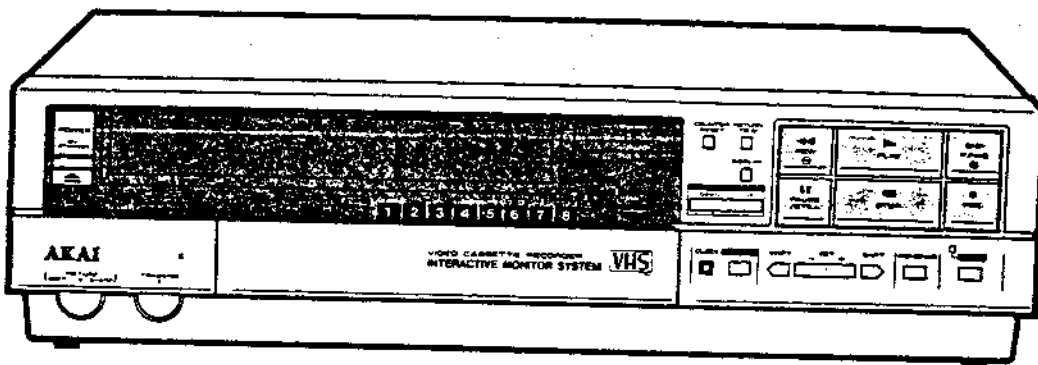
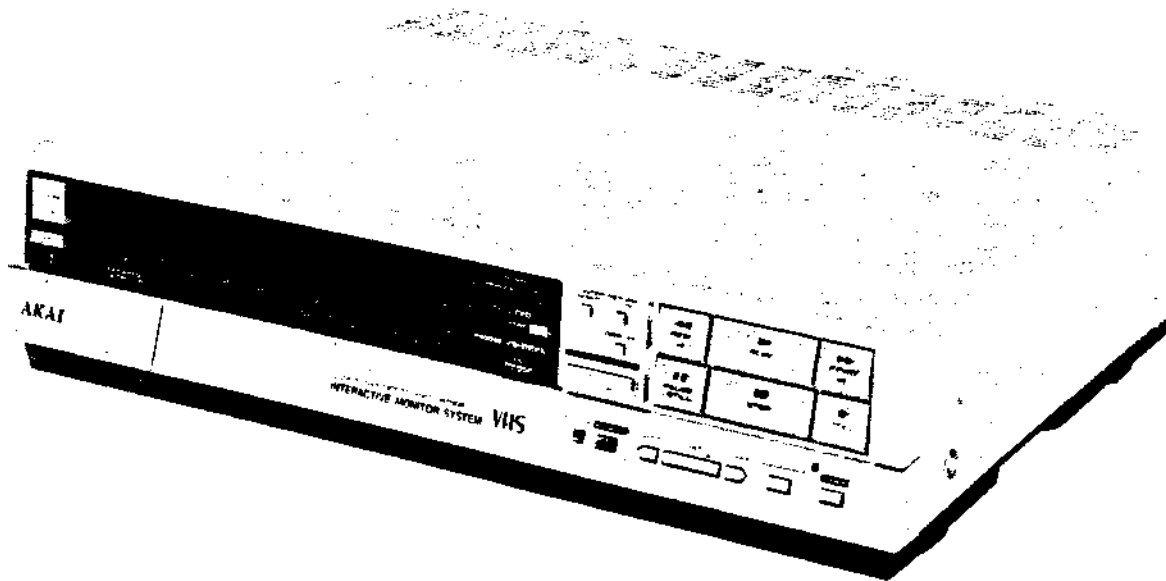


AKAI SERVICE MANUAL



VIDEO CASSETTE RECORDER

MODEL VS-205EK



VIDEO CASSETTE RECORDER

MODEL **VS-112**EG/EK/EK(Y1)/EA
ED/EV-M/EZ/ES

MODEL **VS-105**EK

MODEL **VS-115**EO/EO(Y1)

MODEL **VS-116**EO-G

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SECTION 1

SERVICE MANUAL

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For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL.

AKAI

MODEL **VS-112**^{EG/EK/EK(Y1)/EA}_{ED/EV-M/EZ/ES}

MODEL **VS-205**EK

MODEL **VS-115**EO/EO(Y1)

MODEL **VS-116**EO-G

SCHEMATIC DIAGRAM AND PC BOARDS

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I. SPECIFICATIONS

1-1. SPECIFICATIONS VS-112EG/EK/EK(Y1)/EA/ED/EV-M/EZ/ES

Format		VHS Standard
Video recording system		Rotary, slant azimuth two-head helical scan system
Rotary Heads		2 video heads
RF input	EA ED EG EK/EK (Y1) ES EV-M EZ	System B, G VHF: ch 0 to 5, 5A, 6 to 11 UHF: ch 21 to 69 System D VHF: ch 1 to 12 UHF: ch 13 to 56 System B, G VHF: ch 2 to 12 UHF: ch 21 to 69 System I UHF: ch 21 to 69 System I VHF: ch A to J (Ireland), ch 4 to 13 (South Africa) UHF: ch 21 to 69 System B, G VHF: ch 2 to 12 UHF: ch 21 to 69 System B, G VHF: ch 1 to 9 UHF: ch 21 to 69
RF output	EA ED EG EK/EK (Y1) ES EV-M EZ	System B type modulation VHF: ch 0, 1 switchable (preset ch 1) System D type modulation VHF: ch 4, 5 switchable (preset ch 5) System G type modulation UHF: ch 30 to 39 adjustable (preset ch 36) System I type modulation UHF: ch 30 to 39 adjustable (preset ch 36) System I type modulation UHF: ch 30 to 39 adjustable (preset ch 36) System B type modulation VHF: ch 3,4 switchable (preset ch 4) System B type modulation VHF: ch 2, 3 switchable (preset ch 3)
Recording (line input)		PAL, CCIR (System B, G, I)
Playback (line input)		PAL, CCIR (System B, G, I)
Video	Line input level Line output level S/N ratio Horizontal resolution	0.5 to 2.0 Vp-p/75 ohms, unbalanced 1.0 Vp-p/75 ohms, unbalanced More than 45 dB More than 250 lines
Audio	Line input level Line output level S/N ratio Frequency response	-8 dBm/50 kohms, unbalanced -6 dBm/1 kohms, unbalanced More than 40 dB 70 to 10,000 Hz
Recording/Playback time		240 min. with E-240 cassette
Tape speed	SP Mode	23.39 mm/sec
Quick finder		Approx. 7 times normal speed (noise bars fixed)
FF, REW time		Approx. 5 min. with E-240 cassette
Timer	Programs Clock reference	4 programs/2 week and sleep timer Quartz crystal
Display		TV screen (Tape counter, Timer etc.)
Power requirements	EA ED EG EK/EK (Y1) ES EV-M EZ	240V AC, 50 Hz 220V AC, 50 Hz 110V/220V AC, 50 Hz/60 Hz 200V/240V AC, 50 Hz 220V/250V AC, 50 Hz 115/230V AC, 50 Hz/60Hz 230V AC, 50 Hz
Power consumption		28W
Operating temperature		5°C to 40°C (41°F to 104°F)
Dimensions		440 (W) x 108 (H) x 380 (D) mm (17.3 x 4.3 x 15.0 inches)
Weight		7.6 kg (16.7 lbs)

STANDARD ACCESSORY

Antenna cable
Remote Control Unit RC-V155
Batteries for Remote Control

* For improvement purposes, specifications and design are subject to change without notice.

RC-V155

System	Infrared pulse position modulation system
Carrier frequency	38 kHz \pm 0.2 kHz
Range	More than 5 meters
Directivity	\pm 15 (at 4 meters)
Batteries	R6 (or AA, SUM-3) x 2 (3 volts)
Dimensions	43 (W) x 20 (H) x 161 (D) mm
Weight	60g (without batteries)

1-2. SPECIFICATIONS VS-115EO/EO (Y1)

Format		VHS Standard
Video recording system		Rotary, slant azimuth two-head helical scan system
Rotary Heads		2 video heads
RF input	EO/EO (Y1)	System B, G VHF: Low ch 2 to 4, S1 to S3 High ch M1 to M10, 5 to 12, U1 to U10 UHF: ch 21 to 69
RF output	EO/EO (Y1)	System G type modulation UHF: ch 30 to 39 adjustable (preset ch 36)
Recording (line input)		PAL, CCIR (System B, G, I)
Playback (line input)		PAL, CCIR (System B, G, I)
Video	Line input level Line output level S/N ratio Horizontal resolution	0.5 to 2.0 Vp-p/75 ohms, unbalanced 1.0 Vp-p/75 ohms, unbalanced More than 45 dB More than 250 lines
Audio	Line input level Line output level S/N ratio Frequency response	-8 dBm/50 kohms, unbalanced -6 dBm/1 kohms, unbalanced More than 40 dB 70 to 10,000 Hz
Recording/Playback time		240 min. with E-240 cassette
Tape speed	SP Mode	23.39 mm/sec
Quick finder	SP Mode	Approx. 7 times normal speed (noise bars fixed)
FF, REW time		Approx. 5 min. with E-240 cassette
Timer	Programs Clock reference	4 programs/2 week and sleep timer Quartz crystal
Display		TV screen (Tape counter, Timer etc.)
Power requirements	EO/EO (Y1)	220V AC, 50 Hz
Power consumption		28W
Operating temperature		5°C to 40°C (41°F to 104°F)
Dimensions		440 (W) × 108 (H) × 380 (D) mm (17.3 × 4.3 × 15.0 inches)
Weight		7.6 kg (16.7 lbs)

STANDARD ACCESSORY

Antenna cable
Remote Control Unit RC-V155
Batteries for Remote Control

* For improvement purposes, specifications and design are subject to change without notice.

RC-V155

System	Infrared pulse position modulation system
Carrier frequency	38 kHz ± 0.2 kHz
Range	More than 5 meters
Directivity	±15 (at 4 meters)
Batteries	R6 (or AA, SUM-3) × 2 (3 volts)
Dimensions	43 (W) × 20 (H) × 161 (D) mm
Weight	60g (without batteries)

1-3. SPECIFICATIONS VS-116EO-G

Format	VHS Standard	
Video recording system	Rotary, slant azimuth two-head helical scan system	
Rotary Heads	2 video heads	
RF input	System B, G VHF: Low ch 2 to 4, S1, S2 High ch S3 to S10, 5 to 12, S11 to S22 UHF: ch 21 to 69	
RF output	System G type modulation UHF: ch 30 to 39 adjustable (preset ch 36)	
Recording (line input)	PAL, CCIR (System B, G, I)	
Playback (line input)	PAL, CCIR (System B, G, I)	
Video	Line input level Line output level S/N ratio Horizontal resolution	0.5 to 2.0 Vp-p/75 ohms, unbalanced 1.0 Vp-p/75 ohms, unbalanced More than 45 dB More than 250 lines
Audio	Line input level Line output level S/N ratio Frequency response	-8 dBm/50 kohms, unbalanced (309 mVrms) -6 dBm/1 kohms, unbalanced (388 mVrms) More than 40 dB 70 to 10,000 Hz
Recording/Playback time	240 min. with E-240 cassette	
Tape speed	SP Mode 23.39 mm/sec	
Quick finder	Approx. 7 times normal speed (noise bars fixed)	
FF, REW time	Approx. 5 min. with E-240 cassette	
Timer	Programs Clock reference	4 programs/2 week and sleep timer Quartz crystal
Display	TV screen (Tape counter, Timer etc.)	
Power requirements	220V AC, 50 Hz	
Power consumption	28W	
Operating temperature	5°C to 40°C (41°F to 104°F)	
Dimensions	440 (W) x 108 (H) x 380 (D) mm (17.3 x 4.3 x 15.0 inches)	
Weight	7.6 kg (16.7 lbs)	

STANDARD ACCESSORY

Antenna cable
Remote Control Unit RC-V155
Batteries for Remote Control

* For improvement purposes, specifications and design are subject to change without notice.

RC-V155

System	Infrared pulse position modulation system
Carrier frequency	38 kHz \pm 0.2 kHz
Range	More than 5 meters
Directivity	\pm 15 (at 4 meters)
Batteries	R6 (or AA, SUM-3) x 2 (3 volts)
Dimensions	43 (W) x 20 (H) x 161 (D) mm
Weight	60g (without batteries)

1-4. SPECIFICATIONS VS-105EK

Format	VHS Standard
Video recording system	Rotary, slant azimuth two-head helical scan system
Rotary Heads	2 video heads
RF input	System I UHF: ch 21 to 69
RF output	System I type modulation UHF: ch 30 to 39 adjustable (preset ch 36)
Recording (line input)	PAL, CCIR (System B, G, I)
Playback (line input)	PAL, CCIR (System B, G, I)
Video	Line input level Line output level S/N ratio Horizontal resolution
Audio	Line input level Line output level S/N ratio Frequency response
Recording/Playback time	240 min. with E-240 cassette
Tape speed	SP Mode 23.39 mm/sec
Quick finder	Approx. 7 times normal speed (noise bars fixed)
FF, REW time	Approx. 5 min. with E-240 cassette
Timer	Programs Clock reference
Display	TV screen (Tape counter, Timer etc.)
Power requirements	200V/240V AC, 50 Hz
Power consumption	28W
Operating temperature	5°C to 40°C (41°F to 104°F)
Dimensions	440 (W) x 108 (H) x 380 (D) mm (17.3 x 4.3 x 15.0 inches)
Weight	7.6 kg (16.7 lbs)

* For improvement purposes, specifications and design are subject to change without notice.

II. STANDARD TV BROADCASTING SYSTEMS IN THE WORLD (PAL, SECAM and NTSC) AND CORRESPONDING AKAI VCR MODEL NUMBERS

Three different color TV systems – PAL, SECAM and NTSC – are now used in the world. As different models of the Akai VS series VCR's conform to different standards, please note the following:

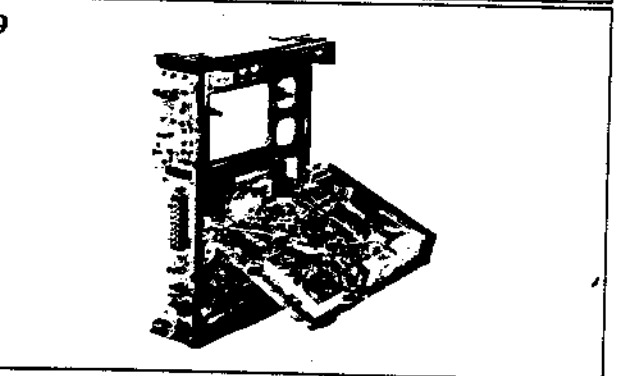
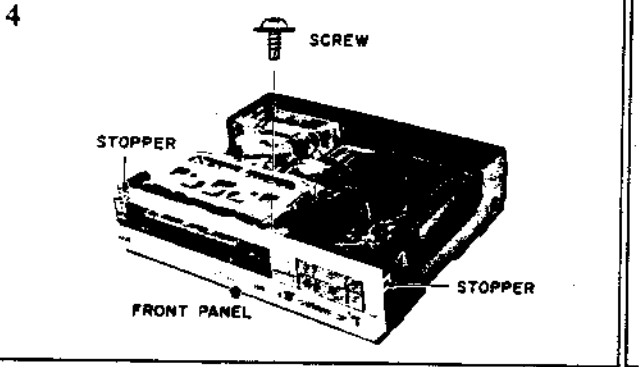
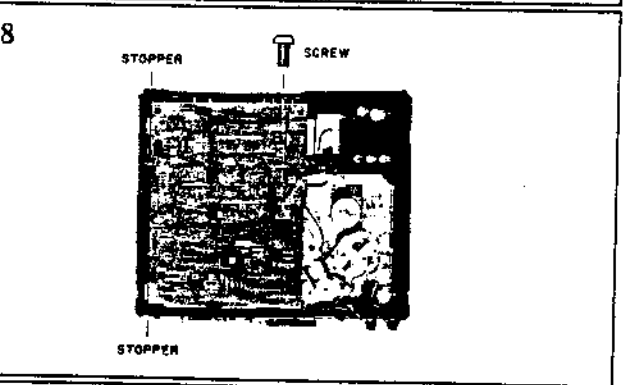
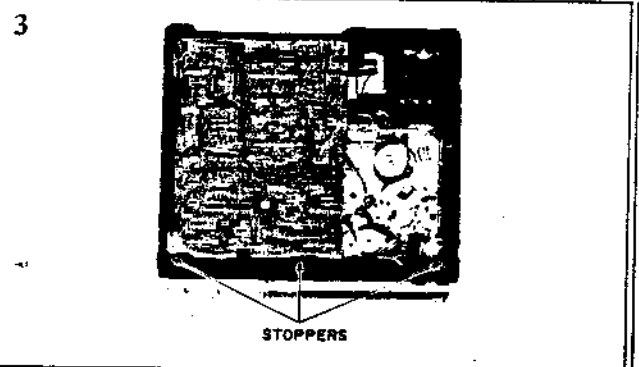
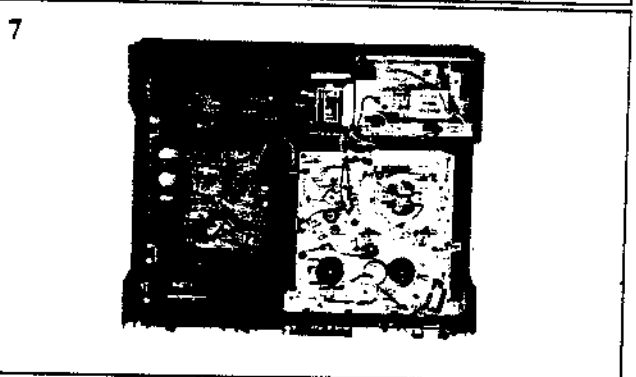
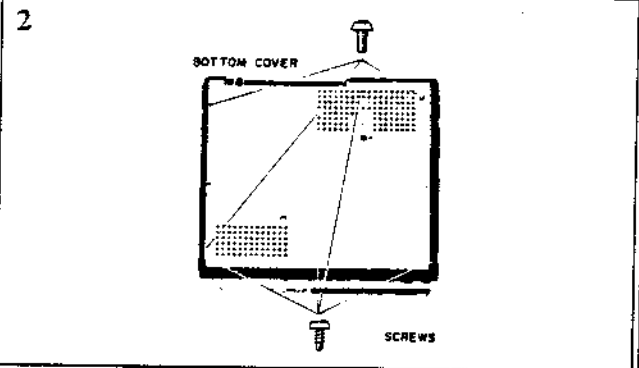
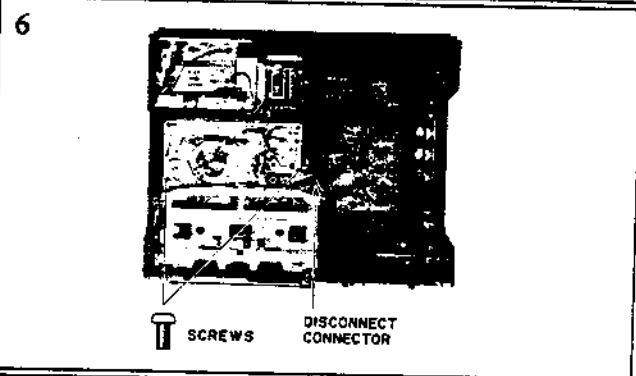
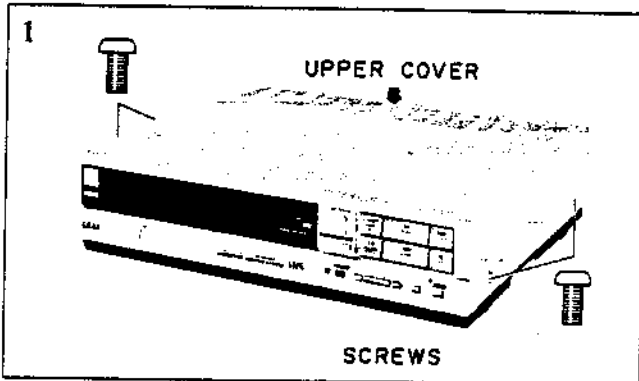
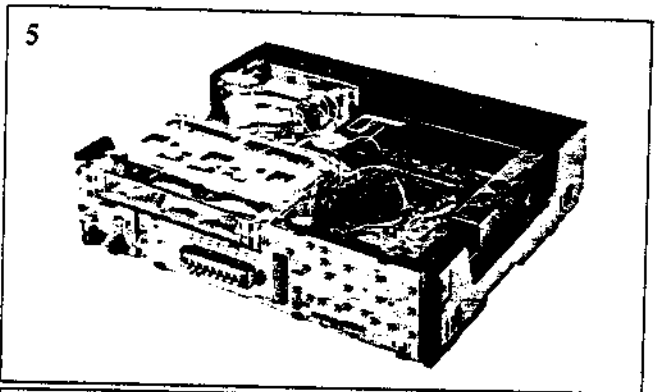
- The Models for exclusive use with the PAL color system are as follows:
 PAL (B/G) Models EA, EG, EO, EZ
 PAL (I) Models EK, ES
 PAL (D) Model ED
- SECAM (system B/G) color programs in certain areas of the Middle East might be recorded with the Akai PAL (B/G) model, but there is no interchangeability of these recorded cassette tapes with other PAL-VHS recorders or SECAM-VHS recorders.

- Please use the exclusive SECAM-VHS recorders in French SECAM (system L) broadcasting areas. (Models S, SEG)
- The Models for exclusive use with the NTSC color system are as follows:
 Models: U, UM, J.
- Model EV-M for PAL (B/G) and Middle East SECAM (B/G), and Model EGN for 4 system reception.
- For camera recording, connect a video camera and camera adaptor built to the standard corresponding to your VCR.

III. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.

* Photographs employed here are of model VS-112EA.



IV. CONTROLS

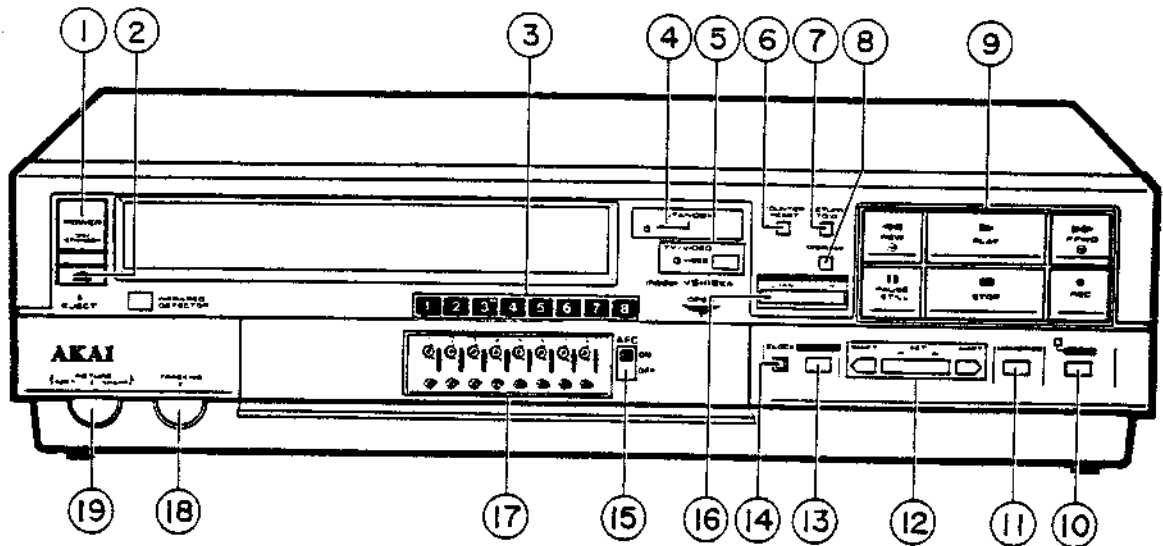


Fig. 4-1

- | | |
|---|--|
| 1. POWER BUTTON | 11. MEMORIZE BUTTON |
| 2. EJECT BUTTON | 12. SET AND SHIFT BUTTON |
| 3. CHANNEL INDICATORS | 13. PROGRAM BUTTON |
| 4. STANDBY INDICATORS | 14. CLOCK BUTTON |
| 5. TV/VIDEO SELECT BUTTON AND INDICATOR | 15. AFC (AUTOMATIC FREQUENCY CONTROL) BUTTON |
| 6. COUNTER RESET BUTTON | 16. CHANNEL SELECTOR |
| 7. RETURN TO "0" BUTTON | 17. TUNING CONTROL |
| 8. DISPLAY BUTTON | 18. TRACKING CONTROL |
| 9. TAPE TRANSPORT BUTTON | 19. SHARP/SOFT PICTURE CONTROL |
| 10. TIMER BUTTON AND INDICATOR | |

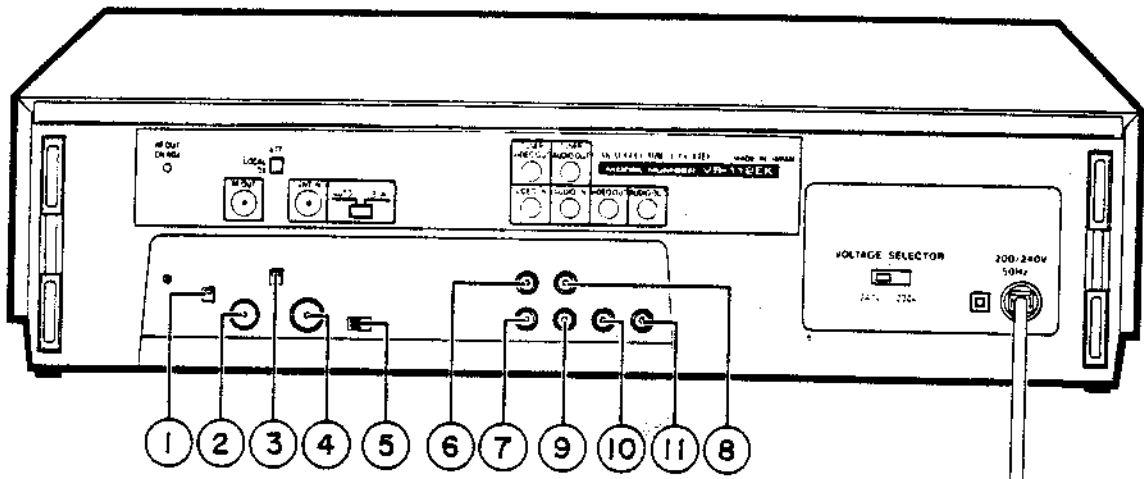


Fig. 4-2

- | | |
|-------------------------------|--------------------|
| 1. RF OUT CH SELECTOR SWITCH | 7. VIDEO IN |
| 2. RF OUT CONNECTOR | 8. TUNER AUDIO OUT |
| 3. LOCAL/DX ATTENUATOR SWITCH | 9. AUDIO IN |
| 4. ANTENNA IN CONNECTOR | 10. VIDEO OUT |
| 5. VIDEO MODE SELECTOR | 11. AUDIO OUT |
| 6. TUNER VIDEO OUT | |

V. MECHANICAL PARTS LOCATION

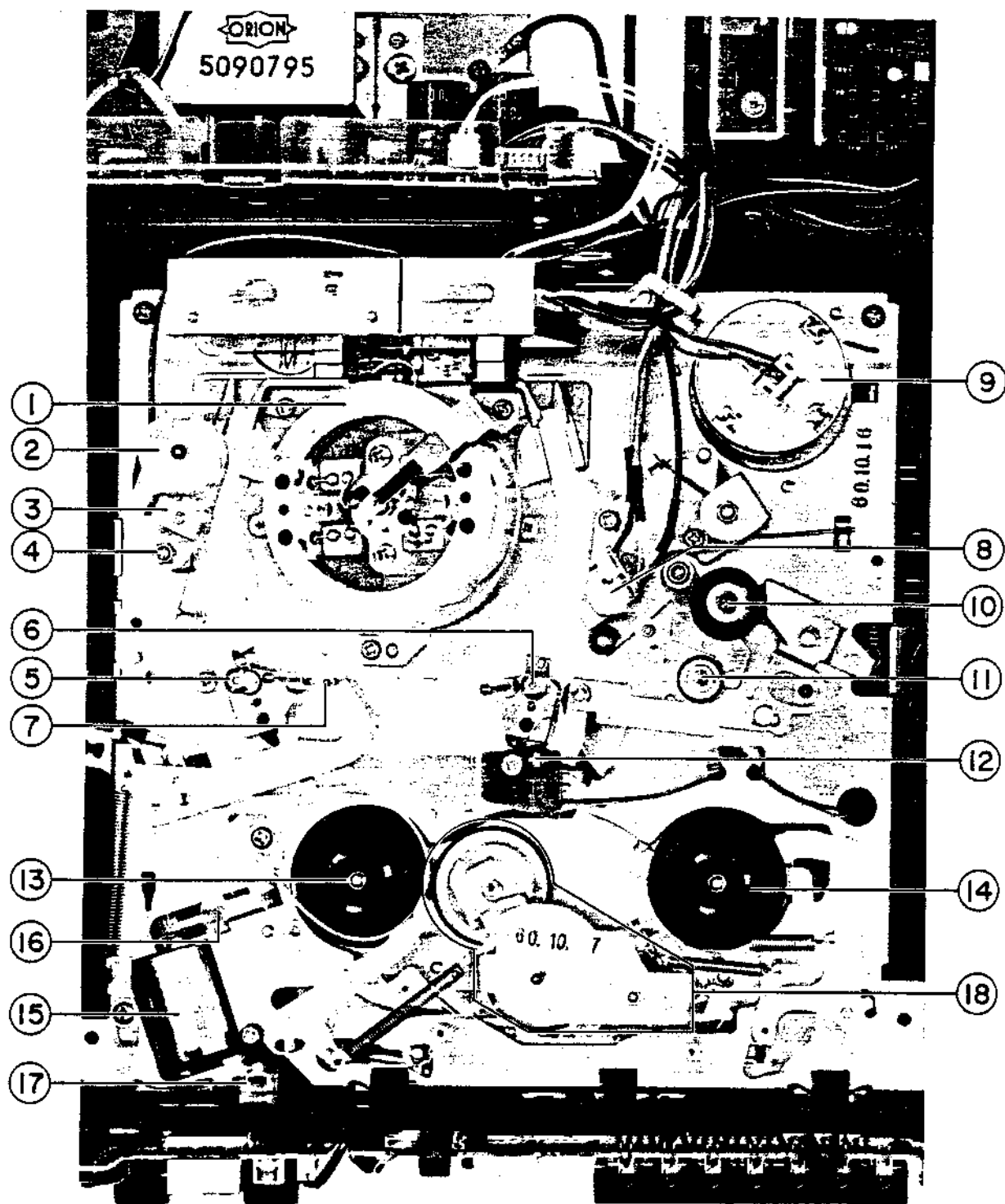


Fig. 5-1

- | | |
|--------------------------|------------------------|
| 1. HEAD DRUM BLOCK | 10. PINCH ROLLER |
| 2. IMPEDANCE ROLLER | 11. CAPSTAN/FLYWHEEL |
| 3. FULL TRACK ERASE HEAD | 12. SENSOR LED |
| 4. SUPPLY TAPE GUIDE | 13. SUPPLY REEL TABLE |
| 5. LOADING LEADER (L) | 14. TAKE-UP REEL TABLE |
| 6. LOADING LEADER (R) | 15. LOADING MOTOR |
| 7. TENSION ARM | 16. SYNCHRO BELT |
| 8. AUDIO/CONTROL HEAD | 17. REC SAFETY SWITCH |
| 9. CAPSTAN MOTOR | 18. TAKE-UP GEAR BLOCK |

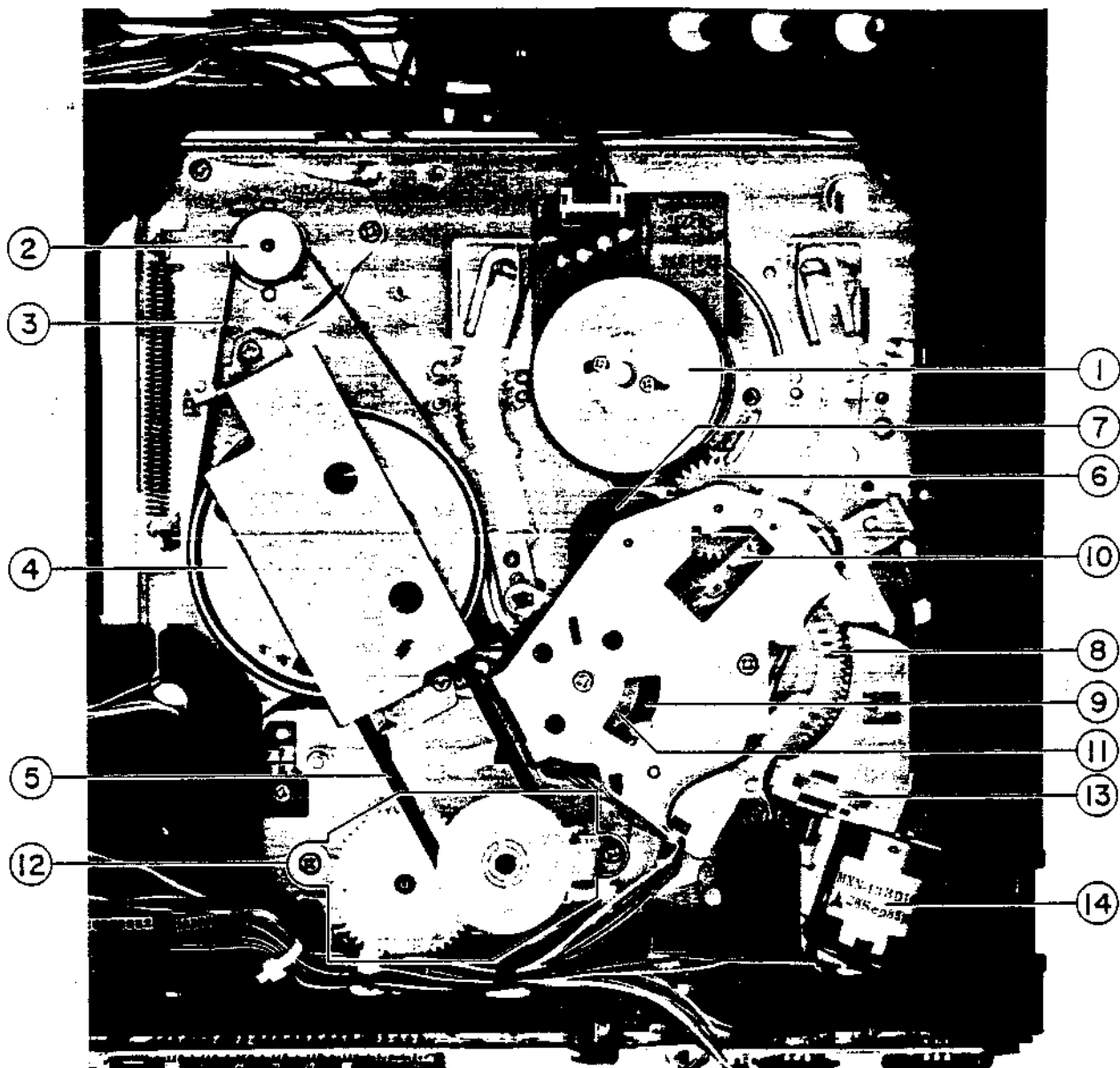


Fig. 5-2

- | | |
|-------------------------|------------------------|
| 1. DRUM MOTOR | 8. EJECT CAM GEAR |
| 2. CAPSTAN MOTOR | 9. MAIN CAM GEAR |
| 3. CAPSTAN BELT | 10. EJECT SWITCH |
| 4. CAPSTAN/FLYWHEEL | 11. ROTARY ENCODER |
| 5. IDLER BELT | 12. TAKE-UP GEAR BLOCK |
| 6. SUPPLY LOADING GEAR | 13. SYNCHRO BELT |
| 7. TAKE-UP LOADING GEAR | 14. LOADING MOTOR |

VI. MECHANICAL ADJUSTMENT

6-1. BEFORE THE ADJUSTMENT

The EJECTOR block has to be removed for mechanical adjustments. Consequently the J308 connected with P901 on EJECTOR block has to be disconnected, the unit does not function in this condition, to obtain the normal function without the EJECTOR block is as follows.

- 1) Disconnect J308 from P901 on the EJECTOR block.
- 2) Depress the POWER button on the front panel.
- 3) Connect a short wire pin 3 to pin 5 of J308 as shown Fig. 6-1 (Tape loaded mode).
- 4) After the adjustments, disconnect a short wire, then depress EJECT button.

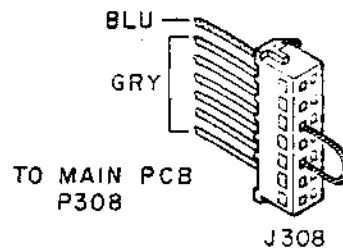


Fig. 6-1 J308 Connector

6-2. BACK TENSION ADJUSTMENT

- 1) Set the Back Tension Jig (AT-751181) and put some weight on the Back Tension Jig as a stabilizer.
- 2) Press the PLAY button, then check and adjust the back tension as 30 to 35 g-cm by the TENSION HOLDER position.

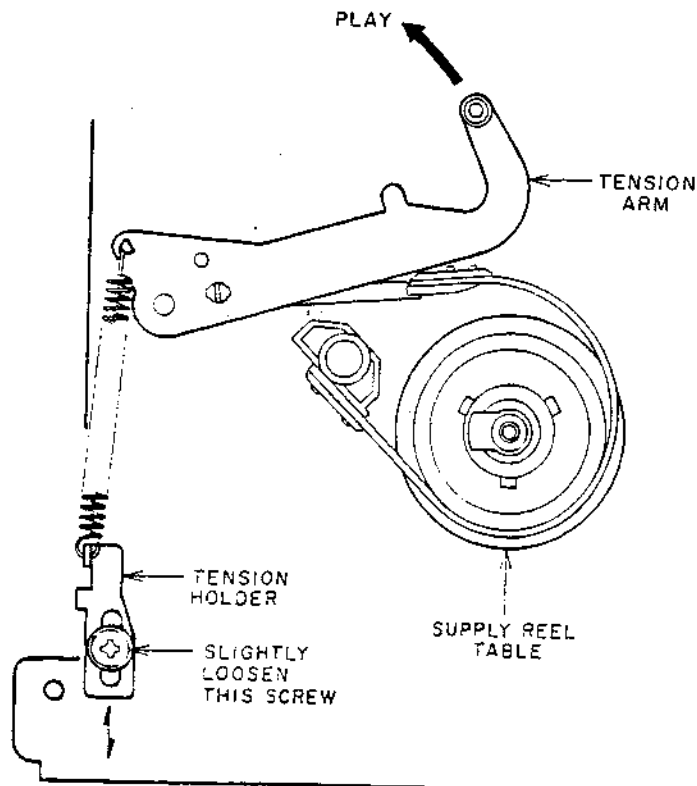


Fig. 6-2

6-3. LOADING LEADER HEIGHT ADJUSTMENT

- 1) Slightly loosen the set screw at the lower part of the LOADING LEADER so that the LOADING LEADER can be adjusted with reasonable tightness. Adjust the coarse height of the LOADING LEADER from the base mount as 0.6 to 0.8 mm.
- 2) Set the reference tape AT-750795 (TF-508RF) and depress the PLAY button.
- 3) Connect an oscilloscope to TP3 on the Pre-Amp. P.C Board (RF ENVELOPE), turn the LOADING LEADER height adjustment screw head to obtain the flat envelope as Fig. 6-4 ideal envelope.

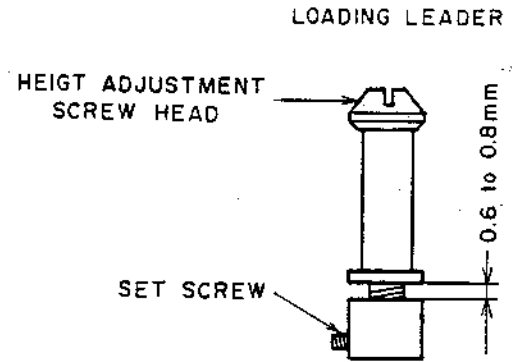


Fig. 6-3

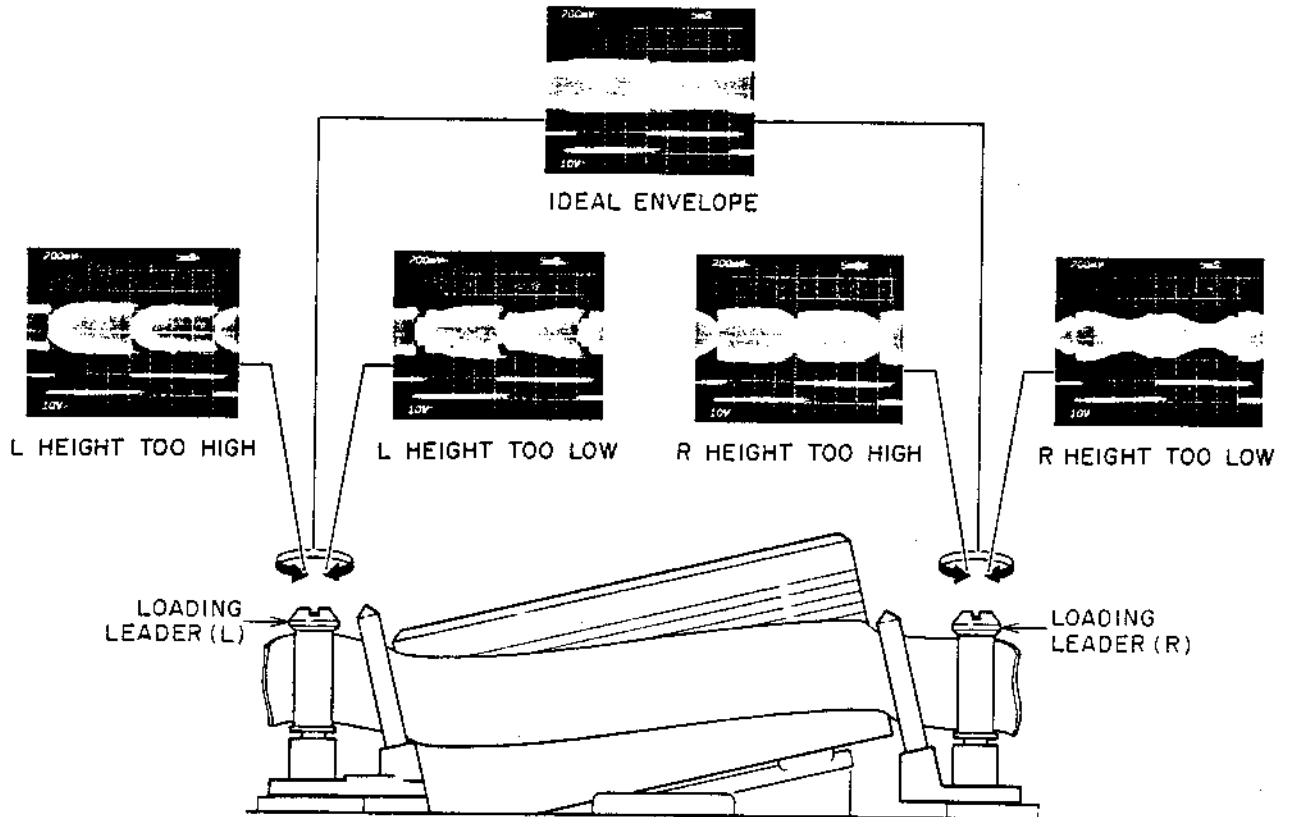


Fig. 6-4

6-4. TAPE CURL AT TAKE-UP TAPE GUIDE ADJUSTMENT

Turn the screw (a) on the AC HEAD BLK so that the down edge of the tape touches the TAKE-UP TAPE GUIDE lower part without any curl or waving.

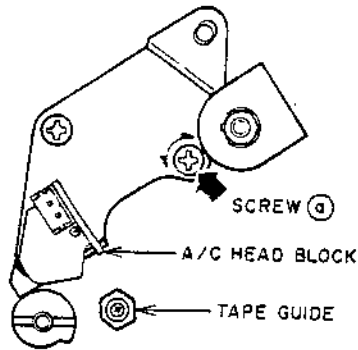


Fig. 6-5

- 2) Connect an oscilloscope or a AC voltmeter to the AUDIO LINE OUT.
- 3) Set the reference tape AT-750795 (TF-508RF) and depress the PLAY button.
- 4) Turn the screw (b) to obtain the maximum audio signal output.

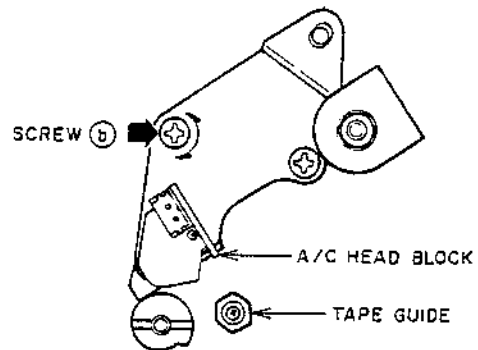
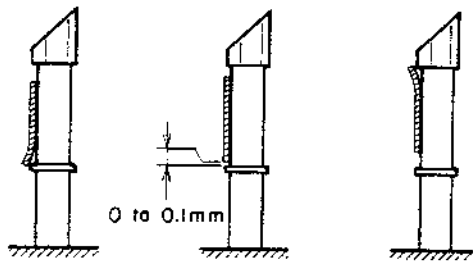


Fig. 6-9



(a) NO GOOD (b) GOOD (c) NO GOOD
Fig. 6-6

6-5. AUDIO HEAD AZIMUTH ADJUSTMENT

- 1) Turn the NUT (a) for coarse AC BLOCK height adjustment as in Fig. 6-7, 8.

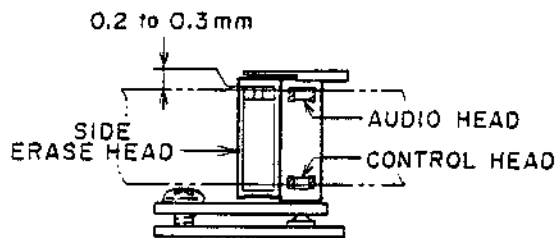


Fig. 6-7

6-6. RF ENVELOPE ADJUSTMENT

- 1) Set the reference tape AT-750795 (TF-508RF) and depress the PLAY button.
- 2) Slightly turn the LOADING LEADER HEIGHT ADJUSTMENT SCREW HEAD (L) (R) to obtain the IDEAL ENVELOPE as shown in Fig. 6-4.

6-7. TAPE CURL AT SUPPLY TAPE GUIDE ADJUSTMENT

- 1) Check the tape curl at Supply Tape Guide slightly turn the NUT (a) if the tape curl exists.

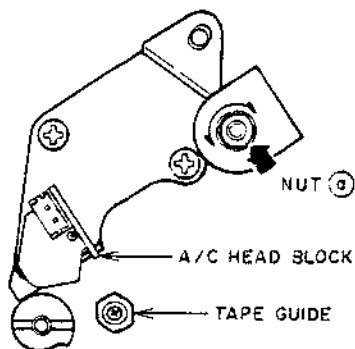


Fig. 6-8

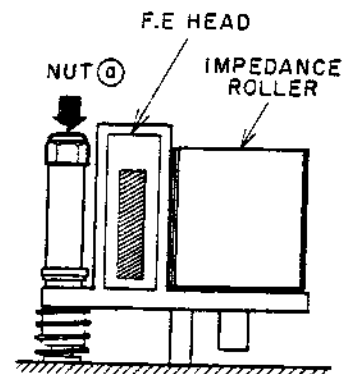
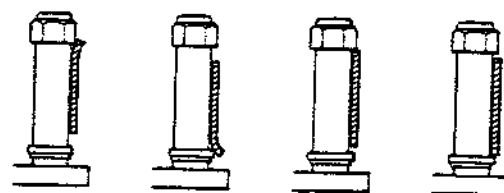


Fig. 6-10



NO GOOD GOOD
Fig. 6-11

6-8. AUDIO HEAD HEIGHT ADJUSTMENT

- 1) Connect an oscilloscope or a AC Voltmeter to the LINE AUDIO OUT.
- 2) Set the reference tape AT-750795 (TF-508RF) and depress the PLAY button.
- 3) Slightly turn the NUT ③ shown in Fig. 6-8 to obtain the maximum audio output.

6-9. CONTROL HEAD POSITION ADJUSTMENT

- 1) Connect an oscilloscope to the TP3 on the Pre-Amp. P.C Board (RF ENVELOPE).
- 2) Set the reference tape AT-750795 (TF-508RF) and depress the PLAY button.
- 3) Set the Tracking Control Volume to center click position.
- 4) Adjust Mechanical Tracking Adjustment Screw ④ to obtain the maximum RF ENVELOPE.

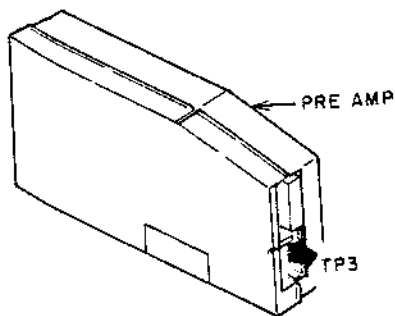


Fig. 6-12

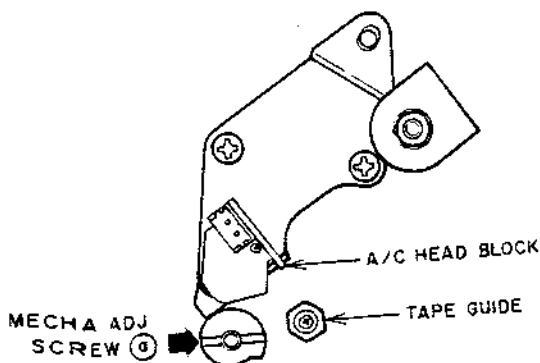


Fig. 6-13

6-10. CUE/REVIEW ADJUSTMENT

- 1) Set a E-180 tape, press the PLAY and the button (CUE mode).
- 2) Turn the CUE/REVIEW GUIDE height adjustment Nut ③ so that the wrinkle between the ROLLER and the CUE/REVIEW GUIDE existed.
- 3) Depress the REV button (REVIEW mode) so the curl at the tape down edge is not existed a TAPE GUIDE as shown in Fig. 6-6. (Fig. 6-6 (c) is not acceptable, but Fig. 6-6 (b) acceptable)

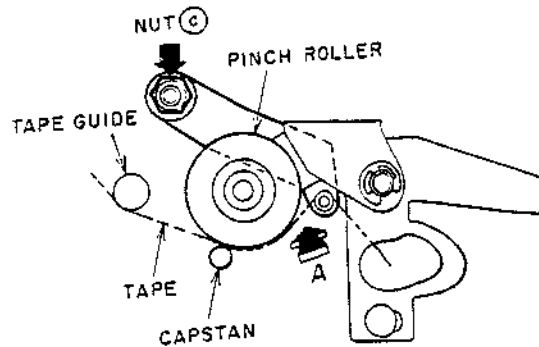


Fig. 6-14

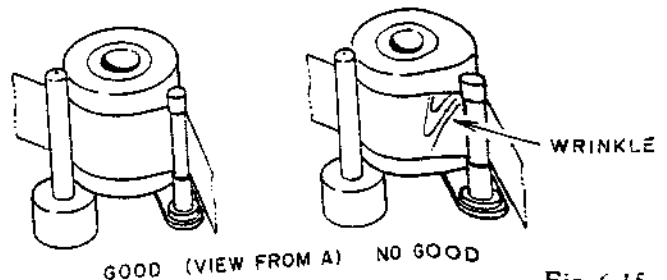


Fig. 6-15

After the adjustments, tighten the LOADING LEADER set screw.

VII. HEAD DRUM REPLACEMENT

7-1. REPLACEMENT PROCEDURE

- 1) Remove the Drum Each Brush.
- 2) Unsolder the four wires from the Rotary Trans.
BLUE, BROWN for CH1 and BLUE, RED for CH2.
- 3) Remove the Upper Drum Fixing Screw.
- 4) Install the Upper Drum. (Head Drum)
- 5) Tighten the Upper Drum Fixing Screws.
- 6) Resolder the four wires from the Rotary trans.

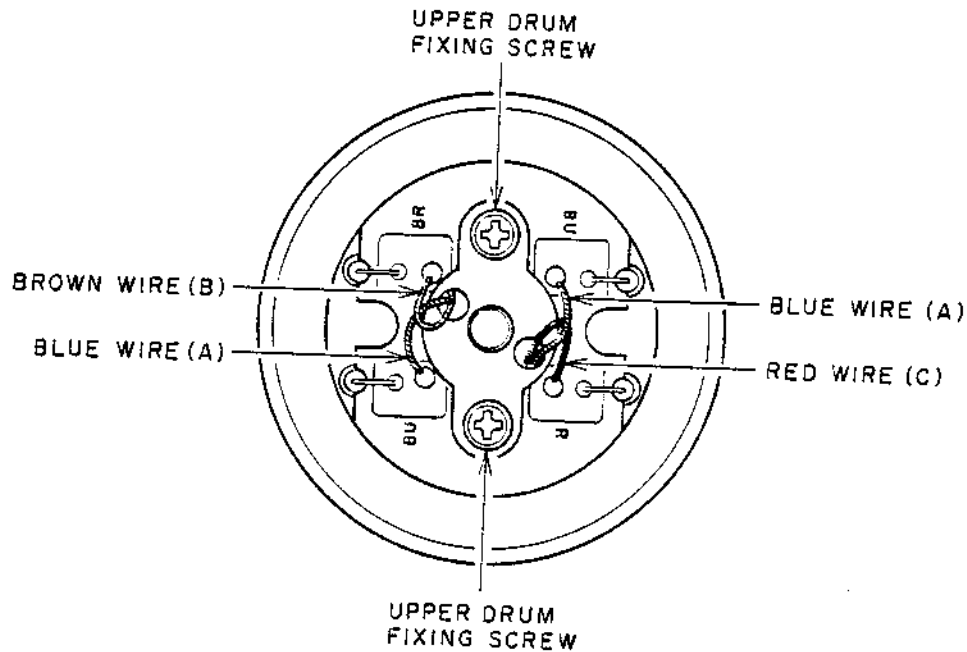


Fig. 7-1

NOTE: Height precision is required for the proper performance, and the head tips are fragile, so the following points should be noted when replacing the upper drum block.

- (a) Before fixing, clean both surfaces where the upper drum and the rotary transformer part meet, with pure alcohol.
- (b) When installation of upper drum, if it does not go on to the shaft easily, clean the hole in the upper drum with pure alcohol and put a little oil on the shaft.
- (c) Make sure that the upper drum fixing screw holes on the rotary transformer part and the upper drum fixing screw penetration holes match exactly before inserting the fixing screws.
- (d) Tighten the two upper drum fixing screws alternately and gradually. Tighten them at 6 kg-cm torque.
- (e) Do not loosen the set screw on the collar pre-load.

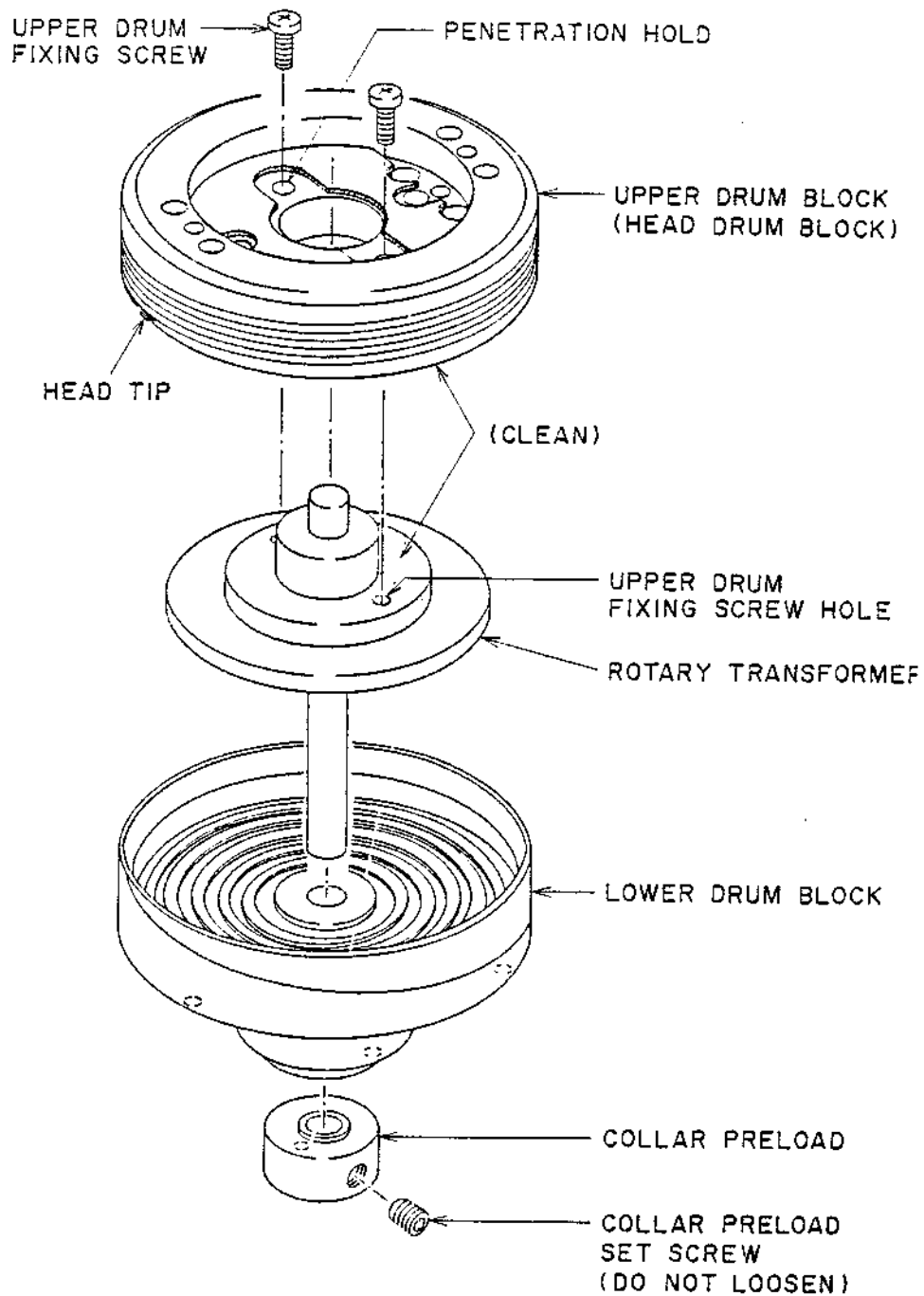


Fig. 7-2

7-2. AFTER REPLACEMENT

After replacement, the following adjustments and confirmations are necessary for the proper performance.

- 1) Tracking preset adjustment. (Servo adjustment Step 1)
- 2) PB switching point adjustment. (Servo adjustment Step 2)
- 3) REC current adjustment. (Video adjustment)

VIII. HOW TO MOUNT THE ROTARY PLATE

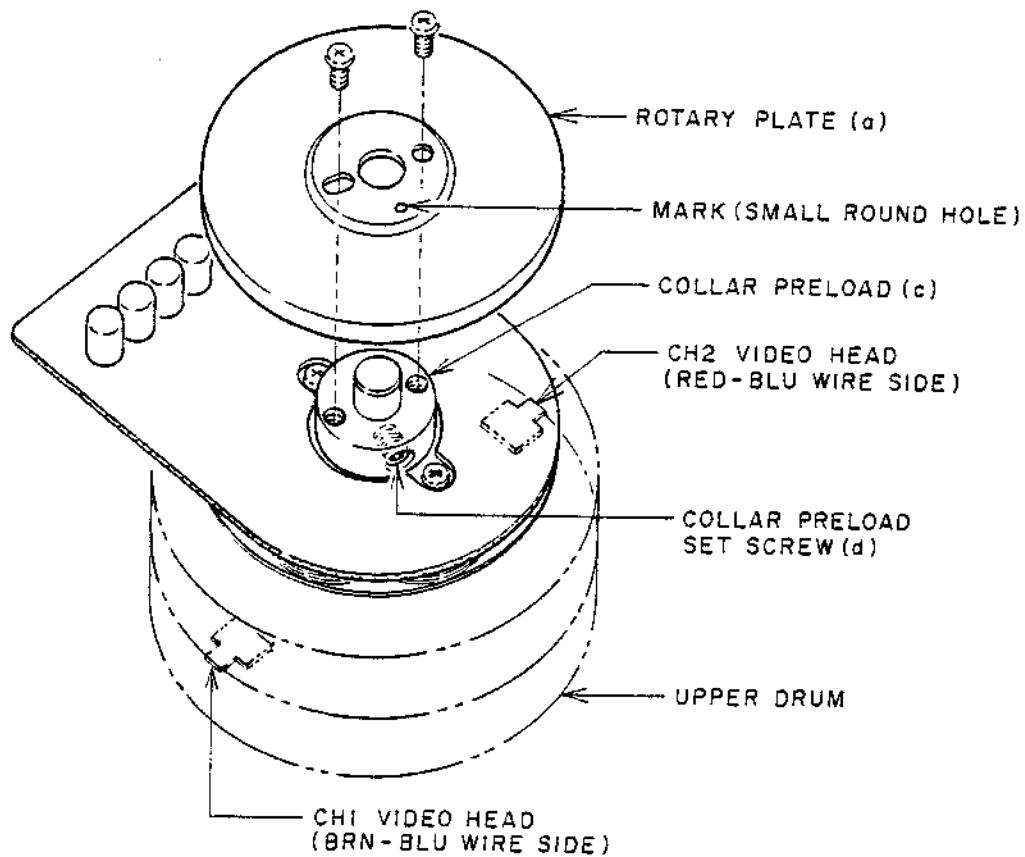


Fig. 8-1 How to Mount the Rotary Plate

When mounting the rotary plate on the drum motor, be sure to align the mark (Small round hole) on the rotary plate (a) with the collar preload set screw (d) on the collar preload (c) as illustrated above.

NOTE: Do not attempt to remove the collar preload (c) on the head assy. If removed, a special jig is needed for reinstallation, which almost always requires replacement of the drum assy.

IX. HOW TO ASSEMBLE LOADING MECHANISM

- 1) With the unit unloaded, attach Gear Loading (S) BLK and Gear Loading (T) BLK to Mecha chassis so that align the mark.

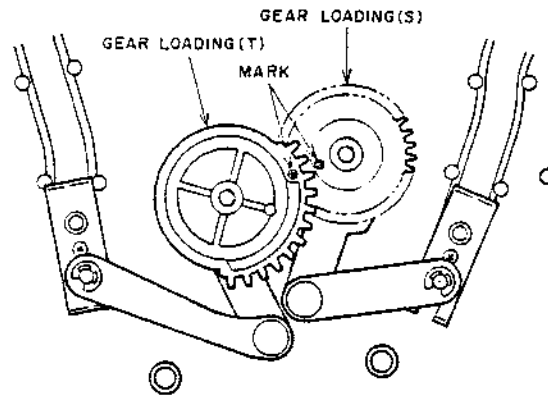


Fig. 9-1

- 2) Attach Gear Cam Eject to Mecha chassis so that Pin (A) of Lever Eject Cam mates oval hole of Gear Cam Eject.

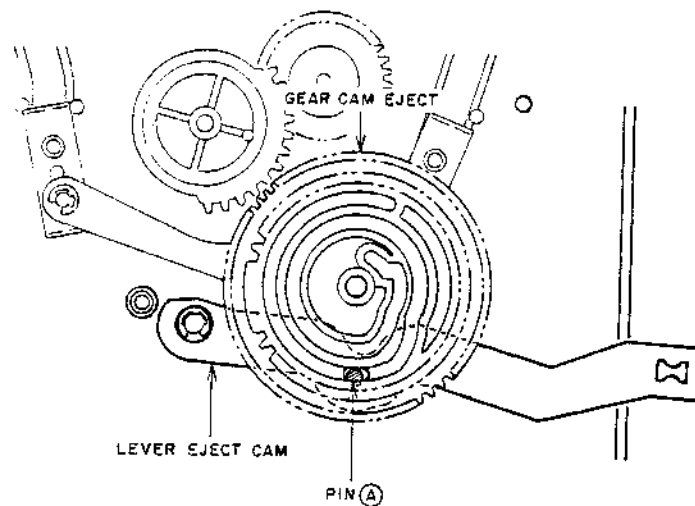


Fig. 9-2

- 3) Attach Gear Cam Main to Mecha chassis so that Pin (A) of Lever P Cam and Pin (B) of Lever Cam Slide mate oval hole of Gear Cam Main.

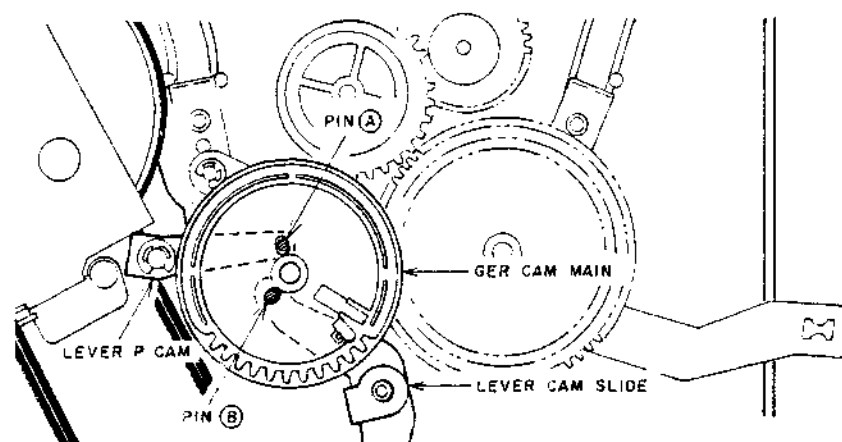


Fig. 9-3

- 4) Attach Lever Cam Tension to Mecha chassis so that Pin A goes into valley of Gear Cam Eject.
- 5) Attach Lever Cam Free to Mecha chassis so that Pin B goes into valley of Gear Cam Eject.

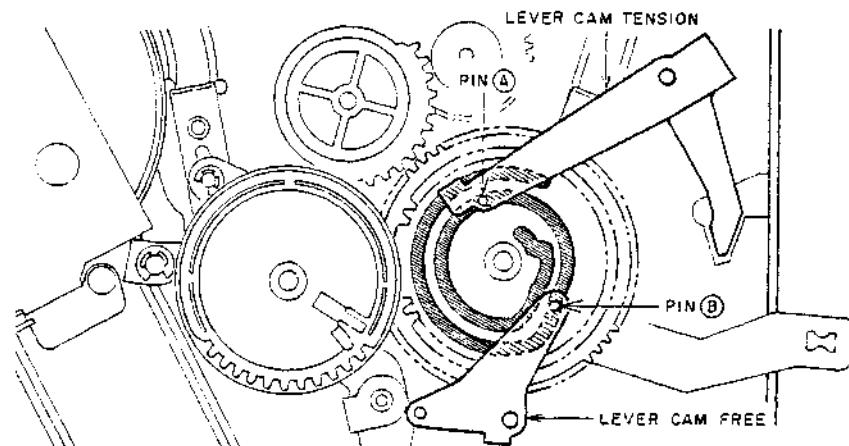


Fig. 9-4

- 6) Attach Arm Set Free onto Lever Cam Slide.
- 7) Attach Spring Torsion Gear Loading.

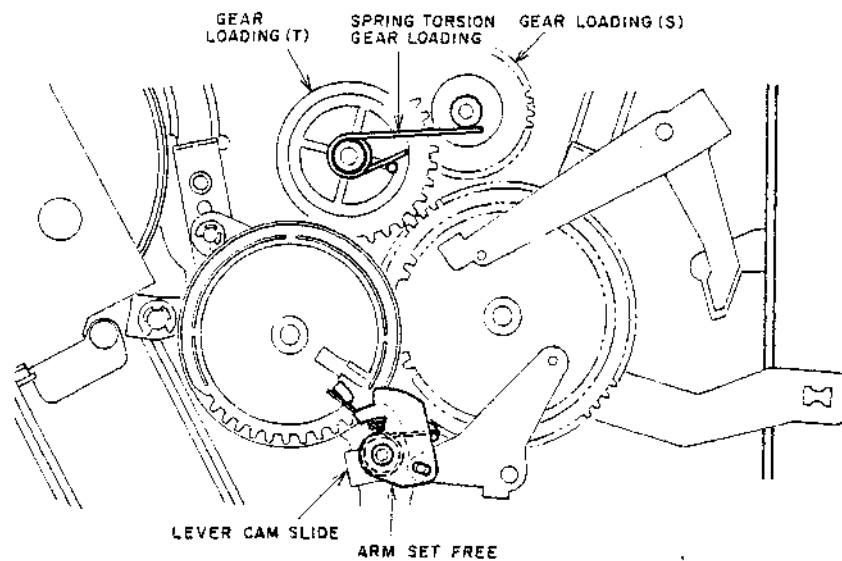


Fig. 9-5

8) Attach Mode SW BLK to Mecha chassis so that the latch of Rotary Encoder goes into slit (A) of Gear Cam Main and tighten with screw (B).

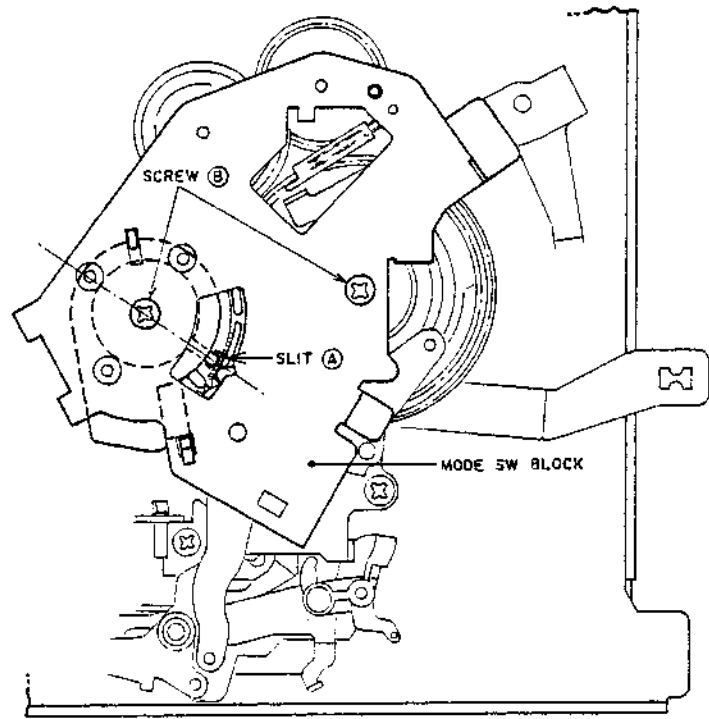


Fig. 9-6

9) Mount Loading Motor BLK and tighten with screw (A).

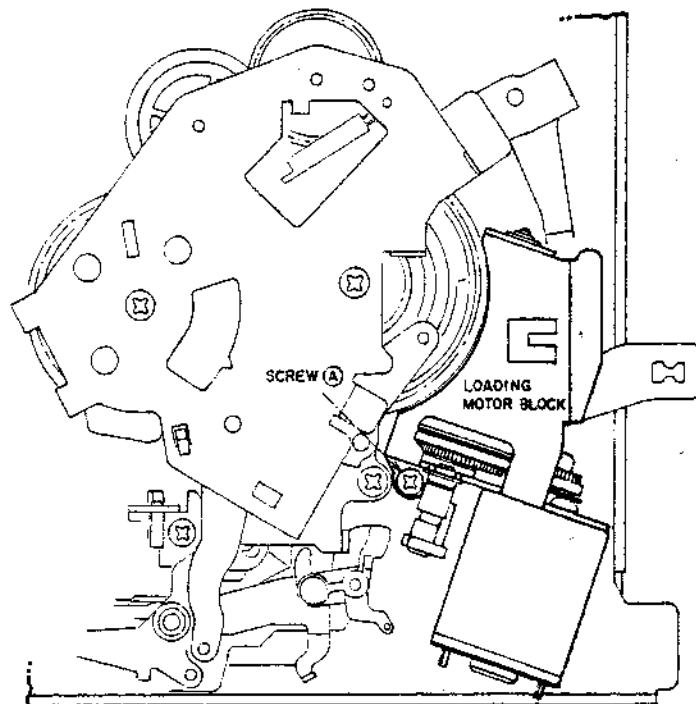


Fig. 9-7

X. ELECTRICAL ADJUSTMENT

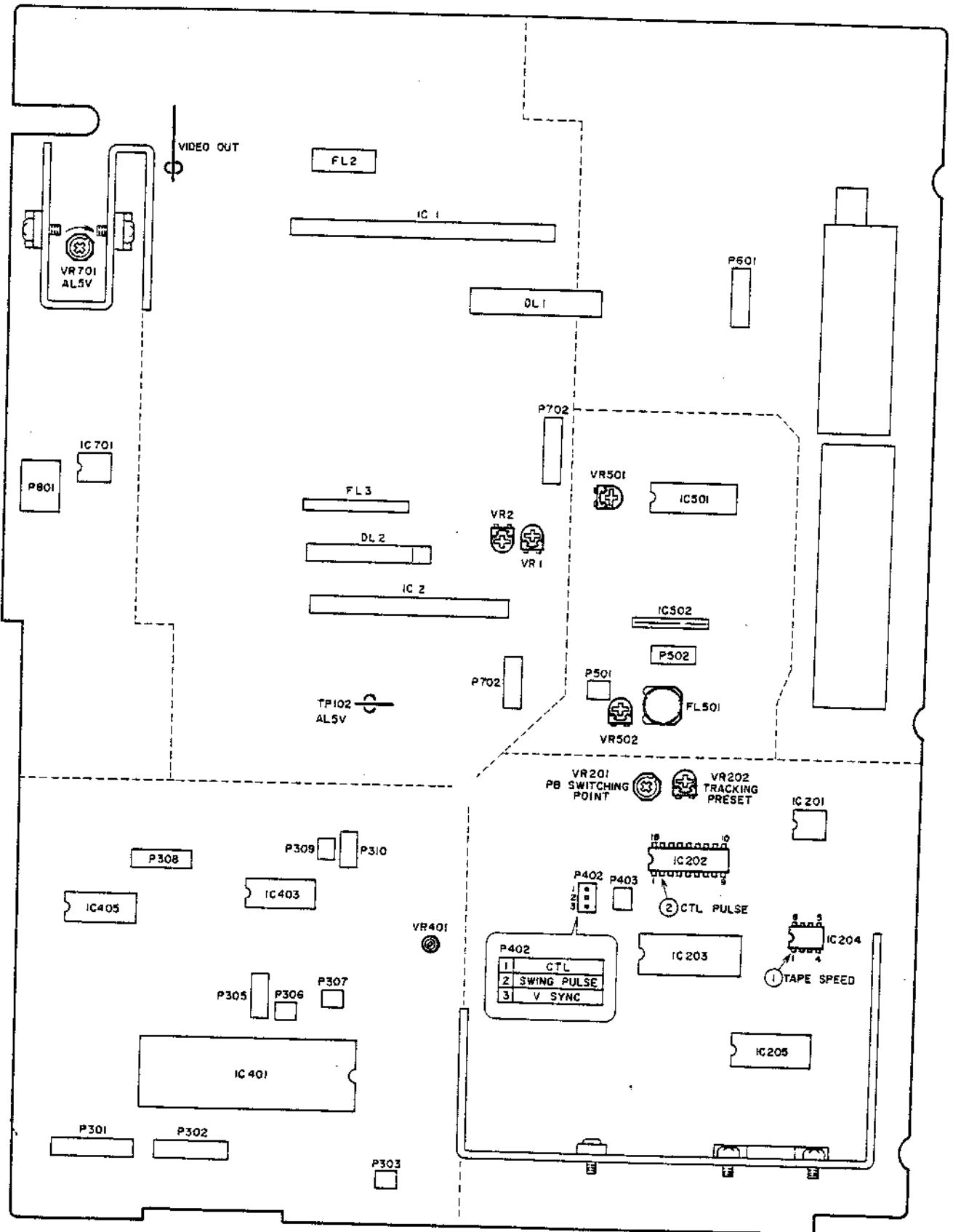
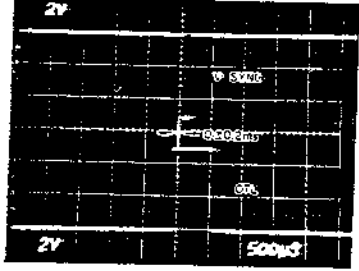
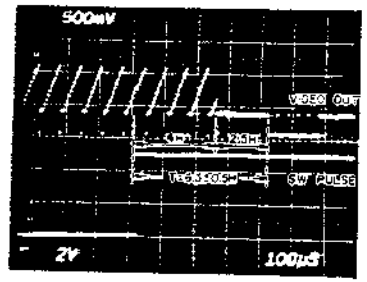


Fig. 10-1 Main PCB

10-1. POWER SUPPLY ADJUSTMENT

Step	Adjustment Item	Input Signal or test tape	Mode	Test Point	Adjustment Parts	Result & Remarks
1	AL 5V		E-E	TP102	VR701	5.1 ± 0.2V

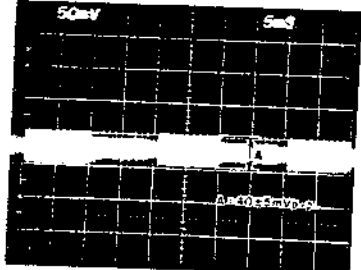
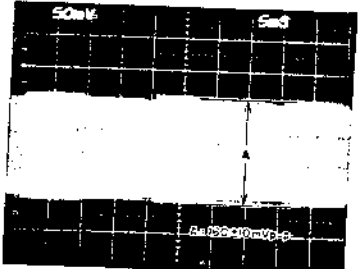
10-2. SERVO ADJUSTMENT

Step	Adjustment Item	Input Signal or test tape	Mode	Test Point	Adjustment Parts	Result & Remarks
1	Tracking Preset	PAL/SECAM Reference Test Tape AT-750795 (TF-508RF)	PB	P402 ③ (V SYNC) IC202 ② (CTL)	VR202	<p>Set the Tracking control volume to center click position.</p>  <p>Adjust VR202 so that the phase at raising part of CTL pulse and V SYNC pulse are lined up.</p>
2	PB Switching Point	PAL/SECAM Reference Test Tape AT-750795 (TF-508RF)	PB	VIDEO OUT P402 ②	VR201	 <p>Adjust T1 with VR201 to 6.5 ± 0.5H.</p>
3	STILL TRACKING (V. ADJ)	PAL/SECAM Reference Test Tape AT-750797 (TF-510CB)	PB PAUSE/STILL	Monitor TV	VR401	<p>Adjust VR401 only in the unsuccessful case that even after adjusted the STILL TRACKING (V. ADJ) on the bottom cover.</p> <p>Adjust VR401 so that the noise band is located within the 1/3 portion from the bottom of the TV screen.</p>

10-3. VIDEO ADJUSTMENT

Precautionary items prior to adjustments

1. The color bar generator output should be 1.0 V_{p-p}.
2. Video output terminal should be terminated with 75 ohms (dummy or load).

Step	Adjustment Item	Input Signal or test tape	Mode	Test Point	Adjustment Parts	Result & Remarks
1	REC CURRENT	PAL Color Bar from Color Bar Generator	REC	TP2	VR2 (Chroma) VR1 (Y)	<p>1. Turn VR1 fully counter-clockwise (Y-zero)</p>  <p>2. Adjust VR2 so that the chroma REC waveform is 40 ± 5 mV_{p-p} as shown above.</p>  <p>3. Adjust VR1 so that the Y REC Current waveform is 160 ± 10 mV_{p-p} as shown above.</p>

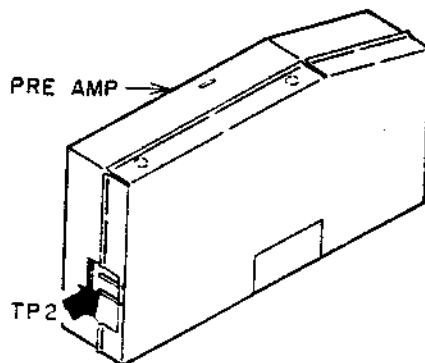


Fig. 10-2

10-4. IMS ADJUSTMENT

Step	Adjustment Item	Input Signal or test tape	Mode	Test Point	Adjustment Parts	Result & Remarks
1	Charactor Position	PAL Color Bar from Color Bar Generator	E-E	MONITOR TV	VR1	<ol style="list-style-type: none"> 1. Depress the Display button to choose a Counter. 2. Depress the Counter Reset button. 3. Adjustment VR1 so that the right side of the "0" (first "0" from the right) is located on the boarder line between Cyan and Green as shown in Fig. 10-4.

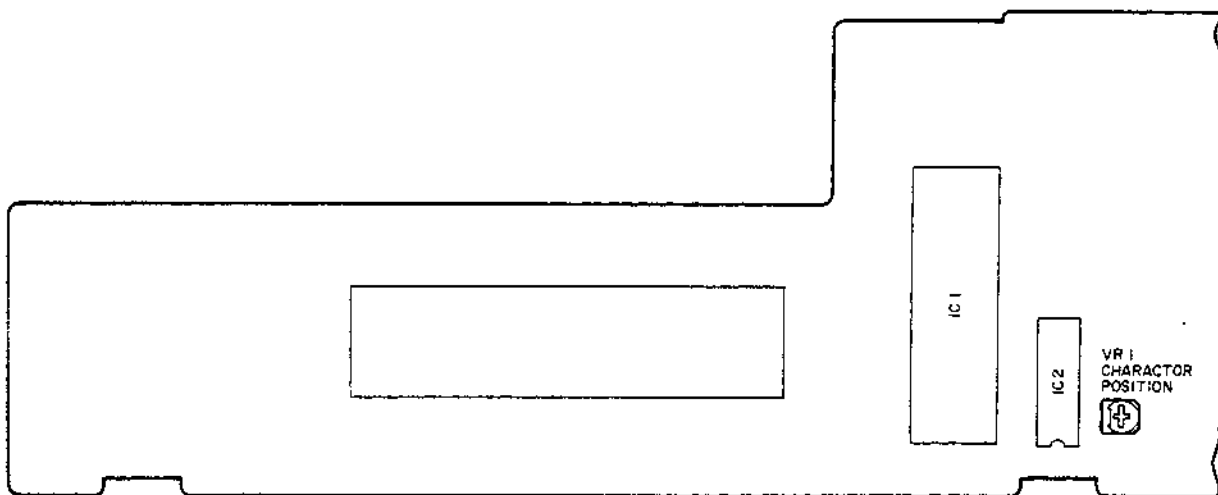


Fig. 10-3

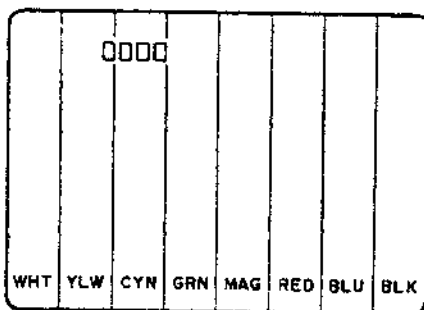


Fig. 10-4

10-5. AUDIO ADJUSTMENT

Step	Adjustment Item	Input Signal or Test Tape	Mode	Test Point	Adjustment Parts	Result & Remarks
1	PB Level	PAL Audio Level Test Tape AT-751776 (TF-513L)	PB	Audio	VR501	-9.0 ± 0.5 dBm
2	Tape Speed	PAL Reference Test Tape AT-750775 (TF-508RF)	PB	IC204 ①	Confirmation	445 ± 2 Hz
3	Audio Head Azimuth	PAL 6 kHz Reference Test Tape AT-750795 (TF-508RF)	PB	Audio Output	Confirmation	$-9.0 \begin{smallmatrix} +2 \\ -4 \end{smallmatrix}$ dBm
4	Bias Current	Audio 1kHz, -8 dBm input	REC	A/C Head Test Terminal (Ref. to Fig. 10-5)	VR502	Connect an AC voltmeter to A/C Head Test Terminal (Ref. to Fig. 10-5) Adjust VR502 so that the meter reads 280 ± 10 mV (RMS)

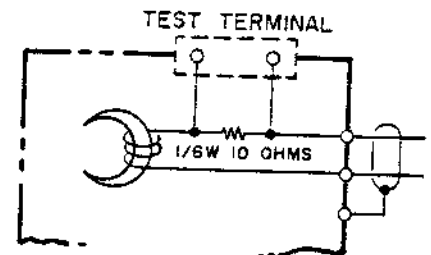
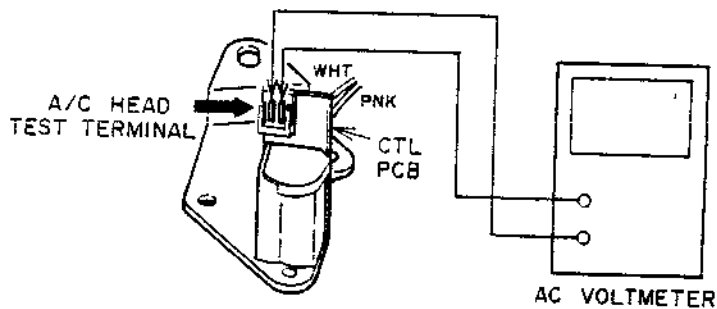


Fig. 10-5

LIST OF BOARD TITLES AND IDENTIFICATION NUMBERS

PC Board Title		PC Board Number	Remark
MAIN	PC Board	V1047D5010	
OPERATION	PC Board	V1047A5020	
FUNCTION	PC Board	V1047B5040	
PRE-AMP	PC Board	V1047B5050 (2ED)	
POWER	PC Board	V1047C5030 (3ED)	
EVM	PC Board	V1047C5060	EV-M, EK, ES, EG
SENSOR LED	PC Board	V1047D5100	
SENSOR REEL	PC Board	V1047D5110	
SENSOR (R)	PC Board	V1047D5130	
SENSOR (L)	PC Board	V1047D5140	
A/C HEAD	PC Board	V1047D5150	
F.E HEAD	PC Board	V1047D5160	
HEAD SUB	PC Board	V1047D5170	
SWITCH EJECT	PC Board	V1030D5190	
HEAD	PC Board	V1027D5010	

ATTENTION

1. When placing an order for parts, be sure to list Part No., Model No. and the description of each part. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
2. Please make sure that Part No. is correct when ordering.
If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

b) PC Board

2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
2-1x	BH-T2023A320A	HEAD BASE BLOCK
2-2	HP-H2206A010A	HEAD R/P PR4-8FU C
2-3	ZS-477876	PAN20x03STL CMT
2-4	ZS-536488	BID20x08STL CMT
2-5	ZG-402895	SP CS ANGLE ADJUST

- SP (Service Parts) Classification
- A small "x" indicates that this part is not shown in the Photo or Illustration.
- This number corresponds with the individual parts index number in that figure.
- This number corresponds with the Figure Number.

6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
6-IC1	EI-324536	IC HD14049BP
6-IC2	EI-336801	IC MB8841-564M
6-C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
6-C1B	EC-350949	C MMY V 223M 250DC [J]
6-C1C	EC-338397	C MMY V 223M 125AC [C,A]
6-X1	EI-318384	OSC X'TAL NC-18C

- Symbols for primary destination
- [A]: AAL(U.S.A.) [S]: SAA(Australia)
 [B]: BEAB(England) [U]: U/T(Universal Area)
 [C]: CSA(Canada) [V]: VDE(W. Germany)
 [E]: CEE(Europe) [Y]: Custom Version
 [J]: JPN(Japan)
- SP (Service Parts) Classification
- These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No. listed at right of Part No.

WARNING

△ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS

AVERTISSEMENT

△ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

RECOMMENDED SPARE PARTS LIST

Because, if the parts listed below are on hand almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

NO.	PART NO.	DESCRIPTION
1	N BF-B360531-B	FLYWHEEL CAPSTAN PART
2	N BL-B360350	ARM TENSION BAND PART
3	N BM-361544-A	CAPSTAN MOTOR MRX PAL
4	N BM-B361467	LOADING MOTOR PART
5	N BM-M3223A020A	PC MOTOR BLK SM-230 (DRUM MOTOR)
6	N BR-B360517B	SUPPLY REEL PART
7	N BR-B360517A	TAKE-UP REEL PART
8	N BT-362244	Δ TRANS POWER V47EA [EA]
9	N BT-363353	Δ TRANS POWER V47EG [EG]
10	N BT-363945	Δ TRANS POWER V47EK [EK]
11	N BT-363948	Δ TRANS POWER V47EO [ED,EO,EO-G]
12	N BT-363949	Δ TRANS POWER V47ES [ES]
13	N BT-363946	Δ TRANS POWER V47EV-M [EV-M]
14	N BT-363950	Δ TRANS POWER V47EZ [EZ]
15	N BV-V1030A210B	LOWER DRUM BLK VS-303
16	N BV-363232-A	RF CONVERTER BOOSTER EK [EK,ES]
17	N BV-363231-A	RF CONVERTER BOOSTER EO [EG,EO,EO-G]
18	N BV-363943	RF CONVERTER SW ED [ED]
19	N BV-363234	RF CONVERTER SW MDLC2D093A EV [EV-M,EZ]
20	N BV-V1030A220D	UPPER DRUM BLK VS-303EG
21	N ED-363351	Δ D SILICON DSA17C
22	N ED-363350	Δ D SILICON S5566B
23	N ED-356424	D LED BG5525S GREEN
24	N ED-357540	D LED LN59
25	N ED-355607	D LED PR 5505S RED
26	N ED-360409	D PHOT PN323B
27	N ED-357754	D SILICON DSI35D 200/1.0A
28	N ED-344280	D SILICON H GMA-01-FY2 F05
29	N ED-624903	D SILICON H IS2473
30	N ED-624903	D SILICON H IS2473
30	N ED-362998	D ZENER H HZS9.1J F05 B3
31	N ED-313846	D ZENER H HZ16 3
32	N ED-329051	D ZENER H HZ24 3 [EV-M]
33	N ED-305706	D ZENER H HZ7 B3
34	N ED-337266	D ZENER H HZ9 A1
35	N ED-346609	D ZENER H HZ9 C1
36	N ED-365109	D ZENER H MA1043-H
37	N EE-366792	TV TUNER TEEET-A39A [EO-G]
38	N EE-360406	TUNING UNIT UBH02 8CH 203 [EG,ES,EV-M]
39	N EE-364669	TUNING UNIT UBH020513A EA 8CH203 [EA,ED,FZ]
40	N EE-360405	TUNING UNIT UBH050028A 14CH 203 [EO,EO-G]
41	N EE-360407	TUNING UNIT UBH14 8CH 203 [EK]
42	N EE-363214	TV TUNER A25A [EO]
43	N EE-366760	TV TUNER ES [ES]
44	N EE-345116	TV TUNER TEEB1-013A [EK]
45	N EE-345115	TV TUNER TEED1-A04A [EG,EV-M]
46	N EE-345117	TV TUNER TEES1-017A [EA]
47	N EE-352284	TV TUNER TEEZ1-020A [EZ]
48	N EE-363941	TV TUNER TEEZ1-042A ED [ED]
49	N EF-355226	Δ FUSE BET T 1.00A 250V [EK]
50	N EF-355398	Δ FUSE BET T 2.00A 250V [EK]
51	N EF-344106	Δ FUSE ICP-N10 150V 0.4A
52	N EF-623103	Δ FUSE SEMKO T 1.00A 250V [EXCEPT EK]
53	N EF-601301	Δ FUSE SEMKO T 2.00A 250V [EXCEPT EK]
54	N EH-360340	DL EFD-EN645A31P
55	N EH-360341	DL EFD-HR124A13D
56	N EH-360339	FILTER LC AP AF-25P [EXCEPT EK,ED]

NO.	PART NO.	DESCRIPTION
57	N EH-364045	FILTER LC FF-78P
58	N EH-360337	FILTER LC LP LF-47P
59	N EI-360561	IC AN3792
60	N EI-360563	IC AN3794
61	N EI-360334	IC AW2619
62	N EI-360648	IC BA5115
63	N EI-353421	IC BA6229
64	N EI-360333	IC EHM-M96A8U67K
65	N EI-352714	IC HA11752
66	N EI-356238	IC LA6324
67	N EI-347116	IC LA6538
68	N EI-363951	IC LA7210 [EO-G]
69	N EI-356370	IC LA7224
70	N EI-364135	IC MB88501-395M R-OPE3 CUSTOM
71	N EI-364136	IC MB88521-135M R-SYS4 CUSTOM
72	N EI-360560	IC MN6178ZAL
73	N EI-360565	IC MS223P
74	N EI-360404	IC M5450-011P
75	N EI-360564	IC M54548L
76	N EI-360396	IC S-8054HN
78	N EI-363347	IC TC9018P
79	N EI-358506	IC μPCI513HA
80	N EI-337530	IC μPC574J
81	N EI-347991	OSC CE CSA6.00MS 6MHZ
82	N EI-363952	OSC CE CSB500E5 [EO-G]
83	N EI-363362	OSC X'TAL MX-44 4.433619MHZ
84	N EI-356371	OSC X'TAL MS-309 4.194304MHZ
85	N EI-363355	PL CORD 12.0V 75MA 200/200
86	N EO-360647	COIL OSC 1 MX-102
87	N EO-356372	COIL TUN 1 038-332 38KHZ
88	N ER-348272	Δ R FUSE ERD2FC S10 1/4W 12R0G
89	N ER-200595	Δ R FUSE ERD2FC S10 1/4W 5R6J
90	N ER-362257	Δ R FUSE ERQ-12H F17 1/2W R47K
91	N ER-364508	Δ R FUSE ERQ-12H F17 1/2W R56K
92	N ER-365157	Δ R FUSE H F10 ERQ-14LE 1/4W R43K
93	N ES-354430	Δ SW SLIDE 00220950 02-02-2N [EG,EK,EV-M,ES]
94	N ES-360433	SW LEAF MRX
95	N ES-361479	SW LEAF MSW-1594C
96	N ES-353622-A	SW PUSH EVQ-WU7001 02-2
97	N ES-360408	SW SLIDE ESD-14187 1-01-02N
98	N ES-349474	SW TACT SKHHAM004A
99	N ET-361463	PHOT SENSOR ON2170 Q,R
100	N ET-363953	TR DTA114TS
101	N ET-360646	TR DTA143ES F05
102	N ET-354415	TR DTA144ES
103	N ET-353897	TR DTC114ES
104	N ET-354365	TR DTC114YS
105	N ET-354371	TR DTC124ES
106	N ET-354414	TR DTC144ES
107	N ET-356236	TR FET 2SK363 GR.BL
108	N ET-361490	TR PHOT PN268 R,S
109	N ET-360401	TR UN4116
110	N ET-364040	TR UN421D
111	N ET-360400	TR UN4210
112	N ET-361729	TR UN4217
113	N ET-308472	TR 2SA1115 E,F,G F05
114	N ET-364093	TR 2SA1283 E,F F05
115	N ET-356234	TR 2SA1286 G,H,J F05
116	N ET-322598	TR 2SB632K E,F
117	N ET-321644	TR 2SC1213 C
118	N ET-308141	TR 2SC2603 G F05
119	N ET-355669	TR 2SC3246 G,H,J F05
120	N ET-364153	TR 2SC3246 J,K F05
121	N ET-350795	TR 2SC3399 F05
122	N ET-347961	TR 2SD1012-V G F05
123	N ET-363359	TR 2SD1406 GR
124	N EV-363511	R S-FIX EVTK-4CA00BQ4 3P 473
125	N EV-356322	R S-FIX H KVSF637A 3P 502
126	N EV-356575	R S-FIX H RH0615CJ3J 3P 222
127	N EV-356582	R S-FIX H RH0615CS4J 3P 473

NO.	PART NO.	DESCRIPTION
128	N EV-356579	R S-FIX H RH0615C13J 3P 102
129	N EV-356577	R S-FIX H RH0615C14J 3P 103
130	N EV-337957	R S-FIX H TM64K3 3P 0.30W 102
131	N EV-337945	R S-FIX H TM64K3 3P 0.30W 104
132	N EV-360410	VR ROTARY K091COG0C 103
133	N EV-360569	VR ROTARY K091COG0C 104
134	N EX-361672	DEW SENSOR MRX
135	N EZ-362247	Δ CIRCUIT PROTECTOR TBC6211-21-0442 [EV-M]
136	N HE-361456	HEAD E HVFMD0005A
137	N HR-361454	HEAD COMBO HVMLA1004B
138	N MB-364011	BELT
139	N MB-360534	BELT IDLER
140	N MB-360533	BELT PAL
141	N MP-361543	PINCH ROLLER PART
142	N MR-364010	PULLEY WORM
143	N MZ-360385	GEAR LOADING (T)
144	N MZ-361314	GEAR (1)
145	N MZ-360640	GEAR (2)
146	N MZ-361313	GEAR (3)
147	N MZ-360639	GEAR (4)
148	N MZ-360638	GEAR (5)
149	N MZ-360428	GEAR CAM EJECT
150	N MZ-360429	GEAR CAM MAIN
151	N MZ-B360642	GEAR EJECT PART
152	N MZ-360384	GEAR LOADING (S)
153	N MZ-364041	GEAR TU BLK
154	N MZ-360453	WORM
155	N VT-363354	ROTARY ENCODER D2EQ-R9
156	N VT-360148	VERTICAL POLE PART

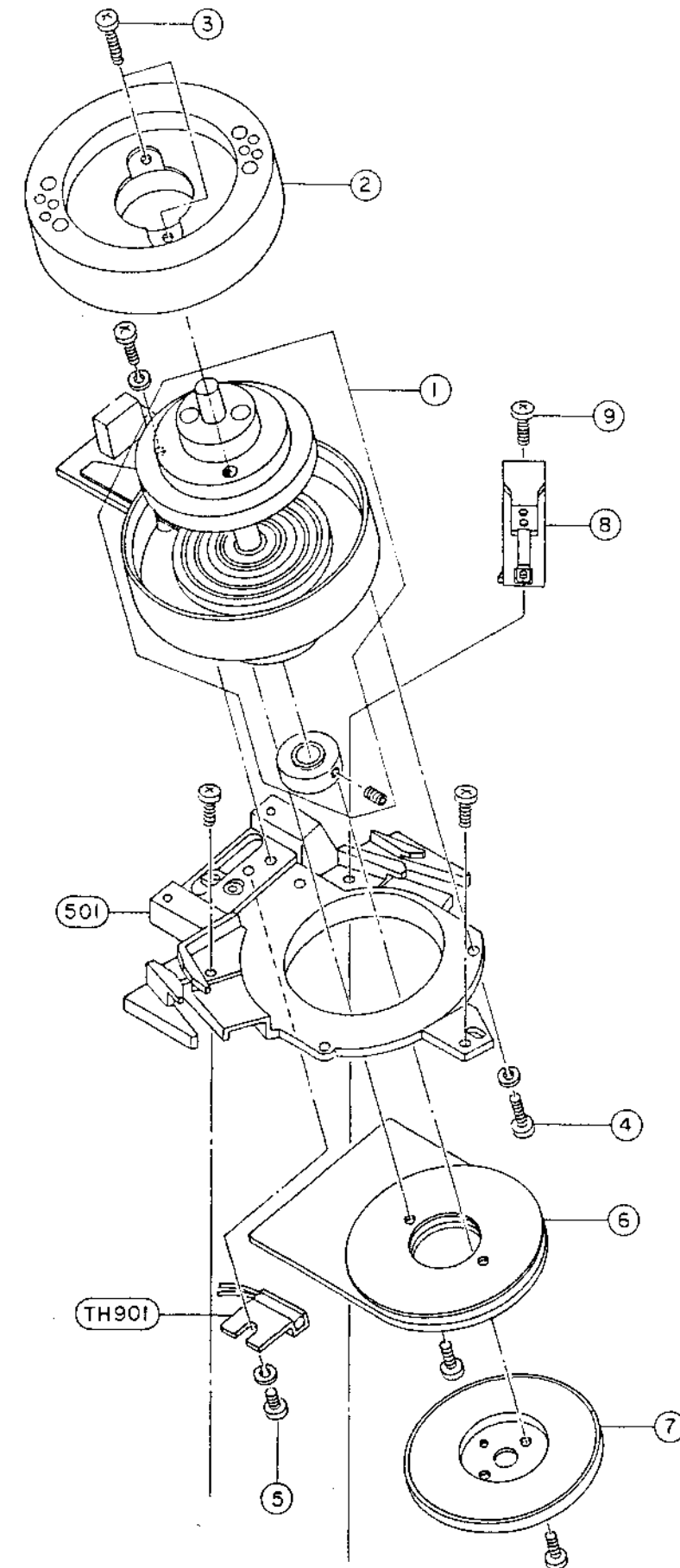
"NOTE" N: New Parts

1. HEAD DRUM BLOCK

HEAD DRUM BLOCK

REF. NO.	PART NO.	DESCRIPTION
HEAD DRUM BLOCK		
1-1	BV-V1030A210B	LOWER DRUM BLK VS-303
1-2	BV-V1030A220D	UPPER DRUM BLK VS-303EG
1-3	ZS-362241	BID30x09STL CMT [UPPER DRUM FIX]
1-4	ZS-354332	PAN26x08STL CMT SW [LOWER DRUM FIX]
1-5	ZS-432843	PAN26x04STL CMT
1-TH901	EX-361672	DEW SENSOR MRX
MOTOR SM-230 BLOCK		
1-6	BM-M3223A020A	PC MOTOR BLK SM-230 (DRUM MOTOR)
1-7	BV-B362443	YOKE MAGNET (2) PART
ASSEMBLY BLOCK		
1-8	VT-361452	DRUM EARTH SP ASSY (A)
1-9	ZS-421806	PAN30x08STL CMT [1-8 FIX]

NOTE: Parts listed in 1-1 to 1-9 on the exploded view and list are normally stocked for replacement purpose.
The remaining parts shown in this manual are not normally stocked, because they are seldom required for routine service.



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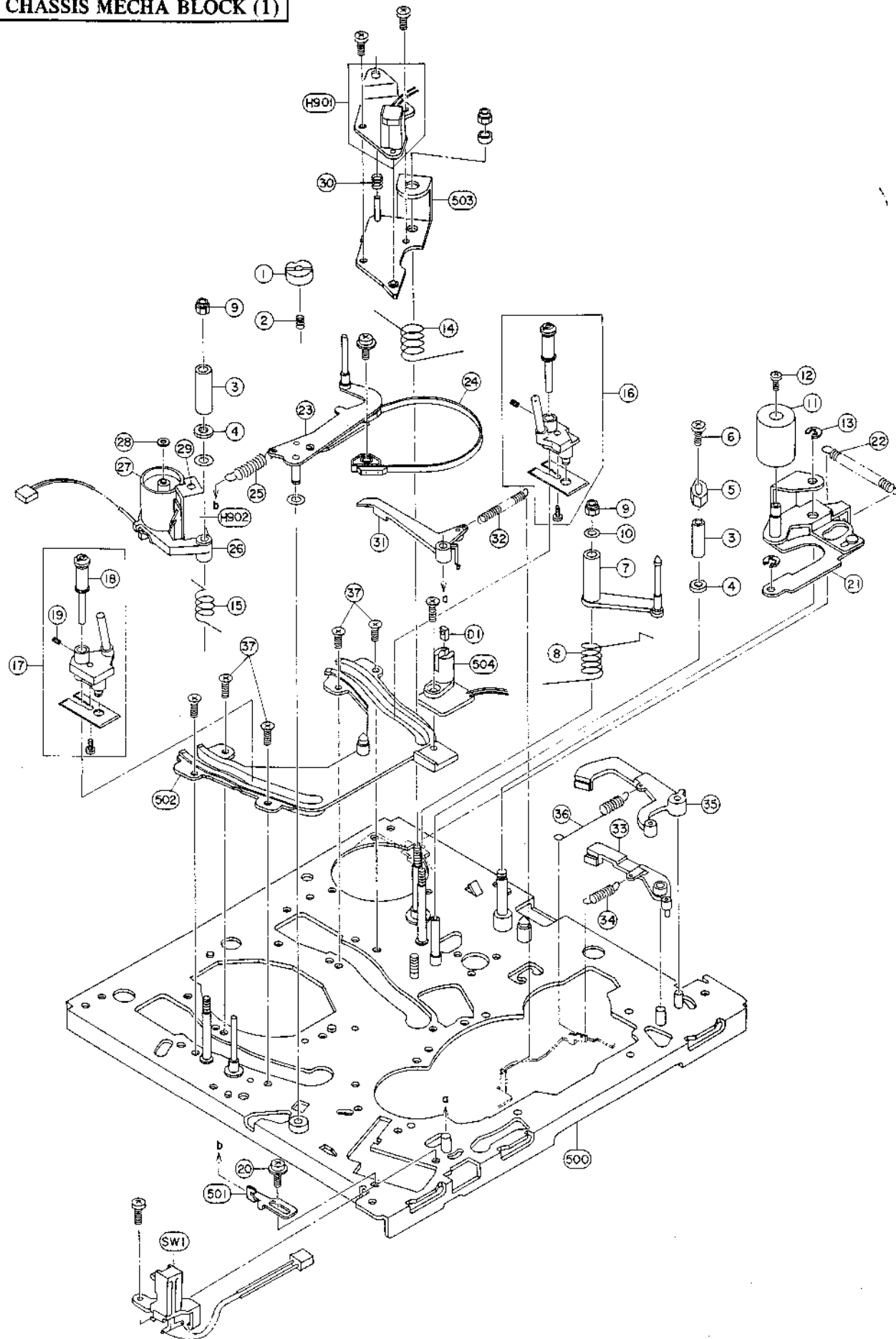
MODEL **VS-205EK**

SCHEMATIC DIAGRAM AND PC BOARDS

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CHASSIS MECHA BLOCK (1)



2. CHASSIS MECHA BLOCK (1)

REF. NO.	PART NO.	DESCRIPTION
CHASSIS MECHA BLOCK		
2-1	ZS-360372	SCREW ADJUST
2-2	ZG-363349	SP PUSH ADJUST SCREW
2-3	MS-364796	GUIDE TAPE (3)
2-4	MS-364797	GUIDE TAPE (4)
2-5	MS-362181	GUIDE TAPE TU
2-6	ZS-608095	PAN20x05STL CMT
2-7	BL-B360353	LEVER REVIEW PART
2-8	ZG-360605	SP TORSION REVIEW ARM
2-9	ZW-354859	N30 NYLON
2-10	ZW-354859	PW31x070x100PSL
2-11	MP-361543	PINCH ROLLER PART
2-12	ZS-477876	PAN20x03STL CMT
2-13	ZW-270101	RING E 300SUP CMT
2-14	ZG-360603	SP TORSION A/C HEAD
2-15	ZG-360604	SP TORSION HOLDER FE HEAD
2-16	BV-V1047A080A	LOADING LEADER (R) BLK
		VS-112EG
2-17	BV-V1047A090A	LOADING LEADER (L) BLK
		VS-112EG
2-18	VT-360148	VERTICAL POLE PART
2-19	ZS-321729	6SET20x040SCM PKR WP
2-20	ZS-200655	SCREW TRIPLE PAN30x04
2-21	BL-B360361	ARM PINCH ROLLER PART
2-22	ZG-360602	SP PULL PINCH
2-23	BL-B360342	LEVER TENSION PART
2-24	BL-B360350	ARM TENSION BAND PART
2-25	ZG-321731	SP T2-04.0/0.40-25.0 T2-115
2-26	MZ-B362281	HOLDER FE HEAD (2) PART
2-27	MR-364335	ROLLER IMPEDANCE
2-28	ZW-361458	PUSH WASHER 16x032x025PSL
2-29	ZS-460440	PAN20x04STL CMT
2-30	ZG-313258	SP C-03.5/0.80-10.0 C-102
2-31	BL-B360486	LEVER FF BRAKE PART
2-32	ZG-364338	SP PULL FF BRAKE
2-33	BL-B360525	LEVER SUB BRAKE (R) PART
2-34	ZG-364339	SP PULL REW BRAKE
2-35	BL-B360522	LEVER BRAKE REVIEW PART
2-36	ZG-364337	SP PULL REVIEW BRAKE
2-37	ZS-360391	SCREW SPECIAL
2-H901	HR-361454	HEAD COMBO HVMLA1004B
2-H902	HE-361456	HEAD E HVFMD0005A
2-SW1	ES-360433	SW LEAF MRX
2-D1	ED-357540	D LED LN59

NOTE: Parts listed in 2-1 to 2-D1 on the exploded view and list are normally stocked for replacement purpose.
The remaining parts shown in this manual are not normally stocked, because they are seldom required for routine service.

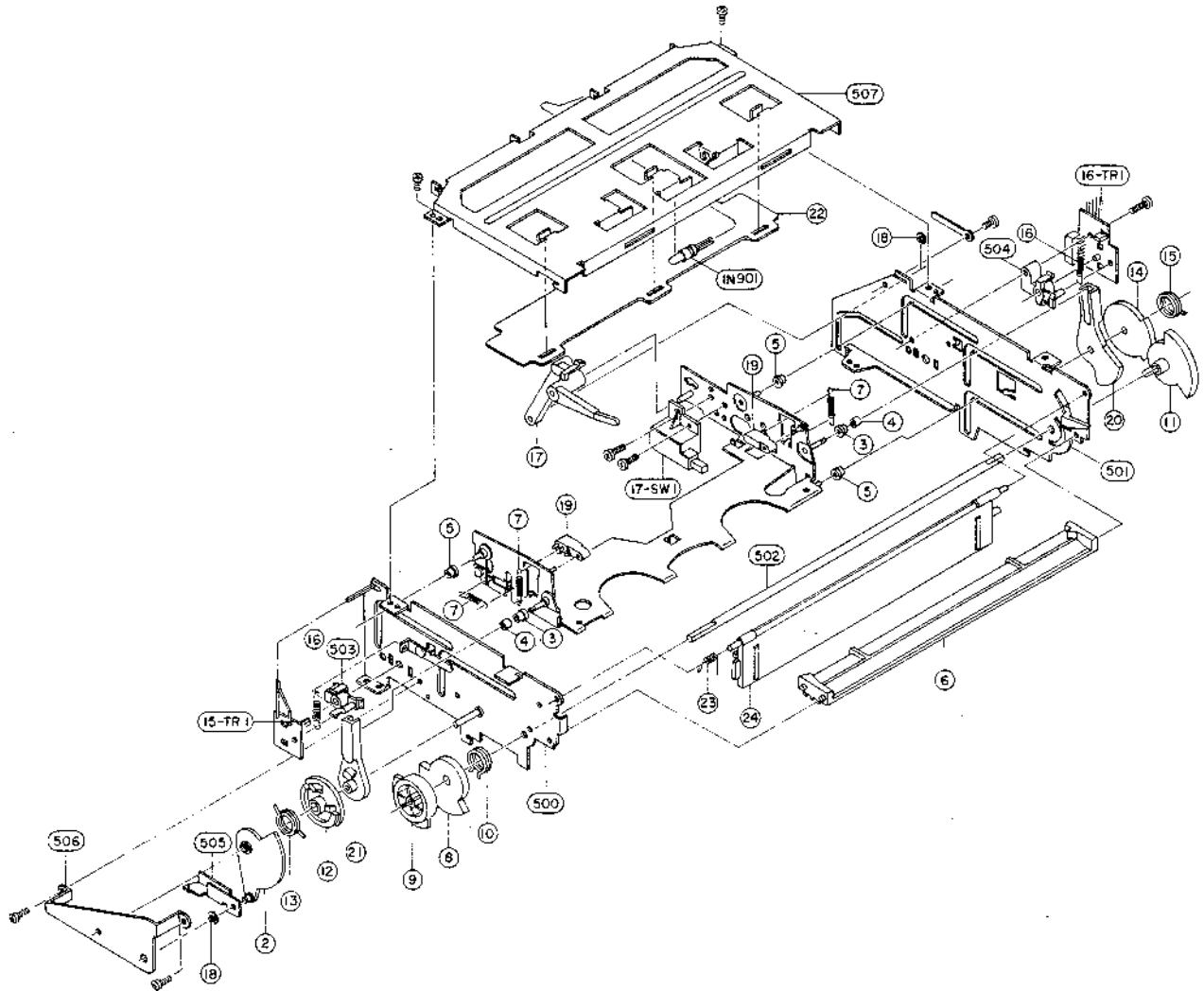
SECTION 2

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EJECTOR BLOCK



4. EJECTOR BLOCK

REF. NO.	PART NO.	DESCRIPTION
	EJECTOR BLOCK	
4-1	BV-V1047A250A	EJECTOR BLK VS-112EG
4-2	MZ-B360642	GEAR EJECT PART
4-3	MR-361310	ROLLER (1)
4-4	MR-361311	ROLLER (2)
4-5	MR-361312	ROLLER (3)
4-6	SZ-360607	GUIDE
4-7	ZG-357865	SP T5-04.0/0.40-11.2 TS-108
4-8	MZ-361314	GEAR (1)
4-9	MZ-361313	GEAR (3)
4-10	ZG-360615	SP TORSION (EJ)
4-11	MZ-360640	GEAR (2)
4-12	MZ-360639	GEAR (4)
4-13	ZG-360614	SP TORSION (L)
4-14	MZ-360638	GEAR (5)
4-15	ZG-360613	SP TORSION (R)
4-16	ZG-358212	SP T5-06.3/0.50-16.0 T5-180
4-17	BL-B361308	ARM LID OPENER PART
4-18	ZW-357164	RING E 230SUP CMT
4-19	ML-361316	ARM PRESSING
4-20	ML-360634	ARM LOADING (R)
4-21	ML-360635	ARM LOADING (L)
4-IN901	EL-363355	PL CORD 12.0V 75MA 200/200
	ASSEMBLY BLOCK	
4-22	SP-364666	PLATE MIRROR (2)

REF. NO.	PART NO.	DESCRIPTION
4-23	ZG-360616	SP TORSION
4-24	SE-361317	MASK CASSETTE
	SENSOR (L) PC BOARD	
15-TR1	ET-361490	TR PHOT PN268 R,S
	SENSOR (R) PC BOARD	
16-TR1	ET-361490	TR PHOT PN268 R,S
	SWITCH (EJ) PC BOARD	
17-SW1	ES-353622	SW PUSH EVQ-WU7001 02-2

NOTE: EJECTOR BLOCK consists of 15-TR1, 16-TR1, and 17-SW1.

NOTE: Parts listed in 4-1 to 17-SW1 on the exploded view and list are normally stocked for replacement purpose.

The remaining parts shown in this manual are not normally stocked, because they are seldom required for routine service.

5. PC BOARD BLOCK (VS-112, VS-105)

REF. NO.	PART NO.	DESCRIPTION
5-1A	BA-V1047A300A	PC MAIN BLK VS-112EG
5-1B	BA-V1047A300B	PC MAIN BLK VS-112EK [VS-112EK, VS-105EK]
5-1C	BA-V1047A300C	PC MAIN BLK VS-112EA
5-1D	BA-V1047A300D	PC MAIN BLK VS-112ED
5-1E	BA-V1047A300E	PC MAIN BLK VS-112EV-M
5-1F	BA-V1047A300F	PC MAIN BLK VS-112EZ
5-1G	BA-V1047A300G	PC MAIN BLK VS-112ES
5-2A	BK-V1047A330A	PC OPERATION BLK VS-112EG [EG,ES]
5-2B	BA-V1047A330B	PC OPERATION BLK VS-112EK [VS-112EK,VS-105EK]
5-2C	BA-V1047A330C	PC OPERATION BLK VS-112EA [EA,ED,EZ]
5-2D	BA-V1047A330D	PC OPERATION BLK VS-112EV-M [EV-H]
5-3	BA-V1047A400A	PC PRE AMP BLK VS-112EG [EA,ED,EK,EG,ES,EV-M,EZ]

NOTE: PC MAIN BLK consists of MAIN PC BOARD and VIF BLOCK.

5. PC BOARD BLOCK (VS-115)

REF. NO.	PART NO.	DESCRIPTION
5-1	BA-V1047A300H	PC MAIN BLK VS-115EO
5-2	BA-V1047A330E	PC OPERATION BLK VS-115EO
5-3	BA-V1047A400A	PC PRE AMP BLK VS-112EG

NOTE: PC MAIN BLK consists of MAIN PC BOARD and VIF BLOCK.

5. PC BOARD BLOCK (VS-116)

REF. NO.	PART NO.	DESCRIPTION
5-1	BA-V1047A300J	PC MAIN BLK VS-116EO-G
5-2	BA-V1047A330F	PC OPERATION BLK VS-116EO-G
5-3	BA-V1047A400A	PC PRE AMP BLK VS-112EG

NOTE: PC MAIN BLK consists of MAIN PC BOARD and VIF BLOCK.

6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
6-IC1	EI-360333	IC EHM-M96A8U67K
6-IC2	EI-360334	IC AW2619
6-IC201	EI-360565	IC M5223P
6-IC202	EI-360561	IC AN3792
6-IC203	EI-360560	IC MN6178XAL
6-IC204	EI-360565	IC M5223P
6-IC205	EI-360563	IC AN3794
6-IC206	EI-360564	IC M54548L
6-IC401	EI-364136	IC MB88521-135M R-SYS4 CUSTOM
6-IC402	EI-353421	IC BA6229
6-IC403	EI-356238	IC LA6324
6-IC404	EI-360396	IC S-8054HN
6-IC405	EI-363347	IC TC9018P
6-IC501	EI-360648	IC BA5115
6-IC502	EI-358506	IC μPC 1513HA
6-IC601	EI-337530	IC μPC574J
6-IC602	EI-363951	IC LA7210 [EO-G]
6-IC701	EI-347116	IC LA6358
6-TR1to3	EI-308472	TR 2SA1115 E,F,G F05
6-TR4	ET-308141	TR 2SC2603 G F05
6-TR5,6	ET-308472	TR 2SA1115 E,F,G F05
6-TR7,8	ET-308141	TR 2SC2603 G F05
6-TR9	ET-308472	TR 2SA1115 E,F,G F05
6-TR10to13	ET-308141	TR 2SC2603 G F05
6-TR14	ET-308472	TR 2SA1115 E,F,G F05
6-TR15to17	ET-356224	TR 2SA1286 G,H,J F05
6-TR18to21	ET-308141	TR 2SC2603 G F05
6-TR22	ET-308472	TR 2SA1115 E,F,G F05
6-TR23	ET-308141	TR 2SC2603 G F05
6-TR24	ET-354414	TR DTC144ES
6-TR25	ET-361729	TR UN4217
6-TR26	ET-353897	TR DTC114ES [EG,EV-M,EO,EO-G]
6-TR27	ET-354415	TR DTA144ES
6-TR28	ET-354414	TR DTC144ES
6-TR29,30	ET-353897	TR DTC114ES [EG,EV-M,EO,EO-G]
6-TR31	ET-308141	TR 2SC2603 G F05
6-TR32	ET-361729	TR UN4217
6-TR201	ET-308141	TR 2SC2603 G F05
6-TR202	ET-356224	TR 2SA1286 G,H,J F05
6-TR203	ET-354365	TR DTC114YS
6-TR204	ET-322598	TR 2SB632K E,F
6-TR205	ET-308141	TR 2SC2603 G F05
6-TR206	ET-308472	TR 2SA1115 E,F,G F05
6-TR207,208	ET-308141	TR 2SC2603 G F05
6-TR401	ET-354371	TR DTC124ES
6-TR402	ET-355669	TR 2SC3246 G,H,J F05
6-TR403	ET-308472	TR 2SA1115 E,F,G F05
6-TR404,405	ET-360400	TR UN4210
6-TR406,407	ET-363953	TR DTA114TS
6-TR408	ET-354371	TR DTC124ES
6-TR410	ET-360401	TR UN4116
6-TR411	ET-308472	TR 2SA1115 E,F,G F05
6-TR413	ET-364040	TR UN421D
6-TR414	ET-308472	TR 1SA1115 E,F,G F05
6-TR416to418	ET-308472	TR 2SA1115 E,F,G F05
6-TR419	ET-363359	TR 2SD1406 GR [EV-M]
6-TR501	ET-308141	TR 2SC2603 G F05
6-TR502	ET-350795	TR 2SC3399 F05
6-TR503	ET-360646	TR DTA143ES F05
6-TR601,602	ET-308141	TR 2SC2603 G F05
6-TR603	ET-356224	TR 2SA1286 G,H,J F05
6-TR604	ET-321644	TR 2SC1213 C
6-TR605to607	ET-308472	TR 2SA1115 E,F,G F05 [EXCEPT EK]
6-TR608,609	ET-364093	TR 2SA1283 E,F F05
6-TR611	ET-308141	TR 2SC2603 G F05
6-TR612	ET-356236	TR FET 2SK363 GR.BL
6-TR613	ET-356224	TR 2SA1286 G,H,J F05 [EA,ED,EZ,ES,EV-M]
6-TR614	ET-308472	TR 2SA1115 E,F,G F05 [EO-G]
6-TR701,702	ET-363359	TR 2SD1406 GR
6-TR703	ET-356224	TR 2SA1286 G,H,J F05

REF. NO.	PART NO.	DESCRIPTION
6-D1	ED-344280	D SILICON H GMA-01-FY2 F05
6-D2	ED-624903	D SILICON H 1S2473
6-D3	ED-344280	D SILICON H GMA-01-FY2 F05 [EG,EV-M,EO,EO-G]
6-D4,5	ED-344280	D SILICON H GMA-01-FY2 F05
6-D201	ED-313846	D ZENER H HZ16 3
6-D202	ED-362998	D ZENER H HZS9.1J F05 B3
6-D203to205	ED-344280	D SILICON H GMA-01-FY2 F05
6-D402to405	ED-344280	D SILICON H GMA-01-FY2 F05
6-D406	ED-357754	D SILICON DS135D 200/1.0A
6-D407,408	ED-344280	D SILICON H GMA-01-FY2 F05
6-D409	ED-329051	D ZENER H HZ24 3 [EV-M]
6-D501	ED-346609	D ZENER H HZ9 C1
6-D601,602	ED-344280	D SILICON H GMA-01-FY2 F05
6-D603	ED-337266	D ZENER H HZ9 A1
6-D604,605	ED-344280	D SILICON H GMA-01-FY2 F05 [EXCEPT EK]
6-D606	ED-344280	D SILICON H GMA-01-FY2 F05
6-D608	ED-337266	D ZENER H HZ9 A1 [EA,ED,ES,EZ,EV-M]
6-D609,610	ED-344280	D SILICON H GMA-01-FY2 F05 [EXCEPT EK]
6-D701	ED-365109	D ZENER H MA1043-H
6-D702	ED-305706	D ZENER H HZ7 B3
6-D703to705	ED-344280	D SILICON H GMA-01-FY2 F05
6-VR1	EV-356579	R S-FIX H RH0615C13J 3P 102
6-VR2	EV-356575	R S-FIX H RH0615C3J 3P 222
6-VR201	EV-337945	R S-FIX H TM64K3 3P 0.30W 104
6-VR202	EV-356582	R S-FIX H RH0615CS4J 3P 473
6-VR401	EV-363511	R S-FIX EVTK-4CA00BQ4 3P 473
6-VR501	EV-356577	R S-FIX H RH0615C14J 3P 103
6-VR502	EV-356582	R S-FIX H RH0615CS4J 3P 473
6-VR701	EV-337957	R S-FIX H TM64K3 3P 0.30W 102
6-DL1	EH-360340	DL EFD-EN645A31P
6-DL2	EH-360341	DL EFD-HR124A13D
6-FL1	EH-360339	FILTER LC AP AF-25P [EG,EA,EV-M,EZ,EO,EO-G]
6-FL2	EH-360337	FILTER LC LP LF-47P
6-FL3	EH-364045	FILTER LC FF-78P
6-FL501	EO-360647	COIL OSC 1 MX-102
6-L1	EO-330252	COIL FIX 1 EL0606SKI 101K
6-L2	EO-351865	COIL FIX 1 LAL02 F05 330J
6-L3	EO-356599	COIL FIX 1 LAL02 F05 270K
6-L4,5	EO-357507	COIL FIX 1 LAL02 F05 121K
6-L6	EO-330252	COIL FIX 1 EL0606SKI 101K
6-L7,8	EO-360555	COIL FIX 1 LAL02 F05 180K
6-L9,10	EO-351868	COIL FIX 1 LAL02 F05 470K
6-L11,12	EO-354600	COIL FIX 1 LAL02 F05 101K
6-L13,14	EO-330252	COIL FIX 1 EL0606SKI 101K
6-L15	EO-353900	COIL FIX 1 LAL02 F05 150K
6-L16	EO-351868	COIL FIX 1 LAL02 F05 470K
6-L17	EO-330252	COIL FIX 1 EL0606SKI 101K
6-L18	EO-345889	COIL FIX 1 EL0606SKI 331J
6-L19	EO-360554	COIL FIX 1 LAL02 F05 221K
6-L20	EO-353902	COIL FIX 1 LAL02 F05 560K [EG,EV-M,EO,EO-G]
6-L21	EO-356599	COIL FIX 1 LAL02 F05 270K
6-L22	EO-330252	COIL FIX 1 EL0606SKI 101K
6-L24	EO-356599	COIL FIX 1 LAL02 F05 270K
6-L25	EO-357508	COIL FIX 1 LAL02 F05 151K
6-L26,28	EO-351869	COIL FIX 1 LAL02 F05 820K
6-L29	EO-353901	COIL FIX 1 LAL02 F05 560K [EG,EV-M,EO,EO-G]
6-L501	EO-420344	COIL FIX 1 FL7H 472J
6-L502	EO-383308	COIL FIX 1 FL7H 272J
6-L601	EO-360554	COIL FIX 1 LAL02 F05 221K
6-L602	EO-354600	COIL FIX 1 LAL02 F05 101K
6-L603	EO-351868	COIL FIX 1 LAL02 F05 470K [EO-G]
6-X1	EI-363362	OSC X'TAL MX-44 4.433619MHZ [EO-G]
6-X401	EI-347991	OSC CE CSA6.00MS 6MHZ
6-X601	EI-363952	OSC CE CSB500ES [EO-G]
6-SF1,201	EF-344106	Δ FUSE ICP-N10 150V 0.4A
6-FR1	ER-348272	Δ R FUSE ERD2FC S10 1/4W 12R0G
6-R207	ER-340542	R MF H F05 1/6W 7502F

REF. NO.	PART NO.	DESCRIPTION
6-R231	ER-360559	R FUSE RF50S F12 1/2W 1R0J
6-R463	ER-353878	R OMF H S15 FS 1W 2R2J
6-R518	ER-337336	R MF H F05 1/6W 3302F
6-C2	EC-307793	C EC V F05 NP SM 220M 10DC
6-C236	EC-200948	C EC V F05 NP SM 1R0M 50DC
6-C522	EC-337966	C PP V APS 103J 100DC
6-C610	EC-358805	C TT V EF R47M 35.0DC
6-1A	EJ-363366	JACK PLATE VIDEO B-2 [EG,EO,EO-G]
6-1B	EJ-363367	JACK PLATE VIDEO B-1 [EK,ES]
6-1C	EJ-363369	JACK PATE VIDEO A-1 [EA,ED,EZ]
6-1D	EJ-363368	JACK PLATE VIDEO A-2[EV-M]
6-2	ZS-353965	PLX BR30x12STL CMT [JACK PLATE FIX]
6-3A	BV-363231	RF CONVERTER BOOSTER EO [EG,EO,EO-G]
6-3B	BV-363233	RF CONVERTER SW MDLC2S090A EA [EA]
6-3C	BV-363943	RF CONVERTER SW ED [ED]
6-3D	BV-363232	RF CONVERTER BOOSTER EK [EK,ES]
6-3E	BV-363234	RF CONVERTER SW MDLC2D093A EV [EV-M,EZ]
6-4A	BV-V1047A900A	VIF BLK VS-112EG [EG,EV-M]
6-4B	BV-V1047A900B	VIF BLK VS-112EK
6-4C	BV-V1047A900C	VIF BLK VS-112EA
6-4D	BV-V1047A900D	BIF BLK VS-112ED
6-4E	BV-V1047A900E	VIF BLK VS-112EZ
6-4F	BV-V1047A900F	VIF BLK VS-112ES
6-4G	BV-V1047A900G	VIF BLK VS-115EO
6-4H	BV-V1047A900H	VIF BLK VS-116EO-G
6-5	EZ-200473	SILICON RUBBER SHEET TC-30
6-6	ZS-363459	PLX BR26x06STL CMT [RF CONVERTER FIX]
6-7	EJ-363427	SOCKET IC DICS 64PL

7. OPERATON PC BOARD

REF. NO.	PART NO.	DESCRIPTION
7-IC1	EI-364135	IC MB88501-395M R-OPE3 CUSTOM [EXCEPT EO-G]
7-IC1A	EI-366680	IC MB88501-436M R-OPE4 CUSTOM [EO-G]
7-IC2	EI-360404	IC M5450-011P
7-TR1to6	ET-308141	TR 2SC2603 G F05 [EO,EO-G]
7-TR7to13	ET-308141	TR 2SC2603 G F05
7-TR14	ET-364060	TR DTC143ES
7-TR15	ET-308141	TR 2SC2603 G F05
7-D1to14	ED-356424	D LED BG5525S GREEN
7-D15to42	ED-624903	D SILICON H 1S2473
7-D50	ED-355607	D LED PR 5505S RED
7-D52	ED-355607	D LED PR 5505S RED [EA,ED,EZ,EV-M]
7-D53	ED-355607	D LED PR 5505S RED
7-D54	ED-356424	D LED BG5525S GREEN
7-D55to57	ED-355607	D LED PR 5505S RED
7-D58,59	ED-624903	D SILICON H 1S2473
7-D60	ED-355607	D LED PR 5505S RED
7-D62	ED-624903	D SILICON H 1S2473 [EO-G]
7-D65	ED-624903	D SILICON H 1S2473 [EA,ED,EZ]
7-D68	ED-624903	D SILICON H 1S2473 [EXCEPT EO,EO-G]
7-D70	ED-624903	D SILICON H 1S2473
7-SW1	ES-360408	SW SLIDE ESD-14187 1-01-02N
7-SW3	ES-349474	SW TACT SKHHAM004A [EA,ED,EZ,EV-M]
7-SW4to22	ES-349474	SW TACT SKHHAM004A

REF. NO.	PART NO.	DESCRIPTION
7-VR1	EV-356322	R S-FIX H KVSF637A 3P 502
7-X1	EI-356371	OSC X'TAL MS-309 4.194304MHZ
7-IB1	EH-347743	COMP R RKC1/8B4 103J
7-PM1A	EE-360406	TUNING UNIT UBH02 8CH 203 [EG,ES,EV-M]
7-PM1B	EE-360407	TUNING UNIT UBH14 8CH 203 [EK]
7-PM1C	EE-364669	TUNING UNIT UBH020513A EA 8CH203 [EA,ED,EZ]
7-PM1D	EE-360405	TUNING UNIT UBH050028A 14CH 203 [EO,EO-G]

8. FUNCTION PC BOARD

REF. NO.	PART NO.	DESCRIPTION
8-IC1	EI-356370	IC LA7224
8-D1	ED-360409	D PHOT PN323B
8-D2	ED-344280	D SILICON H GMA-01-FY2 F05
8-SW1,2	ES-349474	SW TACT SKHAM004A
8-VR1	EV-360410	VR ROTARY K091C0G0C 103
8-VR2	EV-360569	VR ROTARY K091C0G0C 104
8-FL1	EO-356372	COIL TUN 1 038-332 38KHZ

9. PRE AMP PC BOARD

REF. NO.	PART NO.	DESCRIPTION
9-IC1	EI-352714	IC HA11752
9-TR1	ET-308141	TR 2SC2603 G F05
9-TR2to4	ET-347961	TR 2SD1012-V G F05
9-L1	EO-357508	COIL FIX 1 LAL02 F05 151K
9-L2	EO-353902	COIL FIX 1 LAL02 F05 680K
9-L3	EO-330252	COIL FIX 1 EL0606SKI 101K

10. VIF BLOCK

REF. NO.	PART NO.	DESCRIPTION
10-1A	EE-345115	TV TUNER TEED1-A04A [EG,EV-M]
10-1B	EE-345116	TV TUNER TEEB1-013A [EK]
10-1C	EE-345117	TV TUNER TEES1-017A [EA]
10-1D	EE-363941	TV TUNER TEEZ1-042A ED [ED]
10-1E	EE-352284	TV TUNER TEEZ1-020A [EZ]
10-1F	EE-366760	TV TUNER ES [ES]
10-1G	EE-363214	TV TUNER A25A [EO]
10-1H	EE-366792	TV TUNER TEEE1-A39A [EO-G]

11. POWER SUPPLY PC BOARD

REF. NO.	PART NO.	DESCRIPTION
11-TR1	ET-364153	TR 2SC3246 J,K F05
11-D1	ED-363350	D SILICON S5566B
11-D2	ED-363350	D SILICON S5566B
11-D3to6	ED-363351	Δ D SILICON DSA17C
11-D7to10	ED-363350	Δ D SILICON S5566B
11-FR1	ER-364508	Δ R FUSE ERQ-12H F17 1/2W R56K
11-FR2	ER-362257	Δ R FUSE ERQ-12H F17 1/2W R47K
11-FR3	ER-365157	Δ R FUSE H F10 ERQ-14LE 1/4W R43K
11-FR5	ER-200595	Δ R FUSE ERD2FC S10 1/4W 5R6J
11-C2	EC-363490	C EC V CUT SME 222M 16.0DC
11-C3,4	EC-363491	C EC V CUT SME 222M 25.0DC
11-C5	EC-361942	Δ C CE V V 103Z 400AC [EA,ED,EG,EK,ES,EV-M,EZ]
11-C5A	EC-364049	Δ C CE V E 472M400AC [EO]
11-T901A	BT-363353	Δ TRANS POWER V47EG [EG]
11-T901B	BT-363945	Δ TRANS POWER V47EK [EK]
11-T901C	BT-362244	Δ TRANS POWER V47EA [EA]
11-T901D	BT-363948	Δ TRANS POWER V47EO [ED,EO,EO-G]
11-T901E	BT-363946	Δ TRANS POWER V47EV-M [EV-M]
11-T901F	BT-363950	Δ TRANS POWER V47EZ [EZ]
11-T901G	BT-363949	Δ TRANS POWER V47ES [ES]
11-F1A	EF-623103	Δ FUSE SEMKO T 1.00A 250V [EXCEPT EK]
11-F2A	EF-601301	Δ FUSE SEMKO T 2.00A 250V [EXCEPT EK]
11-F1B	EF-355226	Δ FUSE BET T 1.00A 250V [EK]
11-F2B	EF-355398	Δ FUSE BET T 2.00A 250V [EK]

12. EVM PC BOARD (EG,EK,EV-M,ES ONLY)

REF. NO.	PART NO.	DESCRIPTION
12-SW901	ES-354430	Δ SW SLIDE 00220950 02-02-2H [EG,EK,EV-M,ES]
12-SW902	EZ-362247	Δ CIRCUIT PROTECTOR TBC6211-21-0442 [EV-M]

13. MOTOR PC BOARD

REF. NO.	PART NO.	DESCRIPTION
13-R21	ER-362089	R CB H R50X FC16 1/2W 1R6J

14. SENSOR REEL PC BOARD

REF. NO.	PART NO.	DESCRIPTION
14-PH1	ET-361463	PHOT SENSOR ON2170 Q,R

15. SENSOR (L) PC BOARD

REF. NO.	PART NO.	DESCRIPTION
15-TR1	ET-361490	TR PHOT PN268 R,S

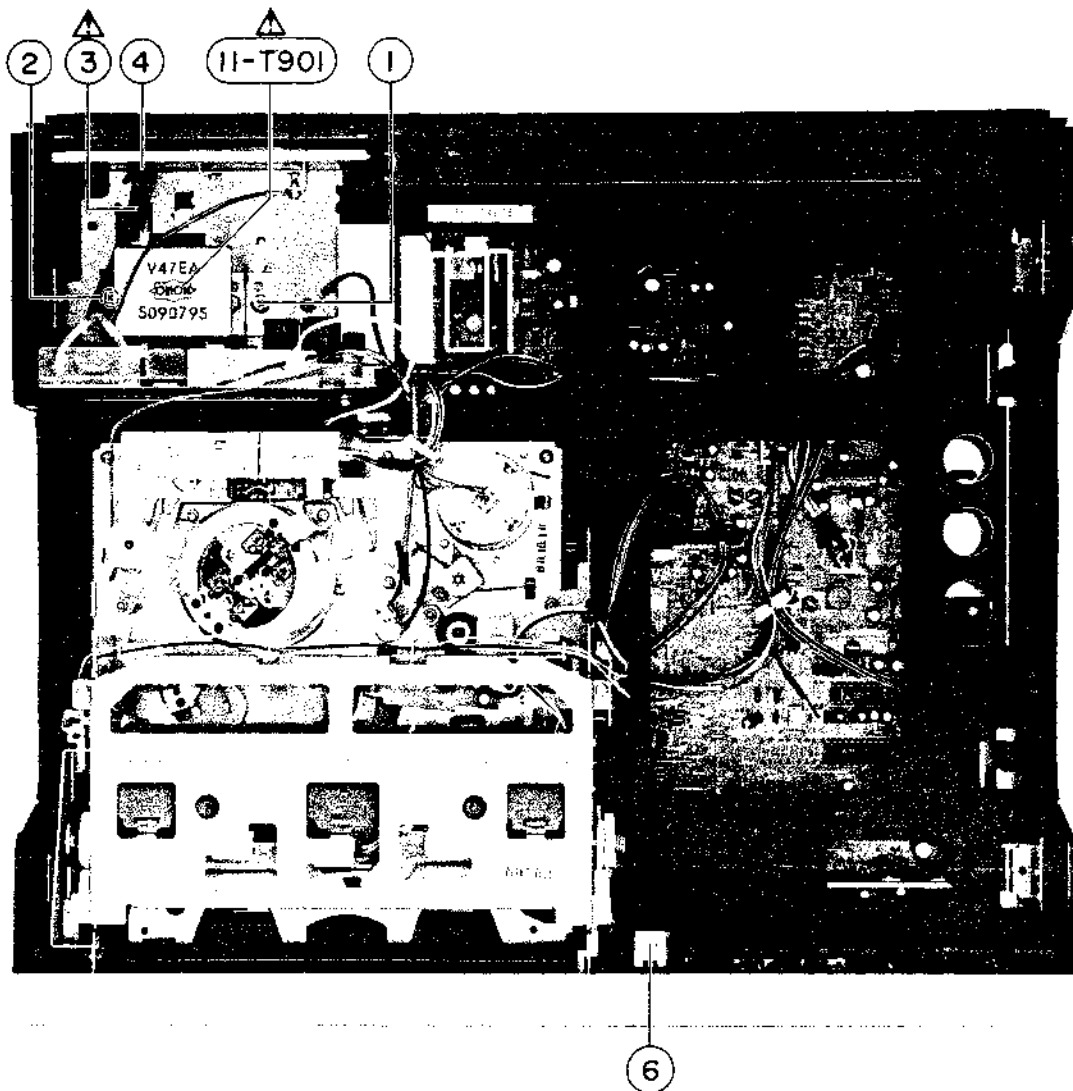
16. SENSOR (R) PC BOARD

REF. NO.	PART NO.	DESCRIPTION
16-TR1	ET-361490	TR PHOT PN268 R,S

17. SWITCH (EJ) PC BOARD

REF. NO.	PART NO.	DESCRIPTION
17-SW1	ES-353622	SW PUSH EVQ-WU7001 02-2

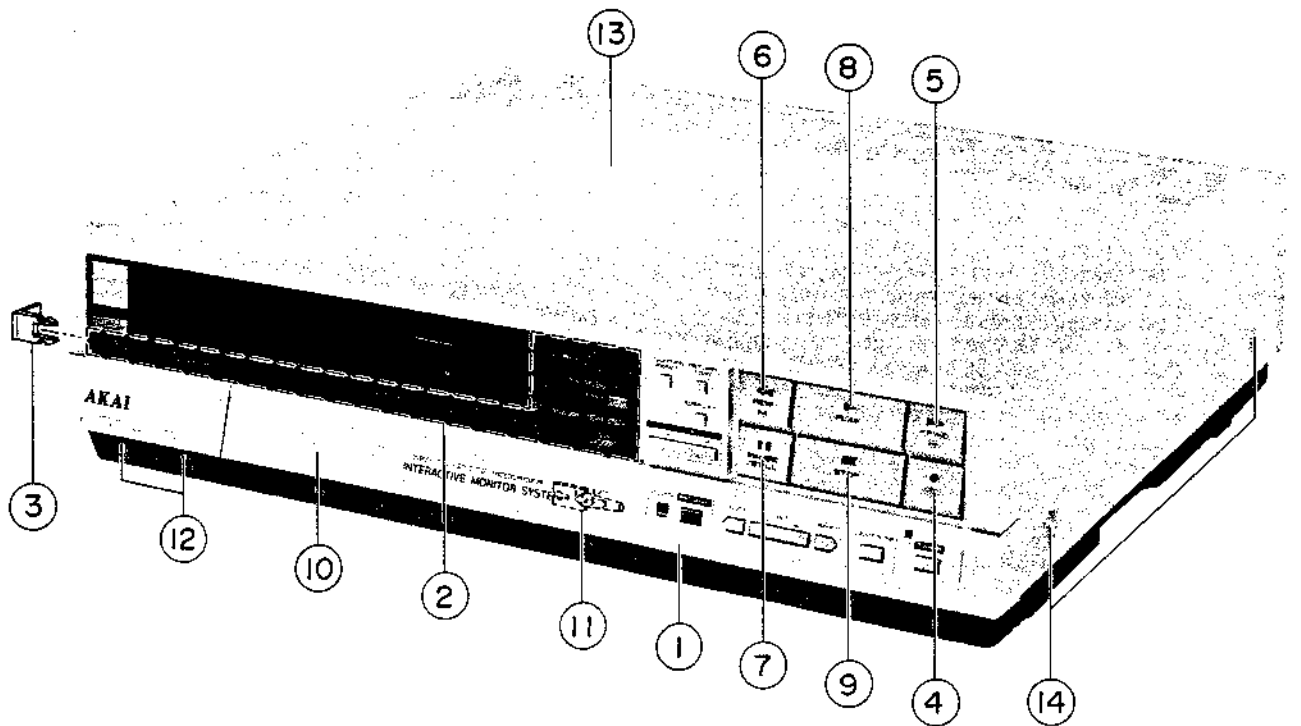
ASSEMBLY BLOCK



18. ASSEMBLY BLOCK

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
ASSEMBLY BLOCK			LINE FILTER PC BOARD (EO-G ONLY)		
18-1	ZS-357936	DELL TIGHT BID40x08 STL NI3 [TRANS POWER FIX]	18-FL1x	EO-339907	COIL LF FK0B160MH16 100.0μH [EO-G]
18-2	ZS-363912	PLX BR40x10STL CMT [TRANS POWER FIX]	18-C5x	EC-364049	△ C CE V 472M 400AC [EO-G]
18-3A	EW-364043	△ AC CORD 2 CORES KP419C, LTCE2F-CB EV [EG,EV-M,ES,EO-G]	POWER SUPPLY PC BOARD		
18-3B	EW-364044	△ AC CORD 2 CORES NRBS, LC2x0.75-CB B [EK]	11-T901A	BT-363353	△ TRANS POWER V47EG [EG]
18-3C	EW-364428	△ AC CORD 3 CORES VM-0418, 3x0.75 S [EA,EZ]	11-T901B	BT-363945	△ TRANS POWER V47EK [EK]
18-3D	EW-362134	△ AC CORD 2 CORES KP-419C, LTCE2F-CB [ED,EO]	11-T901C	BT-362244	△ TRANS POWER V47EA [EA]
18-4	EZ-692908	STRAIN RELIEF SR-5N-4[EA,EZ]	11-T901D	BT-363948	△ TRANS POWER V47EO [ED,EO,EO-G]
18-5x	SA-353927B	FOOT (2)	11-T901E	BT-363946	△ TRANS POWER V47EV-M [EV-M]
18-6	ZS-357946	PLX PAN30x10STL CMT C080 [PANEL FRONT FIX]	11-T901F	BT-363950	△ TRANS POWER V47EZ [EZ]
			11-T901G	BT-363949	△ TRANS POWER V47ES [ES]

FINAL ASSEMBLY BLOCK



19. FINAL ASSEMBLY BLOCK

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
PANEL FRONT BLOCK					
19-1	BD-D1047B130M	PANEL FRONT BLK VS-105EK-B	19-6	SK-B361328A	KNOB REW PART [EXCEPT VS-105]
19-1A	BD-V1047A130A	PANEL FRONT BLK VS-112EG	19-6B	SK-B361328B	KNOB REW-B PART
19-1B	BD-V1047A130B	PANEL FRONT BLK VS-112EK	19-7	SK-B361329A	KNOB PAUSE PART [EXCEPT VS-105]
19-1C	BD-V1047A130C	PANEL FRONT BLK VS-112EA	19-7B	SK-B361329B	KNOB PAUSE-B PART
19-1D	BD-V1047A130D	PANEL FRONT BLK VS-112ED	19-8	SK-B361330A	KNOB PLAY PART [EXCEPT VS-105]
19-1E	BD-V1047A130E	PANEL FRONT BLK VS-112EV-M	19-8B	SK-B361330B	KNOB PLAY-B PART
19-1F	BD-V1047A130F	PANEL FRONT BLK VS-112EZ	19-9	SK-361331A	KNOB STOP [EXCEPT VS-105]
19-1G	BD-V1047A130G	PANEL FRONT BLK VS-112ES	19-9B	SK-361331B	KNOB STOP-B
19-1H	BD-V1047B130A	PANEL FRONT BLK VS-112EG-B	19-10	SP-361332B	PANEL DOOR FRONT [EXCEPT VS-105]
19-1I	BD-V1047B130B	PANEL FRONT BLK VS-112EK-B	19-10B	SP-361332A	PANEL DOOR FRONT-B
19-1J	BD-V1047B130C	PANEL FRONT BLK VS-112EA-B	19-11	AV-361336	DRIVER
19-1K	BD-V1047B130D	PANEL FRONT BLK VS-112ED-B	FINAL ASSEMBLY BLOCK		
19-1L	BD-V1047B130E	PANEL FRONT BLK VS-112EV-MB	19-12	SK-361334	KNOB PICTURE TRACKING
19-1M	BD-V1047B130F	PANEL FRONT BLK VS-112EZ-B	19-13	BC-361486A	COVER UPPER [EXCEPT VS-105]
19-1N	BD-V1047B130G	PANEL FRONT BLK VS-112ES-B	19-13B	BC-361486B	COVER UPPER-B
19-1O	BD-V1047A130H	PANEL FRONT BLK VS-115EO	19-14	ZS-357943	ST BID40x10STL NI3 SPECIAL [COVER UPPER FIX]
19-1P	BD-V1047B130H	PANEL FRONT BLK VS-115EO-B	19-14B	ZS-358696	ST BID40x10STL BNI SPECIAL [EXCEPT VS-105]
19-2	SP-361782K	PLATE DECORATION VS-105EK	19-15x	EW-348414	CORD PAL [ANTENNA CABLE]
19-2A	SP-361338A	PLATE DECORATION VS-112EG	NOTE: PANEL FRONT BLOCK consists of 19-2 to 19-11.		
19-2B	SP-361338M	PLATE DECORATION VS-112EK	SYMBOL FOR COLOR VARIATION		
19-2C	SP-361338L	PLATE DECORATION VS-112EA	NON : STANDARD COLOR		
19-2D	SP-361338J	PLATE DECORATION VS-112ED	B or BL : BLACK		
19-2E	SP-361338B	PLATE DECORATION VS-112EV-M			
19-2F	SP-361338K	PLATE DECORATION VS-112EZ			
19-2G	SP-361338N	PLATE DECORATION VS-112ES			
19-2H	SP-361338C	PLATE DECORATION VS-115EO			
19-3	SC-361335B	CAP CURSOR (2) [EXCEPT VS-105]			
19-3B	SC-361335A	CAP CURSOR (1)			
19-4	SK-B361325A	KNOB REC PART [EXCEPT VS-105]			
19-4B	SK-B361325B	KNOB REC-B PART			
19-5	SK-B361327A	KNOB FF PART [EXCEPT VS-105]			
19-5B	SK-B361327B	KNOB FF-B PART			

19. FINAL ASSEMBLY BLOCK

REF. NO.	PART NO.	DESCRIPTION
PANEL FRONT BLOCK		
19-1	BD-V1047A130J	PANEL FRONT BLK VS-116EO-G
19-1B	BD-V1047B130J	PANEL FRONT BLK VS-116EO-GB
19-2	SP-361782A	PLATE DECORATION VS-116EO-G
19-3	SC-361335B	CAP CURSOR (2)
19-3B	SC-361335A	CAP CURSOR (1)
19-4	SK-B361325C	KNOB REC (GERMAN) PART
19-4B	SK-B361325D	KNOB REC (GERMAN)-B PART
19-5	SK-B361327C	KNOB FF (GERMAN) PART
19-5B	SK-B361327D	KNOB FF (GERMAN)-B PART
19-6	SK-B361328C	KNOB REW (GERMAN) PART
19-6B	SK-B361328D	KNOB REW (GERMAN)-B PART
19-7	SK-B361329C	KNOB PAUSE (GERMAN) PART
19-7B	SK-B361329D	KNOB PAUSE (GERMAN)-B PART
19-8	SK-B361330C	KNOB PLAY (GERMAN) PART
19-8B	SK-B361330D	KNOB PLAY (GERMAN)-B PART
19-9	SK-361331A	KNOB STOP
19-9B	SK-361331B	KNOB STOP-B
19-10	SP-361332B	PANEL DOOR FRONT
19-10B	SP-361332A	PANEL DOOR FRONT-B
19-11	AV-361336	DRIVER
FINAL ASSEMBLY BLOCK		
19-12	SK-361334	KNOB PICTURE TRACKING
19-13	SP-361486C	COVER UPPER EO-G
19-13B	SP-361486D	COVER UPPER EO-G-B
19-14	ZS-357943	ST BID40x10STL NI3 SPECIAL [COVER UPPER FIX]
19-14B	ZS-358696	ST BID40x10STL BNI SPECIAL [BL][COVER UPPER FIX]
19-15x	EW-348414	CORD PAL [ANTENNA CABLE]

NOTE: PANEL FRONT BLOCK consists of 19-2 to 19-11.

SYMBOL FOR COLOR VARIATION

NON : STANDARD COLOR
B or BL : BLACK

20. REMOTE CONTROL UNIT

REF. NO.	PART NO.	DESCRIPTION
20-1A	AV-363357	REMOCON RC-V155B-E WIRELESS(T) [EG,EK,ES][EXCEPT VS-105]
20-1B	AV-363496	REMOCON RC-V155A-E WIRELESS(T) [EA,ED,EV-M,EZ]
20-1C	AV-363494	REMOCON RC-V155B-EB WIRELESS(T)[BL][EG,EK,ES,EO]
20-1D	AV-363498	REMOCON RC-V155A-EB WIRELESS(T)[BL][EA,ED,EV-M,EZ]
20-1E	AV-363503	REMOCON RC-V155B-G WIRELESS(T) [EO-G]
20-1F	AV-363504	REMOCON RC-V155B-GB WIRELESS(T)[EO-G]
20-IC1	EI-749983	IC μ PD1943G
20-TR1	ET-718040	TR 2SD1468
20-D1	ED-705414	D LED SE303A INFRARED
20-D2	ED-705414	D LED SE303A INFRARED
20-D3	ED-718039	D SILICON DAN201
20-X1	EI-749984	OSC CE KBR455BAT
20-2	SC-718041	COVER BATTERY
20-2B	SC-718043	COVER BATTERY-B

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PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO.
AV-361336	19-11	BV-363232	6-3D	ED-624903	7-D29	EI-363427	6-7
AV-363357	20-1A	BV-363233	6-3B	ED-624903	7-D30	EL-363355	4-IN901
AV-363494	20-1C	BV-363234	6-3E	ED-624903	7-D31	EO-330252	6-L1
AV-363496	20-1B	BV-363943	6-3C	ED-624903	7-D32	EO-330252	6-L6
AV-363498	20-1D	EC-200948	6-C236	ED-624903	7-D33	EO-330252	6-L13
AV-363503	20-1E	EC-307793	6-C2	ED-624903	7-D34	EO-330252	6-L14
AV-363504	20-1F	EC-337966	6-C522	ED-624903	7-D35	EO-330252	6-L17
BA-V1047A300A	5-1A	EC-358805	6-C610	ED-624903	7-D62	EO-330252	6-L22
BA-V1047A300B	5-1B	EC-361942	11-C5	ED-624903	7-D36	EO-330252	9-L3
BA-V1047A300C	5-1C	EC-363490	11-C2	ED-624903	7-D37	EO-339907	18-FL1x
BA-V1047A300D	5-1D	EC-363491	11-C4	ED-624903	7-D38	EO-345889	6-L18
BA-V1047A300E	5-1E	EC-363491	11-C3	ED-624903	7-D39	EO-351865	6-L2
BA-V1047A300F	5-1F	EC-364049	11-C5A	ED-624903	7-D41	EO-351868	6-L9
BA-V1047A300G	5-1G	EC-364049	18-C5x	ED-624903	7-D42	EO-351868	6-L10
BA-V1047A300H	5-1	ED-305706	6-D702	ED-624903	7-D40	EO-351868	6-L16
BA-V1047A300J	5-1	ED-313846	6-D201	ED-624903	7-D58	EO-351868	6-L603
BA-V1047A330B	5-2B	ED-329051	6-D409	ED-624903	7-D59	EO-351869	6-L26
BA-V1047A330C	5-2C	ED-337266	6-D603	ED-624903	7-D65	EO-351869	6-L28
BA-V1047A330D	5-2D	ED-337266	6-D608	ED-624903	7-D68	EO-353900	6-L15
BA-V1047A330E	5-2	ED-344280	6-D1	ED-624903	7-D70	EO-353901	6-L20
BA-V1047A330F	5-2	ED-344280	6-D4	ED-705414	20-D1	EO-353901	6-L29
BA-V1047A400A	5-3	ED-344280	6-D3	ED-705414	20-D2	EO-353902	9-L2
BC-361486A	19-13	ED-344280	6-D5	ED-718039	20-D3	EO-354600	6-L11
BC-361486B	19-13B	ED-344280	6-D203	EE-345115	10-1A	EO-354600	6-L12
BD-V1047A130A	19-1A	ED-344280	6-D204	EE-345116	10-1B	EO-354600	6-L602
BD-V1047A130B	19-1B	ED-344280	6-D205	EE-345117	10-1C	EO-356372	8-FL1
BD-V1047A130C	19-1C	ED-344280	6-D402	EE-352284	10-1E	EO-356599	6-L3
BD-V1047A130D	19-1D	ED-344280	6-D403	EE-360405	7-PM1D	EO-356599	6-L21
BD-V1047A130E	19-1E	ED-344280	6-D404	EE-360406	7-PM1A	EO-356599	6-L24
BD-V1047A130F	19-1F	ED-344280	6-D405	EE-360407	7-PM1B	EO-357507	6-L4
BD-V1047A130G	19-1G	ED-344280	6-D407	EE-363214	10-1G	EO-357507	6-L5
BD-V1047A130H	19-1H	ED-344280	6-D408	EE-366792	10-1H	EO-357508	6-L25
BD-V1047A130J	19-1	ED-344280	6-D601	EE-363941	10-1D	EO-357508	9-L1
BD-V1047B130A	19-1H	ED-344280	6-D602	EE-364669	7-PM1C	EO-360554	6-L19
BD-V1047B130B	19-1I	ED-344280	6-D605	EE-366760	10-1F	EO-360554	6-L601
BD-V1047B130C	19-1J	ED-344280	6-D604	EF-344106	6-SF1	EO-360555	6-L7
BD-V1047B130D	19-1K	ED-344280	6-D606	EF-344106	6-SF201	EO-360555	6-L8
BD-V1047B130E	19-1L	ED-344280	6-D610	EF-355226	11-F1B	EO-360647	6-FL501
BD-V1047B130F	19-1M	ED-344280	6-D609	EF-355398	11-F2B	EO-383308	6-L502
BD-V1047B130G	19-1N	ED-344280	6-D703	EF-601301	11-F2A	EO-420344	6-L501
BD-V1047B130H	19-1P	ED-344280	6-D704	EF-623103	11-F1A	ER-200595	11-FR5
BD-V1047B130J	19-1B	ED-344280	6-D705	EH-347743	7-IB1	ER-337336	6-R518
BD-V1047B130M	19-1	ED-344280	8-D2	EH-360337	6-FL2	ER-340542	6-R207
BF-B360531	3-10	ED-346609	6-D501	EH-360339	6-FL1	ER-348272	6-FR1
BK-V1047A330A	5-2A	ED-355607	7-D50	EH-360340	6-DL1	ER-353878	6-R463
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BL-B360350	2-24	ED-355607	7-D53	EH-364045	6-FL3	ER-362089	13-R21
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BL-B360361	2-21	ED-355607	7-D56	EI-347116	6-IC701	ER-364508	11-FR1
BL-B360486	2-31	ED-355607	7-D57	EI-347991	6-X401	ER-365157	11-FR3
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BR-B360517B	3-28	ED-356424	7-D12	EI-360334	6-IC2	ES-349474	7-SW10
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V2

AKAI

MODEL **VS-112**^{EG/EK/EK(Y1)/EA}_{ED/EV-M/EZ/ES}

MODEL **VS-105EK**

MODEL **VS-115EO/EO(Y1)**

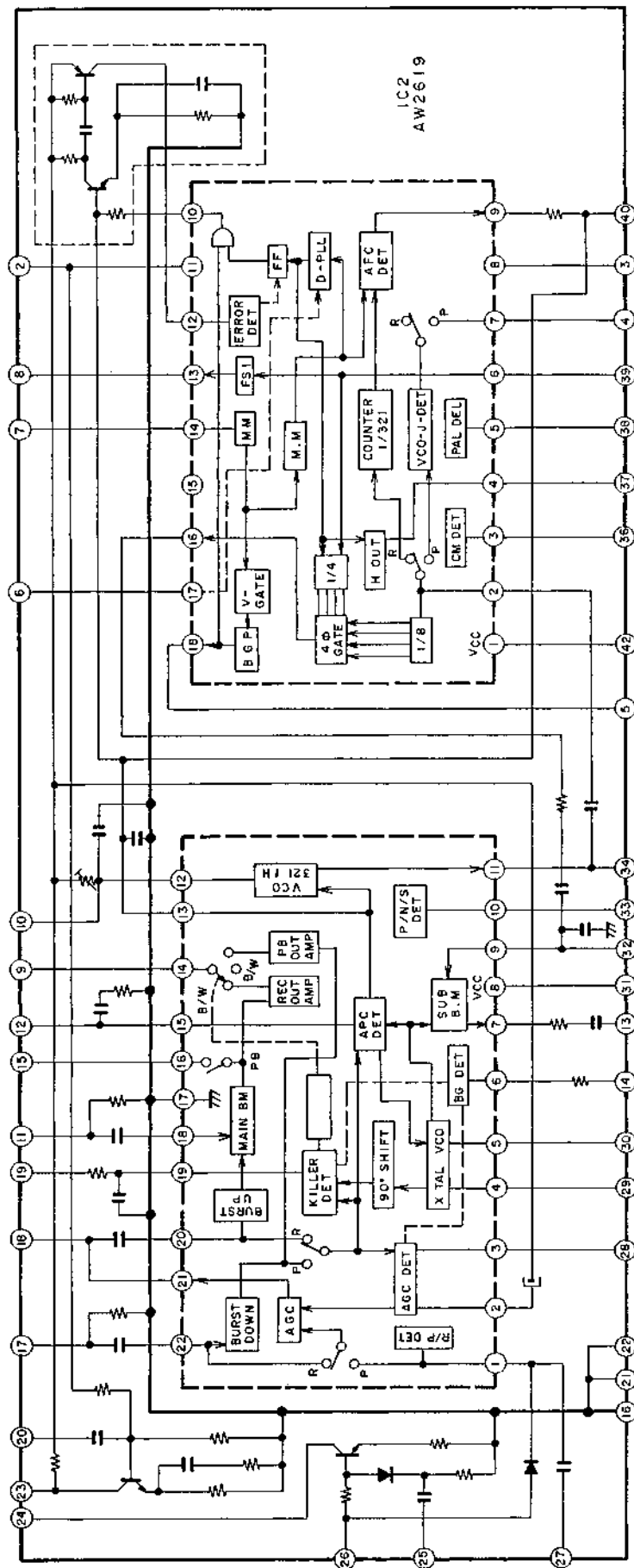
MODEL **VS-116EO-G**

SCHEMATIC DIAGRAM AND PC BOARDS

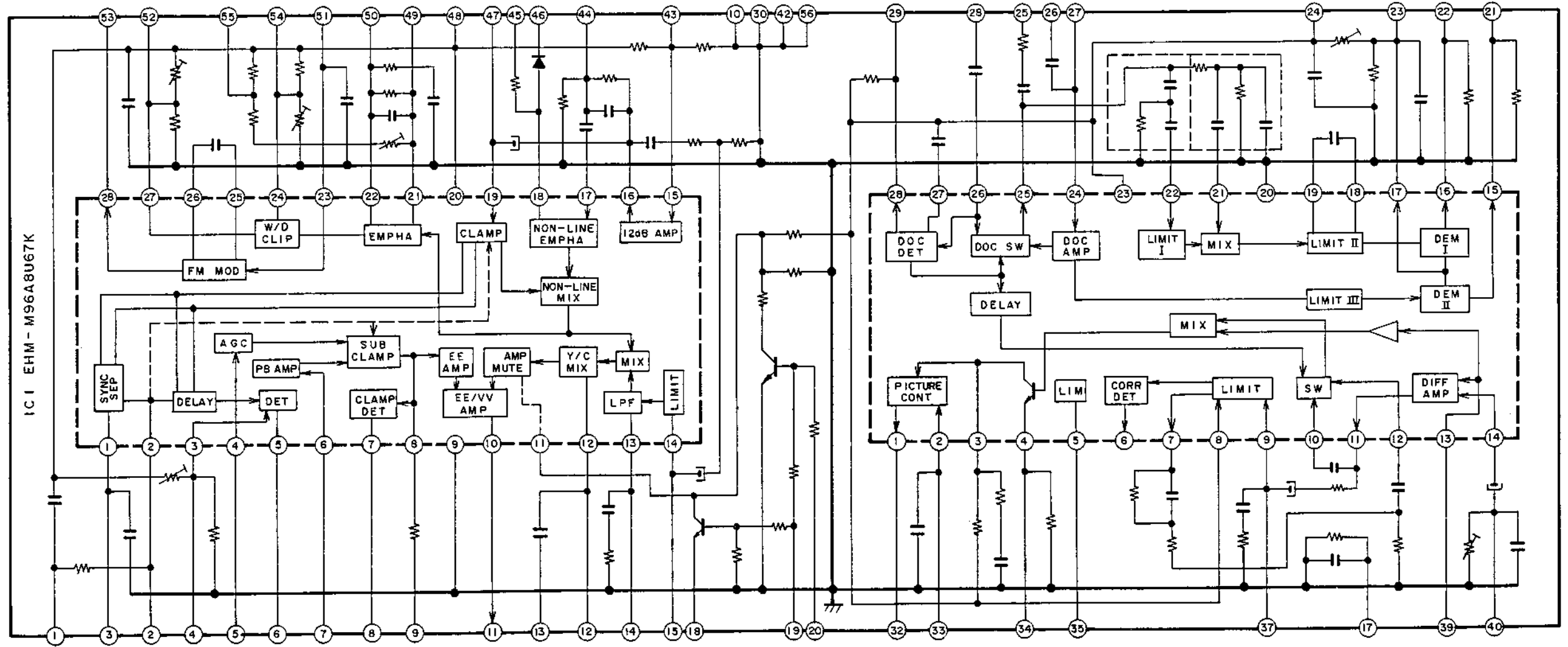
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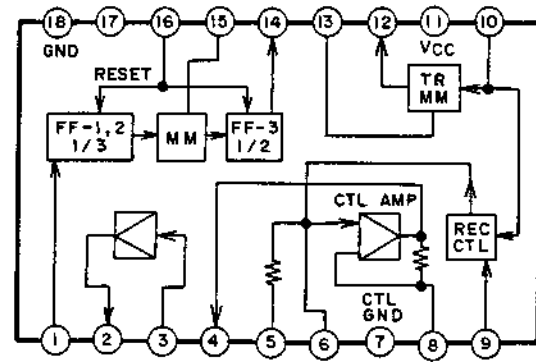
AW2619 [VIDEO (CHROMA) SIGNAL IC]



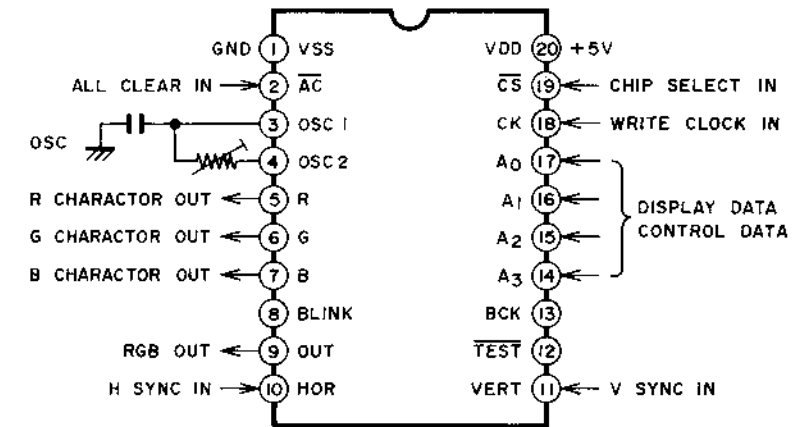
EHM-M96A8U67K [VIDEO (Y) SIGNAL IC]



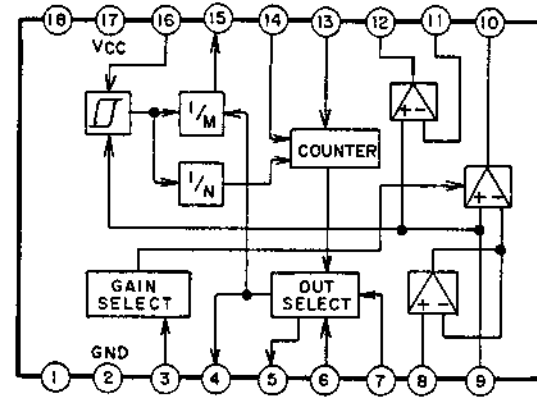
AN3792 (DRUM SERVO INTERFACE IC)



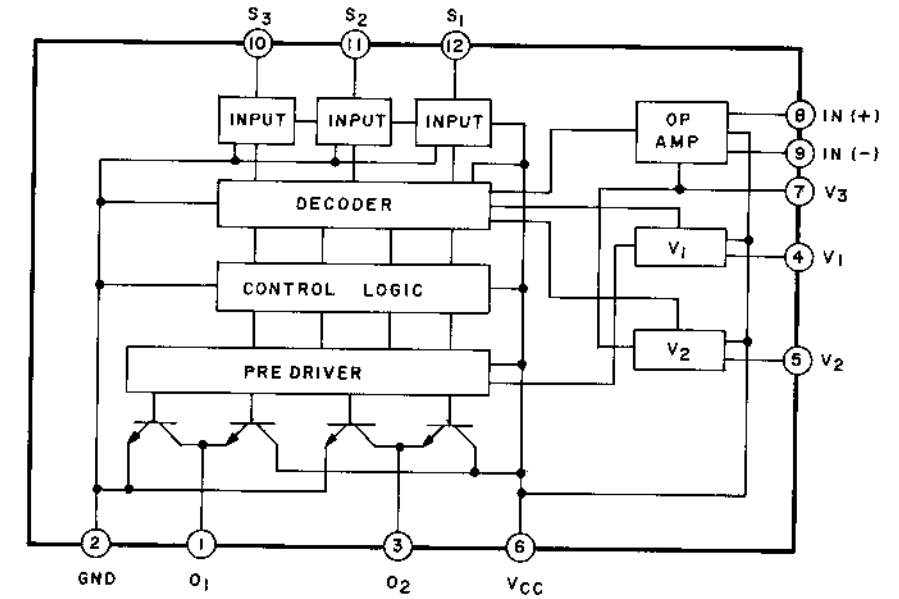
M50450-011P (IMS)



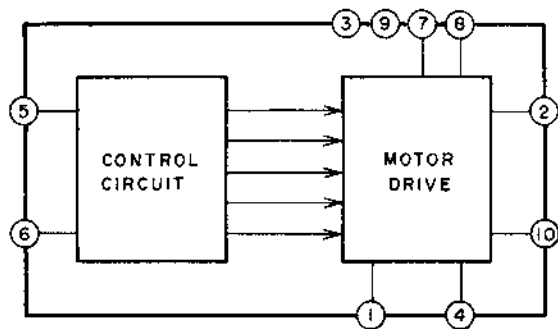
AN3794 (CAPSTAN SERVO INTERFACE IC)



M54548L (CAPSTAN DRIVE IC)



BA6229 (MOTOR DRIVER)

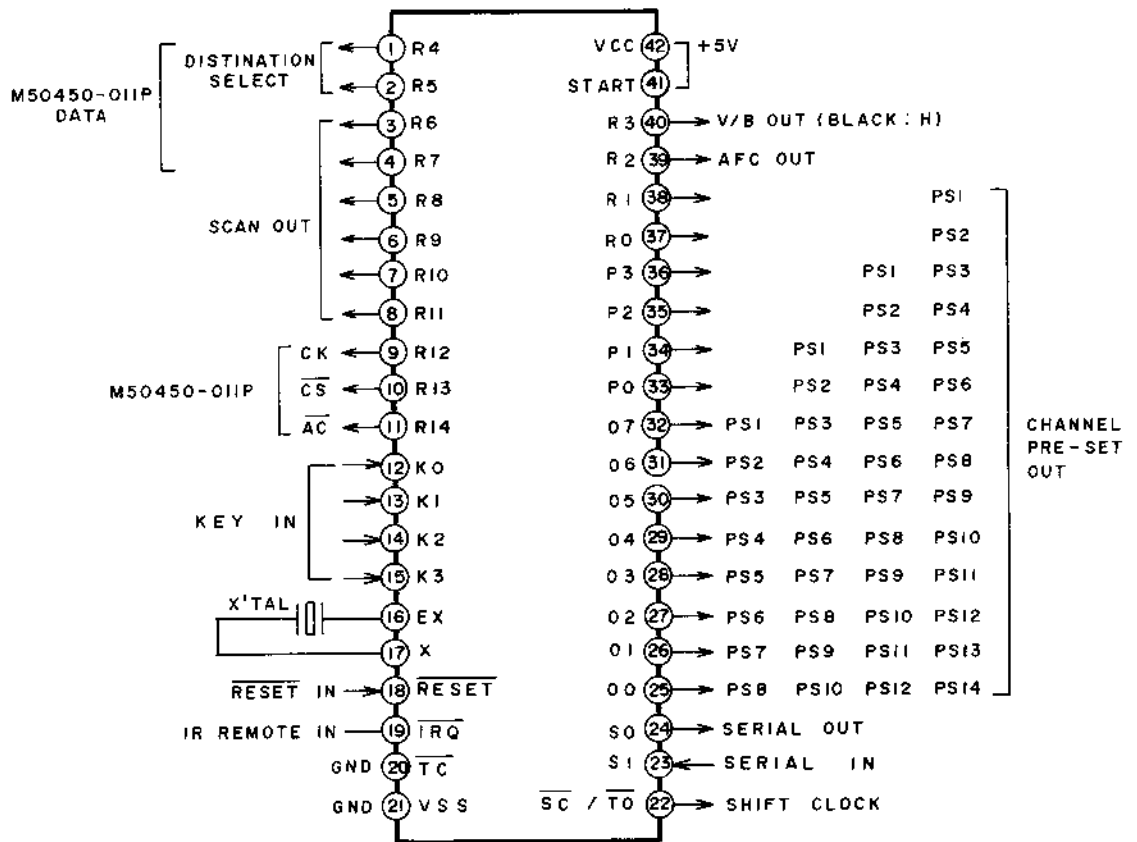


CONTROL MODE

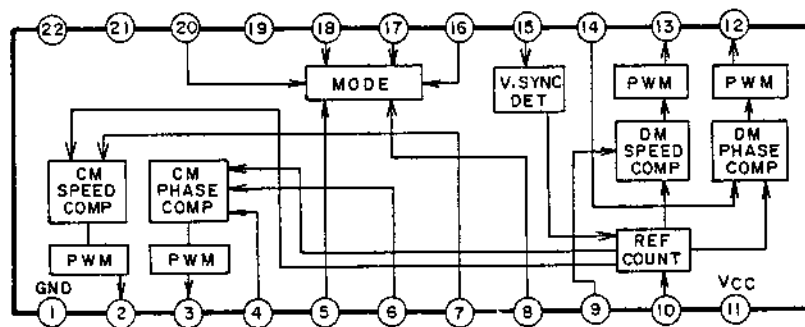
MODE	INPUT		OUTPUT	
	5pin	6pin	2pin	10pin
STOP	L	L	OPEN	OPEN
NORMAL	H	L	H	L
REVERSE	L	H	L	H
BRAKE	H	H	L	L

INPUT			OUTPUT		Vcc SELECT	MODE
S ₁	S ₂	S ₃	O ₁	O ₂		
L	L	L	"OFF" state	"OFF" state	-	STOP
L	L	H	H	L	V _s	PLAY (+)
L	H	L	L	H	V _s	PLAY (-)
L	H	H	H	L	V ₂	FF (2)
H	L	L	L	H	V ₂	REW (2)
H	L	H	H	L	V ₁	FF (1)
H	H	L	L	H	V ₁	REW (1)
H	H	H	L	L	V _s	BRAKE

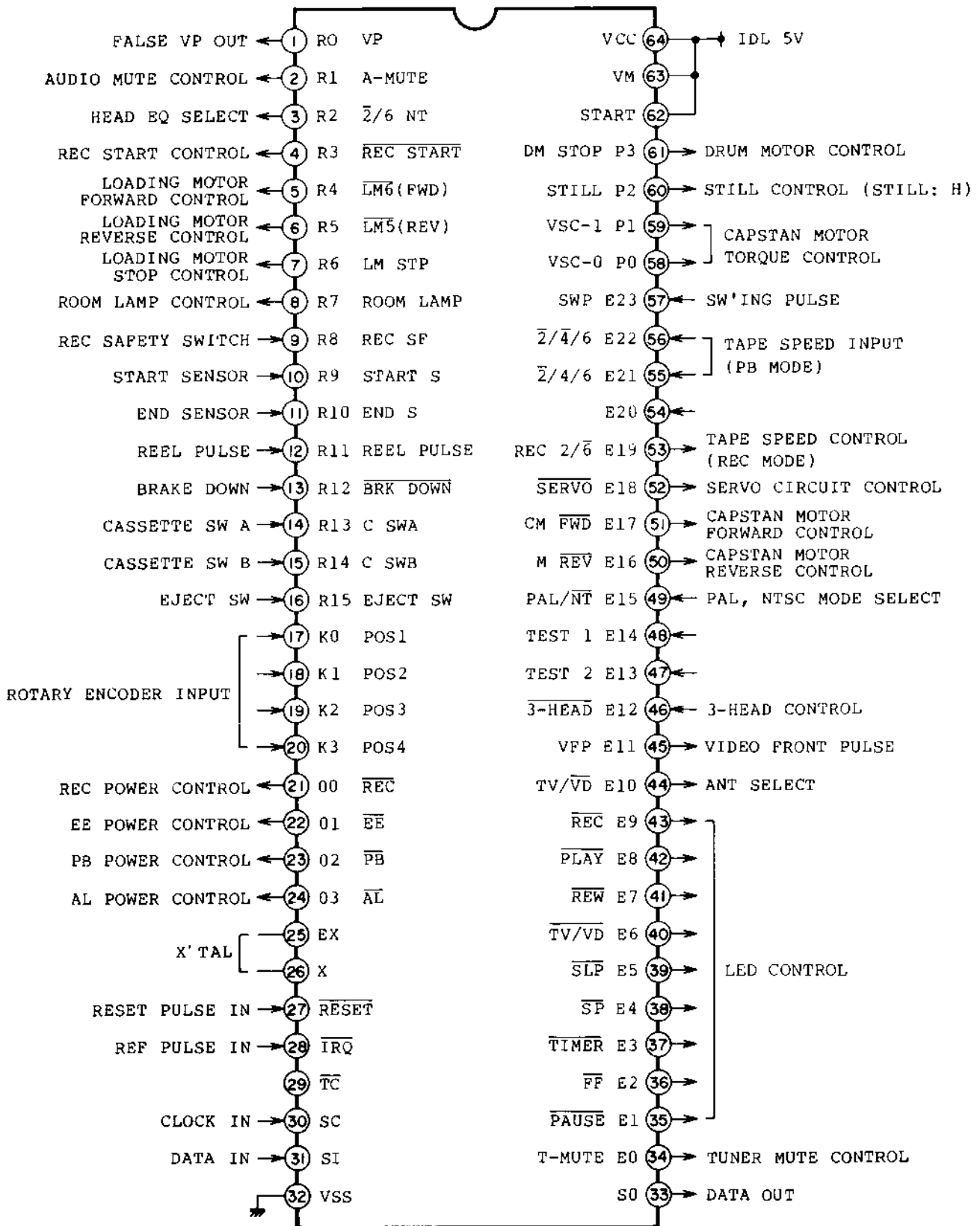
MB88501-395M (OPERATION MPU)



MN6178XAL (DIGITAL SERVO IC)



MB88521-135M (SYSCON MPU)

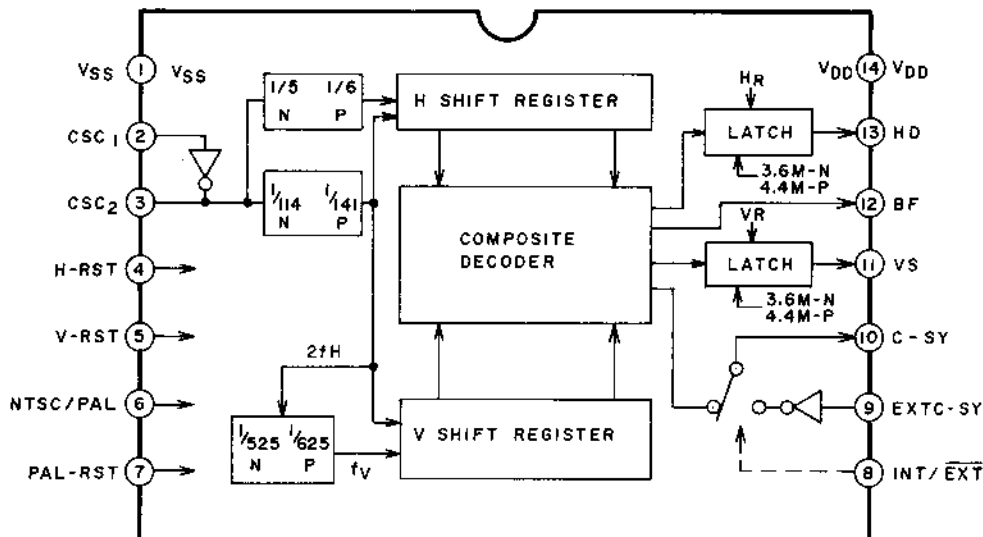


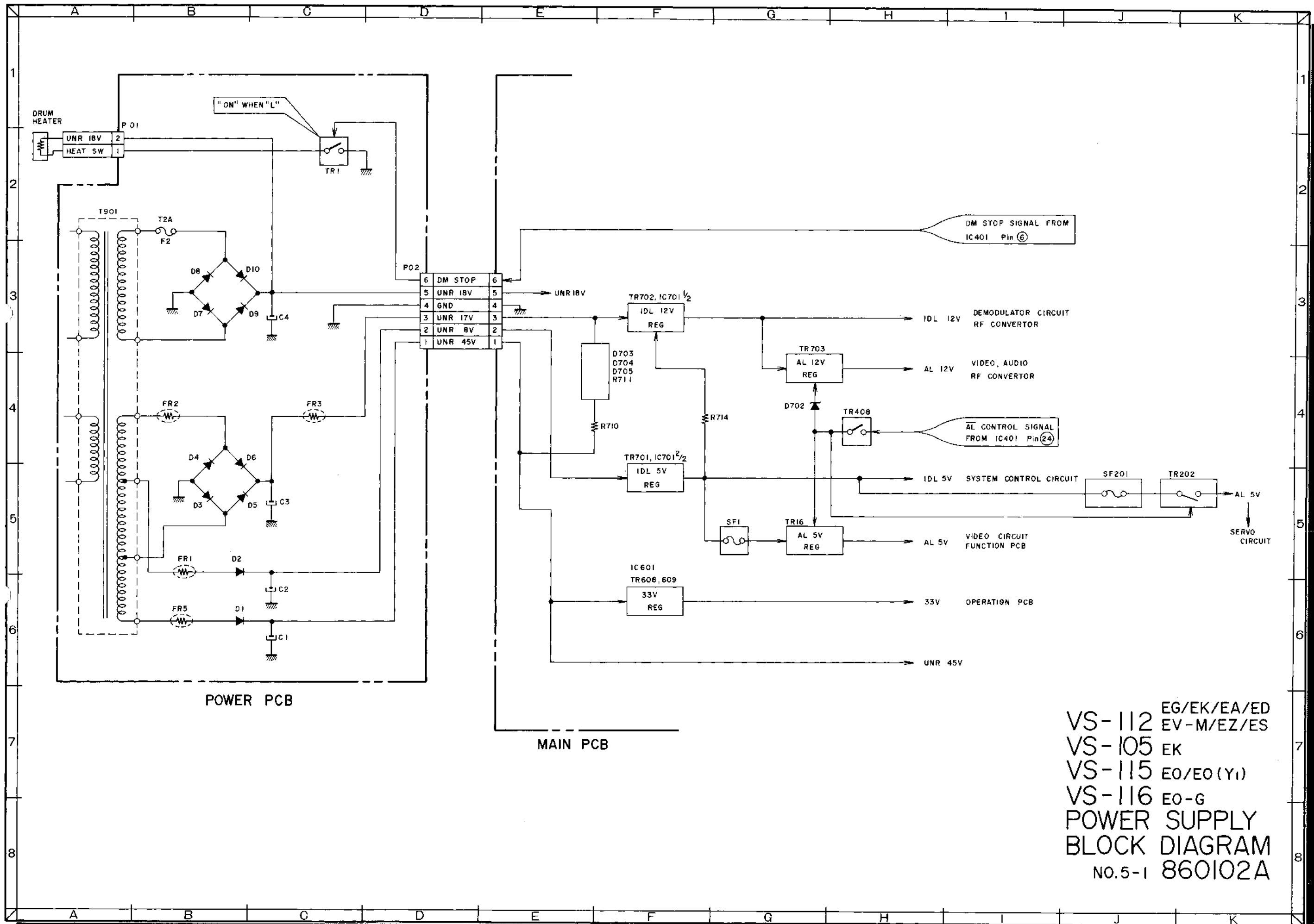
MB88521-135M

Pin No.	Port Name	I/O	Active	Description																
1	VP	O		False V Sync Out on Trick Mode (CUE, REVIEW, STILL)																
2	A-MUTE	O	H	Audio Mute Control																
3	2/6 NT	O	L/H	EQ SELECT CONTROL (NTSC ONLY) L: SP H: SLP																
4	REC START	O	L	REC START CONTROL																
5	LM6 (FWD)	O	L	LOADING MOTOR FORWARD CONTROL LOADING MOTOR REVERSE CONTROL LOADING MOTOR STOP CONTROL																
6	LM5 (REV)	O	L																	
7	LM STP	O	L																	
				<table border="1"> <thead> <tr> <th>MODE \ TERMINAL</th> <th>⑤ LM6 (FWD)</th> <th>⑥ LM5 (REV)</th> <th>⑦ LM STP</th> </tr> </thead> <tbody> <tr> <td>FWD</td> <td>L</td> <td>H</td> <td>L</td> </tr> <tr> <td>REV</td> <td>H</td> <td>L</td> <td>L</td> </tr> <tr> <td>STOP</td> <td>H</td> <td>H</td> <td>H</td> </tr> </tbody> </table>	MODE \ TERMINAL	⑤ LM6 (FWD)	⑥ LM5 (REV)	⑦ LM STP	FWD	L	H	L	REV	H	L	L	STOP	H	H	H
MODE \ TERMINAL	⑤ LM6 (FWD)	⑥ LM5 (REV)	⑦ LM STP																	
FWD	L	H	L																	
REV	H	L	L																	
STOP	H	H	H																	
8	ROOM LAMP	O	H	ROOM LAMP CONTROL PB, REC AND EJECT MODE: ROOM LAMP OFF																
9	REC SF	I		REC SAFTY SW IN L: ACCEPT REC H: NOT ACCEPT REC																
10	START S	I		START SENSOR IN																
11	END S	I		END SENSOR IN																
12	REEL PULSE	I		REEL PULSE IN																
13	BRK DOWN	I		BRAKE DOWN IN L: BRAKE DOWN																
14	C SW A	I		CASSETTE SW A H: CASSETTE IN																
15	C SW B	I		CASSETTE SW B L: CASSETTE IN																
16	EJECT SW	I		EJECT SW H: EJECT																
17	POS 1	I		ROTARY ENCODER DATA IN																
18	POS 2	I																		
19	POS 3	I																		
20	POS 4	I																		
21	REC	O	L	REC POWER CONTROL																
22	EE	O	L	EE POWER CONTROL																
23	PB	O	L	PB POWER CONTROL																
24	AL	O	L	AL POWER CONTROL																
25	EX			X'TAL																
26	X																			
27	RESET	I	L	RESET PULSE IN																
28	IRQ	I		REF PULSE (of VP OUT) IN																
29	TC			NC																
30	SC	I		CLOCK IN																
31	SI	I		DATA IN (FROM OPERATION MPU)																
32	VSS			GND																
33	SO	O		DATA OUT (TO OPERATION MPU)																
34	T-MUTE	O	H	TUNER MUTE CONTROL																
35	PAUSE	O	L	PAUSE LED CONTROL																
36	FF	O	L	FF LED CONTROL																
37	TIMER	O	L	TIMER LED CONTROL																
38	SP	O	L	SP LED CONTROL																
39	SLP	O	L	SLP LED CONTROL																
40	TV/VD	O	L	TV/VIDEO LED CONTROL																
41	REW	O	L	REW LED CONTROL																
42	PLAY	O	L	PLAY LED CONTROL																
43	REC	O	L	REC LED CONTROL																
44	TV/VD	O	L/H	ANT SELECT CONTROL H: TV L: VIDEO																
45	VFP	O	L	VIDEO FRONT PULSE																
46	3-HEAD	I	L	(3-HEAD MODEL ONLY)																
47	TEST 1	I	L																	
48	TEST 2	I	L																	

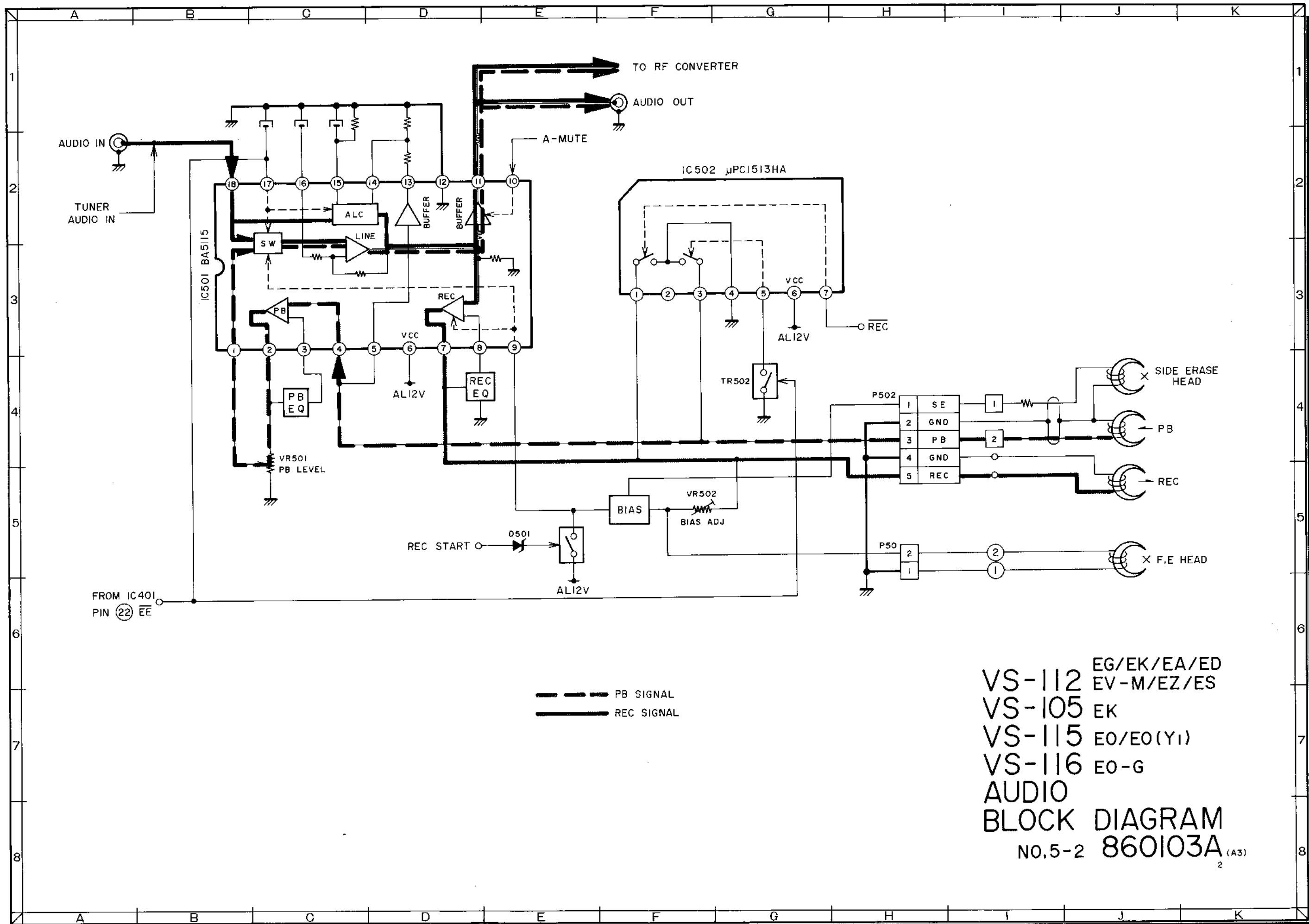
Pin No.	Port Name	I/O	Active	Description																																										
49	PAL/ $\overline{\text{NT}}$	I	H/L	PAL, NTSC SELECT H: PAL L: NTSC																																										
50	CM REV	O	L	CAPSTAN MOTOR REVERSE CONTROL CAPSTAN MOTOR FORWARD CONTROL																																										
51	CM FWD	O	L																																											
				<table border="1"> <thead> <tr> <th>MODE \ TERMINAL</th> <th>⑤① CM DWD</th> <th>⑤② CM REV</th> </tr> </thead> <tbody> <tr> <td>FWD</td> <td>L</td> <td>H</td> </tr> <tr> <td>REV</td> <td>H</td> <td>L</td> </tr> <tr> <td>STOP</td> <td>H</td> <td>H</td> </tr> </tbody> </table>	MODE \ TERMINAL	⑤① CM DWD	⑤② CM REV	FWD	L	H	REV	H	L	STOP	H	H																														
MODE \ TERMINAL	⑤① CM DWD	⑤② CM REV																																												
FWD	L	H																																												
REV	H	L																																												
STOP	H	H																																												
52	SERVO	O	L	SERVO CIRCUIT CONTROL																																										
53	REC 2/6	O	H/L	TAPE SPEED CONTROL (REC MODE) H: SP L: SLP																																										
54				NC																																										
55	2/4/6	I		TAPE SPEED CONTROL (PB MODE)																																										
56	2/4/6	I																																												
				<table border="1"> <thead> <tr> <th>TAPE SPEED \ TERMINAL</th> <th>⑤⑤ 2/4/6</th> <th>⑤⑥ 2/4/6</th> </tr> </thead> <tbody> <tr> <td>SP</td> <td>L</td> <td>L</td> </tr> <tr> <td>LP</td> <td>H</td> <td>L</td> </tr> <tr> <td>SLP</td> <td>H</td> <td>H</td> </tr> </tbody> </table>	TAPE SPEED \ TERMINAL	⑤⑤ 2/4/6	⑤⑥ 2/4/6	SP	L	L	LP	H	L	SLP	H	H																														
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SP	L	L																																												
LP	H	L																																												
SLP	H	H																																												
57	SWP	I		SWITCHING PULSE IN																																										
58	VSC-0	O	H/L	CAPSTAN MOTOR TORQUE CONTROL																																										
59	VSC-1	O	H/L																																											
				<table border="1"> <thead> <tr> <th>MODE \ CONTROL</th> <th>VSC-0</th> <th>VSC-1</th> <th>SERVO</th> <th>CM FWD</th> <th>CM REV</th> </tr> </thead> <tbody> <tr> <td>PLAY</td> <td>H</td> <td>L</td> <td>L</td> <td>L</td> <td>H</td> </tr> <tr> <td>CUE</td> <td>H</td> <td>H</td> <td>L</td> <td>L</td> <td>H</td> </tr> <tr> <td>REVIEW</td> <td>H</td> <td>H</td> <td>L</td> <td>H</td> <td>L</td> </tr> <tr> <td>STILL</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> </tr> <tr> <td>FF</td> <td>H</td> <td>H</td> <td>H</td> <td>L</td> <td>H</td> </tr> <tr> <td>REW</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>L</td> </tr> </tbody> </table>	MODE \ CONTROL	VSC-0	VSC-1	SERVO	CM FWD	CM REV	PLAY	H	L	L	L	H	CUE	H	H	L	L	H	REVIEW	H	H	L	H	L	STILL	H	H	H	H	H	FF	H	H	H	L	H	REW	H	H	H	H	L
MODE \ CONTROL	VSC-0	VSC-1	SERVO	CM FWD	CM REV																																									
PLAY	H	L	L	L	H																																									
CUE	H	H	L	L	H																																									
REVIEW	H	H	L	H	L																																									
STILL	H	H	H	H	H																																									
FF	H	H	H	L	H																																									
REW	H	H	H	H	L																																									
60	STILL	O	H	STILL CONTROL STILL: H DRUM MOTOR CONTROL																																										
61	DM STP	O	L																																											
62	START			+5V																																										
63	VM																																													
64	VCC																																													

TC9018P (TV SYNC GENERATOR)

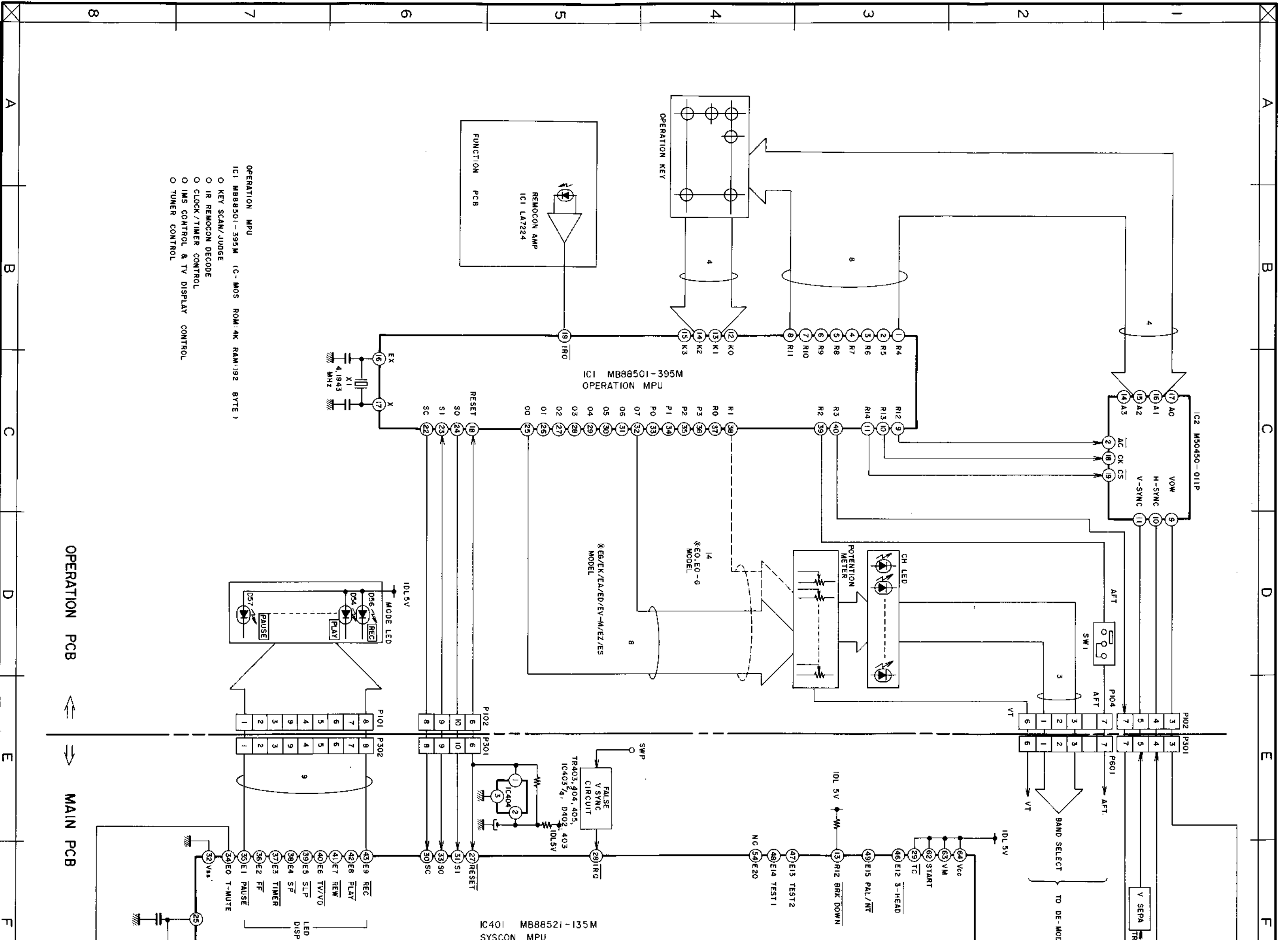




VS-112 EG/EK/EA/ED
 EV-M/EZ/ES
 VS-105 EK
 VS-115 E0/E0(Y1)
 VS-116 E0-G
 POWER SUPPLY
 BLOCK DIAGRAM
 NO.5-1 860102A



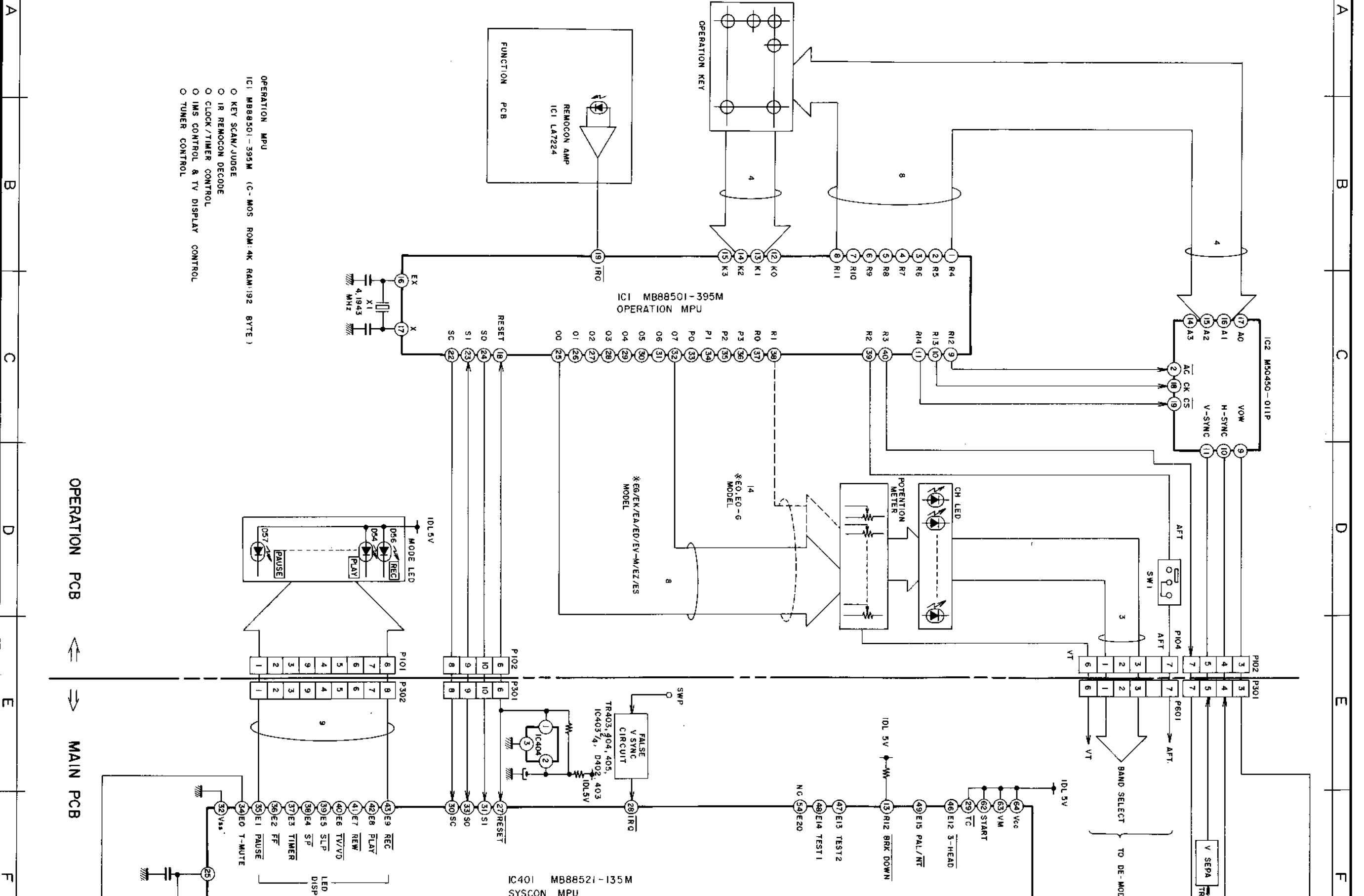
VS-112 EG/EK/EA/ED
 VS-105 EV-M/EZ/ES
 VS-115 EK
 VS-115 E0/E0(Y1)
 VS-116 E0-G
 AUDIO
 BLOCK DIAGRAM
 NO.5-2 860103A (A3)
 2



- OPERATION MPU
 IC1 MB88501-395M (C-MOS ROM:4K RAM:192 BYTE)
- KEY SCAN/JUDGE
 - IR REMOCON DECODE
 - CLOCK/TIMER CONTROL
 - IMS CONTROL & TV DISPLAY CONTROL
 - TUNER CONTROL

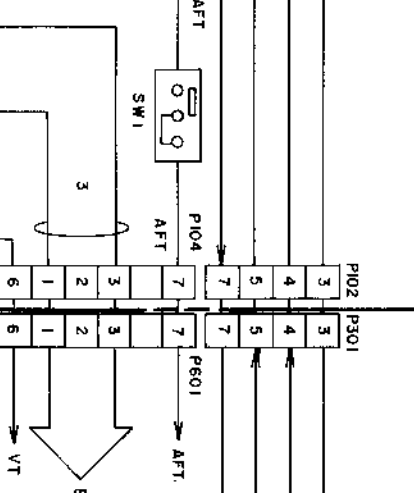
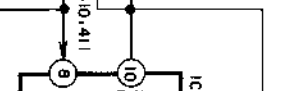
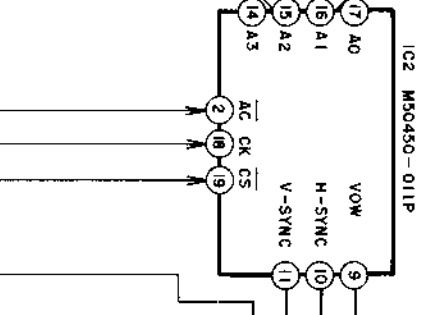
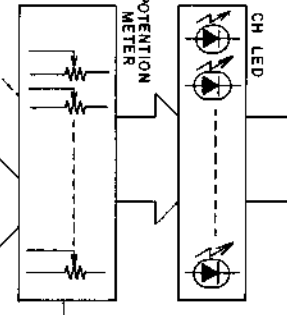
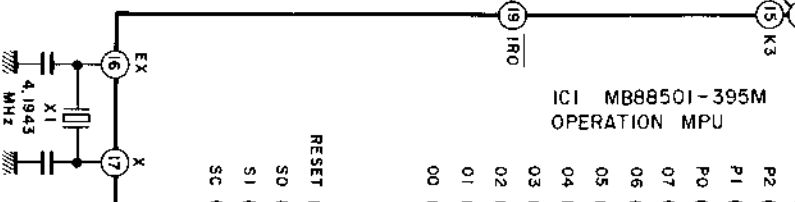
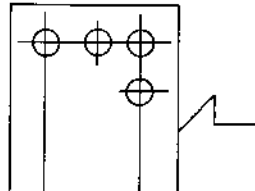
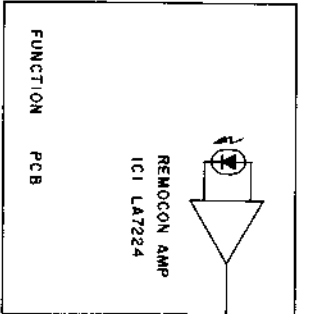
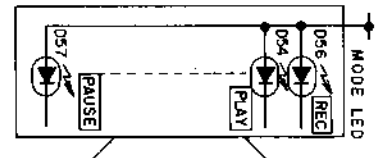
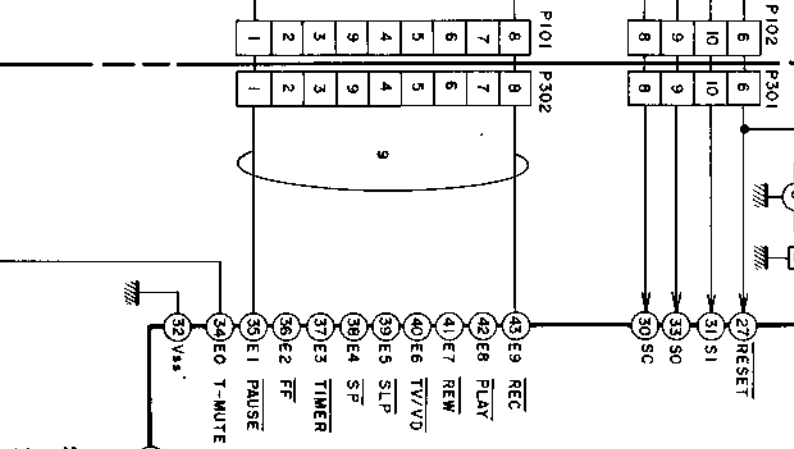
OPERATION PCB

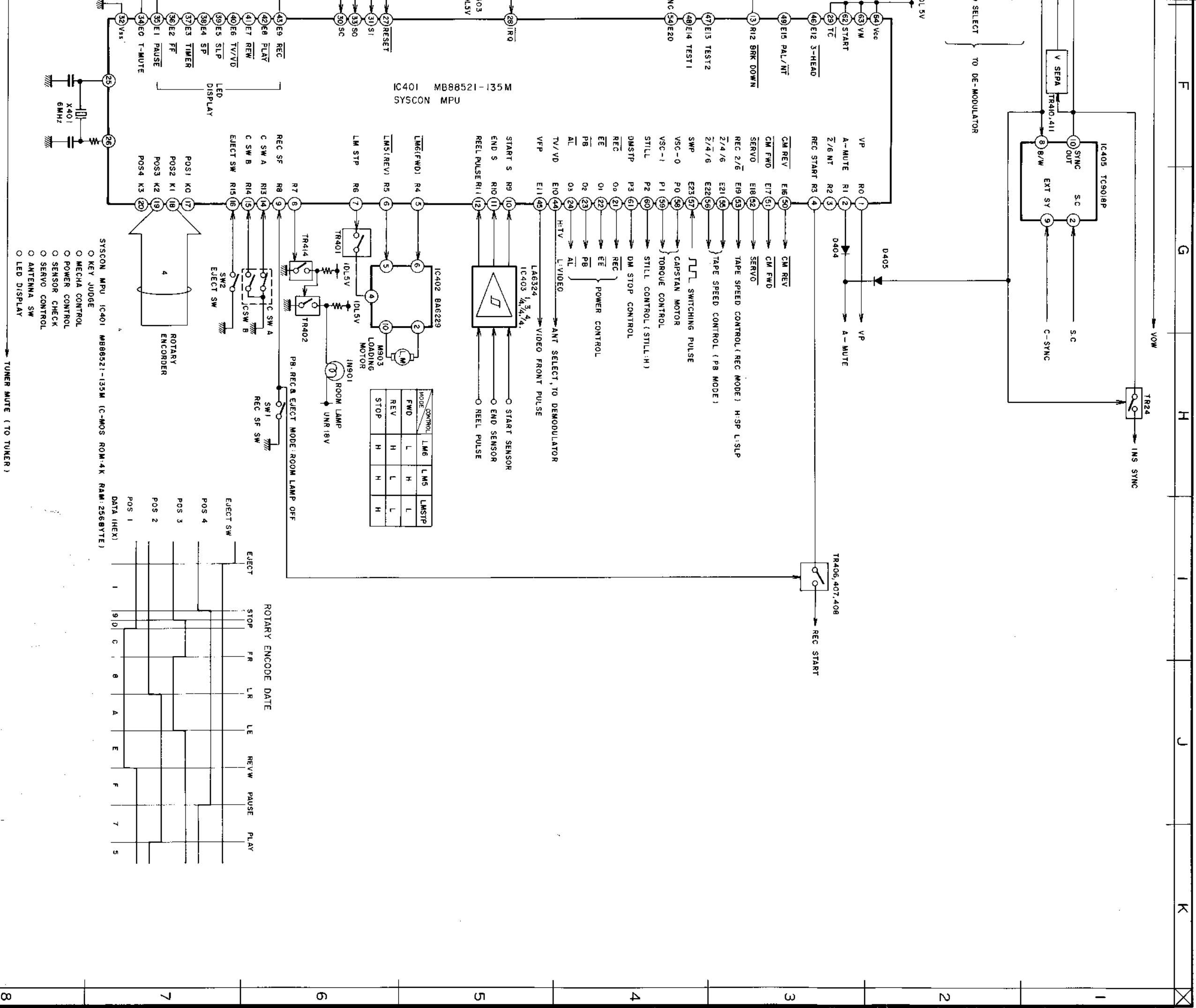
MAIN PCB



- VP
- A-M
- Z/6
- REC
- CM R
- CM F
- SERV
- REC
- Z/4
- Z/4
- SWP
- VSC
- VSC
- STILL
- DM5T
- REC
- EE
- P8
- AL
- TV/V
- VFP
- STAR
- END
- REEL
- LM6
- LM5
- LM S
- REC
- C SW
- C SW
- EJEC

- 43 E9 REC
- 42 E8 PLAY
- 41 E7 REW
- 40 E6 TV/V/D
- 39 E5 SLP
- 38 E4 SP
- 37 E3 TIMER
- 36 E2 FF
- 35 E1 PAUSE
- 34 EO T-MUTE
- 32 VAS
- 25
- 26



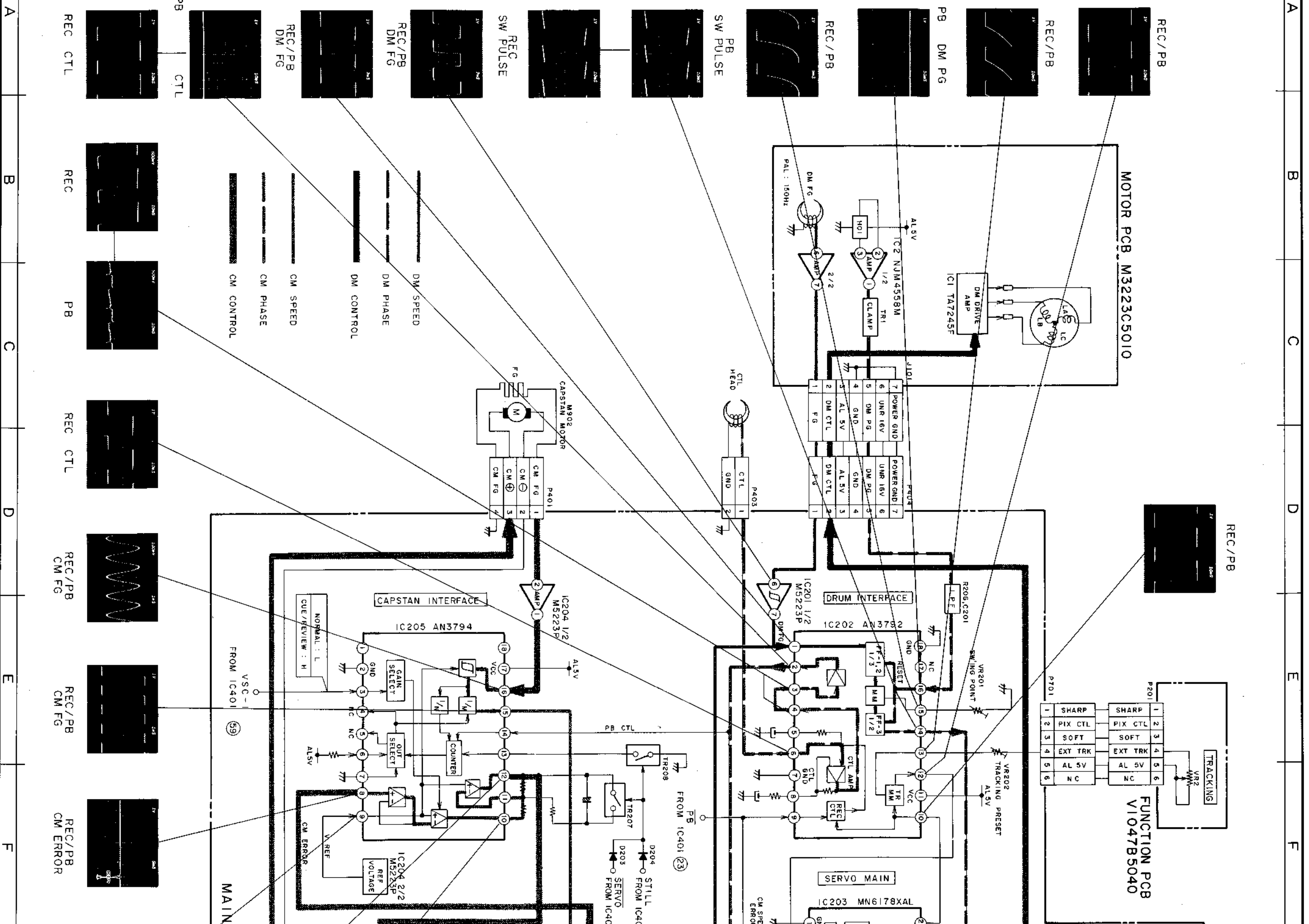


SYSTEM BLOCK DIAGRAM
NO.5-3 860104A

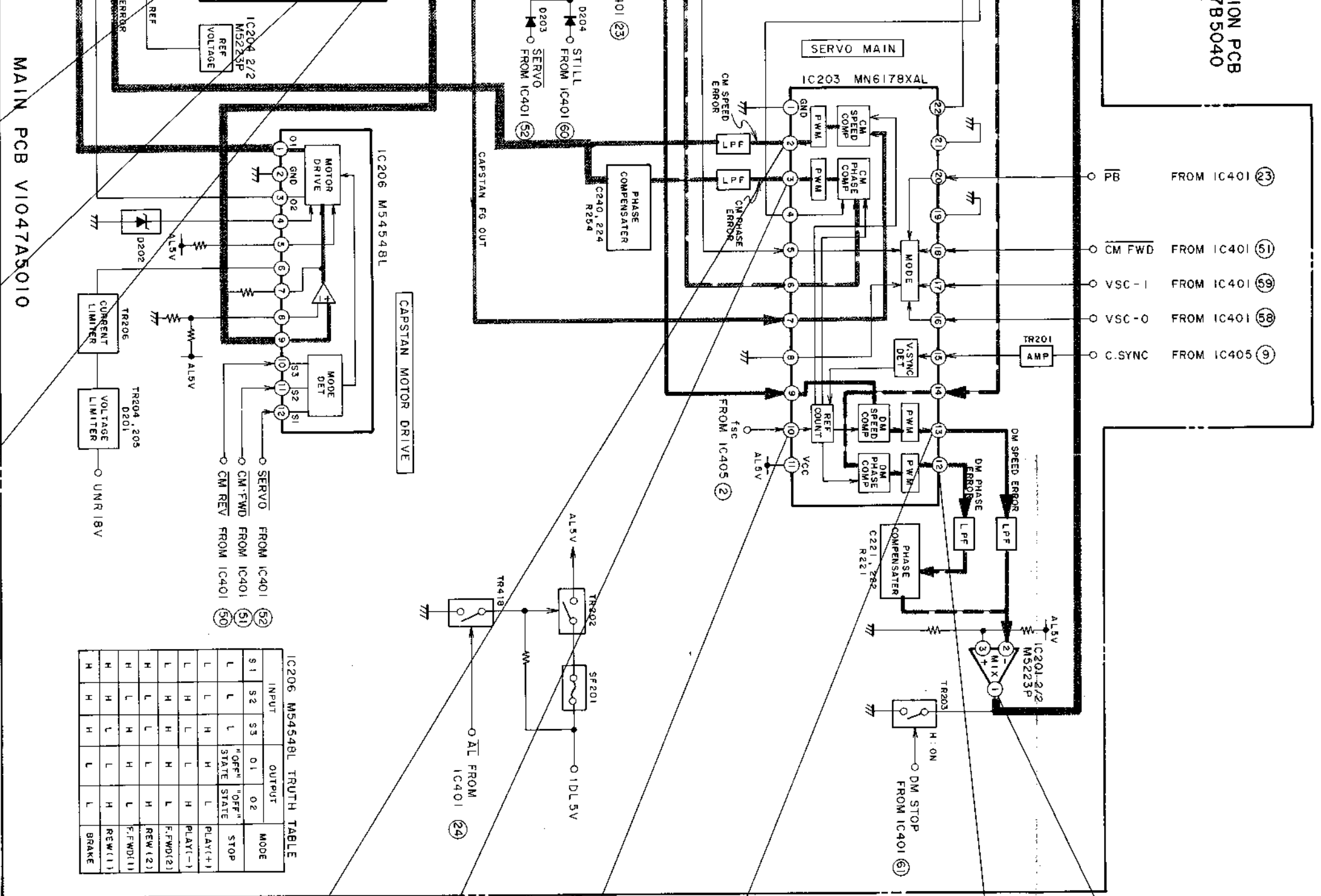
PCB

1 2 3 4 5 6 7 8

A B C D E F



A B C D E F



IC206 M54548L TRUTH TABLE

INPUT	OUTPUT	MODE			
S1	S2	S3	O1	O2	
L	L	L	"OFF" STATE	"OFF" STATE	STOP
L	L	H	H	L	PLAY(+)
L	H	L	L	H	PLAY(-)
L	H	H	H	L	F.FWD(2)
H	L	L	L	H	REW(2)
H	L	H	L	L	F.FWD(1)
H	L	H	H	L	REW(1)
H	H	L	L	L	BRAKE

EG/EK/EA/ED
 EV-M/EZ/ES
 VS-105 EK
 VS-115 E0/E0(Y1)
 VS-116 E0-G
 SERVO BLOCK DIAGRAM
 NO.5-4 860105A (A1)

REC/PB V REF
 REC/PB CM ERROR
 REC/PB

REC/PB DM CTL VOLTAGE

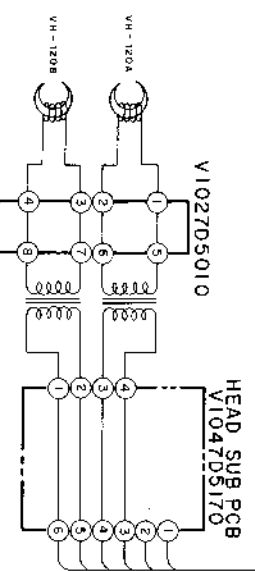
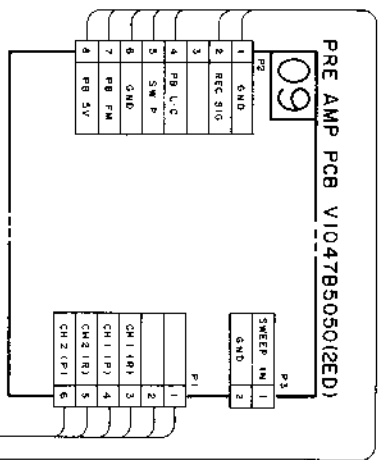
REC/PB DM PHASE ERROR

REC/PB DM SPEED ERROR

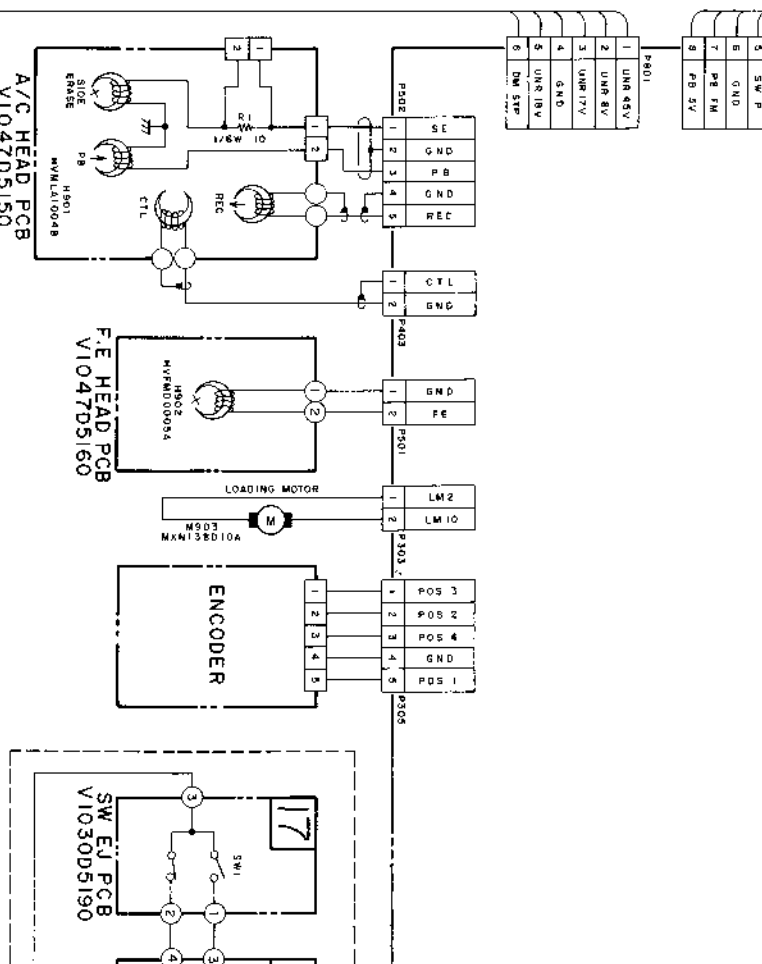
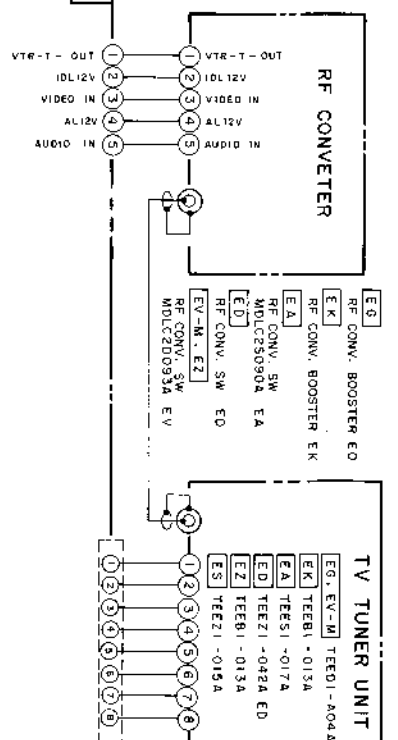
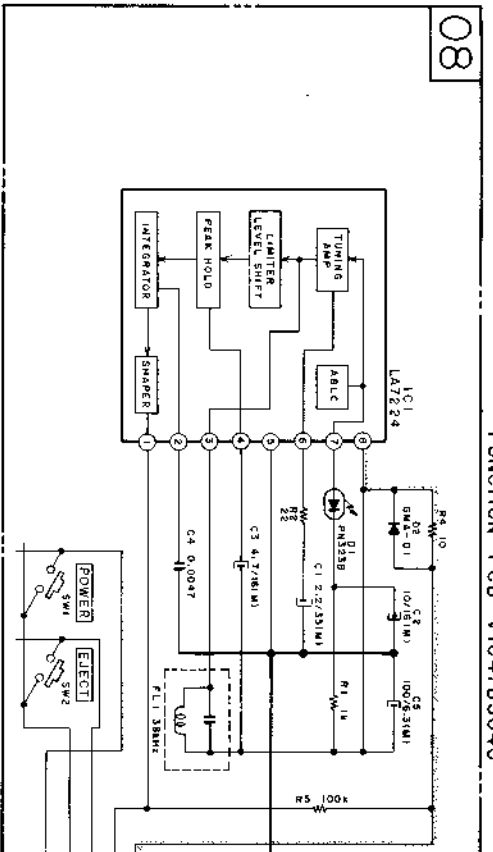
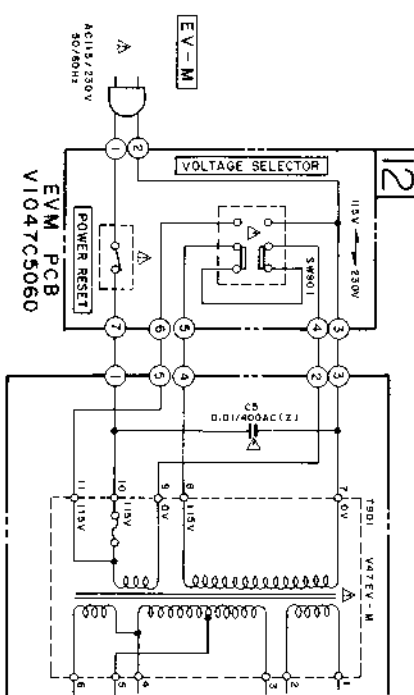
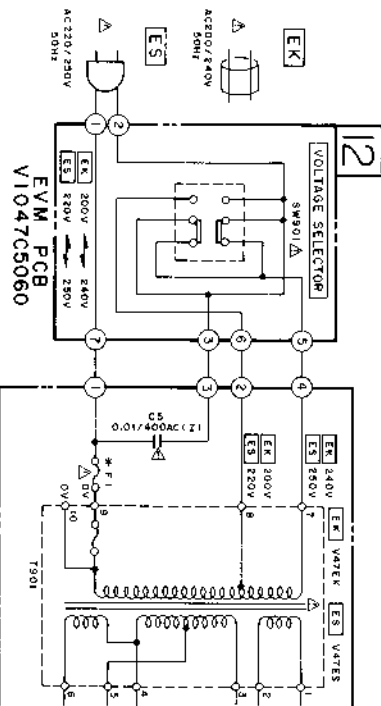
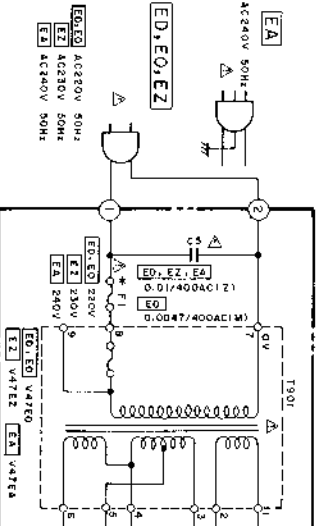
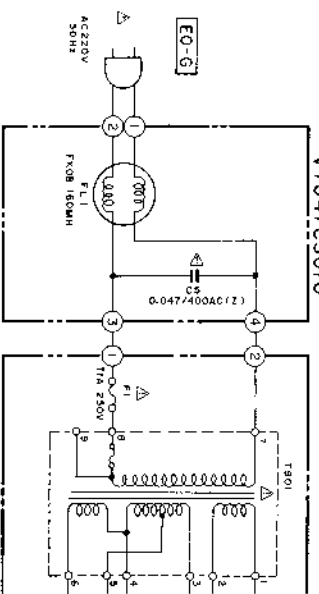
REC/PB fsc

REC/PB CM PHASE ERROR

REC/PB CM SPEED ERROR



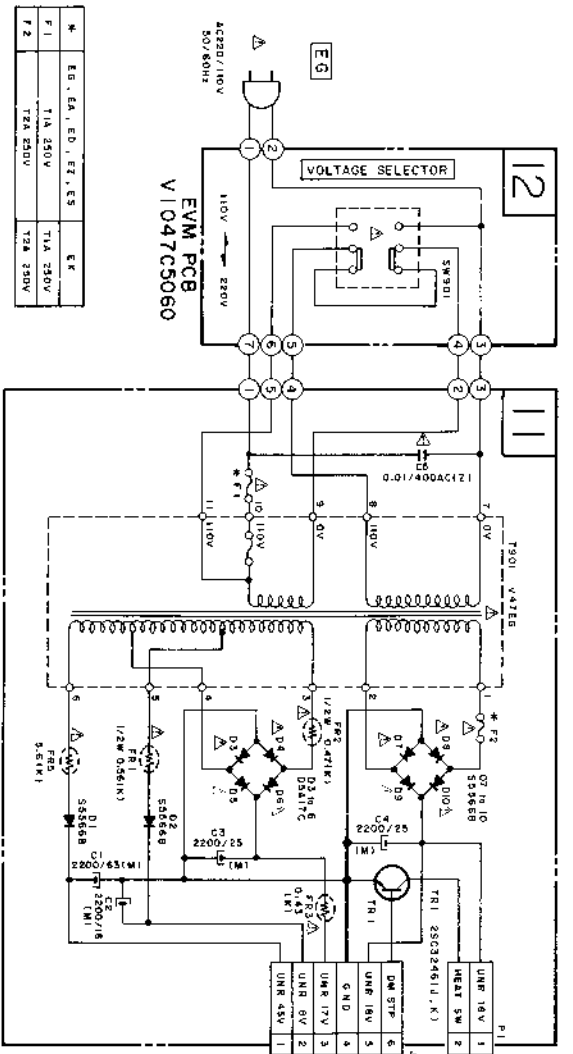
LINE FILTER PCB V1047C5070



F.E. HEAD PCB V1047D5160

ENCODER

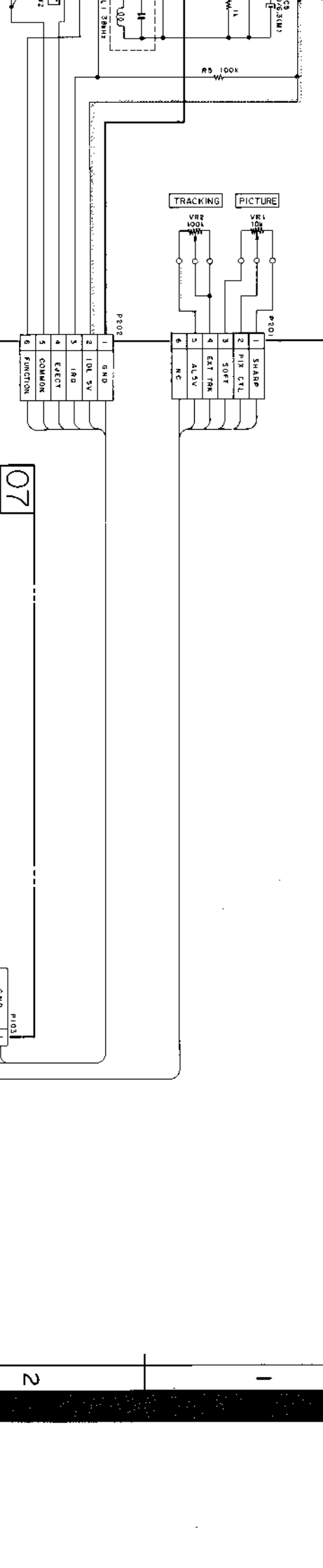
A/C HEAD PCB V1047D5150



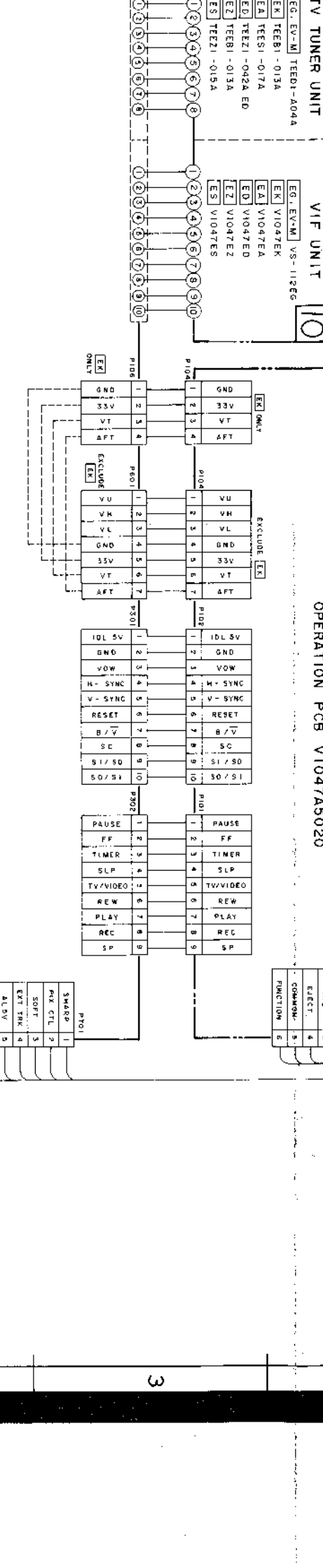
Pin	Label
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2	EA, EA, ED, EZ, ES
3	EA, EA, ED, EZ, ES
4	EA, EA, ED, EZ, ES
5	EA, EA, ED, EZ, ES
6	EA, EA, ED, EZ, ES
7	EA, EA, ED, EZ, ES
8	EA, EA, ED, EZ, ES
9	EA, EA, ED, EZ, ES
10	EA, EA, ED, EZ, ES
11	EA, EA, ED, EZ, ES
12	EA, EA, ED, EZ, ES
13	EA, EA, ED, EZ, ES
14	EA, EA, ED, EZ, ES
15	EA, EA, ED, EZ, ES
16	EA, EA, ED, EZ, ES
17	EA, EA, ED, EZ, ES
18	EA, EA, ED, EZ, ES
19	EA, EA, ED, EZ, ES
20	EA, EA, ED, EZ, ES
21	EA, EA, ED, EZ, ES
22	EA, EA, ED, EZ, ES
23	EA, EA, ED, EZ, ES
24	EA, EA, ED, EZ, ES
25	EA, EA, ED, EZ, ES
26	EA, EA, ED, EZ, ES
27	EA, EA, ED, EZ, ES
28	EA, EA, ED, EZ, ES
29	EA, EA, ED, EZ, ES
30	EA, EA, ED, EZ, ES
31	EA, EA, ED, EZ, ES
32	EA, EA, ED, EZ, ES
33	EA, EA, ED, EZ, ES
34	EA, EA, ED, EZ, ES
35	EA, EA, ED, EZ, ES
36	EA, EA, ED, EZ, ES
37	EA, EA, ED, EZ, ES
38	EA, EA, ED, EZ, ES
39	EA, EA, ED, EZ, ES
40	EA, EA, ED, EZ, ES
41	EA, EA, ED, EZ, ES
42	EA, EA, ED, EZ, ES
43	EA, EA, ED, EZ, ES
44	EA, EA, ED, EZ, ES
45	EA, EA, ED, EZ, ES
46	EA, EA, ED, EZ, ES
47	EA, EA, ED, EZ, ES
48	EA, EA, ED, EZ, ES
49	EA, EA, ED, EZ, ES
50	EA, EA, ED, EZ, ES
51	EA, EA, ED, EZ, ES
52	EA, EA, ED, EZ, ES
53	EA, EA, ED, EZ, ES
54	EA, EA, ED, EZ, ES
55	EA, EA, ED, EZ, ES
56	EA, EA, ED, EZ, ES
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58	EA, EA, ED, EZ, ES
59	EA, EA, ED, EZ, ES
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66	EA, EA, ED, EZ, ES
67	EA, EA, ED, EZ, ES
68	EA, EA, ED, EZ, ES
69	EA, EA, ED, EZ, ES
70	EA, EA, ED, EZ, ES
71	EA, EA, ED, EZ, ES
72	EA, EA, ED, EZ, ES
73	EA, EA, ED, EZ, ES
74	EA, EA, ED, EZ, ES
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82	EA, EA, ED, EZ, ES
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95	EA, EA, ED, EZ, ES
96	EA, EA, ED, EZ, ES
97	EA, EA, ED, EZ, ES
98	EA, EA, ED, EZ, ES
99	EA, EA, ED, EZ, ES
100	EA, EA, ED, EZ, ES

WARNING: ADMINISTRATION
 REPAIR RECORD
 AVOIDS DAMAGE
 TO THE UNIT

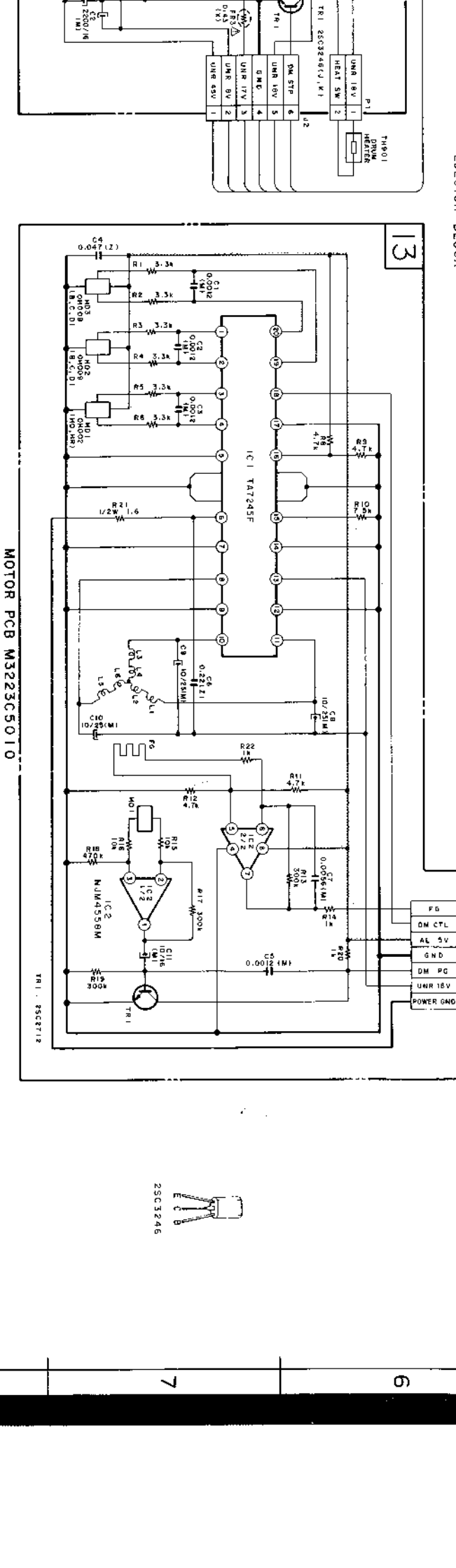
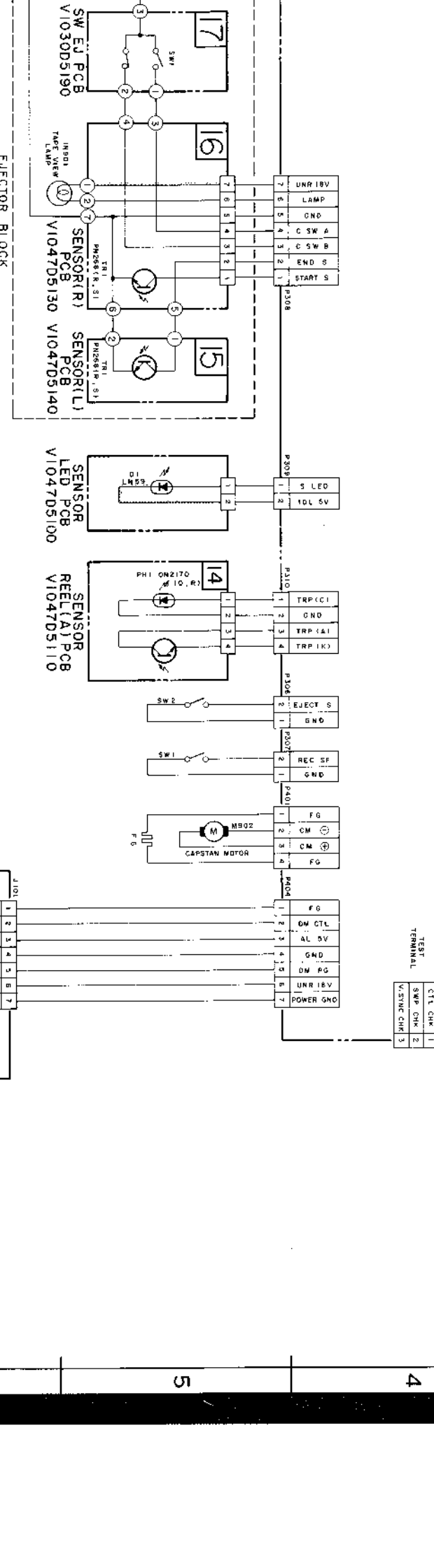
B1 POWER SUPPLY LINE



OPERATION PCB V1047A5020



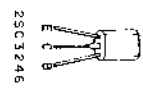
MAIN PCB V1047A5010



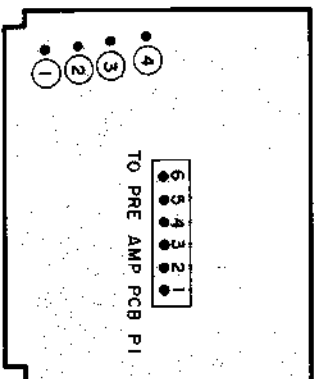
WARNING: AVOID ALL SAFETY-CRITICAL COMPONENTS FOR CONTAINED SAFETY.
 ATTENTION: ÉVITE TOUS LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
 Avertissement: Évitez les composants critiques de sécurité.
 RECOMMENDED PARTS
 POUR MANUTENIR LE NIVEAU DE SÉCURITÉ DE L'APPAREIL.
 RECOMMANDÉS DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS (Ω/W)
 ALL CAPACITORS IN μF (50V/50)
 POWER TRANSFORMER IS DIFFERENT
 ACCORDING TO AREA

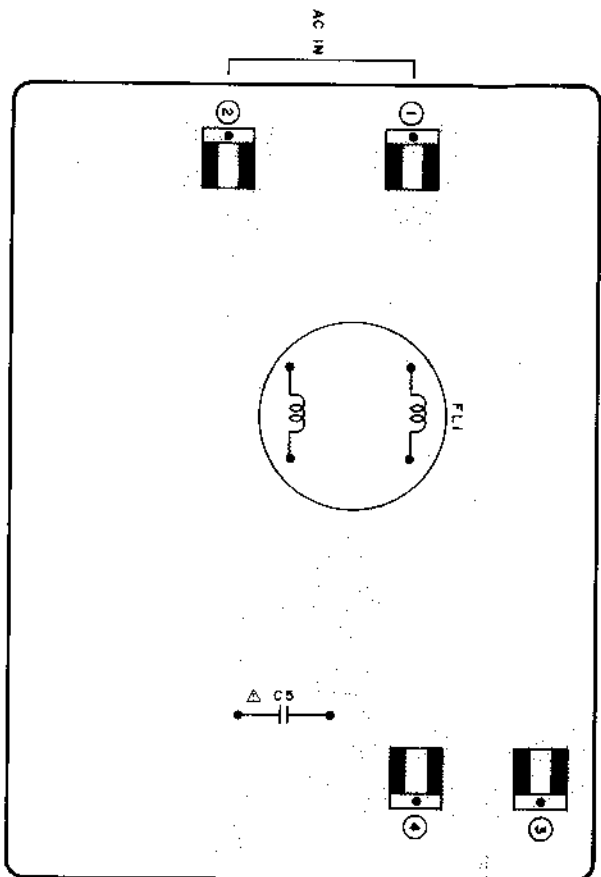
EG/EK/EA/ED
 VS-112 EV-M/EZ/ES
 VS-105 EK
 VS-115 EO/EO(Y1)
 VS-116 EO-6
 CONNECTION DIAGRAM
 NO.5-1 860107A



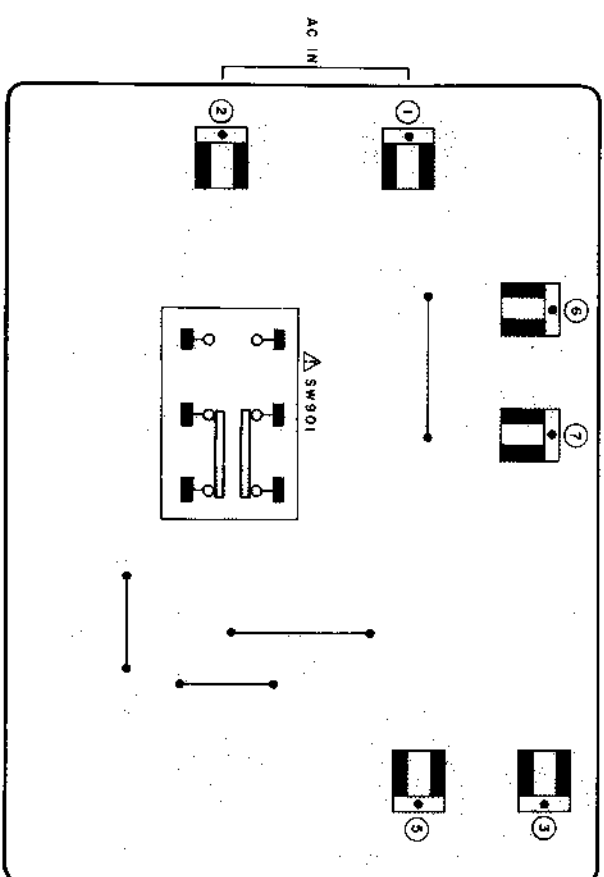
F G H I J K
 1 2 3 4 5 6 7 8



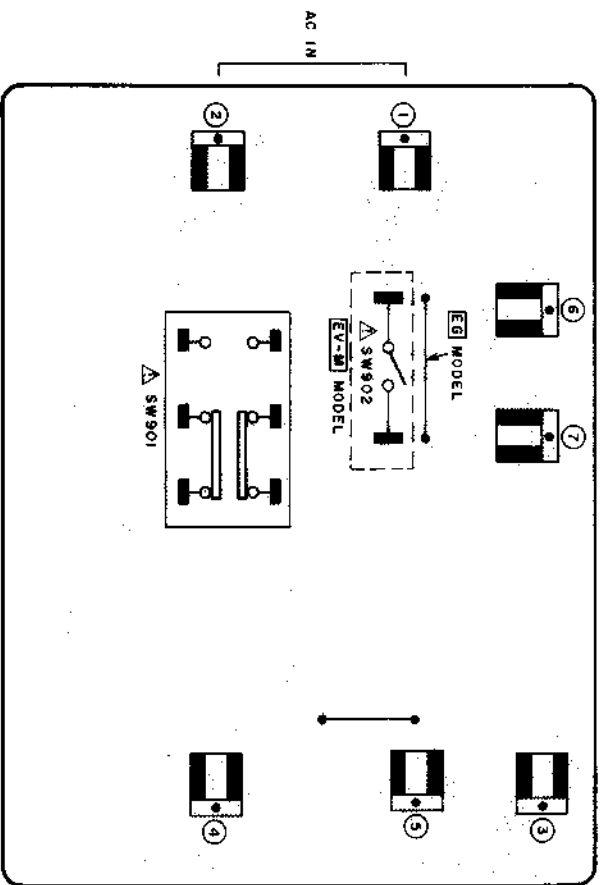
HEAD SUB PCB
V1047D5170 (2ED)



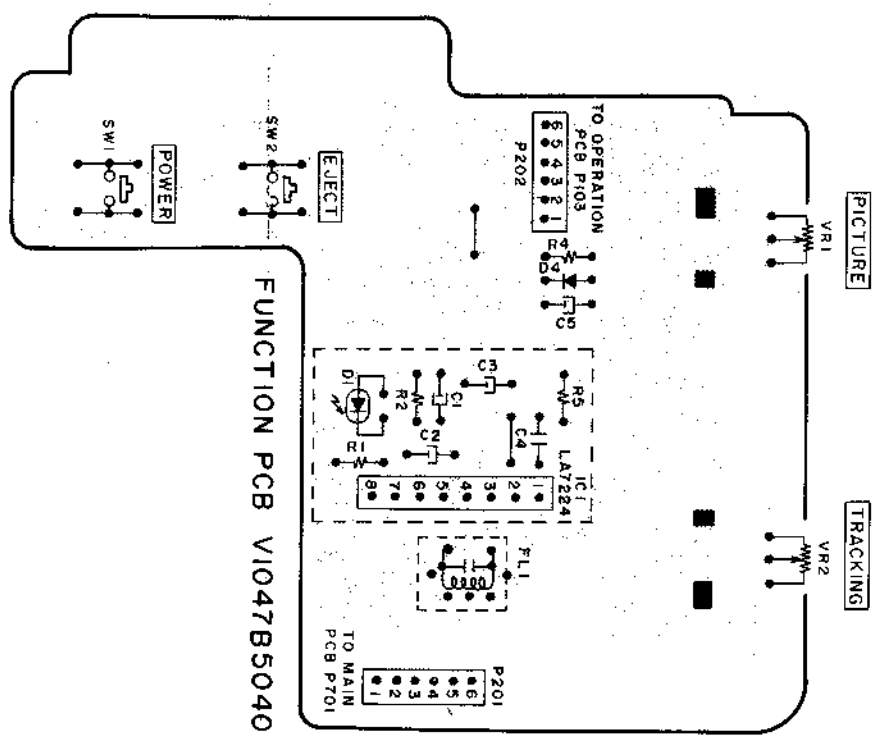
LINE FILTER PCB V1047C5070 (E0-G)



EVM PCB V1047C5060 (EK, ES)

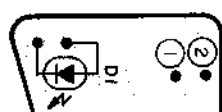


EVM PCB V1047C5060 (EG, EV-M)

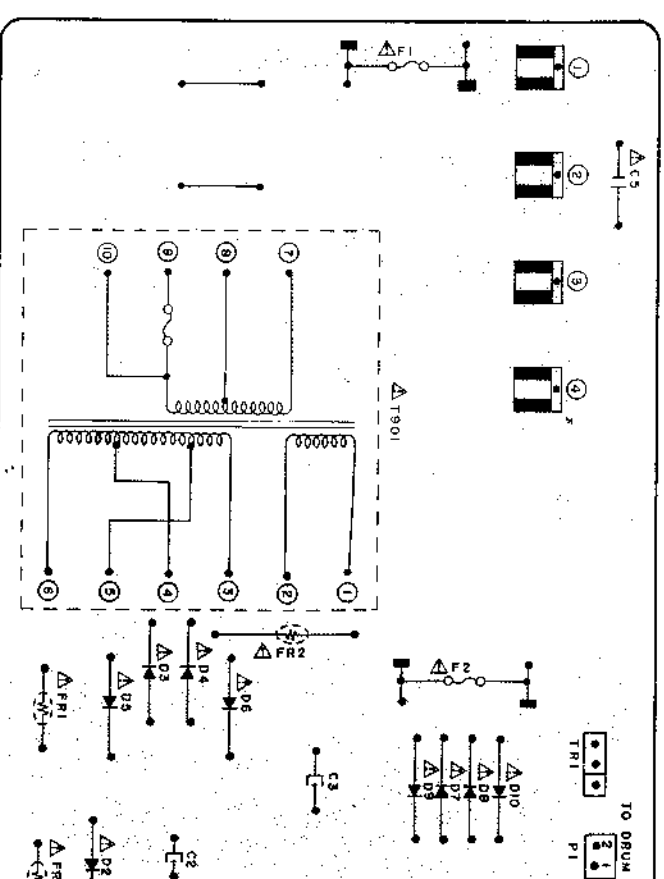
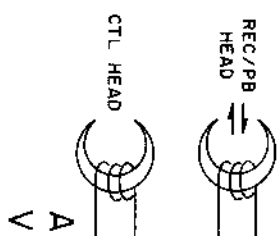


FUNCTION PCB V1047B5040

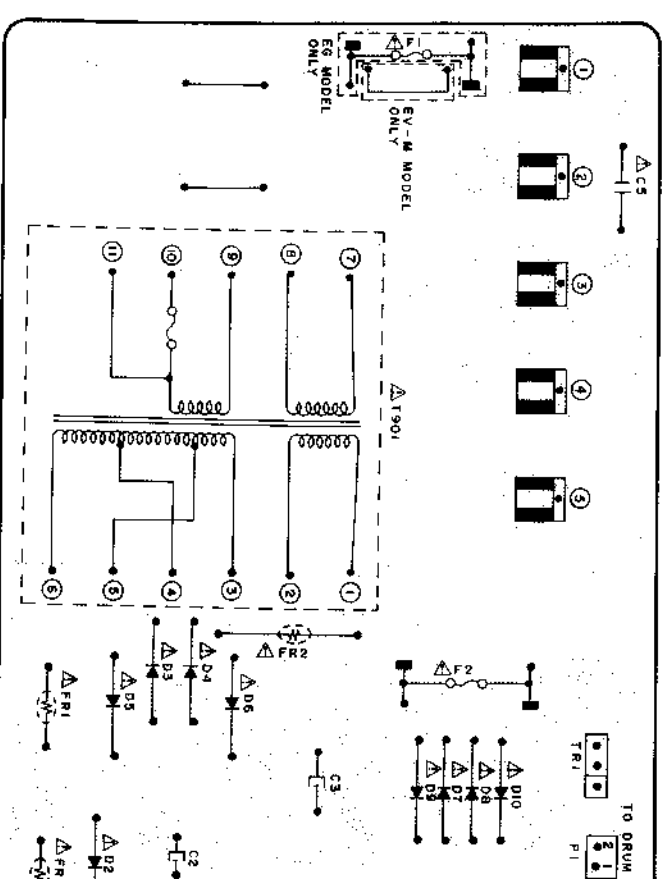
WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
 AVERTISSEMENT: Δ L'INDIQUE LES COMPOSANTS CRITIQUES DE SECURITE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL, NE REMPLACER QUE DES PIECES RECOMMANDEES PAR LE FABRICANT.



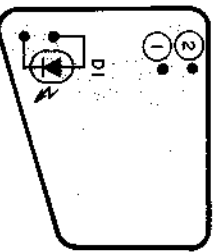
SENSOR
V1047L



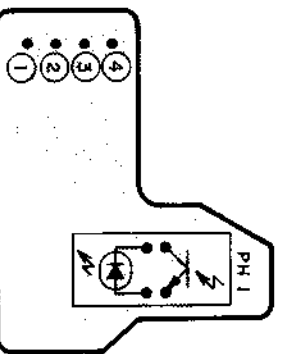
POWER PCB J1047C5030 (3ED) (EK, ES)



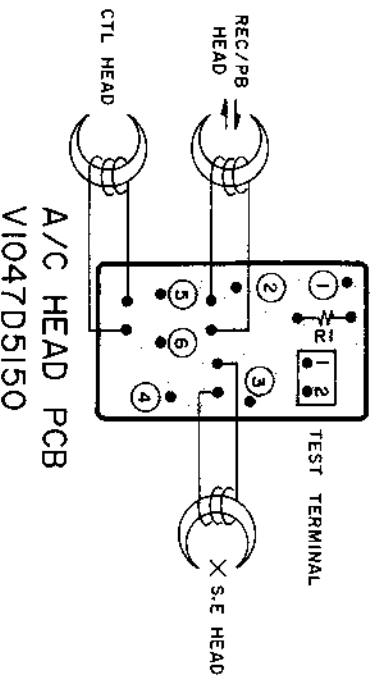
POWER PCB J1047C5030 (3ED) (EG, EV-M)



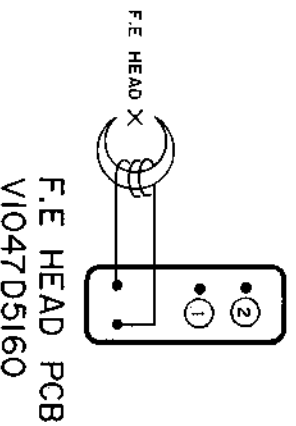
SENSOR LED PCB
V1047D5100



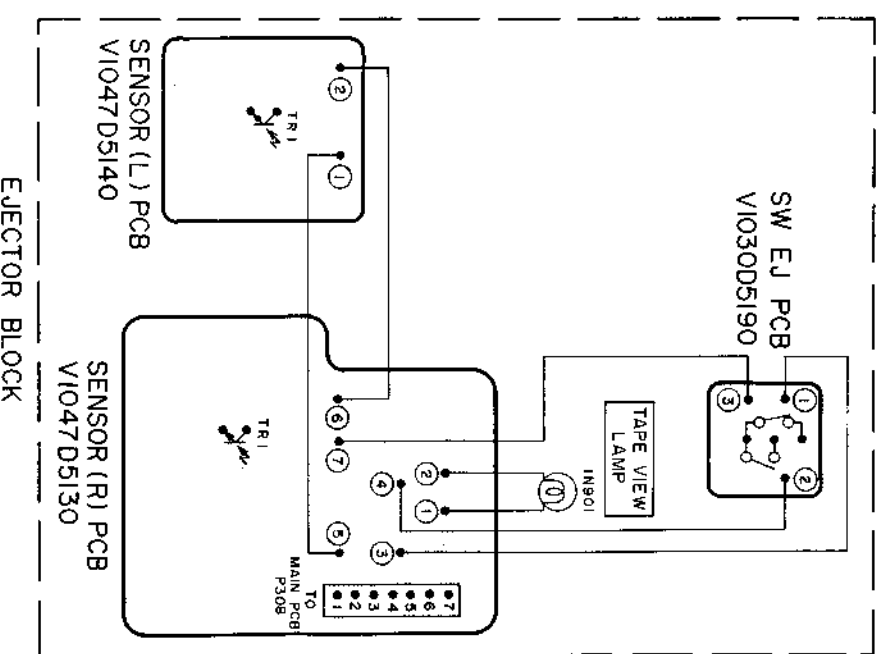
SENSOR REEL (A) PCB
V1047D5110



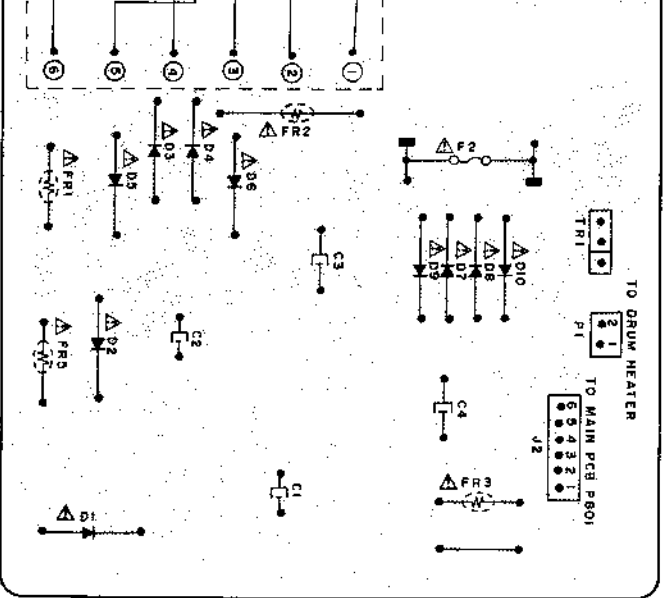
A/C HEAD PCB
V1047D5150



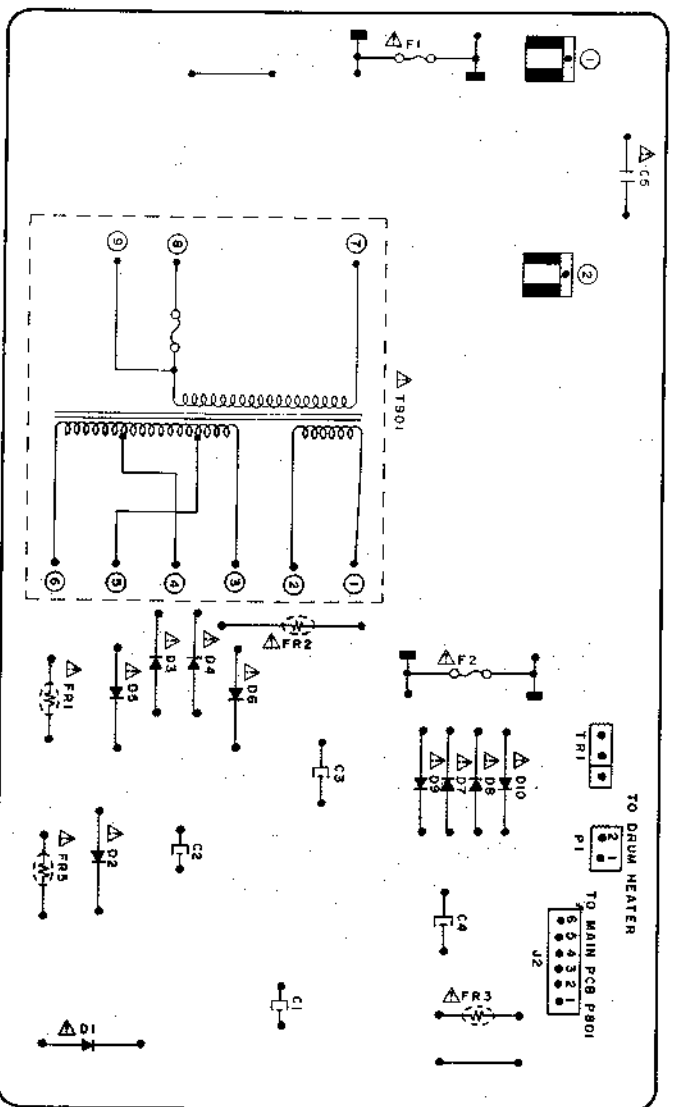
F.E HEAD PCB
V1047D5160



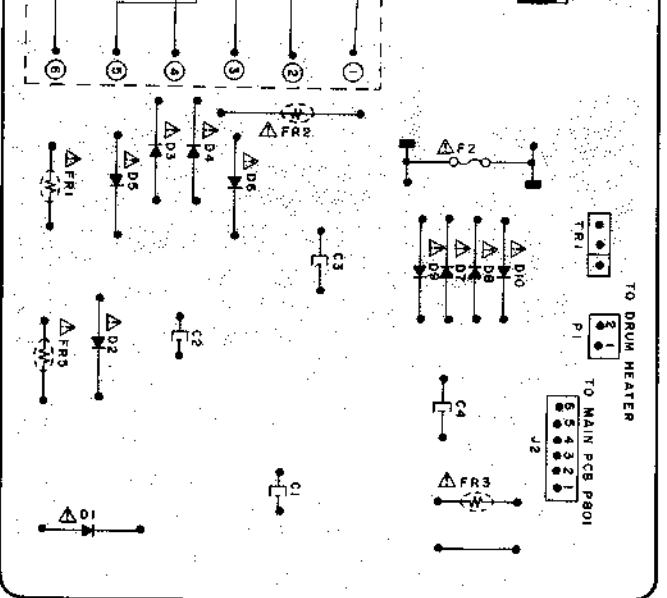
EJECTOR BLOCK



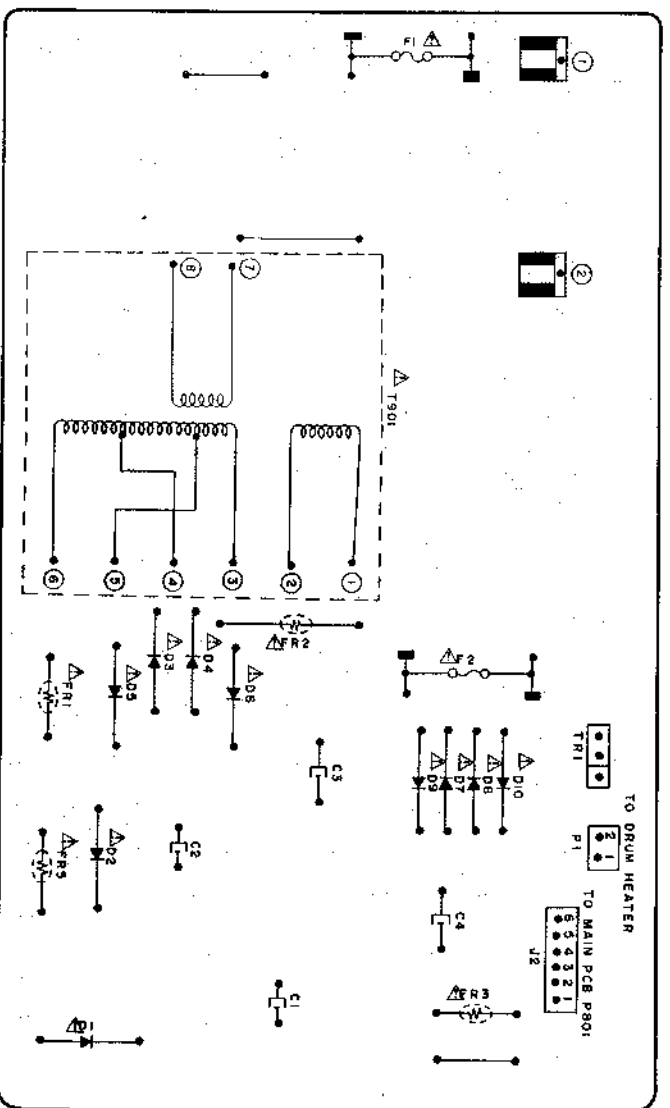
030 (3ED) EK, ES



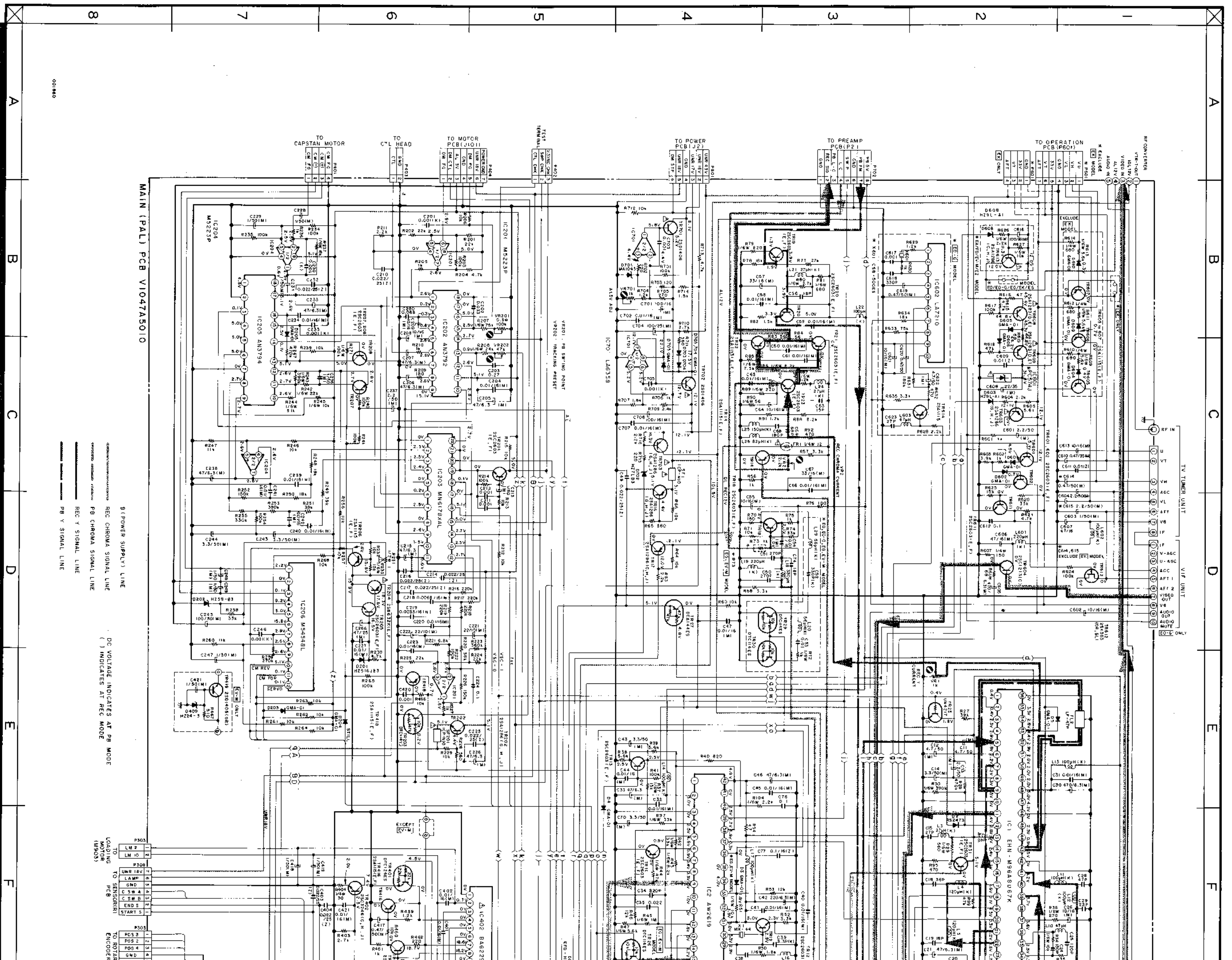
POWER PCB V1047C5030 (3ED) EA, ED, EO, EZ



030 (3ED) EG, EV-M



POWER PCB V1047C5030 (3ED) EO-G

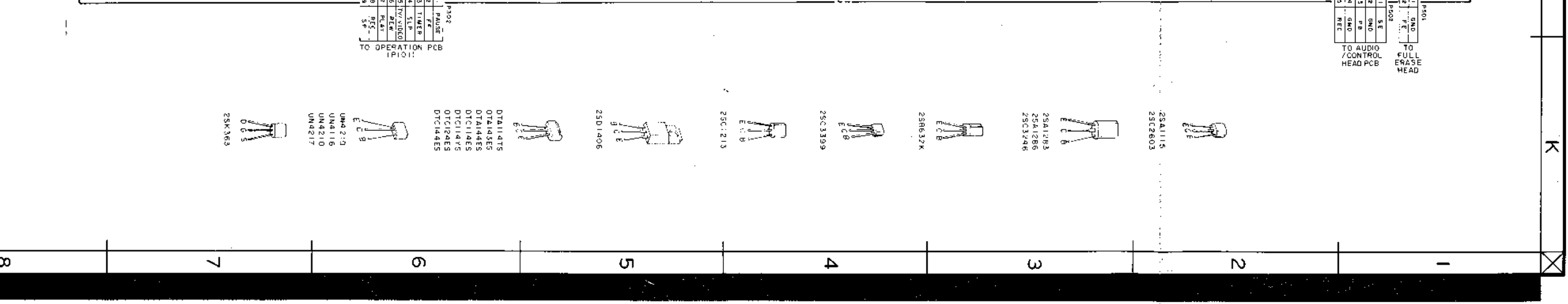
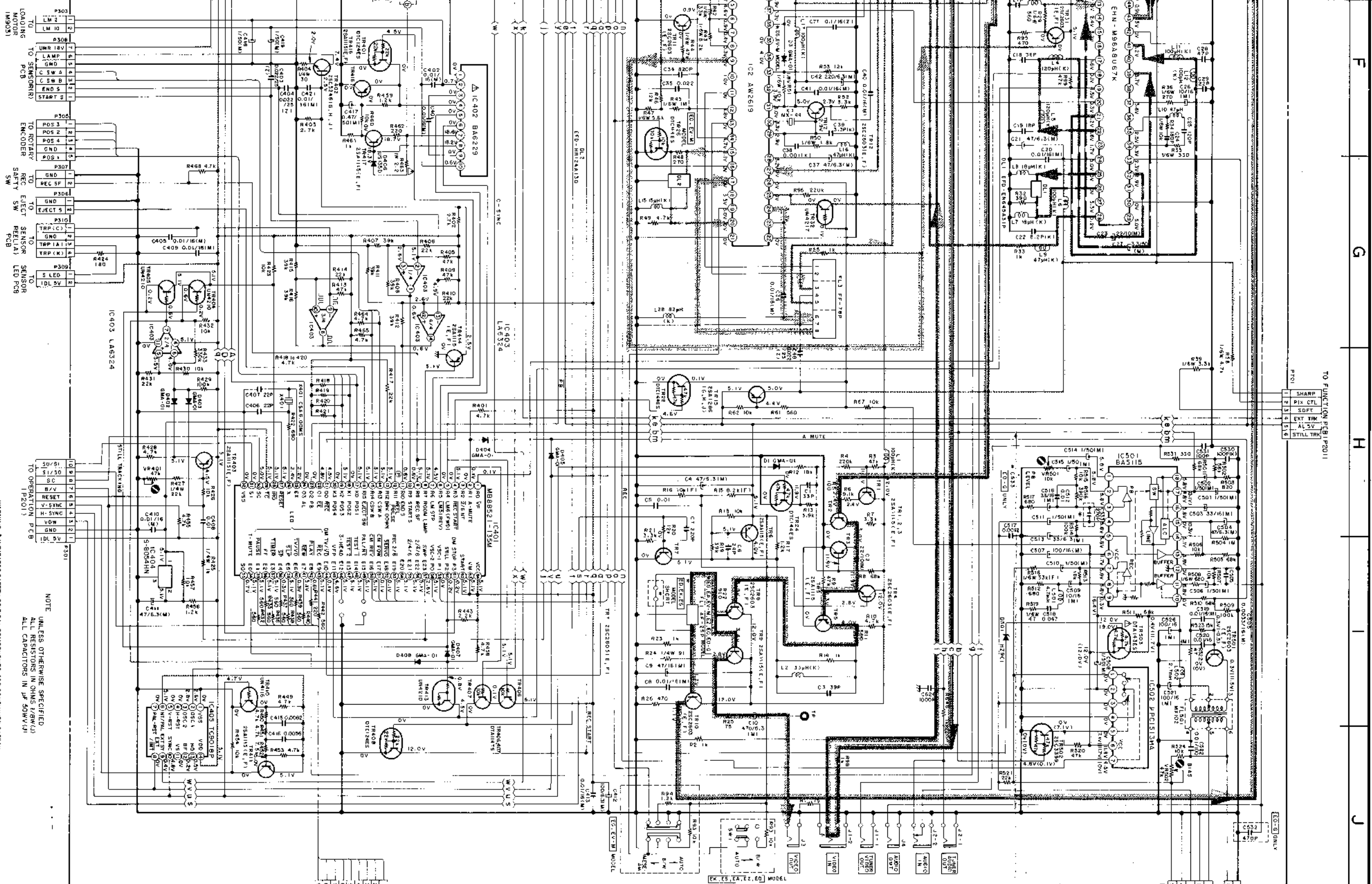


(POWER SUPPLY) LINE
 REC CHROMA SIGNAL LINE
 PB CHROMA SIGNAL LINE
 REC Y SIGNAL LINE
 PB Y SIGNAL LINE

DC VOLTAGE INDICATES AT PB MODE
 () INDICATES AT REC MODE

P303
 LM 2
 LM 10
 P308
 UNR 18V
 LAMP
 GND
 C 5 W 4
 C 5 W 3
 C 5 W 2
 C 5 W 1
 END 5
 START 5
 P305
 PCS 3
 POS 2
 POS 4
 POS 4
 GND
 TO ROTARY ENCODER (M305)

MAIN (PAL) PCB V1047A5010



SCHEMATIC DIAGRAM
No.5-2 860108A

WARNING: INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY.
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
RECOMMENDED PARTS.
AVERTISSEMENT: LES COMPOSANTS CRITIQUES DE SÉCURITÉ
DOIVENT ÊTRE REMPLACÉS SEULEMENT PAR LES COMPOSANTS
RECOMMANDÉS PAR LE FABRICANT.

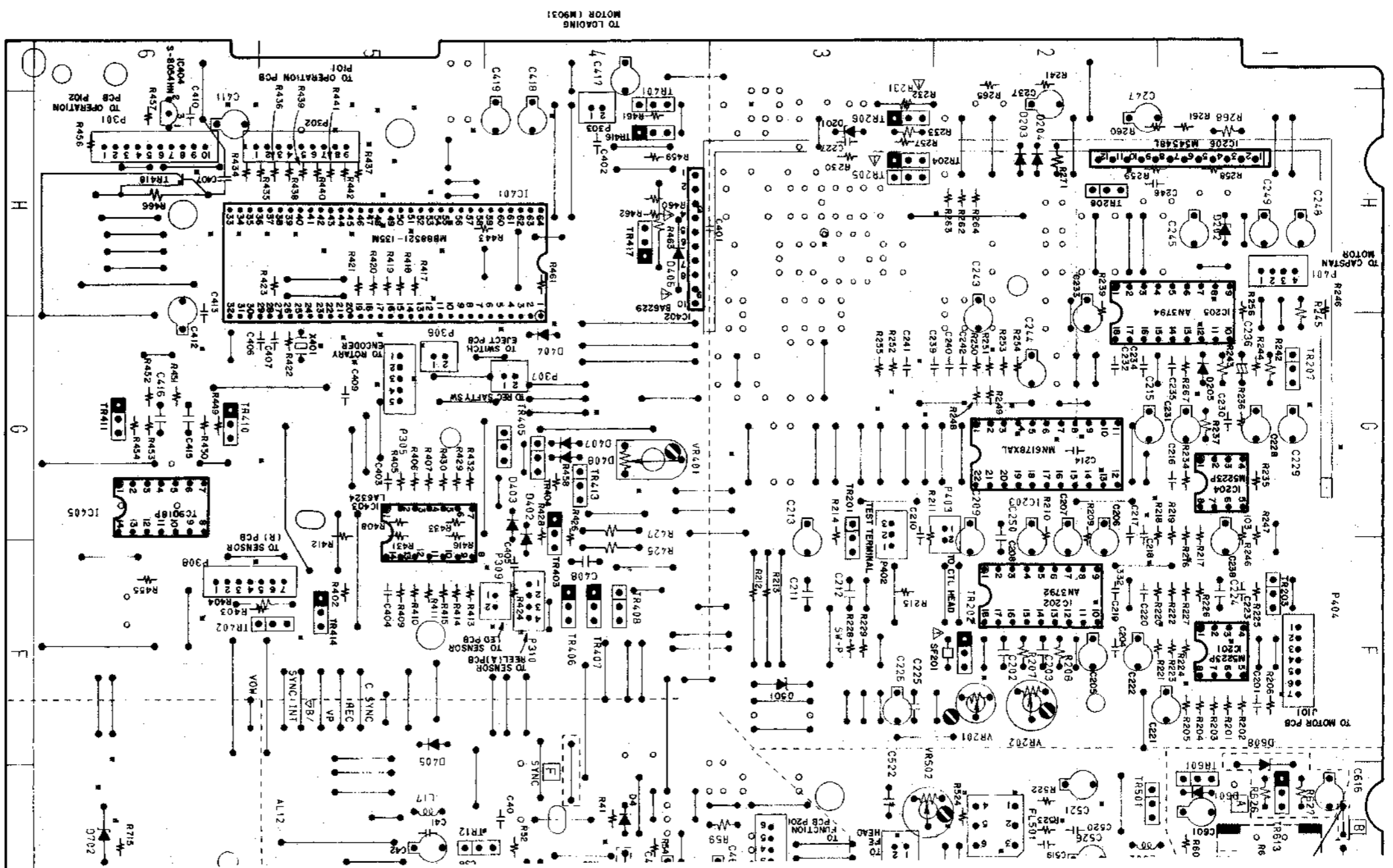
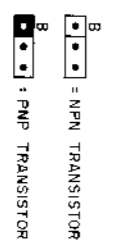
NOTE: UNLESS OTHERWISE SPECIFIED,
ALL CAPACITORS IN μ F 50WV/10V

LOCATION OF ICs	LOCATION OF TRs		
IC1	B-3,4,5	TR201	F-3, G-3
IC2	E-3,4,5	TR202	F-2
IC201	F-1	TR203	F-1
IC202	F-2	TR204	H-3
IC203	G-2	TR205	H-3
IC204	G-1	TR206	H-3
IC205	G-1,2	TR207	G-1
IC206	H-1,2	TR208	H-2
IC207	H-1,2	TR209	H-4
IC402	H-4,5	TR401	H-4
IC403	F-5	TR402	G-4
IC404	H-8	TR403	G-4
IC405	G-6	TR404	G-4
IC501	D-2	TR405	F-4
IC502	E-2	TR406	F-4
IC601	B-2	TR407	F-4
IC602	B-2	TR408	F-4
IC701	D-6	TR409	F-4
		TR410	H-4
		TR411	H-4
		TR412	H-4
		TR413	H-4
		TR414	H-4
		TR415	H-4
		TR416	H-4
		TR417	H-4
		TR418	H-4
		TR419	H-4
		TR420	H-4
		TR421	H-4
		TR422	H-4
		TR423	H-4
		TR424	H-4
		TR425	H-4
		TR426	H-4
		TR427	H-4
		TR428	H-4
		TR429	H-4
		TR430	H-4
		TR431	H-4
		TR432	H-4
		TR433	H-4
		TR434	H-4
		TR435	H-4
		TR436	H-4
		TR437	H-4
		TR438	H-4
		TR439	H-4
		TR440	H-4
		TR441	H-4
		TR442	H-4
		TR443	H-4
		TR444	H-4
		TR445	H-4
		TR446	H-4
		TR447	H-4
		TR448	H-4
		TR449	H-4
		TR450	H-4
		TR451	H-4
		TR452	H-4
		TR453	H-4
		TR454	H-4
		TR455	H-4
		TR456	H-4
		TR457	H-4
		TR458	H-4
		TR459	H-4
		TR460	H-4
		TR461	H-4
		TR462	H-4
		TR463	H-4
		TR464	H-4
		TR465	H-4
		TR466	H-4
		TR467	H-4
		TR468	H-4
		TR469	H-4
		TR470	H-4
		TR471	H-4
		TR472	H-4
		TR473	H-4
		TR474	H-4
		TR475	H-4
		TR476	H-4
		TR477	H-4
		TR478	H-4
		TR479	H-4
		TR480	H-4
		TR481	H-4
		TR482	H-4
		TR483	H-4
		TR484	H-4
		TR485	H-4
		TR486	H-4
		TR487	H-4
		TR488	H-4
		TR489	H-4
		TR490	H-4
		TR491	H-4
		TR492	H-4
		TR493	H-4
		TR494	H-4
		TR495	H-4
		TR496	H-4
		TR497	H-4
		TR498	H-4
		TR499	H-4
		TR500	H-4

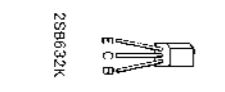
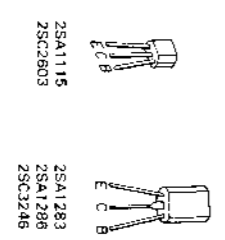
TR1	to 3,5,6,9,14,22
206,403,411,414,416,418	to 607
418,608,609,607	to 25A1115
TR4,7,8,10,13,18,19,21,23	to 31,201,205,207,208,501
601,602,611	to 25C2803
TR15,17,20,22,603,613	to 703
TR24,28	to 25A1286
TR25,32	to DTIC144ES
TR26,29,30	to UN4217
TR27	to DTIC14ES
TR203	to DTIC144ES
TR204	to DTIC144VS
TR401,408	to 25B632K
TR402	to DTIC124ES
TR404,405	to 25C3246
TR406,407	to UN4210
TR410	to DTIC141S
TR413	to UN4210
TR803	to 25C339S
TR804	to DTIC143ES
TR808,609	to 25A1283
TR701,702	to 25K363
TR701,702	to 25D1406

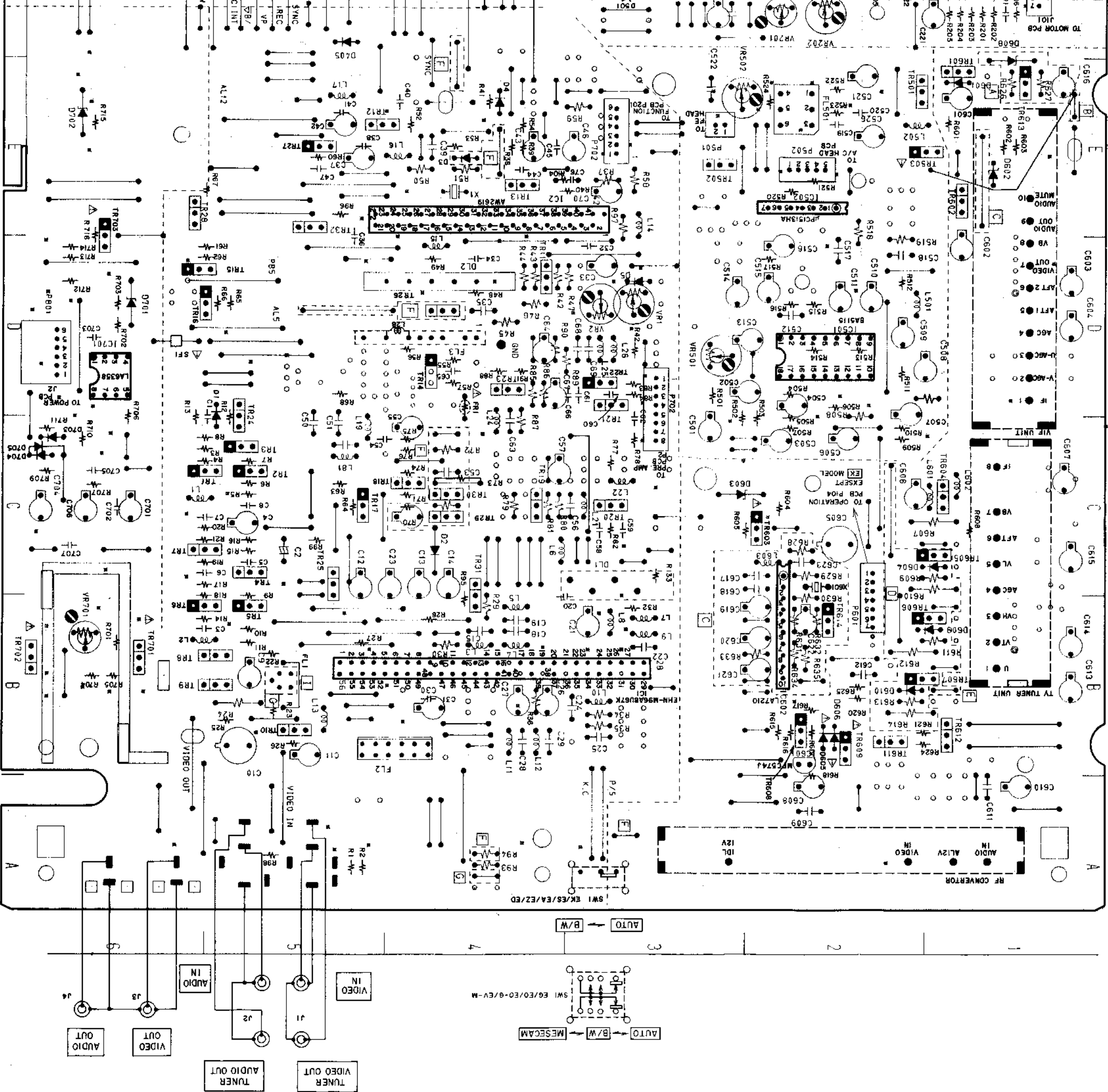
LOCATION OF CONNECTORS	
P301	H-6
P302	H-5
P303	H-5
P305	H-3
P306	G-5
P307	G-4
P308	F-5,6
P309	F-4
P310	F-4
P401	H-1
P402	G-3
P403	G-2
P404	F-1
P501	F-3
P502	E-2
P501	C-2
P701	E-3
P702	D-3
P801	D-6

VR1 Y REC CURRENT
 VR2 CHROMA REC CURRENT
 VR201 PB SWITCHING POINT
 VR202 TRACKING PRESSET
 VR401 STILL TRACKING
 VR801 PB AUDIO LEVEL
 VR802 AUDIO BIAS CURRENT
 VR701 AL SV



	A	B	C	D	E	F	G	H	I
EA	○	○	○	○	○	○	○	○	○
ED	○	○	○	○	○	○	○	○	○
EG	○	○	○	○	○	○	○	○	○
EK	○	○	○	○	○	○	○	○	○
EO	○	○	○	○	○	○	○	○	○
EO-0	○	○	○	○	○	○	○	○	○
ES	○	○	○	○	○	○	○	○	○
EV/M	○	○	○	○	○	○	○	○	○
EZ	○	○	○	○	○	○	○	○	○

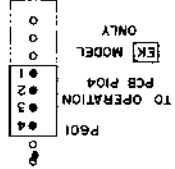




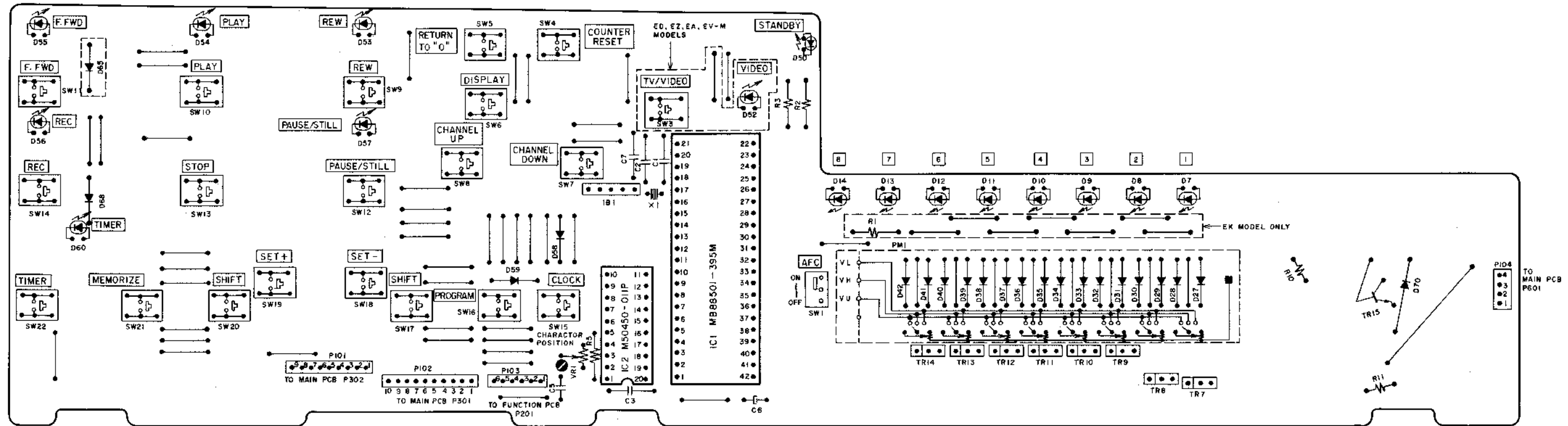
MAIN PCB VIO47A5010

WARNING: INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY.
 REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURERS
 RECOMMENDED PARTS.
 AVERTISSEMENT: AU INDIQUÉ LES COMPOSANTS CRITIQUES DE SÉCURITÉ
 NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

- AI283
- AI286
- CS246
- 28B32K
- 28C3399
- 28C1213
- 28D1406
- DTA1141TS
- DTA143ES
- DTA144ES
- DTC114ES
- DTC114AS
- DTC124ES
- DTC144ES
- UN421D
- UN4116
- UN4210
- UN4217
- 28K363



*D65 EA, ED, EZ MODEL



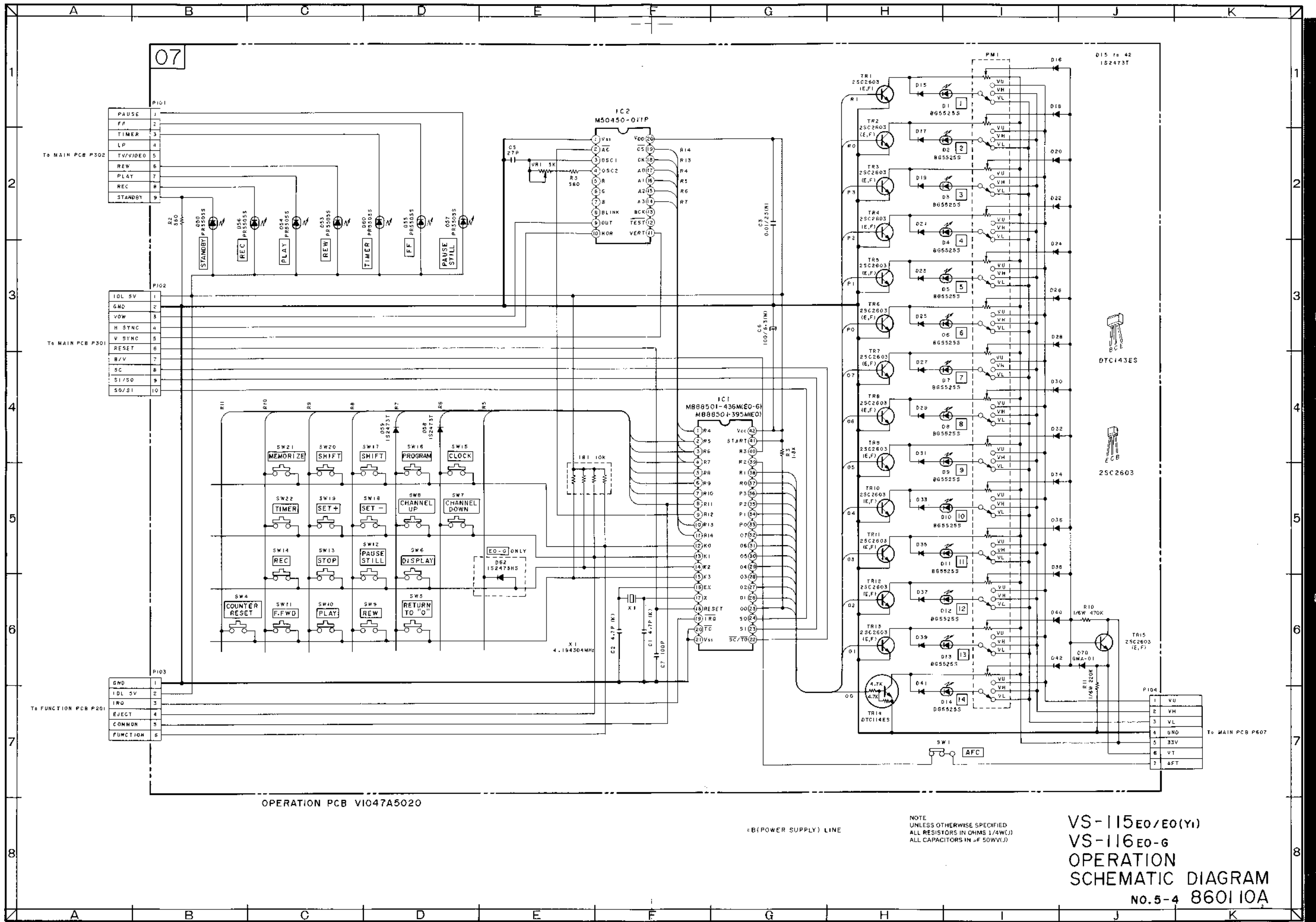
OPERATION PCB VI047A5020

□ NPN TRANSISTOR

TR7 to 13,15 2SC2603
 TR14 DTC143ES



DTC143ES 2SC2603

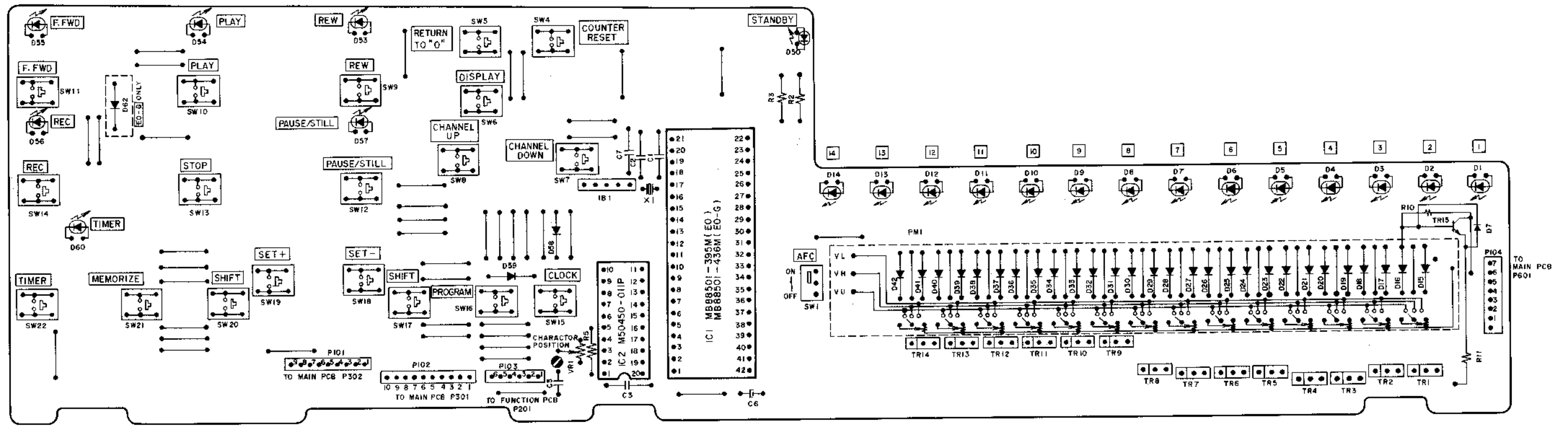


OPERATION PCB V1047A5020

-(B)(POWER SUPPLY) LINE

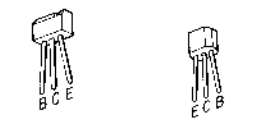
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN µF 50V(U)

VS-115E0/E0(Y1)
VS-116E0-G
OPERATION
SCHEMATIC DIAGRAM
NO. 5-4 860110A



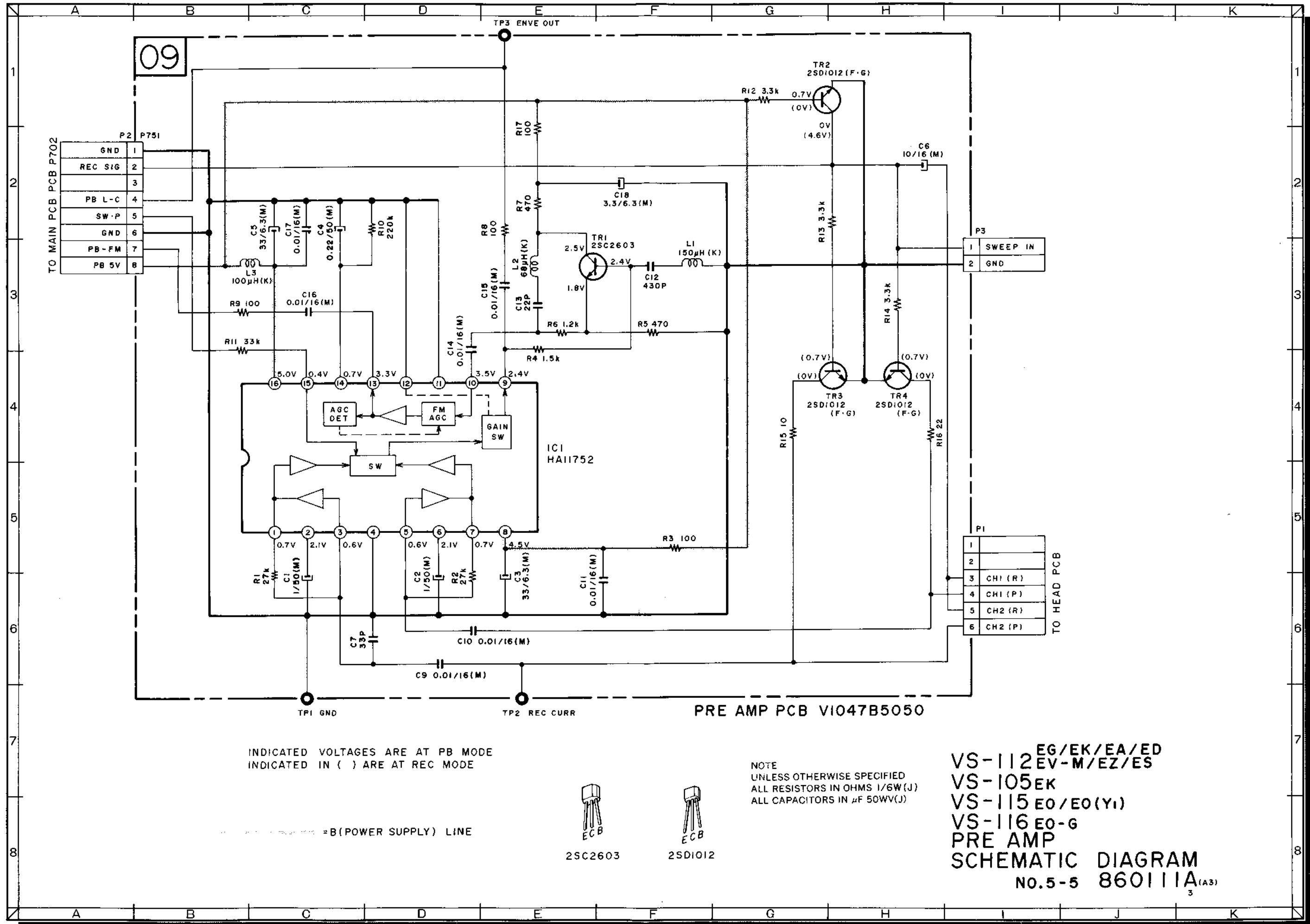
OPERATION PCB V1047A5020

B
 NPN TRANSISTOR



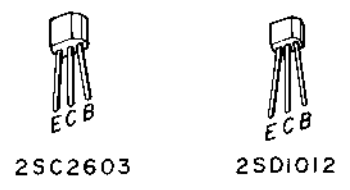
TR1 to 13 2SC2603
 TR14 DTC114ES

DTC143ES 2SC2603



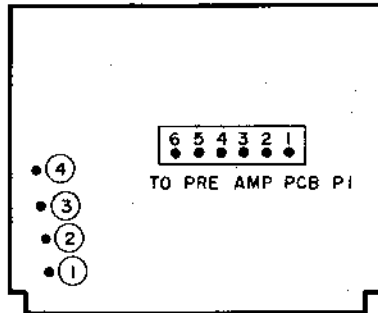
INDICATED VOLTAGES ARE AT PB MODE
 INDICATED IN () ARE AT REC MODE

--- = B (POWER SUPPLY) LINE

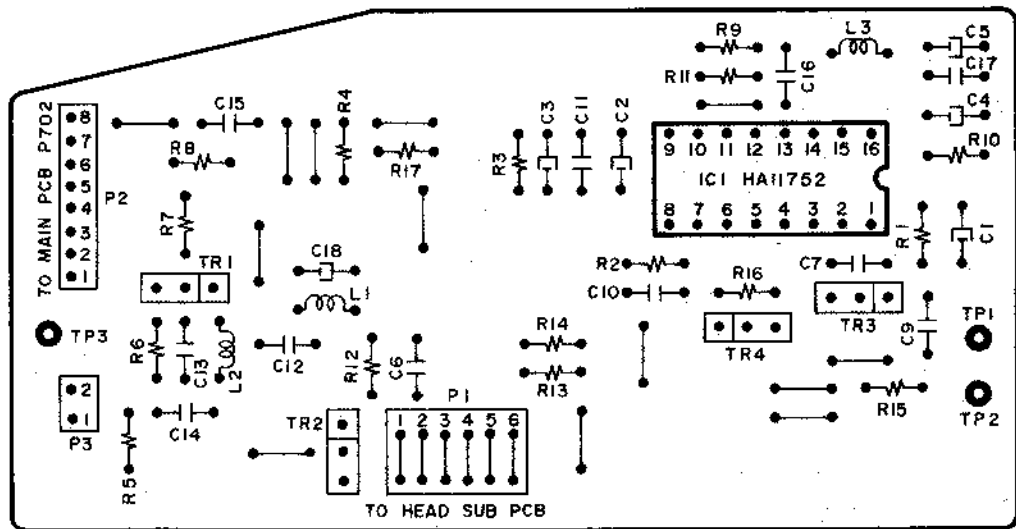


NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS 1/6W(J)
 ALL CAPACITORS IN μF 50WV(J)

VS-112 EG/EK/EA/ED
 VS-105EK
 VS-115 E0/E0(Y1)
 VS-116 E0-G
 PRE AMP
 SCHEMATIC DIAGRAM
 NO.5-5 860111A (A3)
 3



HEAD SUB PCB
VIO47D5170 (2ED)



PRE AMP PCB VIO47D5050 (2ED)



2SC2603



2SD1012