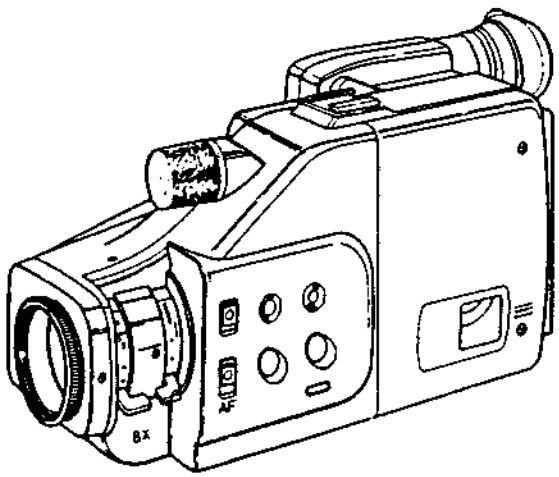
Service Manual

ORION

VIDEO MOVIE

VMC 980



VHS C PAL

HQ HIGH QUALITY

CCD CHARGE COUPLED DEVICE

AF AUTO FOCUS

Änderungen vorbehalten!

Printed in Germany

Chassis Code:

A

Bestell-Nr.:

4961

SPECIFICATIONS

Format:	VHS-C
Power source:	DC 6.0V
Power consumption:	Approx. 5.5 watts
Signal system:	PAL color system
Video recording system:	4 rotary heads, sequential helical scanning system Luminance: FM azimuth recording Color signal: converted subcarrier phase shift recording
Audio track:	1 track
Cassette tape:	VHS-C Cassette
Tape speed:	SP: 23.39 mm/sec. LP: 11.69 mm/sec.
Recording time max.:	SP: 45 minutes (with EC-45 cassette) LP: 90 minutes (with EC-45 cassette)
Video signal:	Output Level 1 Vp-p/75 ohm
Audio signal:	Output Level -6 dB/1K ohm
Image device:	1/3" CCD
Minimum required illumination:	6 lux (at F1.8)
Illumination range:	7-100,000 lux
Lens:	F1.8, f=6.7～54 mm, 8:1 power zoom lens with auto iris control and macro position, filter diameter 37 mm
High-speed shutter:	1/60, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec
Viewfinder:	Electronic viewfinder with 0.6" black/white CRT
White balance adjustment:	Full-auto/preset standard
Operating temperature:	0°C～40°C
Storage temperature:	-20°C～60°C
Weight:	1.05 Kg
Dimensions:	113(W)x123(H)x228(D) mm

CONTENTS

HQ
This video movie is equipped with HQ (High Quality) recording capability.

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF CASSETTE LID (See Fig. 1)

a. Remove the 2 screws ①.
b. Remove the CASSETTE LID in the direction of arrow Ⓐ.

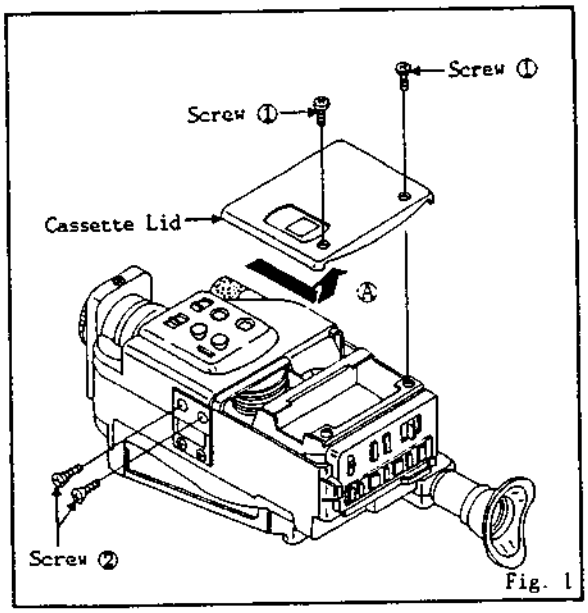


Fig. 1

2. REMOVAL OF SIDE CABINET (See Fig. 1 and 2)

a. Remove the screw ①.
b. Remove the SHOES SPRING.
c. Remove the screw ②.
d. Turn the HOOD LENS in the direction of arrow Ⓐ.
e. Remove the SIDE CABINET in the direction of arrow Ⓑ.
f. Remove the 2 screws ③.
g. Remove the AF COVER.
h. Remove the screw ④.
i. Remove the 2 screws ②. (See fig. 1)
j. Disconnect the following connector. (CP1203 8 pin)

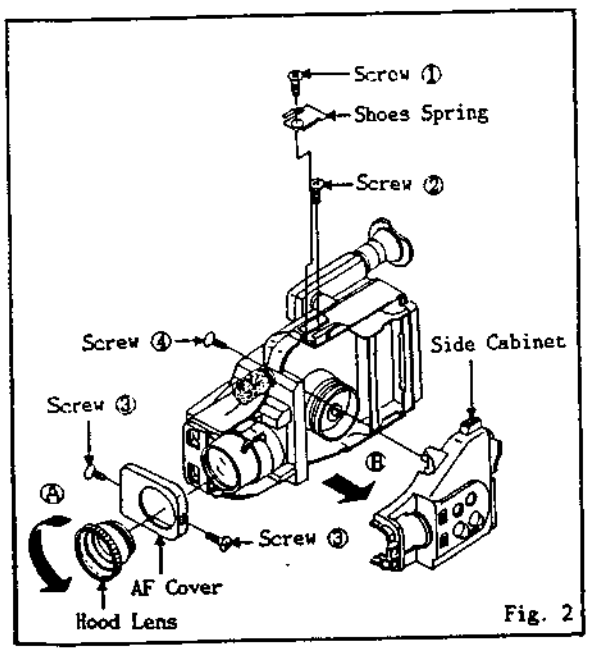


Fig. 2

3. REMOVAL OF BATTERY BASE AND VIDEO LENS. (See Fig. 3 and 4)

a. Remove the 5 screws ①.
b. Disconnect the following connectors. (CP1102 3 pin, CP4204 5 pin)
c. Remove the BATTERY BASE.
d. Remove the 3 screws ②.
e. Disconnect 10 pin and 11 pin connectors on the VIDEO LENS.
f. Remove the screw ④. (See fig. 4)
g. Remove the LENS BLOCK.

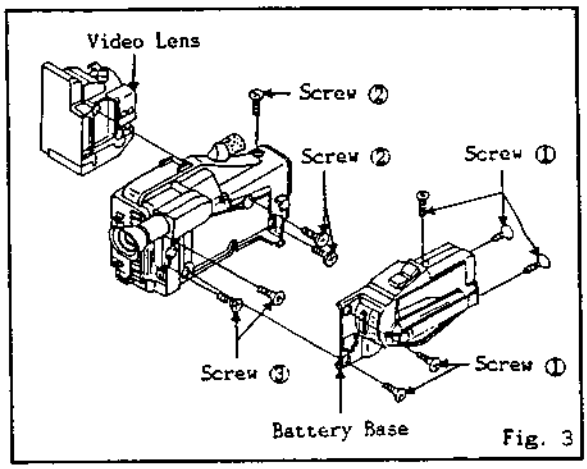


Fig. 3

4. REMOVAL OF DECK BLOCK AND VIEW FINDER ASS'Y (See Fig. 3 and 4)

a. Remove the 4 screws ①.
b. Remove the 2 screws ③. (See fig. 3)
c. Remove the 3 screws ②.
d. Disconnect the following connectors. (CP4205 5 pin, CP5003 2 pin)
e. Remove the DECK BLOCK in the direction of arrow Ⓐ.
f. Remove the 2 screws ③.
g. Remove the VIEW FINDER ASS'Y.

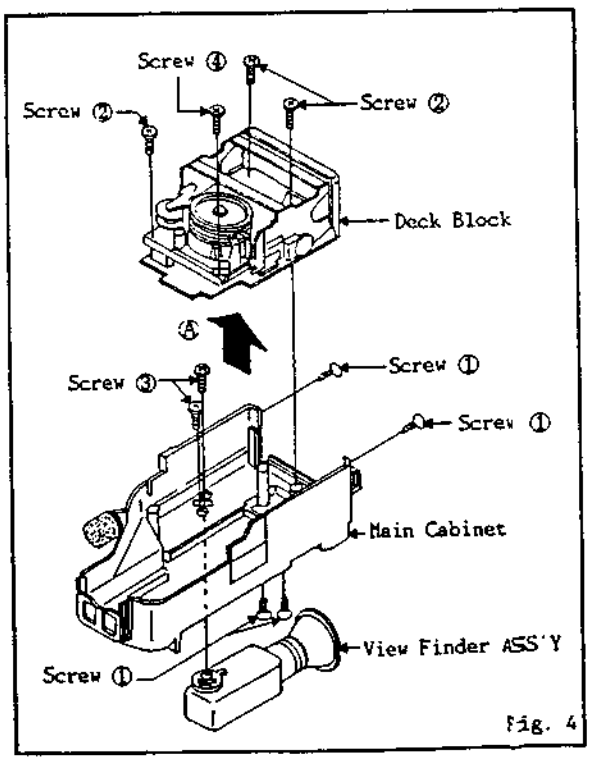


Fig. 4

DISASSEMBLY INSTRUCTIONS

5. REMOVAL OF MDA, MAIN AND Y/C PCB (See Fig. 5)

a. Disconnect the 2 connectors Ⓐ.
b. Remove the Y/C PCB in the direction of arrow Ⓐ.
c. Disconnect the 3 connectors Ⓑ.
d. Disconnect the following connectors and earth lug. (CP5001 2 pin, CP5002 7 pin)
e. Remove the MAIN PCB in the direction of arrow Ⓑ.
f. Remove the 3 screws ①.
g. Remove the screw ②.
h. Remove the MDA PCB.

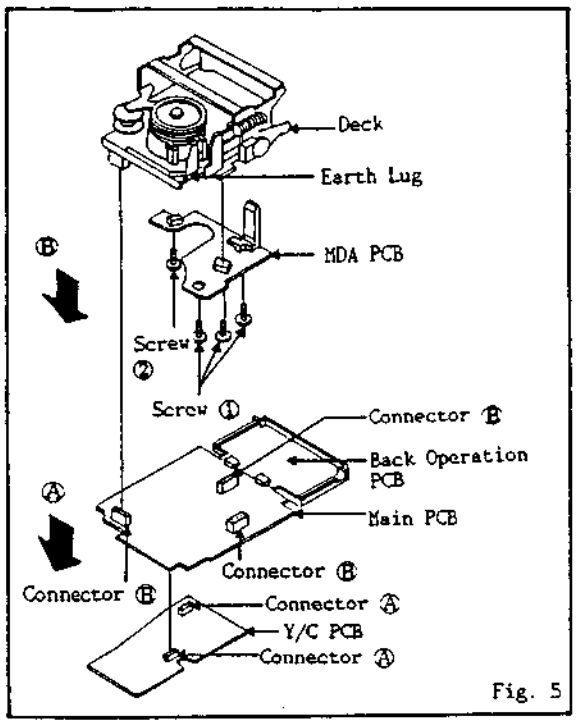


Fig. 5

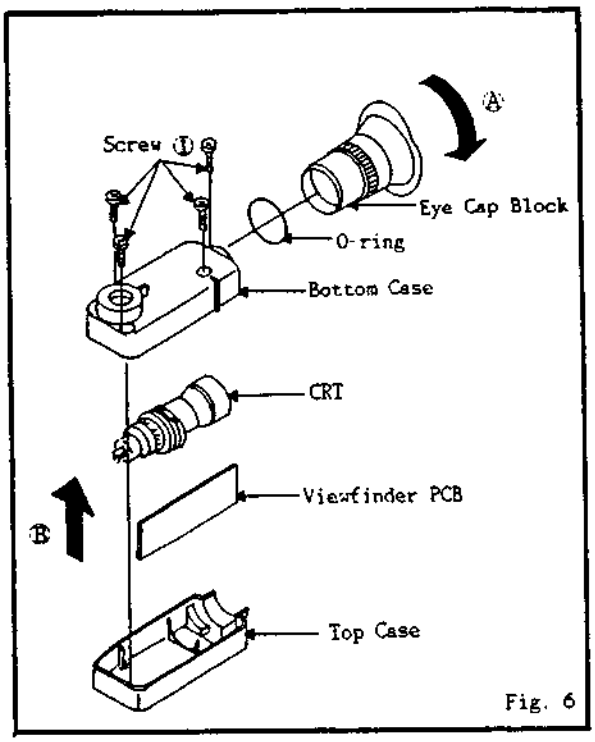


Fig. 6

6. REMOVAL OF VIEWFINDER PCB AND CRT (See Fig. 6)

a. Remove the EYE CAP BLOCK in the direction of arrow Ⓐ.
b. Remove the O-RING.
c. Remove the 4 screws ①.
d. Remove the BOTTOM CASE in the direction of arrow Ⓑ.
e. Remove the CRT and VIEWFINDER PCB in the direction of arrow Ⓑ.
f. Disconnect the following connectors. (CP402, CP403 and CRT SOCKET)
g. Remove the CRT.

SAFETY MODES

1. Supply and Take-up reel

Symptom: 'EMG' TUP' will appear in the viewfinder.
Trouble: Absence of reel pulse (at least on one side of Supply side or Take-up side for 5 second during PLAY and REC mode.)
Absence of reel pulse (at least on one side of Supply side or Take-up side for 2 second during CUE mode.)
To cancel operation: Turn the POWER SW off.
Leave the unit for 5 minutes.

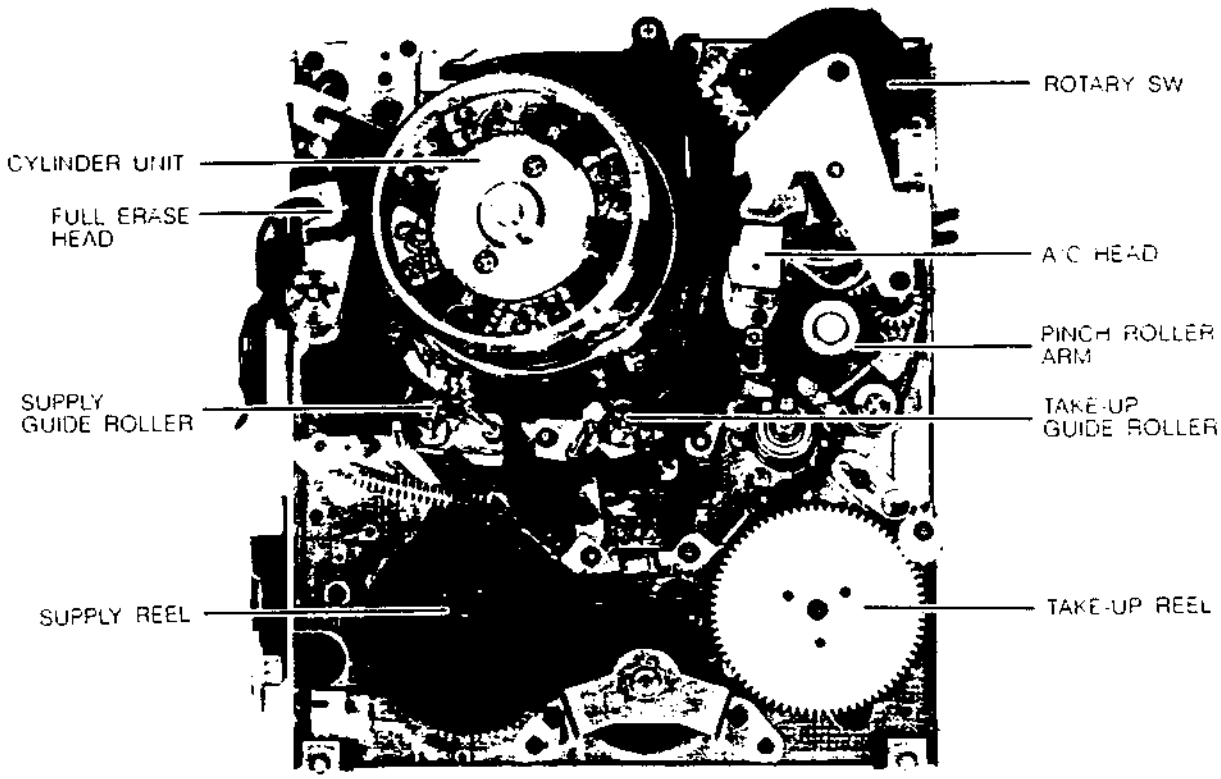
2. Loading and Unloading

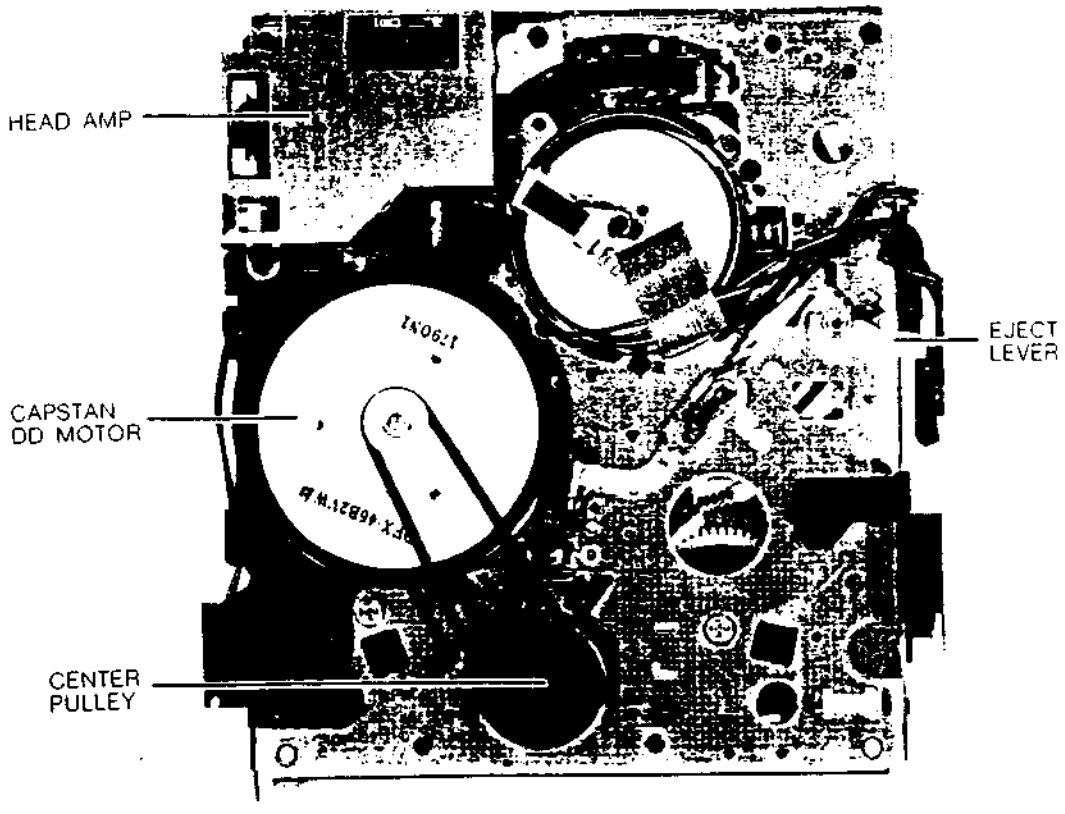
Symptom: 'EMG: LDM' will appear in the viewfinder.
(The position is the same as STBY or REC.)
Trouble: The mode switch doesn't operate even if the loading motor runs for more than 10 seconds.
Corrective action: Stop the loading motor.
To cancel operation: Turn the POWER SW off.
Leave the unit for 5 minutes.

3. Cylinder

Symptom: 'EMG: CYL' will appear in the viewfinder.
Trouble: Absence of FF 25Hz for the cylinder for 2 seconds.
To cancel operation: Turn the POWER SW off.
Leave the unit for 5 minutes.

DECK PARTS LOCATION





MECHANICAL ADJUSTMENTS

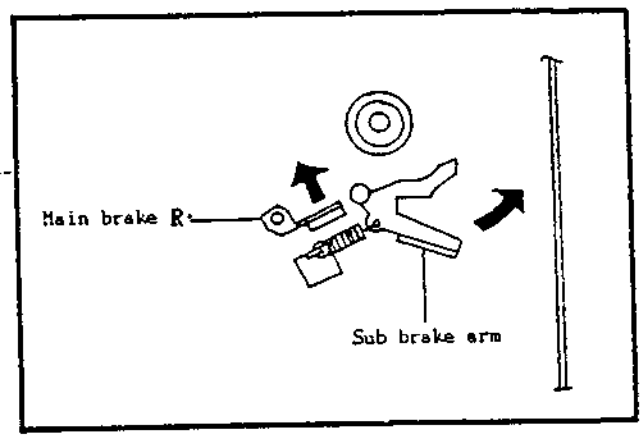
1. BEFORE MAKING MECHNICAL ADJUSTMENT

1. This section describes procedures to replace mechanism parts which have aged and been worn as well as for parts replacement resulting from accidental troubles.
2. As most mechanical adjustments have close relation to electrical adjustments, pay enough attention to adjusting the mechanism in consideration of that it is the base of electrical adjustments.

Test equipment required:
Oscilloscope: Wide-band, dual trace, triggered, delayed sweep.
Alignement tape

1-1: DECK PARTS REPLACEMENT

1. Remove the earth lug. (1 screw)
2. Slide the eject lever in the direction of the arrow (Fig. 2-c) and lift the STAGE up. Then pull the STAGE unit in the direction towards you and remove. (2 screws)
3. Remove the arm lock 2. (2 screws)
4. Remove the rotary switch.
5. Slide the lock arm lever and SB rod in the direction of the arrow (Fig. 2-d) and remove the cam gear.
6. Slide the F-S gear in the direction of the arrow (Fig. 2-f) and remove the deck plate. (3 screws)
7. Remove the polyslider washer on the middle post, slide it in the direction of the arrow and remove it. (Fig. 2-f)
8. Remove the pinch roller actuator spring on the main deck and then remove the polyslider washer.
   Remove the pinch roller arm from the actuator, then remove the E-ring.
9. Remove the loading motor. (2 screws)
10. Remove the cylinder wire that is on the back of the main deck on the connector of the MDA PCB and separate the cylinder unit. (CAUTION: Do not drop or damage the cylinder unit.)
11. Remove 3 screws.
    Remove the motor cover and the belt, then separate the capstan DD motor.
    Remove the MDA PCB. (4 screws)
12. Remove the tension servo spring.
    Remove the tension servo while lifting up the tension arm.
    (The tension lever cap is removed simultaneously)
13. Remove the end sensor holder. (1 screw)
14. Remove the nut and impedance roller and FE head arm.
15. Remove 4 screws.
    Lift the UV base and remove it.
16. Remove the polyslider washer that is on the T-inclined base. (3 screws)
    Take off the hooks (2 positions) of the T-inclined base, lift it up and then remove it.
17. Remove the holding gear C. (1 screw)
    Lift the S-ring gear up and then remove the S-ring from a book of the holding gear A.
18. Remove the guide gear S (1 polyslider washer) and then lift the guide gear S and remove it.
19. Slide the main brake L. (Fig. 2-b)
    Remove the S reel gear. (1 polyslider washer)
20. Remove the center pulley. (2 screws)
21. Remove the T reel gear. (1 polyslider washer)
    (CAUTION: Slide the sub brake arm and main brake R in the direction of the arrow. Install or remove the T roller gear.) (See the following figure)



When replacing parts shown below in sections 2 and 3 follow the numbered steps indicated in the heading. These steps are detailed on the previous page.

2. UPPER DRUM REPLACEMENT
(DECK PARTS REPLACEMENT NO. ①, ⑩)

1. Unsolder the drum pins extending through the upper drum board (8 locations) and take out two screws. Remove the upper drum board. (Refer to Fig. 1-a)
2. If the upper drum is difficult to remove, use the upper drum fixing jig (JG040), see Fig. 1-b. When installing the upper drum preheat the upper drum to approximately 50°C by using a hair dryer.
3. When setting the new drum in place, align the brown colored pins with the red wires of the lower drum, as indicated in Fig. 1-a.
4. After replacing the upper drum, check and adjust the FM waveform (Refer to Item 5).

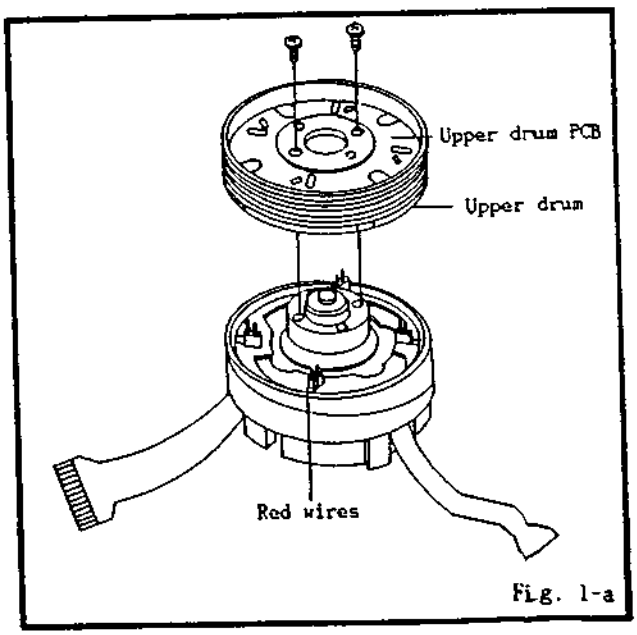


Fig. 1-a

MECHANICAL ADJUSTMENTS

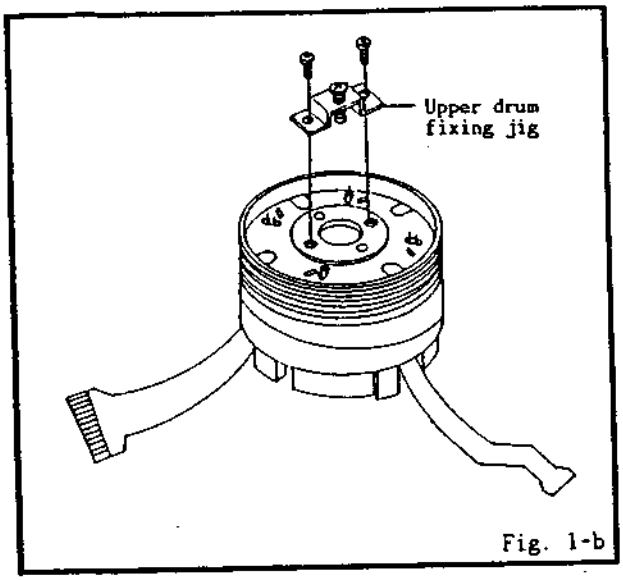


Fig. 1-b

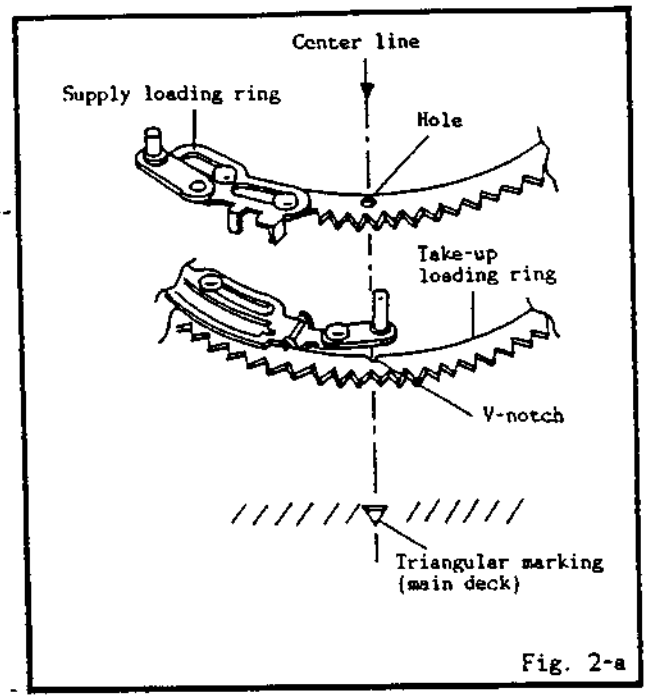


Fig. 2-a

3. CHECKS AND ADJUSTMENTS
(DECK PARTS REPLACEMENT NO. ①~⑬, ⑮~⑱)

Perform the following position checks after replacing or disturbing the affected parts.

3-1: LOADING RINGS, TERMINAL GEAR AND LOADING GEAR A

When replacing or removing the loading rings, first align them at the mechanical Stop mode position as shown in Fig. 2-a.

1. Temporarily remove the worm gear of the loading motor bracket assembly. Turn the take-up and supply loading rings in the unloading direction.
2. As viewed from the top of the deck, adjust so that the hole and V-notch of the rings are positioned above the triangular marking of the main deck. (Refer to Fig. 2-a)
3. Adjust the hole of the terminal gear with the hole of the main deck as indicated in Fig. 2-b. Then adjust the hole of the loading gear A with the hole of the main deck as indicated in Fig. 2-b. When adjusting the loading ring positions, press the eject lever on the rear of the deck toward the reel. (Refer to Fig. 2-c) This eject lever will not function correctly if its position deviates.
4. Adjust the marked position of the cam gear with the center of the terminal gear shaft, as indicated in Fig. 2-d. This is the Stop position.

IMPORTANT: If the adjustment at 3-1 has misaligned slightly, normal functions may not operate. Adjust the alignment at 3-1 more carefully.

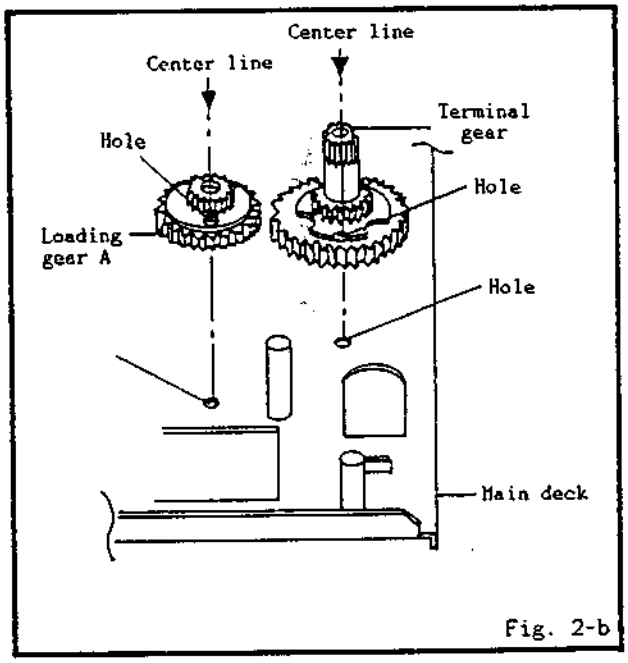


Fig. 2-b

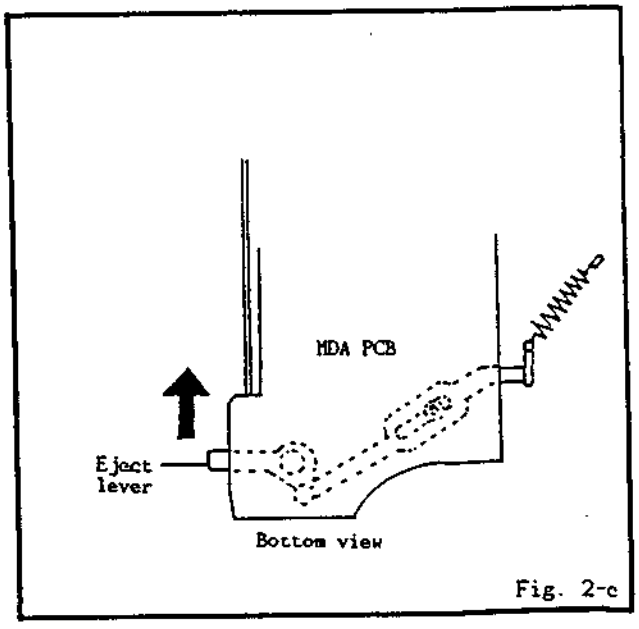


Fig. 2-c

MECHANICAL ADJUSTMENTS

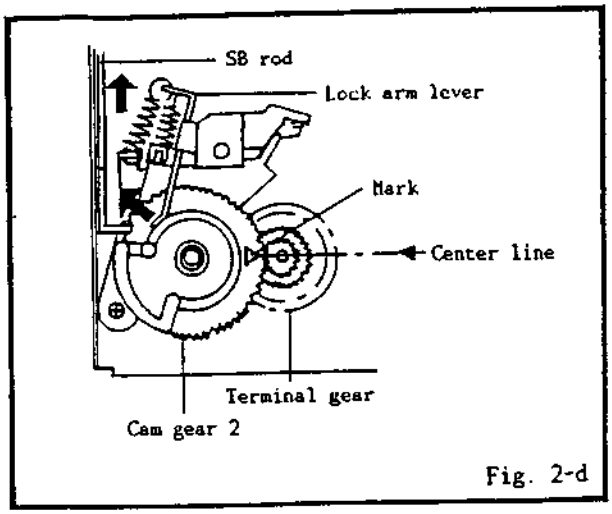


Fig. 2-d

3-2: ROTARY SWITCH

In the Stop Mode, the rotary switch setting is as indicated in Fig. 2-e.

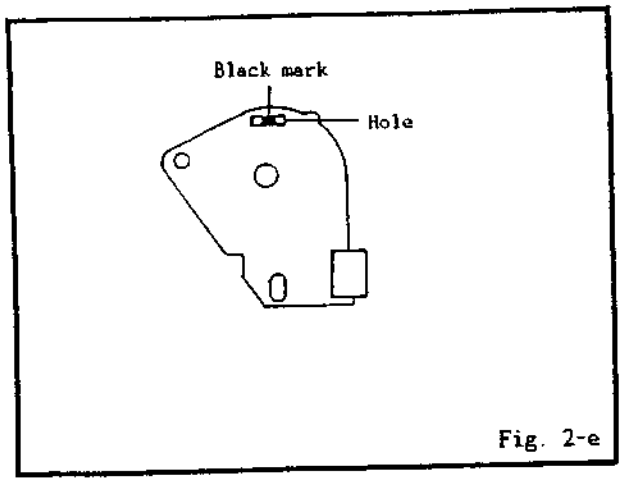


Fig. 2-e

3-3: MIDDLE POLE

In the Stop mode, the F-S gear hole and middle pole arm projection are aligned, as indicated in Fig. 2-f.

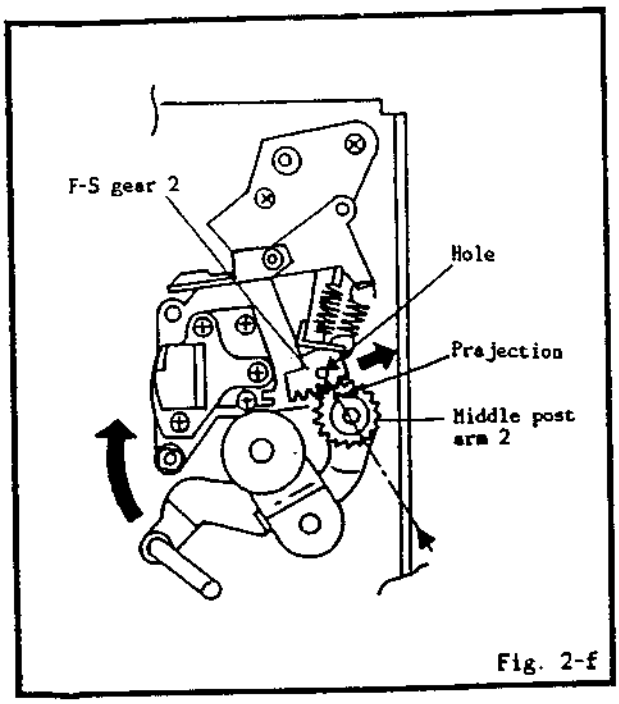


Fig. 2-f

3-4: BACK TENSION ADJUSTMENT

Adjust the back tension torque range from 18~28g.cm with the torque cassette (JG041). (When the back tension torque range changes, it takes the center torque value with it.)

CAUTION: To increase the back tension torque, turn the screw ① clockwise. To decrease the back tension torque, turn the screw ① counter-clockwise. (Refer to Fig. 2-g)

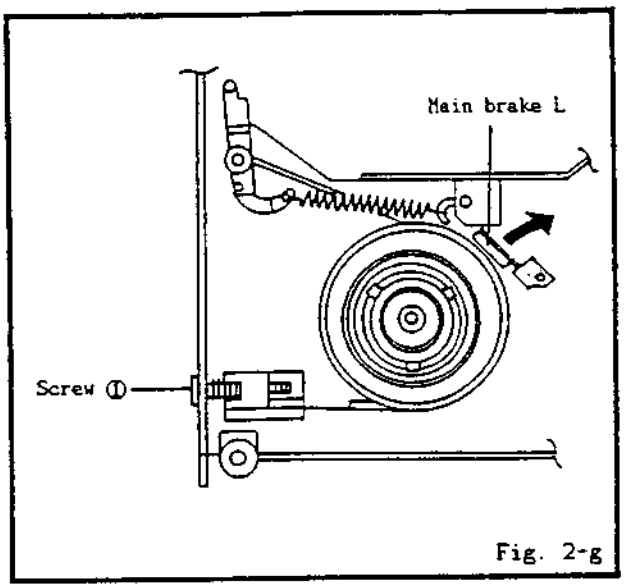


Fig. 2-g

4. TAPE TRANSPORT CHECKS AND ADJUSTMENTS

NOTE: The tape transport has been adjusted at the factory and ordinarily does not require readjustment. After extensive use or if parts affecting the transport have been replaced, perform the following checks and adjustments. Use care not to disturb settings unnecessarily.

4-1: GUIDE ROLLERS

1. Perform these adjustments carefully, since they affect interchangeability.
2. Use a spare cassette (not Alignment tape) and while tape is running, adjust the supply side guide roller height with a metric (1.4 mm) hex. wrench for smooth tape transport at the drum intake and along the drum lead.
3. In the same manner, adjust the take-up guide roller for the output side.

4-2: IMPEDANCE ROLLERS

NOTE: Avoid disturbing these settings, since they form the reference for the other transport system adjustments. The nut atop the roller is for securing, not for adjustment.

For reference, the supply side relationships are indicated in Fig. 3-a.

MECHANICAL ADJUSTMENTS

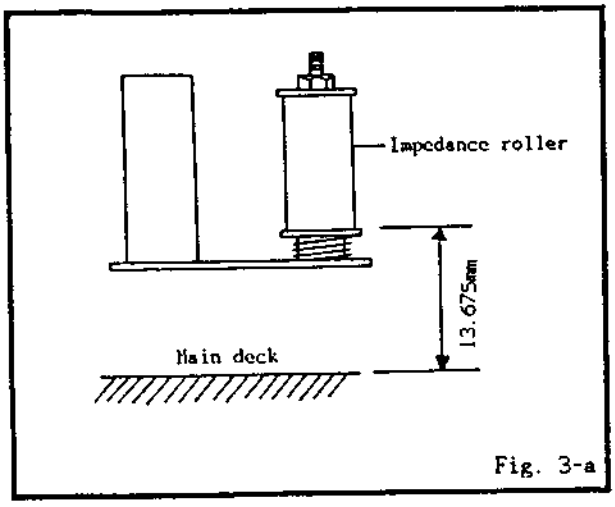


Fig. 3-a

4-3: AUDIO/CONTROL HEAD
(Take-up guide poles)

NOTE: Proper adjustment of the audio/control head is essential for interchangeability.

1. After adjusting the take-up guide roller, refer to **Fig. 3-b** and use a cross-head screwdriver to adjust the audio/control head inclination with the screw ①. Adjust for smooth transport at the take-up guide pole flange.
2. One method of adjusting is to first turn the screw ① counterclockwise to where tape wrinkling occurs at the bottom of the take-up guide pole. Then carefully turn the screw clockwise to eliminate wrinkling.
3. Audio/control head azimuth and height are adjusted as part of the interchangeability adjustment steps.

IMPORTANT: Do not disturb the settings of the take-up guide poles. These have been precision adjusted at the factory.

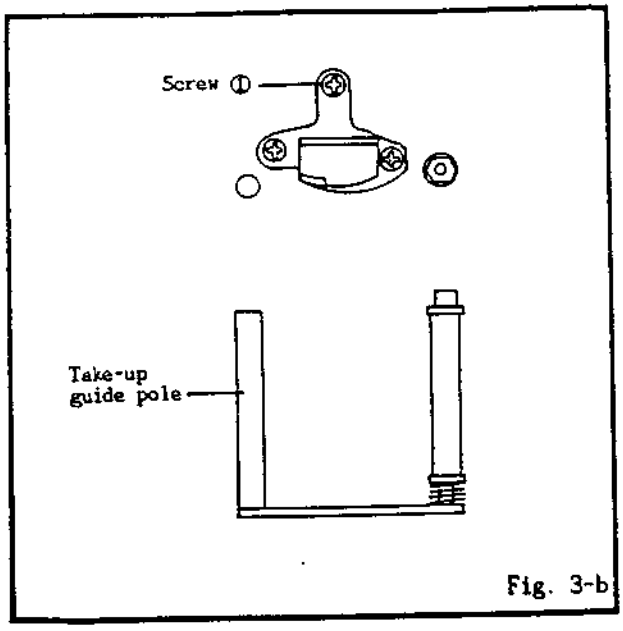


Fig. 3-b

5. INTERCHANGEABILITY CHECKS AND ADJUSTMENTS

IMPORTANT: Before using costly alignment tape, first use a spare cassette and confirm proper transport motion without damage to the tape.

5-1: FM WAVEFORM

Use the stairstep signal of alignment tape (JG042) to check and adjust the FM signal.

1. Play the stairstep signal of the alignment tape (JG042) and adjust the TRACKING control for maximum FM waveform. Refer to **Fig. 4-a** and confirm the relationships for the maximum output (a), minimum output at waveform center (b), minimum output at drum intake (c) and minimum output at drum output (d).
2. In addition to meeting the above specifications, overall variation of the tracking may cause large drops in level or increase noise.
3. Operate the TRACKING control to vary the FM waveform from maximum to minimum, and from minimum to maximum. Confirm that the waveform varies evenly at the drum intake portion. As illustrated in **Fig. 4-b**, if the slope varies from outward to inward, or from inward to outward, the supply guide roller height adjustment is incorrect. Adjust the height so that the tape travels properly in the drum lead and the waveform variation becomes nearly parallel.
4. Similarly, observe the variation at the drum output portion. Adjust the take-up guide roller height for parallel waveform variation. **(Refer to Fig. 4-c)**
5. Operate the TRACKING control and observe variation of the overall FM waveform. Fine adjust the supply and take-up guide poles so that variation is parallel and linear.
6. Confirm absence of tape wrinkling or curling at the impedance rollers and take-up guide pole. If curling or wrinkling is observed at the supply side impedance roller, carefully fine-adjust (lower) the impedance roller. If curling or wrinkling is observed at the take-up guide pole, readjust the audio/control head inclination for smooth tape travel at the lower flange of the guide pole.
Afterwards, check the FM waveform again.

$\frac{b}{a} \geqq 0.8 \quad \frac{c}{a} \geqq 0.7 \quad \frac{d}{a} \geqq 0.7$

(Video FM waveform specifications)

MECHANICAL ADJUSTMENTS

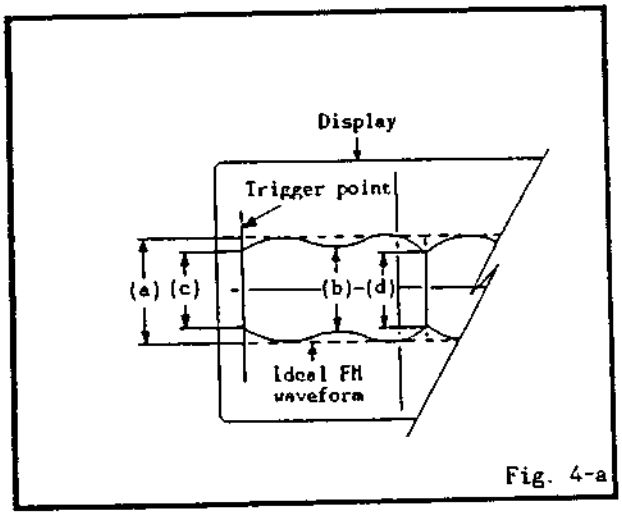


Fig. 4-a

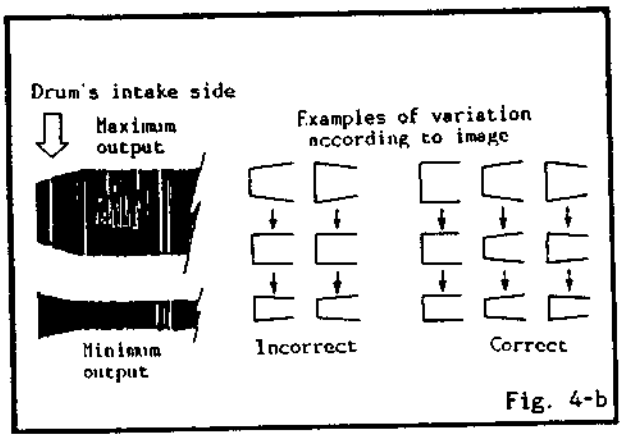


Fig. 4-b

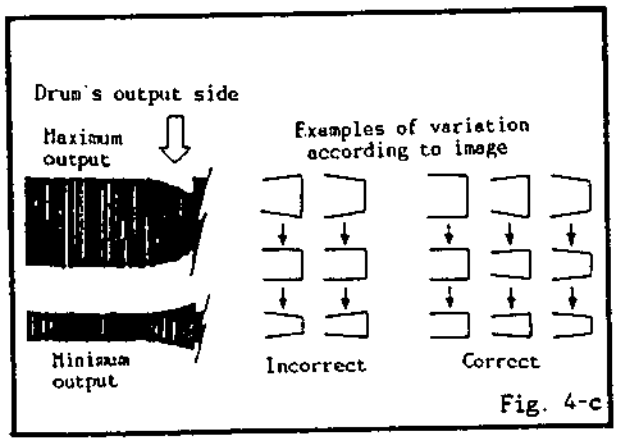


Fig. 4-c

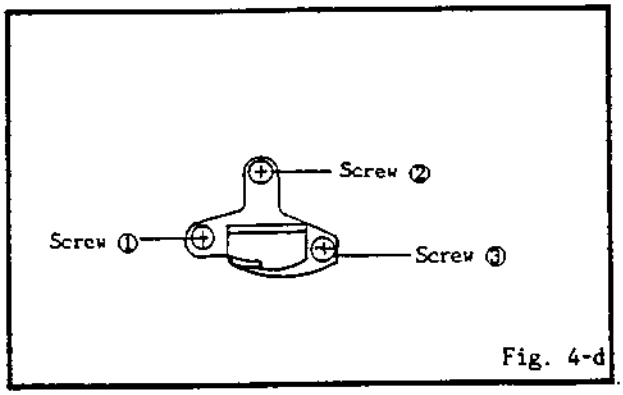


Fig. 4-d

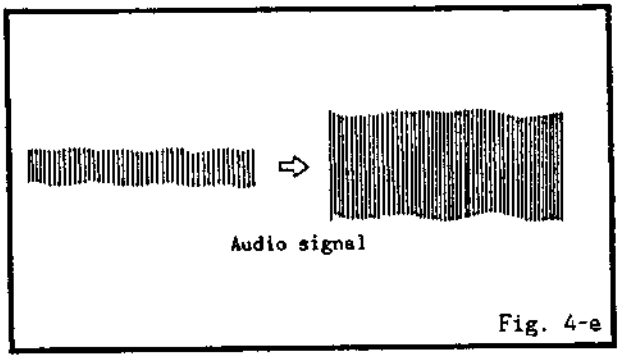


Fig. 4-e

5-2: AUDIO/CONTROL HEAD ADJUSTMENT

Since this is a record-only unit, all tapes made with this unit are played back on another deck. Therefore, the audio/control head must be correctly adjusted in order to ensure adequate audio output and S/N, in addition to correct pick up of the control signal for servo operation.

1. Play stairstep (audio 6 KHz) section of the alignment tape (JG042).
2. Refer to Fig. 4-d. Turn the screw ③ for maximum audio output.
3. Turn the screws ①, ② and ③ by small (about 45°) and equal increments to adjust the head height for maximum audio output. (Refer to Fig. 4-e)

5-3: CONTROL HEAD PHASE (X value)

This affects the playback synchronization between sound and picture. It is more delicate in the LP mode than the SP mode.

1. Play the stairstep signal of the alignment tape (JG042).
2. Slightly loosen the screws ④ and ⑤ of the audio/control head. Insert prong Ⓑ of the X-adjustment driver (JG044) into the hole Ⓑ and the other prong Ⓐ into the notch Ⓐ. Then twist to shift the head fully toward the capstan direction.
3. While observing the CH-1 FM waveform, carefully shift the head in the opposite direction to capstan direction (Refer to the arrow in the Fig. 4-f) and position. Set to the maximum peak. Then tighten screws ④ and ⑤.
4. Check again for maximum FM waveform.

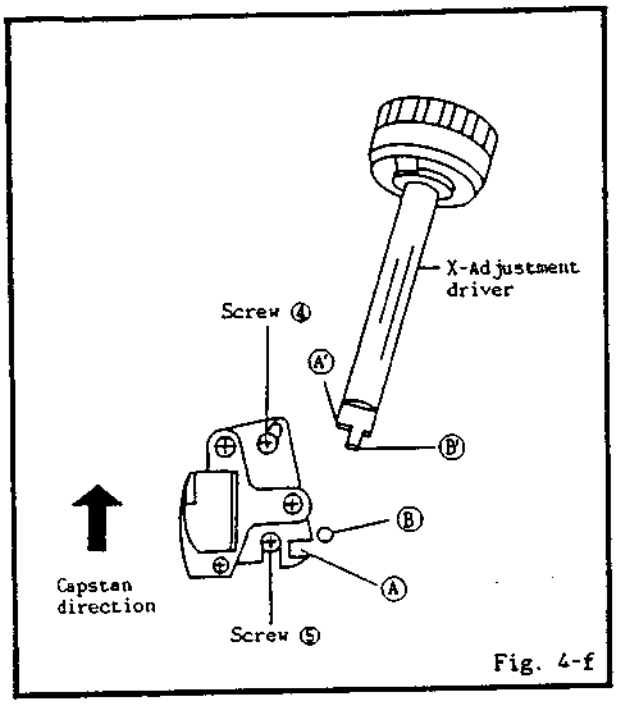


Fig. 4-f

6. FINAL CHECKS

1. Record a signal and confirm that playback FM waveform meets the criteria of Fig. 4-a.
2. Perform checks and adjustments as described in the Electrical Adjustments Section.

ELECTRICAL ADJUSTMENTS

1. DECK SECTION

PREPARATION

Electrical adjustments are generally necessary after replacing worn mechanical parts or video heads because of interrelationship between those parts and various electrical circuits. In the event of electrical malfunction, first troubleshoot with the aid of proper test instruments, and then, commence necessary repair, replacement, and adjustment, etc.

Test instruments

1. Oscilloscope
2. Spectrum analyzer
3. DC power supply
4. DC voltmeter
5. AC voltmeter
6. Character generator

1-1: POWER CONTROL 5V

CONDITIONS

MODE - STOP
Input signal - PAL color bar

INSTRUCTIONS

1. Connect the adjustment jig PCB (JG065) to the CP3003 and CP5005, input the PAL color bar signal.
2. Connect the DC voltmeter to **TP2501** and **TP2003.** (GND)
3. Adjust the voltage to 4.97±0.01V with **VR2502.**

1-2: CHARACTER GENERATOR HORIZONTAL POSITION

CONDITIONS

MODE - STOP
Input signal - NTSC color bar

INSTRUCTIONS

1. Connect the adjustment jig PCB (JG065) to the CP3003 and CP5005, input the PAL color bar signal.
2. Have the color bar on a monitor.
3. Adjust **TC1001** until right edge of the last two digits in the center indication comes the border line between yellow and cyan as shown in **Fig. 1-1.**

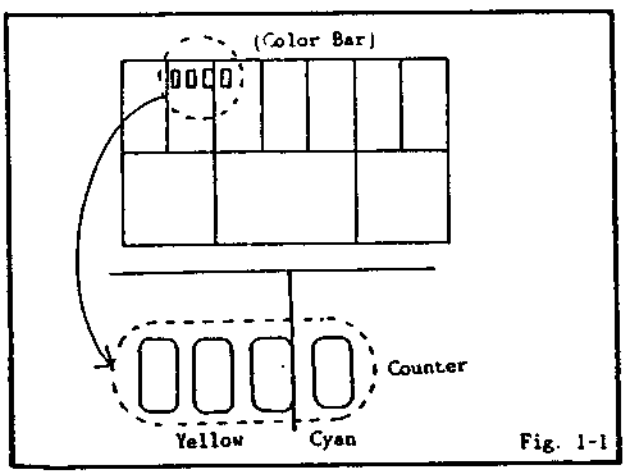


Fig. 1-1

1-3: PB. SWITCHING POSITION

CONDITIONS

MODE - PLAYBACK
Input signal - Standard test tape

NOTE: Tracking control should be set at click point.

INSTRUCTIONS

1. Connect CH-1 on the oscilloscope to **TP2002** and connect CH-2 on the oscilloscope to **TP3006.**
2. Adjust **VR2002** so that the waveform of the oscilloscope measures 6.5±0.5(H) at both leading and trailing edges.
   (Refer to Fig. 1-2-a, b)

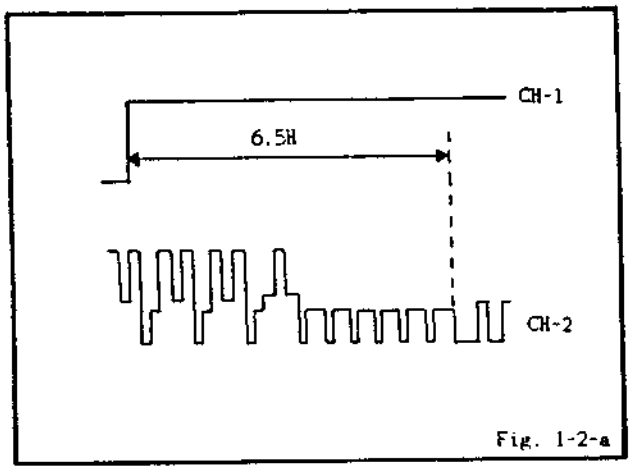


Fig. 1-2-a

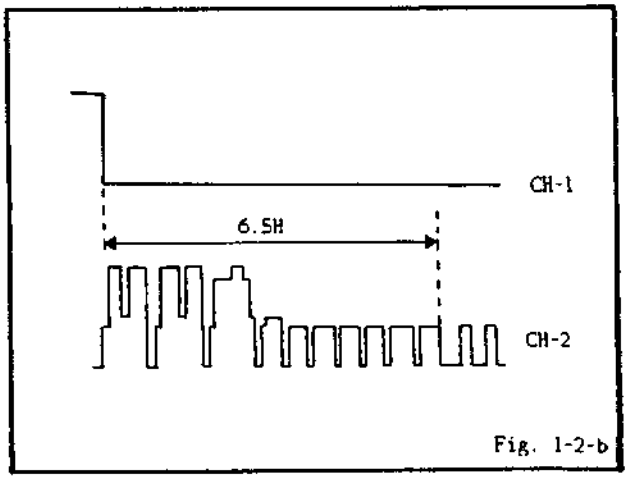


Fig. 1-2-b

1-4: TRACKING FIX

CONDITIONS

MODE - PLAYBACK
Input signal - Standard test tape

NOTE: Tracking control should be set at click point.
Turn the tracking control to the direction of maximum, then adjust it to the click point while turning back the tracking control to decrease the rocking at click point.

INSTRUCTIONS

1. Connect CH-1 on the oscilloscope to **TP2002** and connect CH-2 on the oscilloscope to **TP2001.**
2. Adjust **VR2001** so that the "I" portion measures 0.45±0.15msec as shown in **Fig. 1-3.**

ELECTRICAL ADJUSTMENTS

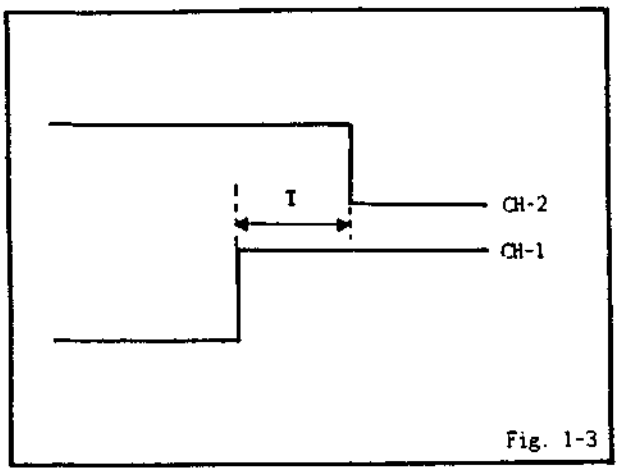


Fig. 1-3

1-5: VCO

CONDITIONS

MODE - STOP
Input signal - PAL color bar

INSTRUCTIONS

1. Connect the adjustment jig PCB (JG065) to the CP3003, and input the PAL color bar signal.
2. Connect the DC voltmeter to TP3008.
3. Adjust the voltage to 2.5±0.2V with PF3001.

1-6: E-E LEVEL

CONDITIONS

MODE - STOP
Input signal - PAL color bar

NOTE: Video out of the unit should be terminated with a 75 ohm load.

INSTRUCTIONS

1. Connect the adjustment jig PCB (JG065) to the CP3003 and CP5005, input the PAL color bar signal.
2. Connect the oscilloscope to TP3001.
3. Adjust VR3001 so that the waveform measures 2.0±0.05Vp-p as shown in Fig. 1-4.

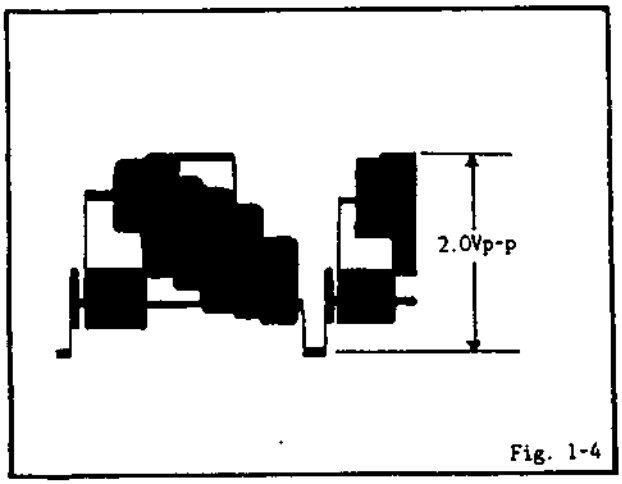


Fig. 1-4

1-7: REC LEVEL

CONDITIONS

MODE - STOP
Input signal - PAL color bar

INSTRUCTIONS

1. Connect the adjustment jig PCB (JG065) to the CP3003 and CP5005, input the PAL color bar signal.
2. Connect CH-1 on the oscilloscope to TP3006 and connect CH-2 on the oscilloscope to TP3002.
3. Adjust VR3003 so that the waveform measures 310±5mVp-p as shown in Fig. 2-5.

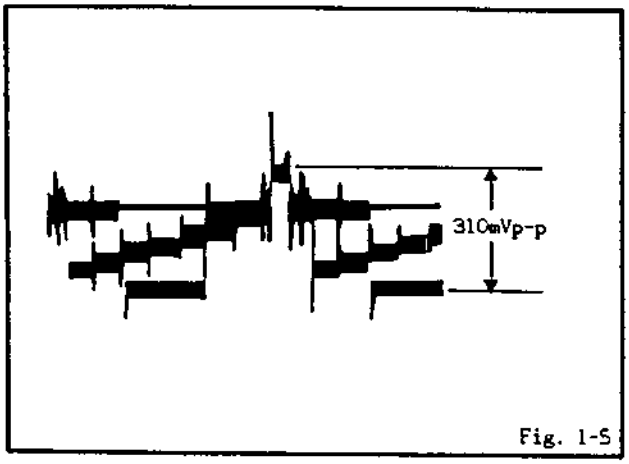


Fig. 1-5

1-8: CARRIER AND DEVIATION

CONDITIONS

MODE - RECORD
Input signal - PAL color bar

INSTRUCTIONS

1. Connect the adjustment jig PCB (JG065) to the CP3003 and CP5005, input the PAL color bar signal.
2. Connect TP3004 to the input terminal on the spectrum analyzer, then adjust 3.8MHz and 4.8MHz as shown in Fig. 1-6 with VR3005 and VR3004.

VR3005 (CARRIER)
VR3004 (DEVIATION)

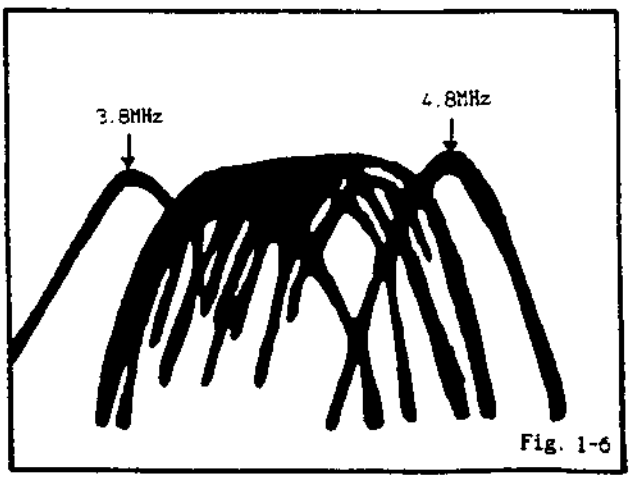


Fig. 1-6

ELECTRICAL ADJUSTMENTS

1-9: PLAYBACK LUMINANCE LEVEL

CONDITIONS

MODE - PLAYBACK
Input signal - Color bar test tape

NOTE: Video out of the unit should be terminated with a 75 ohm load.

INSTRUCTIONS

1. Connect the oscilloscope to **TP3006**.
2. Adjust **VR3002** so that the signal becomes 1.0±0.05V as shown in **Fig. 1-7**.

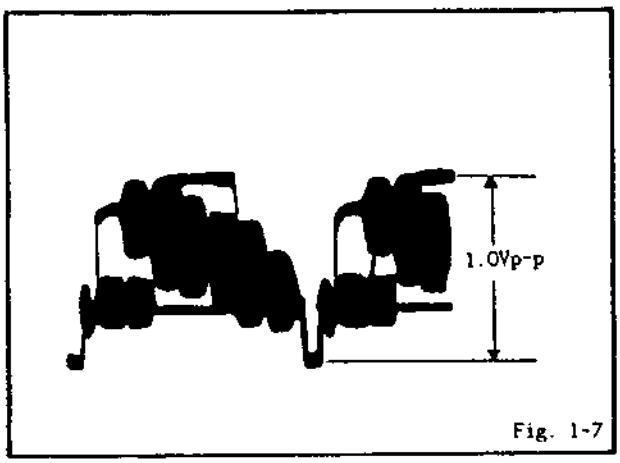


Fig. 1-7

1-10 RECORD CURRENT

CONDITIONS

MODE - RECORD
Input signal - PAL color bar

INSTRUCTIONS

1. Connect the adjustment jig PCB (JG065) to the CP3003 and CP5005, input the PAL color bar signal.
2. Connect CH-1 on the oscilloscope to **TP4101** and CH-2 to **TP3006**. Connect **TP4102** to GND.
3. Connect **TP3004** to the ground with wire in order to cut Y-signal.
4. Adjust **VR3006** so that the magenta level becomes 35±2mVp-p as shown in **Fig. 1-8-a**.
5. Adjust **VR3007** so that the horizontal sync level becomes 110±5mVp-p as shown in **Fig. 1-8-b**.

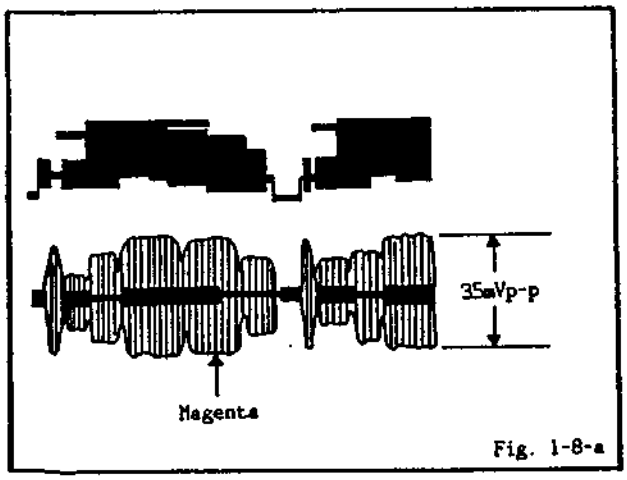


Fig. 1-8-a

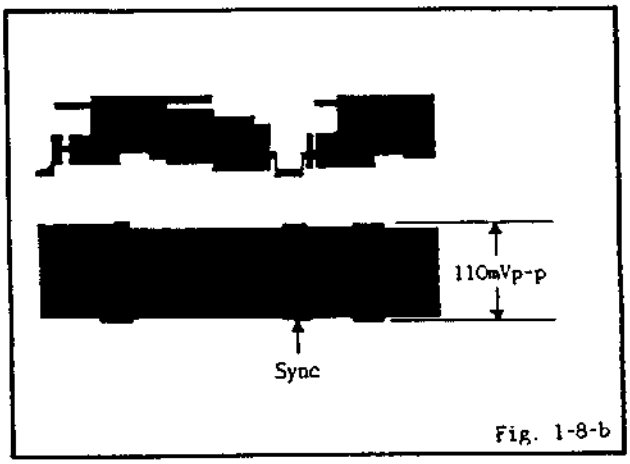


Fig. 1-8-b

1-11: AUDIO BIAS CURRENT

CONDITIONS

MODE - RECORD
Input signal - No signal

INSTRUCTIONS

1. Connect the AC voltmeter to **TP5001** and **TP5002** (GND).
2. Adjust the voltage to 2.8±0.1mVrms with **VR5001**.

1-12: AUDIO PLAYBACK LEVEL

CONDITIONS

MODE - Self(RECORD and PLAYBACK)
SP MODE
Input signal - Audio signal: 1KHz 300mVrms
Video signal: Color bar

NOTE: Audio out of the unit should be terminated with a 47K ohm load.

INSTRUCTIONS

1. Input the color bar signal to the **CP3003**.
2. Input the audio signal to the **CP5005**.
3. Connect the AC voltmeter to **pin 6 of J4201**.
4. Adjust **VR5002** so that the playback output becomes 400±10mVrms.

ELECTRICAL ADJUSTMENTS

2. CAMERA SECTION

Test instruments

1. Frequency counter
2. Oscilloscope(dual trace)
3. Vectorscope
4. Color monitor
5. DC Voltmeter
6. Collimeter

2-1: CLOCK FREQUENCY

NOTE: Allow unit to warm up for 5 seconds before adjusting.

INSTRUCTIONS

1. Connect the frequency counter to **TP7001.**
2. Adjust the frequency to 9656250 ±25 Hz with **TC7001.**

2-2: RESET BIAS

CONDITION

Test chart - Grey scale pattern (JG051)

INSTRUCTIONS

1. Pick up a grey scale pattern.
2. Connect the oscilloscope to **TP7014.**
3. Adjust **VR7019** so that the level (from "A" to "B" on the **Fig. 2-1**) is at maximum.

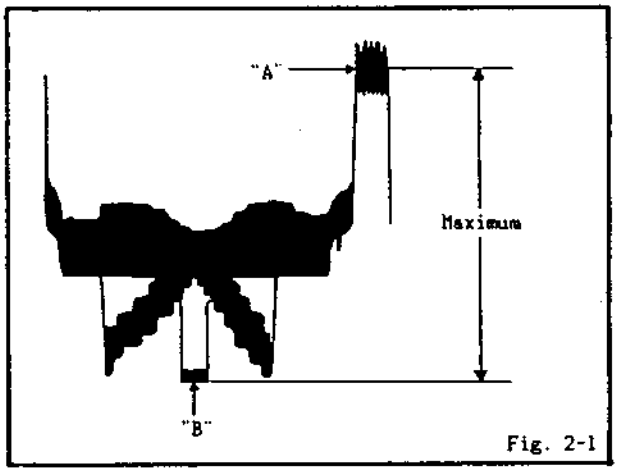


Fig. 2-1

2-3: V-SUB

CONDITION

Test chart - Window chart

NOTE: Cut the black and thick paper as shown below.
Make the window chart.

INSTRUCTIONS

1. Short **pin 2 of CP8004 and TP8001** to open the IRIS.
2. Press "wide-angle" to zoom out and shoot a fluorescent light in the viewfinder.
3. Shoot the fluorescent light on the upper portion the viewfinder.
   Adjust the **VR7001** so that the blooming appears and the light flows in the vertical direction.
4. Adjust the **VR7001** to the opposite direction of step 3, so that the blooming and vertical light disappear.
5. Select the shutter speed of 1/1000.
   When you shoot a fluorescent light, check if the vertical light appears.

2-4: YH SET UP

NOTE: It is easy to see the waveform by terminating the 10K ohm resistor to pin 4 of CP8001.

INSTRUCTIONS

1. Connect the oscilloscope to **pin 4 of CP8001.**
2. Cover the lens with the cap.
3. Adjust **VR7005** so that the waveform measures 50±5mVp-p. **(Refer to Fig. 2-2)**

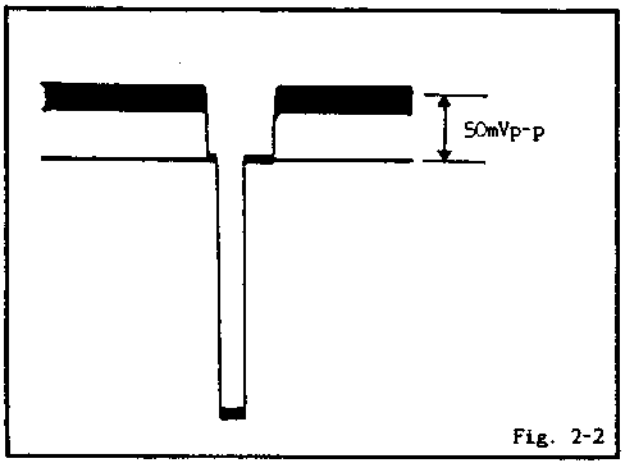


Fig. 2-2

2-5: V-EDGE 1H

CONDITION

Test chart - Grey scale pattern (JG051)

INSTRUCTIONS

1. Pick up a grey scale pattern.
2. Fill screen with grey scale pattern.
3. Connect CH-1 of the oscilloscope to **TP8004** and CH-2 of the oscilloscope to **TP8005.**
4. Reverse the waveform for CH-2 with an inverter and put both the waveform for CH-1 and CH-2 together by pressing the ADD SW on the oscilloscope.
5. Adjust **VR7015** so that the waveform of CH-1 is straight as shown in **Fig. 2-3.**

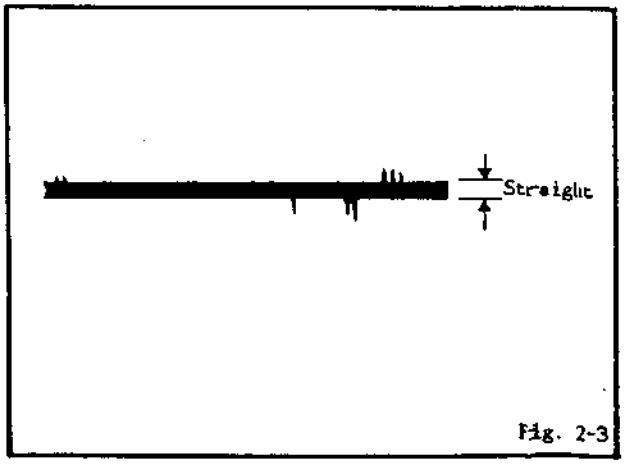


Fig. 2-3

ELECTRICAL ADJUSTMENTS

2-6: IRIS LEVEL

CONDITION

Test chart - Grey scale pattern (JG051)

NOTE: It is easy to see the waveform by terminating the 10K ohm resistor to **TP7006.**

INSTRUCTIONS

1. Pick up a grey scale pattern.
2. Turn the **VR7014** fully clockwise.
3. Connect the oscilloscope to **TP7006.**
4. Adjust **VR8001** so that the waveform measures 250±10mVp-p. **(refer to Fig. 2-4)**

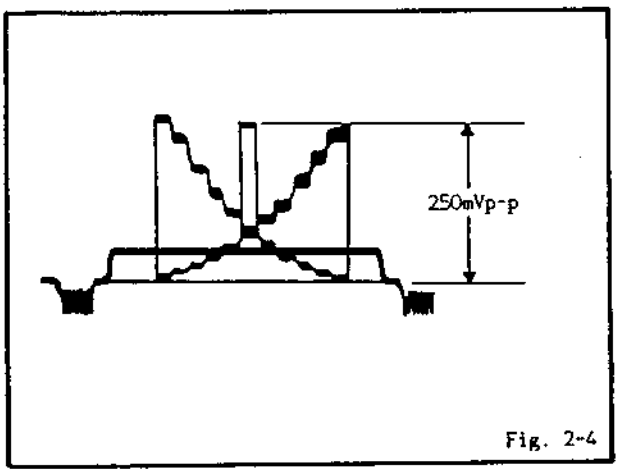


Fig. 2-4

2-7: AGC LEVEL

CONDITION

Test chart - Grey scale pattern (JG051)

NOTE: It is easy to see the waveform by terminating the 10K ohm resistor to **TP7006.**

INSTRUCTIONS

1. Connect the DC voltmeter to **TP7015.**
2. Cover the lens with the cap.
3. Adjust the voltage to 2.0±0.05V with **VR7014.**

2-8: SYNC LEVEL

CONDITION

Test chart - Grey scale pattern (JG051)

INSTRUCTIONS

1. Pick up a grey scale pattern.
2. Connect the oscilloscope to **pin 4 of CP8001.**
3. Adjust **VR8011** as the sync level will be 300+0,−10mVp-p. **(Refer to Fig. 2-5)**

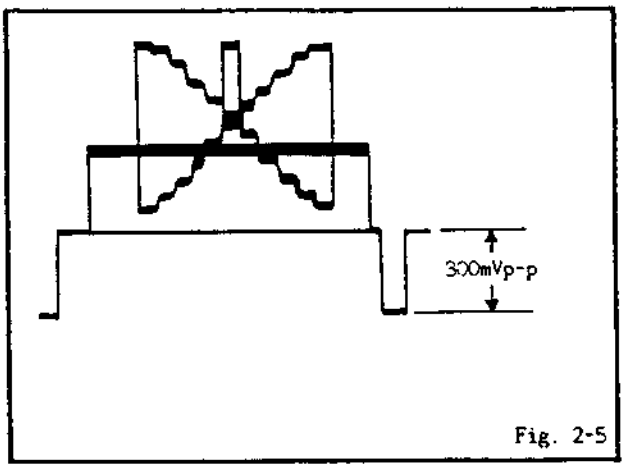


Fig. 2-5

2-9: YH GAIN

CONDITION

Test chart - Grey scale pattern (JG051)

INSTRUCTIONS

1. Pick up a grey scale pattern.
2. Fill screen with grey scale pattern.
3. Connect the oscilloscope to **pin 4 of CP8001.**
4. Adjust **VR8008** so that the waveform measures 1.00±0.05Vp-p. **(refer to Fig. 2-6)**

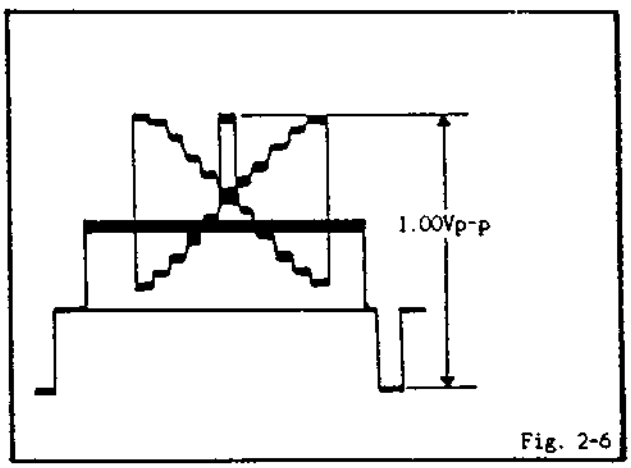


Fig. 2-6

2-10: YL LEVEL

CONDITION

Test chart - Grey scale pattern (JG051)

NOTE: When the unit is power off, short circuit pin 1 and pin 2 of **CP8004.**
Power on the unit.
Reset time in the power off should be more the 5 seconds.

INSTRUCTIONS

1. Pick up a grey scale pattern.
2. Fill screen with grey scale pattern.
3. Connect the oscilloscope to **TP7003.**
4. Adjust **VR7002** so that the waveform measures 300±10mVp-p. **(refer to Fig. 2-7)**

ELECTRICAL ADJUSTMENTS

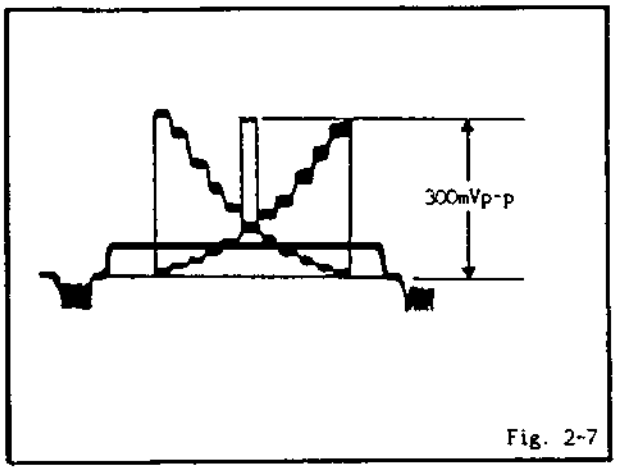


Fig. 2-7

2-11: YL SET UP

NOTE: With the unit's power off, short circuit pin 1 and pin 2 of **CP8004**.
Power on the unit.
Reset time in the power off should be more the 5 seconds.

INSTRUCTIONS

1. Cover the lens with the cap.
2. Connect the oscilloscope to **TP7008**.
3. Adjust **VR7018** so that the waveform measures 180±10mVp-p. **(refer to Fig. 2-8)**

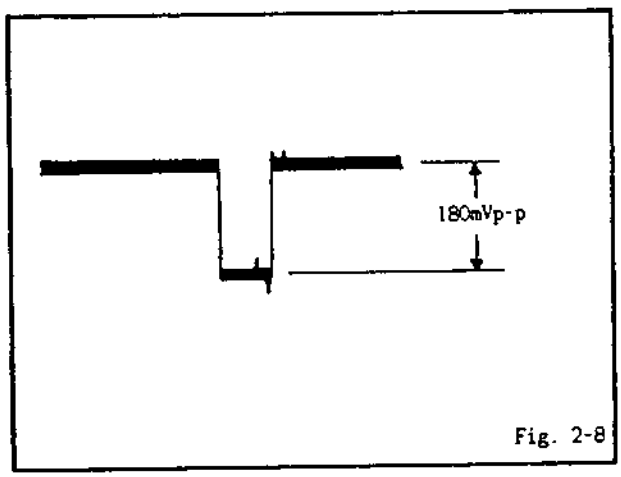


Fig. 2-8

2-12: YL GAIN

CONDITION

Test chart - Grey scale pattern (JG051)

NOTE: With the unit's power off, short circuit pin 1 and pin 2 of **CP8004**.
Power on the unit.
Reset time in the power off should be more the 5 seconds.

INSTRUCTIONS

1. Pick up a grey scale pattern.
2. Fill screen with grey scale pattern.
3. Connect the oscilloscope to **TP7008**.
4. Adjust **VR7011** so that the waveform measures 420±10mVp-p. **(Refer to Fig. 2-9)**
5. After adjusting, re-confirm that the adjustment of YL SET UP (ITEM 2-11) must be 180mVp-p.
   If shifted, it is necessary to re-adjust.
6. Turn, re-confirm that the adjustment of YL GAIN (ITEM 2-12) must be 420mVp-p.
   If shifted, it is necessary to re-adjust.

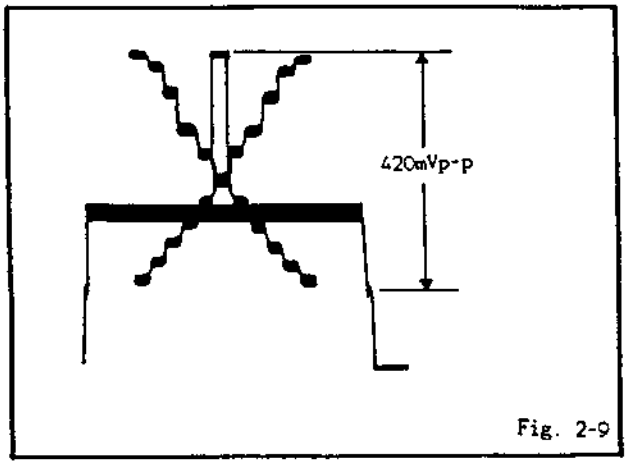


Fig. 2-9

2-13: R/B SEPARATION

CONDITION

Test chart - Color bar pattern (JG052)

NOTE: With the unit's power off, short circuit pin 1 and pin 2 of **CP8004**.
Power on the unit.
Reset time in the power off should be more the 5 seconds.

INSTRUCTIONS

1. Pick up a color bar pattern.
2. Cover the lens with the filter (JG048).
3. Connect CH-1 of the oscilloscope to **TP7004** and CH-2 of the oscilloscope to **TP7002**.
4. Adjust **VR7013** so that the level at yellow is as same as the level at green. **(Refer to Fig. 2-10-a)**
5. Next, re-connect CH-1 of the oscilloscope from **TP7004** to **TP7005**.
6. Adjust **VR7012** so that the level at yellow is as same as the level at red. **(Refer to Fig. 2-10-b)**

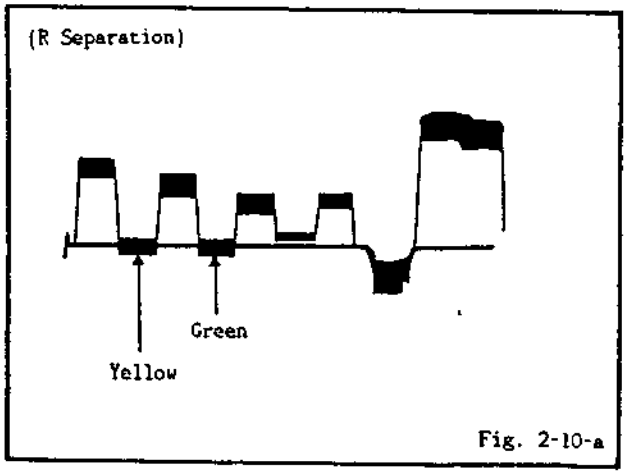


Fig. 2-10-a

ELECTRICAL ADJUSTMENTS

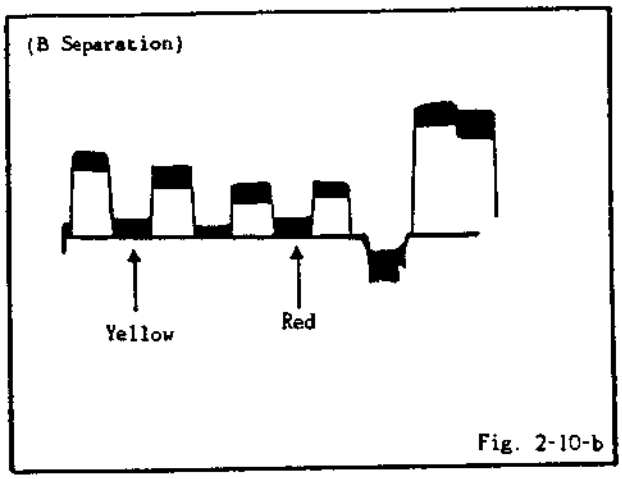


Fig. 2-10-b

2-14: CARRIER BALANCE

NOTE: With the unit's power off, short circuit pin 1 and pin 2 of CP8004.
Power on the unit.
Reset time in the power off should be more the 5 seconds.

INSTRUCTIONS

1. Cover the lens with the cap.
2. Connect the vectorscope to 1 pin of J4201.
3. Adjust VR7010 so that lighting point is collected in the center of the vectorscope. (Refer to Fig. 2-11)

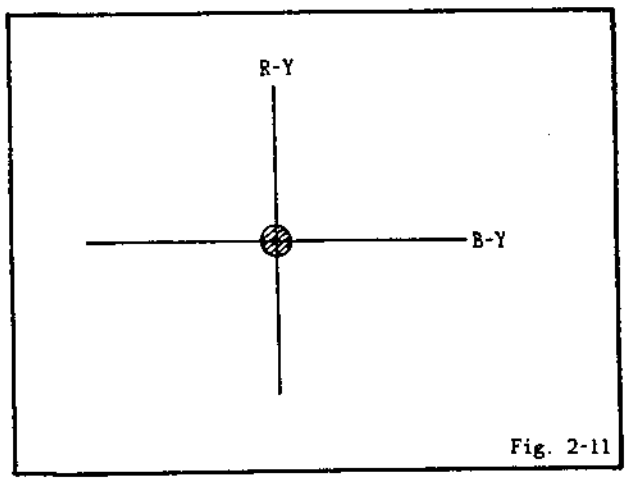


Fig. 2-11

2-15: R/B LEVEL

CONDITION

Test chart - Grey scale pattern (JG051)

NOTE: With the unit's power off, short circuit pin 1 and pin 2 of CP8004.
Power on the unit.
Reset time in the power off should be more the 5 seconds.

INSTRUCTIONS

1. Pick up a grey scale pattern.
2. Cover the lens with the filter (JG048).
3. Connect the vectorscope to 1 pin of J4201.
4. Adjust VR7003 and VR7004 so that lighting point is collected in the center of the vectorscope. (Refer to Fig. 2-12)

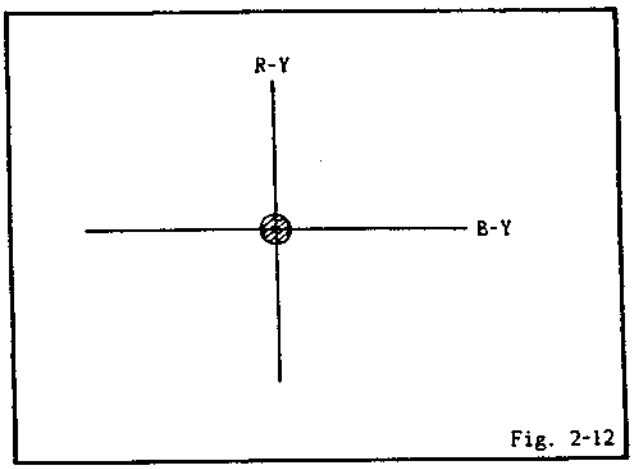


Fig. 2-12

2-16: R/B SET UP

NOTE: With the unit's power off, short circuit pin 1 and pin 2 of CP8004.
Power on the unit.
Reset time in the power off should be more the 5 seconds.

INSTRUCTIONS

1. Cover the lens with the cap.
2. Connect the vectorscope to 1 pin of J4201.
3. Adjust VR7006 and VR7007 so that lighting point is collected in the center of the vectorscope. (Refer to Fig. 2-13)
4. After adjusting, re-confirm that the adjustment of R/B LEVEL (ITEM 2-15) will not shift. If so, it is necessary to re-adjust.

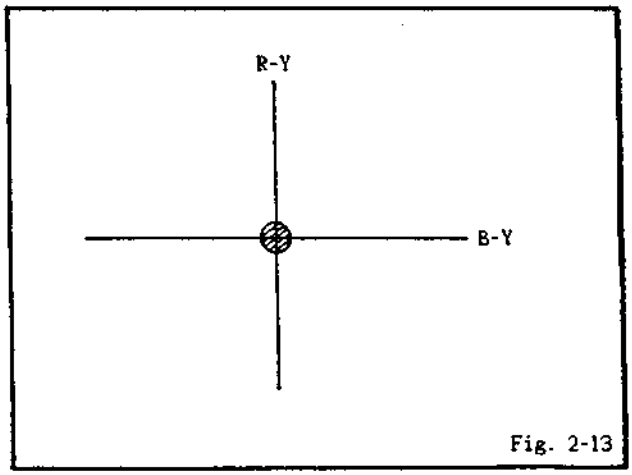


Fig. 2-13

ELECTRICAL ADJUSTMENTS

2-17: COLOR DIFFERENCE

CONDITION

Test chart - Color bar pattern (JG052)

NOTE: With the unit's power off, short circuit pin 1 and pin 2 of CP8004.
Power on the unit.
Reset time in the power off should be more the 5 seconds.

INSTRUCTIONS

1. Pick up a color bar pattern.
2. Cover the lens with the filter (JG048).
3. Connect CH-1 of the oscilloscope to TP7010 and CH-2 of the oscilloscope to TP7011.
4. Adjust VR7016 so that the output level of the waveform shifts 1H on CH-1 and CH-2 and is the same. (Refer to Fig. 2-14)
5. After adjusting NOISE SUPPRESSOR BALANCE (ITEM 2-18), connect the 1 pin of J4201 with vectorscope.
6. Adjust VR7016 so that two bright points overlap and become one point and limit the shaking of the red.

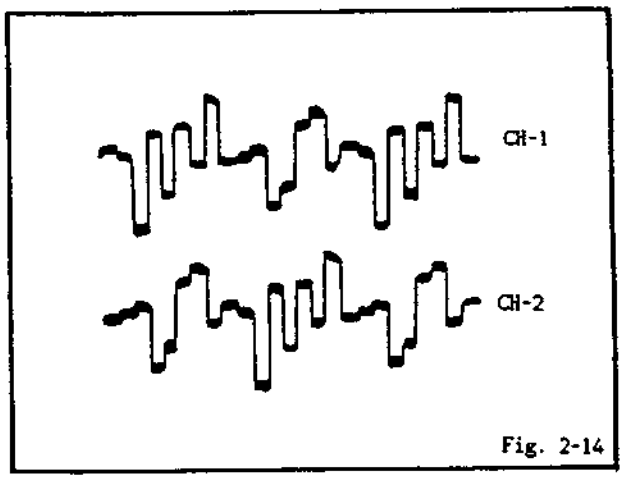


Fig. 2-14

2-18: NOISE SUPPRESSOR BALANCE

CONDITION

Test chart - Color bar pattern (JG052)

NOTE: With the unit's power off, short circuit pin 1 and pin 2 of CP8004.
Power on the unit.
Reset time in the power off should be more the 5 seconds.

INSTRUCTIONS

1. Pick up a color bar pattern.
2. Cover the lens with the filter (JG048).
3. Connect CH-1 of the oscilloscope to TP7010 and CH-2 of the oscilloscope to TP7013.
4. Reverse the waveform for CH-2 with an inverter and put both the waveform for CH-1 and CH-2 together by pressing the ADD SW on the oscilloscope.
5. Adjust VR7017 so that the waveform of CH-1 is straight as shown in Fig. 2-15.
6. After adjusting. repeat adjustments that COLOR DIFFERENCE (ITEM 2-17) and NOISE SUPPRESSOR BALANCE (ITEM 2-18).

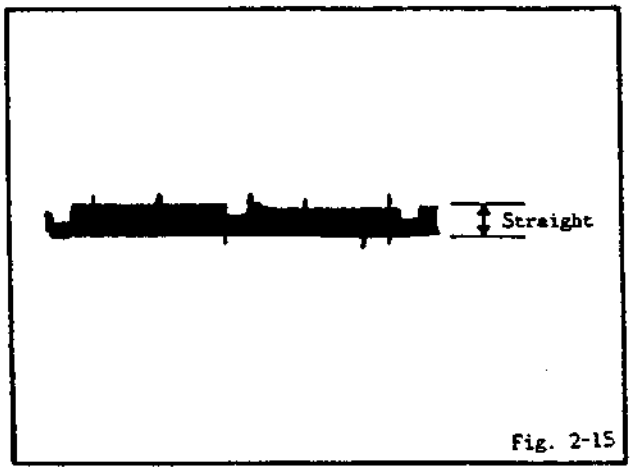


Fig. 2-15

2-19: BURST PHASE

CONDITION

Test chart - Color bar pattern (JG052)

INSTRUCTIONS

1. Pick up a color bar pattern.
2. Connect the vectorscope to pin 1 of J4201.
3. Adjust VR8007 for the vectorscope waveform to be as shown in Fig. 2-16.

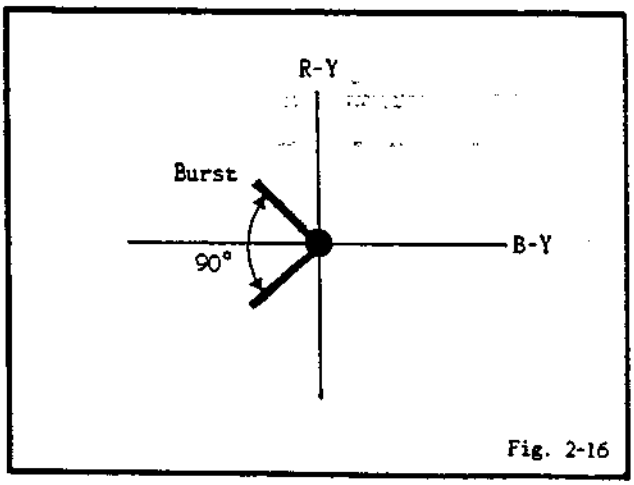


Fig. 2-16

2-20: BURST LEVEL

CONDITION

Test chart - Color bar pattern (JG052)

INSTRUCTIONS

1. Pick up a color bar pattern.
2. Connect the oscilloscope to 6 pin of CP8001.
3. Adjust VR8006 so that the burst level is 300 ± 30mVp-p. (Refer to Fig. 2-17)

ELECTRICAL ADJUSTMENTS

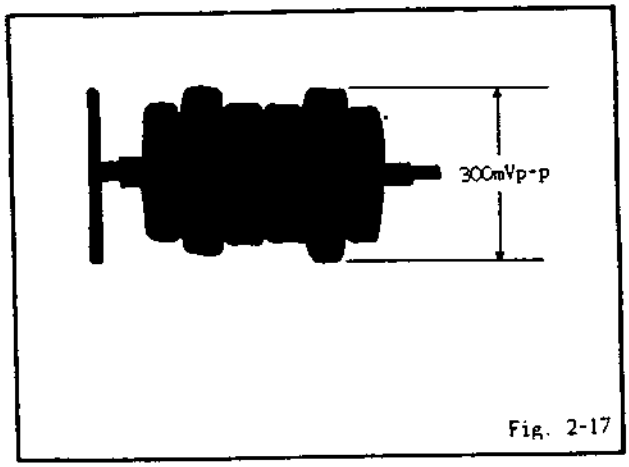


Fig. 2-17

2-21: R-Y/B-Y GAIN

CONDITION

Test chart - Color bar pattern (JG052)

NOTE: With the unit's power off, short circuit pin 1 and pin 2 of CP8004.
Power on the unit.
Reset time in the power off should be more the 5 seconds.

INSTRUCTIONS

1. Pick up a color bar pattern.
2. Cover the lens with the filter (JG048).
3. Connect CH-1 of the oscilloscope to TP7002 and CH-2 of the oscilloscope to TP8002.
4. Adjust VR7009 so that the B-Y level is 400±20mVp-p. (Refer to Fig. 2-18-a)
5. Next, reconnect CH-2 of the oscilloscope from TP8002 to TP8003.
6. Adjust VR7008 so that the R-Y level is 450±20mVp-p. (Refer to Fig. 2-18-b)

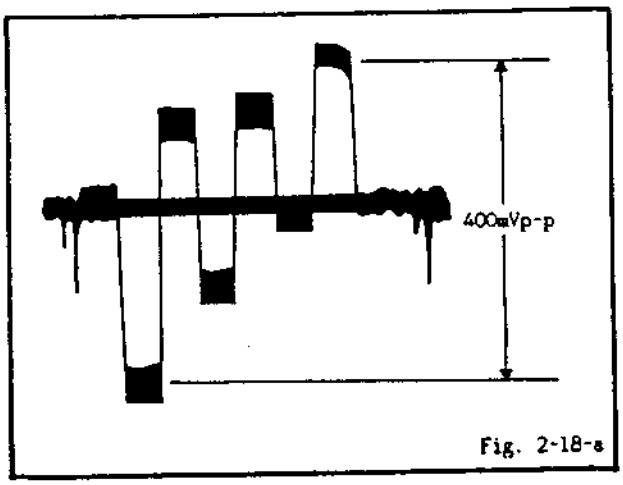


Fig. 2-18-a

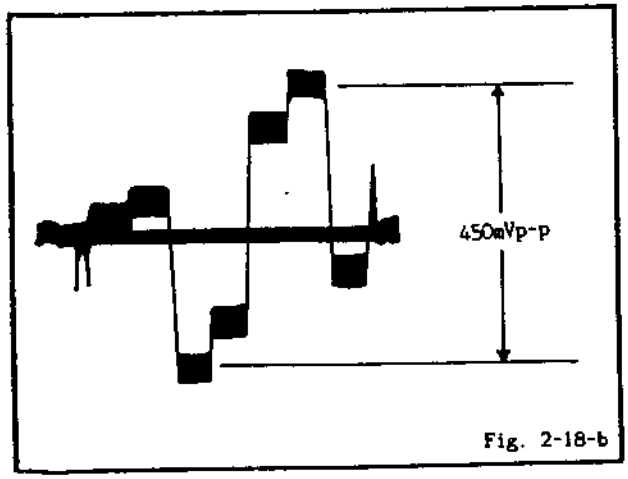


Fig. 2-18-b

2-22: CHROMA GAIN

CONDITION

Test chart - Color bar pattern (JG052)

NOTE: With the unit's power off, short circuit pin 1 and pin 2 of CP8004.
Power on the unit.
Reset time in the power off should be more the 5 seconds.

INSTRUCTIONS

1. Pick up a color bar pattern.
2. Cover the lens with the filter (JG048).
3. Connect the oscilloscope to pin 6 of CP8001.
4. Adjust VR8009 so that the red level is 350±10mVp-p. (Refer to Fig. 2-19)
5. After adjusting, confirm that the green level is 300±50mVp-p.

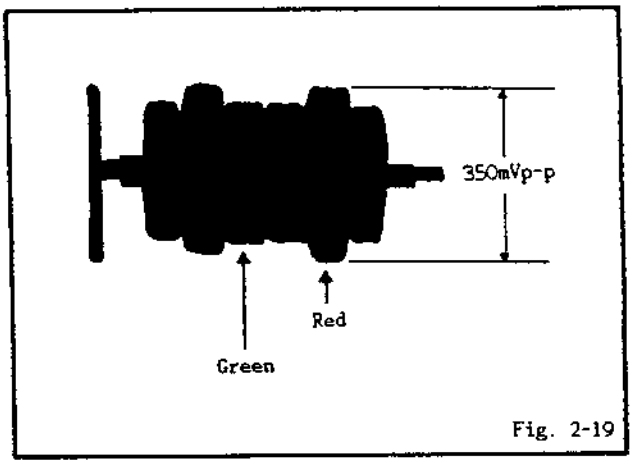


Fig. 2-19

2-23: OUTDOOR PRESET

CONDITION

Test chart - Grey scale pattern (JG051)
White balance select sw - Outdoor position

INSTRUCTIONS

1. Pick up a grey scale pattern.
2. Connect the vectorscope to pin 1 of J4201.
3. Cover the lens with the filter (JG048A).
4. Adjust VR8004 and VR8005 so that lighting point is collected in the center of the vectorscope. (Refer to Fig. 2-20)

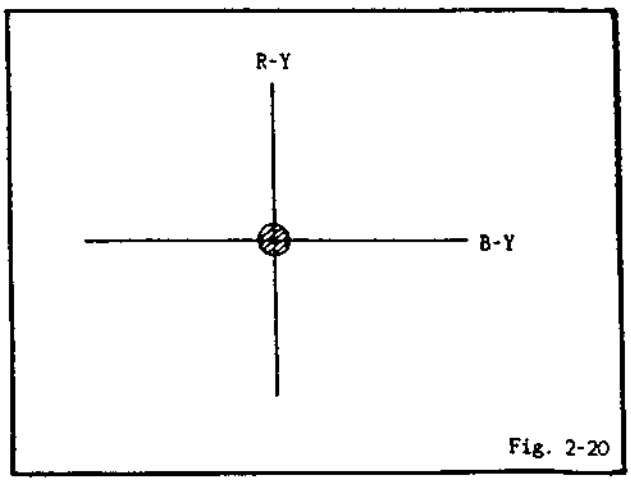


Fig. 2-20

ELECTRICAL ADJUSTMENTS

2-24: INDOOR PRESET

CONDITION

Test chart - Grey scale pattern (JG051)
White balance select sw - Indoor position

INSTRUCTIONS

1. Pick up a grey scale pattern.
2. Connect the vectorscope to pin 1 of J4201.
3. Adjust VR8002 and VR8003 so that lighting point is collected in the center of the vectorscope. (Refer to Fig. 2-21)

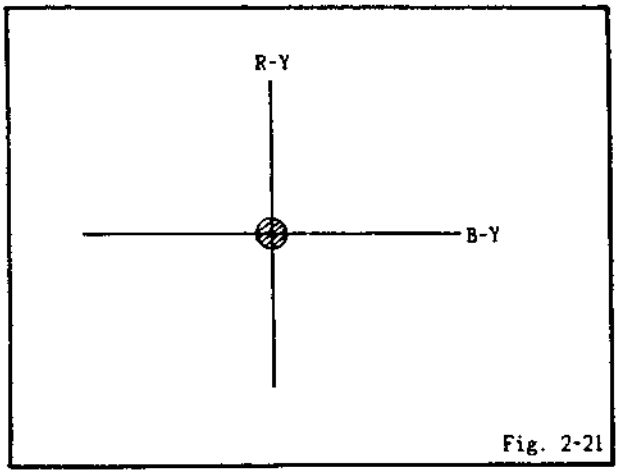


Fig. 2-21

2-25: BACK FOCUS

INSTRUCTIONS

1. Set the AUTO FOCUS SW to MANUAL position. (Set the focus to ∞ position.)
2. Cover the lens with the ND filter (JG049).
3. Short the pin 2 of CP8004 and TP8001 open the IRIS.
4. Set the "zoom" to "wide-angle" position.
5. Loosen the screw ①.
6. Using a collimeter adjust the point "A" with the back focus adjustment driver (JG046B) until the best picture of Fig. 2-22 appears.
7. After the above adjustment, tighten the screw ① and re-check the focus. (Refer to Fig. 2-22)

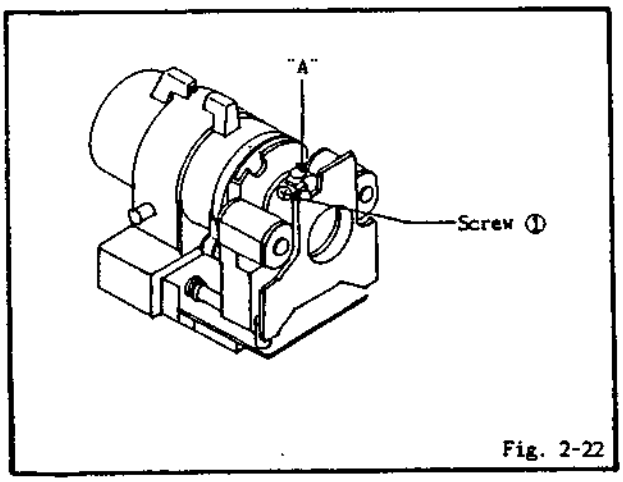


Fig. 2-22

2-26: AUTO FOCUS

CONDITION

Test chart - None (white pattern)

INSTRUCTIONS

1. Remove the RUBBER AF. (Refer to Fig. 2-23)
2. Set the distance indication of focus ring to 3 meters. (This time, set the focus correctly.)
3. Set the "zoom" to "tele-angle" position.
4. Set the focus to the auto.
5. When the auto focus is operated at the infinite or finite, confirm that the operation of focus ring will stop at 3 meters on the distant indication. If not, adjust the part "A" so that the distant indication of focus ring will be 3 meters. (Refer to Fig. 2-23)

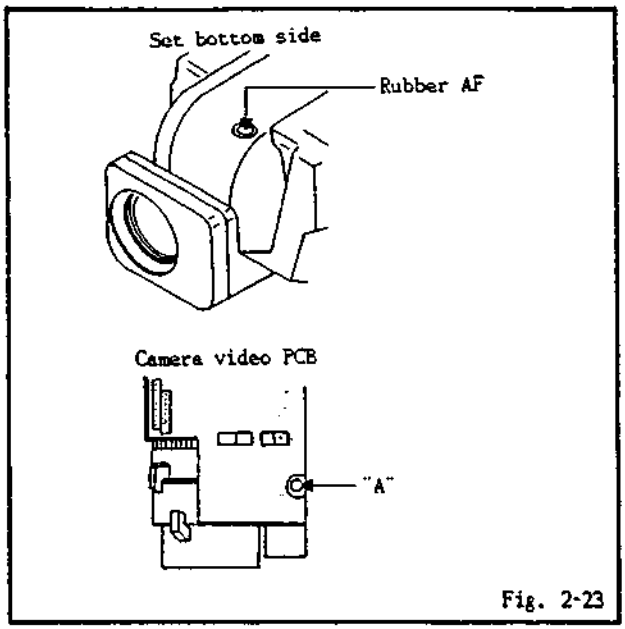


Fig. 2-23

ELECTRICAL ADJUSTMENTS

3. VIEWFINDER SECTION

Test instrument

1. Frequency counter

3-1: FOCUS

INSTRUCTIONS

1. Install the viewfinder onto the camera.
2. Turn on the power and see the "TAPE" indicator appears clearly.
   In case of the difficulty for the focus adjustment due to the variation of the anode voltage.
   Change the short position of SW401 as shown in Fig. 3-1.

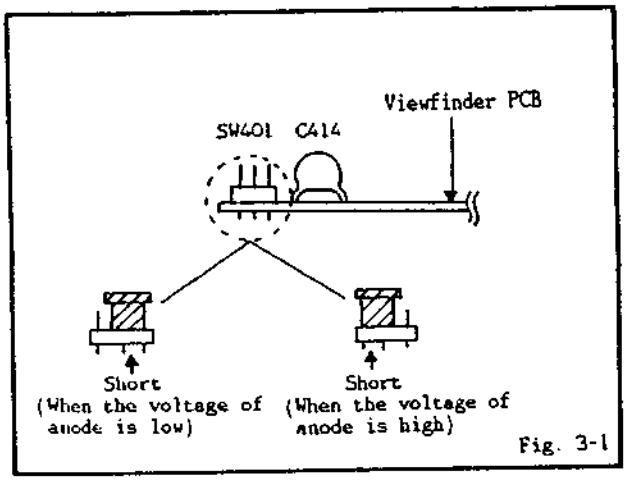


Fig. 3-1

3-2: HORIZONTAL FREE RUN

INSTRUCTIONS

1. Shut off the input signal and set the screen to the free-run condition.
2. Connect the frequency counter to the vacant pin of the SW401.
3. Adjust VR401 so that the value of the frequency counter is 15.734KHz ± 200Hz.

3-3: BRIGHT

INSTRUCTIONS

1. Receive the monochrome pattern.
2. Adjust VR403 until 1.5 the of 4 gray scales become black.

3-4: V-SIZE

INSTRUCTIONS

1. Receive the monochrome pattern.
2. Adjust VR402 so that the value of the V-SIZE is 90 ± 2%.

3-5: H-SIZE

INSTRUCTIONS

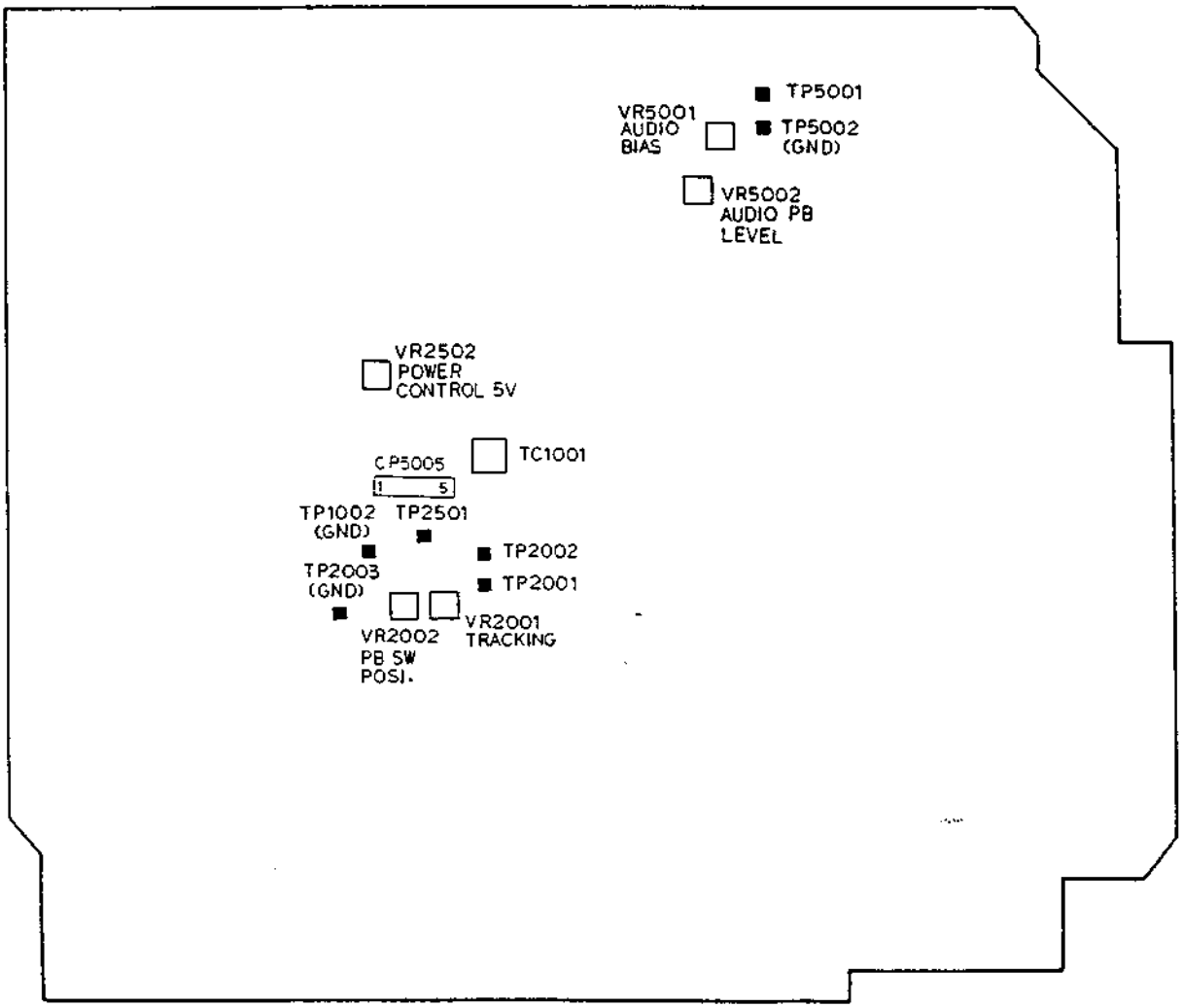
1. Receive the monochrome pattern.
2. Adjust the screen centering(vertical and horizontal directions) by moving the magnet of DY.
3. Adjust the magnet so that the difference of vertical and horizontal are within 0.5 scale.

3-6: CENTERING

INSTRUCTIONS

1. Receive the monochrome pattern.
2. Move the DY forward and backward so that the H-SIZE is 90 ± 7%.

MAJOR COMPONENTS LOCATION GUIDE



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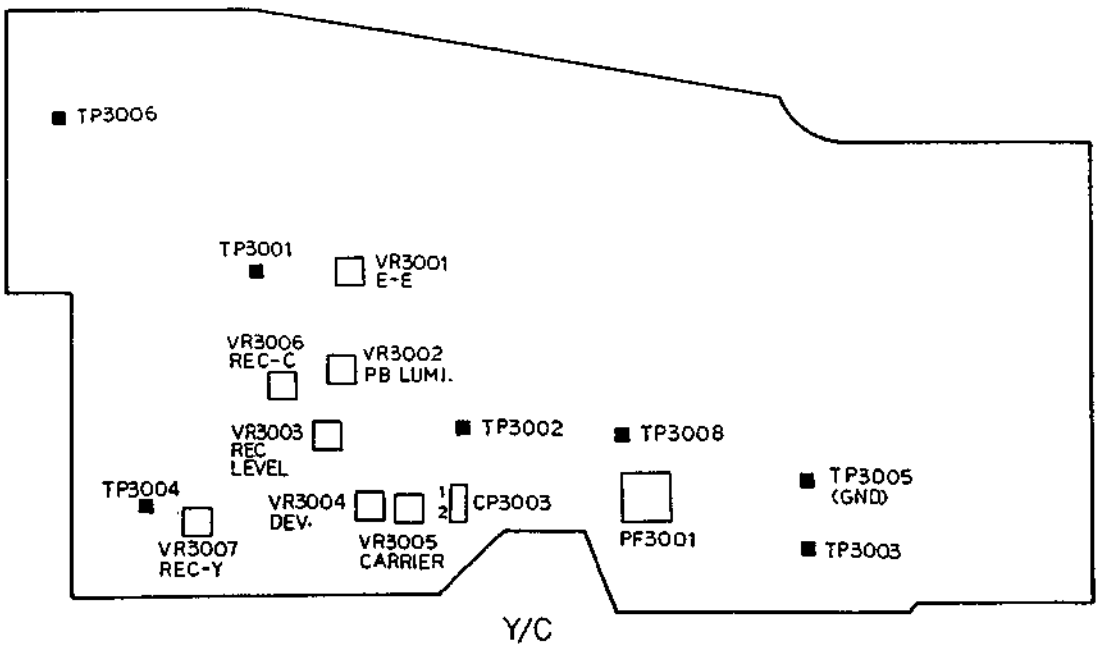
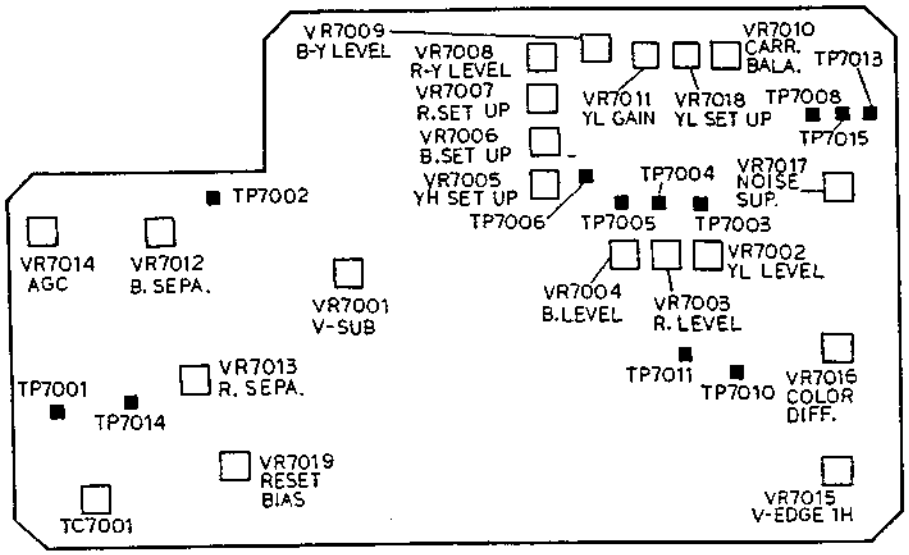
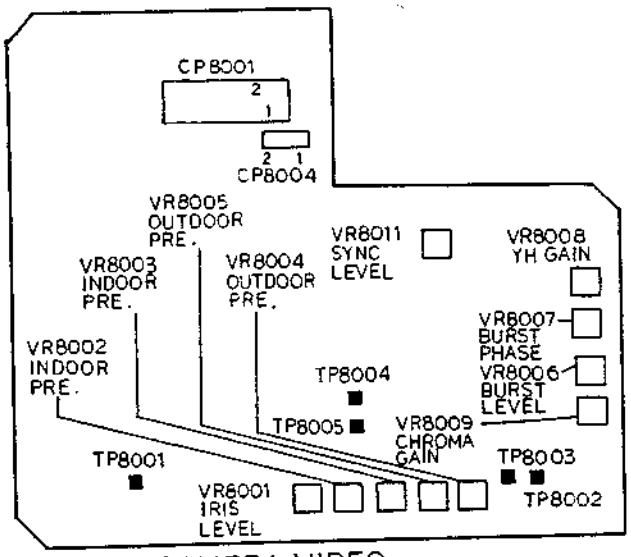


Y/C

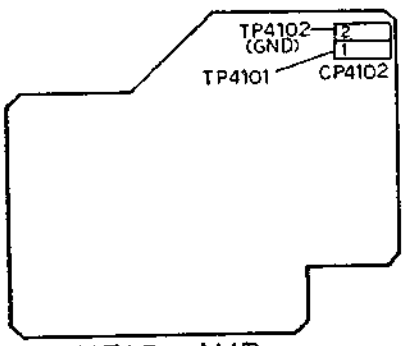
MAJOR COMPONENTS LOCATION GUIDE



SSG



CAMERA VIDEO



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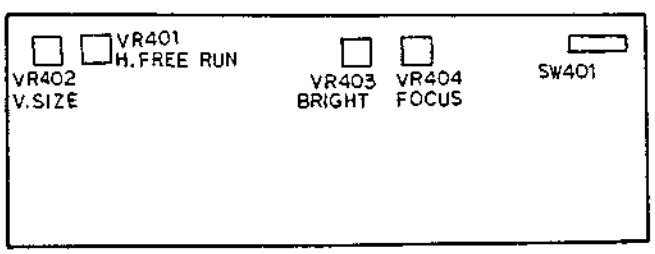
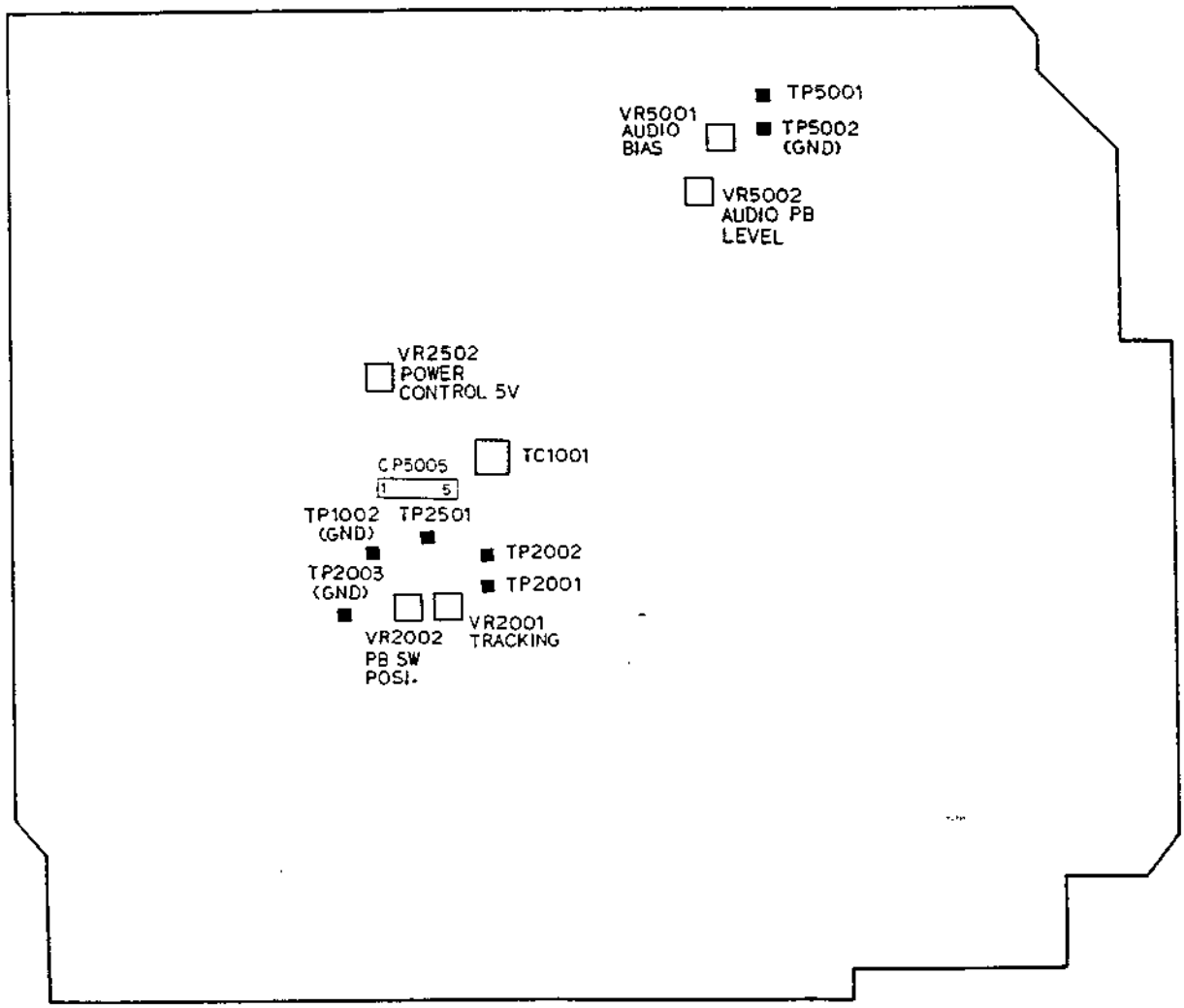


VIEWFINDER

MAJOR COMPONENTS LOCATION GUIDE



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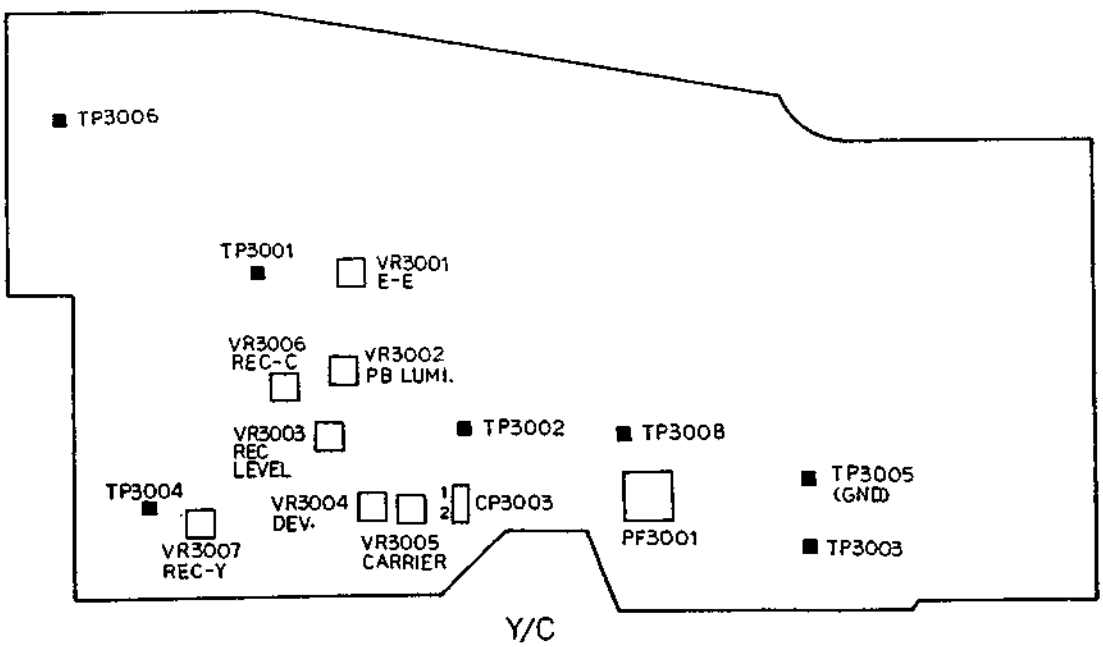
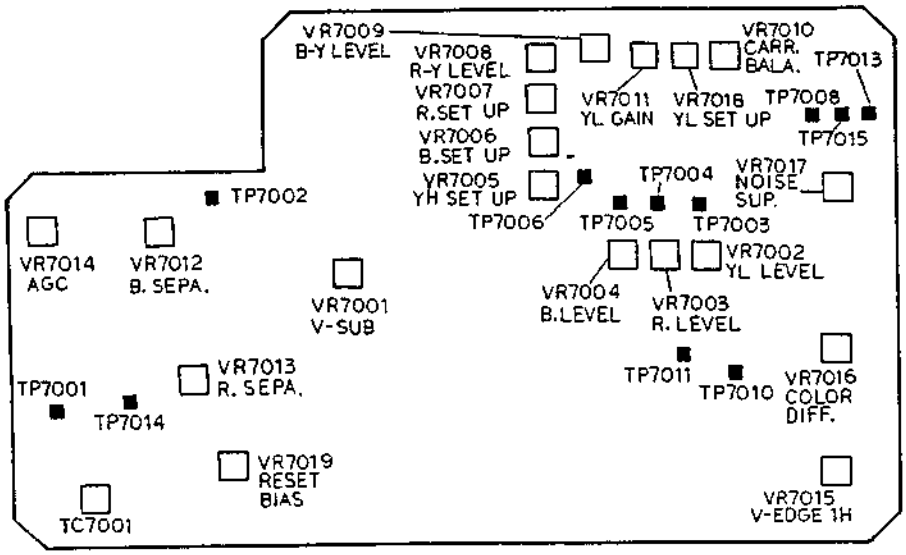


Y/C

MAJOR COMPONENTS LOCATION GUIDE



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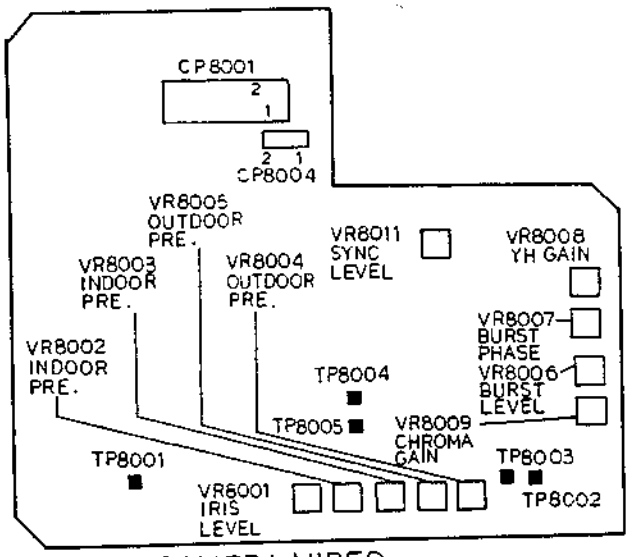

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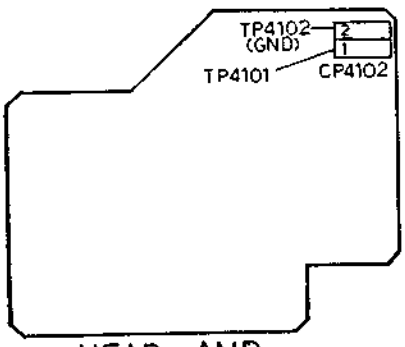

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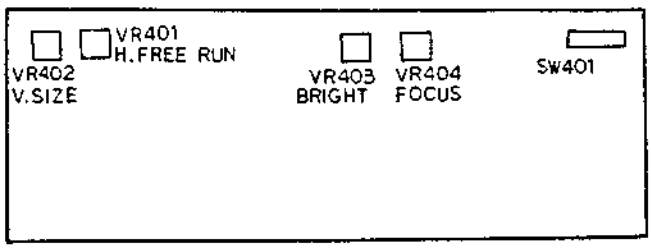
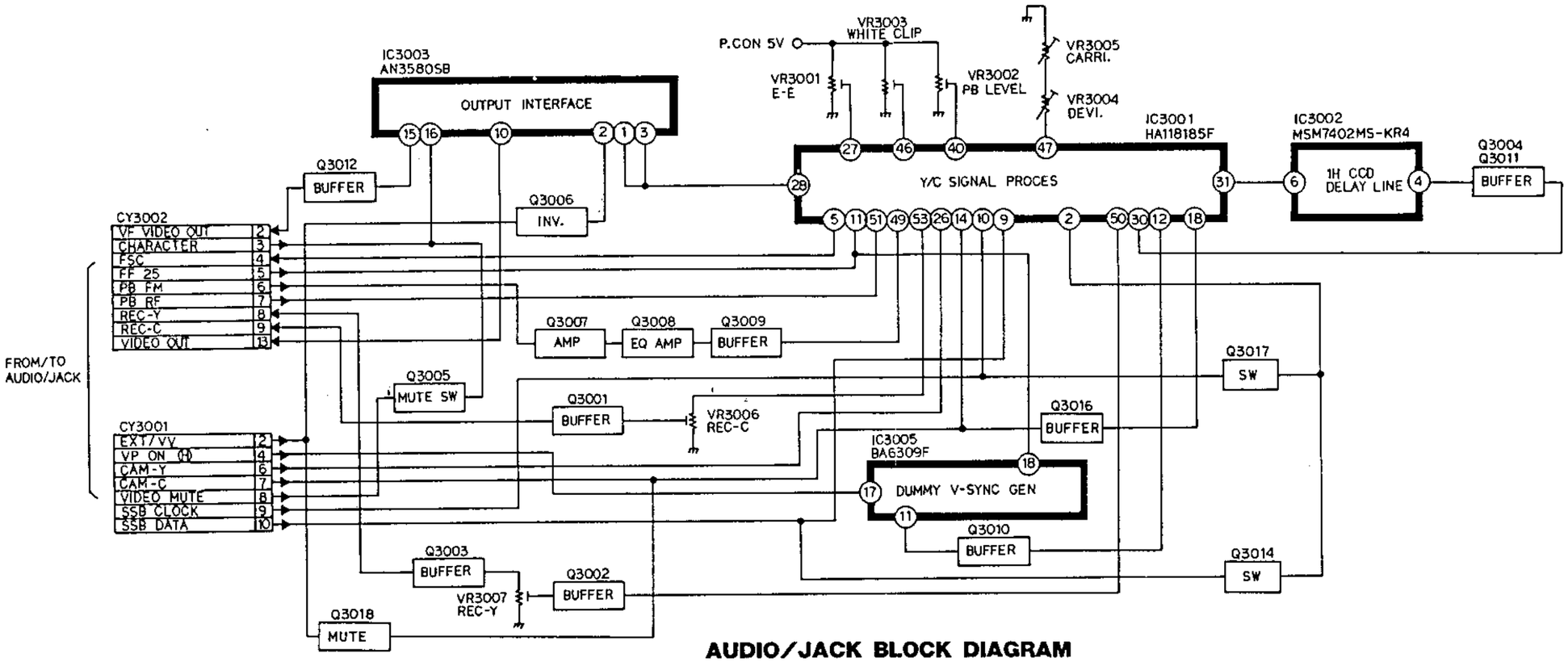
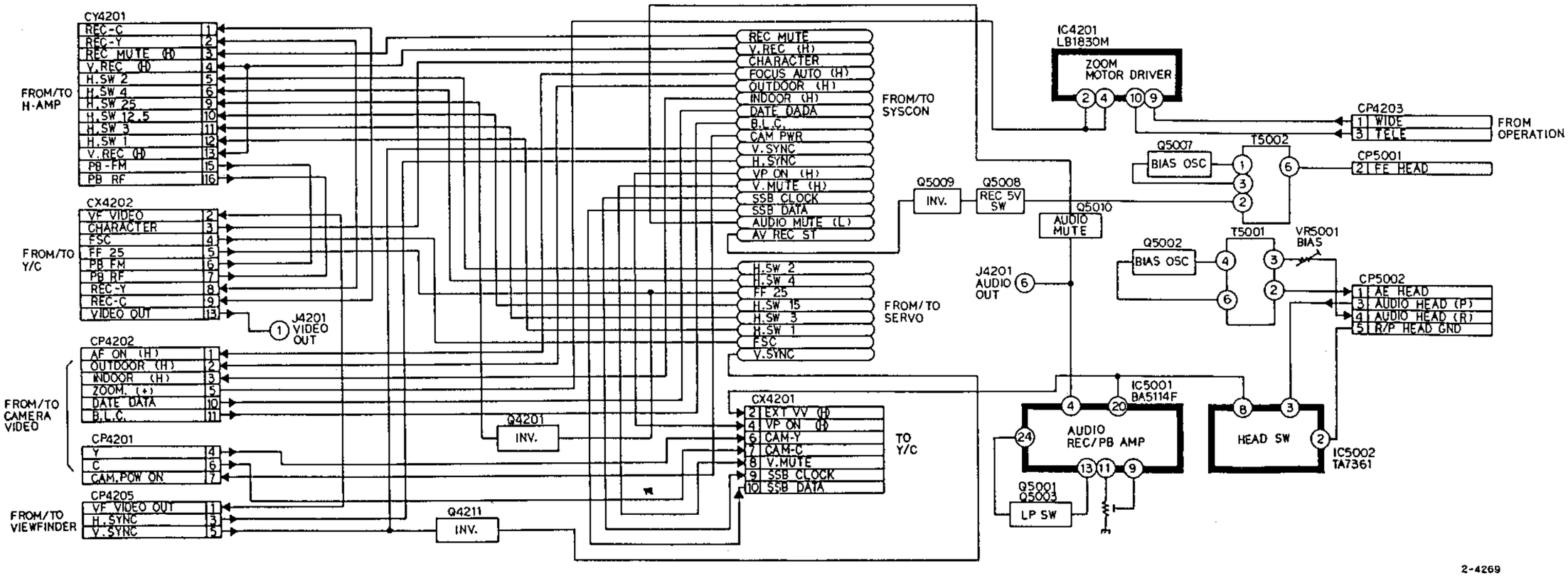


VIEWFINDER

Y.C. BLOCK DIAGRAM

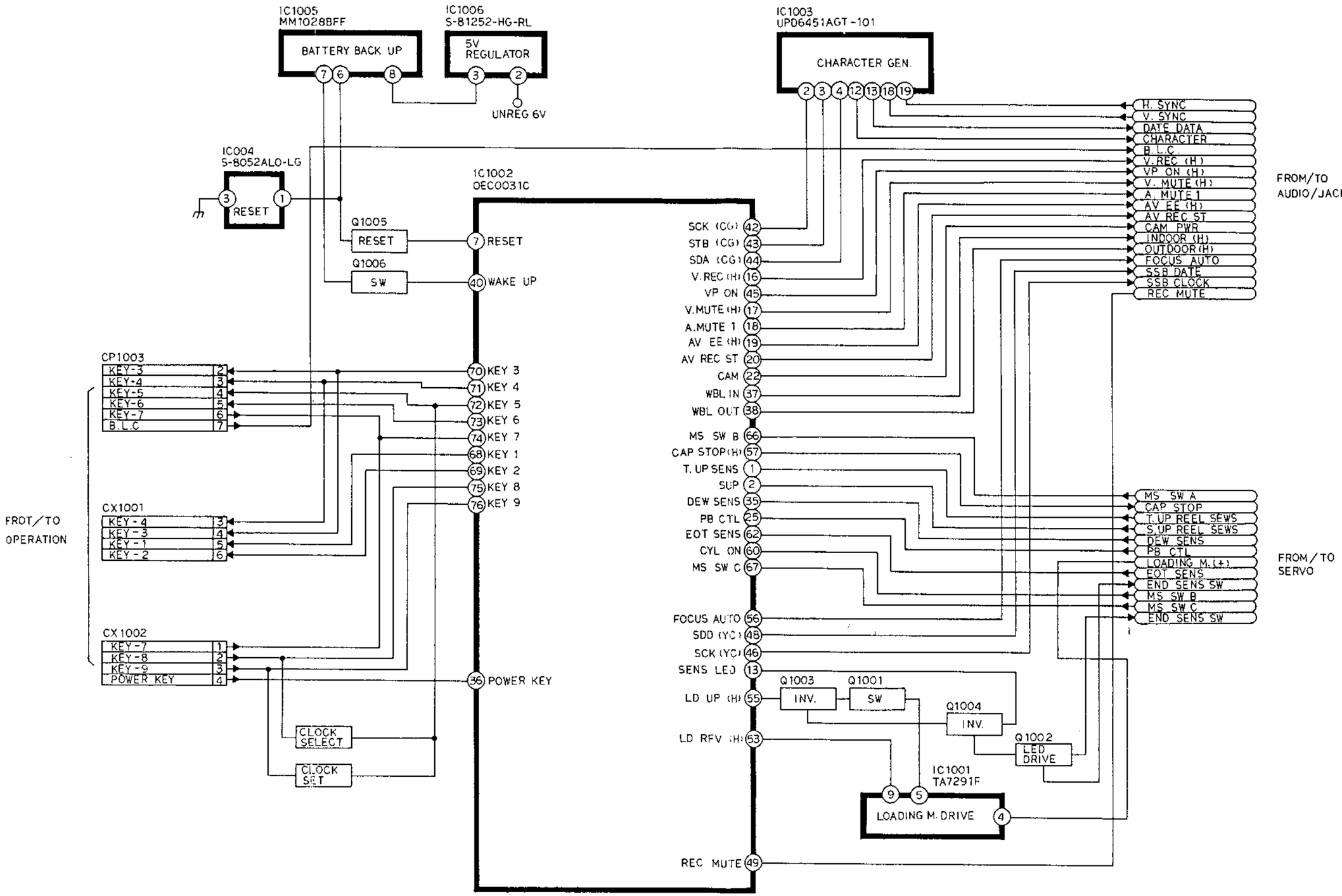


AUDIO/JACK BLOCK DIAGRAM



2-4269

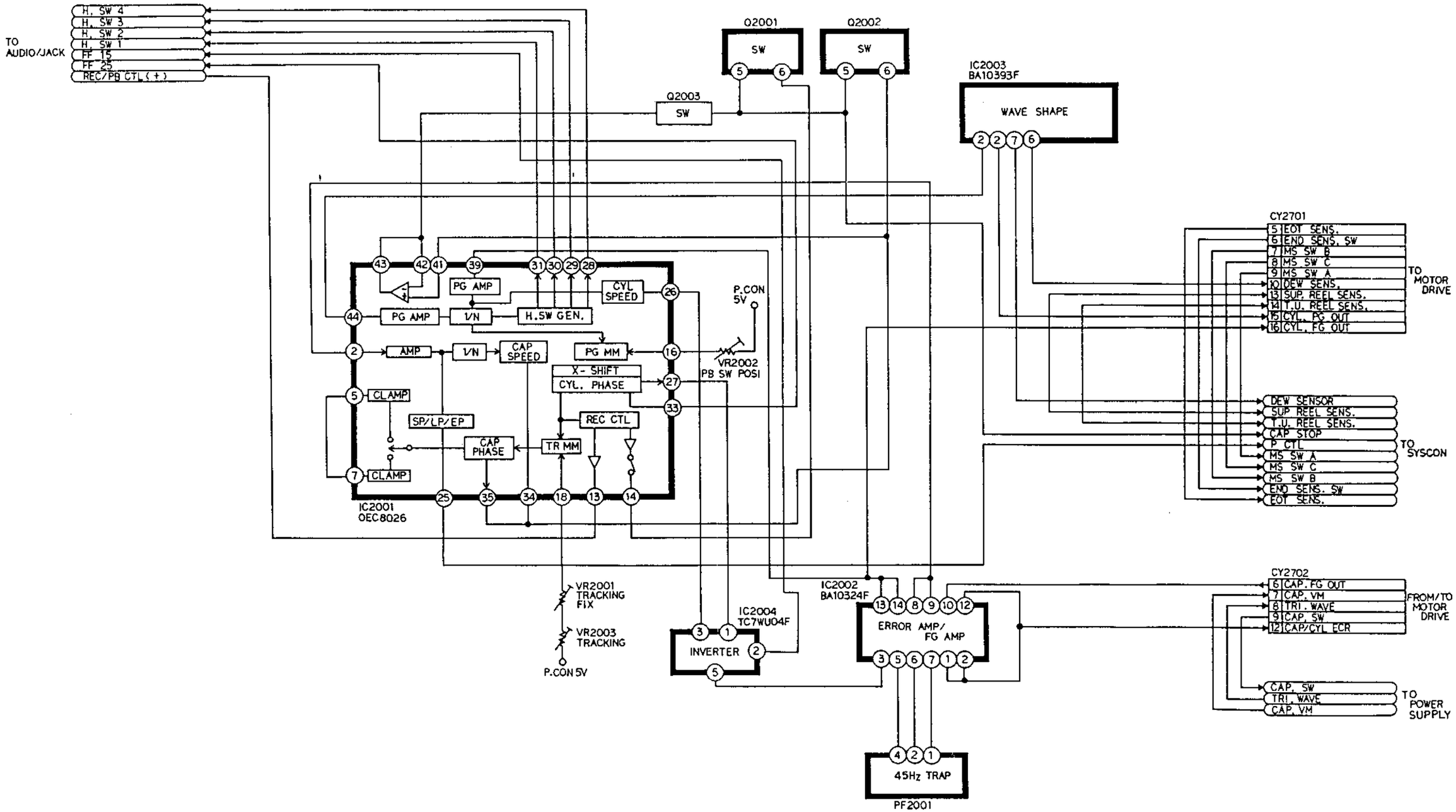
SYSTEM CONTROL BLOCK DIAGRAM



SYSTEM CONTROL BLOCK DIAGRAM

2-4217

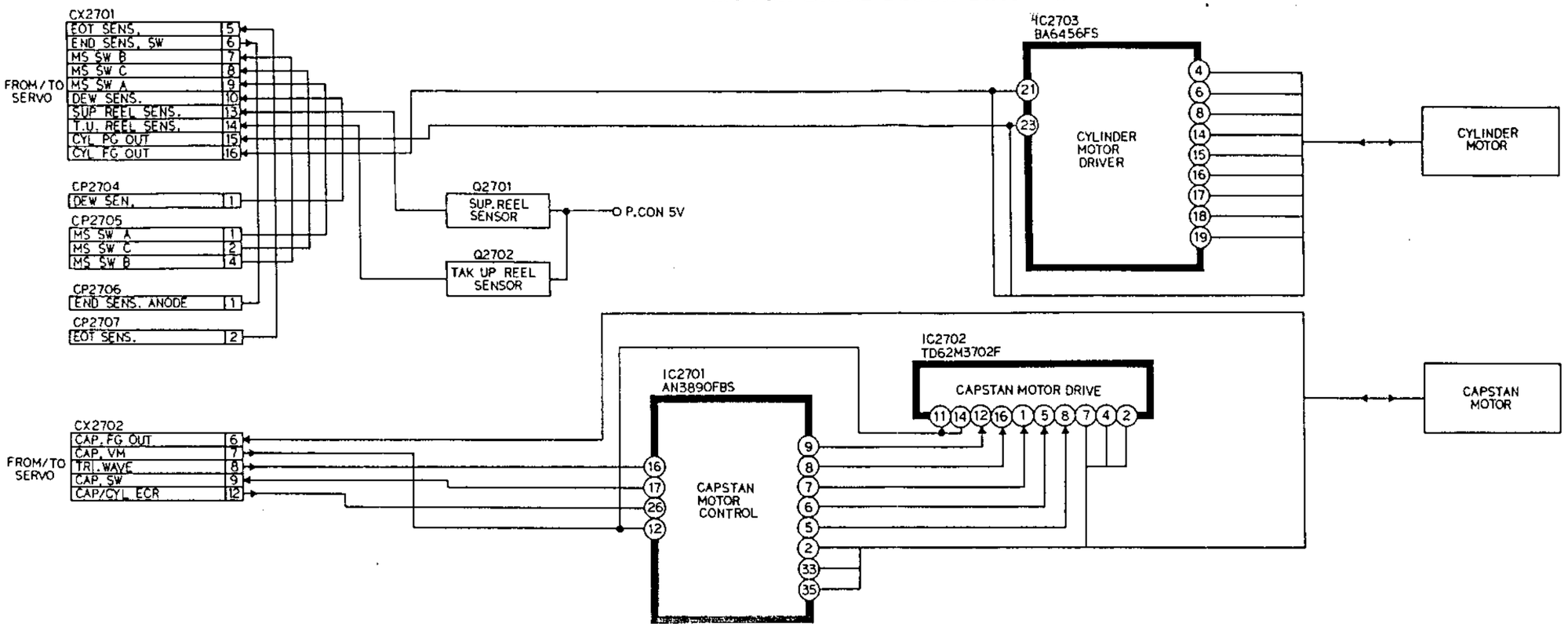
SERVO BLOCK DIAGRAM



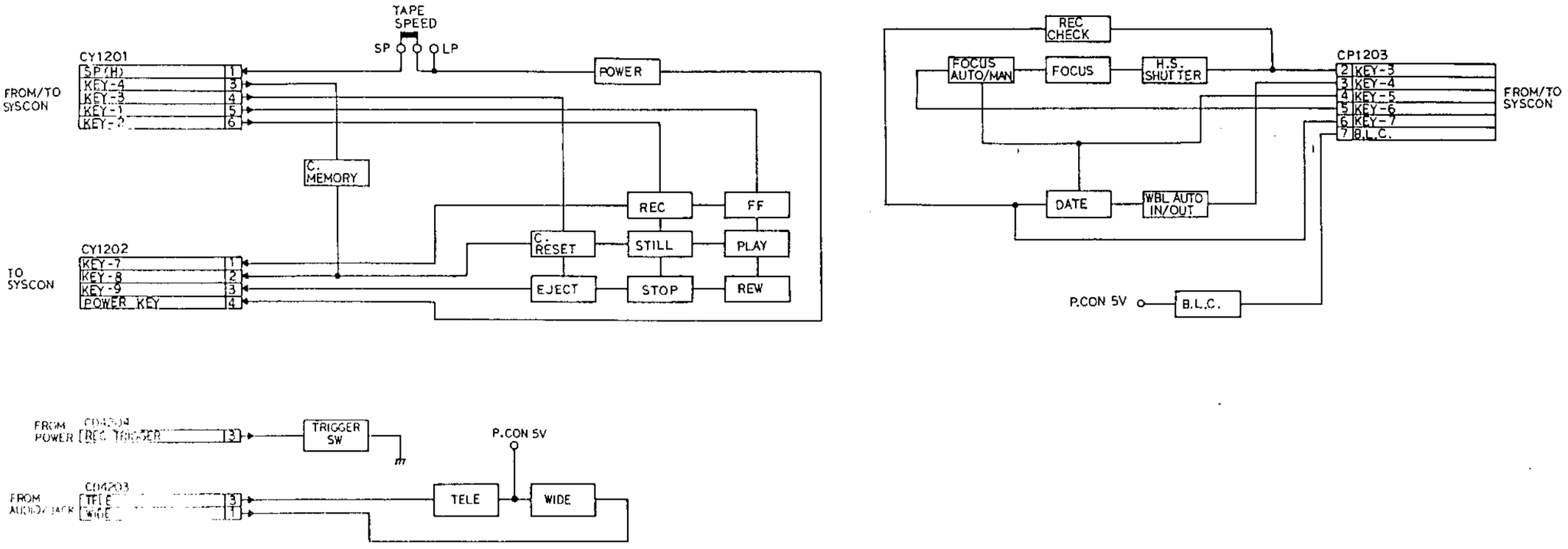
SERVO BLOCK DIAGRAM

2-4270

MOTOR DRIVE BLOCK DIAGRAM



OPERATION/REC SW/ZOOM SW BLOCK DIAGRAM



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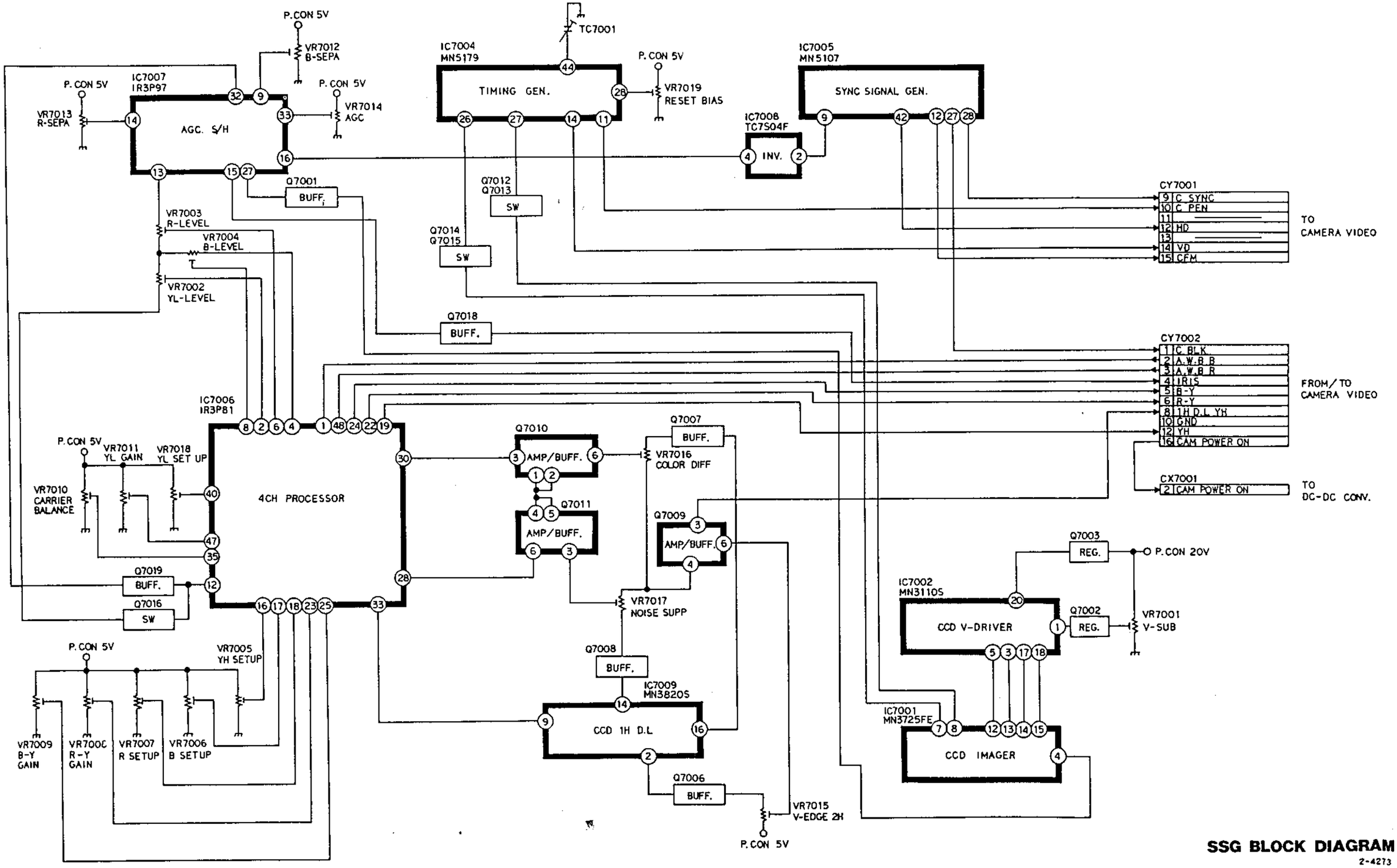
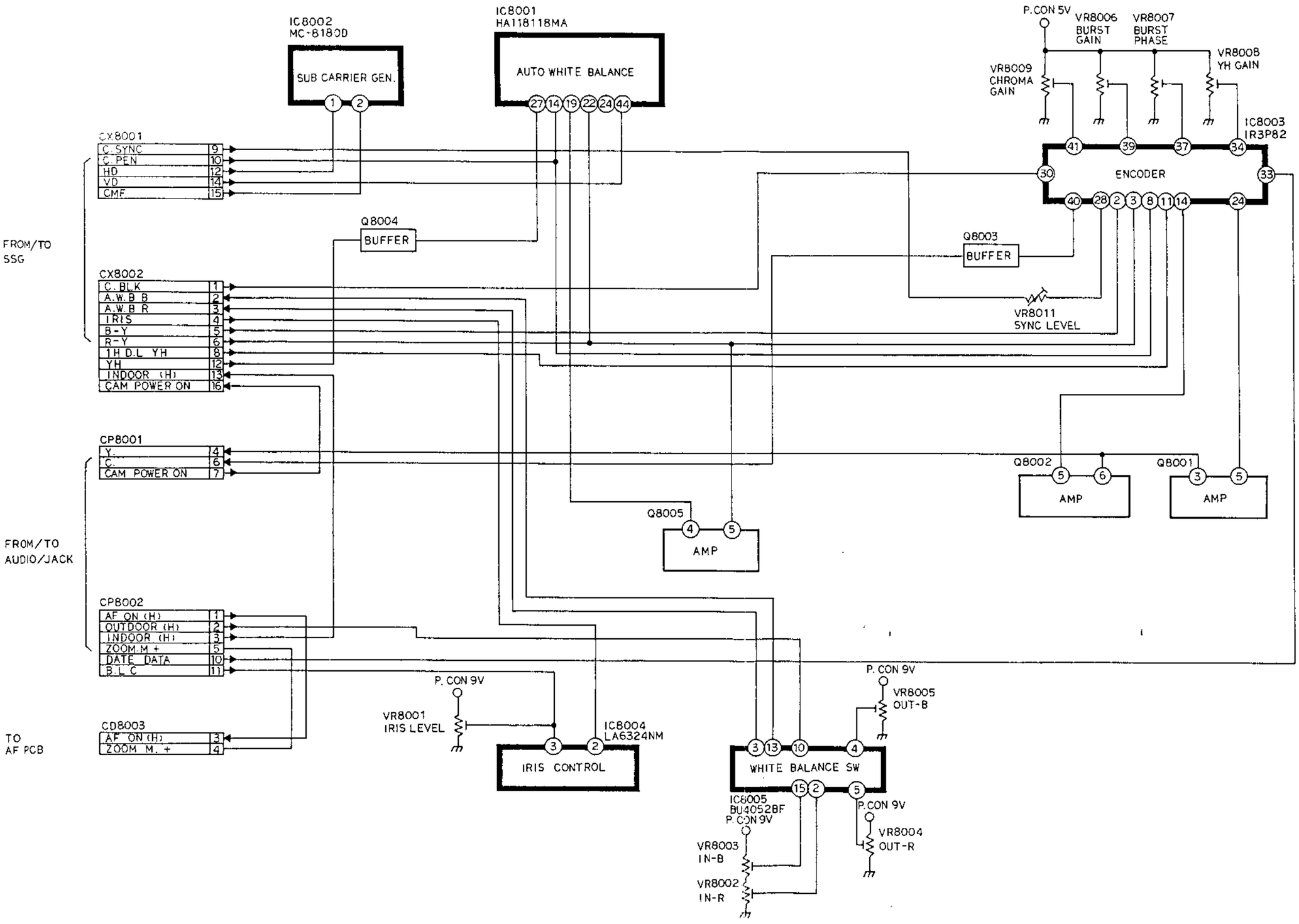


SSG BLOCK DIAGRAM

2-4273

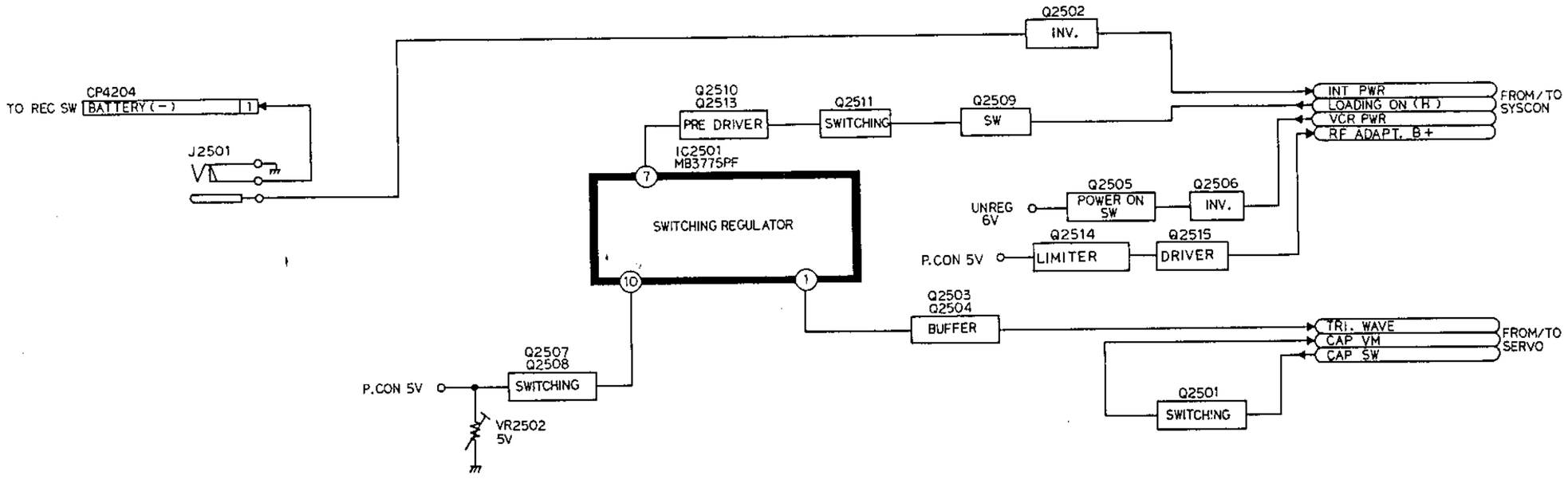
CAMERA VIDEO BLOCK DIAGRAM



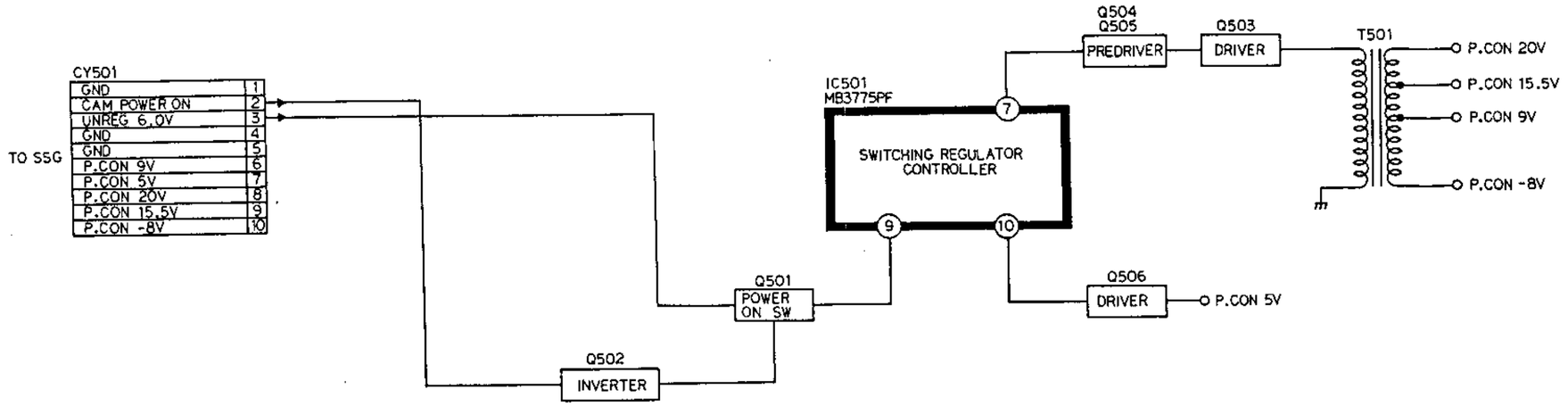
CAMERA VIDEO BLOCK DIAGRAM

2-4222

POWER SUPPLY BLOCK DIAGRAM



DC-DC CONVERTER BLOCK DIAGRAM



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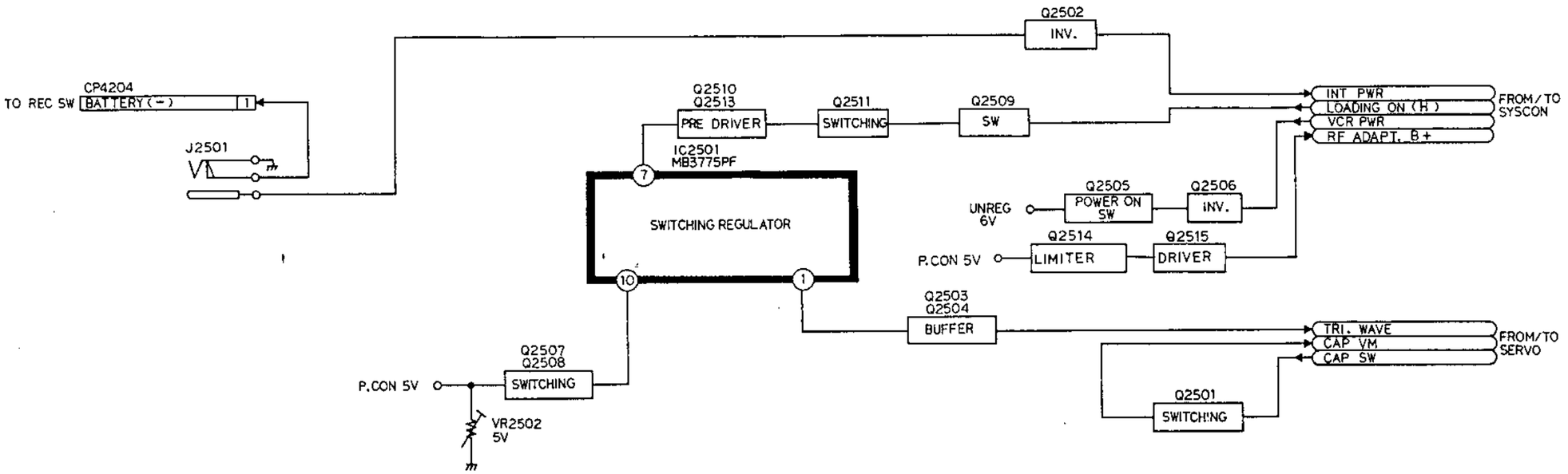
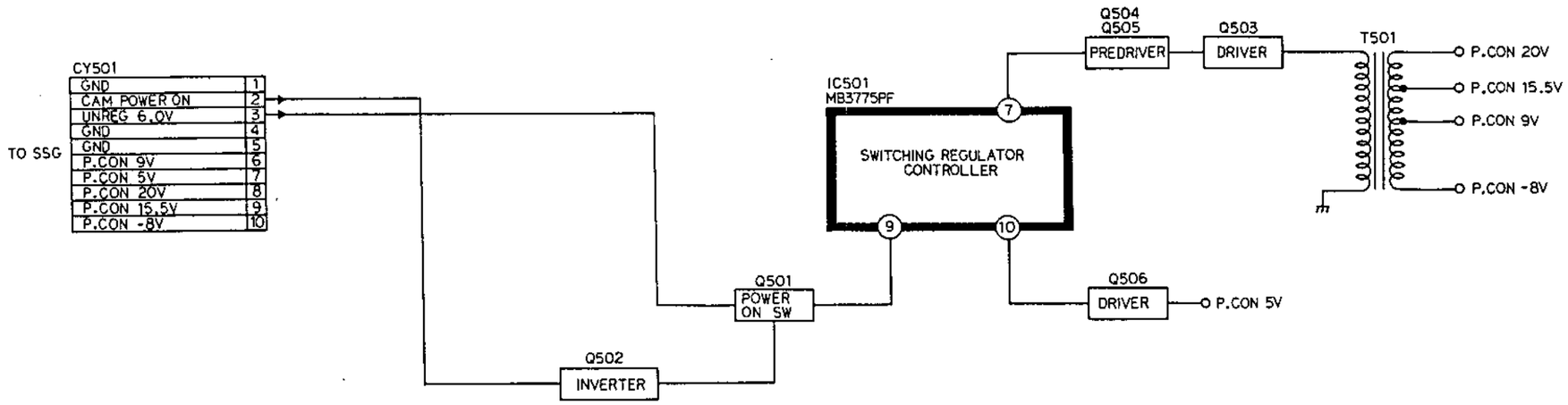
POWER SUPPLY BLOCK DIAGRAM



DC-DC CONVERTER BLOCK DIAGRAM



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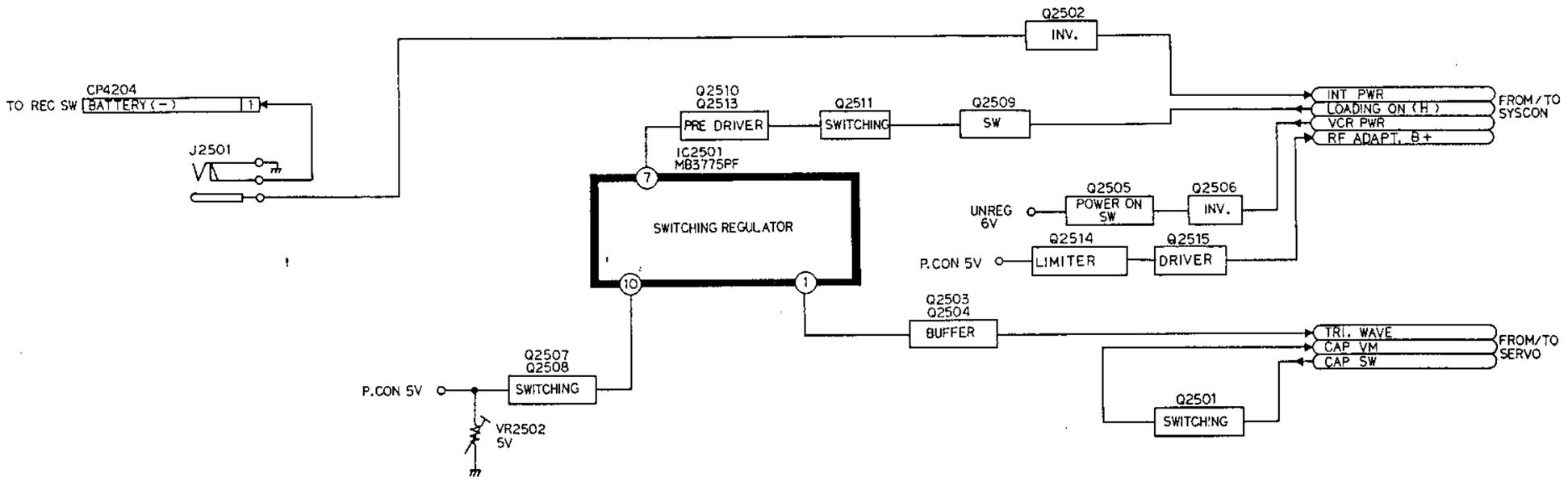

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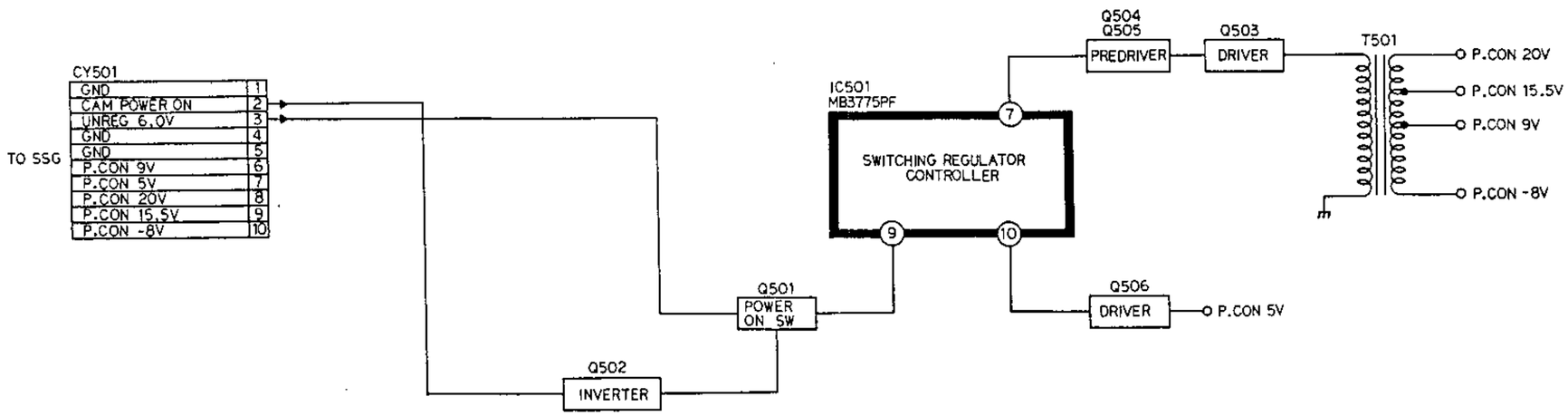

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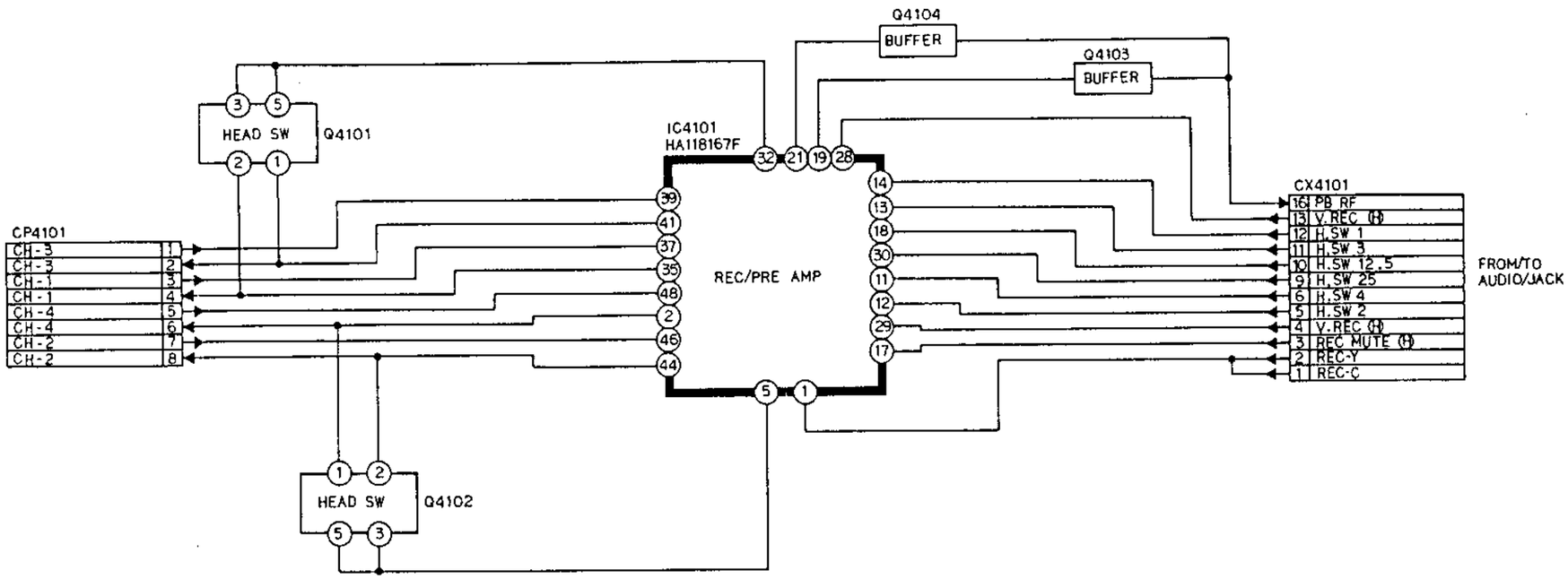
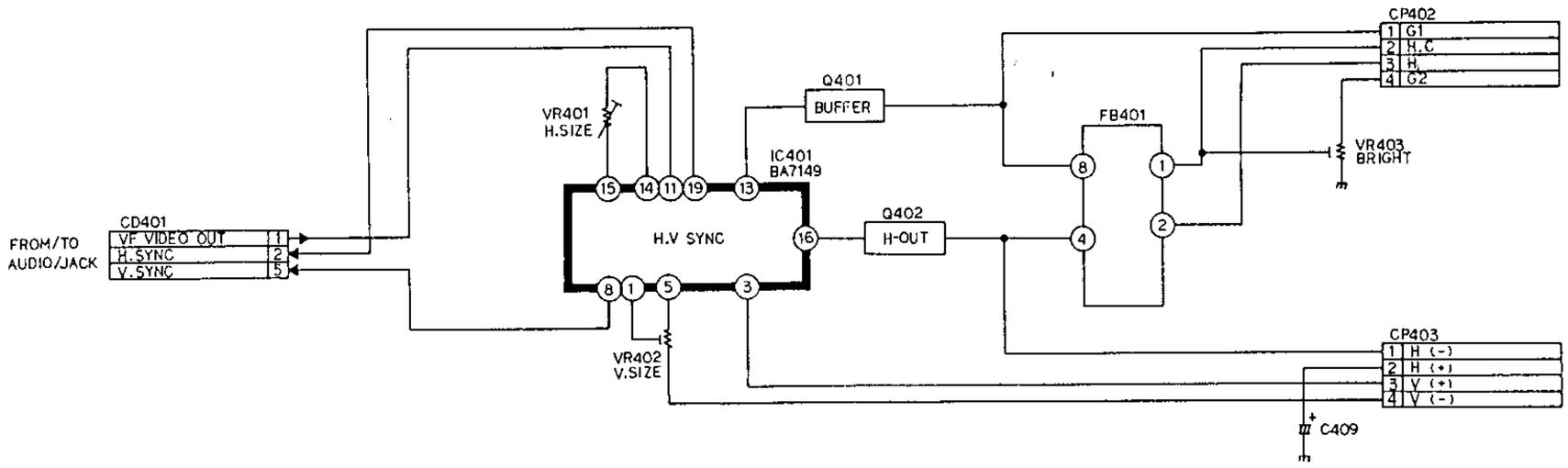
HEAD AMP BLOCK DIAGRAM



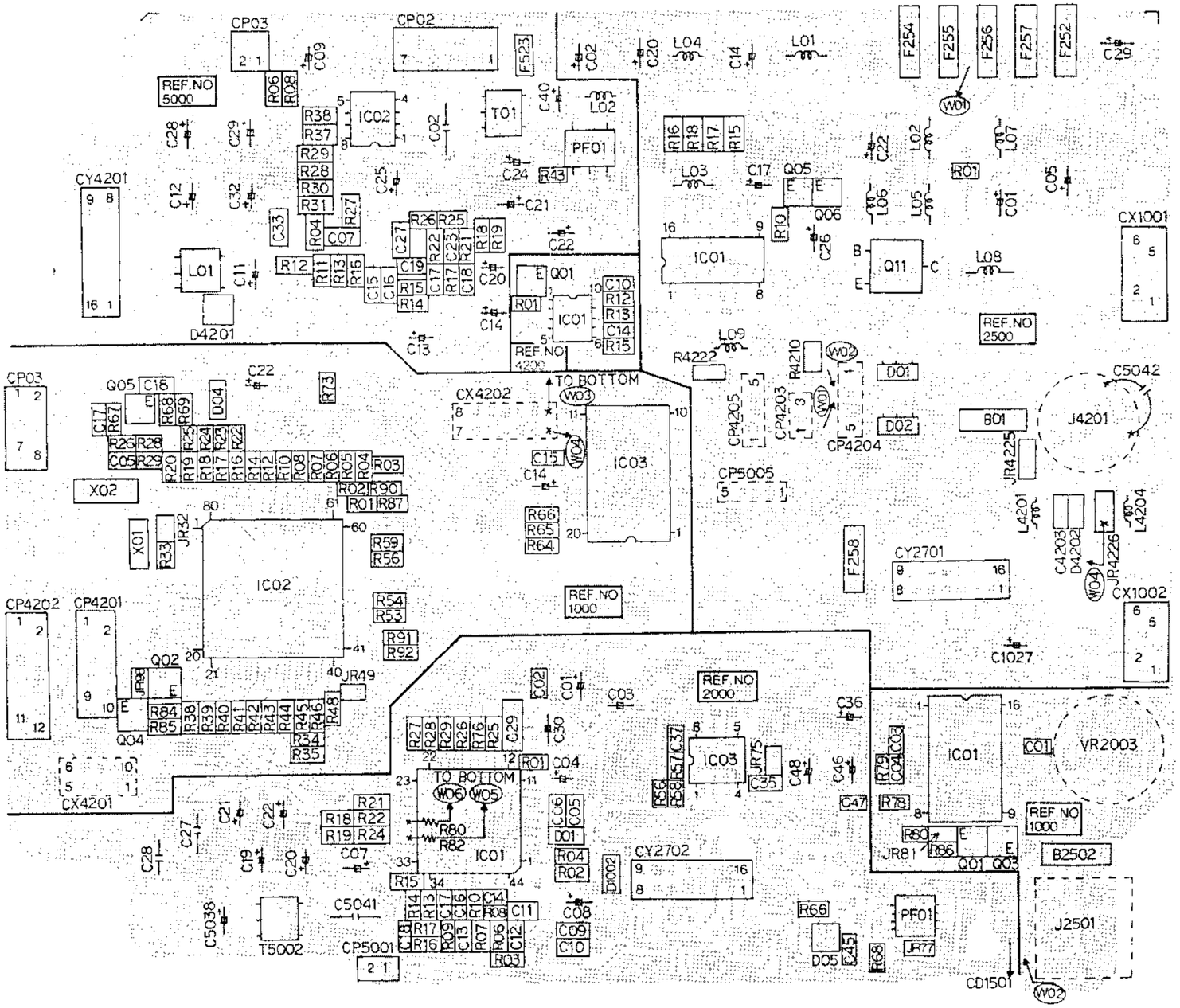
VIEWFINDER BLOCK DIAGRAM



PRINTED CIRCUIT BOARD

MAIN

TOP



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MAIN

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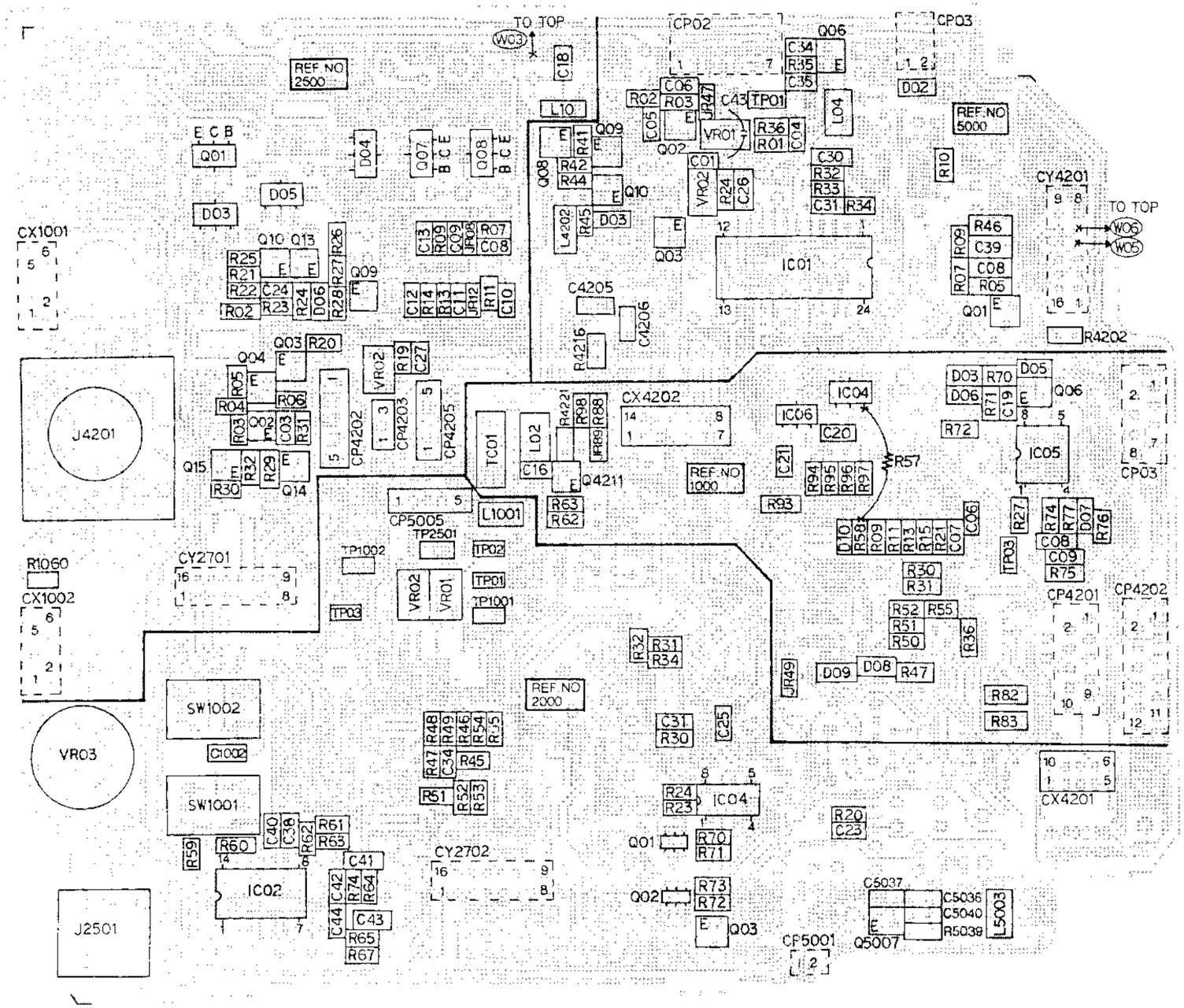
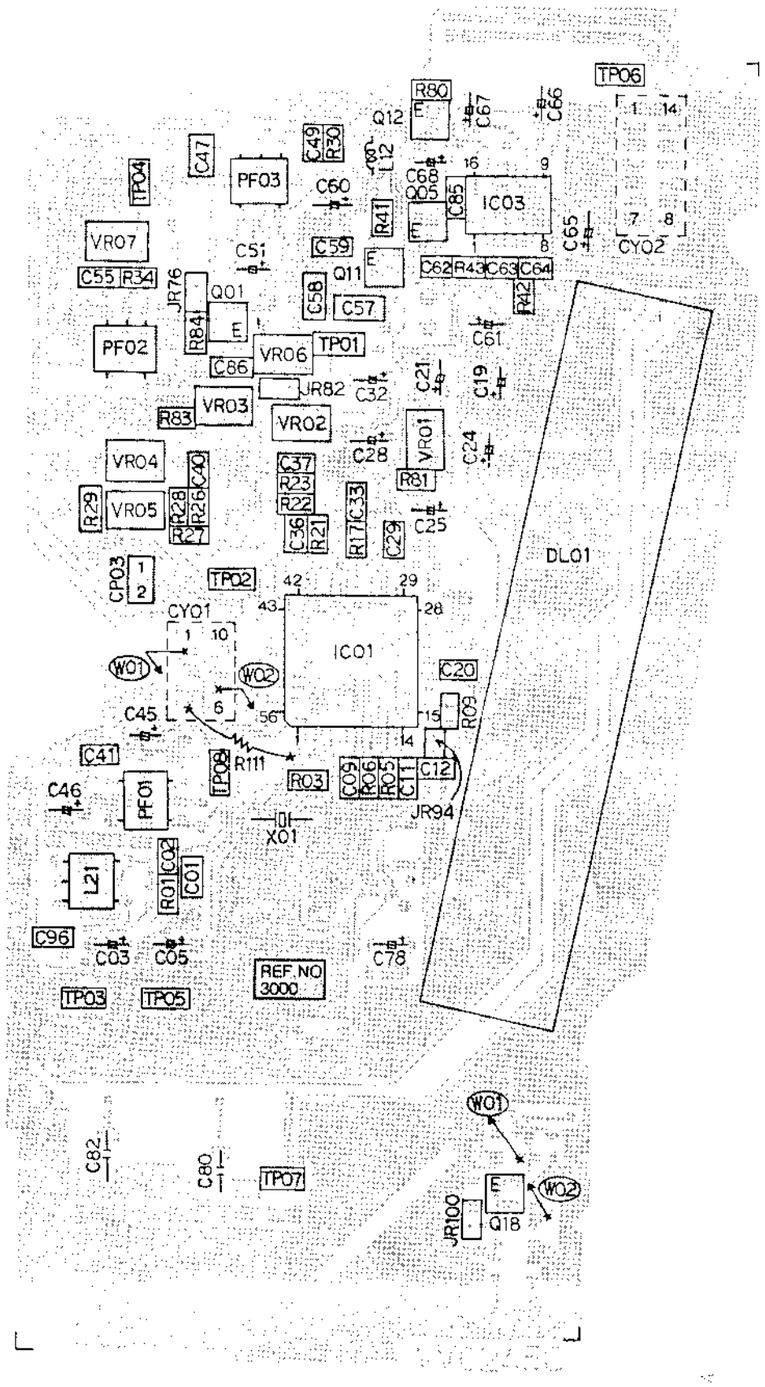


PRINTED CIRCUIT BOARD

Y.C.

TOP



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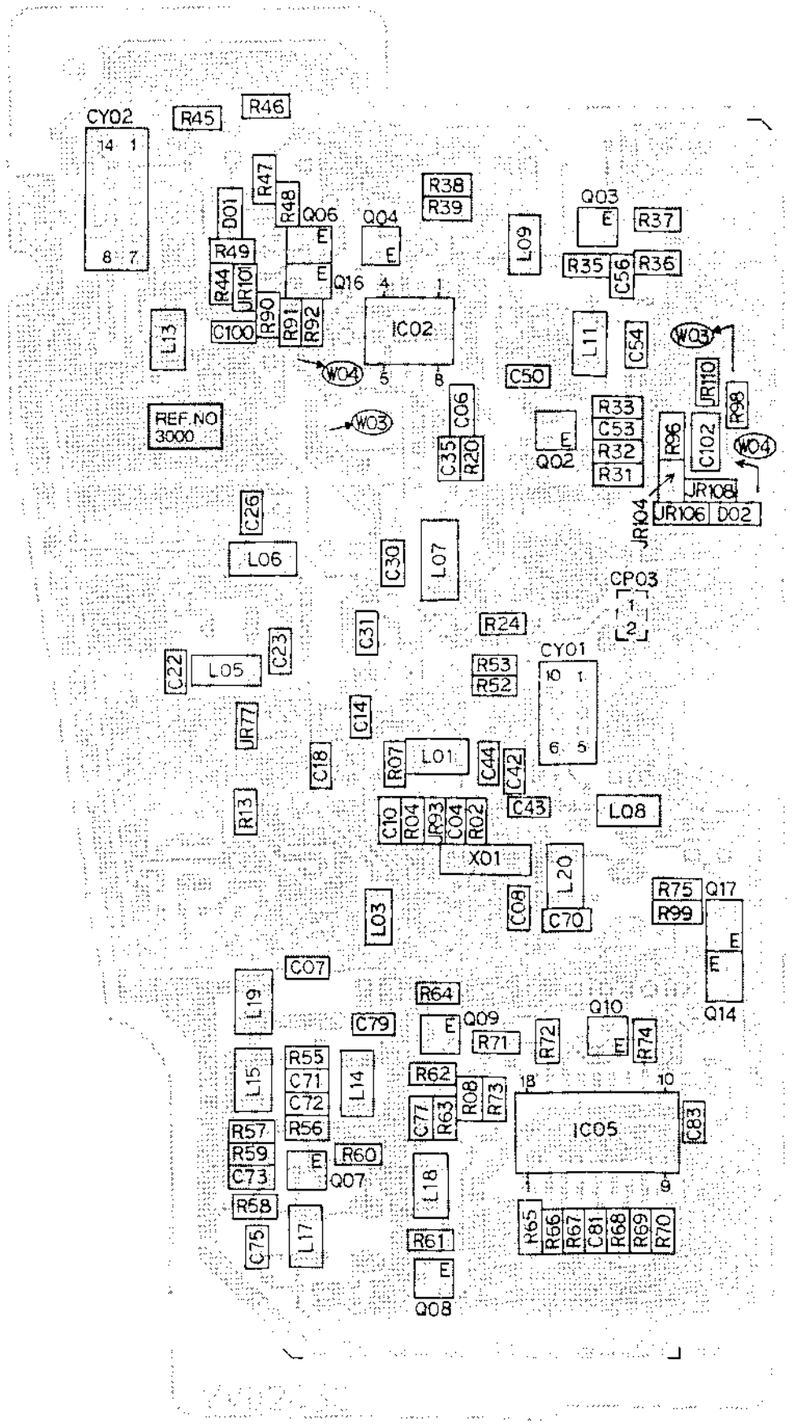
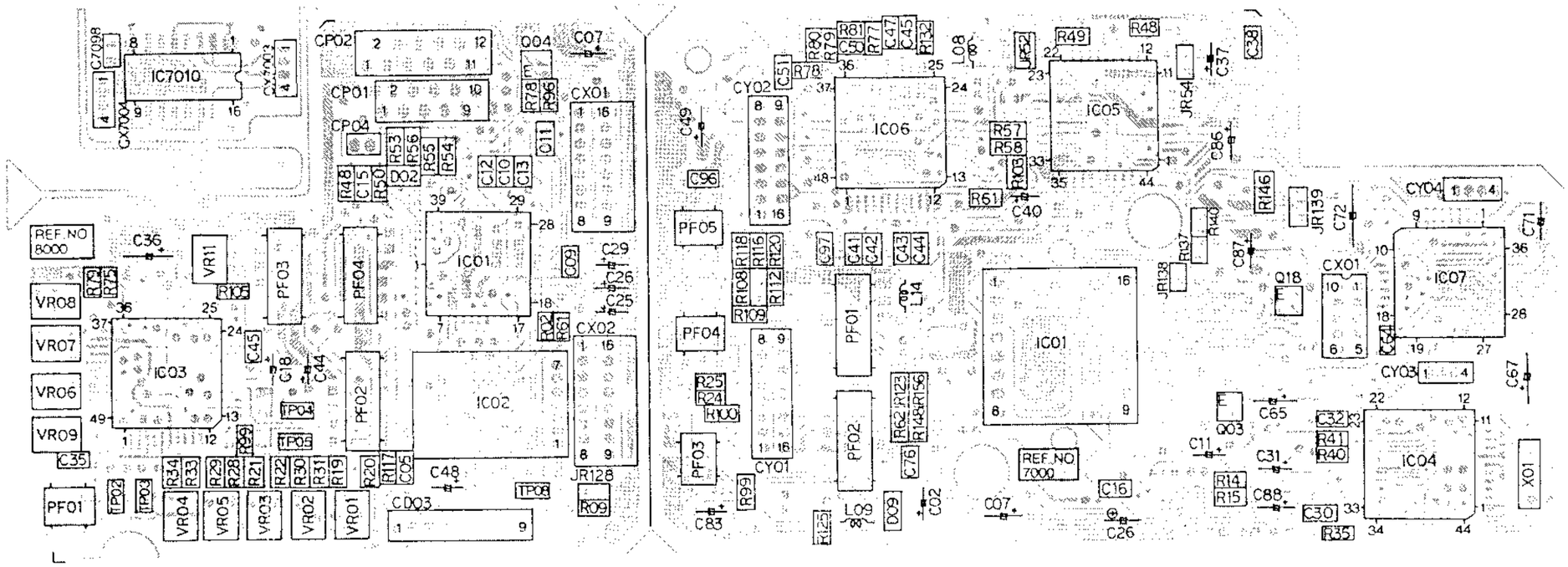


PRINTED CIRCUIT BOARDS

CAMERA VIDEO/SUB CAMERA/SSG

TOP



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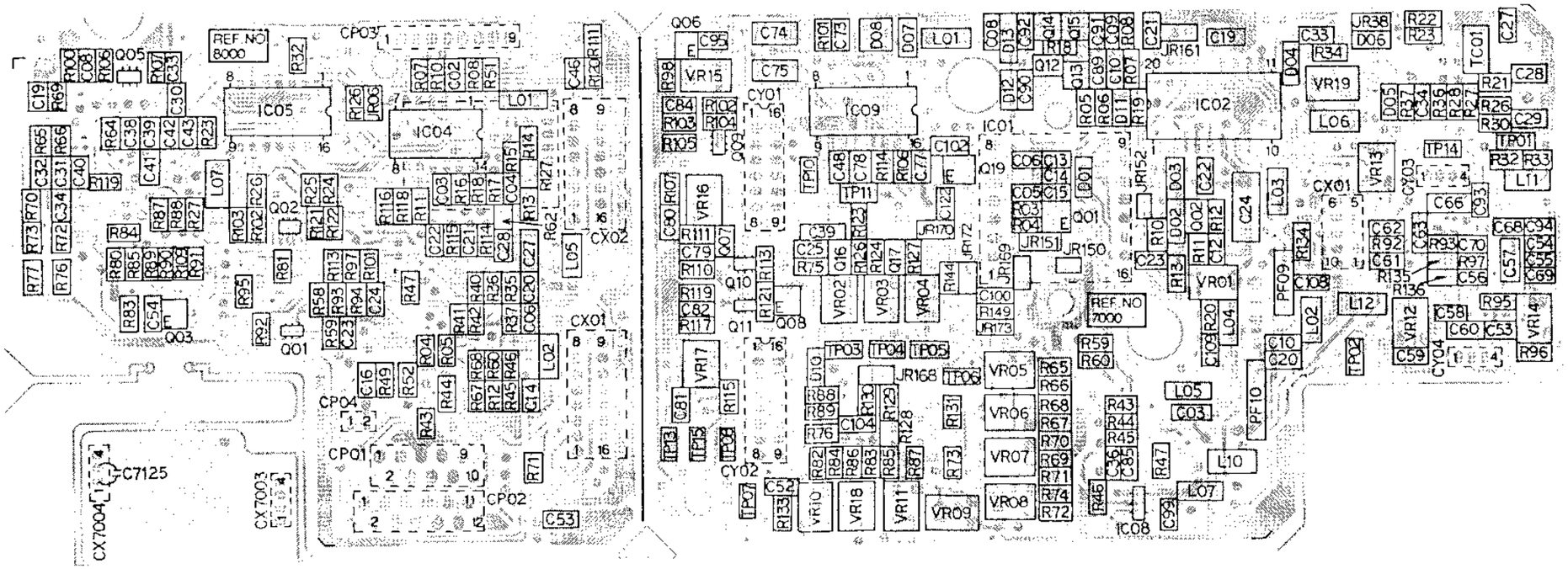
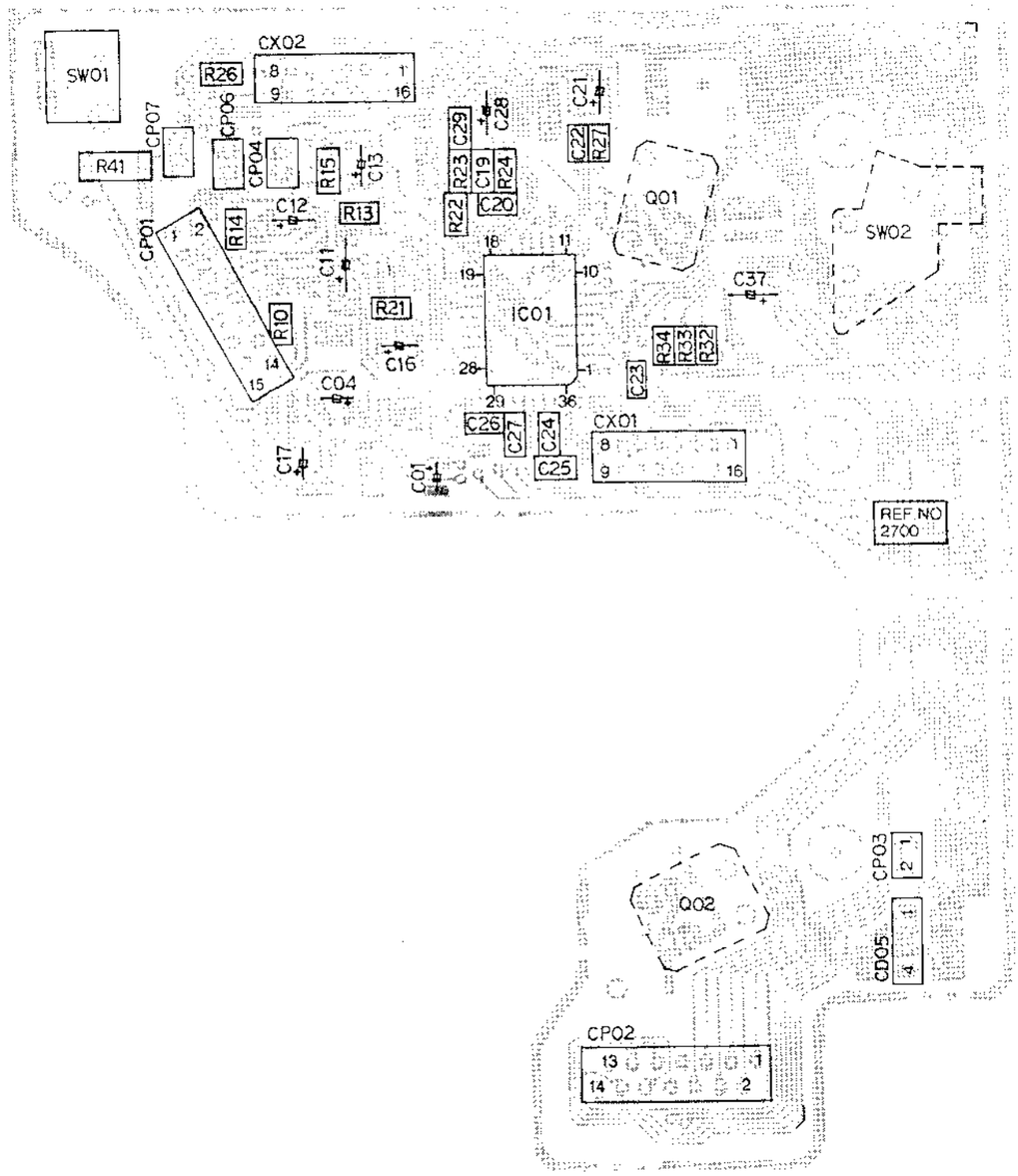


PRINTED CIRCUIT BOARDS

MDA

TOP



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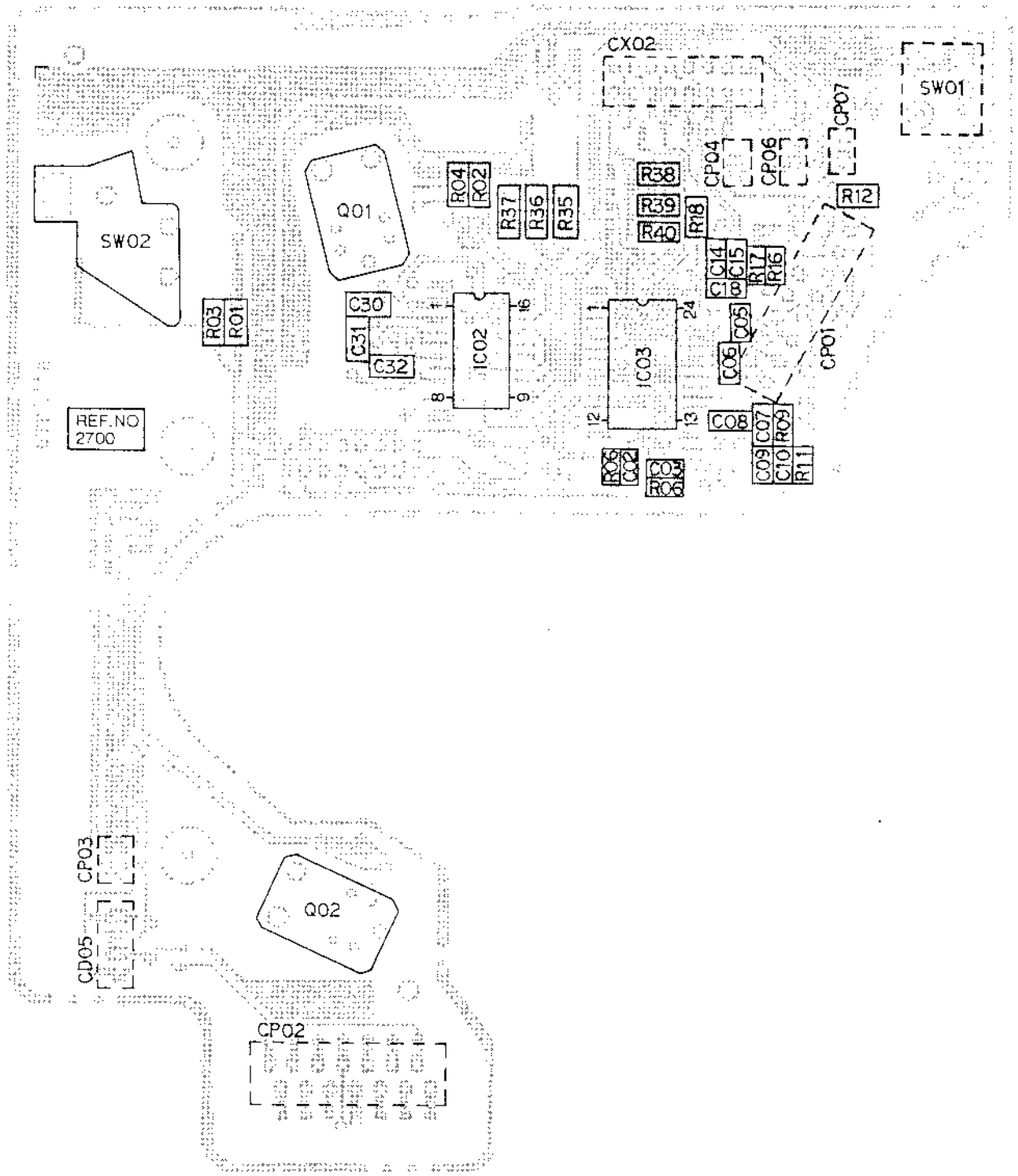

DC-DC CONVERTER

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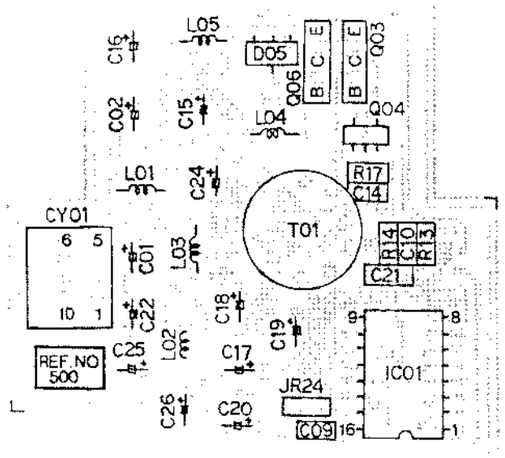
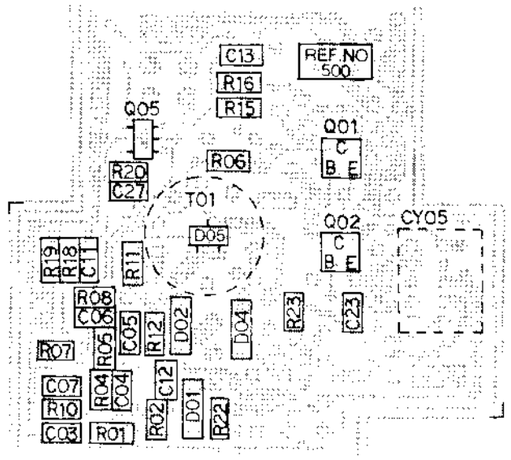
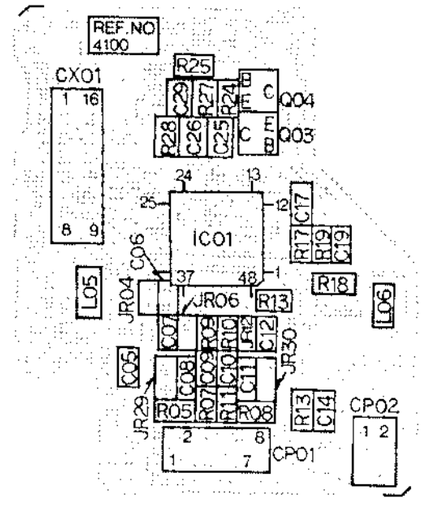


BOTTOM

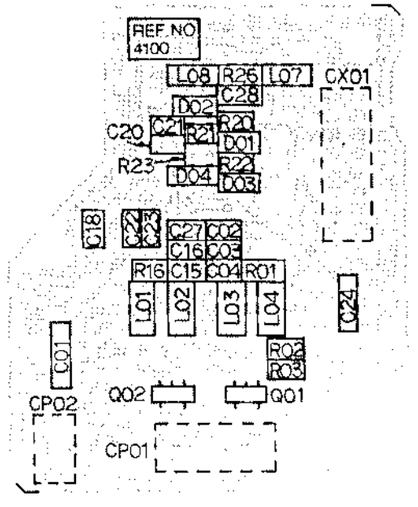


HEAD AMP

TOP

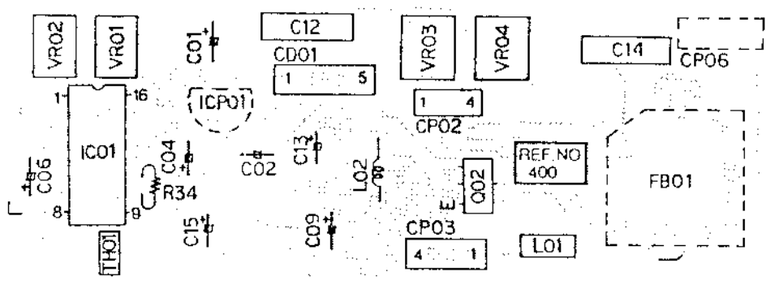


BOTTOM

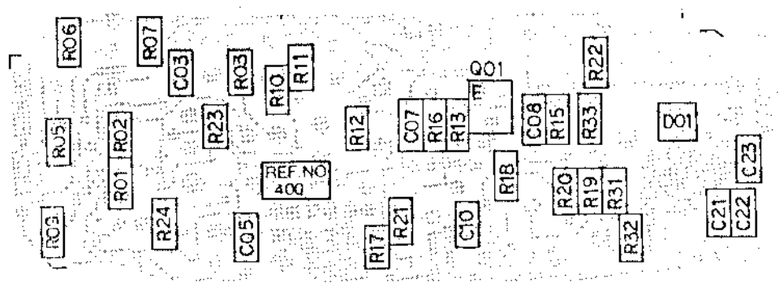


VIEWFINDER

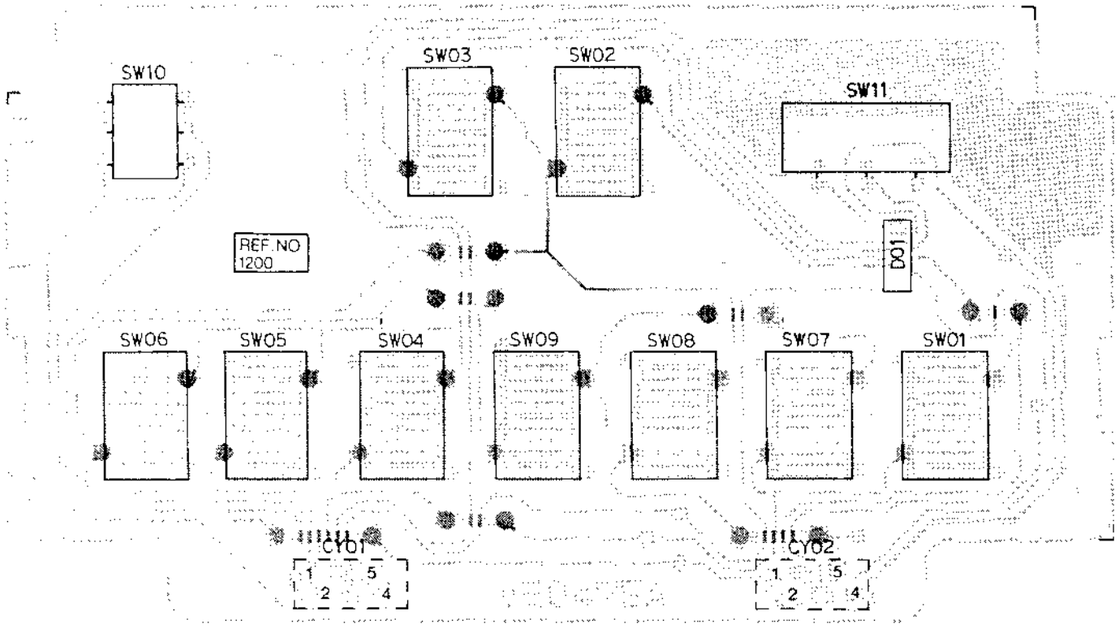
TOP



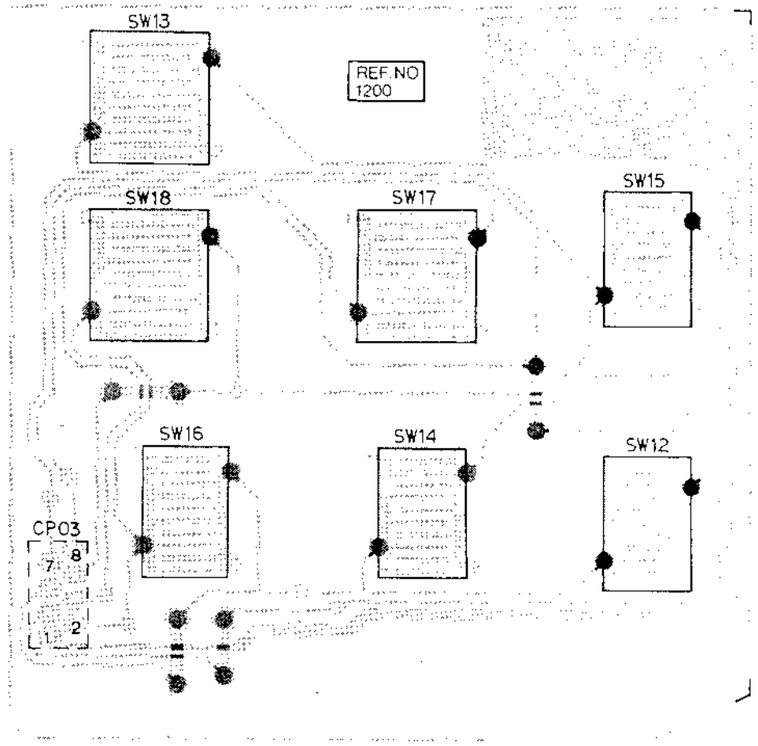
BOTTOM



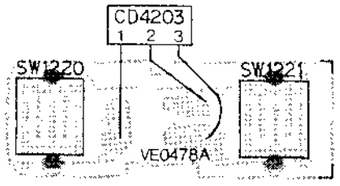
BACK OPERATION



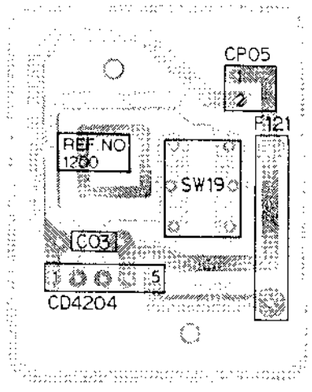
SIDE OPERATION



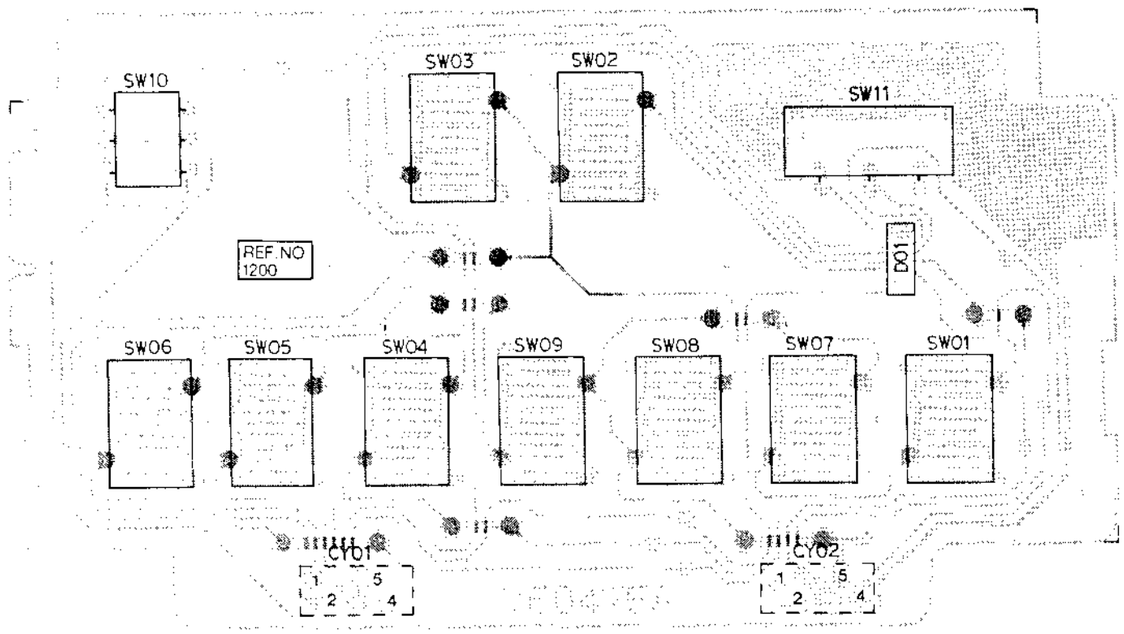
ZOOM SW



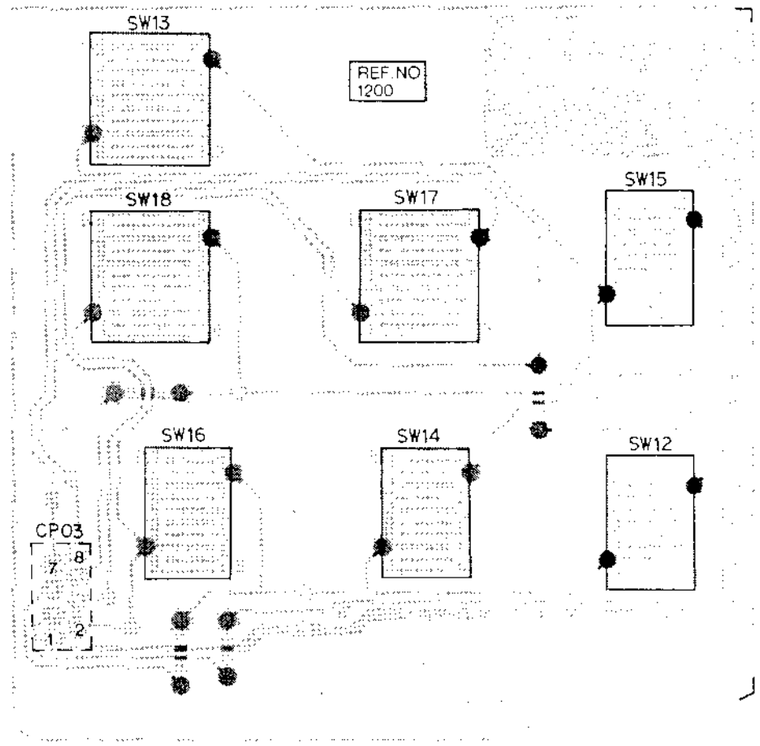
REC SW



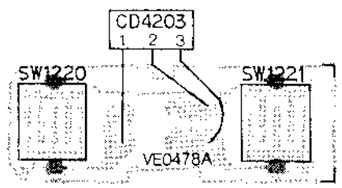
BACK OPERATION



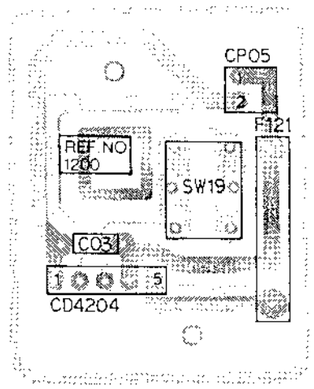
SIDE OPERATION



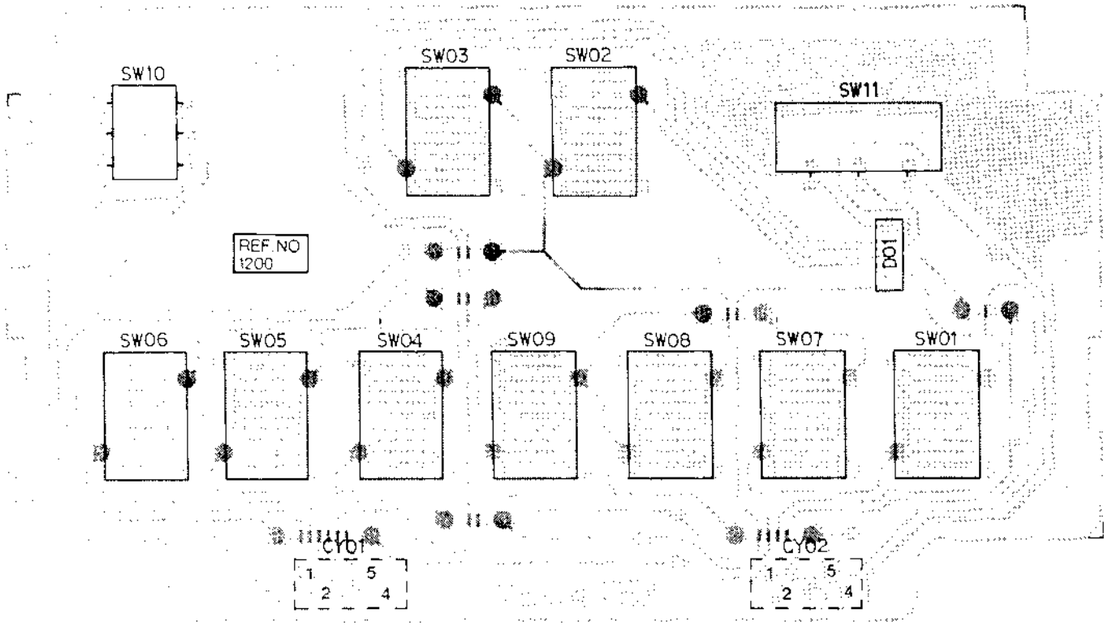
ZOOM SW



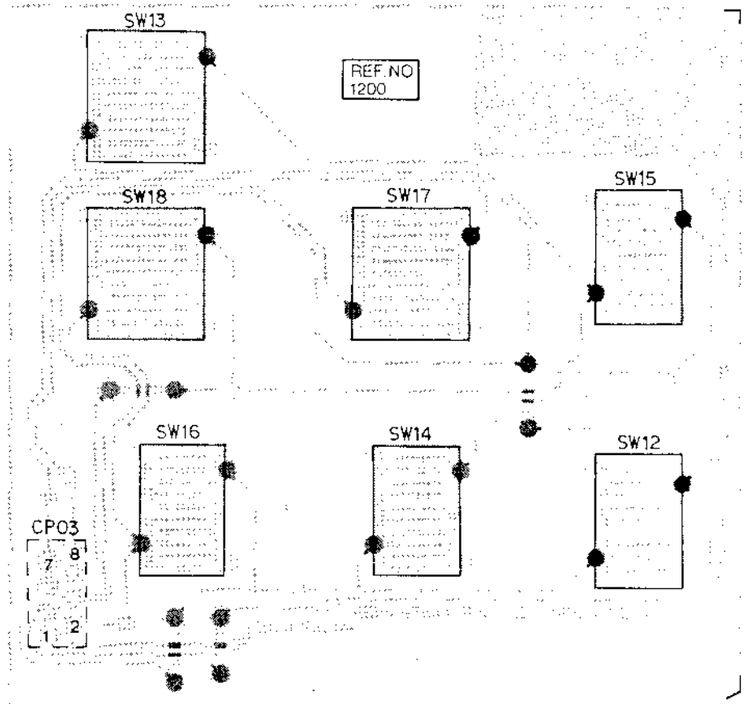
REC SW



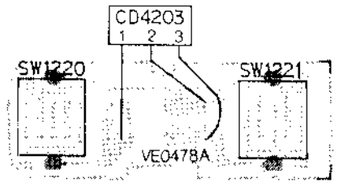
BACK OPERATION



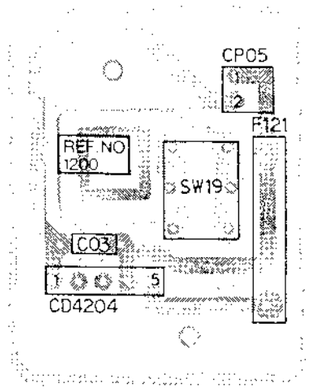
SIDE OPERATION



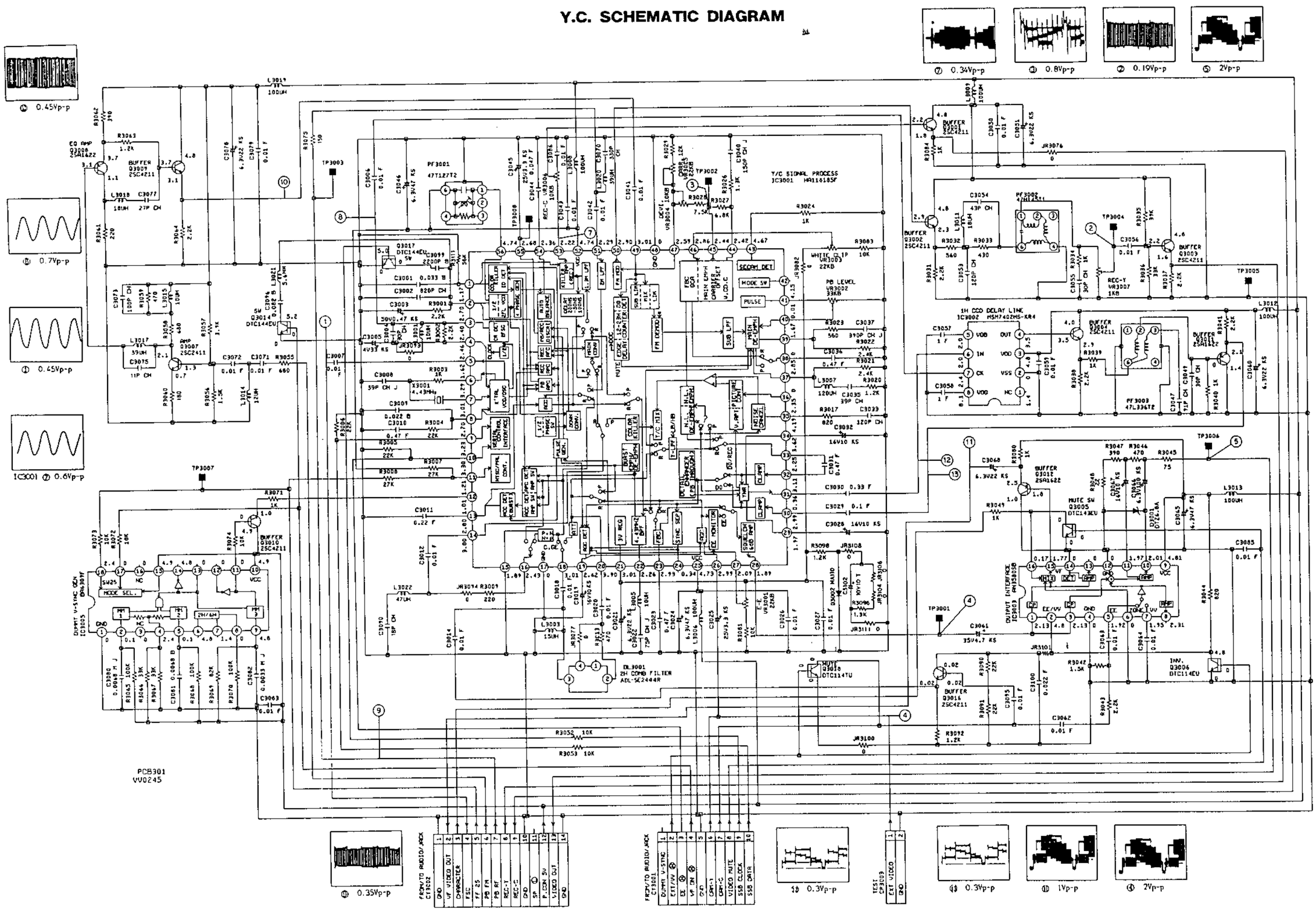
ZOOM SW



REC SW



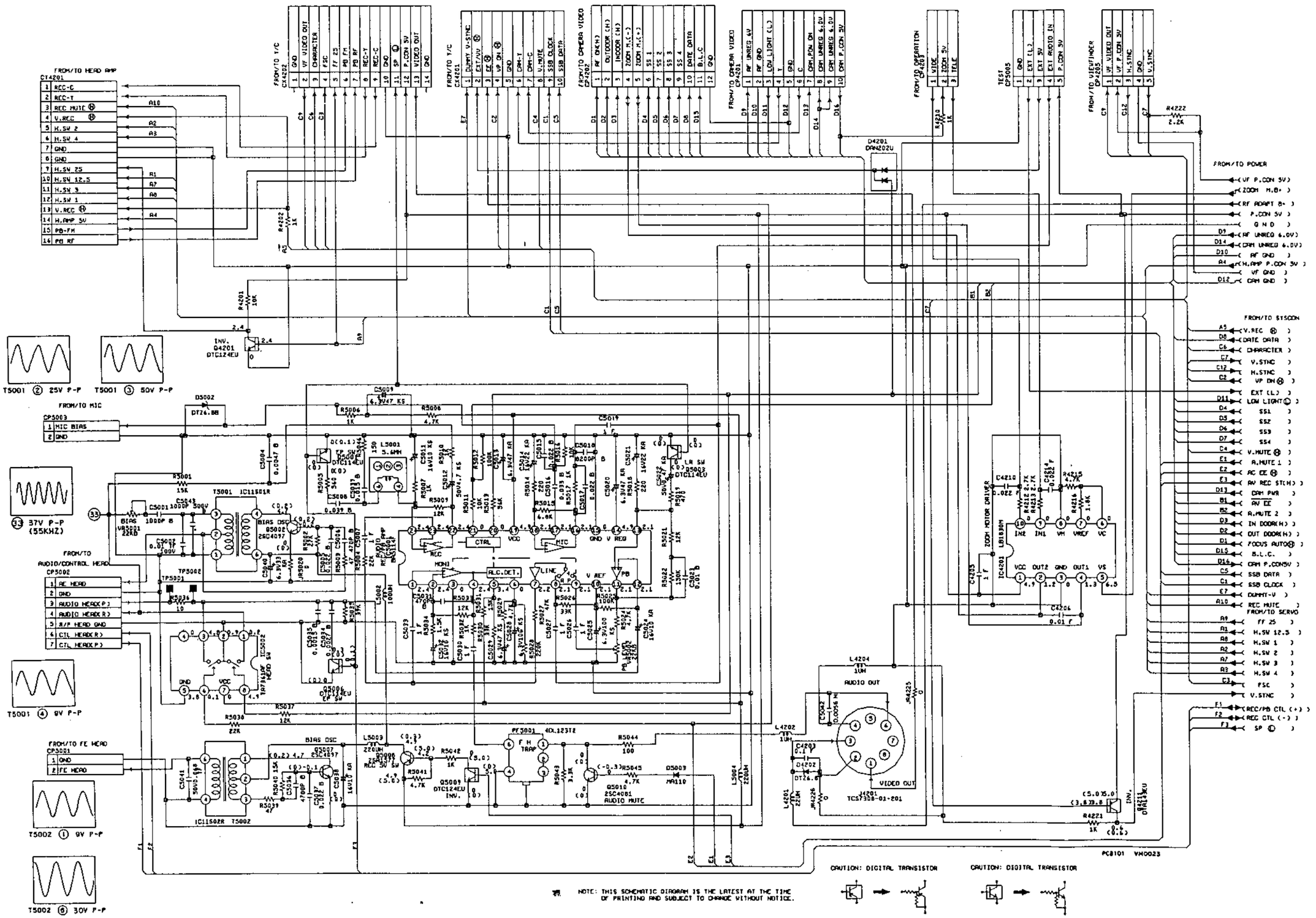
Y.C. SCHEMATIC DIAGRAM



Y.C. SCHEMATIC DIAGRAM

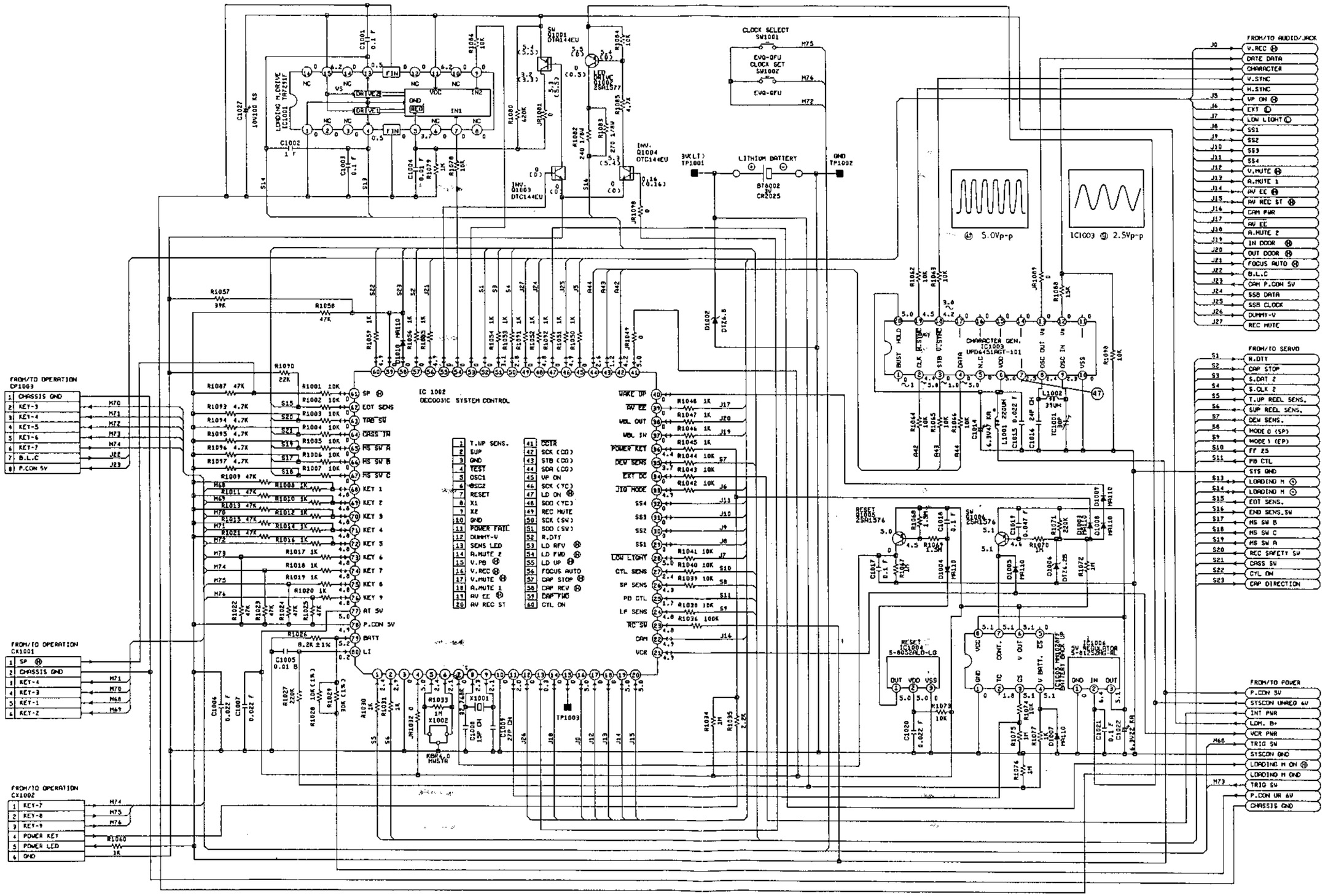
1-12042

AUDIO/JACK SCHEMATIC DIAGRAM



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

SYSTEM CONTROL SCHEMATIC DIAGRAM

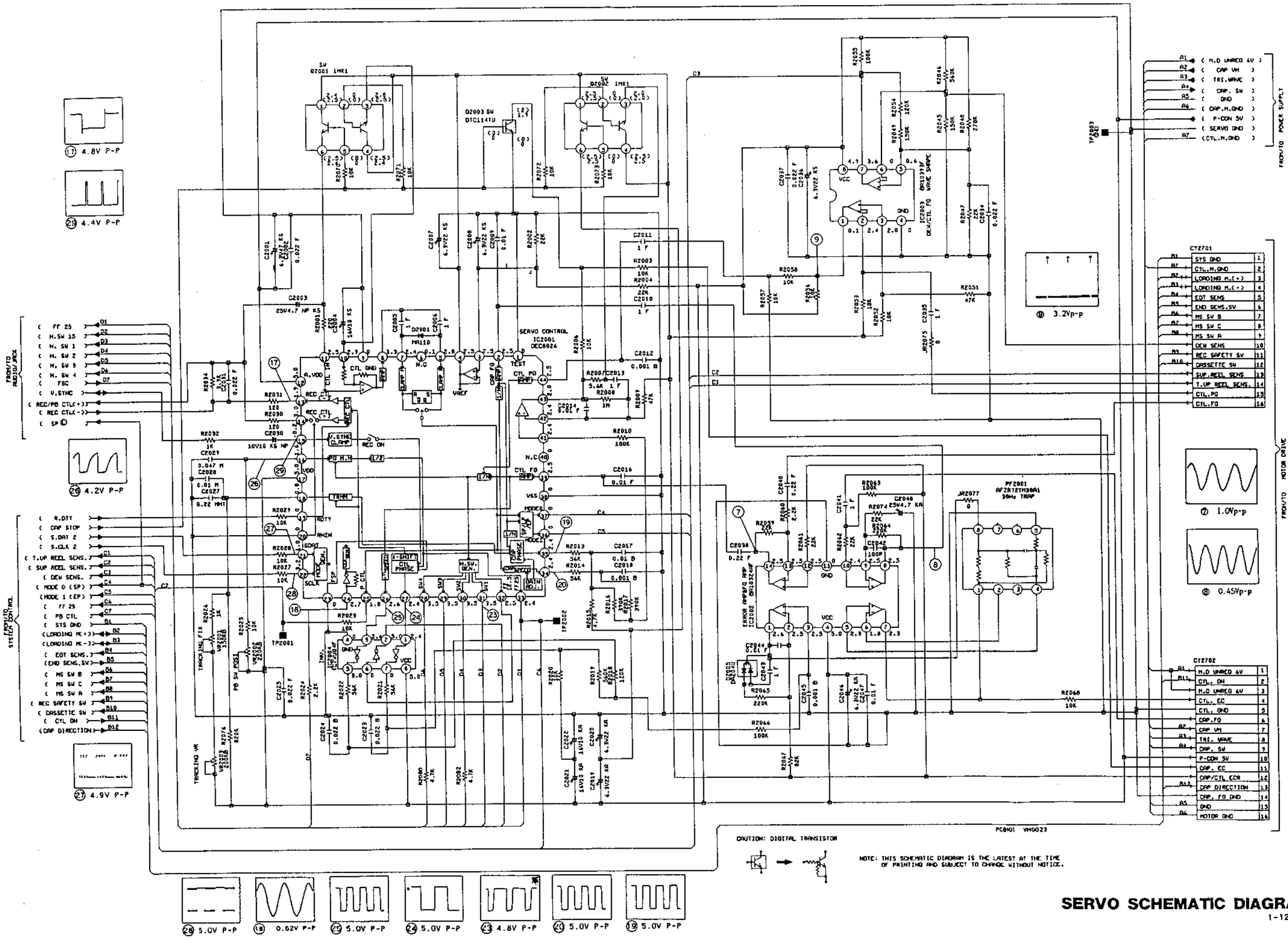


PC6101
VM0029

SYSTEM CONTROL SCHEMATIC DIAGRAM

1-12043

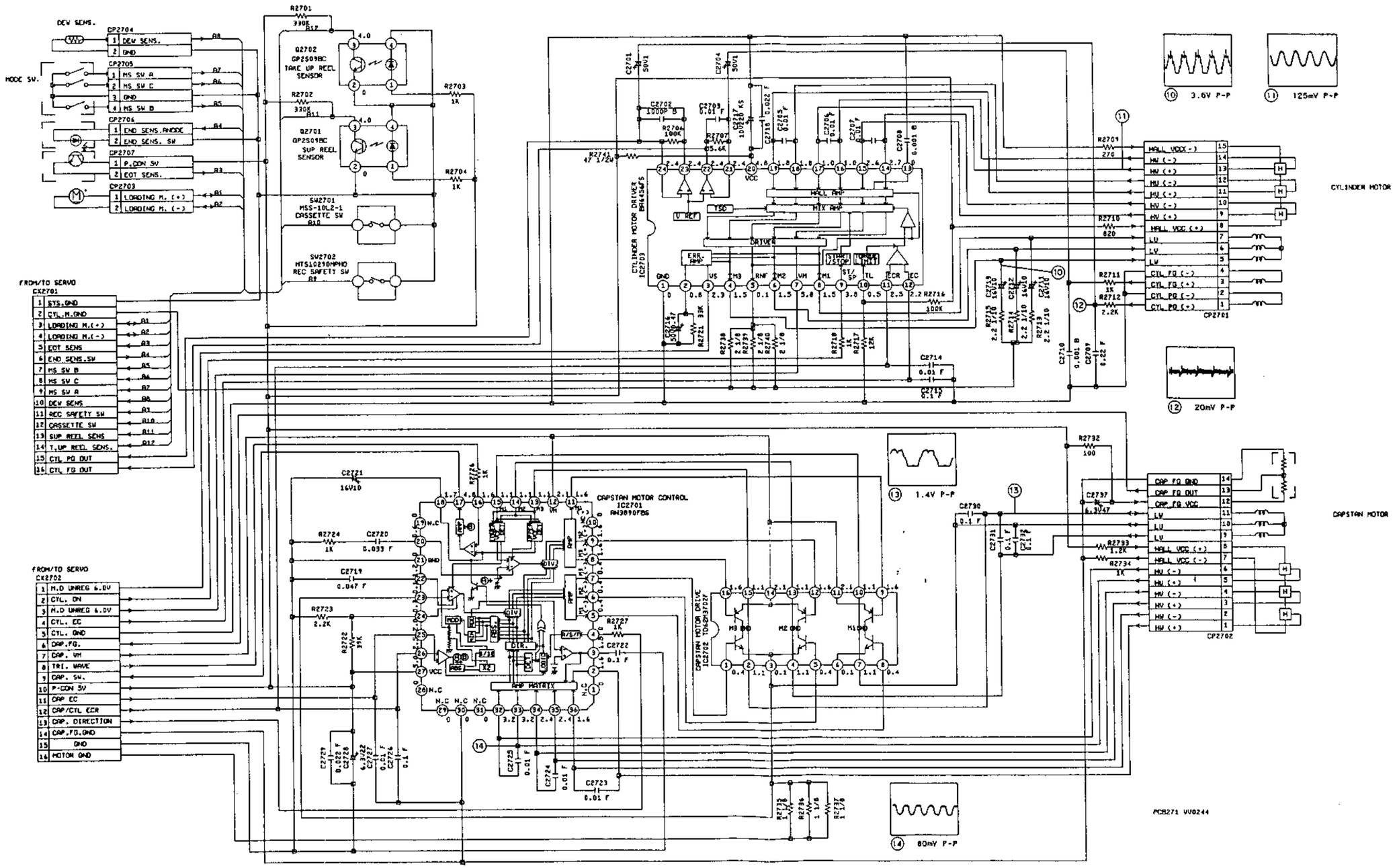
SERVO SCHEMATIC DIAGRAM



SERVO SCHEMATIC DIAGRAM

1-12045

MOTOR DRIVE SCHEMATIC DIAGRAM

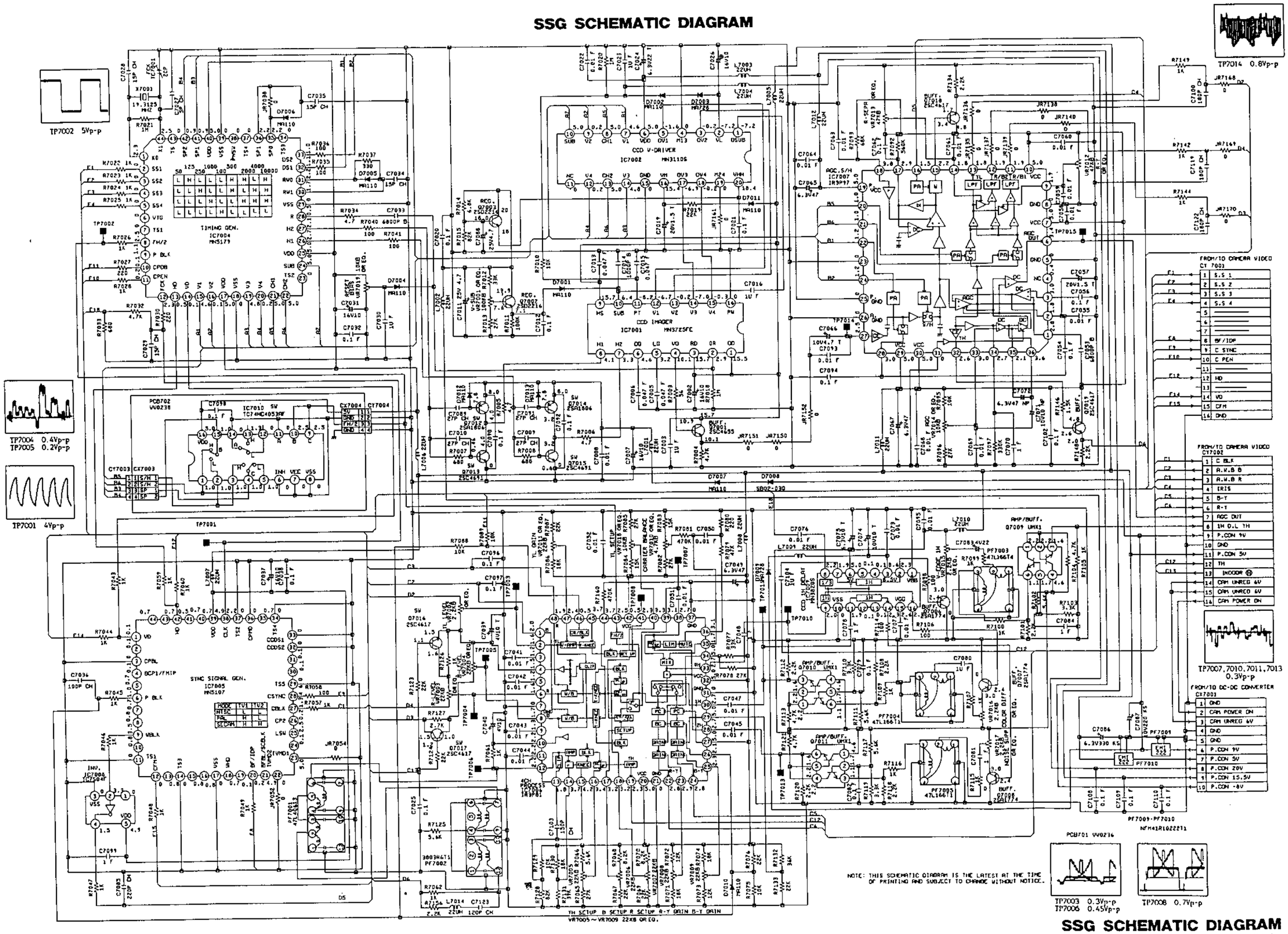


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

MOTOR DRIVE SCHEMATIC DIAGRAM

I-12046

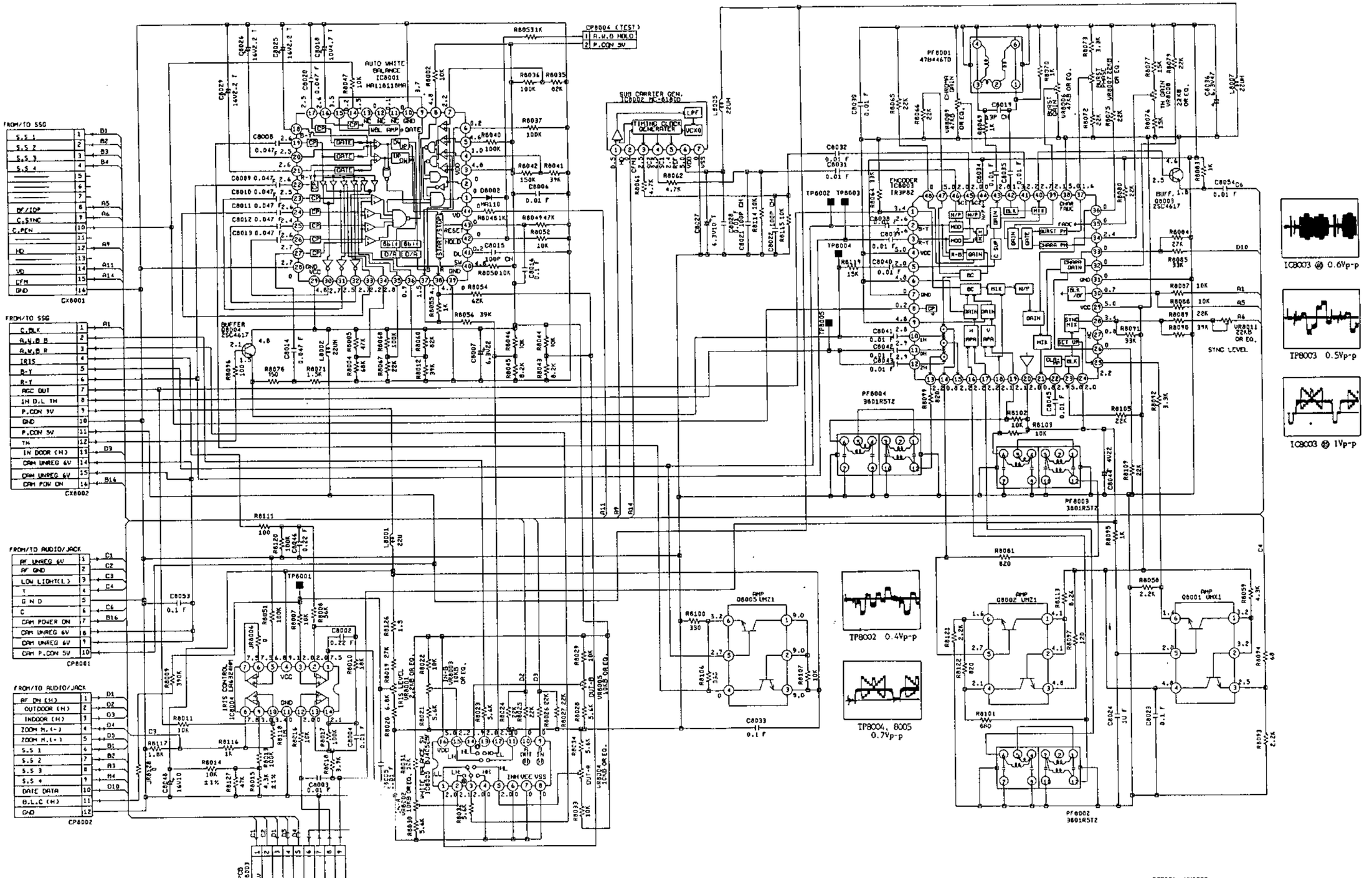
SSG SCHEMATIC DIAGRAM



SSG SCHEMATIC DIAGRAM

1-12050

CAMERA VIDEO SCHEMATIC DIAGRAM

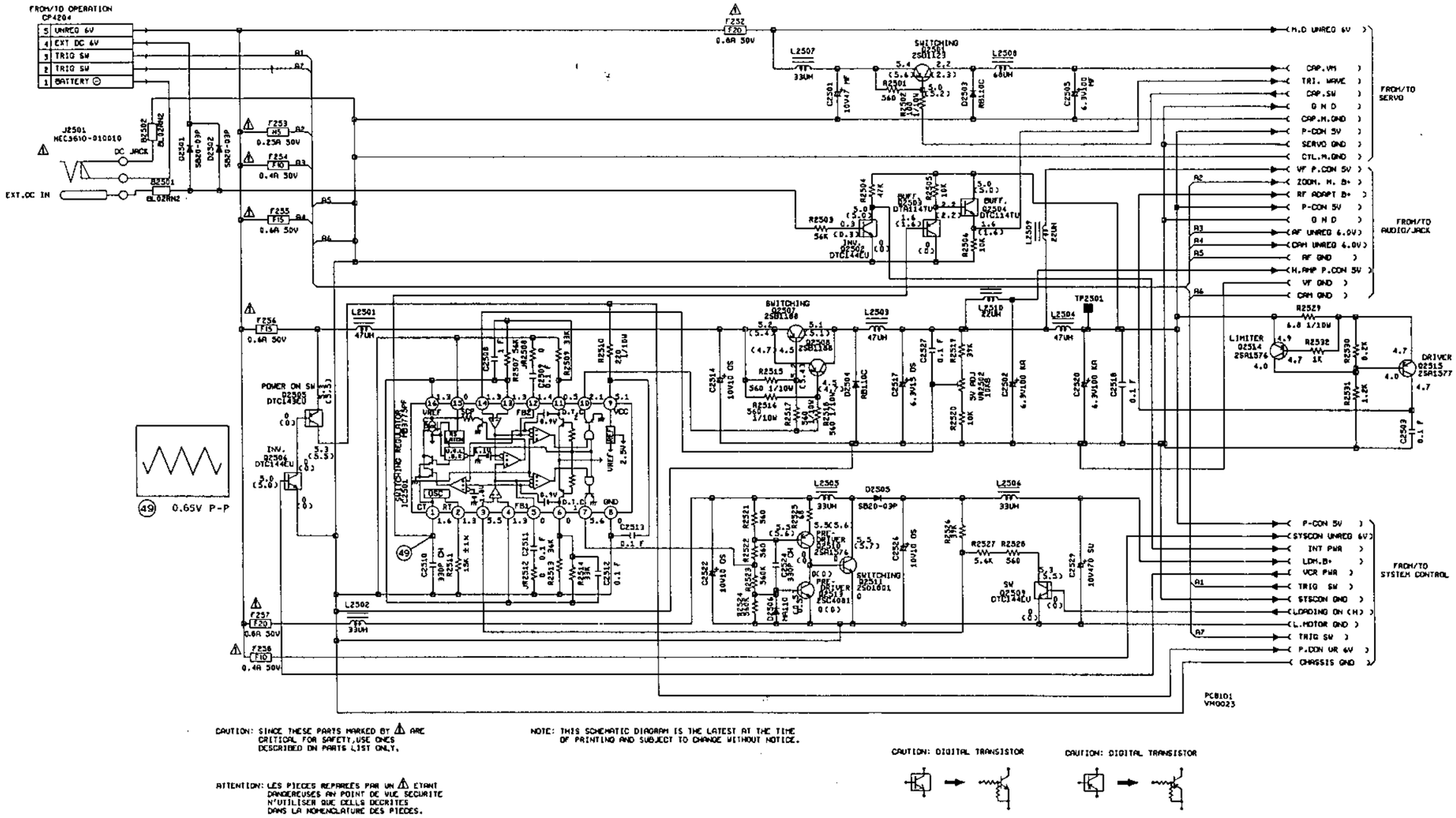


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAMERA VIDEO SCHEMATIC DIAGRAM

1-12051

POWER SUPPLY SCHEMATIC DIAGRAM



CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

ATTENTION: LES PIECES REPEREES PAR UN ⚠ ETANT DANGEREUSES AU POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

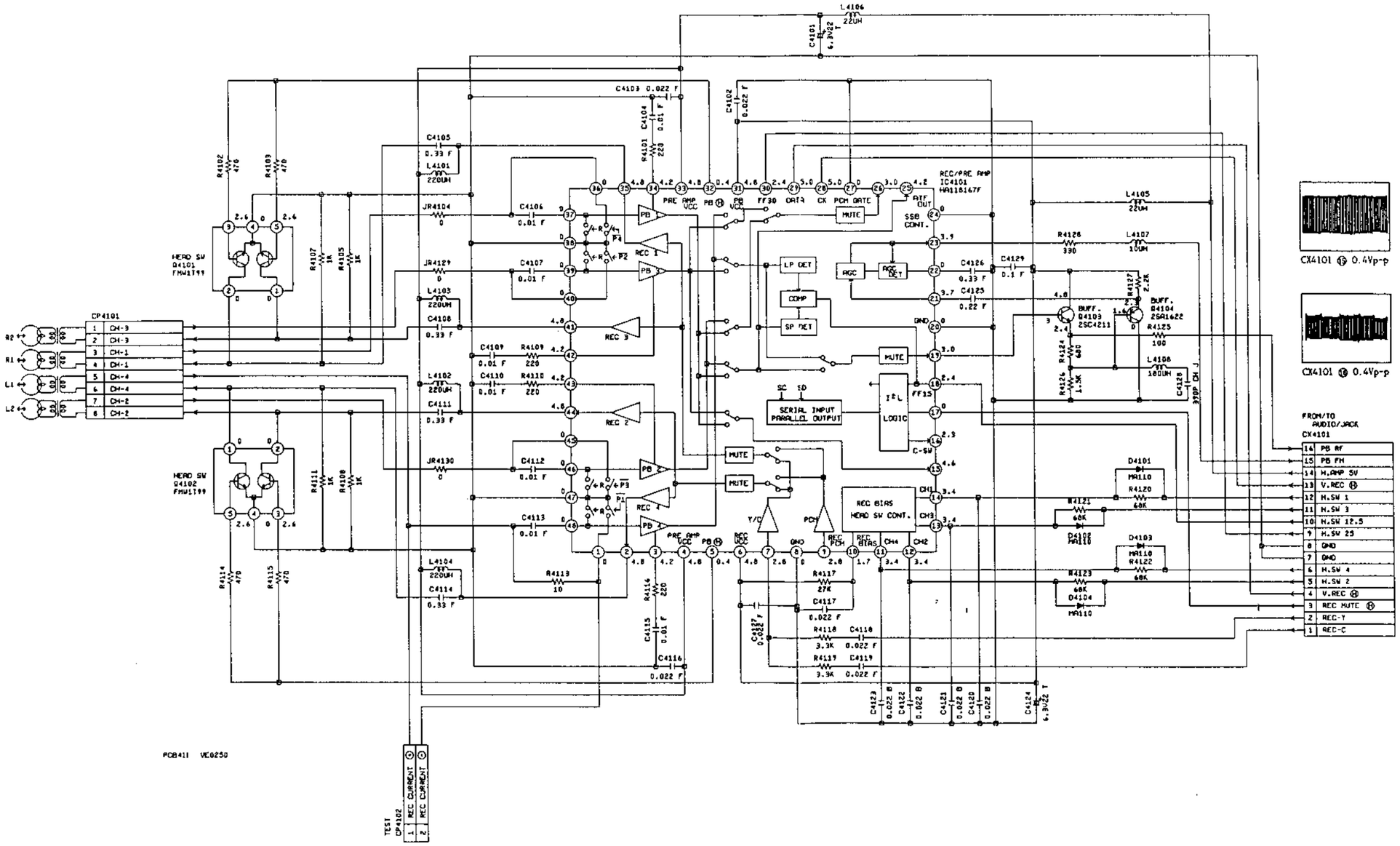
CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR

POWER SUPPLY SCHEMATIC DIAGRAM

1-12049

HEAD AMP SCHEMATIC DIAGRAM

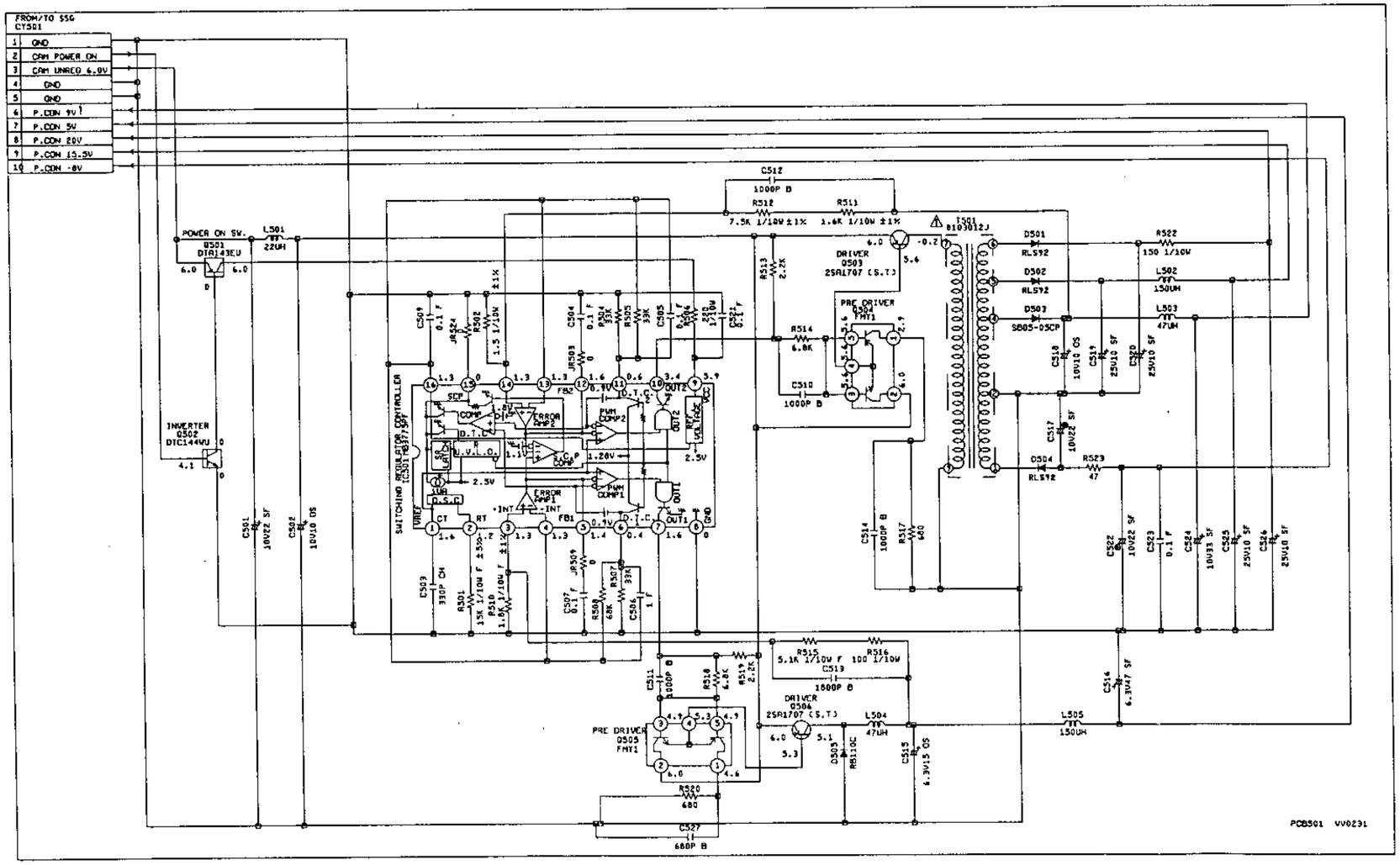


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

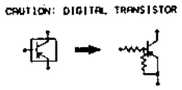
HEAD AMP SCHEMATIC DIAGRAM

1-12047

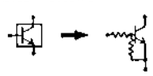
DC-DC CONVERTER SCHEMATIC DIAGRAM



CAUTION: DIGITAL TRANSISTOR



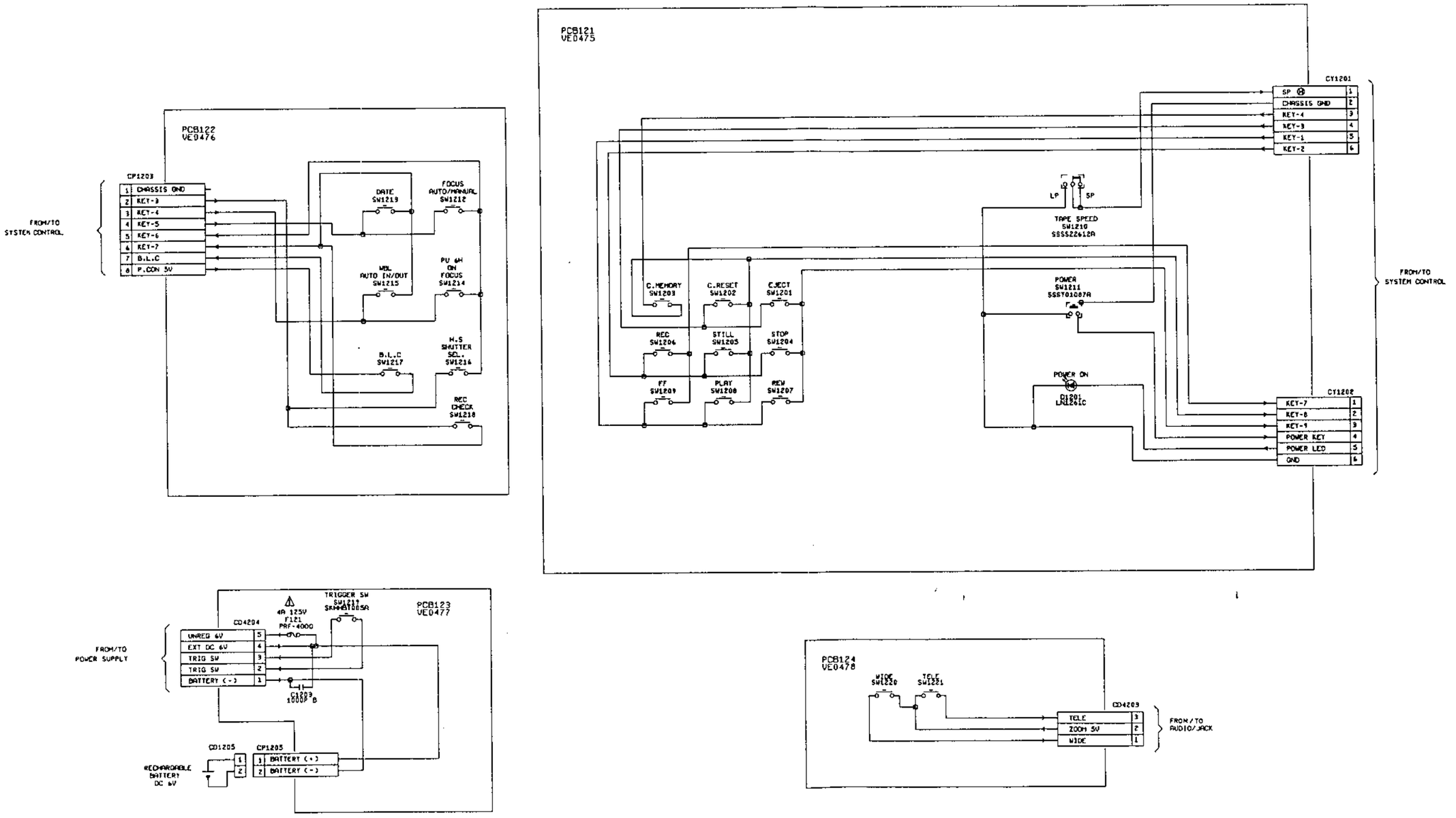
CAUTION: DIGITAL TRANSISTOR



NOTE: F MARKED AROUND THE PARTS IN THE SCHEMATIC DIAGRAM INDICATES THE FOLLOWING ERROR RATE.
F: ±1%

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

OPERATION/REC SW/ZOOM SW SCHEMATIC DIAGRAM



CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

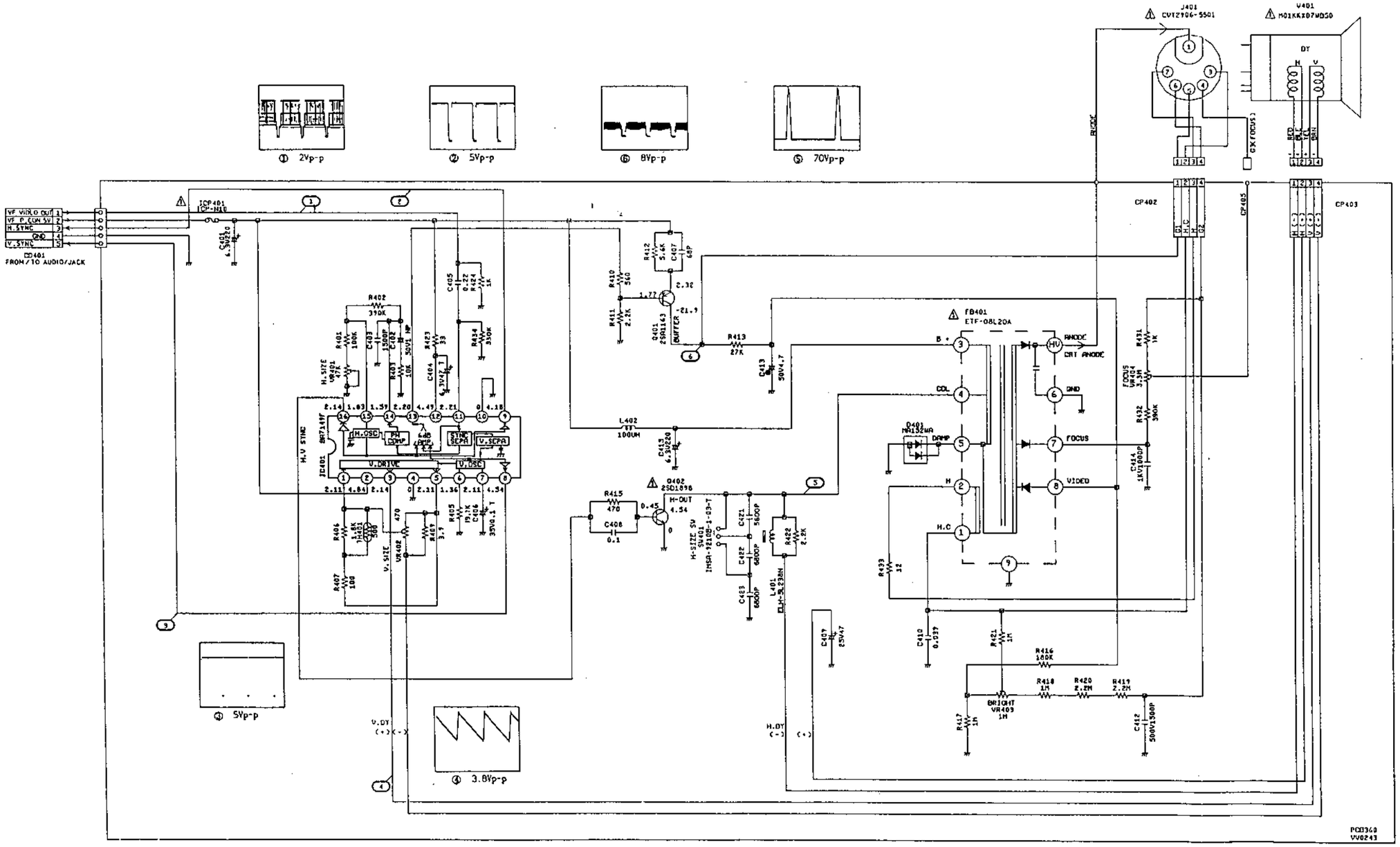
ATTENTION: LES PIECES REPEREES PAR UN ⚠ ETANT DANGEREUSES AU POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

OPERATION/REC SW/ZOOM SW SCHEMATIC DIAGRAM

1-12044

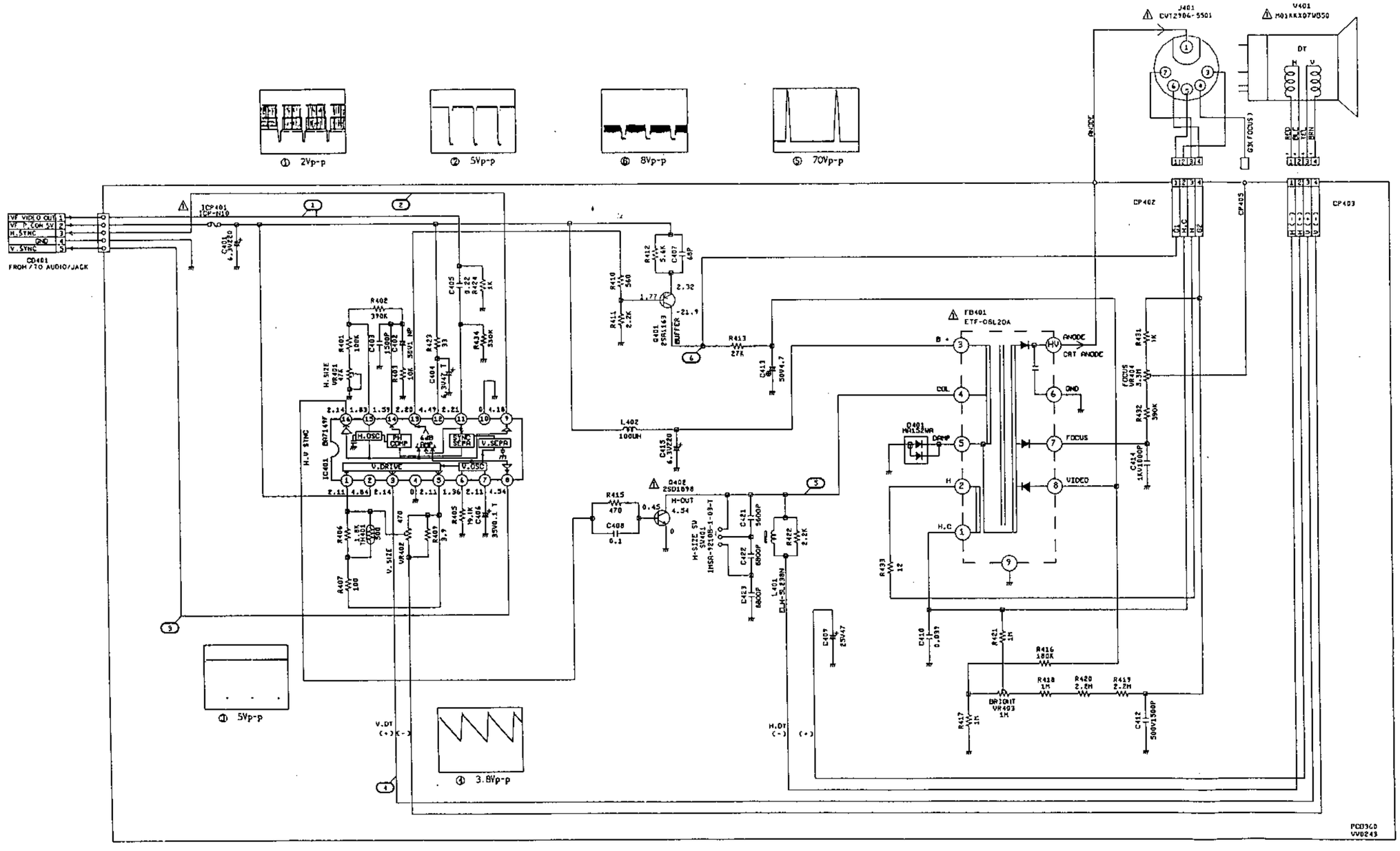
VIEWFINDER SCHEMATIC DIAGRAM



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

VIEWFINDER SCHEMATIC DIAGRAM



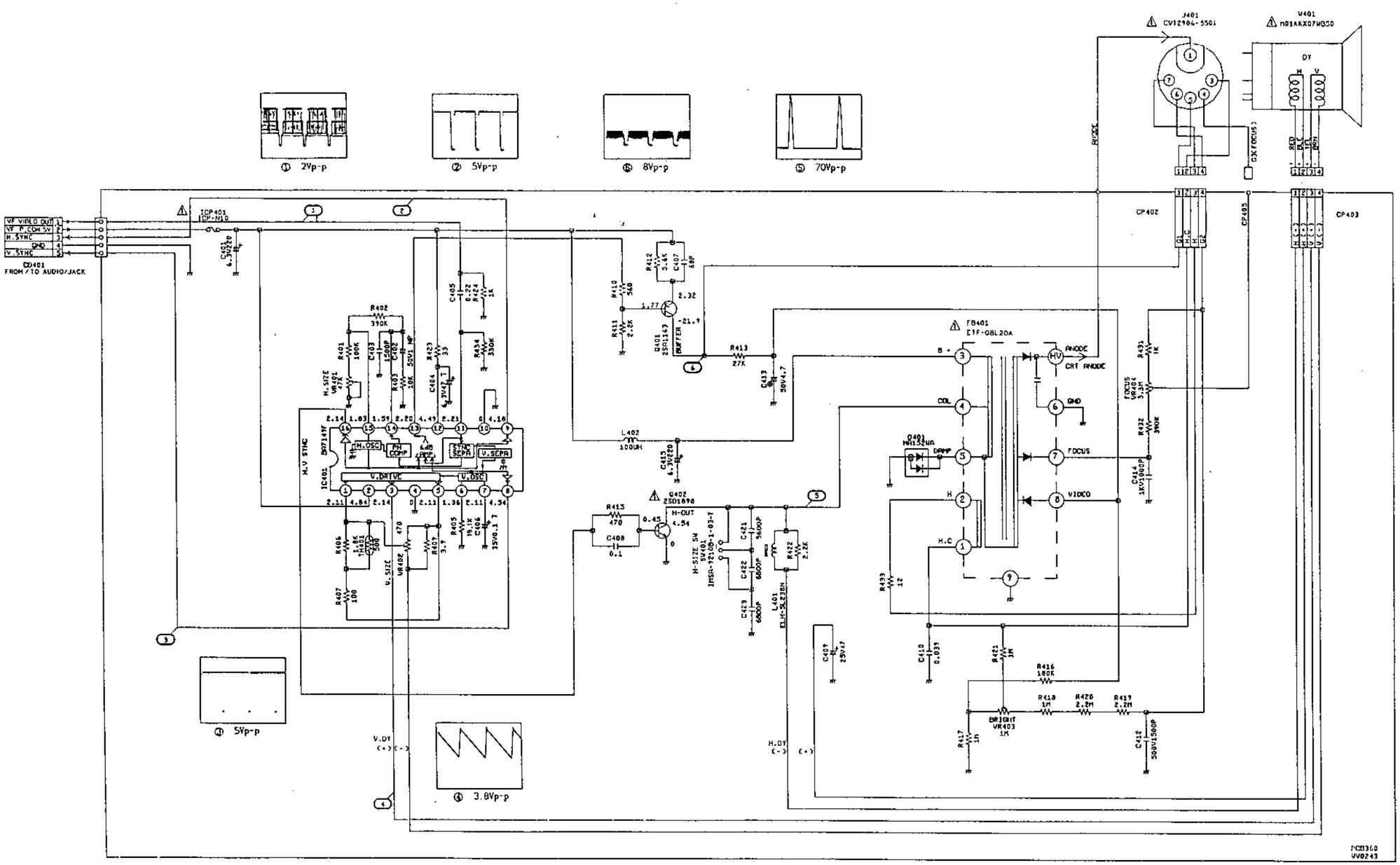
① 5Vp-p

④ 3.8Vp-p

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

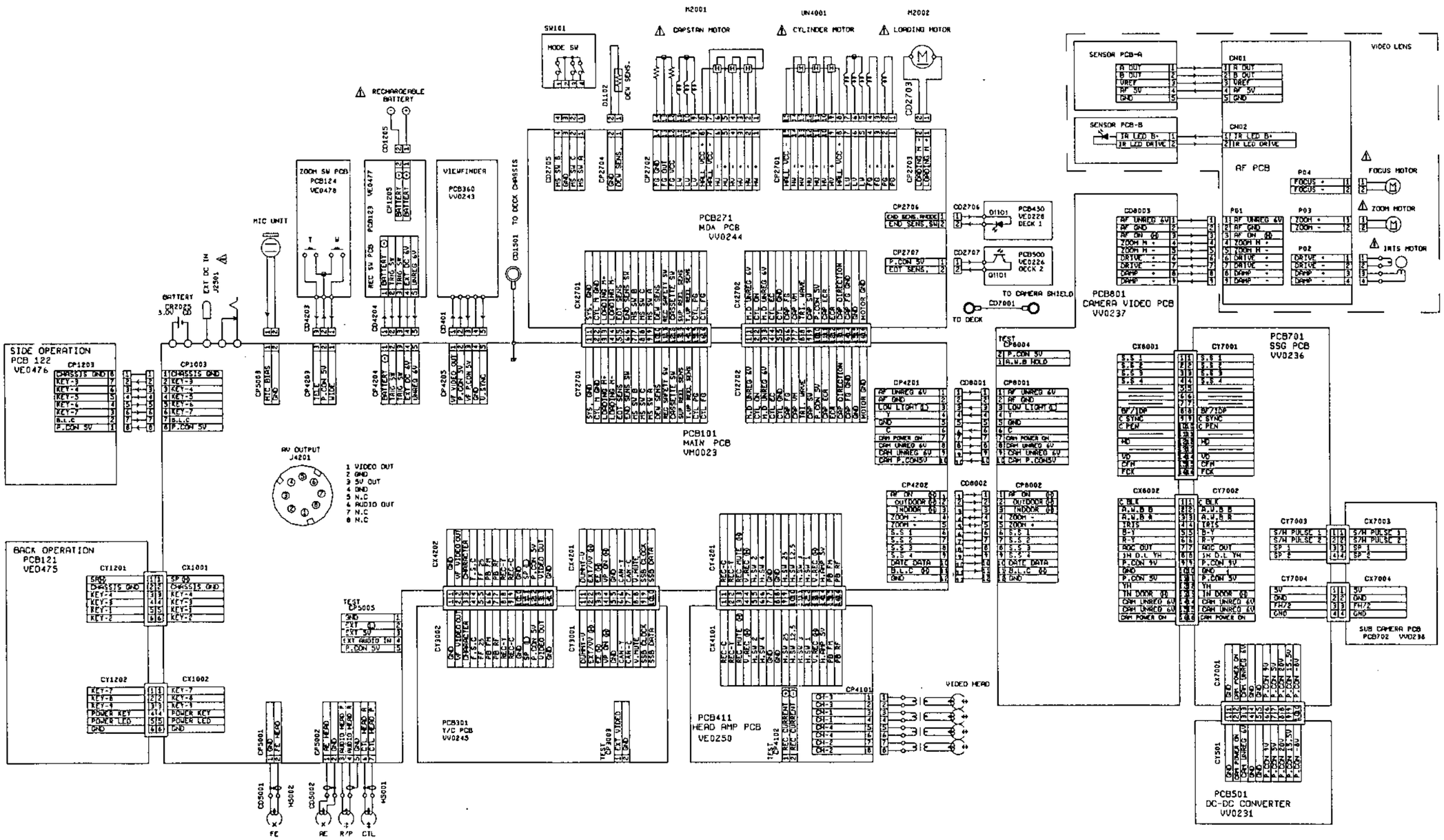
VIEWFINDER SCHEMATIC DIAGRAM



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

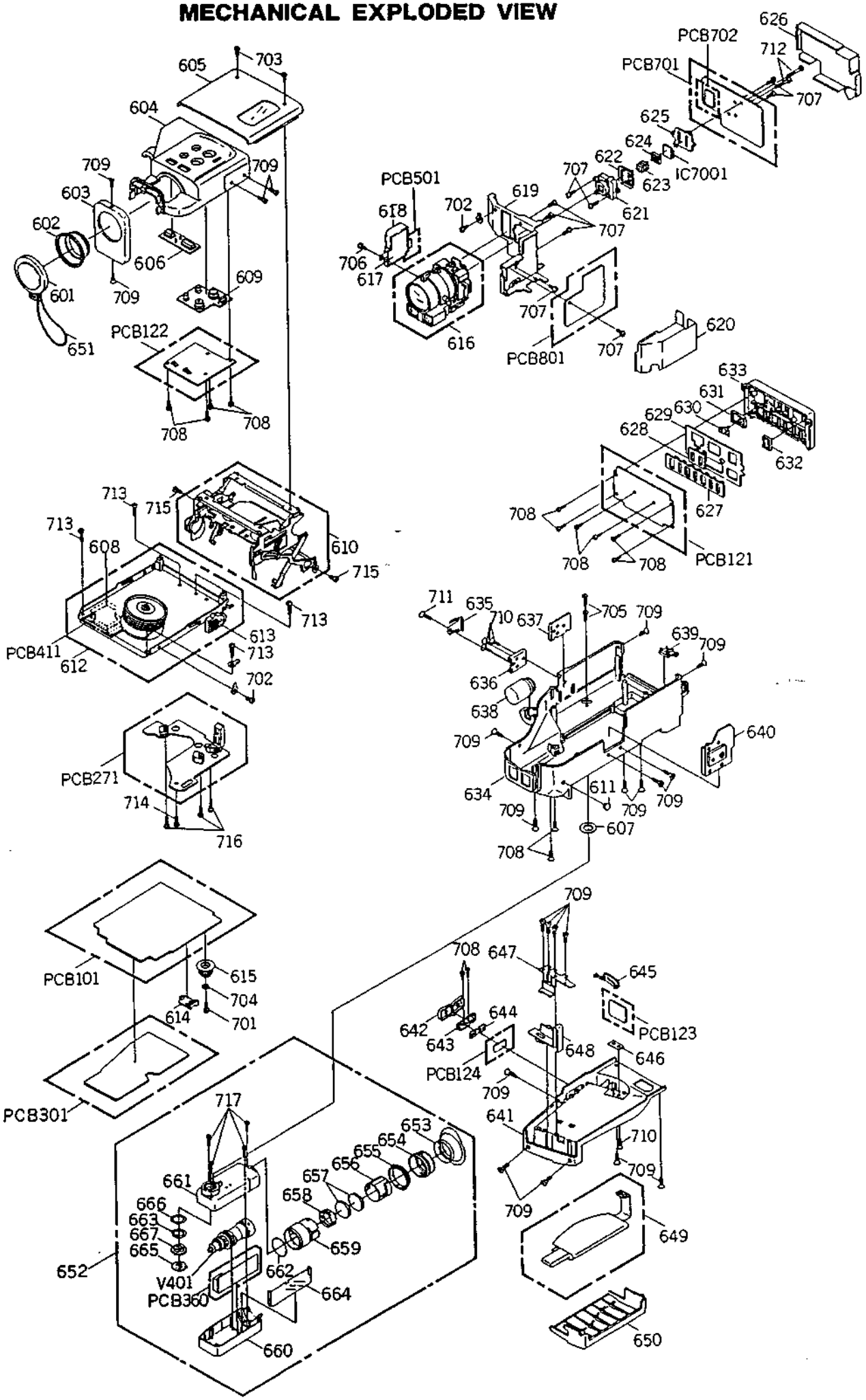
CAUTION: SINCE THOSE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

INTERCONNECTION DIAGRAM

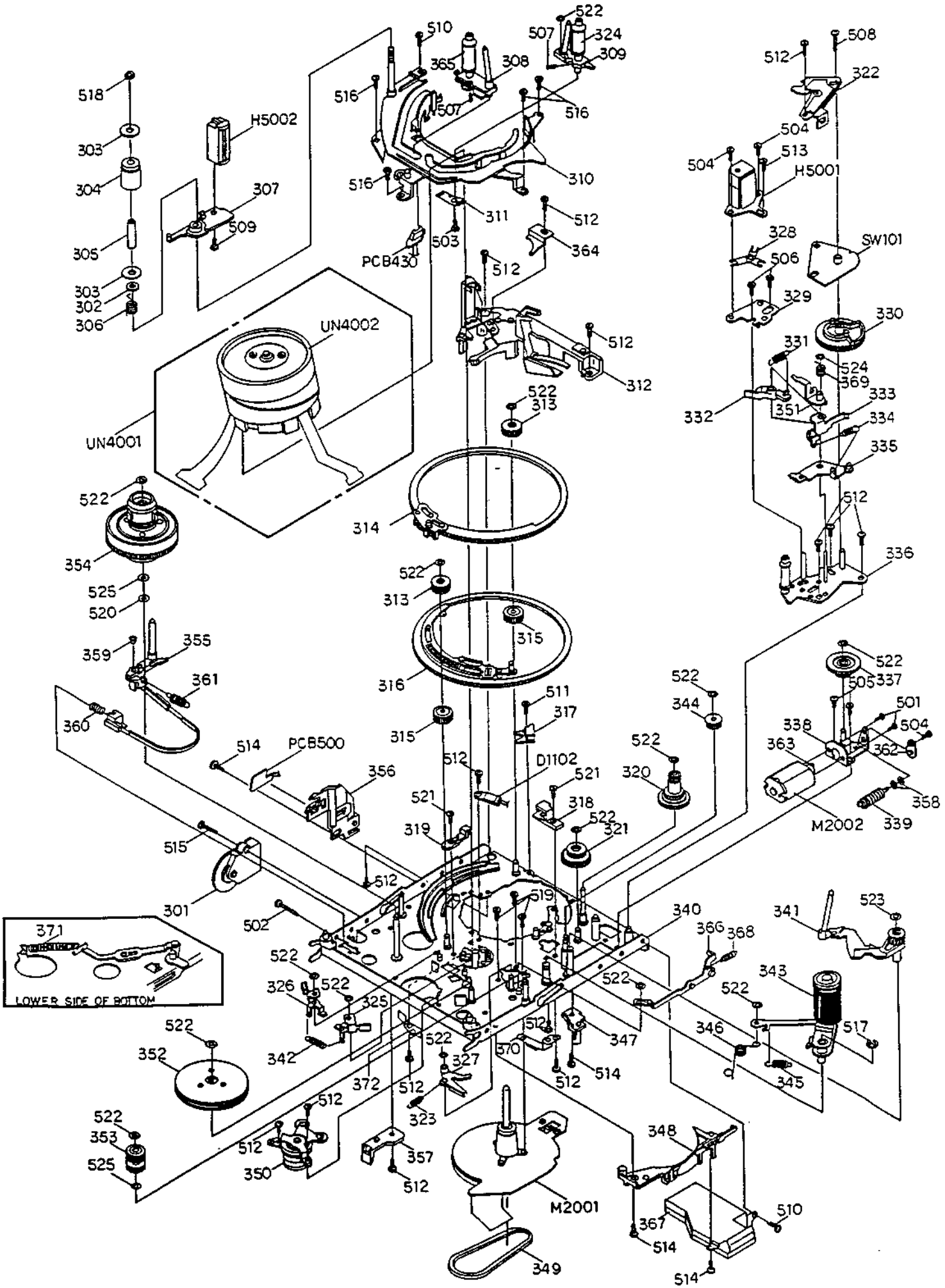


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

MECHANICAL EXPLODED VIEW



DECK EXPLODED VIEW



MECHANICAL REPLACEMENT PARTS LIST

REF.NO	PART NO	DESCRIPTION
601	706JPA0012	CAP.LENS
602	713JPA0139	HOOD.LENS
603	771JPD0059	COVER.AF
604	702JPJ0035	CABINET.SIDE
605	A45710A780	LID CASSETTE ASS'Y
	712JPJ0511	LID CASSETTE
	7230002638	SHEET.LID CASSETTE
	7230003874	PLATE.WINDOW
606	735JRA0028	RUBBER BUTTON SIDE OP.(B)
607	788JPA0003	POLYSLIDER WASHER 14*18*T0.5
608	850P000154	CASE HEAD AMP SHIELD
609	735JRA0007	RUBBER BUTTON.SIDE OP
610	A45701A650	STAGE ASS'Y
611	713JRA0004	RUBBER AF
612	A45710A810	DECK ASS'Y
613	800JR00039	CUSHION
614	713JPA0146	COVER BUTTON BATTERY
615	733JPA0062	KNOB.TRACKING
616	709JPG0003	VIDEO LENS LV315FA
617	752JSA0300	SHIELD.CASE
	755JDA0033	SHIELD.FILM
	759JNA0003	PVC PLATE.CCD
618	752JSA0301	SHIELD.COVER
619	752JSA0298	SHIELD.CASE
620	752JSA0303	SHIELD.COVER
621	756JPA0027	COVER.CCD
622	756JPA0024	HOLDER.CCD
623	890SV511B0	OPTICAL LOW PAS FILTER
624	800JRA0013	RUBBER CCD FILTER
625	761JAA0008	PLATE.CCD
626	752JSA0302	SHIELD.COVER
627	735JRA0010	RUBBER BUTTON.BACK OP.(B)
628	735JRD0036	RUBBER BUTTON.BACK OP.(A)
629	755JDA0046	SHIELD.FILM BACK OP.
630	713JPA0121	GLASS.LED
631	733JPA0054	KNOB.POWER
632	733JPA0055	KNOB.SPEED
633	712JPD0015	PANEL.BACK
634	A45710A770	CABINET.MAIN ASS'Y
	702JPJ0038	CABINET.MAIN
	7222021476	SHEET.RATING
	755JDA0036	EARTH SHEET.TRACKING
635	744JUB0003	SHOES.SPRING
636	762JAE0003	SHOES.FOOT
637	762JSA0074	BRACKET.SHOES FOOT
638	709JPB0004	MIC ASSY
639	733JPA0058	BUTTON.DATE
640	702JPA0427	PLATE.STAND
641	A45710A800	CABINET.BATTERY ASS'Y
	703JPB0003	BASE BATTERY
	755JDA0037	EARTH SHEET.BUTTON BATTERY
	773JUE0007	PLATE.CONTACT R.BATTERY(+)
	773JUE0008	PLATE.CONTACT R.BATTERY(-)
642	733JPA0060	BUTTON.ZOOM
643	738JPA0021	BASE.ZOOM
644	735JRA0009	RUBBER ZOOM
645	733JPA0059	BUTTON.REC
646	769JSA0009	METAL.BAND GRIP
647	738JPA0023	HOLDER BATTERY EJECT

REF.NO	PART NO	DESCRIPTION
648	733JPA0061	KNOB BATTERY EJECT
649	794JLA0032	BAND GRIP ASS'Y
650	703JPA0017	COVER BATTERY
651	794JLA0030	STRING.CAP LENS
652	A45710A370	VIEWFINDER ASS'Y
653	709JRA0002	EYE CAP
654	719JPA0009	EYE CAP HOLDER
655	719JPA0010	RING
656	719JPA0007	LENS CASE
657	713JNA0003	LENS
658	719JPA0008	LENS STOPPER
659	719JPA0006	LENS HOLDER
660	702JPA0459	TOP.CASE
661	702JPA0460	BOTTOM.CASE
	7240001011	SHEET.CAUTION(A)
	7240001012	SHEET.CAUTION(B)
662	709JRA0001	O-RING
663	744JUA0045	PLATE.SPRING
664	752JNA0012	INSULATION PLATE
665	769JUA0001	TILT PLATE
666	769JUA0002	TORQUE PLATE
667	789JPA0001	TILT AXIS
701	8102114404	SCREW.PAN M1.4*4
702	8140817204	SCREW.PAN 1.7*2
703	8102120402	SCREW.PAN M2*4
704	82B1432E51	SPRING.WASHER 1.4*3.2*T0.45
705	8102220804	SCREW.BIND M2*8
706	8109120204	SCREW.TAP TITE(B) PAN 2*2
707	8110120404	SCREW.TAP TITE(P) PAN 2*4
708	8110220504	SCREW.TAP TITE(P) BIND 2*5
709	8110320502	SCREW.TAP TITE(P) FLAT 2*5
710	8110320602	SCREW.TAPTITE(P) FLAT 2*6
711	8110120602	SCREW.TAP TITE(P) PAN 2*6
712	8110220A44	SCREW.TAP TITE(P) BIND 2*14
713	8117126A24	SCREW.TAPPING(BO) PAN 2.6*12
714	8140817602	CAMERA SCREW M1.7*6
715	8139817302	CAMERA SCREW M1.7*3
716	8140817802	CAMERA SCREW M1.7*8
717	8109117602	SCREW.TAP TITE(B) PAN 1.7*6
---	J4330128	WARNING SHEET
---	J4511102	GUARANTEE CARD
---	J4571001	INSTRUCTION BOOK
---	J4670120	DEW CAUTION SHEET
---	752JSA0305	SHIELD CASE
---	752JSA0306	SHIELD COVER
---	755JDA0030	SHEET.MAIN SHIELD COVER
---	755JDA0035	SHEET.PCB COVER
---	756JPA0017	HOLDER.SENSOR
---	771JPA0138	HOLDER.JACK
---	771JPA0156	HOLDER.BUTTON BATTERY
---	773JUA0005	PLATE.CONTACT BTN BATTERY(+)
---	773JUA0006	PLATE.CONTACT BTN BATTERY(-)
---	791JHA0091	LIGHTRON.BAG
---	792JHA0214	PACKAGE.TOP
---	792JHA0215	PACKAGE.BOTTOM
---	793JCD2264	GIFT BOX
---	794JPD0007	SHOULDER STRAP
---	797JCA0110	MASTER CARTON

DECK REPLACEMENT PARTS LIST

REF.NO	PART NO	DESCRIPTION
301	850A900067	DAMPER ASS'Y
302	850P600221	COLLAR.IMPEDANCE R.3
303	850P600184	FLANGE.IMPEDANCE ROLLER
304	850P600168	ROLLER.IMPEDANCE
305	850P400223	SLEEVE.P1
306	850P800100	SPRING.FE HEAD ARM
307	850P500026	ARM.FE HEAD
308	850A400053	S.INCLINED BASE ASS'Y
309	850A400054	T.INCLINED BASE ASS'Y
310	850A100007	LOADING RAIL ASS'Y
311	850P400181	PLATE.T.INCLINED BASE
312	850P600337	BASE.UV 2
313	850P300083	GEAR.GUIDE S
314	850A300023	S.RING ASS'Y
315	850P300084	GEAR.GUIDE T.
316	850A300024	T.RING ASS'Y
317	850P000136	HOLDER.RING GEAR C
318	850P000134	HOLDER.RING GEAR A
319	850P000135	HOLDER.RING GEAR B
320	850P600162	GEAR.TERMINAL
321	850P300079	GEAR.LOADING A
322	850P600338	UPPER.S.M.P
323	850P800124	SPRING.SUB BRAKE 2
324	850A400063	T-G ROLLER ASS'Y 2
325	850A600077	MAIN BRAKE R ASS'Y
326	850A600078	MAIN BRAKE L ASS'Y
327	850A600079	ARM.SUB BRAKE ASS'Y
328	850P800102	SPRING.AZIMUTH
329	850P500028	BASE.AC HEAD 2
330	850P600213	GEAR.CAM 2
331	850P800126	SPRING.LOCK ARM 2
332	850P600214	ARM.LOCK 2
333	850P600215	LEVER.LOCK ARM 2
334	850P800119	SPRING.FAN SHAPED
335	850A600083	F-S.GEAR 2 ASS'Y
336	850A600084	DECK PLATE 2 ASS'Y
337	850P600161	GEAR.WORM WHEEL
338	850A300025	LOADING M.BRACKET ASS'Y
339	850A600058	WORM ASS'Y
340	850A000042	MAIN CHASSIS 3 ASS.Y
341	850A600081	MIDDLE POST ARM 2 ASS'Y
342	850P800125	SPRING.MAIN BRAKE
343	850A400058	PINCH ROLLER ARM 2 ASS'Y
344	850P300080	GEAR.LOADING B
345	850P800122	SPRING.PINCH ROLLER
346	850P800106	SPRING.P-R ACTUATOR
347	850P000153	HOLDER.HEAD AMP
348	850P000151	COVER.MOTOR
349	850P600170	BELT.CAPSTAN
350	850A200015	C-PULLEY BRACKET 2 ASS'Y
351	850A600082	LOCK ARM UPPER ASS'Y
352	850A200016	T REEL GEAR 2 ASS'Y
353	850P200065	GEAR.JOINT CASS.
354	850A200031	SUPPLY REEL 3 ASS'Y
355	850A400050	TENSION SERVO ASS'Y
356	850P700029	HOLDER.END SENSOR
357	850P000152	BRACKET M.D.A
358	82Q1026016	LUMILAR.WASHER
359	850P400151	CAP.TENSION ARM

REF.NO	PART NO	DESCRIPTION
360	850P800104	SPRING.TENSION ADJUST
361	850P800103	SPRING.TENSION ARM
362	850P300088	BEARING.WORM
363	850P600160	DRIVER.WORM
364	850P600171	GUIDE.S.INCLINED
365	850A400062	S-G ROLLER ASS'Y 2
366	850A600080	SB ROD ASS'Y
367	850P000155	LID.HEAD AMP SHIELD
368	850P800123	SPRING.SUB BRAKE ROD
369	850P800127	SPRING.LOCK ARM UPPER
370	850AAA0016	EARTH PLATE ASS'Y
371	850P800120	SPRING.ROD MAIN BRAKE
372	850P000340	PLATE.CYL.CONNECTOR
501	8139816201	CAMERA SCREW M1.6*2.0 NI
502	8139817A02	CAMERA SCREW M1.7*10 BK
503	8139817122	CAMERA SCREW M1.7*1.2 BK
504	8140817252	CAMERA SCREW M1.7*2.5 BK
505	8139817252	CAMERA SCREW M1.7*2.5 BK
506	8139817282	CAMERA SCREW M1.7*2.8 BK
507	813DJ12302	SET SCREW CUT POINT M1.2*3.0 BK
508	8140817A02	CAMERA SCREW M1.7*10 BK
509	8140816301	CAMERA SCREW M1.6*3.0 NI
510	8140817202	CAMERA SCREW M1.7*2.0 BK
511	8139817302	CAMERA SCREW M1.7*3.0 BK
512	8140817302	CAMERA SCREW M1.7*3.0 BK
513	8140817304	CAMERA SCREW M1.7*3.0 BK
514	8140817402	CAMERA SCREW M1.7*4.0 BK
515	8140817602	CAMERA SCREW M1.7*6.0 BK
516	8139817254	CAMERA SCREW M1.7*2.5 CH
517	83ETW25000	E-RING 2.5
518	8300220000	NUT M2
519	8140416354	CAMERA SCREW OVAL M1.6*3.5 CH
520	82Q1632C5N	POLYSLIDER WASHER 1.6*3.2*T0.25
521	8140817252	CAMERA SCREW M1.7*2.5 BK
522	82P1230C5N	POLYSLIDER WASHER(CUT) 1.2*3.0*T0.25
523	82P264705N	POLYSLIDER WASHER(CUT) 2.6*4.7*T0.5
524	82P1732C5N	POLYSLIDER WASHER(CUT) 1.7*3.2*T0.25
525	82Q1632B3N	POLYSLIDER WASHER 1.6*3.2*T0.13
CD2703	068392006A	CORD EIS CONNECTOR 8392006A
CD2706	068392007A	CORD EIS CONNECTOR 8392007A
CD2707	068392008A	CORD EIS CONNECTOR 8392008A
CD5001	068392009A	CORD EIS CONNECTOR 8392009A
CD5002	068397002A	CORD EIS CONNECTOR 8397002A
D1101	0010500020	LED TLN107A
D1102	DAK0000100	DEW SENSOR HDP-06-A5
H5001	1523191009	HEAD.AUDIO CONTROL C-4211-AC-3212
H5002	1543004002	HEAD.FULL ERASE HVFVA0014A
M2001	1510998014	CAPSTAN DD UNIT DFX-46B2VWB
M2002	1596918001	MOTOR.LOADING MIN-6GC04B
PCB430	A43401A430	DECK PCB ASS'Y VE0228
PCB500	A43401A500	DECK PCB ASS'Y VE0226
Q1101	0000500020	TRANSISTOR.PHOTO TPS606-D
SW101	0520943003	SWITCH.ROTARY SIM0320
UN4001	1590D00062	UNIT.CYLINDER CYCA4P003A
UN4002	4000-5053	UPPER DRUM ASS'Y

THIS ELECTRICAL PARTS LIST IS STANDARD PART LIST. BUT
INTERCHANGEABLE PARTS MAY BE USED IN THE UNIT.
SEE THE INTERCHANGEABLE PARTS LIST AFTER THE STANDARD PARTS LIST.

ELECTRICAL REPLACEMENT PARTS LIST

REF.NO	PART NO	DESCRIPTION	
RESISTORS			
R1057	R00106393J	RC	39K OHM 1/6W
R2060	R00106472J	RC	4.7K OHM 1/6W
R2062	R00106472J	RC	4.7K OHM 1/6W
R3111	R001T6563J	RC	56K OHM 1/6W
R7160	R00106474J	RC	470K OHM 1/6W
CAPACITORS			
C522	E53701220M	CE	22 UF 10V
C2027	P23200224J	CMPL	0.22 UF 50V
C2529	E01101471M	CE	470 UF 10V
C2717	E01P01221M	CE	220 UF 10V
C5002	P61301103J	CMPL	0.01 UF 100V
C5041	P61500683J	CMPL	0.068 UF 50V
C5042	P13300562J	CP	0.0056 UF 50V
C5043	C020B0513K	CC	0.001 UF 500V
C7066	E01P00331M	CE	330 UF 6.3V
C7067	E01P01221M	CE	220 UF 10V
SEMICONDUCTORS			
D401	DD1RMA1520	DIODE,SILICON	MA152WA-(TX)
D501	D17R000920	DIODE,SILICON	RLS-92 TE-11
D502	D17R000920	DIODE,SILICON	RLS-92 TE-11
D503	DD3R0505CP	DIODE,SILICON	SB05-05CP-TA
D504	D17R000920	DIODE,SILICON	RLS-92 TE-11
D505	DD7RB110C0	DIODE,SILICON	RB110CT101
D1002	D97RB6R810	DIODE,ZENER	DTZ TT11 6.8
D1003	DD1RMA1100	DIODE,SILICON	MA110TX
D1004	DD1RMA1100	DIODE,SILICON	MA110TX
D1005	DD1RMA1100	DIODE,SILICON	MA110TX
D1006	D97RB6R21B	DIODE,ZENER	DTZ TT11 6.2B
D1007	DD1RMA1100	DIODE,SILICON	MA110TX
D1008	DD1RMA1100	DIODE,SILICON	MA110TX
D1009	DD1RMA1100	DIODE,SILICON	MA110TX
D1010	DD1RMA1100	DIODE,SILICON	MA110TX
D1201	0020124010	LED	LN1261C
D2001	DD1RMA1100	DIODE,SILICON	MA110TX
D2005	DD7RA204U0	DIODE,SILICON	DA204UT107
D2501	DD3RB2003P	DIODE,SILICON	SB20-03P-TD
D2502	DD3RB2003P	DIODE,SILICON	SB20-03P-TD
D2503	DD7RB110C0	DIODE,SILICON	RB110CT101
D2504	DD7RB110C0	DIODE,SILICON	RB110CT101
D2505	DD3RB2003P	DIODE,SILICON	SB20-03P-TD
D2506	DD1RMA1100	DIODE,SILICON	MA110TX
D3001	D97RB6R81A	DIODE,ZENER	DTZ TT11 6.8A
D3002	DD1RMA1100	DIODE,SILICON	MA110TX
D4101	DD1RMA1100	DIODE,SILICON	MA110TX
D4102	DD1RMA1100	DIODE,SILICON	MA110TX
D4103	DD1RMA1100	DIODE,SILICON	MA110TX
D4104	DD1RMA1100	DIODE,SILICON	MA110TX
D4201	DD7RN202U0	DIODE,SILICON	DAN202UT107
D4202	D97RB6R810	DIODE,ZENER	DTZ TT11 6.8
D5002	D97RB6R81B	DIODE,ZENER	DTZ TT11 6.8B
D5003	DD1RMA1100	DIODE,SILICON	MA110TX
D7001	DD1RMA1100	DIODE,SILICON	MA110TX
D7002	DD1RMA1100	DIODE,SILICON	MA110TX
D7003	DD1R007280	DIODE,SILICON	MA728-(TX)
D7004	DD1RMA1100	DIODE,SILICON	MA110TX
D7005	DD1RMA1100	DIODE,SILICON	MA110TX
D7006	DD1RMA1100	DIODE,SILICON	MA110TX
D7007	DD1RMA1100	DIODE,SILICON	MA110TX
D7008	DD3R020300	DIODE,SILICON	SB02-03Q-TR
D7009	DD1R007280	DIODE,SILICON	MA728-(TX)
D7010	DD1RMA1100	DIODE,SILICON	MA110TX
D7011	DD1RMA1100	DIODE,SILICON	MA110TX
D7012	DD1RMA1100	DIODE,SILICON	MA110TX
D7013	DD1RMA1100	DIODE,SILICON	MA110TX
D8002	DD1RMA1100	DIODE,SILICON	MA110TX
IC401	I07FD71490	IC	BA7149F-T1
IC501	I00F037750	IC	MB3775PF-G-BND-TF
IC1001	I05F57291F	IC	TA7291F(EL)
IC1002	I54F50031C	IC	OEC0031C
IC1003	I52F06451A	IC	UPD6451AGT-101-T1
IC1004	I5HF08052A	IC	S-8052ALO-LG-X
IC1005	I0UF010268	IC	MM1028BFF
IC1006	I5HF01252H	IC	S-81252HG-RL-T1
IC2001	I91F48026A	IC	OEC8026
IC2002	I07F00324A	IC	BA10324AF-T1
IC2003	I07F00393F	IC	BA10393F
IC2004	I56F0WU04F	IC	TC7WU04F(TE12L)
IC2501	I00F037750	IC	MB3775PF-G-BND-TF
IC2701	I01F03890F	IC	AN3890FBS
IC2702	I05F03702F	IC	TD62M3702F(TP1)
IC2703	I07F06456F	IC	BA6456FS-T1

REF.NO	PART NO	DESCRIPTION	
SEMICONDUCTORS (CONT)			
IC3001	I04F08185F	IC	HA118185F
IC3002	I55F07403M	IC	MSM7403MS-KR4
IC3003	I01F03580S	IC	AN3580SB-T1
IC3005	I07F56309F	IC	BA6309F-T1
IC4101	I04F08167F	IC	HA118167F
IC4201	I03F01830M	IC	LB1830M-TP-T1
IC5001	I07F65114F	IC	BA5114F
IC5002	I05F77361F	IC	TA7361AF-TP1
IC7001	I91D03725F	IC	MN3725FE
IC7002	I51F03110S	IC	MN3110S
IC7004	I81F051790	IC	MN5179
IC7005	I81F051070	IC	MN5107
IC7006	I0GF03P810	IC	IR3P81
IC7007	I0GF03P970	IC	IR3P97
IC7008	I55F07S04F	IC	TC7S04F(TE85L)
IC7009	I51F03820S	IC	MN3820S-T1
IC7010	I55F0053AF	IC	TC74HC4053AF(TP1)
IC8001	I54F08118M	IC	HA118118MA-EL
IC8002	I02F08181D	IC	MC-8181D
IC8003	I0GF03P820	IC	IR3P82
IC8004	I03F06324N	IC	LA6324NM-TP-T1
IC8005	I57F040528	IC	BU4052BF-T1
Q401	T65B011636	TRANSISTOR,SILICON	2SA1163-BL
⚠ Q402	T97B018982	TRANSISTOR,SILICON	2SD1898T101R
Q501	TP7TA07001	COMPOUND TRANSISTOR	DTA143EUT107
Q502	TN7MH07001	COMPOUND TRANSISTOR	DTC144WU
Q503	TA3T017070	TRANSISTOR,SWITCHING	2SA1707(S,T)
Q504	TR7A0FMY10	TRANSISTOR,ARRAY	FMY1 T149
Q505	TR7A0FMY10	TRANSISTOR,ARRAY	FMY1 T149
Q506	TA3T017070	TRANSISTOR,SWITCHING	2SA1707(S,T)
Q1001	TP7TD07001	COMPOUND TRANSISTOR	DTA144EUT107
Q1002	T67A015770	TRANSISTOR,SILICON	2SA1577T107
Q1003	TN7TD07001	COMPOUND TRANSISTOR	DTC144EUT107
Q1004	TN7TD07001	COMPOUND TRANSISTOR	DTC144EUT107
Q1005	T67A015760	TRANSISTOR,SILICON	2SA1576T107
Q1006	T67A015760	TRANSISTOR,SILICON	2SA1576T107
Q2001	TS7M000001	COMPOUND,TRANSISTOR(IC)	IMX1T110
Q2002	TS7M000001	COMPOUND,TRANSISTOR(IC)	IMX1T110
Q2003	TN7MJ07001	COMPOUND TRANSISTOR	DTC114TUT107
Q2501	T73A011230	TRANSISTOR,SILICON	2SB1123
Q2502	TN7TD07001	COMPOUND TRANSISTOR	DTC144EUT107
Q2503	TP7MJ07001	COMPOUND TRANSISTOR	DTA114TUT107
Q2504	TN7MJ07001	COMPOUND TRANSISTOR	DTC114TUT107
Q2505	TP7TA07001	COMPOUND TRANSISTOR	DTA143EUT107
Q2506	TN7TD07001	COMPOUND TRANSISTOR	DTC144EUT107
Q2507	T77A011880	TRANSISTOR,SILICON	2SB1188T101
Q2508	T77A011880	TRANSISTOR,SILICON	2SB1188T101
Q2509	TN7TD07001	COMPOUND TRANSISTOR	DTC144EUT107
Q2510	T67A015760	TRANSISTOR,SILICON	2SA1576T107
Q2511	T93T018010	TRANSISTOR,SILICON	2SD180
Q2513	T87A040810	TRANSISTOR,SILICON	2SC4081T107
Q2514	T67A015760	TRANSISTOR,SILICON	2SA1576T107
Q2515	T67A015770	TRANSISTOR,SILICON	2SA1577T107
Q2701	0002G00120	PHOTO COUPLER	GP2S09BC
Q2702	0002G00120	PHOTO COUPLER	GP2S09BC
Q3001	T83A042110	TRANSISTOR,SILICON	2SC4211
Q3002	T83A042110	TRANSISTOR,SILICON	2SC4211
Q3003	T83A042110	TRANSISTOR,SILICON	2SC4211
Q3004	T83A042110	TRANSISTOR,SILICON	2SC4211
Q3005	TN7TA07001	COMPOUND TRANSISTOR	DTC143EUT107
Q3006	TN7TB07001	COMPOUND TRANSISTOR	DTC114EUT107
Q3007	T83A042110	TRANSISTOR,SILICON	2SC4211
Q3008	T63A016220	TRANSISTOR,SILICON	2SA1622
Q3009	T83A042110	TRANSISTOR,SILICON	2SC4211
Q3010	T83A042110	TRANSISTOR,SILICON	2SC4211
Q3011	T63A016220	TRANSISTOR,SILICON	2SA1622
Q3012	T63A016220	TRANSISTOR,SILICON	2SA1622
Q3014	TN7TD07001	COMPOUND TRANSISTOR	DTC144EUT107
Q3016	T83A042110	TRANSISTOR,SILICON	2SC4211
Q3017	TN7TD07001	COMPOUND TRANSISTOR	DTC144EUT107
Q3018	TN7MJ07001	COMPOUND TRANSISTOR	DTC114TUT107
Q4101	TR7A0FMW10	TRANSISTOR,ARRAY	FMW1T99
Q4102	TR7A0FMW10	TRANSISTOR,ARRAY	FMW1T99
Q4103	T83A042110	TRANSISTOR,SILICON	2SC4211
Q4104	T63A016220	TRANSISTOR,SILICON	2SA1622
Q4201	TN7TC07001	COMPOUND TRANSISTOR	DTC124EUT107
Q4211	TP7TA07001	COMPOUND TRANSISTOR	DTA143EUT107
Q5001	TN7TB07001	COMPOUND TRANSISTOR	DTC114EUT107
Q5002	T87A040970	TRANSISTOR,SILICON	2SC4097T107
Q5003	TN7TB07001	COMPOUND TRANSISTOR	DTC114EUT107
Q5006	TN7TB07001	COMPOUND TRANSISTOR	DTC114EUT107
Q5007	T87A040970	TRANSISTOR,SILICON	2SC4097T107
Q5008	T67A015770	TRANSISTOR,SILICON	2SA1577T107

REF.NO	PART NO	DESCRIPTION
SEMICONDUCTORS (CONT)		
Q5009	TN7TC07001	COMPOUND TRANSISTOR DTC124EUT107
Q5010	T87A040810	TRANSISTOR.SILICON 2SC4081T107
Q7001	T81T046550	TRANSISTOR.SILICON 2SC4655-(TX)
Q7002	T91T022160	TRANSISTOR.SILICON 2SD2216-(TX)
Q7003	T91T022160	TRANSISTOR.SILICON 2SD2216-(TX)
Q7006	T67T017740	TRANSISTOR.SILICON 2SA1774 TL
Q7007	T67T017740	TRANSISTOR.SILICON 2SA1774 TL
Q7008	T67T017740	TRANSISTOR.SILICON 2SA1774 TL
Q7009	TR7A0UMX10	TRANSISTOR.ARRAY UMX1 TR
Q7010	TR7A0UMX10	TRANSISTOR.ARRAY UMX1 TR
Q7011	TR7A0UMX10	TRANSISTOR.ARRAY UMX1 TR
Q7012	T61T018060	TRANSISTOR.SILICON 2SA1806-(TX)
Q7013	T81T046910	TRANSISTOR.SILICON 2SC4691-(TX)
Q7014	T61T018060	TRANSISTOR.SILICON 2SA1806-(TX)
Q7015	T81T046910	TRANSISTOR.SILICON 2SC4691-(TX)
Q7016	T87T046170	TRANSISTOR.SILICON 2SC4617 TL
Q7017	T87T046170	TRANSISTOR.SILICON 2SC4617 TL
Q7018	T87T046170	TRANSISTOR.SILICON 2SC4617 TL
Q7019	T87T046170	TRANSISTOR.SILICON 2SC4617 TL
Q8001	TR7A0UMX10	TRANSISTOR.ARRAY UMX1 TR
Q8002	TR7A0UMZ10	TRANSISTOR.ARRAY UMZ1 TR
Q8003	T87T046170	TRANSISTOR.SILICON 2SC4617 TL
Q8004	T87T046170	TRANSISTOR.SILICON 2SC4617 TL
Q8005	TR7A0UMZ10	TRANSISTOR.ARRAY UMZ1 TR
COILS & TRANSFORMERS		
L401	0221000022A	COIL.LINEARITY ELH-5L238N
L402	02116A101K	COIL 100 UH
L501	021868220K	COIL 22 UH
L502	021678151K	COIL 150 UH
L503	021868470K	COIL 47 UH
L504	021868470K	COIL 47 UH
L505	021868151K	COIL 150 UH
L1001	021AM1221K	COIL 220 UH
L1002	021BS1390K	COIL 39 UH
L2501	021868470K	COIL 47 UH
L2502	021868330K	COIL 33 UH
L2503	021868470K	COIL 47 UH
L2504	021868470K	COIL 47 UH
L2505	021868330K	COIL 33 UH
L2506	021868330K	COIL 33 UH
L2507	021868330K	COIL 33 UH
L2508	02186F680K	COIL 68 UH
L2509	021AM1220K	COIL 22 UH
L2510	021AM1220K	COIL 22 UH
L3001	021BS1100K	COIL 10 UH
L3003	021BS1150K	COIL 15 UH
L3005	021BS1100K	COIL 10 UH
L3006	021AM1101K	COIL 100 UH
L3007	0216S2121K	COIL 120 UH
L3008	021AM1101K	COIL 100 UH
L3009	021AM1101K	COIL 100 UH
L3011	021BS1180K	COIL 18 UH
L3012	021AM1101K	COIL 100 UH
L3013	021AM1101K	COIL 100 UH
L3014	021BS1120K	COIL 12 UH
L3015	021BS1100K	COIL 10 UH
L3017	021BS1390K	COIL 39 UH
L3018	021BS1180K	COIL 18 UH
L3019	021AM1101K	COIL 100 UH
L3020	021BS1390K	COIL 39 UH
L3021	021WS1562K	COIL 5.6 MH
L3022	021BS1470K	COIL 47 UH
L4101	021BS1221K	COIL 220 UH
L4102	021BS1221K	COIL 220 UH
L4103	021BS1221K	COIL 220 UH
L4104	021BS1221K	COIL 220 UH
L4105	021AM1220K	COIL 22 UH
L4106	021AM1220K	COIL 22 UH
L4107	021BS1100K	COIL 10 UH
L4108	0216S2181K	COIL 180 UH
L4201	021AM1220K	COIL 22 UH
L4202	021AM6010M	COIL 1.0 UH
L4204	021AM6010M	COIL 1.0 UH
L5001	021WS1562K	COIL 5.6 MH
L5002	021AM1101K	COIL 100 UH
L5003	021AM1221K	COIL 220 UH
L5004	021AM1221K	COIL 220 UH
L7001	021AM6220K	COIL 22 UH
L7002	021AM6220K	COIL 22 UH
L7003	021AM6220K	COIL 22 UH
L7004	021AM6220K	COIL 22 UH
L7005	021AM6220K	COIL 22 UH
L7006	021AM1220K	COIL 22 UH

REF.NO	PART NO	DESCRIPTION
COILS & TRANSFORMERS (CONT)		
L7007	021AM6220K	COIL 22 UH
L7008	021AM1220K	COIL 22 UH
L7009	021AM6220K	COIL 22 UH
L7010	021AM1220K	COIL 22 UH
L7011	021AM1220K	COIL 22 UH
L7012	021AM1220K	COIL 22 UH
L7014	021AM6220K	COIL 22 UH
L8001	021AM6220K	COIL 22 UH
L8002	021AM1220K	COIL 22 UH
L8005	021AM6220K	COIL 22 UH
L8007	021AM1220K	COIL 22 UH
⚠ T501	048103012J	TRANSFORMER.SWITCHING 8103012J
T5001	031C11S01R	COIL.BIAS OSC 1C11S01R
T5002	031C11S02R	COIL.BIAS OSC 1C11S02R
JACKS		
⚠ J401	0666050002	SOCKET.CRT CVT 2906-5501
⚠ J2501	0602602005	JACK.DC HEC3610-01001D
J4201	0622780003	JACK.DIN TCS7308-01-201
SWITCHES		
SW401	06AJ200330	CONNE. PCB SIDE IMSA-9210B-1-03-T
SW1001	0504101C02	SWITCH.TACT EVQ-QFU 02K
SW1002	0504101C02	SWITCH.TACT EVQ-QFU 02K
SW1210	0510221A02	SWITCH.SLIDE SSSS22612A
SW1211	0510221A03	SWITCH.SLIDE SSST01087A
SW1219	0504201018	SWITCH.TACT SKHHBT005A
SW2701	0552111003	SWITCH.MICRO MSS-10L2-1
SW2702	0550A11015	SWITCH.LEAF MTS10290MPH0
VARIABLE RESISTORS		
VR401	V11C3Q4BM5	VR.SEMIFIXED EVM 1SS X50 BQ4
VR402	V11C3Q2BM5	VR.SEMIFIXED EVM 1SS X50 BQ2
VR403	V12B216BM1	VR.SEMIFIXED RH0422C16J
VR404	V11B2L6BM1	VR.SEMIFIXED EVM LSG A00 BY6
VR2001	V1JC3E5BM3	VR.SEMIFIXED CVR-32A-154SW2
VR2002	V1JC3H5BM3	VR.SEMIFIXED CVR-32A-224SW2
VR2003	V025025B02	VR.ROTARY RK08H11100AU
VR2502	V1JC314BM3	VR.SEMIFIXED CVR-32A-103SW2
VR3001	V1JC3H4BM3	VR.SEMIFIXED CVR-32A-223SW2
VR3002	V1JC3L4BM3	VR.SEMIFIXED CVR-32A-333SW2
VR3003	V1JC3H4BM3	VR.SEMIFIXED CVR-32A-223SW2
VR3004	V1JC314BM3	VR.SEMIFIXED CVR-32A-103SW2
VR3005	V1JC3H4BM3	VR.SEMIFIXED CVR-32A-223SW2
VR3006	V1JC314BM3	VR.SEMIFIXED CVR-32A-103SW2
VR3007	V1JC3H3BM3	VR.SEMIFIXED CVR-32A-222SW2
VR5001	V1JC3H4BM3	VR.SEMIFIXED CVR-32A-223SW2
VR5002	V1JC3H4BM3	VR.SEMIFIXED CVR-32A-223SW2
VR7001	V11C315BM5	VR.SEMIFIXED EVM 1SS X50 B15
VR7002	V11C3H3BM5	VR.SEMIFIXED EVM 1SS X50 BE3
VR7003	V11C3H3BM5	VR.SEMIFIXED EVM 1SS X50 BE3
VR7004	V11C3H5BM5	VR.SEMIFIXED EVM 1SS X50 BE5
VR7005	V11C3H4BM5	VR.SEMIFIXED EVM 1SS X50 BE4
VR7006	V11C3H4BM5	VR.SEMIFIXED EVM 1SS X50 BE4
VR7007	V11C3H4BM5	VR.SEMIFIXED EVM 1SS X50 BE4
VR7008	V11C3H4BM5	VR.SEMIFIXED EVM 1SS X50 BE4
VR7009	V11C3H4BM5	VR.SEMIFIXED EVM 1SS X50 BE4
VR7010	V11C3Q3BM5	VR.SEMIFIXED EVM 1SS X50 BQ3
VR7011	V11C3H4BM5	VR.SEMIFIXED EVM 1SS X50 BE4
VR7012	V11C3Q4BM5	VR.SEMIFIXED EVM 1SS X50 BQ4
VR7013	V11C3Q4BM5	VR.SEMIFIXED EVM 1SS X50 BQ4
VR7014	V11C314BM5	VR.SEMIFIXED EVM 1SS X50 B14
VR7015	V11C3H3BM5	VR.SEMIFIXED EVM 1SS X50 BE3
VR7016	V11C3H3BM5	VR.SEMIFIXED EVM 1SS X50 BE3
VR7017	V11C3H3BM5	VR.SEMIFIXED EVM 1SS X50 BE3
VR7018	V11C314BM5	VR.SEMIFIXED EVM 1SS X50 B14
VR7019	V11C314BM5	VR.SEMIFIXED EVM 1SS X50 B14
VR8001	V11C3H3BM5	VR.SEMIFIXED EVM 1SS X50 BE3
VR8002	V11C314BM5	VR.SEMIFIXED EVM 1SS X50 B14
VR8003	V11C314BM5	VR.SEMIFIXED EVM 1SS X50 B14
VR8004	V11C314BM5	VR.SEMIFIXED EVM 1SS X50 B14
VR8005	V11C314BM5	VR.SEMIFIXED EVM 1SS X50 B14
VR8006	V11C3Q4BM5	VR.SEMIFIXED EVM 1SS X50 BQ4
VR8007	V11C3H4BM5	VR.SEMIFIXED EVM 1SS X50 BE4
VR8008	V11C3H4BM5	VR.SEMIFIXED EVM 1SS X50 BE4
VR8009	V11C3Q4BM5	VR.SEMIFIXED EVM 1SS X50 BQ4
VR8011	V11C3H4BM5	VR.SEMIFIXED EVM 1SS X50 BE4
P.C. BOARD ASSEMBLIES		
PCB101	A45710A01A	PCB ASS'Y VM0023
PCB121	A45710A27A	PCB ASS'Y VE0475
PCB122	A45710A26A	PCB ASS'Y VE0476
PCB123	A45710A21A	PCB ASS'Y VE0477

REF.NO	PART NO	DESCRIPTION
		P.C. BOARD ASSEMBLIES (CONT)
PCB124	A45710A18A	PCB ASS'Y VE0478
PCB271	A45710A15A	PCB ASS'Y VV0244
PCB301	A45710A30A	PCB ASS'Y VV0245
PCB360	A45710A36A	PCB ASS'Y VV0243
PCB411	A45711A33A	PCB ASS'Y VV0250
PCB430	A43401A430	SEE DECK REPLACEMENT PARTS LIST
PCB500	A43401A500	SEE DECK REPLACEMENT PARTS LIST
PCB501	A45710A25A	PCB ASS'Y VV0231
PCB701	A45710A12A	PCB ASS'Y VV0236
PCB702	A45710A31A	PCB ASS'Y VV0238
PCB801	A45710A13A	PCB ASS'Y VV0237
		MISCELLANEOUS
AD8001	0415030221	AC ADAPTOR LSS00047
B2501	024A8407C2	CORE,BEADS BL02RN2-R62
B2502	024A8407C2	CORE,BEADS BL02RN2-R62
⚠ BT8001	1413300018	BATTERY,NICAD
BT8002	1411109002	BATTERY CR2025-I80N
CD401	068395007A	CORD,CONNECTOR 8395007A
CP402	0690740128	CONNECTOR PCB SIDE CHP1504-0101
CP403	0690940169	CONNECTOR PCB SIDE CGP1604-0101
CP405	126P000025	TERMINAL PIN RT-01T-1R0B
CP406	069J220330	CONNECTOR PCB SIDE IMSA-9215H-T
CY501	069R9A0010	CONNECTOR PCB SIDE 53020-1010
CD1205	068122028A	COAD,EIS CONNECTOR 8122028A
CD1501	068301328A	CORD,CONNECTOR 8301328A
CD2705	068394009A	CORD,EIS CONNECTOR 8394009A
CD4203	068393007A	CORD,EIS CONNECTOR 8393007A
CD4204	068125038A	COAD,EIS CONNECTOR 8125038A
CD7001	068101333A	CORD,EIS CONNECTOR 8103I3A
CD8001	0680T15001	CORD,CONNECTOR P21P01-08P10
CD8002	0682TB0001	CORD,CONNECTER JXP4717-010010
CD8003	068399002A	CORD,EIS CONNECTOR 8399002A
CD8004	122B081302	CORD,JUMPER 2B081302
CD8005	122B0A1402	CORD,JUMPER 2B0A1402
CD8006	122B0C1402	CORD,JUMPER 2B0C1402
CP1003	069R260219	CONNECTOR PCB SIDE 52030-0820
CP1203	069R260239	CONNECTOR PCB SIDE 52042-0830
CP1205	069H220011	CONNECTOR PCB SIDE IL-S-2P-S2L2-EF
CP2701	069R2F0239	CONNECTOR PCB SIDE 52042-1530
CP2702	069R2E0239	CONNECTOR PCB SIDE 52042-1430
CP2703	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP2704	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP2705	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP2706	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP2707	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP3003	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP4101	069R260219	CONNECTOR PCB SIDE 52030-0820
CP4102	0693920039	CONNECTOR PCB SIDE S2B-ZR
CP4201	069R2A0219	CONNECTOR PCB SIDE 52030-1020
CP4202	069R2C0219	CONNECTOR PCB SIDE 52030-1220
CP4203	0693930049	CONNECTOR PCB SIDE B3B-ZR
CP4204	0694250129	CONNECTOR PCB SIDE 173981-5
CP4205	0693950049	CONNECTOR PCB SIDE B5B-ZR
CP5001	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP5002	0693970039	CONNECTOR PCB SIDE S7B-ZR
CP5003	0693920039	CONNECTOR PCB SIDE S2B-ZR
CP5005	0693950049	CONNECTOR PCB SIDE B5B-ZR
CP8001	069R2A0219	CONNECTOR PCB SIDE 52030-1020
CP8002	069R2C0219	CONNECTOR PCB SIDE 52030-1220
CP8004	0693920049	CONNECTOR PCB SIDE B2B-ZR
CT8001	1401530001	TAPE,VIDEO CASSETTE EC30
CUS011	800JF00166	CUSHION-A
CUS121	800JF00166	CUSHION-A
CUS131	800JF00166	CUSHION-A
CUS151	800JF00166	CUSHION-A
CUS301	800JF00166	CUSHION-A
CUS331	800JF00166	CUSHION-A
CX1001	069R760050	CONNECTOR PCB SIDE 52198-0617
CX1002	069R760050	CONNECTOR PCB SIDE 52198-0617
CX2701	069H9D0030	CONNECTOR PCB SIDE IL-WY-16P-D15T
CX2702	069H9D0030	CONNECTOR PCB SIDE IL-WY-16P-D15T
CX4101	069H9D0030	CONNECTOR PCB SIDE IL-WY-16P-D15T
CX4201	069R9A0109	CONNECTOR PCB SIDE 53073-1010
CX4202	069R9E0109	CONNECTOR PCB SIDE 53073-1410
CX7001	069R9A0099	CONNECTOR PCB SIDE 52022-1010
CX7003	0694740011	CONNECTOR PCB SIDE 174633-4
CX7004	0694740011	CONNECTOR PCB SIDE 174633-4
CX8001	069R9D0010	CONNECTOR PCB SIDE 53020-1610
CX8002	069R9D0010	CONNECTOR PCB SIDE 53020-1610
CY1201	069R760060	CONNECTOR PCB SIDE 53136-0610
CY1202	069R760060	CONNECTOR PCB SIDE 53136-0610
CY2701	069H9C0020	CONNE. PCB SIDE IL-WY-16S-D15T-S1
CY2702	069H9C0020	CONNE. PCB SIDE IL-WY-16S-D15T-S1
CY3001	069R9A0099	CONNECTOR PCB SIDE 52022-1010
CY3002	069R9E0099	CONNECTOR PCB SIDE 52022-1410

REF.NO	PART NO	DESCRIPTION
		MISCELLANEOUS (CONT)
CY4201	069H9C0020	CONNE. PCB SIDE IL-WY-16S-D15T-S1
CY7001	069R9G0099	CONNECTOR PCB SIDE 52022-1610
CY7002	069R9G0099	CONNECTOR PCB SIDE 52022-1610
CY7003	0694740021	CONNECTOR PCB SIDE 3-174642-4
CY7004	0694740021	CONNECTOR PCB SIDE 3-174642-4
DL3001	104A24R438	DELAY LINE GLASS ADL-SE2444R
⚠ F121	084E340001	IC PROTECTOR PRF-4000-F003
⚠ F252	084700R801	IC PROTECTOR ICP-F20
⚠ F253	08470R2501	IC PROTECTOR ICP-N5
⚠ F254	084700R401	IC PROTECTOR ICP-F10
⚠ F255	084700R601	IC PROTECTOR CP-F15
⚠ F256	084700R601	IC PROTECTOR CP-F15
⚠ F257	084700R801	IC PROTECTOR ICP-F20
⚠ F258	084700R401	IC PROTECTOR ICP-F10
⚠ FB401	04200R6011	TRANSFORMER,FLYBACK ETF-08L20A
⚠ ICP401	0847T0R402	IC PROTECTOR ICP-N10T104
PF2001	113228T002	RC COMPOUND AFZR72YM38A1
PF3001	1147T127T2	FILTER,TRAP 47T127T2
PF3002	1147H145T1	FILTER,HIGH PASS 47H145T1
PF3003	1147L336T2	FILTER,LOW PASS 47L336T2
PF5001	114DL123T2	FILTER,LOW PASS 4DL123T2
PF7001	1147L406T2	FILTER,LOW PASS 47L406T2
PF7002	103803R6T1	DELAY 3803R6T1
PF7003	1147L166T4	FILTER,LOW PASS 47L166T4
PF7004	1147L166T4	FILTER,LOW PASS 47L166T4
PF7005	1147L166T4	FILTER,LOW PASS 47L166T4
PF7009	1162LTH3S1	FILTER,EMI NFM41R10C222T1
PF7010	1162LTH3S1	FILTER,EMI NFM41R10C222T1
PF8001	1147B446TD	FILTER,BAND PASS 47B446TD
PF8002	103801R5T2	DELAY 3801R5T2
PF8003	103801R5T2	DELAY 3801R5T2
PF8004	103801R5T2	DELAY 3801R5T2
TH401	DSK07G501K	THERMISTOR 112501-2
TC1001	0100114M01	C,CERAMIC TRIMER ECR-JA030E12X
TC7001	0100112M01	C,CERAMIC TRIMER ECR-JA020E12X
⚠ V401	09810R6801	B/W PICTURE TUBE M01KKX07W850
X1001	100632R801	CRYSTAL DSVT-200 32.768KHZ
X1002	1003T4R003	CERAMIC OSCILLATOR KBR-4.0MWSTR
X3001	1006F4R302	CRYSTAL HC-49/U 443361875HZ
X7001	100C19R301	CRYSTAL HC-49/U-S19.3125

RESISTOR
RC.....CARBON RESISTOR

CAPACITORS
CC.....CERAMIC CAPACITOR
CE.....ALUMI ELECTROLYTIC CAPACITOR
CP.....POLYESTER CAPACITOR
CPP.....POLYPROPYLENE CAPACITOR
CPL.....PLASTIC CAPACITOR
CMP.....METAL POLYESTER CAPACITOR
CMPL.....METAL PLASTIC CAPACITOR
CMPP.....METAL POLYPROPYLENE CAPACITOR
CST.....STYROL CAPACITOR

INTERCHANGEABLE PARTS LIST

NOTE:THE FOLLOWING PART(S) MAY BE SUBSTITUTED FOR PARTS INDICATED IN THE BASIC PART(S) LIST (WITH THE SAME REF.NO.). THESE PARTS SHARE THE SAME ELECTRICAL CHARACTERISTICS AND OTHER ELEMENTS FOR COMMON USAGE.
EITHER PART NUMBER MAY BE USED IN THIS UNIT.

REF.NO	DESCRIPTION (PART NO)	DESCRIPTION (PART NO)
VR7001	EVM 1SS X50 B15 (V11C315BM5)	CVR-32A-104SW2 (V1JC315BM3)
VR7002	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR7003	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR7004	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3) CVR-32A-224SW2 (V1JC3H5BM3)
VR7005	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR7006	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR7007	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR7008	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR7009	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR7010	EVM 1SS X50 BQ3 (V11C3Q3BM5)	CVR-32A-472SW2 (V1JC3Q3BM3)
VR7011	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR7012	EVM 1SS X50 BQ4 (V11C3Q4BM5)	CVR-32A-473SW2 (V1JC3Q4BM3)
VR7013	EVM 1SS X50 BQ4 (V11C3Q4BM5)	CVR-32A-473SW2 (V1JC3Q4BM3)
VR7014	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR7015	EVM 1SS X50 BE3 (V11C3H3BM5)	CVR-32A-222SW2 (V1JC3H3BM3)
VR7016	EVM 1SS X50 BE3 (V11C3H3BM5)	CVR-32A-222SW2 (V1JC3H3BM3)
VR7017	EVM 1SS X50 BE3 (V11C3H3BM5)	CVR-32A-222SW2 (V1JC3H3BM3)
VR7018	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR7019	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR8001	EVM 1SS X50 BE3 (V11C3H3BM5)	CVR-32A-222SW2 (V1JC3H3BM3)
VR8002	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR8003	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR8004	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR8005	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR8006	EVM 1SS X50 BQ4 (V11C3Q4BM5)	CVR-32A-473SW2 (V1JC3Q4BM3)
VR8007	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR8008	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR8009	EVM 1SS X50 BQ4 (V11C3Q4BM5)	CVR-32A-473SW2 (V1JC3Q4BM3)
VR8011	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)

REF.NO	PART NO	DESCRIPTION
		P.C. BOARD ASSEMBLIES (CONT)
PCB124	A45710A18A	PCB ASS'Y VE0478
PCB271	A45710A15A	PCB ASS'Y VV0244
PCB301	A45710A30A	PCB ASS'Y VV0245
PCB360	A45710A36A	PCB ASS'Y VV0243
PCB411	A45711A33A	PCB ASS'Y VV0250
PCB430	A43401A430	SEE DECK REPLACEMENT PARTS LIST
PCB500	A43401A500	SEE DECK REPLACEMENT PARTS LIST
PCB501	A45710A25A	PCB ASS'Y VV0231
PCB701	A45710A12A	PCB ASS'Y VV0236
PCB702	A45710A31A	PCB ASS'Y VV0238
PCB801	A45710A13A	PCB ASS'Y VV0237
		MISCELLANEOUS
AD8001	0415030221	AC ADAPTOR LSSQ0047
B2501	024A8407C2	CORE,BEADS BL02RN2-R62
B2502	024A8407C2	CORE,BEADS BL02RN2-R62
⚠ BT8001	1413300018	BATTERY,NICAD
BT8002	1411109002	BATTERY CR2025-1BON
CD401	068395007A	CORD,CONNECTOR 8395007A
CP402	0690740128	CONNECTOR PCB SIDE CHP1504-0101
CP403	0690940169	CONNECTOR PCB SIDE CGP1604-0101
CP405	126P000025	TERMINAL PIN RT-01T-1R08
CP406	069J220330	CONNECTOR PCB SIDE IMSA-9215H-T
CY501	069R9A0010	CONNECTOR PCB SIDE 53020-1010
CD1205	068122028A	COAD,EIS CONNECTOR 8122028A
CD1501	068301328A	CORD,CONNECTOR 8301328A
CD2705	068394009A	CORD,EIS CONNECTOR 8394009A
CD4203	068393007A	CORD,EIS CONNECTOR 8393D07A
CD4204	068125038A	COAD,EIS CONNECTOR 8125038A
CD7001	068101333A	CORD,EIS CONNECTOR 810333A
CD8001	0680T15001	CORD,CONNECTOR P21P01-08P10
CD8002	0682TB0001	CORD,CONNECTER JXP4717-010010
CD8003	068399002A	CORD,EIS CONNECTOR 8399002A
CD8004	1228081302	CORD,JUMPER 2B081302
CD8005	122B0A1402	CORD,JUMPER 2B0A1402
CD8006	122B0C1402	CORD,JUMPER 2B0C1402
CP1003	069R280219	CONNECTOR PCB SIDE 52030-0820
CP1203	069R280239	CONNECTOR PCB SIDE 52042-0830
CP1205	069H220011	CONNECTOR PCB SIDE IL-S-2P-S2L2-EF
CP2701	069R2F0239	CONNECTOR PCB SIDE 52042-1530
CP2702	069R2E0239	CONNECTOR PCB SIDE 52042-1430
CP2703	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP2704	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP2705	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP2706	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP2707	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP3003	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP4101	069R280219	CONNECTOR PCB SIDE 52030-0820
CP4102	0693920039	CONNECTOR PCB SIDE S2B-ZR
CP4201	069R2A0219	CONNECTOR PCB SIDE 52030-1020
CP4202	069R2C0219	CONNECTOR PCB SIDE 52030-1220
CP4203	0693930049	CONNECTOR PCB SIDE B3B-ZR
CP4204	0694250129	CONNECTOR PCB SIDE 173981-5
CP4205	0693950049	CONNECTOR PCB SIDE B5B-ZR
CP5001	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP5002	0693970039	CONNECTOR PCB SIDE S7B-ZR
CP5003	0693920039	CONNECTOR PCB SIDE S2B-ZR
CP5005	0693950049	CONNECTOR PCB SIDE B5B-ZR
CP8001	069R2A0219	CONNECTOR PCB SIDE 52030-1020
CP8002	069R2C0219	CONNECTOR PCB SIDE 52030-1220
CP8004	0693920049	CONNECTOR PCB SIDE B2B-ZR
CT8001	1401530001	TAPE,VIDEO CASSETTE EC30
CUS011	800JF00166	CUSHION-A
CUS121	800JF00166	CUSHION-A
CUS131	800JF00166	CUSHION-A
CUS151	800JF00166	CUSHION-A
CUS301	800JF00166	CUSHION-A
CUS331	800JF00166	CUSHION-A
CX1001	069R760050	CONNECTOR PCB SIDE 52198-0617
CX1002	069R760050	CONNECTOR PCB SIDE 52198-0617
CX2701	069H9D0030	CONNECTOR PCB SIDE IL-WY-16P-D15T
CX2702	069H9D0030	CONNECTOR PCB SIDE IL-WY-16P-D15T
CX4101	069H9D0030	CONNECTOR PCB SIDE IL-WY-16P-D15T
CX4201	069R9A0109	CONNECTOR PCB SIDE 53073-1010
CX4202	069R9E0109	CONNECTOR PCB SIDE 53073-1410
CX7001	069R9A0099	CONNECTOR PCB SIDE 52022-1010
CX7003	0694740011	CONNECTOR PCB SIDE 174633-4
CX7004	0694740011	CONNECTOR PCB SIDE 174633-4
CX8001	069R9D0010	CONNECTOR PCB SIDE 53020-1610
CX8002	069R9D0010	CONNECTOR PCB SIDE 53020-1610
CY1201	069R760060	CONNECTOR PCB SIDE 53136-0610
CY1202	069R760060	CONNECTOR PCB SIDE 53136-0610
CY2701	069H9C0020	CONNE. PCB SIDE IL-WY-16S-D15T-S1
CY2702	069H9C0020	CONNE. PCB SIDE IL-WY-16S-D15T-S1
CY3001	069R9A0099	CONNECTOR PCB SIDE 52022-1010
CY3002	069R9E0099	CONNECTOR PCB SIDE 52022-1410

REF.NO	PART NO	DESCRIPTION
		MISCELLANEOUS (CONT)
CY4201	069H9C0020	CONNE. PCB SIDE IL-WY-16S-D15T-S1
CY7001	069R9G0099	CONNECTOR PCB SIDE 52022-1610
CY7002	069R9G0099	CONNECTOR PCB SIDE 52022-1610
CY7003	0694740021	CONNECTOR PCB SIDE 3-174642-4
CY7004	0694740021	CONNECTOR PCB SIDE 3-174642-4
DL3001	104A24R438	DELAY LINE GLASS ADL-SE2444R
⚠ F121	084E340001	IC PROTECTOR PRF-4000-F003
⚠ F252	084700R801	IC PROTECTOR ICP-F20
⚠ F253	08470R2501	IC PROTECTOR ICP-N5
⚠ F254	084700R401	IC PROTECTOR ICP-F10
⚠ F255	084700R601	IC PROTECTOR CP-F15
⚠ F256	084700R601	IC PROTECTOR CP-F15
⚠ F257	084700R801	IC PROTECTOR ICP-F20
⚠ F258	084700R401	IC PROTECTOR ICP-F10
⚠ FB401	04200R6011	TRANSFORMER,FLYBACK ETF-08L20A
⚠ ICP401	0847T0R402	IC PROTECTOR ICP-N10T104
PF2001	113228T002	RC COMPOUND AFZR72YM38A1
PF3001	1147T127T2	FILTER,TRAP 47T127T2
PF3002	1147H145T1	FILTER,HIGH PASS 47H145T1
PF3003	1147L336T2	FILTER,LOW PASS 47L336T2
PF5001	114DL123T2	FILTER,LOW PASS 4DL123T2
PF7001	1147L406T2	FILTER,LOW PASS 47L406T2
PF7002	103803R6T1	DELAY 3803R6T1
PF7003	1147L166T4	FILTER,LOW PASS 47L166T4
PF7004	1147L166T4	FILTER,LOW PASS 47L166T4
PF7005	1147L166T4	FILTER,LOW PASS 47L166T4
PF7009	1162LTH3S1	FILTER,EMI NFM41R10C222T1
PF7010	1162LTH3S1	FILTER,EMI NFM41R10C222T1
PF8001	1147B446TD	FILTER,BAND PASS 47B446TD
PF8002	103801R5T2	DELAY 3801R5T2
PF8003	103801R5T2	DELAY 3801R5T2
PF8004	103801R5T2	DELAY 3801R5T2
TH401	DSK07G501K	THERMISTOR 112501-2
TC1001	0100114M01	C,CERAMIC TRIMER ECR-JA030E12X
TC7001	0100112M01	C,CERAMIC TRIMER ECR-JA020E12X
⚠ V401	09810R6801	B/W PICTURE TUBE M01KKX07WB50
X1001	100632R801	CRYSTAL DSVT-200 32.768KHZ
X1002	1003T4R003	CERAMIC OSCILLATOR KBR-4.0MWSTR
X3001	1006F4R302	CRYSTAL HC-49/U 443361875HZ
X7001	100C19R301	CRYSTAL HC-49/U-S19.3125

RESISTOR
 RC.....CARBON RESISTOR

CAPACITORS
 CC.....CERAMIC CAPACITOR
 CE.....ALUMI ELECTROLYTIC CAPACITOR
 CP.....POLYESTER CAPACITOR
 CPP.....POLYPROPYLENE CAPACITOR
 CPL.....PLASTIC CAPACITOR
 CMP.....METAL POLYESTER CAPACITOR
 CMPL.....METAL PLASTIC CAPACITOR
 CMPP.....METAL POLYPROPYLENE CAPACITOR
 CST.....STYROL CAPACITOR

INTERCHANGEABLE PARTS LIST

NOTE: THE FOLLOWING PART(S) MAY BE SUBSTITUTED FOR PARTS INDICATED IN THE BASIC PART(S) LIST (WITH THE SAME REF.NO.). THESE PARTS SHARE THE SAME ELECTRICAL CHARACTERISTICS AND OTHER ELEMENTS FOR COMMON USAGE.
EITHER PART NUMBER MAY BE USED IN THIS UNIT.

REF.NO	DESCRIPTION (PART NO)	DESCRIPTION (PART NO)
VR7001	EVM 1SS X50 B15 (V11C315BM5)	CVR-32A-104SW2 (V1JC315BM3)
VR7002	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR7003	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR7004	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3) CVR-32A-224SW2 (V1JC3H5BM3)
VR7005	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR7006	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR7007	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR7008	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR7009	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR7010	EVM 1SS X50 BQ3 (V11C3Q3BM5)	CVR-32A-472SW2 (V1JC3Q3BM3)
VR7011	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR7012	EVM 1SS X50 BQ4 (V11C3Q4BM5)	CVR-32A-473SW2 (V1JC3Q4BM3)
VR7013	EVM 1SS X50 BQ4 (V11C3Q4BM5)	CVR-32A-473SW2 (V1JC3Q4BM3)
VR7014	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR7015	EVM 1SS X50 BE3 (V11C3H3BM5)	CVR-32A-222SW2 (V1JC3H3BM3)
VR7016	EVM 1SS X50 BE3 (V11C3H3BM5)	CVR-32A-222SW2 (V1JC3H3BM3)
VR7017	EVM 1SS X50 BE3 (V11C3H3BM5)	CVR-32A-222SW2 (V1JC3H3BM3)
VR7018	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR7019	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR8001	EVM 1SS X50 BE3 (V11C3H3BM5)	CVR-32A-222SW2 (V1JC3H3BM3)
VR8002	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR8003	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR8004	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR8005	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR8006	EVM 1SS X50 BQ4 (V11C3Q4BM5)	CVR-32A-473SW2 (V1JC3Q4BM3)
VR8007	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR8008	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR8009	EVM 1SS X50 BQ4 (V11C3Q4BM5)	CVR-32A-473SW2 (V1JC3Q4BM3)
VR8011	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)

ELECTRICAL REPLACEMENT PARTS LIST

REF.NO	PART NO	DESCRIPTION
		P.C. BOARD ASSEMBLIES (CONT)
PCB124	A45710A18A	PCB ASS'Y VE0478
PCB271	A45710A15A	PCB ASS'Y VV0244
PCB301	A45710A30A	PCB ASS'Y VV0245
PCB360	A45710A36A	PCB ASS'Y VV0243
PCB411	A45711A33A	PCB ASS'Y VV0250
PCB430	A43401A430	SEE DECK REPLACEMENT PARTS LIST
PCB500	A43401A500	SEE DECK REPLACEMENT PARTS LIST
PCB501	A45710A25A	PCB ASS'Y VV0231
PCB701	A45710A12A	PCB ASS'Y VV0236
PCB702	A45710A31A	PCB ASS'Y VV0238
PCB801	A45710A13A	PCB ASS'Y VV0237
		MISCELLANEOUS
AD8001	0415030221	AC ADAPTOR LSSQ0047
B2501	024A8407C2	CORE,BEADS BL02RN2-R62
B2502	024A8407C2	CORE,BEADS BL02RN2-R62
⚠ BT8001	1413300018	BATTERY,NICAD
BT8002	1411109002	BATTERY CR2025-1BON
CD401	068395007A	CORD,CONNECTOR 8395007A
CP402	0690740128	CONNECTOR PCB SIDE CHP1504-0101
CP403	0690940169	CONNECTOR PCB SIDE CGP1604-0101
CP405	126P000025	TERMINAL PIN RT-01T-1R0B
CP406	069J220330	CONNECTOR PCB SIDE IMSA-9215H-T
CY501	069R9A0010	CONNECTOR PCB SIDE 53020-1010
CD1205	068122028A	COAD,EIS CONNECTOR 8122028A
CD1501	068301328A	CORD,CONNECTOR 8301328A
CD2705	068394009A	CORD,EIS CONNECTOR 8394009A
CD4203	068393007A	CORD,EIS CONNECTOR 8393007A
CD4204	068125038A	COAD,EIS CONNECTOR 8125038A
CD7001	068101333A	CORD,EIS CONNECTOR 810333A
CD8001	0680T15001	CORD,CONNECTOR P21P01-08P10
CD8002	0682TB0001	CORD,CONNECTER JXP4717-010010
CD8003	068399002A	CORD,EIS CONNECTOR 8399002A
CD8004	122B081302	CORD,JUMPER 2B081302
CD8005	122B0A1402	CORD,JUMPER 2B0A1402
CD8006	122B0C1402	CORD,JUMPER 2B0C1402
CP1003	069R280219	CONNECTOR PCB SIDE 52030-0820
CP1203	069R280239	CONNECTOR PCB SIDE 52042-0830
CP1205	069H220011	CONNECTOR PCB SIDE IL-S-2P-S2L2-EF
CP2701	069R2F0239	CONNECTOR PCB SIDE 52042-1530
CP2702	069R2E0239	CONNECTOR PCB SIDE 52042-1430
CP2703	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP2704	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP2705	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP2706	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP2707	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP3003	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP4101	069R280219	CONNECTOR PCB SIDE 52030-0820
CP4102	0693920039	CONNECTOR PCB SIDE S2B-ZR
CP4201	069R2A0219	CONNECTOR PCB SIDE 52030-1020
CP4202	069R2C0219	CONNECTOR PCB SIDE 52030-1220
CP4203	0693930049	CONNECTOR PCB SIDE B3B-ZR
CP4204	0694250129	CONNECTOR PCB SIDE 173981-5
CP4205	0693950049	CONNECTOR PCB SIDE B5B-ZR
CP5001	0693920049	CONNECTOR PCB SIDE B2B-ZR
CP5002	0693970039	CONNECTOR PCB SIDE S7B-ZR
CP5003	0693920039	CONNECTOR PCB SIDE S2B-ZR
CP5005	0693950049	CONNECTOR PCB SIDE B5B-ZR
CP8001	069R2A0219	CONNECTOR PCB SIDE 52030-1020
CP8002	069R2C0219	CONNECTOR PCB SIDE 52030-1220
CP8004	0693920049	CONNECTOR PCB SIDE B2B-ZR
CT8001	1401530001	TAPE,VIDEO CASSETTE EC30
CUS011	800JF00166	CUSHION-A
CUS121	800JF00166	CUSHION-A
CUS131	800JF00166	CUSHION-A
CUS151	800JF00166	CUSHION-A
CUS301	800JF00166	CUSHION-A
CUS331	800JF00166	CUSHION-A
CX1001	069R760050	CONNECTOR PCB SIDE 52198-0617
CX1002	069R760050	CONNECTOR PCB SIDE 52198-0617
CX2701	069H9D0030	CONNECTOR PCB SIDE IL-WY-16P-D15T
CX2702	069H9D0030	CONNECTOR PCB SIDE IL-WY-16P-D15T
CX4101	069H9D0030	CONNECTOR PCB SIDE IL-WY-16P-D15T
CX4201	069R9A0109	CONNECTOR PCB SIDE 53073-1010
CX4202	069R9E0109	CONNECTOR PCB SIDE 53073-1410
CX7001	069R9A0099	CONNECTOR PCB SIDE 52022-1010
CX7003	0694740011	CONNECTOR PCB SIDE 174633-4
CX7004	0694740011	CONNECTOR PCB SIDE 174633-4
CX8001	069R9D0010	CONNECTOR PCB SIDE 53020-1610
CX8002	069R9D0010	CONNECTOR PCB SIDE 53020-1610
CY1201	069R760060	CONNECTOR PCB SIDE 53136-0610
CY1202	069R760060	CONNECTOR PCB SIDE 53136-0610
CY2701	069H9C0020	CONNE. PCB SIDE IL-WY-16S-D15T-S1
CY2702	069H9C0020	CONNE. PCB SIDE IL-WY-16S-D15T-S1
CY3001	069R9A0099	CONNECTOR PCB SIDE 52022-1010
CY3002	069R9E0099	CONNECTOR PCB SIDE 52022-1410

REF.NO	PART NO	DESCRIPTION
		MISCELLANEOUS (CONT)
CY4201	069H9C0020	CONNE. PCB SIDE IL-WY-16S-D15T-S1
CY7001	069R9G0099	CONNECTOR PCB SIDE 52022-1610
CY7002	069R9G0099	CONNECTOR PCB SIDE 52022-1610
CY7003	0694740021	CONNECTOR PCB SIDE 3-174642-4
CY7004	0694740021	CONNECTOR PCB SIDE 3-174642-4
DL3001	104A24R438	DELAY LINE GLASS ADL-SE2444R
⚠ F121	084E340001	IC PROTECTOR PRF-4000-F003
⚠ F252	084700R801	IC PROTECTOR ICP-F20
⚠ F253	08470R2501	IC PROTECTOR ICP-N5
⚠ F254	084700R401	IC PROTECTOR ICP-F10
⚠ F255	084700R601	IC PROTECTOR CP-F15
⚠ F256	084700R601	IC PROTECTOR CP-F15
⚠ F257	084700R801	IC PROTECTOR ICP-F20
⚠ F258	084700R401	IC PROTECTOR ICP-F10
⚠ FB401	04200R6011	TRANSFORMER,FLYBACK ETF-08L20A
⚠ ICP401	0847T0R402	IC PROTECTOR ICP-N10T1D4
PF2001	113228T002	RC COMPOUND AFZR72YM38A1
PF3001	1147T127T2	FILTER,TRAP 47T127T2
PF3002	1147H145T1	FILTER,HIGH PASS 47H145T1
PF3003	1147L336T2	FILTER,LOW PASS 47L336T2
PF5001	114DL123T2	FILTER,LOW PASS 4DL123T2
PF7001	1147L406T2	FILTER,LOW PASS 47L406T2
PF7002	103803R6T1	DELAY 3803R6T1
PF7003	1147L166T4	FILTER,LOW PASS 47L166T4
PF7004	1147L166T4	FILTER,LOW PASS 47L166T4
PF7005	1147L166T4	FILTER,LOW PASS 47L166T4
PF7009	1162LTH3S1	FILTER,EMI NFM41R10C222T1
PF7010	1162LTH3S1	FILTER,EMI NFM41R10C222T1
PF8001	1147B446TD	FILTER,BAND PASS 47B446TD
PF8002	103801R5T2	DELAY 3801R5T2
PF8003	103801R5T2	DELAY 3801R5T2
PF8004	103801R5T2	DELAY 3801R5T2
TH401	DSK07G501K	THERMISTOR 112501-2
TC1001	0100114M01	C,CERAMIC TRIMER ECR-JA030E12X
TC7001	0100112M01	C,CERAMIC TRIMER ECR-JA020E12X
⚠ V401	09810R6801	B/W PICTURE TUBE M01KKX07WB50
X1001	100632R801	CRYSTAL DSVT-200 32.768KHZ
X1002	1003T4R003	CERAMIC OSCILLATOR KBR-4.0MWSTR
X3001	1006F4R302	CRYSTAL HC-49/U 443361875HZ
X7001	100C19R301	CRYSTAL HC-49/U-S19.3125

RESISTOR
RC.....CARBON RESISTOR

CAPACITORS
CC.....CERAMIC CAPACITOR
CE.....ALUMI ELECTROLYTIC CAPACITOR
CP.....POLYESTER CAPACITOR
CPP.....POLYPROPYLENE CAPACITOR
CPL.....PLASTIC CAPACITOR
CMP.....METAL POLYESTER CAPACITOR
CMPL.....METAL PLASTIC CAPACITOR
CMPP.....METAL POLYPROPYLENE CAPACITOR
CST.....STYROL CAPACITOR

INTERCHANGEABLE PARTS LIST

NOTE: THE FOLLOWING PART(S) MAY BE SUBSTITUTED FOR PARTS INDICATED IN THE BASIC PART(S) LIST (WITH THE SAME REF.NO.). THESE PARTS SHARE THE SAME ELECTRICAL CHARACTERISTICS AND OTHER ELEMENTS FOR COMMON USAGE.
EITHER PART NUMBER MAY BE USED IN THIS UNIT.

REF.NO	DESCRIPTION (PART NO)	DESCRIPTION (PART NO)
VR7001	EVM 1SS X50 B15 (V11C315BM5)	CVR-32A-104SW2 (V1JC315BM3)
VR7002	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR7003	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR7004	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3) CVR-32A-224SW2 (V1JC3H5BM3)
VR7005	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR7006	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR7007	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR7008	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR7009	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR7010	EVM 1SS X50 BQ3 (V11C3Q3BM5)	CVR-32A-472SW2 (V1JC3Q3BM3)
VR7011	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR7012	EVM 1SS X50 BQ4 (V11C3Q4BM5)	CVR-32A-473SW2 (V1JC3Q4BM3)
VR7013	EVM 1SS X50 BQ4 (V11C3Q4BM5)	CVR-32A-473SW2 (V1JC3Q4BM3)
VR7014	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR7015	EVM 1SS X50 BE3 (V11C3H3BM5)	CVR-32A-222SW2 (V1JC3H3BM3)
VR7016	EVM 1SS X50 BE3 (V11C3H3BM5)	CVR-32A-222SW2 (V1JC3H3BM3)
VR7017	EVM 1SS X50 BE3 (V11C3H3BM5)	CVR-32A-222SW2 (V1JC3H3BM3)
VR7018	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR7019	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR8001	EVM 1SS X50 BE3 (V11C3H3BM5)	CVR-32A-222SW2 (V1JC3H3BM3)
VR8002	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR8003	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR8004	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR8005	EVM 1SS X50 B14 (V11C314BM5)	CVR-32A-103SW2 (V1JC314BM3)
VR8006	EVM 1SS X50 BQ4 (V11C3Q4BM5)	CVR-32A-473SW2 (V1JC3Q4BM3)
VR8007	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR8008	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)
VR8009	EVM 1SS X50 BQ4 (V11C3Q4BM5)	CVR-32A-473SW2 (V1JC3Q4BM3)
VR8011	EVM 1SS X50 BE4 (V11C3H4BM5)	CVR-32A-223SW2 (V1JC3H4BM3)