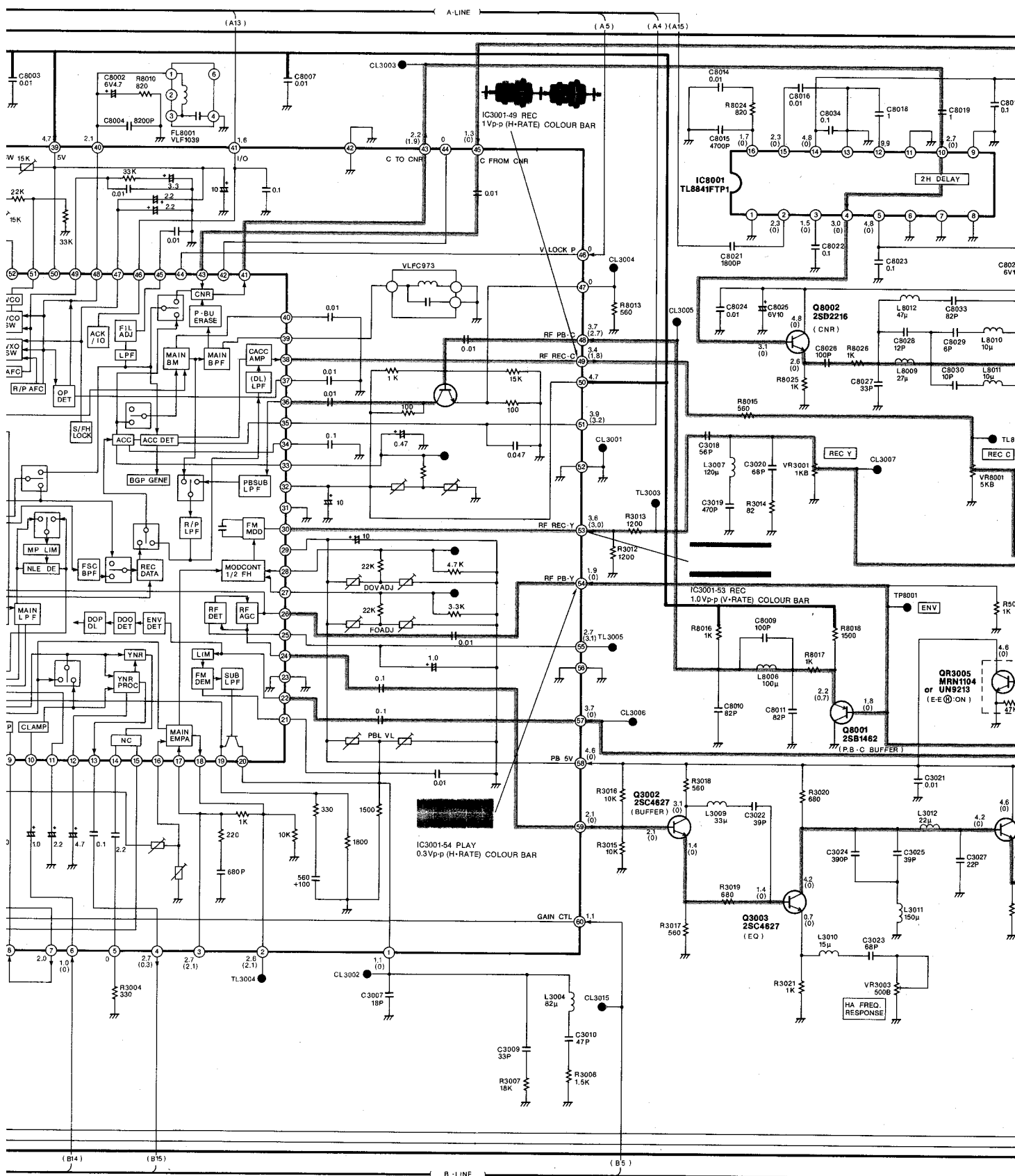


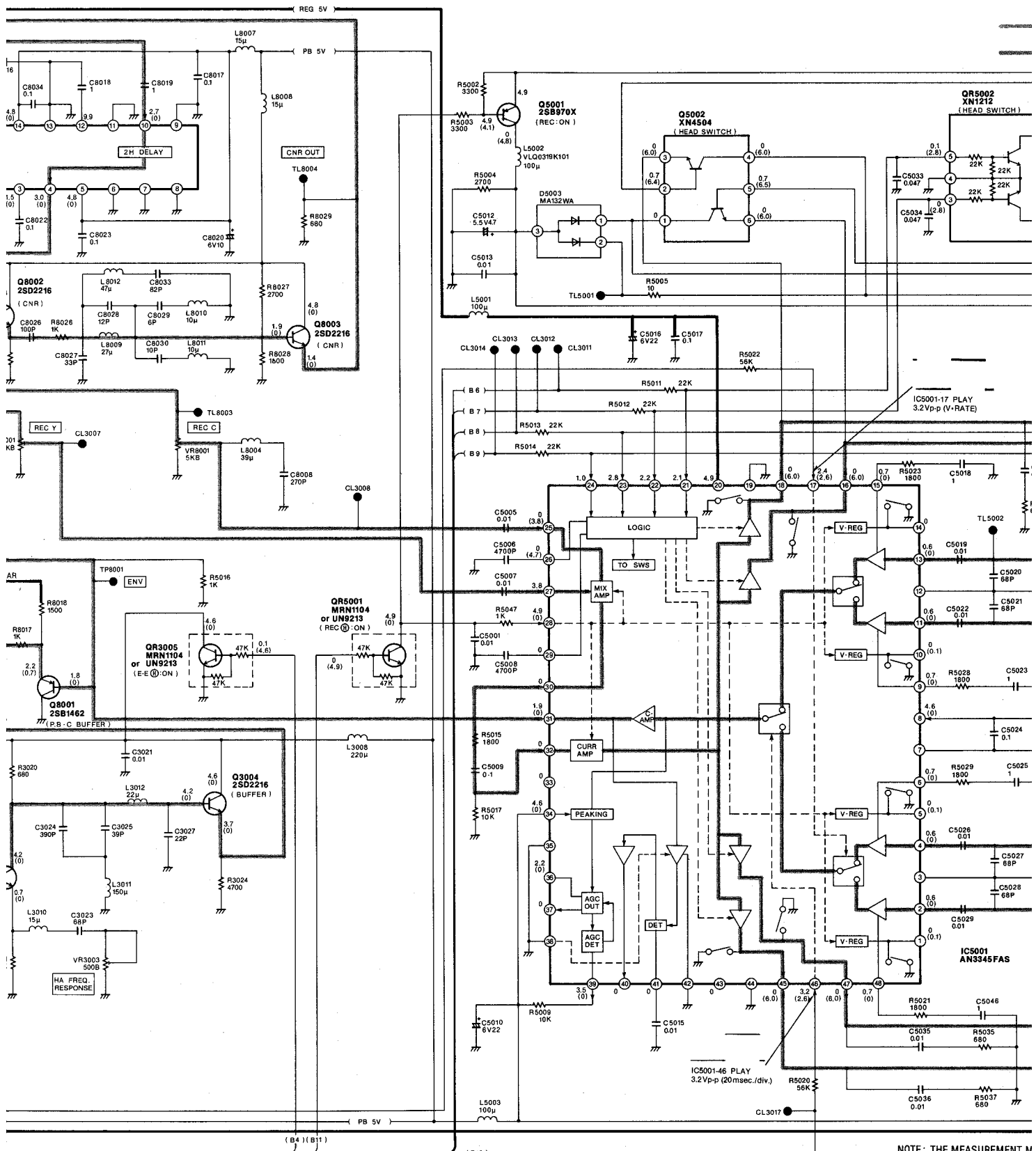
3-16. LUMINANCE/CHROMINANCE AND HEAD AMP SCHEMATIC DIA



LUMI/CHRO & HA Section





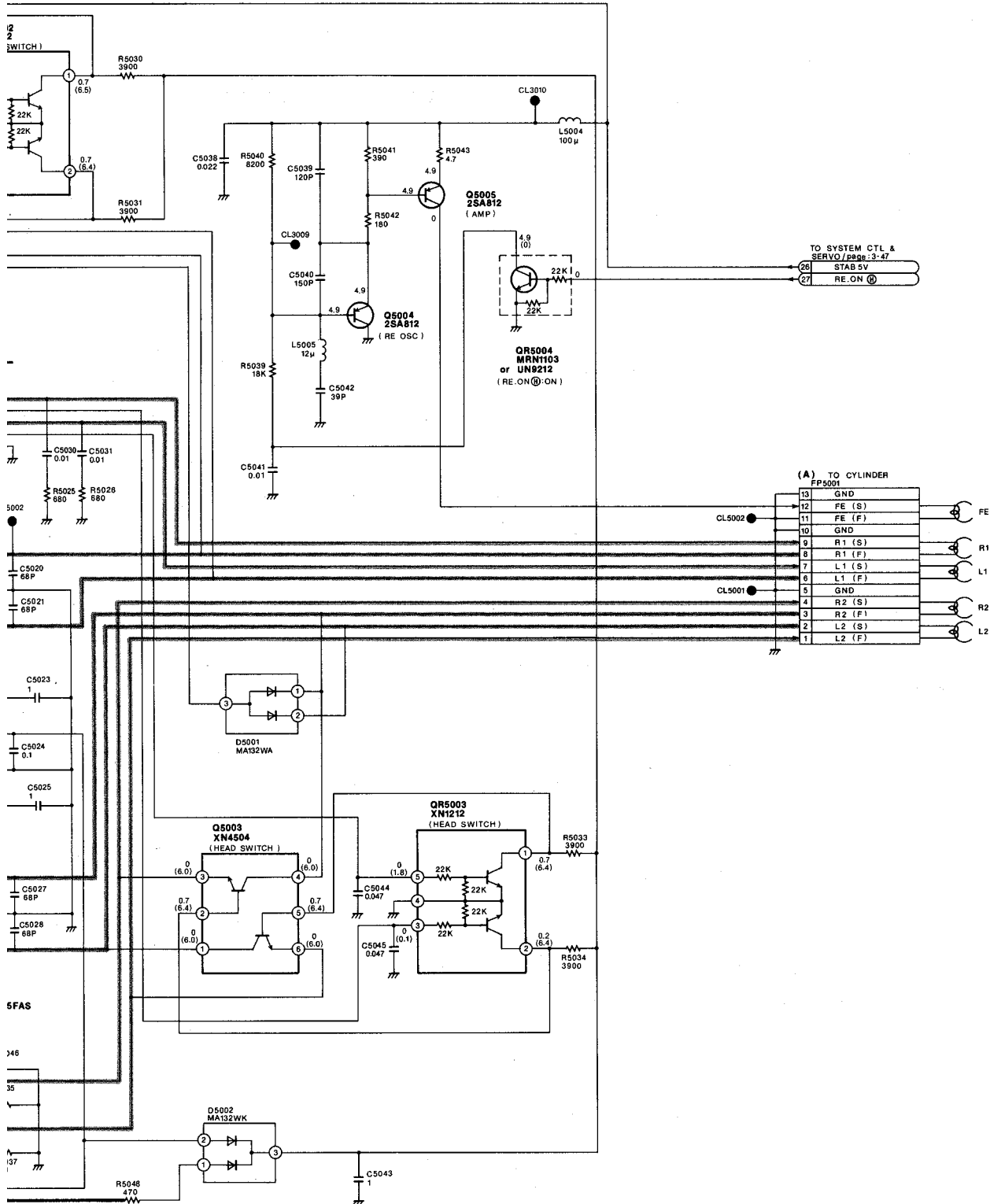


NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT M WITH AIM THE CAMEF THE MEASUREMENT N WITH PAL COLOUR SIC



—— MAIN SIGNAL PATH IN REC MODE
 —— MAIN SIGNAL PATH IN PLAYBACK MODE

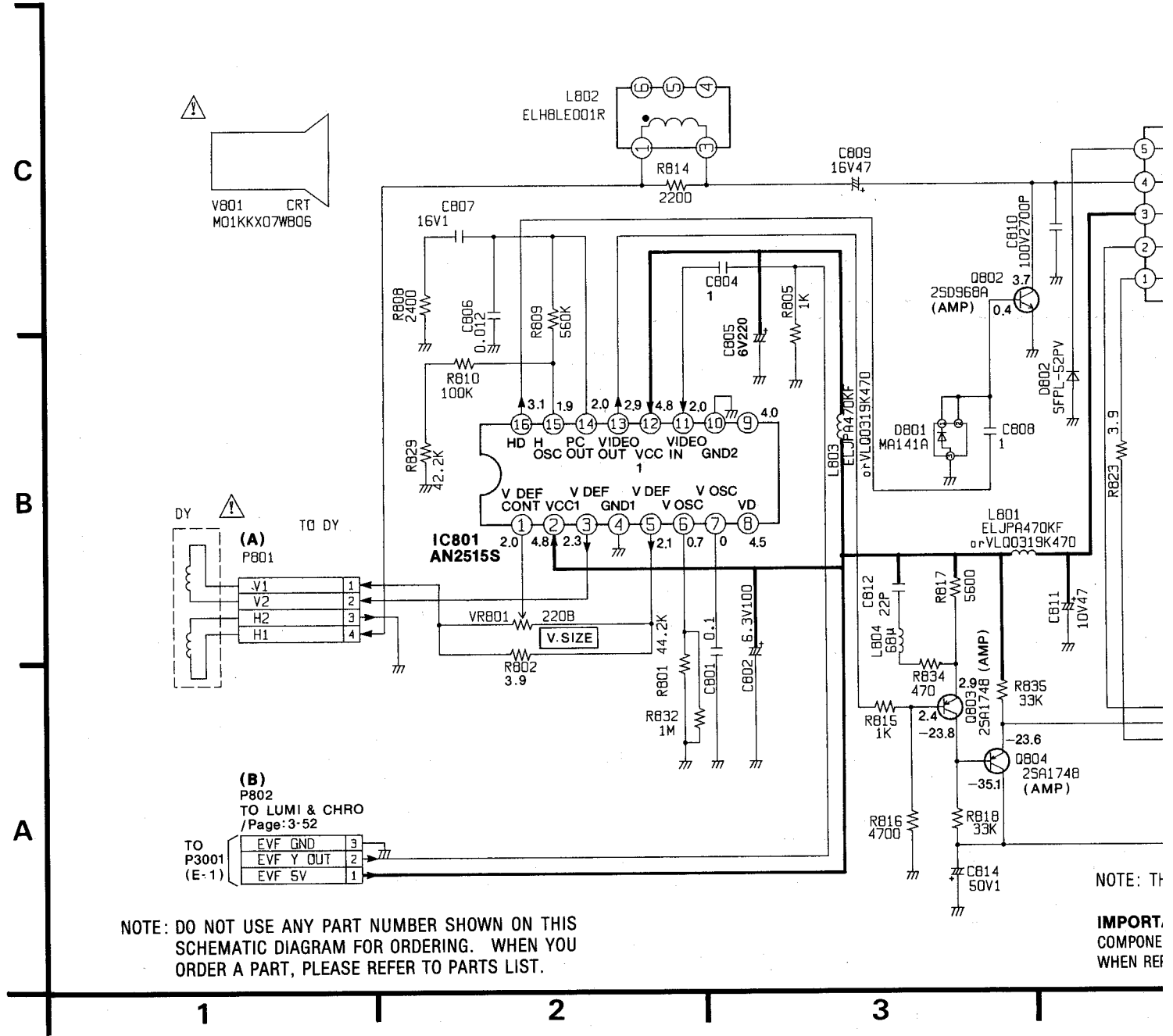


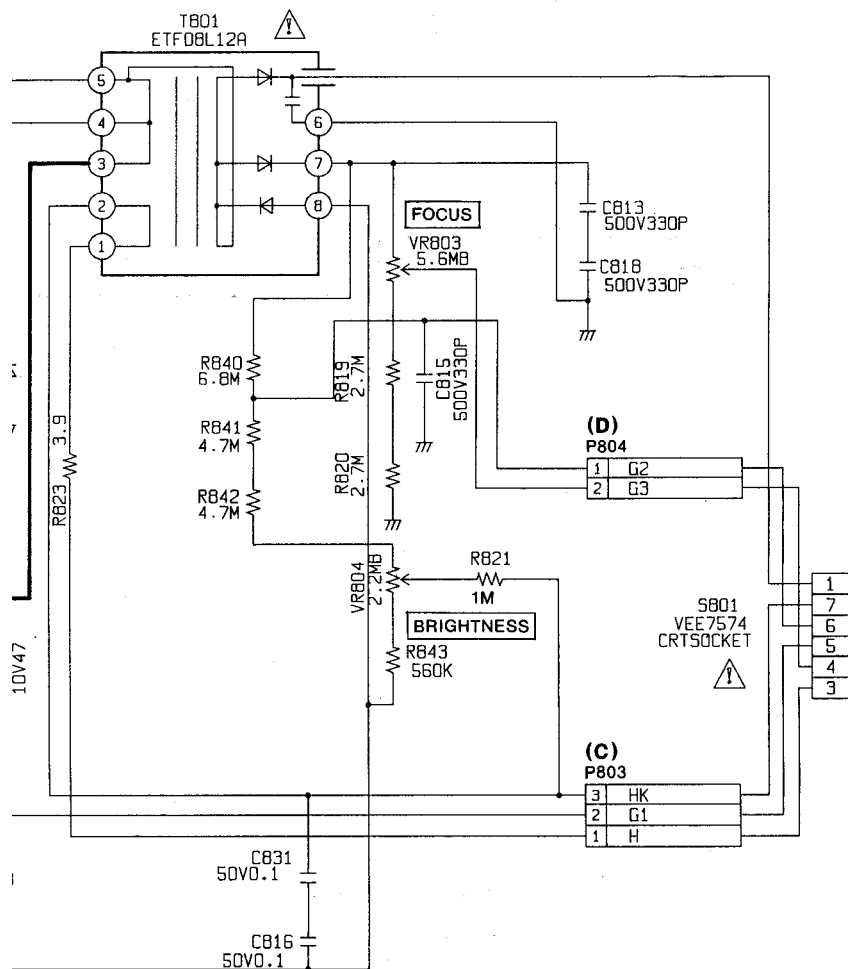
REMENT MODE OF THE DC VOLTAGE IN THE BRACKETS () ON THIS DIAGRAM IS RECORD MODE
 RE CAMERA AT THE COLOUR CHART.
 REMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE
 OLOUR SIGNAL.

21 22 23 24 25 26

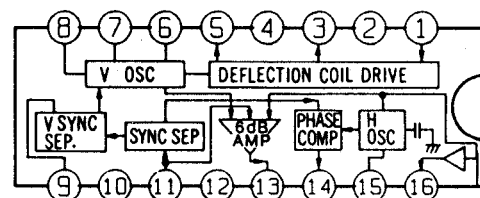


3-17. EVF SCHEMATIC DIAGRAM





IC801 (AN2515S)



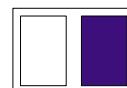
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

IMPORTANT SAFETY NOTICE:

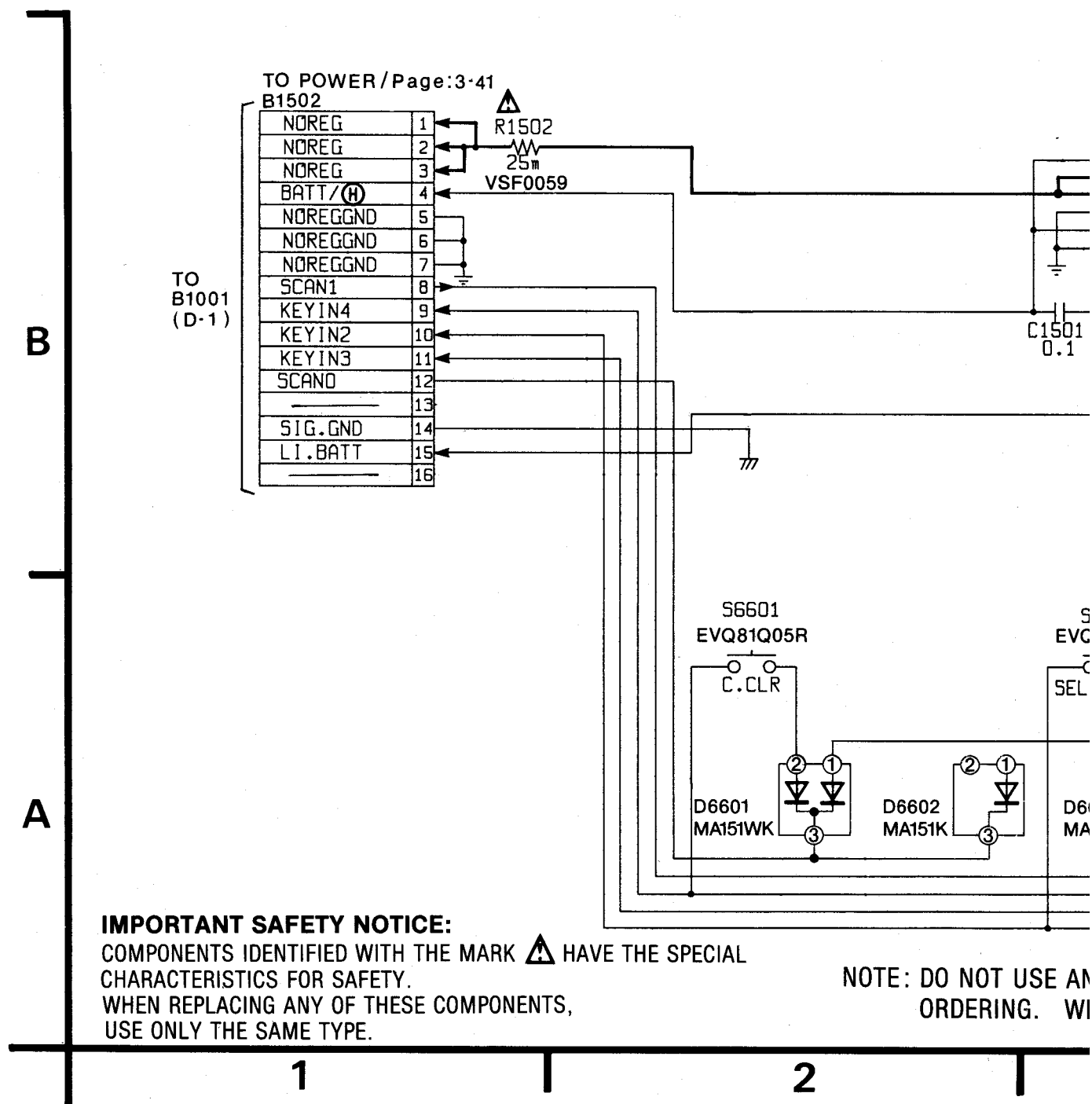
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

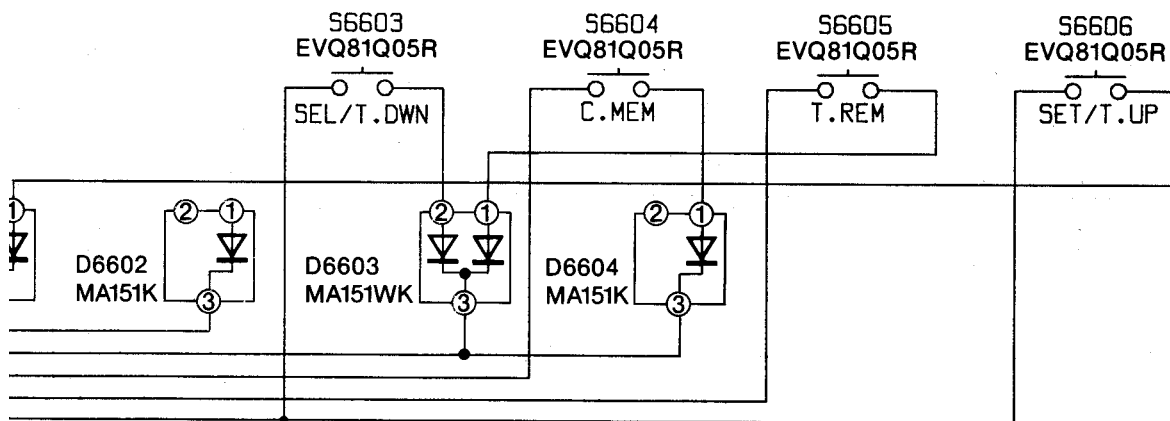
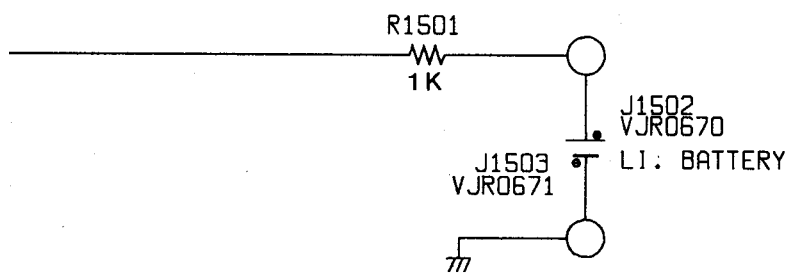
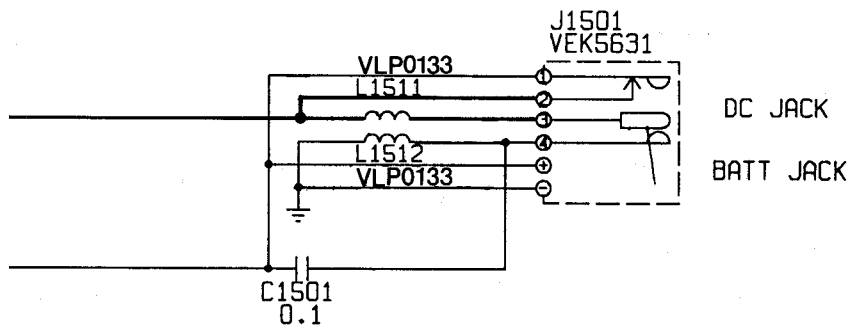
4

5



3-19. DC JACK SCHEMATIC DIAGRAM

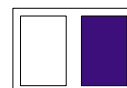




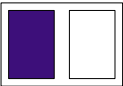
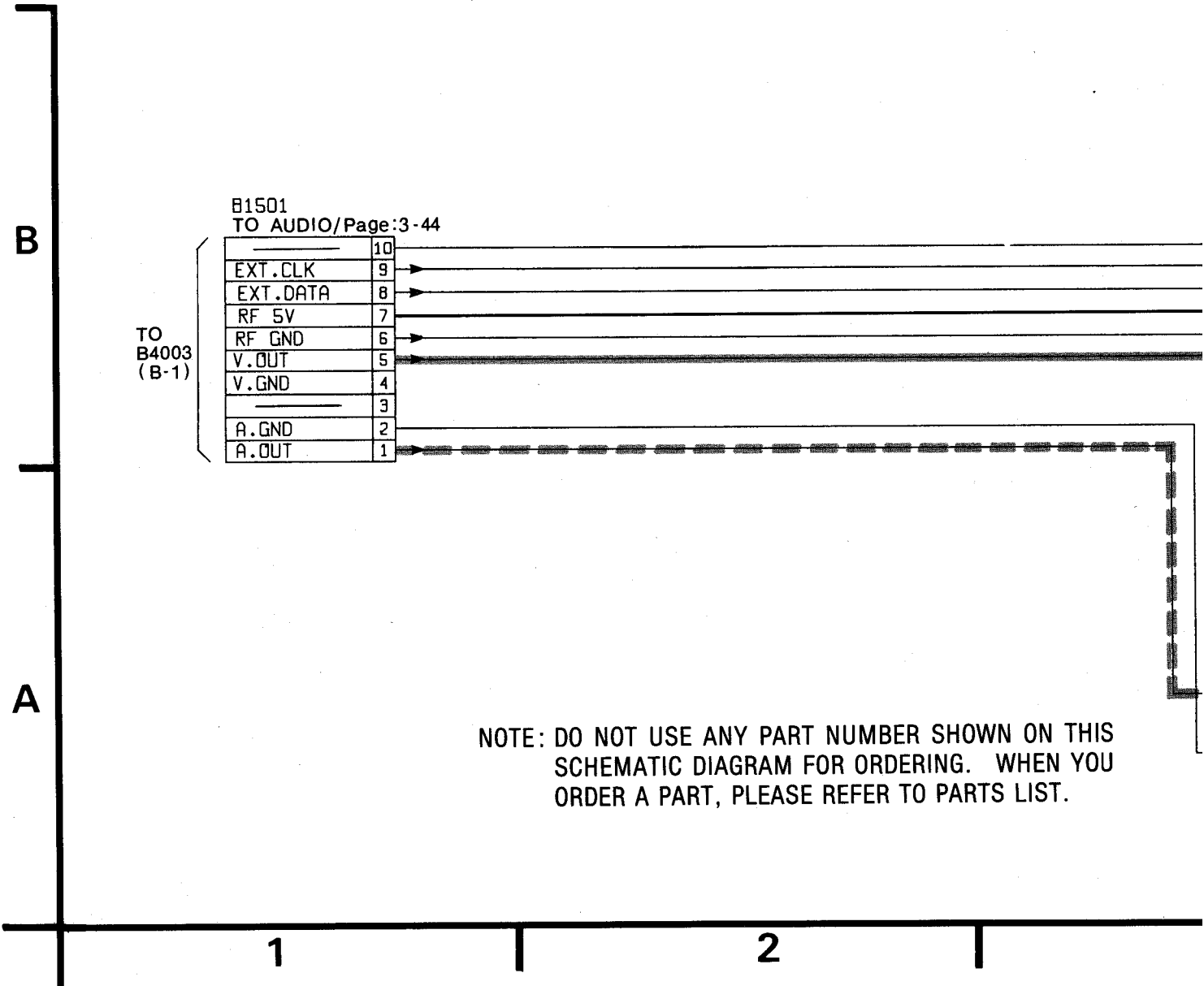
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3

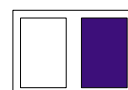
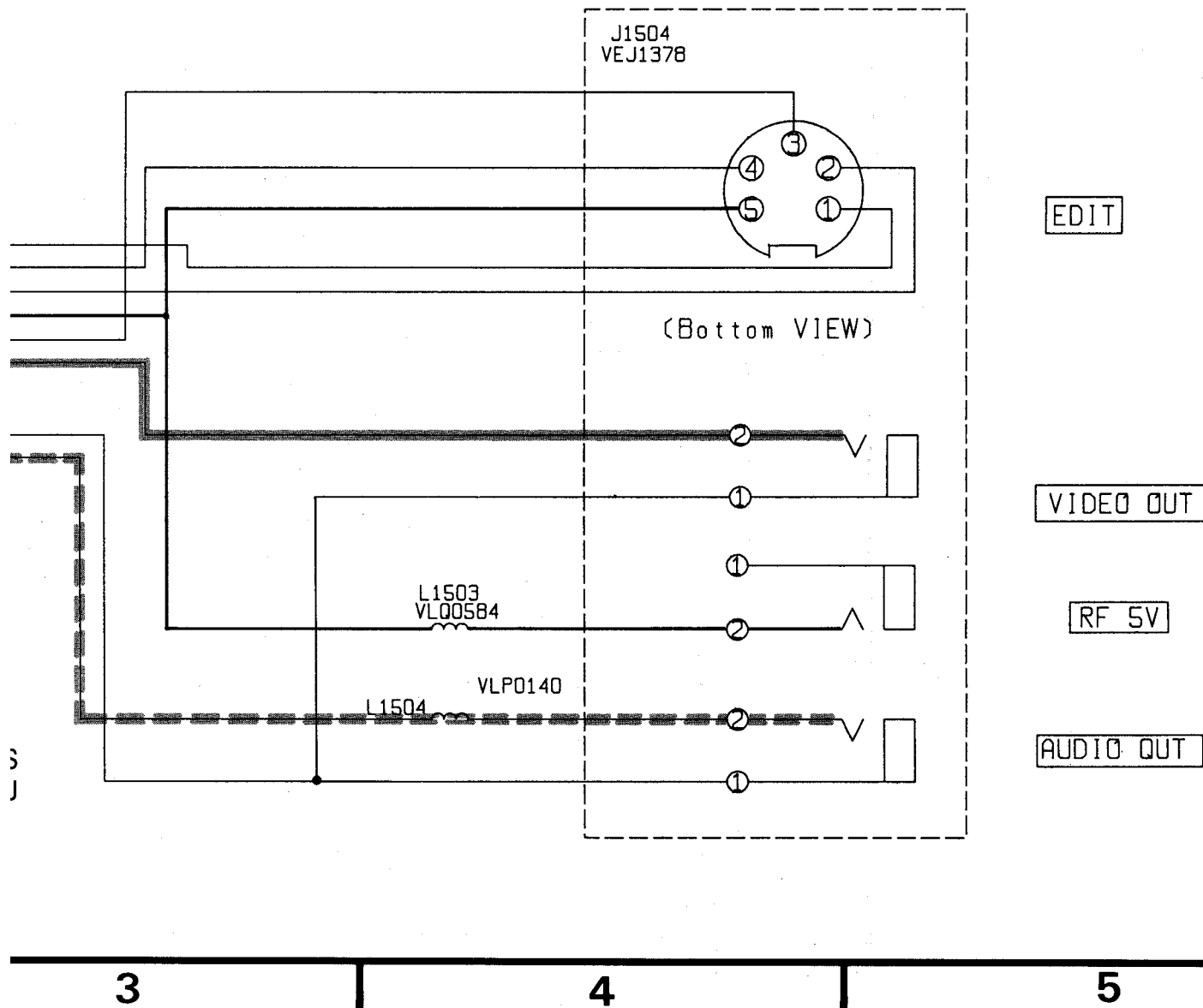
4



3-21. AV JACK SCHEMATIC DIAGRAM

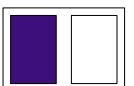
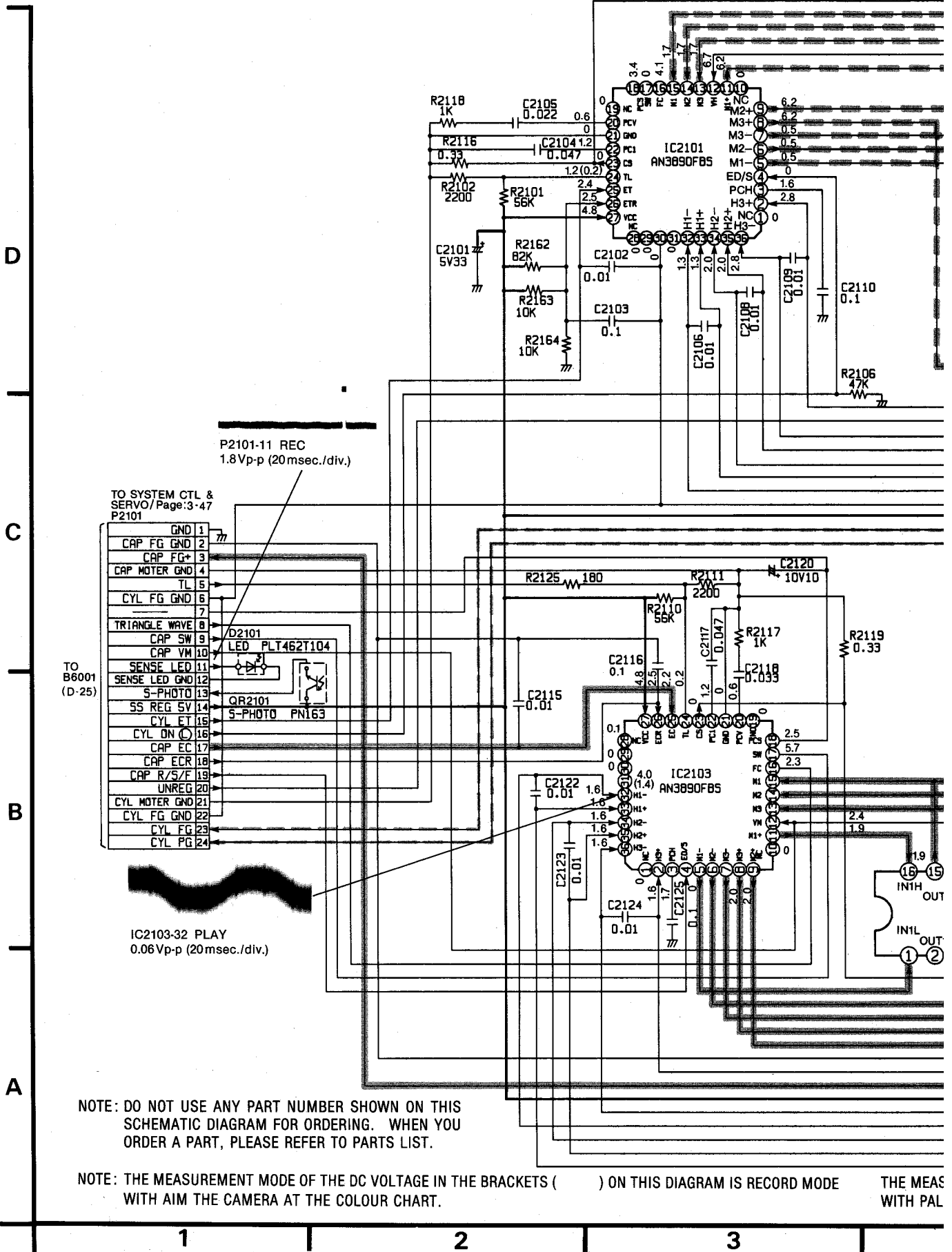


- VIDEO MAIN SIGNAL PATH IN REC MODE
- VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
- AUDIO MAIN SIGNAL PATH IN REC MODE
- AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



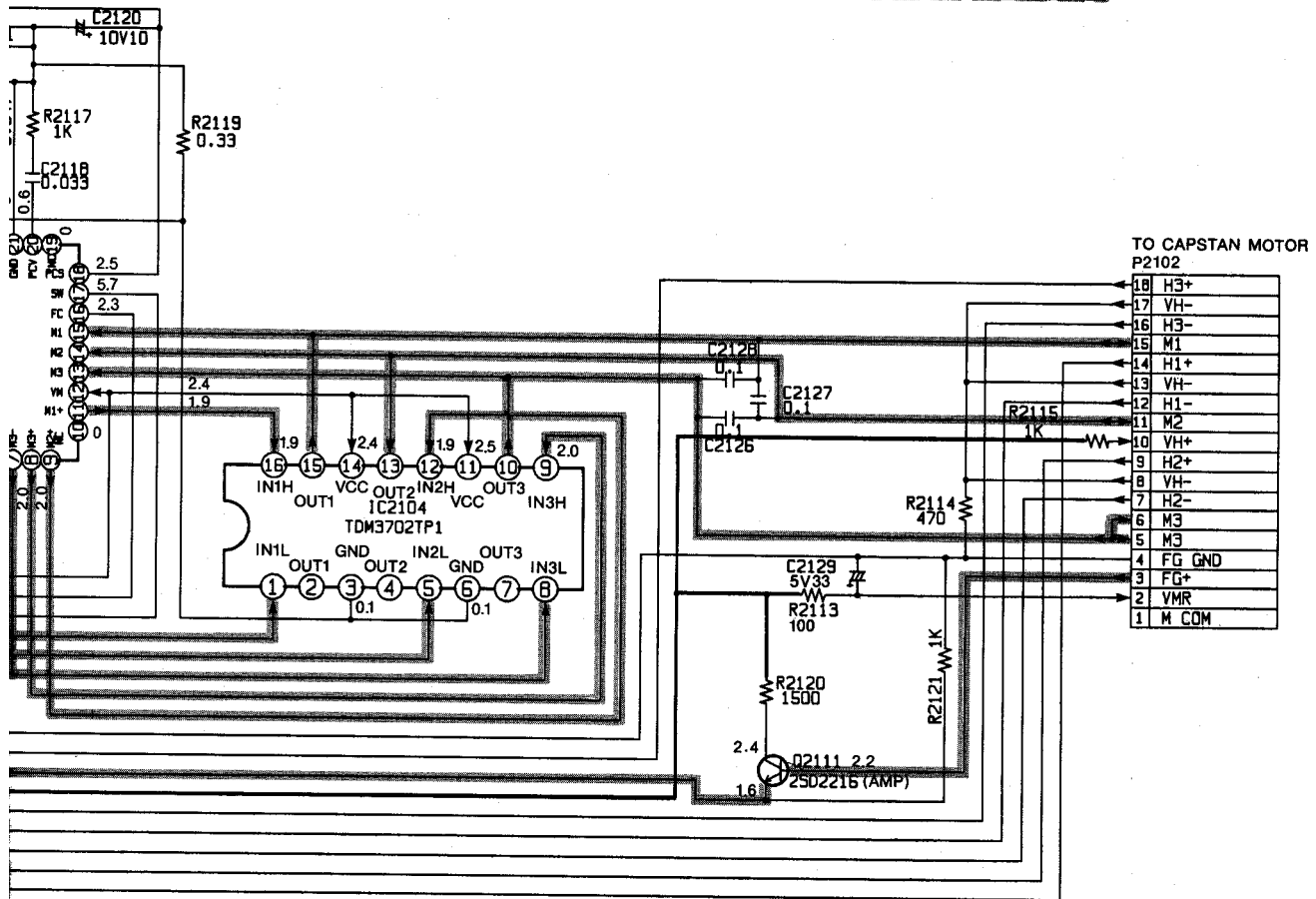
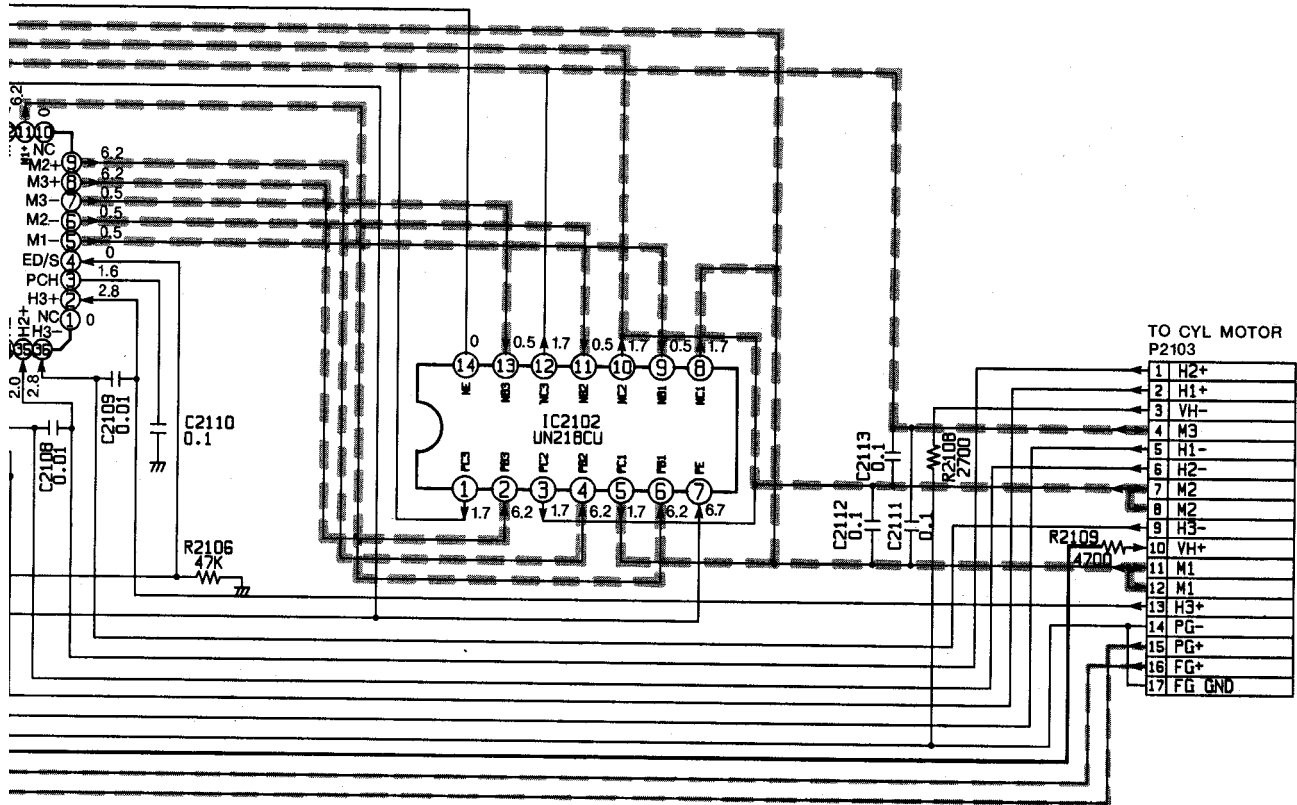
3-23. DRIVE SCHEMATIC DIAGRAM

CAPSTAN S
CAPSTAN S



— CAPSTAN SERVO SPEED LOOP
 - - - CAPSTAN SERVO PHASE LOOP

— CYLINDER SERVO SPEED LOOP
 - - - CYLINDER SERVO PHASE LOOP



IS RECORD MODE

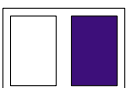
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

3

4

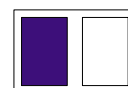
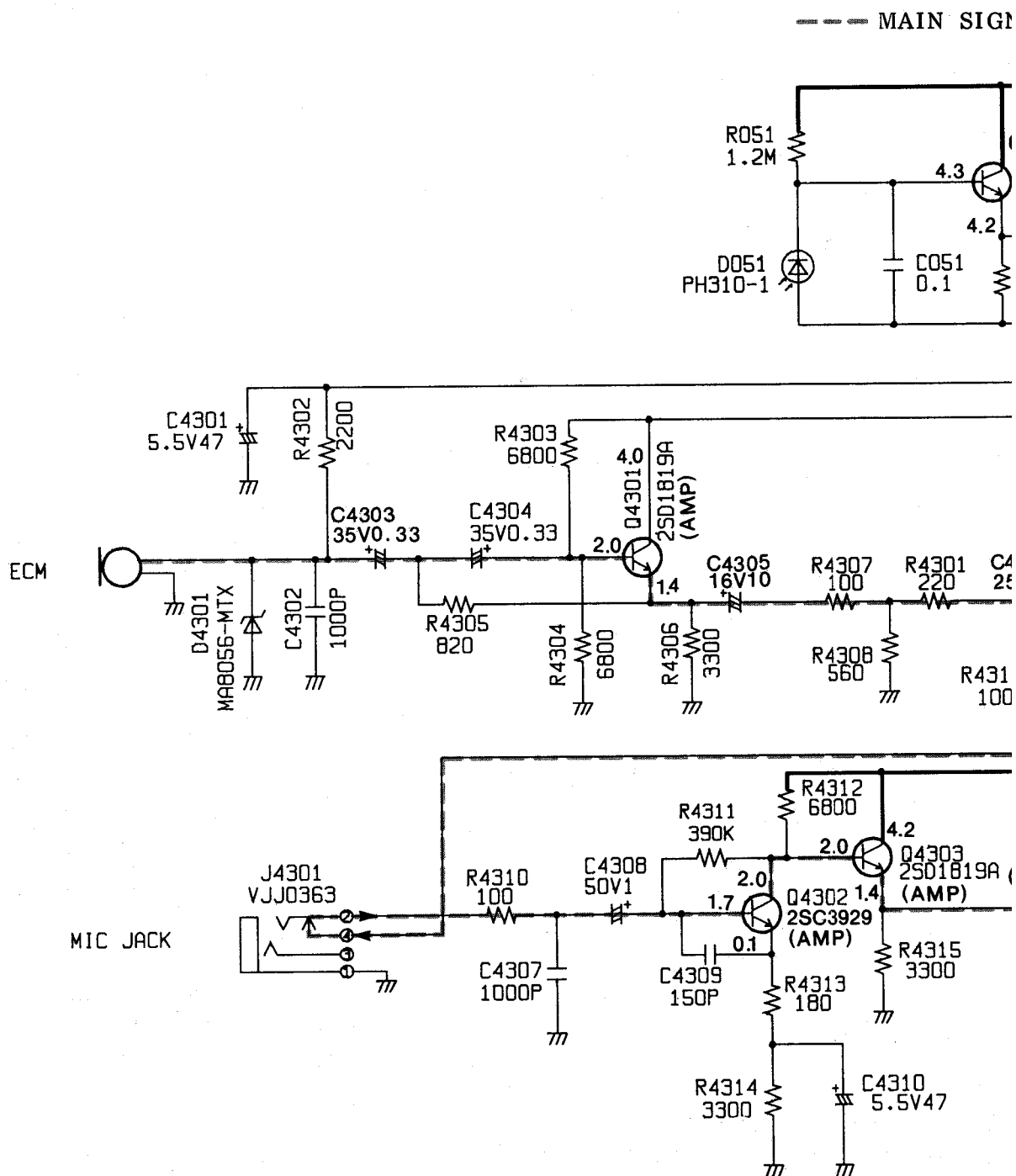
5

6

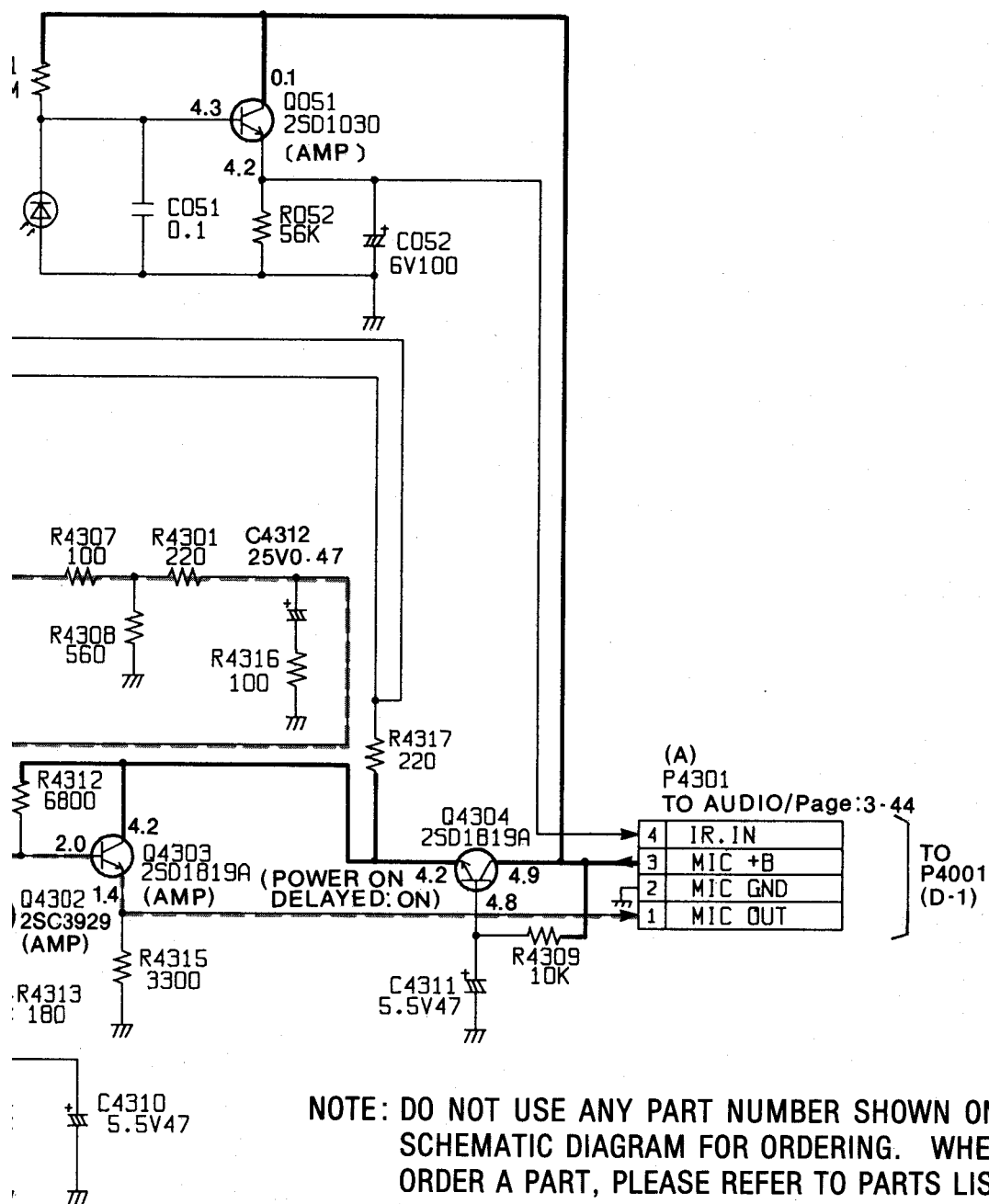


[illegible]

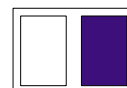
3-25. MIC/IR SENSOR SCHEMATIC DIAGRAM



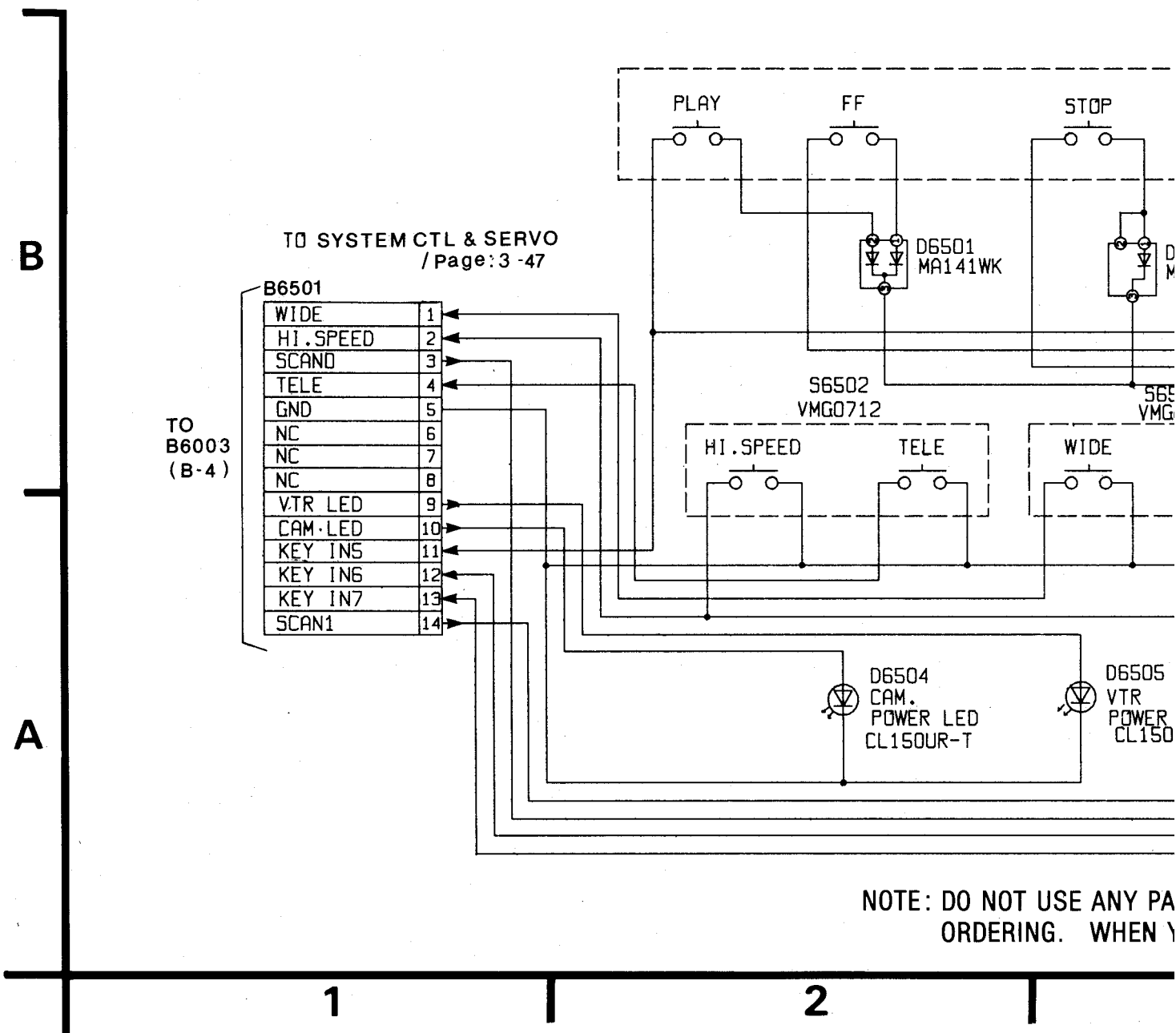
--- MAIN SIGNAL PATH IN REC MODE

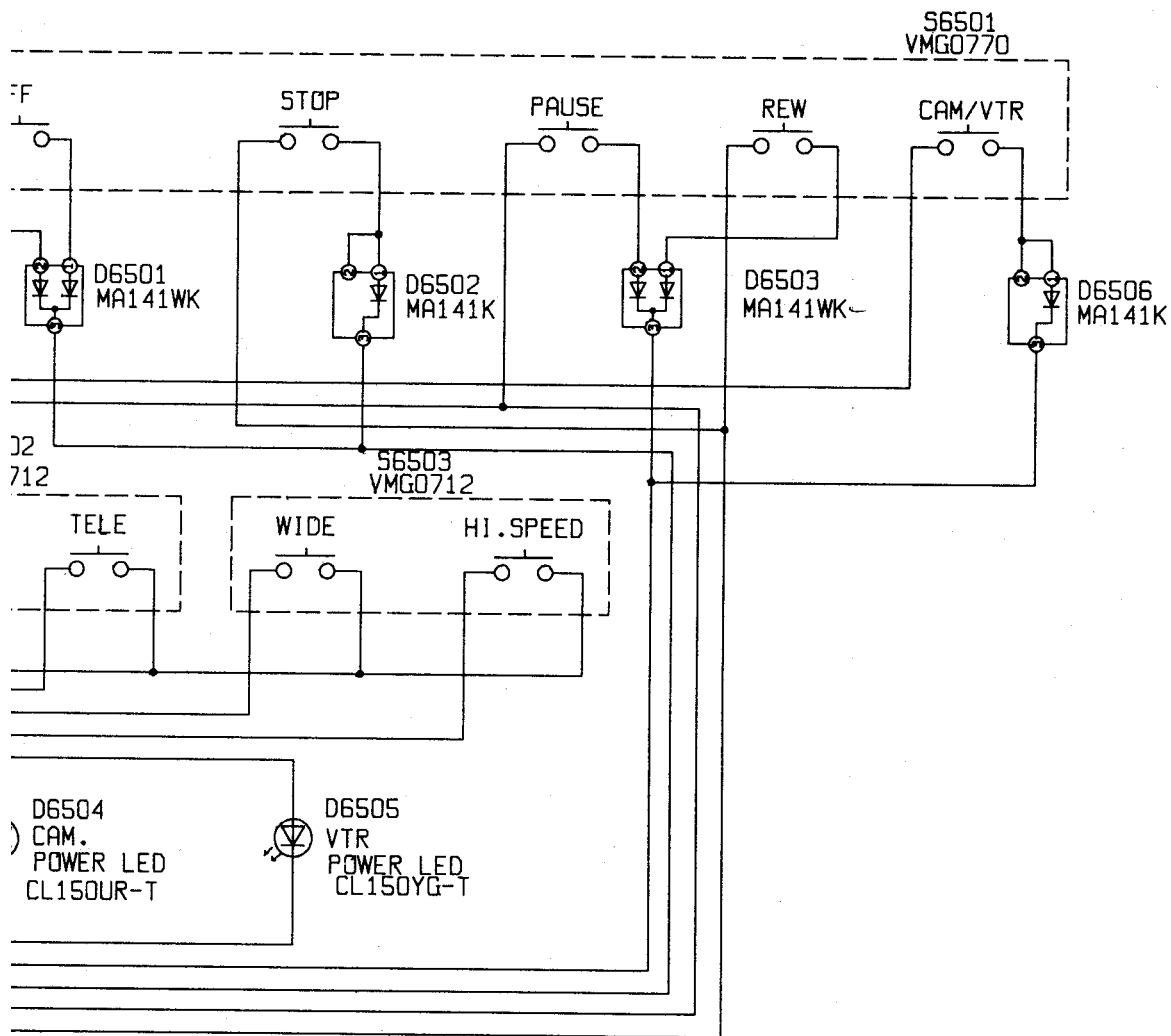


CKETS () ON THIS DIAGRAM IS RECORD MODE.
BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE.

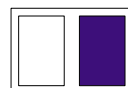


3-27. VTR OPERATION SCHEMATIC DIAGRAM

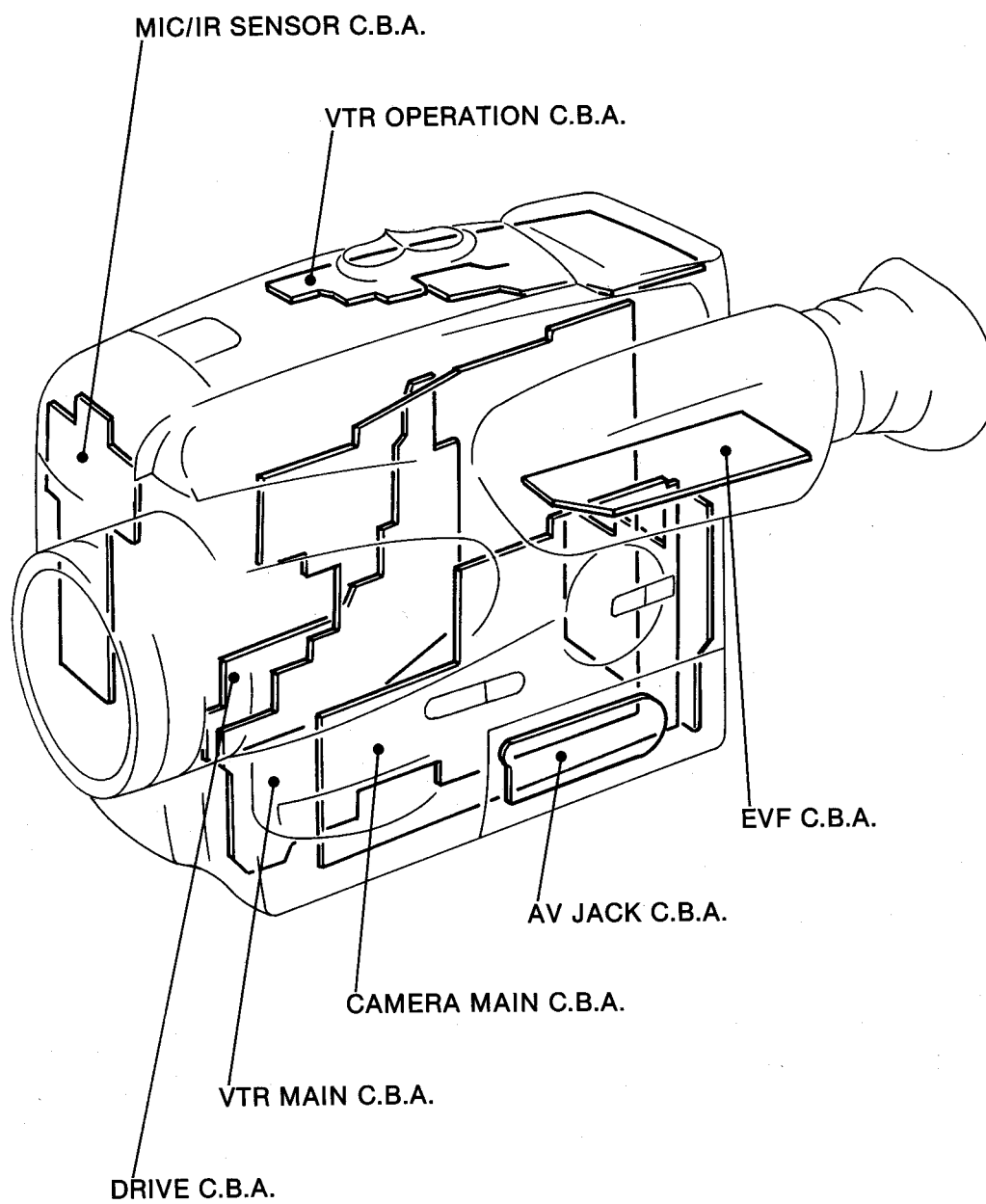




NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.



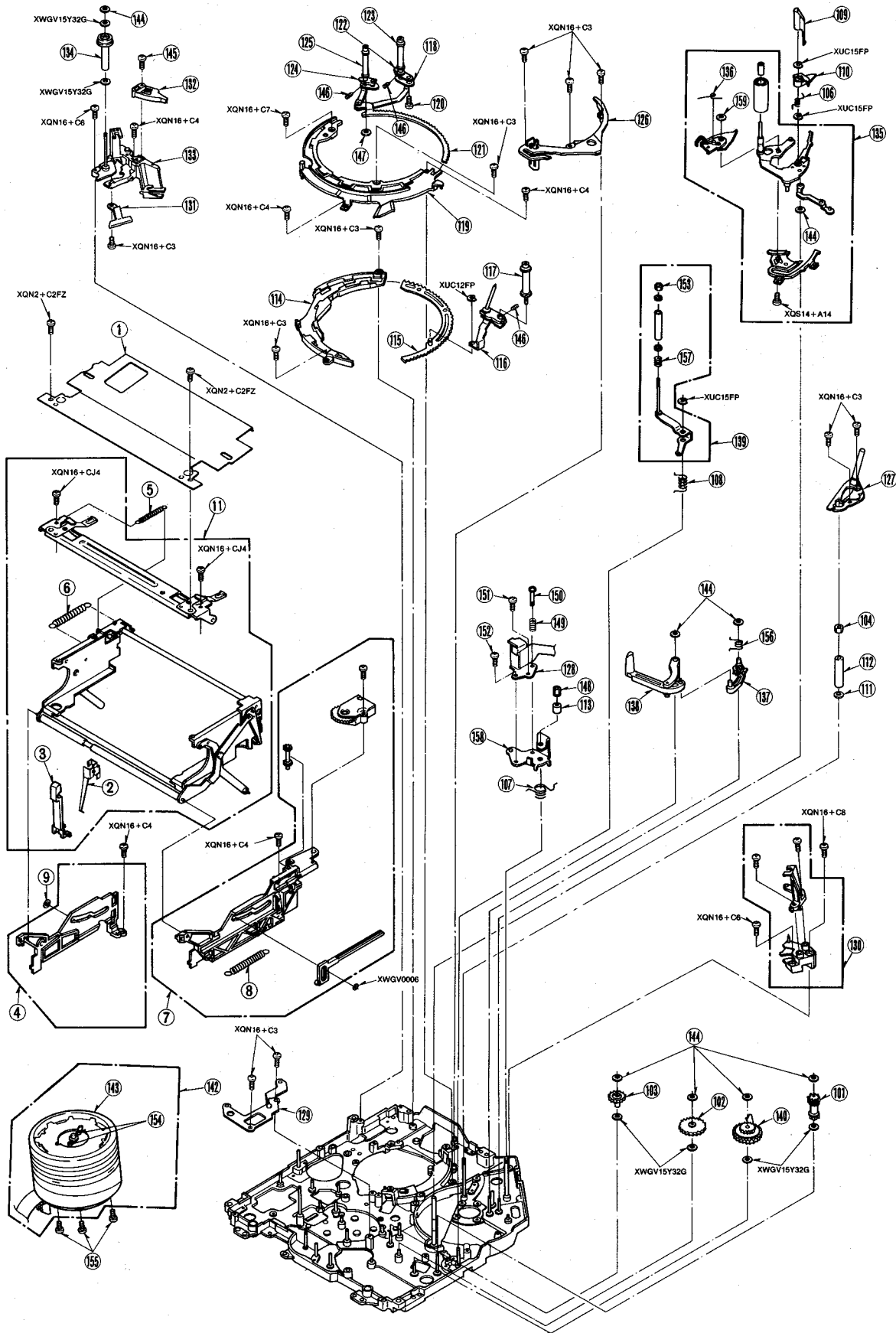
3-29. CIRCUIT BOARD LAYOUT



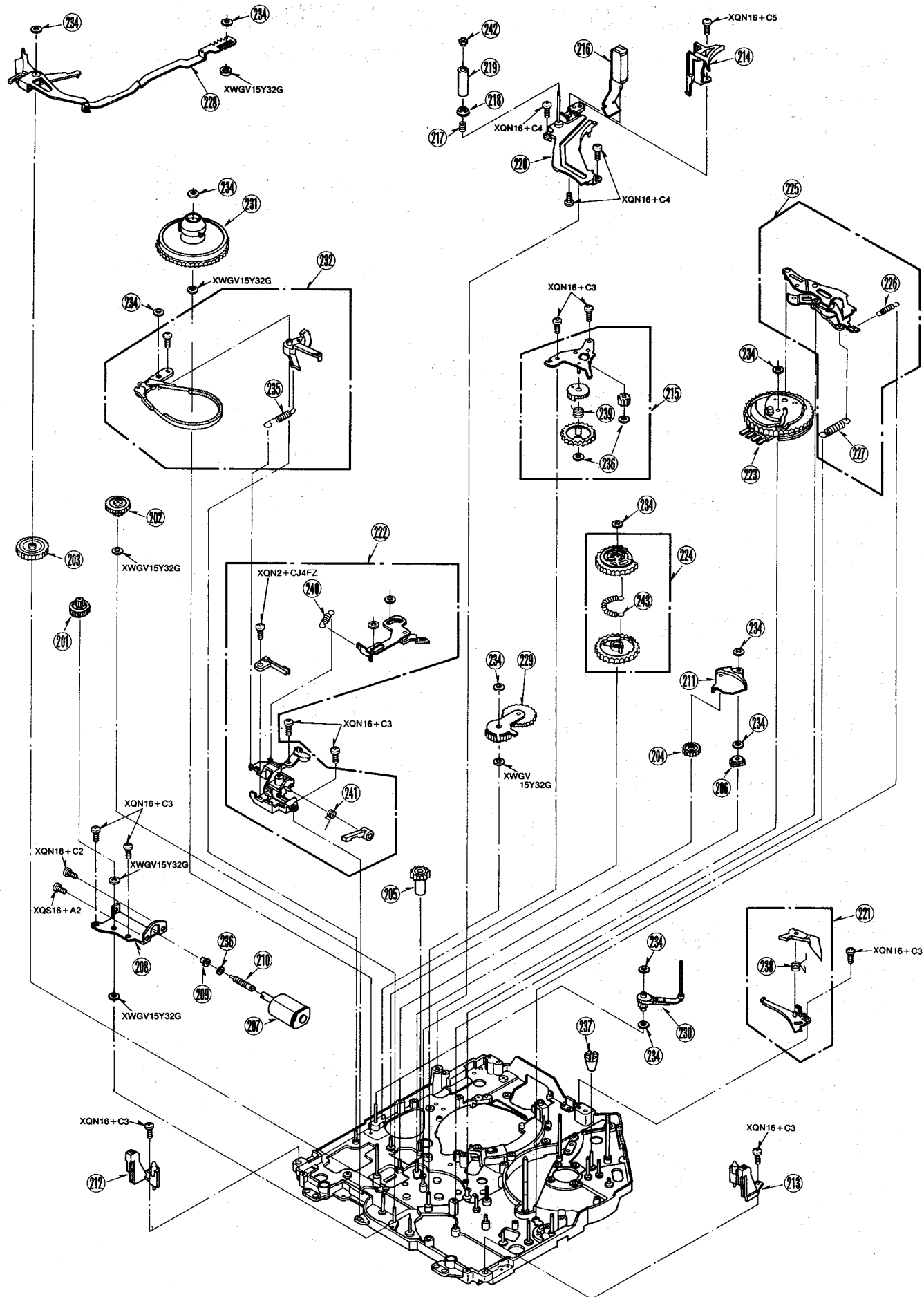
SECTION 4 EXPLODED VIEWS & PARTS LIST

4-1. EXPLODED VIEWS

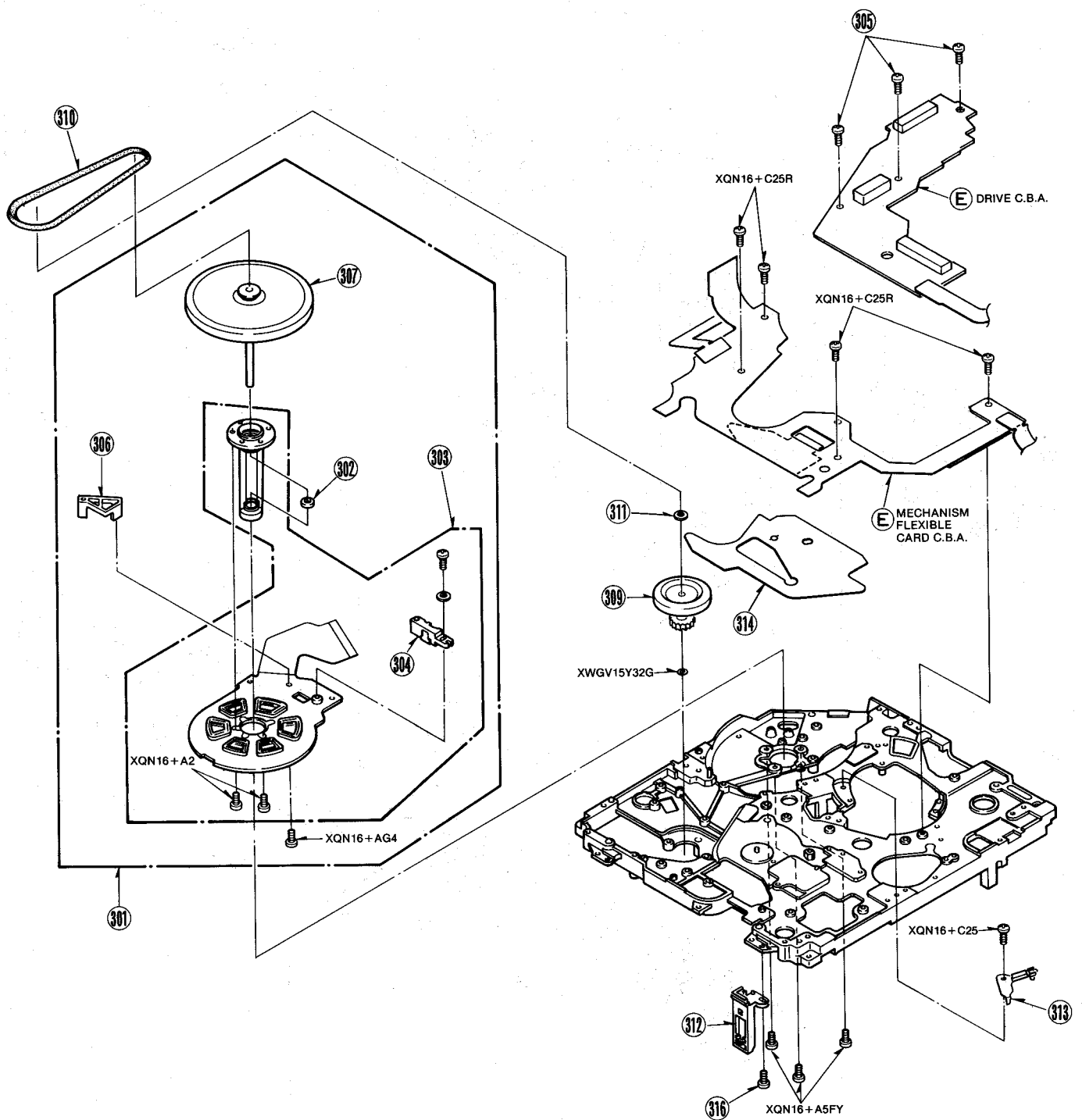
① VTR MECHANISM SECTION (1)



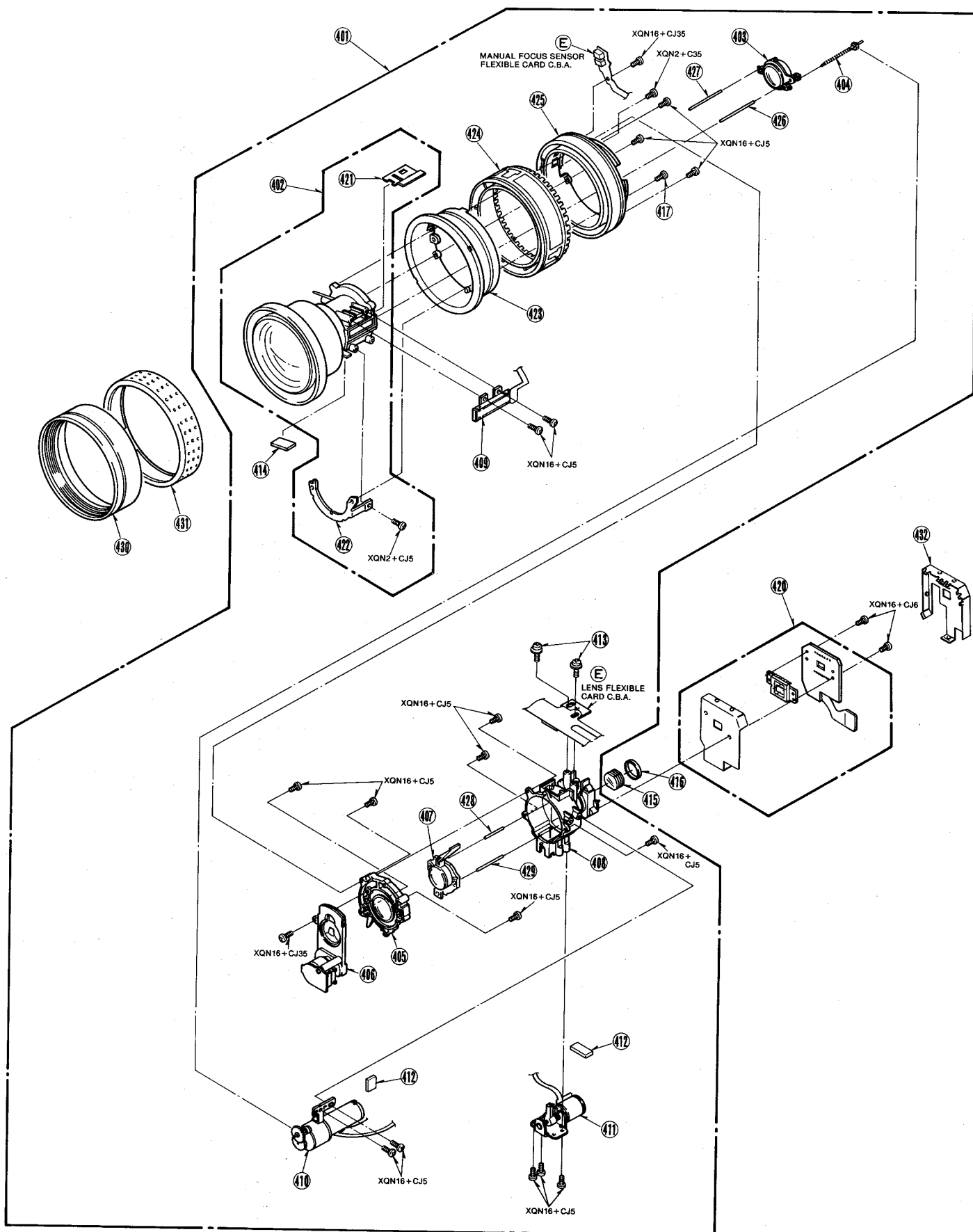
② VTR MECHANISM SECTION (2)



③ VTR MECHANISM SECTION (3)



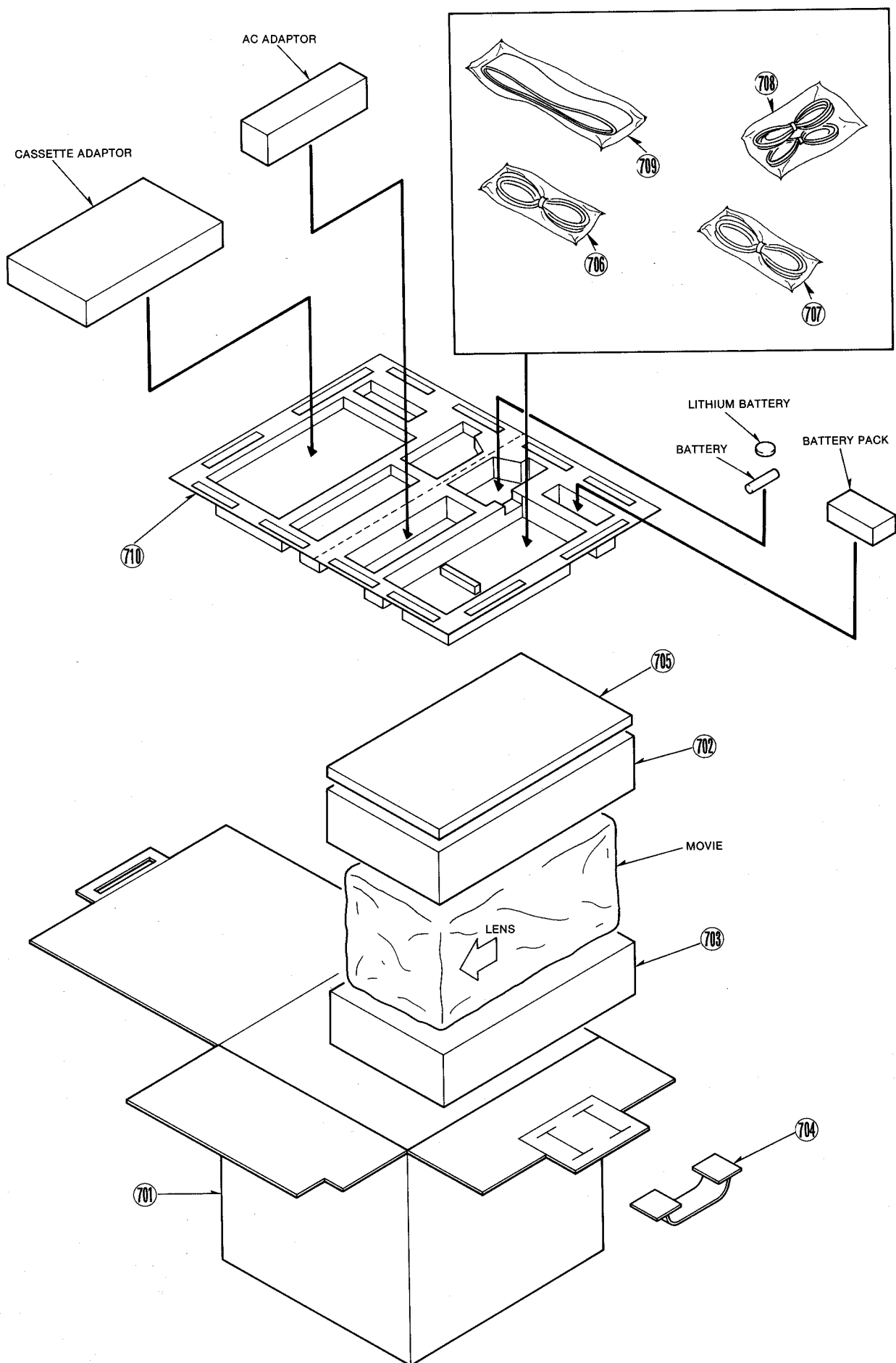
4 CAMERA LENS SECTION



[illegible]

[illegible]

7 PACKING PARTS & ACCESSORIES SECTION



4-2. MECHANICAL REPLACEMENT PARTS LIST

Note:1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark (!) have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1(1)	VGP3437	CASSETTE INNER COVER	1	
2(1)	VMO651	LOCK LEVER (A) SPRING	1	
3(1)	VML2370	LOCK LEVER (A)	1	
4(1)	VXA4241	STAND (L) U.	1	
5(1)	VMB2096	HOLDER SPRING (L)	1	
6(1)	VMB2095	SAFETY LEVER SPRING	1	
7(1)	VXA4242	STAND (R) U.	1	
8(1)	VMB2097	HOLDER SPRING (R)	1	
9(1)	VMX1042	WASHER	1	
11(1)	VXA4372	CASSETTE HOLDER U.	1	
101(1)	VDG0642	DRIVE GEAR (A)	1	
102(1)	VDG0643	DRIVE GEAR (C)	1	
103(1)	VDG0644	DRIVE GEAR (D)	1	
104(1)	VMD1727	T4 CAP	1	
106(1)	VMB2099	T (1) TURNER SPRING	1	
107(1)	VMB2101	A/C BASE SPRING	1	
108(1)	VMB2103	T5 ARM SPRING	1	
109(1)	VMD1718	TAPE OPENER	1	
110(1)	VMD1517	T1 RETURNER	1	
111(1)	VMX1844	T4 FLANGE	1	
112(1)	VMX1805	T4 POST	1	
113(1)	VMX1806	A/C COLLAR	1	
114(1)	VMD1500	S RACK GUIDE	1	
115(1)	VXA3907	S RACK U.	1	
116(1)	VXA3909	S SHAFT HOLDER (2) U.	1	
117(1)	VXP1197	S2 ROLLER POST U.	1	
118(1)	VMO566	T1 SHAFT HOLDER PLATE	1	
119(1)	VMD1843	T RACK GUIDE	1	
120(1)	VMS4254	T1 SHAFT HOLDER PIN	1	
121(1)	VXA3915	T RACK U.	1	
122(1)	VXA3917	T SHAFT HOLDER (1) U.	1	
123(1)	VXP1162	T ROLLER POST U.	1	
124(1)	VXA3920	T2 SHAFT HOLDER (2) U.	1	
125(1)	VXP1162A	ROLLER POST U.	1	
126(1)	VXA3923	T RAIL (L) U.	1	
127(1)	VXA3925	T RAIL (R) U.	1	
128(1)	VEK5122	A/C HEAD (B) (1) U.	1	
129(1)	VXA4771	PULLEY PLATE U.	1	
130(1)	VMD1671	T2 V STOPPER	1	
131(1)	VMO586	SPRING	1	
132(1)	VMD1493	U-T1	1	
133(1)	VXA3940	ST-V STOPPER (1) U.	1	
134(1)	VDP1448	IMPEDANCE ROLLER U.	1	
135(1)	VXL2061	PINCH ARM U.	1	
136(1)	VMB2087	ARM SPRING	1	
137(1)	VML2362	CORRECTOR (A)	1	
138(1)	VXL2064	CORRECTOR (B) U.	1	
139(1)	VXL1976	T5 ARM U.	1	
140(1)	VXP1157	T CLUTCH GEAR U.	1	
142(1)	VEGO969	CYLINDER U.	1	
143(1)	VEH0574	UPPER CYLINDER U.	1	
144(1)	VMX1061	WASHER	8	
145(1)	VHD0592	SCREW	1	
146(1)	VHD0561	SCREW	3	
147(1)	VMX1777	WASHER	1	
148(1)	VHNO047	NUT	1	
149(1)	VMB2036	A/C TILT SPRING	1	
150(1)	VHD0525	SCREW	1	
151(1)	VHD0526	SCREW	1	
152(1)	VHD0536	SCREW	1	
153(1)	VHNO169	NUT	1	
154(1)	VHD0593	SCREW	2	
155(1)	VHD0389	SCREW	3	
156(1)	VMB2102	CORRECTOR SPRING	1	
157(1)	VMB2100	P5 POST SPRING	1	
158(1)	VMA8113	A/C HEAD BASE	1	
159(1)	VMX1776	WASHER	1	
201(2)	VDG0645	LOADING GEAR (2)	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
202(2)	VDG0646	LOADING GEAR (3)	1	
203(2)	VDG0647	LOADING GEAR (4)	1	
204(2)	VDG0648	LOADING GEAR (5)	1	
205(2)	VDG0649	LOADING GEAR (T1)	1	
206(2)	VDG0731	ZENERA GEAR	1	
207(2)	VEM0359	LOADING MOTOR (2) U.	1	<(!)>
208(2)	VMA8111	WORM HOLDER	1	
209(2)	VMX1744	WORM SHAFT HOLDER	1	
210(2)	VXP1175	WORM U.	1	
211(2)	VMD1515	BAND GUIDE	1	
212(2)	VMD1518	CASS. POSITIONING PIECE (S)	1	
213(2)	VMD1519	CASS. POSITIONING PIECE (T)	1	
214(2)	VMD1530	FE CAP	1	
215(2)	VXA4244	LOADING GEAR S1 U.	1	
216(2)	VEK4700	FE HEAD U.	1	
217(2)	VMB2082	S4 POST SPRING	1	
218(2)	VMX1740	S4 LOWER FLANGE	1	
219(2)	VMX1859	S4 SLEEVE	1	
220(2)	VXA4247	S RAIL (1) U.	1	
221(2)	VXA3924	T1 RAIL (M) U.	1	
222(2)	VXA3928	LOCK BASE U.	1	
223(2)	VXG0029	CAM GEAR U.	1	
224(2)	VXG0023	LOADING GEAR T2 U.	1	
225(2)	VXL1960	SECTOR GEAR U.	1	
226(2)	VMB2084	PINCH HOLDING SPRING	1	
227(2)	VMB2085	PINCH PRESSURE SPRING	1	
228(2)	VXL1964	CORRECTOR DRIVE ARM U.	1	
229(2)	VXL2062	CENTER GEAR U.	1	
230(2)	VXL2059	TENSION ARM U.	1	
231(2)	VXR0205	S REEL TABLE U.	1	
232(2)	VXZ0278	TENSION REGULATOR U.	1	
234(2)	VMX1061	WASHER	11	
235(2)	VMB2086	TENSION SPRING	1	
236(2)	VMX1840	WASHER	2	
237(2)	VHNO150	NUT	1	
238(2)	VMB2083	(T) RAIL SPRING	1	
239(2)	VMB2080	LOADING GEAR SPRING	1	
240(2)	VMB2091	EJECT LEVER (A) SPRING	1	
241(2)	VMB2093	EJECT LEVER (B) SPRING	1	
242(2)	VHNO168	NUT	1	
243(2)	VMB2081	(T) LOADING GEAR SPRING	1	
301(3)	VEM0384	CAPSTAN MOTOR U.	1	
302(3)	VDB1046	LOWER BEARING	1	
303(3)	VEK5078	STATOR U.	1	
304(3)	VBK0056	MR HEAD	1	
305(3)	VHD0439	SCREW	3	
306(3)	VJF0886	FPC HOLDER	1	
307(3)	VXP1225	ROTOR U.	1	
309(3)	VDP1300	PULLEY	1	
310(3)	VDV0212	CAPSTAN BELT	1	
311(3)	VMX1061	WASHER	1	
312(3)	VSH0044	SAFETY SWITCH	1	
313(3)	VXS0095	EARTH BRUSH	1	
314(3)	VMZ1648	MECH. FLEX. BARRIER	1	
316(3)	VHD0598	SCREW	1	
401(4)	VXW0135	LENS U.	1	
402(4)	VXQ0331	LENS MAIN U.	1	
403(4)	VXP1300	2ND MOVING FRAME U.	1	
404(4)	VXP1302	SCREW SHAFT U.	1	
405(4)	VXQ0266	3RD FRAME LENS U.	1	
406(4)	VXL2126	IRIS U.	1	
407(4)	VXP1301	4TH MOVING FRAME U.	1	
408(4)	VMD1815	MASTER FLANGE	1	
409(4)	EVAJH4J03B14	ZOOM ENCODER U.	1	
410(4)	VEM0452	ZOOM MOTOR U.	1	
411(4)	VEM0422	FOCUS MOTOR U.	1	
412(4)	VMT0342	MOTOR CUSHION	2	
413(4)	VHD0566	SCREW	2	
414(4)	VMT0336	IRIS CUSHION	1	
415(4)	VDL0314	CRYSTAL FILTER	1	
416(4)	VMX2124	CCD CUSHION	1	
417(4)	VHD0767	SCREW	1	
420(4)	VEK6348	CCD U.	1	
421(4)	VGF0416	SHADING PIECE	1	
422(4)	VMA8700	HOLD PLATE	1	

4.3. ELECTRICAL REPLACEMENT PARTS LIST

Note: 1. Be sure to make your orders of replacement parts according to this list.

2. IMPORTANT SAFETY NOTICE : Components identified with the mark (<I>) have the special characteristics for safety. When replacing any of these components, use only the same type.

3. Unless otherwise specified, K=1,000 OHMS. All capacitors are in MICRO-FARADS (uf), P=uuf.

4. The P.C. Board units marked with "■" show below the main assembled parts.

5. The marking "■" indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

[illegible]

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C204	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C205, 06	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	2	
C207	ECUX1H100CCV	C.CAPACITOR 50V 10P	1	
C208	ECUX1H180JCV	C.CAPACITOR 50V 18P	1	
C209	ECUX1H470JCV	C.CAPACITOR 50V 47P	1	
C210	ECUX1H102KBV	C.CAPACITOR 50V 1000P	1	
C211	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C212	ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C213, 14	ECUX1H270JCV	C.CAPACITOR 50V 27P	2	
C215	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C216	ECUX1H102KBV	C.CAPACITOR 50V 1000P	1	
C218	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C219	ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C220	ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C221	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C223	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C224	ECST1GX155Z	T.CAPACITOR V 1.5U	1	
C226, 27	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	2	
C228	ECST1GX155Z	T.CAPACITOR V 1.5U	1	
C229	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C230, 31	ECUX1H270JCV	C.CAPACITOR 50V 27P	2	
C232	ECST1DX475Z	T.CAPACITOR 20V 4.7U	1	
C233	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C234	ECUX1H102KBV	C.CAPACITOR 50V 1000P	1	
C235, 36	ECUX1H270JCV	C.CAPACITOR 50V 27P	2	
C237	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C238	ECUX1H102KBV	C.CAPACITOR 50V 1000P	1	
C239	ECUX1H330JCV	C.CAPACITOR 50V 33P	1	
C240	ECUM1C1852FN	C.CAPACITOR CH 16V 1.8U	1	
C241	ECST0JX226Z	T.CAPACITOR 6.3V 22U	1	
C242	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C243	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C244-48	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	5	
C249	ECUX1C4732FV	C.CAPACITOR CH 16V 0.047U	1	
C251	ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C252	ECST0GX226Z	T.CAPACITOR 4V 22U	1	
C253	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C254	ECST0GY106Z	T.CAPACITOR 4V 10U	1	
C255, 56	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	2	
C257, 58	ECST0JY106Z	T.CAPACITOR 6.3V 10U	2	
C259	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C260	ECST1DX475Z	T.CAPACITOR 20V 4.7U	1	
C261	ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C269, 70	ECUX1H560JCV	C.CAPACITOR 50V 56P	2	
C271	ECUX1H050CCV	C.CAPACITOR CH 50V 5P	1	
C272	ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C301	ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C302, 03	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	2	
C304	ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C305	ECUX1H102KBV	C.CAPACITOR 50V 1000P	1	
C306	ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C307	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C308	ECUM1C2242FN	C.CAPACITOR CH 16V 0.22U	1	
C310	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C312	ECUX1H102KBV	C.CAPACITOR 50V 1000P	1	
C314-16	ECST0JY106Z	T.CAPACITOR 6.3V 10U	3	
C317, 18	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	2	
C319	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C320	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C321-23	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	3	
C328	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C333	ECUM1C1052FM	C.CAPACITOR CH 16V 1U	1	
C334	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C335	ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C336	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C337-40	ECUX1H560JCV	C.CAPACITOR 50V 56P	4	
C344	ECUX1H560JCV	C.CAPACITOR 50V 56P	1	
C345	ECUX1H102KBV	C.CAPACITOR 50V 1000P	1	
C346-49	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	4	
C350	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C702	ECEVO5A470	E.CAPACITOR 4V 47U	1	
C703	ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C704	ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C705	ECUM1C6832FV	C.CAPACITOR CH 16V 0.068U	1	
C706-09	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	4	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C710	ECUX1C4732FV	C.CAPACITOR CH 16V 0.047U	1	
C712	ECUX1H560JCV	C.CAPACITOR 50V 56P	1	
C713,14	ECUM1C2242FN	C.CAPACITOR CH 16V 0.22U	2	
C715	ECSTOJY106Z	T.CAPACITOR 6.3V 10U	1	
C716	ECUM1C2242FN	C.CAPACITOR CH 16V 0.22U	1	
C717	ECUM1C1052FM	C.CAPACITOR CH 16V 1U	1	
C718	ECSTOJY106Z	T.CAPACITOR 6.3V 10U	1	
C719	ECSTOJY106Z	T.CAPACITOR 4V 10U	1	
C720,21	ECUX1H102KBV	C.CAPACITOR 50V 1000P	2	
C722	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C723	ECUX1H102KBV	C.CAPACITOR 50V 1000P	1	
C724	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C726	ECEV1CA470P	E.CAPACITOR 16V 47U	1	
C727	ECUX1H332KBV	C.CAPACITOR 50V 3300P	1	
C729-31	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	3	
C732,33	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	2	
C734	ECUX1H560JCV	C.CAPACITOR 50V 56P	1	
C736	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C739,40	ECUX1H472KBV	C.CAPACITOR 50V 4700P	2	
C742	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C743,44	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	2	
		DIODES		
D201-04	MA110	DIODE	4	
D205	MA728	DIODE	1	
D206	MA110	DIODE	1	
D208-10	MA110	DIODE	3	
D301	MA132WA	DIODE	1	
D302	MA132WK	DIODE	1	
D304	MA110	DIODE	1	
D701	MA110	DIODE	1	
		FILTERS		
FL201	EIK4EW006	FILTER	1	
		CONNECTORS		
FP301	VJS3452C024	CONNECTOR (FEMALE)	1	
FP701	VJS2958D024	CONNECTOR (FEMALE)	1	
		INTEGRATED CIRCUITS		
IC201	MN5188	IC	1	
IC202	MB87836PFV	IC	1	
IC203	CXA1439M	IC	1	
IC204	AN2033FAP	IC	1	
IC301	CXD2300Q	IC	1	
IC302	MN67322	IC	1	
IC305	MN6570ZH	IC	1	
IC308	T90CK78F3408	IC	1	
IC309	MN73512XWAS	IC	1	
IC310	M62352GP	IC	1	
IC311	AK6420F	IC	1	
IC702	MN6782VMDR	IC	1	
IC703	AN2585FAP	IC	1	
IC704	LM358DB	IC	1	
IC705	LM324DB	IC	1	
IC706	AN6663S	IC	1	
IC707	TB6504F	IC	1	
IC708	XC62AP5002PR	IC	1	
IC709	TC7S08F	IC	1	
		COILS		
L203,04	ELJFC150JB	COIL 15UH	2	
L205	VLQ0556	COIL	1	
L206	VLQ0426J2R2	COIL 2.2UH	1	
L207	VLQ0426J680	COIL 68UH	1	
L208	VLQ0556	COIL	1	
L209	ELJFC150JB	COIL 15UH	1	
L210	VLQ0556	COIL	1	
L212	VLQ0426J820	COIL 82UH	1	
L213,14	ELJFC150JB	COIL 15UH	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
L216,17	ELJFC150JB	COIL 15UH	2	
L218	VLP0140	COIL	1	
L220	VLP0140	COIL	1	
L222	VLQ0555	COIL	1	
L224	VLQ0584	TRANSFORMER	1	
L301-04	ELJPC6R8JB	COIL 6.8UH	4	
L305	VLP0140	COIL	1	
L306	ELJPC6R8JB	COIL 6.8UH	1	
L308	VLP0140	COIL	1	
L309	ELJPC6R8JB	COIL 6.8UH	1	
L314	VLP0140	COIL	1	
L315	ELJFC220JB	COIL 22UH	1	
L316	VLQ0426J390	COIL 39UH	1	
L317	ELJPC6R8JB	COIL 6.8UH	1	
L323	VLQ0426J390	COIL 39UH	1	
L324-26	ELJPC6R8JB	COIL 6.8UH	3	
L327	VLP0140	COIL	1	
L702	ELJPA101KB	COIL 100UH	1	
L703	ELJFC150JB	COIL 15UH	1	
L704	ELJPA150KB	COIL 15UH	1	
		TRANSISTORS		
Q201	XP4654	TRANSISTOR-TRANSISTOR	1	
Q202	2SD2216	TRANSISTOR	1	
Q203,04	XP4654	TRANSISTOR-TRANSISTOR	2	
Q206	2SB1462	TRANSISTOR	1	
Q207	2SD2216	TRANSISTOR	1	
Q208	XP4501	TRANSISTOR-TRANSISTOR	1	
Q209	2SD2216	TRANSISTOR	1	
Q210	XP4601	TRANSISTOR-RESISTOR	1	
Q211	2SD2216	TRANSISTOR	1	
Q701	2SD2216	TRANSISTOR	1	
Q702	2SD2210	TRANSISTOR	1	
Q703	2SB1219	TRANSISTOR	1	
Q704	2SK620	TRANSISTOR	1	
Q705	XP4501	TRANSISTOR-TRANSISTOR	1	
		COMBINATION PARTS		
QR301	MRN1103	TRANSISTOR-RESISTOR	1	
QR701	MRN1102	TRANSISTOR-RESISTOR	1	
QR702	UN921E	TRANSISTOR-RESISTOR	1	
QR703	UN9212	TRANSISTOR-RESISTOR	1	
		RESISTORS		
R201	ERJ2GEJ105	M.RESISTOR CH 2W 1M	1	
R202	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R203	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R204	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R205	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R207	ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R210	ERJ2GEJ101	M.RESISTOR CH 2W 1K	1	
R211	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R213	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R214	ERJ3GEYJ121	M.RESISTOR CH 1/16W 120	1	
R215	ERJ3GEYJ270	M.RESISTOR CH 1/16W 27	1	
R216	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R219	ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R220,21	ERJ2GEJ333	M.RESISTOR CH 2W 33K	2	
R223	VRE0071E113	RESISTOR	1	
R224	VRE0071E753	RESISTOR	1	
R225	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R226	ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R228	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R229	ERJ2GEJ681	M.RESISTOR CH 2W 680	1	
R231	ERJ2GEJ333	M.RESISTOR CH 2W 33K	1	
R232	ERJ2GEJ183	M.RESISTOR CH 2W 18K	1	
R233	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R234	ERJ2GEJ682	M.RESISTOR CH 2W 6.8K	1	
R235	ERJ2GEJ105	M.RESISTOR CH 2W 1M	1	
R236	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R238	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R240	ERJ2GEJ822	M.RESISTOR CH 2W 8.2K	1	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C805	ECST1A476Z	T.CAPACITOR 10V 47U	1	
C806	ECUM1E123KBN	C.CAPACITOR CH 25V 0.012U	1	
C807	ECUM1C105JB	C.CAPACITOR CH 16V 1U	1	
C808	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C809	ECEV1CA470F	E.CAPACITOR 16V 47U	1	
C810	ECUM2A272JUM	C.CAPACITOR 100V 2900P	1	
C811	ECST1A476Z	T.CAPACITOR 10V 47U	1	
C812	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C813	ECUM2H331KBM	C.CAPACITOR 500V 330P	1	
C814	ECEV1HAS010	E.CAPACITOR 50V 1U	1	
C815	ECUM2H331KBM	C.CAPACITOR 500V 330P	1	
C816	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C818	ECUM2H331KBM	C.CAPACITOR 500V 330P	1	
C831	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
		DIODES		
D801	MA141A	DIODE	1	
D802	SFPL-52	DIODE	1	
		INTEGRATED CIRCUITS		
IC801	AN2515S	IC	1	
		COILS		
L801	VLQ0319K470	COIL 47UH	1	
L802	ELH8LE001R	COIL	1	
L803	VLQ0319K470	COIL 47UH	1	
L804	ELJFA680JB	COIL	1	
		CONNECTORS		
P801	VJP3125D004	CONNECTOR (MALE)	1	
P802	VJP3172D003	CONNECTOR (MALE)	1	
P803	VJP3125D003	CONNECTOR (MALE)	1	
P804	VJP1229T	CONNECTOR (MALE) 2P	1	
		TRANSISTORS		
Q802	2SD968A-S	TRANSISTOR	1	
Q803_04	2SA1748	TRANSISTOR	2	
		RESISTORS		
R801	ERJ6ENF4422	M.RESISTOR	1	
R802	ERJ6QMYJ3R9	M.RESISTOR CH 1/10W 3.9	1	
R805	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R808	ERJ3GEYJ242	M.RESISTOR CH 1/16W 2.4K	1	
R809	ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
R810	ERJ6QMYF104	M.RESISTOR CH 1/10W 10K	1	
R814	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R815	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R816	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R817	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R818	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R819_20	ERJ6QMYJ275	M.RESISTOR CH 1/10W 2.7M	2	
R821	ERJ6QMYJ105	M.RESISTOR CH 1/10W 1M	1	
R823	ERJ3GEYJ3R9	M.RESISTOR CH 1/16W 3.9	1	
R829	ERJ6ENF4222	RESISTOR	1	
R832	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R834	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R835	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R840	ERJ8GCYJ685	M.RESISTOR CH 1/8W 6.8M	1	
R841_42	ERJ6QMYJ475	M.RESISTOR CH 1/10W 4.7M	2	
R843	ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
		TRANSFORMERS		
T801	ETFO8L12A	TRANSFORMER	1	
		VARIABLE RESISTORS		
VR801	EVM7JSX30BEZ	V.RESISTOR	1	
VR803	EVM7ISX00BW6	V.RESISTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
VR804	EVM7TSX00BE6	V.RESISTOR	1	
		MISCELLANEOUS		
	VEE7574	CRT SOCKET UNIT	1	
	VEP03A19A	MAIN C.B.A.		(RTL)
		CONNECTORS		
B1001	VJP3326D016	CONNECTOR (MALE)	1	
B4003	VJP3126D010	CONNECTOR (MALE)	1	
B6001	VJS2961C024	CONNECTOR (FEMALE)	1	
B6002	VJP3358C016	CONNECTOR (MALE)	1	
B6003	VJP3126D014	CONNECTOR (MALE)	1	
		CAPACITORS		
C1001	ECUM1C352FM	C.CAPACITOR 16V 3.3U	1	
C1002	ECEV1CA470P	E.CAPACITOR 16V 47U	1	
C1003	ECG00KA8R2	CAPACITOR	1	
C1004	ECUX1H331KBV	C.CAPACITOR CH 50V 330P	1	
C1005	ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C1006	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C1008	ECG00KA8R2	CAPACITOR	1	
C1009	ECUX1H331KBV	C.CAPACITOR CH 50V 330P	1	
C1010	ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C1011	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C1012	ECUX1H102KBV	C.CAPACITOR 50V 1000P	1	
C1013	ECG1BA4R7	CAPACITOR	1	
C1014	ECUX1H561KBV	C.CAPACITOR 50V 560P	1	
C1015	ECEV1CA470P	E.CAPACITOR 16V 47U	1	
C1016	ECUX1H472KBV	C.CAPACITOR 50V 4700P	1	
C1017	ECUM1E1052FM	C.CAPACITOR CH 25V 1U	1	
C1018	ECEV1CA470P	E.CAPACITOR 16V 47U	1	
C1019	ECUM1E4742FM	C.CAPACITOR 25V 0.47U	1	
C1020, 21	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	2	
C1022	ECUM1H1042FN	C.CAPACITOR CH 50V 0.1U	1	
C1023	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C1024	ECUM1C4742FN	C.CAPACITOR 16V 0.47U	1	
C1025	ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C1026	ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C1027	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C1028	ECST1EY474Z	T.CAPACITOR	1	
C1029	ECUX1H471KBV	C.CAPACITOR 50V 470P	1	
C1030	ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1031	ECUX1H471KBV	C.CAPACITOR 50V 470P	1	
C1032	ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1033-35	ECUX1H102KBV	C.CAPACITOR 50V 1000P	3	
C1036	ECUX1H471KBV	C.CAPACITOR 50V 470P	1	
C1037	ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1038	ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C1039	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C1040	ECEV1AA330	E.CAPACITOR 10V 330U	1	
C1043	ECUX1H102KBV	C.CAPACITOR 50V 1000P	1	
C1044	ECEVOGA330	E.CAPACITOR 4V 33U	1	
C1046	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C3002	ECEVOGA470	E.CAPACITOR 4V 47U	1	
C3003	ECEV1HA2R2	E.CAPACITOR 50V 2.2U	1	
C3004	ECUX1H180JCV	C.CAPACITOR 50V 18P	1	
C3005	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C3006	ECUM1E393KBN	C.CAPACITOR CH 25V 0.039U	1	
C3007	ECUX1H180JCV	C.CAPACITOR 50V 18P	1	
C3009	ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3010	ECUX1H470JCV	C.CAPACITOR 50V 47P	1	
C3011	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C3012	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C3013	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C3014	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C3015	ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3016	ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3017	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C3018	ECUX1H560JCV	C.CAPACITOR 50V 56P	1	
C3019	ECUX1H471KBV	C.CAPACITOR 50V 470P	1	
C3020	ECUX1H680JCV	C.CAPACITOR 50V 68P	1	
C3021	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C3022	ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3023	ECUX1H680JCV	C.CAPACITOR 50V 68P	1	
C3024	ECUX1H391JCV	C.CAPACITOR 50V 390P	1	
C3025	ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3027	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3028	ECEVOGA471	E.CAPACITOR 4V 470U	1	
C3030	ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3031	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C3032	ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3033	ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3034	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C3035	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C3036	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C3037	ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C3038	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C3040	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C4001	ECUX1H122KBV	C.CAPACITOR CH 50V 1200P	1	
C4003	ECST1VY334Z	T.CAPACITOR 35V 0.33U	1	
C4004	ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C4005	ECEV1CA100	E.CAPACITOR 16V 10U	1	
C4006	ECUM1H153KBN	C.CAPACITOR CH 50V 0.015U	1	
C4007	ECEVO5A470	E.CAPACITOR 4V 47U	1	
C4008, 09	ECUM1C1052FM	C.CAPACITOR CH 16V 1U	2	
C4010	ECST0GX226Z	T.CAPACITOR 4V 22U	1	
C4011	ECST0JX226Z	T.CAPACITOR 6.3V 22U	1	
C4012	ECST0GX226Z	T.CAPACITOR 4V 22U	1	
C4013	ECUM1C1052FM	C.CAPACITOR CH 16V 1U	1	
C4015	ECUM1H123KBN	C.CAPACITOR CH 50V 0.012U	1	
C4016	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C4017	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C4018	ECEV1CA100	E.CAPACITOR 16V 10U	1	
C4019	ECEVO5A470	E.CAPACITOR 4V 47U	1	
C4020, 21	ECUX1H102KBV	C.CAPACITOR 50V 1000P	2	
C4022	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C4023	ECUM1C1052FM	C.CAPACITOR CH 16V 1U	1	
C4024	ECEVOJA101	E.CAPACITOR 6.3V 100U	1	
C4025	ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C4026	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4027	ECUX1H821KBV	C.CAPACITOR 50V 820P	1	
C4028	ECUM1H183KBN	C.CAPACITOR CH 50V 0.018U	1	
C4029	ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C4031	ECUX1H562KBV	C.CAPACITOR 50V 5600P	1	
C4035	ECUX1H102KBV	C.CAPACITOR 50V 1000P	1	
C4036	ECUX1H332KBV	C.CAPACITOR 50V 3300P	1	
C4038	ECUX1H471KBV	C.CAPACITOR 50V 470P	1	
C4039	ECUM1C1052FM	C.CAPACITOR CH 16V 1U	1	
C4040	ECST0JX156Z	T.CAPACITOR 6.3V 15U	1	
C4041	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C4043	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C5001	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C5005	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C5006	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C5007	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C5008	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C5009	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C5010	ECST0JX226Z	T.CAPACITOR 6.3V 22U	1	
C5012	ECEV1EA4R7	E.CAPACITOR 25V 4.7U	1	
C5013	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C5015	ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C5016	ECST0JX226Z	T.CAPACITOR 6.3V 22U	1	
C5017	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C5018	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C5019	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C5020, 21	ECUX1H680JCV	C.CAPACITOR 50V 68P	2	
C5022	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C5023	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C5024	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C5025	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C5026	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C5027, 28	ECUX1H680JCV	C.CAPACITOR 50V 68P	2	
C5029-31	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	3	
C5033, 34	ECUM1H473KBN	C.CAPACITOR CH 50V 0.047U	2	
C5035, 36	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	2	
C5038	ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C5039	ECUX1H121JCV	C.CAPACITOR 50V 120P	1	
C5040	ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C5041	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C5042	ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C5043	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C5044, 45	ECUM1H473KBN	C.CAPACITOR CH 50V 0.047U	2	
C5046	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C6001	ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C6002	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C6005	ECEV1AA221	E.CAPACITOR CH 10V 220U	1	
C6006	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C6007	ECUM1C334KBM	C.CAPACITOR 16V 0.33U	1	
C6009	ECUX1E2232FV	C.CAPACITOR CH 25V 0.022U	1	
C6010	ECUX1H561KBV	C.CAPACITOR 50V 560P	1	
C6011	ECEV1CA100	E.CAPACITOR 16V 10U	1	
C6012	ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C6013, 14	ECUM1C105KBM	C.CAPACITOR CH 16V 1U	2	
C6015	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C6016	ECST0GY156Z	T.CAPACITOR 4V 15U	1	
C6017, 18	ECUM1C1052FM	C.CAPACITOR CH 16V 1U	2	
C6019	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C6020	ECQB1C393JB	P.CAPACITOR 16V 0.039U	1	
C6021, 22	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	2	
C6023, 24	ECUX1H120JCV	C.CAPACITOR CH 50V 12P	2	
C6025	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C6026	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C6027	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C6028	ECUX1H121JCV	C.CAPACITOR 50V 120P	1	
C6029	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C6030	ECUX1H102KBV	C.CAPACITOR 50V 1000P	1	
C6031, 32	ECEV1HA010	E.CAPACITOR 50V 1U	2	
C6033	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C6036, 37	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	2	
C6038	ECEVOJA470	E.CAPACITOR 6.3V 47U	1	
C6039	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C6040	ECUX1H330JCV	C.CAPACITOR 50V 33P	1	
C6042	ECUX1H180JCV	C.CAPACITOR 50V 18P	1	
C6044, 45	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	2	
C6046	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C6052	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C6054	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C6055	ECST0GY156Z	T.CAPACITOR 4V 15U	1	
C6056, 57	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	2	
C6058	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C6059	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C6070	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C6071	ECEA1CA220	E.CAPACITOR 16V 22U	1	
C6080	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C8001	ECUX1H332KBV	C.CAPACITOR 50V 3300P	1	
C8002	ECST0JY475Z	T.CAPACITOR 6.3V 4.7U	1	
C8003	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C8004	ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C8007	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C8008	ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C8009	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C8010, 11	ECUX1H820JCV	C.CAPACITOR CH 50V 82P	2	
C8014	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C8015	ECUX1H472KBV	C.CAPACITOR 50V 4700P	1	
C8016	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C8017	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C8018, 19	ECUM1C1052FN	C.CAPACITOR CH 16V 1U	2	
C8020	ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C8021	ECUX1H182KBV	C.CAPACITOR CH 50V 1800P	1	
C8022, 23	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	2	
C8024	ECUX1H1032FV	C.CAPACITOR CH 50V 0.01U	1	
C8025	ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C8026	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C8027	ECUX1H330JCV	C.CAPACITOR 50V 33P	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C8028	ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C8029	ECUX1H060CCV	C.CAPACITOR CH 50V 6P	1	
C8030	ECUX1H100CCV	C.CAPACITOR 50V 10P	1	
C8031	ECUX1H680JCV	C.CAPACITOR 50V 68P	1	
C8032	ECUX1H100CCV	C.CAPACITOR 50V 10P	1	
C8033	ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C8034	ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
		DIODES		
D1001	MA728	DIODE	1	
D1002	EC10QS04	DIODE	1	
D1003	MA110	DIODE	1	
D1004	EC10QS04	DIODE	1	
D1005	SB05-05CP	DIODE	1	
D1006, 07	MA132K	DIODE	2	
D1008	MA728	DIODE	1	
D1009	RD10M	DIODE	1	
D1015	SB05-05CP	DIODE	1	
D1016, 17	MA8130M	DIODE	2	
D3001	MA110	DIODE	1	
D5001	MA132WA	DIODE	1	
D5002	MA132WK	DIODE	1	
D5003	MA132WA	DIODE	1	
D6001	MA3130	DIODE	1	
D6002	MA132WA	DIODE	1	
D6003	MA133	DIODE	1	
D6004	MA132WA	DIODE	1	
D6005	MA133	DIODE	1	
D6006	MA132K	DIODE	1	
D6007	MA132WA	DIODE	1	
D6008	MA132WK	DIODE	1	
D6010	MA133	DIODE	1	
D8001, 02	MA132K	DIODE	2	
		FILTERS		
FL8001	VLF1039	FILTER	1	
		CONNECTORS		
FP1002	VJS2960C024	CONNECTOR (FEMALE)	1	
FP4002	VJS2959B007	CONNECTOR (FEMALE)	1	
FP5001	VJS2958D013	CONNECTOR (FEMALE)	1	
FP6001	VJS2959B018	CONNECTOR (FEMALE)	1	
		INTEGRATED CIRCUITS		
IC1001	BA9705K	IC	1	
FI	VERH32A	HIC	1	
IC3002	TL8809F	IC	1	
IC3003	BA7062F	IC	1	
IC4001	BA7757BK	IC	1	
IC5001	AN3345FAS	IC	1	
IC6001	MN6755240VBF	IC	1	
IC6002	S3500B3	IC	1	
IC6003	MB90077102EF	IC	1	
IC6004	LM324DB	IC	1	
IC6005	BA6289F	IC	1	
IC6006	MN12821R	IC	1 (R)	
IC6007	XC62AP5002FR	IC	1	
IC6008	TC4S66F	IC	1	
IC8001	TL8841F	IC	1	
		COILS		
L1001	ELC6UB4R7M	COIL 4.7UH	1	
L1002	ELLO4T008R	COIL	1	
L1003	ELC6UB4R7M	COIL 4.7UH	1	
L1004	VLQ0319K100	COIL 10UH	1	
L1005	ELLO4T035R	COIL	1	
L1006	VLQ0463	COIL	1	
L1007	ELLO4T033R	COIL	1	
L1008	ELC6UB4R7M	COIL 4.7UH	1	
L1009	VLQ0319K100	COIL 10UH	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
L1010,11	VLQ0319K101	COIL 100UH	2	
L1012	VLQ0319K100	COIL 10UH	1	
L3001	VLQ0426J560	COIL 56UH	1	
L3002	VLQ0319K121	COIL 120UH	1	
L3004	VLQ0163J820	COIL 82UH	1	
L3005	VLQ0426J470	COIL 47UH	1	
L3006	VLQ0319K101	COIL 100UH	1	
L3007	VLQ0163J121	COIL 120UH	1	
L3008	VLQ0319K221	COIL 220UH	1	
L3009	VLQ0426J330	COIL 33UH	1	
L3010	VLQ0426J150	COIL 15UH	1	
L3011	VLQ0163J151	COIL 150UH	1	
L3012	VLQ0163J220	COIL 22UH	1	
L3013	VLQ0319K101	COIL 100UH	1	
L3014	VLQ0426J330	COIL 33UH	1	
L3015	VLQ0319K101	COIL 100UH	1	
L4002	VLQ0319K101	COIL 100UH	1	
L5001-04	VLQ0319K101	COIL 100UH	4	
L5005	VLQ0187K120	COIL 12H	1	
L6001	VLQ0426J101	COIL 100UH	1	
L6002	VLQ0438K330	COIL 33UH	1	
L8001	VLQ0319K680	COIL 68UH	1	
L8004	VLQ0426J390	COIL 39UH	1	
L8006	VLQ0163J101	COIL 100UH	1	
L8007,08	VLQ0319P150	COIL 15UH	2	
L8009	VLQ0426J270	COIL 27UH	1	
L8010,11	VLQ0426J100	COIL 10UH	2	
L8012	VLQ0426J470	COIL 47UH	1	
		CONNECTORS		
P3001	VJP3172D003	CONNECTOR (MALE)	1	
P4001	VJP3172D004	CONNECTOR (MALE)	1	
P6001	VJP3125D005	CONNECTOR (MALE)	1	
P6002	VJP3125D002	CONNECTOR (MALE)	1	
		TRANSISTORS		
Q1001	2SB1073	TRANSISTOR	1	
Q1002,03	2SB798	TRANSISTOR	2	
Q1004	2SD2210	TRANSISTOR	1	
Q1005	2SB1073	TRANSISTOR	1	
Q1006	2SB970X	TRANSISTOR	1	
Q1007	2SB798	TRANSISTOR	1	
Q3001	2SD2216	TRANSISTOR	1	
Q3002,03	2SC4627	TRANSISTOR	2	
Q3004	2SD2216	TRANSISTOR	1	
Q3006	XN4501	TRANSISTOR-RESISTOR	1	
Q3007	XN4401	TRANSISTOR-RESISTOR	1	
Q3008	2SB970X	TRANSISTOR	1	
Q3009	2SB1462	TRANSISTOR	1	
Q3010	XN1401	TRANSISTOR-TRANSISTOR	1	
Q3011	2SC3938	TRANSISTOR	1	
Q3012	XN1501	TRANSISTOR-TRANSISTOR	1	
Q3013	2SD2216	TRANSISTOR	1	
Q4001	2SB1220	TRANSISTOR	1	
Q4002,03	2SD2216-R	TRANSISTOR	2	
Q4004	2SD2216	TRANSISTOR	1	
Q4005	2SD2210	TRANSISTOR	1	
Q4007	2SD2216	TRANSISTOR	1	
Q4008	2SB970X	TRANSISTOR	1	
Q4009	2SD1328	TRANSISTOR CHIP	1	
Q4010	XP4501	TRANSISTOR-TRANSISTOR	1	
Q5001	2SB970X	TRANSISTOR	1	
Q5002,03	XN4504	TRANSISTOR-TRANSISTOR	2	
Q5004,05	2SA812	TRANSISTOR	2	
Q6001	2SD2216	TRANSISTOR	1	
Q6002	2SB970X	TRANSISTOR	1	
Q6003,04	2SD2216	TRANSISTOR	2	
Q8001	2SB1462	TRANSISTOR	1	
Q8002,03	2SD2216	TRANSISTOR	2	
		COMBINATION PARTS		
QR1001	MRN2111	TRANSISTOR-RESISTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
QR1002	MRN1107	TRANSISTOR-RESISTOR	1	
QR1003	MRN2107	TRANSISTOR-RESISTOR	1	
QR1004	MRN1107	TRANSISTOR-RESISTOR	1	
QR1005	MRN1110	TRANSISTOR-RESISTOR	1	
QR3001	MRN1103	TRANSISTOR-RESISTOR	1	
QR3004	MRN1103	TRANSISTOR-RESISTOR	1	
QR3005	MRN1104	TRANSISTOR-RESISTOR	1	
QR4001	UN9210	TRANSISTOR-RESISTOR	1	
QR4002	MRN1104	TRANSISTOR-RESISTOR	1	
QR5001	MRN1104	TRANSISTOR-RESISTOR	1	
QR5002,03	XN1212	TRANSISTOR-TRANSISTOR	2	
QR5004	MRN1103	TRANSISTOR-RESISTOR	1	
QR6001	MRN2103	TRANSISTOR-RESISTOR	1	
QR6002,03	MRN2111	TRANSISTOR-RESISTOR	2	
QR6004	XN1213	TRANSISTOR-TRANSISTOR	1	
QR6005	UN9210	TRANSISTOR-RESISTOR	1	
QR6006-08	MRN1104	TRANSISTOR-RESISTOR	3	
QR6013	MRN1104	TRANSISTOR-RESISTOR	1	
		RESISTORS		
R1001	VRE0067G822	RESISTOR	1	
R1002	VRE0067G272	M.RESISTOR	1	
R1003	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R1004	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R1005	VRE0067G562	M.RESISTOR	1	
R1006	VRE0067G272	M.RESISTOR	1	
R1007	ERJ8GEYJ330	M.RESISTOR CH 1/8W 33	1	
R1008	VRE0067G103	RESISTOR	1	
R1009	VRE0067G152	RESISTOR	1	
R1010	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R1011	ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R1012	ERJ3GEYJ163	M.RESISTOR CH 1/16W 16K	1	
R1013	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R1014,15	VRE0067G182	M.RESISTOR	2	
R1016	VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R1017	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1018	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1019	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1020	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1021	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
R1022	ERJ3GEYJ560	M.RESISTOR CH 1/16W 56	1	
R1023	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R1024	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R1025	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1026	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R1027	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1031	ERJ6GEYJ000	M.RESISTOR CH 1/10W 0	1	
R1032	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R1033	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R1034	ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R1035	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R1036	VRE0034E26A	M.RESISTOR CH 1/10W 182	1	
R1037	VRE0034E241	M.RESISTOR CH 1/10W 240	1	
R1038	VRE0034E910	M.RESISTOR CH 1/10W 91	1	
R1039	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R1040,41	ERJ8GEYJ121	M.RESISTOR CH 1/8W 120	2	
R3001	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3004	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R3007	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R3008	ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	1	
R3009	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R3010	ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	1	
R3011	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3012,13	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	2	
R3014	ERJ3GEYJ820	M.RESISTOR CH 1/16W 82	1	
R3015,16	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R3017,18	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	2	
R3019,20	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	2	
R3021	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3024	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R3025	ERJ3GEYJ680	M.RESISTOR CH 1/16W 68	1	
R3026	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R3028,29	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	2	
R3030	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3031	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3032	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R3033	ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R3034	ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R3035	ERJ3GEYJ134	M.RESISTOR CH 1/16W 130K	1	
R3036	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R3037-39	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0.00	3	
R3042	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R3043	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R3044	ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R3045	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R3046	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R3047	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R3048	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3049	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R3054	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0.00	1	
R3066,67	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	2	
R3070	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3071,72	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0.00	2	
R3076	ERJ3GEYJ302	M.RESISTOR CH 1/16W 3K	1	
R3084	ERJ3GEYJ225	M.RESISTOR CH 1/16W 2.2M	1	
R3086	ERJ2GEOR00	M.RESISTOR CH 2W 0	1	
R4001	ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R4002	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R4003	VRB0071E431	RESISTOR	1	
R4004	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4005	VRB0071E562	M.RESISTOR	1	
R4008	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R4009	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R4010	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R4011	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R4012	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4014	ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	1	
R4016	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R4017	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4019,20	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R4021	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4022	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R4024	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4025,26	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R4027	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R4028	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4029	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4030	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R4031	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R4033	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R4034	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R4035	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R4036	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R4038	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R4039	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R4040	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4043	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R4044	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R4045	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R4046	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R4047	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R4048	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R4049	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4051	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4052	ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	1	
R4053	ERJ6GEYJ225	M.RESISTOR CH 1/10W 2.2M	1	
R4055	VRB0071E272	RESISTOR	1	
R4056	VRB0071E222	RESISTOR	1	
R5002,03	ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	2	
R5004	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R5005	ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R5009	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R5011-14	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	4	
R5015	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R5016	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R5017	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R5020	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R5021	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R5022	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R5023	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R5025,26	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	2	
R5028,29	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	2	
R5030,31	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	2	
R5033,34	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	2	
R5035	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R5037	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R5039	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R5040	ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R5041	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R5042	ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R5043	ERJ6GEYJ47	M.RESISTOR CH 1/10W 4.7	1	
R5047	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R5048	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R6001	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R6003	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6004	ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R6005	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6006,07	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R6008	ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R6009	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6010,11	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	2	
R6012	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R6013,14	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	2	
R6015,16	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	2	
R6017-19	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	3	
R6020-22	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	3	
R6024-26	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	3	
R6027	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R6028	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6029	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6030	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R6031,32	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	2	
R6033	ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1	
R6034	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6035,36	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	2	
R6037	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6045	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6046	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R6047	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6048	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R6049	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R6058	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R6061	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6063	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6064	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R6065	ERJ3GEYJ684	M.RESISTOR CH 1/16W 680K	1	
R6066,67	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	2	
R6068	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R6069	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R6070	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R6071	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R6072	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R6073,74	ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	2	
R6075-77	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	3	
R6078	ERJ8GEYJ680	M.RESISTOR CH 1/8W 68	1	
R6079	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R6080	ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R6081,82	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R6083,84	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	2	
R6085,86	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R6087,88	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R6089,90	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R6091	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6092-94	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	3	
R6095	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6096	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6097	ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	1	
R6098	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6100	VRB0067G273	M.RESISTOR	1	
R6101	VRB0067G223	RESISTOR	1	
R6102	ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R6105	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6107,08	ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	2	
R6109	ERJ8GEYJ271	M.RESISTOR CH 1/8W 270	1	

[illegible]