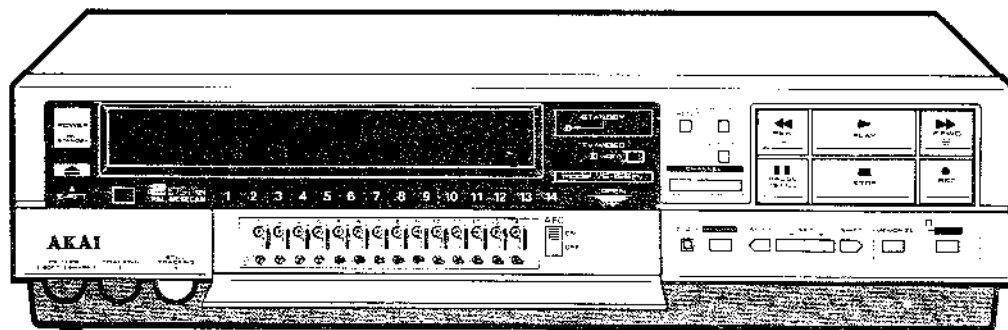


VS-155  
EG/EK/ES  
/EV-M/EZ

# AKAI SERVICE MANUAL

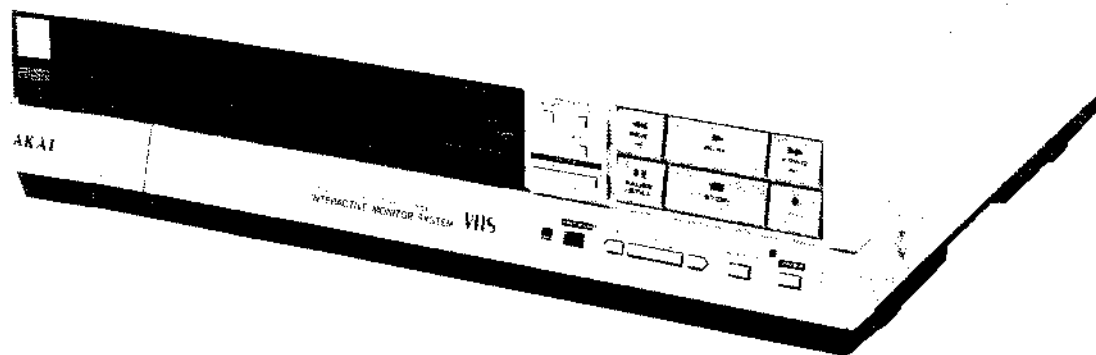


VIDEO CASSETTE RECORDER

MODEL **VS-155** EG/EK/ES  
/EV-M/EZ

## ABBREVIATIONS LIST

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
AC	Alternating Current	LM STP	Loading Motor SToP
ACC	Auto Color Control	LP	Long Play
A/C	Audio and Control	LPF	Low Pass Filter
ADJ	ADJust(ment)	LSW	Loading SWitch
AFC	Auto Frequency Control	ME-SECAM	Middle East SECAM
AFT	Auto Fine Tuning	MI-COM	Mlcro COMputer
AGC	Auto Gain Control	MM	Mono-stayble Multi
AH(P)	Audio Head (Play Back)	MRS	Motor ReverSe
AH(R)	Audio Head (Record)	NG	Noise Gate
AL	ALl	NON-LIN	NON-LINear
AL	ALways	N.T.S.C.	National Television System Committee
ALC	Auto Level Control	O MUTE	Output MUTE
A-SW·P	Audio-SWitching·Pulse	OSC	OSCillator
A·MUTE	Audio·MUTE	PAL	Phase Alternation Line
AUT/MAN	AUTO/MANual	PB	Play Back
ANT	ANTenna	P-COM	Phase-COMparator
APC	Automatic Phase Control	PDN	Power DowN
ASSY	ASSEMBLY	PG	Pulse Generator
BAL	BALance	PL, PLG	PLunger (PLunGer)
B/C	Buzz and Charactor	POS	POSition
B DOWN	Break DOWN	PRG	PRoGram
BGP	Burst Gate Pulse	P & S	Power supply & System control
BLK	BLack or BLock	PU	Pick Up (head, pulse)
BM	Balanced Modulator	PWR	PoWeR
BPF	Band Pass Filter	Q	Quality factor
BS	Band Select	RC	Rotary Control
BS (SB)	Brake Supply (Supply Brake)	REC	RECORD
BT (TB)	Brake Takeup (Takeup Brake)	REF	REFErence
BU	Back Up	REF-V	REFErence Vertical signal
B/W	Black and White	REG	REGulator
CCIR	Comité Consultatif International des Radio Communications	REV (REVW)	REView (REVieW)
CH (Ch.)	CHannel (Channel)	REW	REWind
CK	Color Killer	RFB	Radio Frequency Booster
CLK	CLock	RM	Reel Motor
CLP	CLIP	RM PWR	Reel Motor PoWeR
CM	Capstan Motor	R-S SW	Record Safety SWitch
CN	CoNnector	RST (RES)	ReSeT (RESet)
COMP	COMParator	RVS	ReVerSe
Comp	Comparison	S	Sensor, Shield
C or R	Cue or Review	SC	SimulCast
CR 1	Cue Review 1 (high)	S CLK	Serial CLock
CSW	Cassette SWitch	S & A	Servo & Audio
CTL	ConTroL	SECAM	Séquentiel à Memoire
CUE	CUE	SEP (SEPA)	SEPARator (SEPARator)
CW	Carrier Wave	SFP	Sync Front Pulse
DAC	Digital to Analog Converter	S & H	Sample and Hold
DC	Direct Current	SLP	Super Long Play
DEMODO	DEMODulator	SP	Standard Play
DET	DETEct (DETEctor)	SPD	SPEEd
DL	Delay Line	SRP	Supply Reel Pulse
DM	Drum Motor	SRV	SeRVo
DOC	Drop Out Compensator	SOW	Sync On Word
D·P·E	Drum·Phase·Error	STBY	STandBY
D·PG	Drum·Pulse Generator	SW	SWitch
D·TPZ	Drum·TraPeZoid	SW'NG	SWitchiNG
EE	Electronic to Electronic	SWP	SWitching Pulse
EF	Emitter Follower	SYNC	SYNChronize
EM	Eject Motor	T-AUDIO	Tuner AUDIO
EMPHA	EMPHAsis	TA-MUTE	Tuner Audio MUTE
ENVIN	ENVELOpe Input	TPZ (TRAPE)	TraPeZoid (TRAPEzoid)
ESW	Eject SWitch	TRK	TRackiNG
EQ	EQUALizer	TRP	Take up Reel Pulse
FE	Full track Erase	T/U	Take Up
FF	Flip-Flop	TV	TeLeVIsion
FG	Frequency Generator	UHF	Ultra High Frequency
Fig.	Figure	UNR	UNRegulated
FM	Frequency Modulation	V	Vertical
Fo	resonance Frequency	VCO	Voltage Controlled Oscillator
FREQ	FREQUENCY	VD	Vertical Drive
FSI	Field Start Inhibit	VF	Voltage for Fine tuning
GND	GROUND	VHF	Very High Frequency
H	Horizontal	VHS	Video Home System
HP	Horizontal (sync) Pulse	VID	VIDeo
HPF	High Pass Filter	VIDEO-J	VIDEO Judge
HT	HeaTer	VIF	Video Intermediate Frequency
IC	IntegratEd Circuit	VJ	Video Judge
ID	IDentification	VM	Voltage for Memory
IDL	IDLe (Voltage)	VOB	Video On Blank
INS	INSert	VOW	Video On Word
INV	INVerter	VP	Vertical (sync) Pulse
L·CTL	Lamp·ConTroL	VT	Voltage for Tuning
LED	Light Emitting Diode	WHT	WHITe
LDI	LoaD Input	2H	2 Hour (SP)
LM	Loading Motor	6H	6 Hour (SLP)



## VIDEO CASSETTE RECORDER

MODEL **VS-155** EG/EK/ES  
/EV-M/EZ

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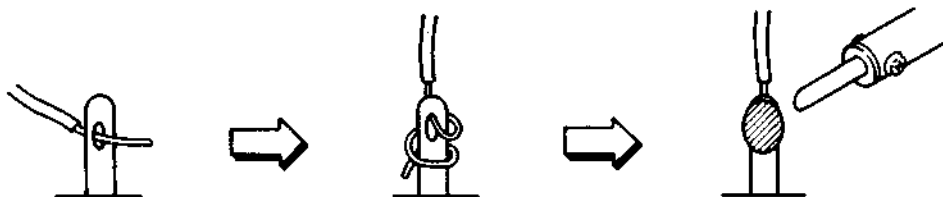
# SAFETY INSTRUCTIONS

## SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 Mohms, but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for **C** or **A**, specified insulation resistance should be more than 2.2 Mohms (ground terminals, microphone jacks, headphone jacks, line-in-out jacks etc.)

## PRECAUTIONS DURING SERVICING

- Parts identified by the  $\Delta$  symbol parts are critical for safety.  
Replace only with parts number specified.
- In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.  
Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
- Use specified internal wiring. Note especially:
  - Wires covered with PVC tubing
  - Double insulated wires
  - High voltage leads
- Use specified insulating materials for hazardous live parts. Note especially:
  - Insulation Tape
  - PVC tubing
  - Spacers (Insulating Barriers)
  - Insulation sheets for transistors
  - Plastic screws for fixing microswitch (especially in turntable)
- When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



- Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
- Check that replaced wires do not contact sharp edged or pointed parts.
- Also check areas surrounding repaired locations.
- Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

## VOLTAGE CONVERSION

The model VS-155EG is not equipped with this facility. The operating voltages of these models are preset at the factory according to destination. However, the operating voltages of the models VS-155EG, VS-155EK, VS-155ES and VS-155EV-M can be set to 110V or 220V, 200V or 240V, 220V or 250V, 115V or 230V respectively as required.

- Disconnect the power cord.
- Set the VOLTAGE SELECTOR located on the rear panel, with a screwdriver, until the correct voltage for your area is indicated.

220V  110V  
VOLTAGE SELECTOR  
VS-155EG

240V  200V  
VOLTAGE SELECTOR  
VS-155EK

250V  220V  
VOLTAGE SELECTOR  
VS-155ES

POWER RESET  
 VOLTAGE SELECTOR 115/230V  
230V 115V 50/60Hz  
VS-155EV-M

### NOTE: POWER RESET BUTTON (VS-155EV-M ONLY)

If the video player is accidentally connected to the wrong power supply, the internal circuit breaker will prevent damage from occurring to the video player. If the video player suddenly goes off, disconnect the power cord and change the position of the voltage selector on the rear panel. Then, reconnect the power cord and depress the POWER RESET button on the rear panel of the video player. The power indicator should light.

---

SECTION 1

**SERVICE MANUAL**

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

# I. SPECIFICATIONS

## VS-155EG/EK/EK(Y1)/ES/EV-M/EZ

Format		VHS Standard
Video recording system		Rotary, slant azimuth two-head helical scan system
Rotary Heads		3 video heads
RF input	EG/EV-M EK/EK(Y1) ES EZ	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 1 to 9 UHF: ch 21 to 69
RF output	EG EK/EK(Y1)/ES EV-M EZ	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 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 2.0Vp-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	EG EK/EK(Y1) ES EV-M EZ	110V/220V AC, 50 Hz/60 Hz 200V/240V AC, 50 Hz 220V/250V AC, 50 Hz 115/230V AC, 50/60Hz 230V AC, 50Hz
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)

## REMOTE CONTROL UNIT 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	60 g (without batteries)

\* 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:

1. 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
2. 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.

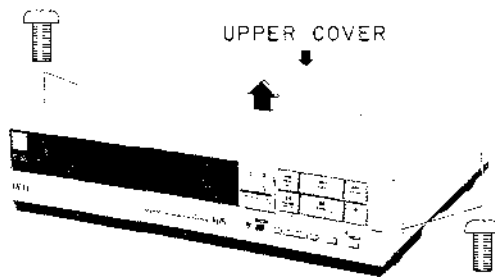
3. Please use the exclusive SECAM-VHS recorders in French SECAM (system L) broadcasting areas. (Models S, SEG)
4. The Models for exclusive use with the NTSC color system are as follows:  
Models: U, UM, J.
5. Model EV-M for PAL (B/G) and Middle East SECAM (B/G), and Model EGN for 4 system reception.
6. 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.

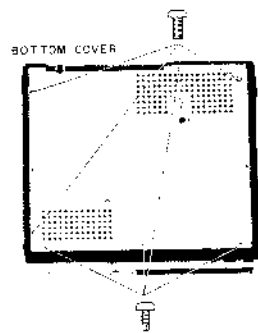
\* Photographs employed in this paragraph are model VS-112EA.

#### 1 Removal of Upper Cover



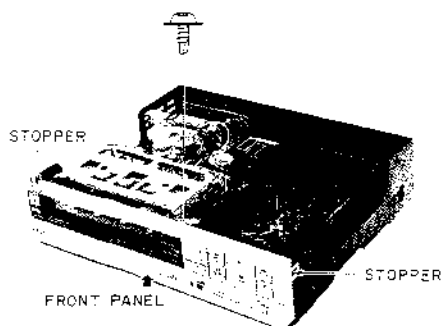
Remove the four screws

#### 2 Removal of Bottom Cover



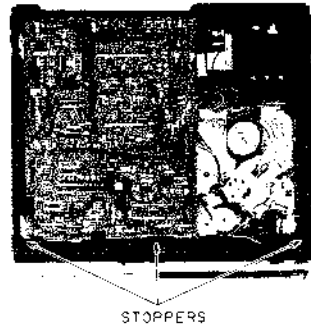
Remove the seven screws

#### 3 Removal of Front Panel



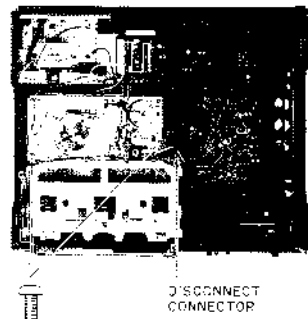
Remove the one screw and unfasten the stoppers.

4



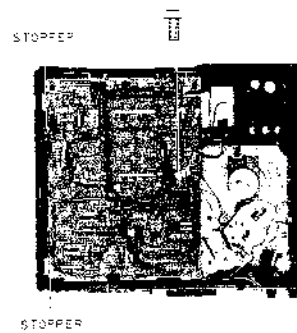
Unfasten the stoppers

#### 5 Removal of Ejector Block



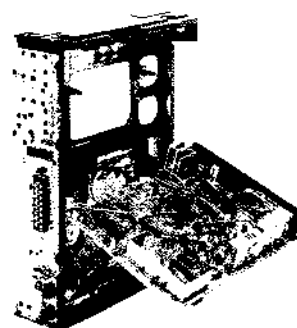
Remove the two screws and disconnect J30B.

#### 6 Remove of Main PCB



Remove the one screw and unfasten the two stoppers.

7





## IV. CONTROLS

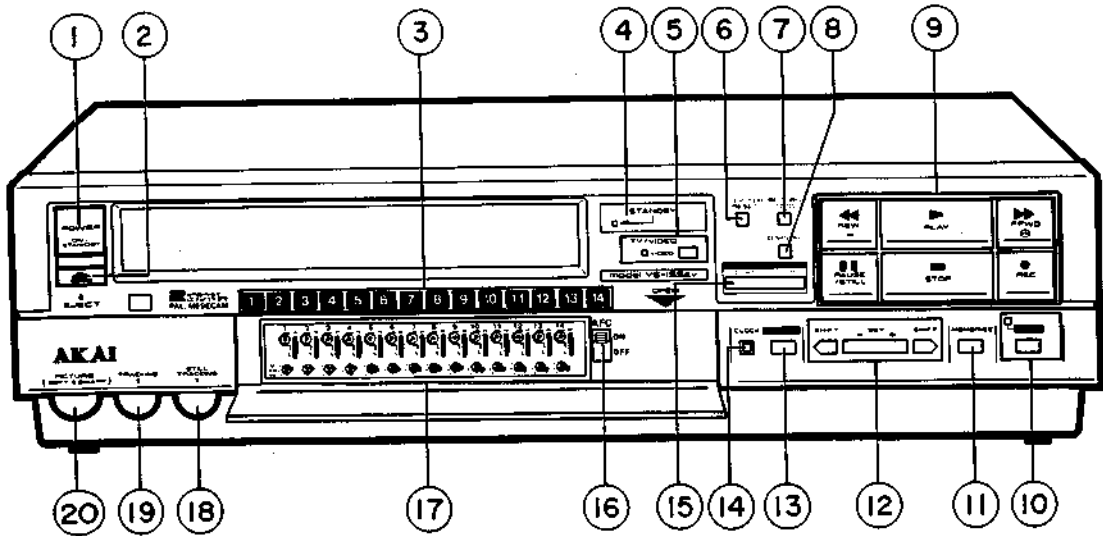


Fig. 4-1 Front View

- |   |                                       |
|---|---------------------------------------|
| 1. POWER BUTTON                           | 11. MEMOLIZE BUTTON                   |
| 2. EJECT BUTTON                           | 12. SET and SHIFT BUTTONS             |
| 3. CHANNEL INDICATORS                     | 13. PROGRAM BUTTON                    |
| 4. STANDBY INDICATOR                      | 14. CLOCK BUTTON                      |
| 5. TV/VIDEO SELECTOR BUTTON and INDICATOR | 15. CHANNEL SELECTOR                  |
| 6. COUNTER RESET BUTTON                   | 16. AFC (AUTOMATIC FREQUENCY CONTROL) |
| 7. RETURN TO "0" BUTTON                   | 17. TUNING CONTROL                    |
| 8. DISPLAY SELECT BUTTON                  | 18. STILL TRACKING CONTROL            |
| 9. TAPE TRANSPORT BUTTONS                 | 19. TRACKING CONTROL                  |
| 10. TIMER BUTTON and INDICATOR            | 20. SHARP/SOFT PICTURE CONTROL        |

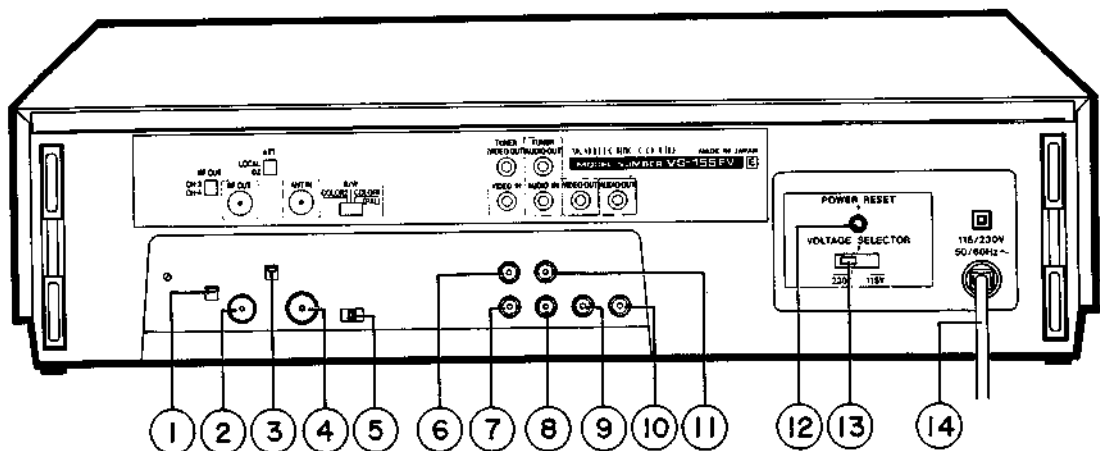


Fig. 4-2 Rear View

- |  |   |
|--|---|
| 1. RF OUT CHANNEL SELECTOR (EV-M, EZ only) | 8. AUDIO IN JACK                        |
| 2. RF OUT CONNECTOR                        | 9. VIDEO OUT JACK                       |
| 3. LOCAL/DX ATTENUATOR                     | 10. AUDIO OUT JACK                      |
| 4. RF INPUT CONNECTOR                      | 11. TUNER AUDIO OUT JACK                |
| 5. VIDEO MODE SELECTOR                     | 12. POWER RESET BUTTON (VS-155EVM only) |
| 6. TUNER VIDEO OUT JACK                    | 13. VOLTAGE SELECTOR                    |
| 7. VIDEO IN JACK                           | 14. AC POWER CORD                       |

NOTE: Illustrated employed here are model VS-155EV-M.

## V. PRINCIPAL PARTS LOCATION

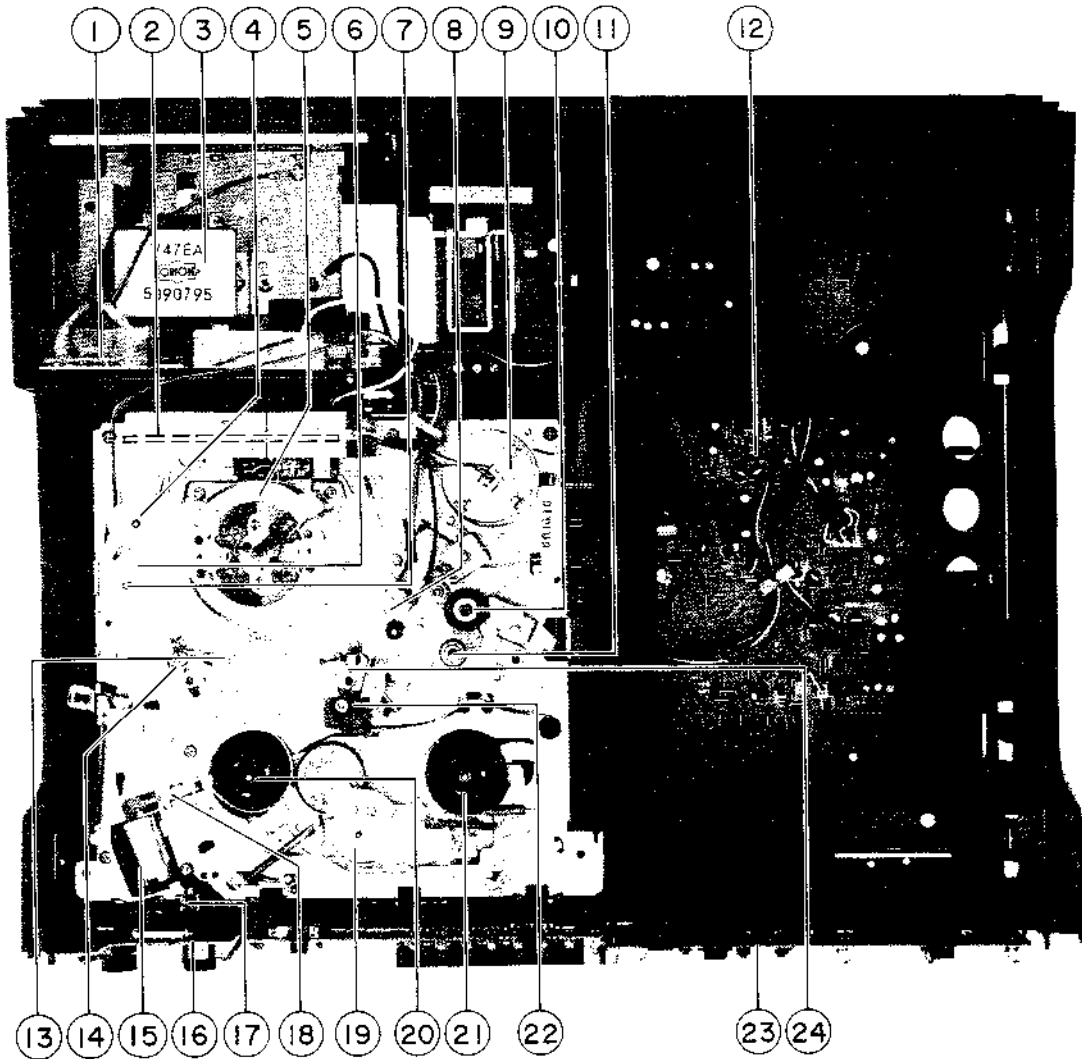


Fig. 5-1 Top View

(Photograph employed here is model VS-112E)

- |                                  |                                     |
|----------------------------------|-------------------------------------|
| 1. POWER PC BOARD (V1047C5030)   | 13. TENSION ARM                     |
| 2. PRE AMP PC BOARD (V1047B5050) | 14. LOADING LEADER (L)              |
| 3. POWER TRANSFORMER             | 15. LOADING MOTOR (M903)            |
| 4. IMPEDANCE ROLLER              | 16. FUNCTION PC BOARD (V1047B5080)  |
| 5. HEAD DRUM BLOCK               | 17. REC SAFETY SWITCH               |
| 6. FULL TRACK ERASE HEAD         | 18. SYNCHRO BELT                    |
| 7. SUPPLY TAPE GUIDE             | 19. TAKE UP GEAR BLOCK              |
| 8. AUDIO/CONTROL HEAD            | 20. SUPPLY REEL TABLE               |
| 9. CAPSTAN MOTOR (M902)          | 21. TAKE UP REEL TABLE              |
| 10. PINCH ROLLER                 | 22. SENSOR LED                      |
| 11. CAPSTAN SHAFT                | 23. OPERATION PC BOARD (V1047A5020) |
| 12. MAIN PC BOARD (V1047A5010)   | 24. LOADING LEADER (R)              |

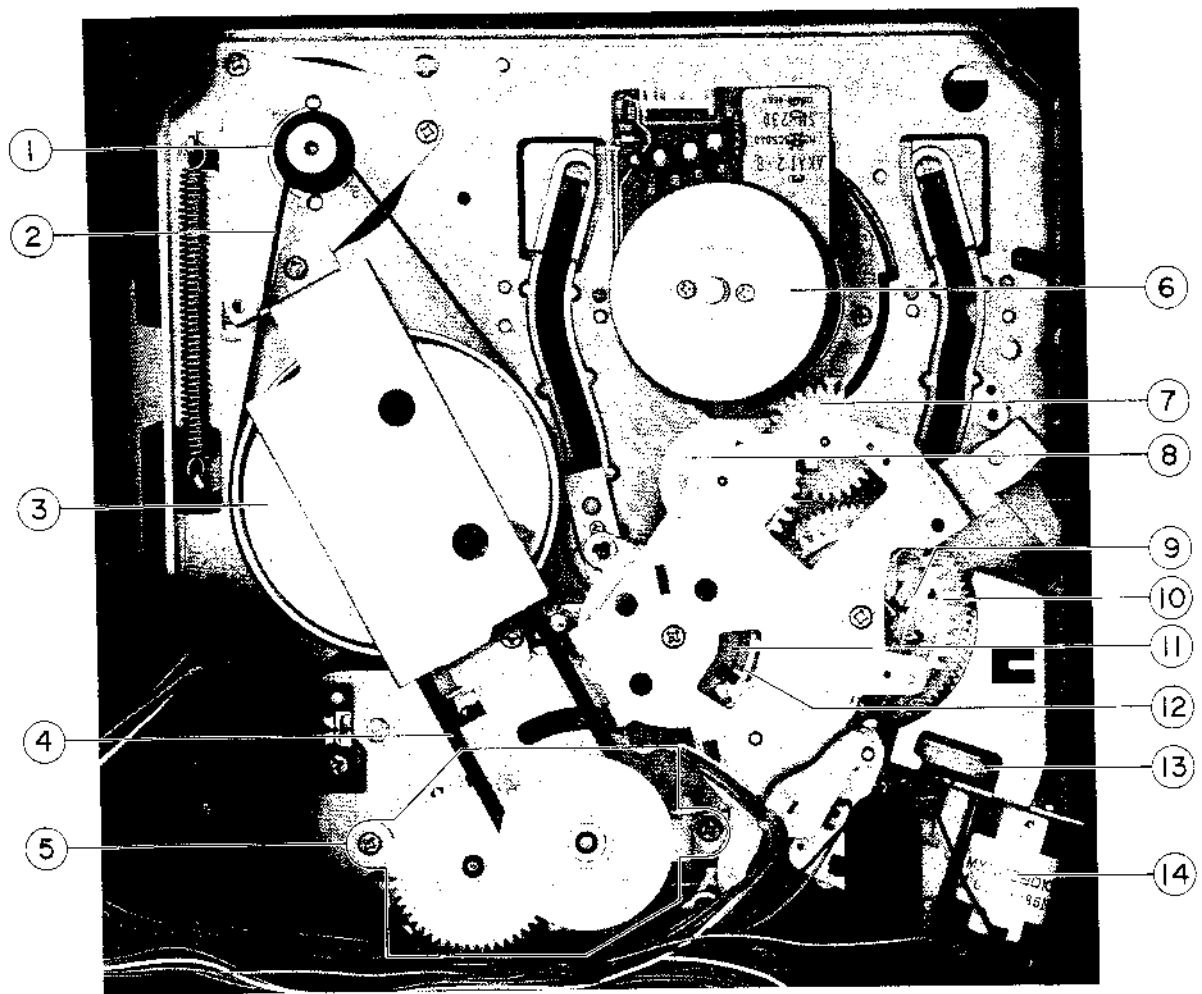


Fig. 5-2 Bottom View

- |                            |                          |
|----------------------------|--------------------------|
| 1. CAPSTAN MOTOR (M902)    | 8. TAKE UP LOADING GEAR  |
| 2. CAPSTAN BELT            | 9. EJECT SWITCH          |
| 3. CAPSTAN FLYWHEEL        | 10. EJECT CAM GEAR       |
| 4. IDLER BELT              | 11. ROTARY ENCODER       |
| 5. TAKE-UP GEAR BLOCK      | 12. MAIN CAM GEAR        |
| 6. DRUM MOTOR BLOCK (M901) | 13. SYNCHRO BELT         |
| 7. SUPPLY LOADING GEAR     | 14. LOADING MOTOR (M903) |

## 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.

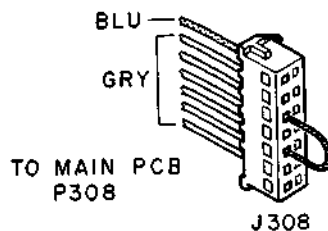


Fig. 6-1 J308 Connector

### 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.

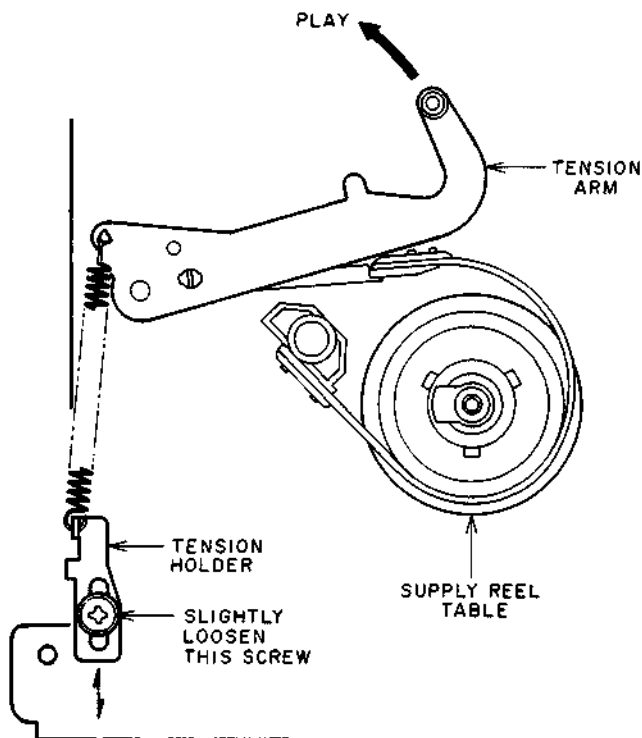


Fig. 6-2

### 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.

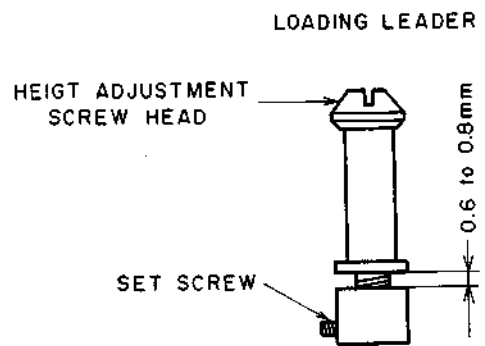


Fig. 6-3

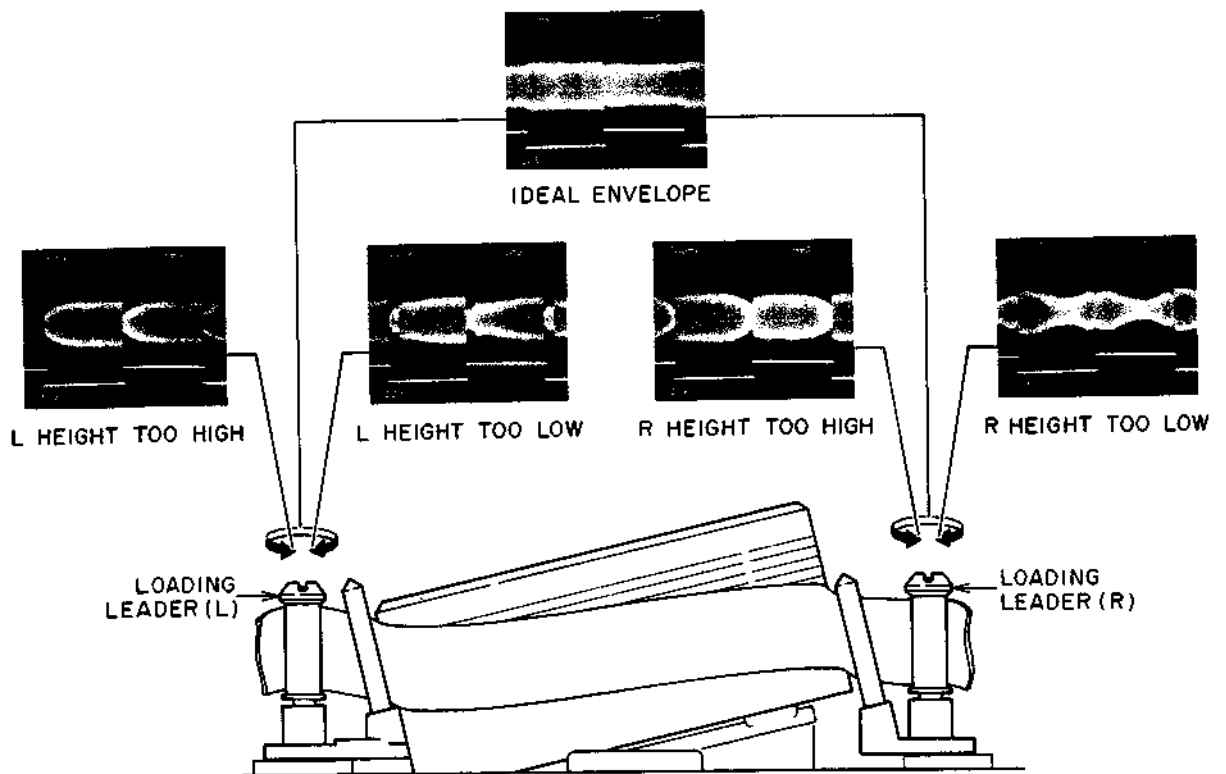


Fig. 6-4

#### 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.

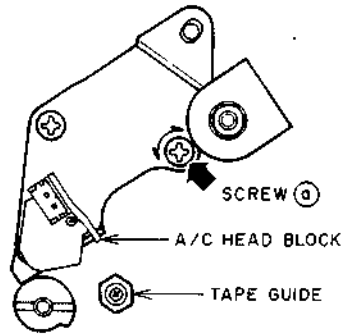


Fig. 6-5

- 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.

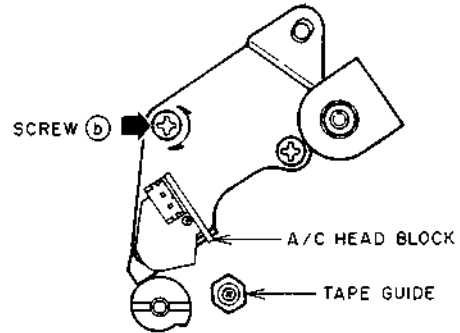


Fig. 6-9

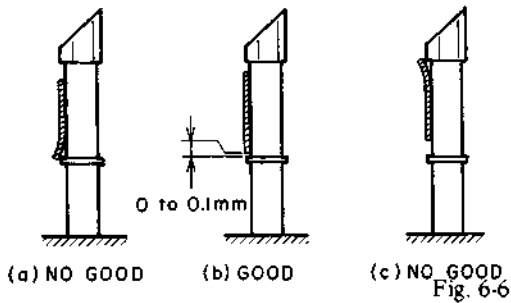


Fig. 6-6

#### 6-5. AUDIO HEAD AZIMUTH ADJUSTMENT

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

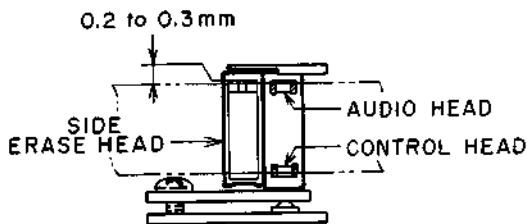


Fig. 6-7

#### 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.

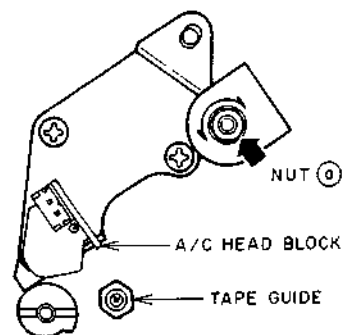


Fig. 6-8

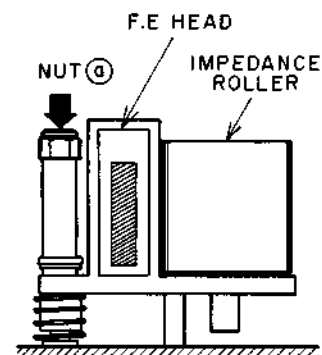


Fig. 6-10

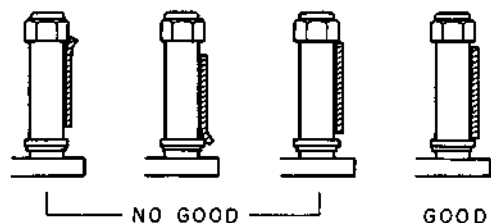


Fig. 6-11

## 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.

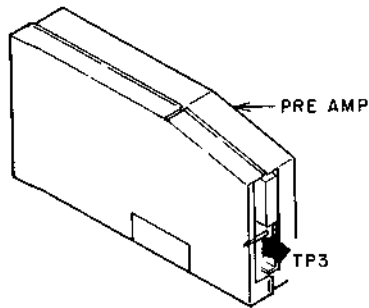


Fig. 6-12

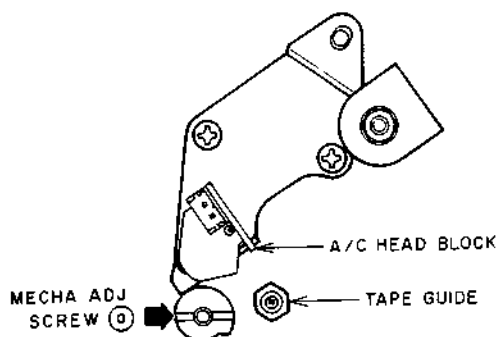


Fig. 6-13

## 6-10. CUE/REVIEW ADJUSTMENT

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

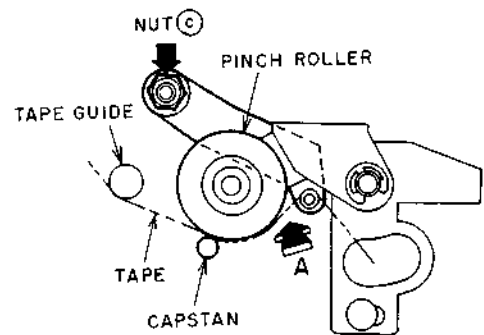


Fig. 6-14

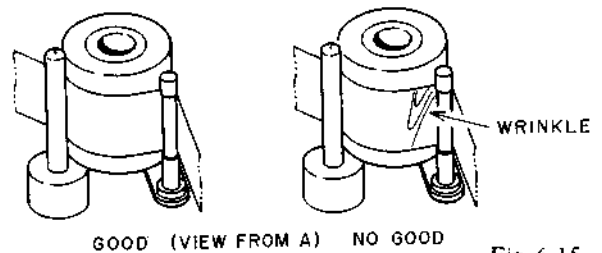


Fig. 6-15

After the adjustments, tighten the LOADING LEADER set screw.

## VII. HEAD DRUM REPLACEMENT

### 7-1. REPLACEMENT PROCEDURE

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

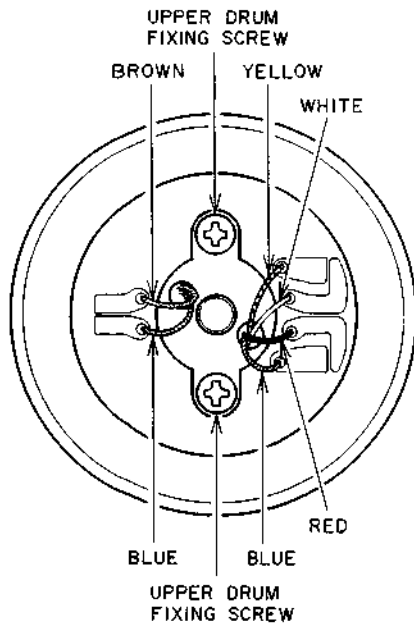


Fig. 7-1

### 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)

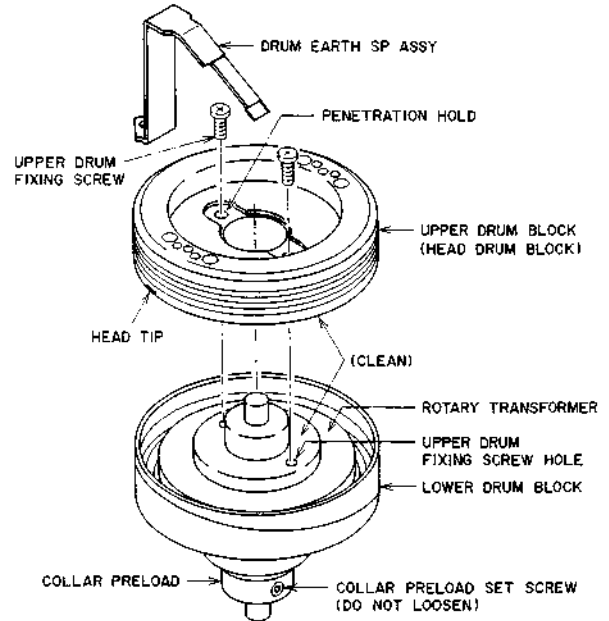


Fig. 7-2

**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 preload.



## VIII. 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.

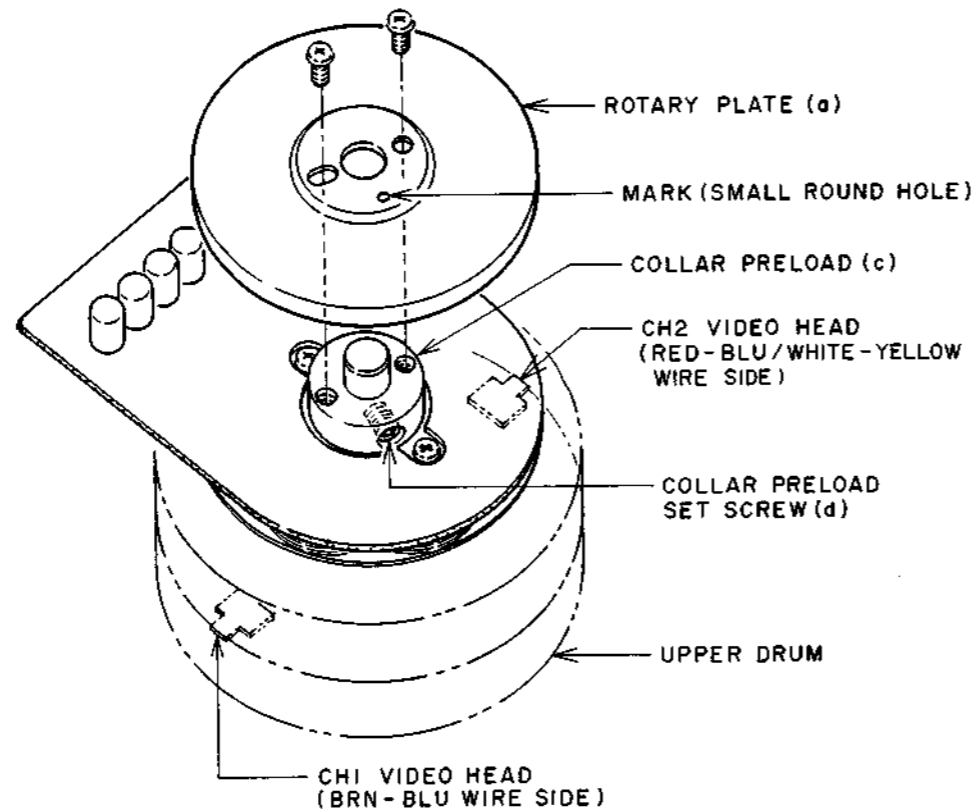


Fig. 8-1 How to Mount the Rotary Plate

## IX. HOW TO ASSEMBLE LOADING MECHANISM

Some of the VS-155E have been manufactured with VS-112E type mechanism. Only VS-155E mechanism is explained here. For VS-112E type mechanism, refer to VS-112E Service Manual.

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

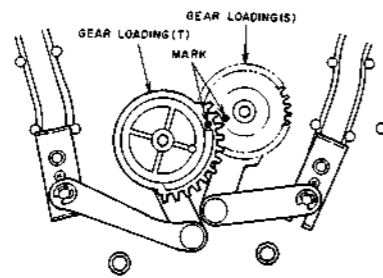


Fig. 9-1

2) Attach Gear Cam Eject to Mecha chassis so that align the marks.

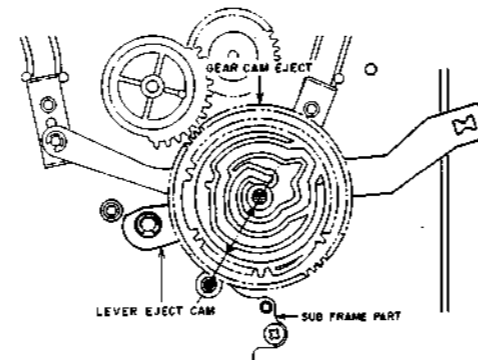


Fig. 9-2

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.

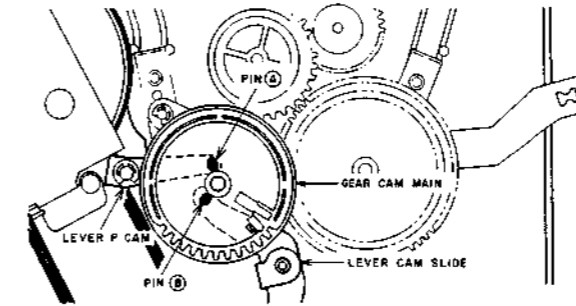


Fig. 9-3

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

5) Attach Lever Cam F/R to Mecha chassis so that Pin (B) goes into valley of Gear Cam Eject, and Pin (C) of Plate F/R Slide (2) Part into hole of lever Cam F/R.

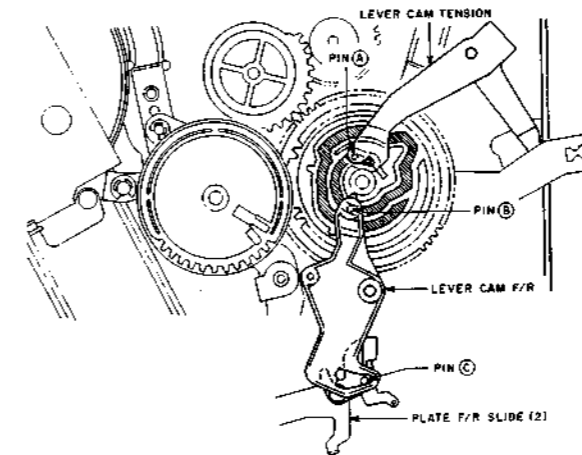


Fig. 9-4

6) Attach Arm Set Free onto Lever Cam Slide.

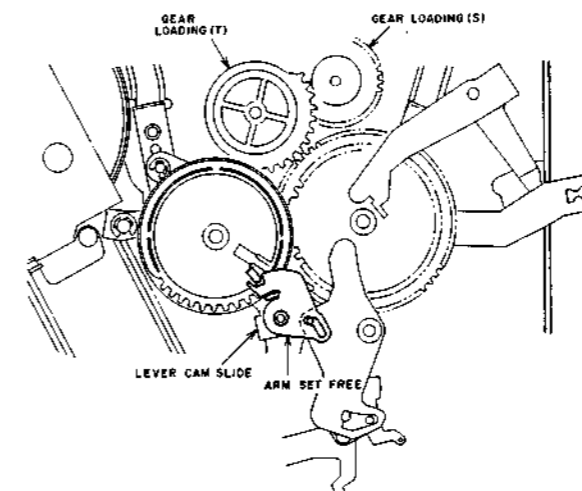


Fig. 9-5

7) 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).

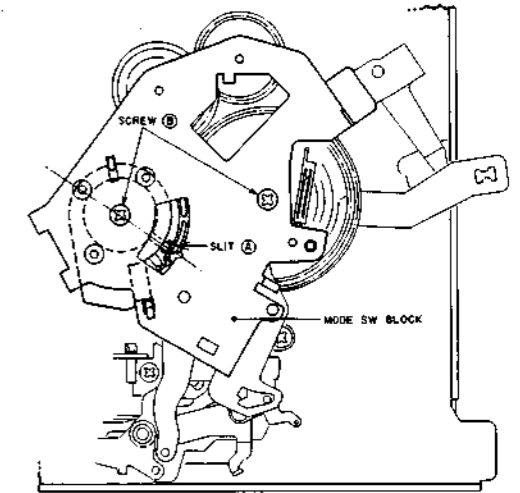


Fig. 9-6

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

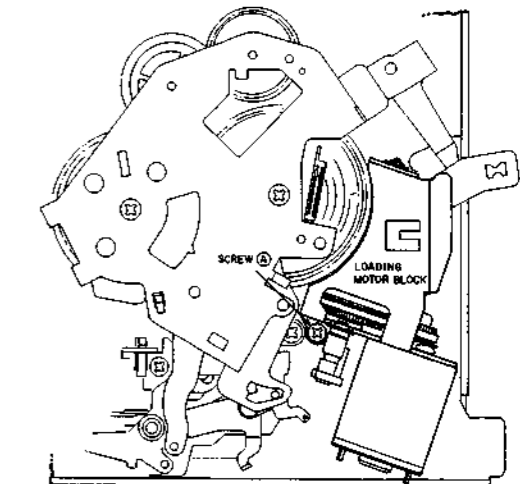


Fig. 9-7

# X. ELECTRICAL ADJUSTMENT

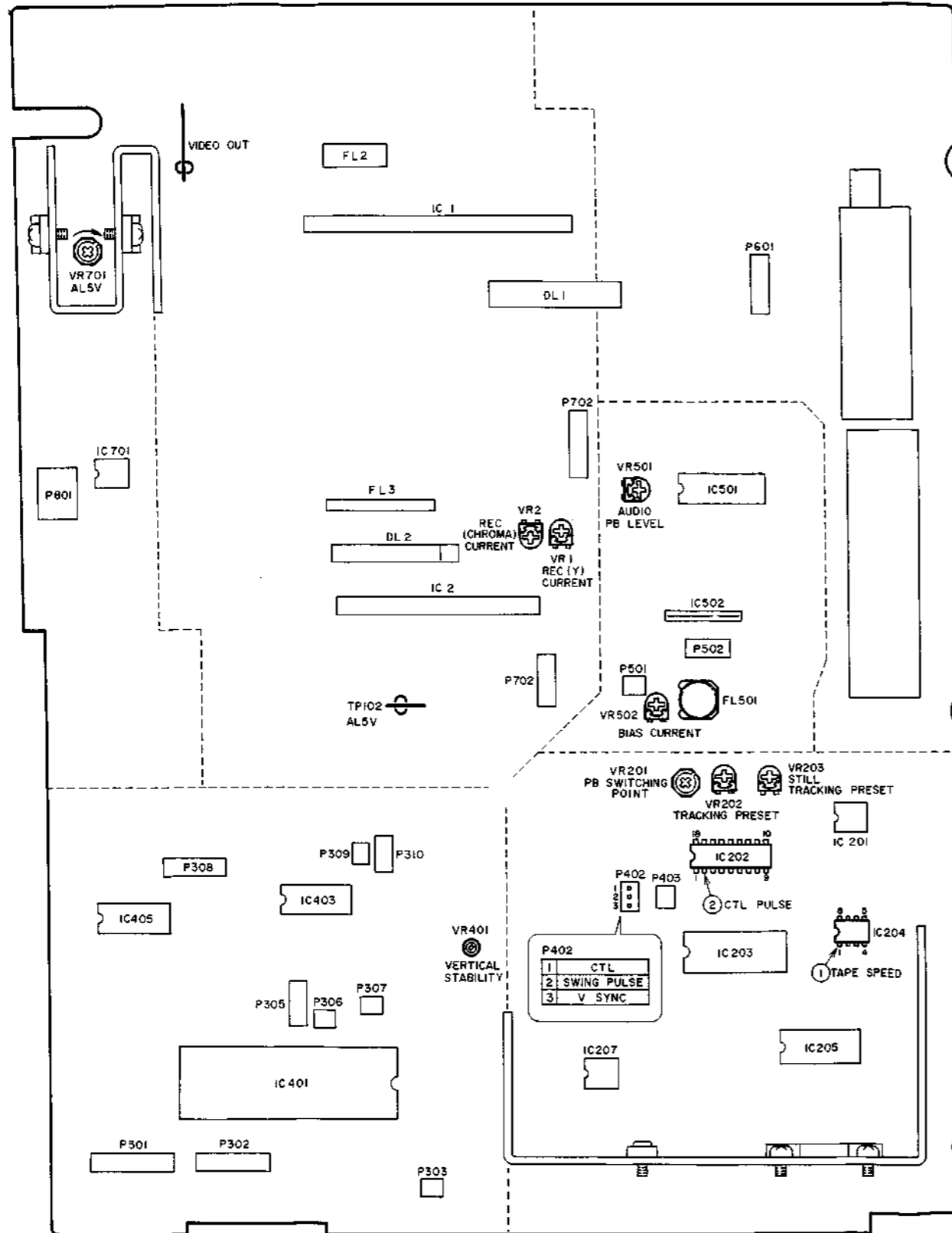


Fig. 10-1 Main PCB

## 10-1. POWER SUPPLY ADJUSTMENT

Step	Adjustment Item	Input Signal or Test Tape	Mode	Test Point	Adjustment Parts	Result & Remarks
1	AL 5V	NONE	E-E	TP102	VR701	5.1 ± 0.2V

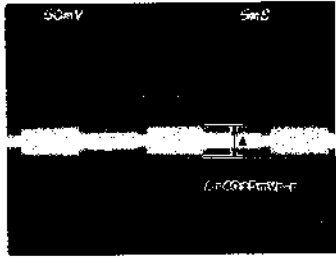
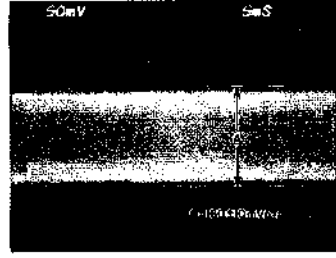
## 10-2. SERVO ADJUSTMENT

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 PRESET	PAL COLOR BAR FROM COLOR BAR GENERATOR	REC PB then PAUSE/STILL	MONITOR TV	VR203	<p>Adjust VR203 only in the unsuccessful case that even after adjusted the STILL TRACKING CONTROL on the Front Panel.</p> <ol style="list-style-type: none"> <li>Set the STILL TRACKING CONTROL on the Front Panel to center click position.</li> <li>Adjust VR203 so that until noise bar of still picture is reduce.</li> </ol>
4	VERTICAL STABILITY	TV PROGRAM	REC PB then PAUSE/STILL	MONITOR TV	VR401	<p>Adjust VR401 so that until still picture vibration is reduce.</p>

### 10-3. VIDEO ADJUSTMENT

Precautionary items prior to adjustments

1. The color bar generator output should be 1.0 Vp-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 <math>40 \pm 5</math> mVp-p as shown above.</p>  <p>3. Adjust VR1 so that the Y REC Current waveform is <math>160 \pm 10</math> mVp-p as shown above.</p>

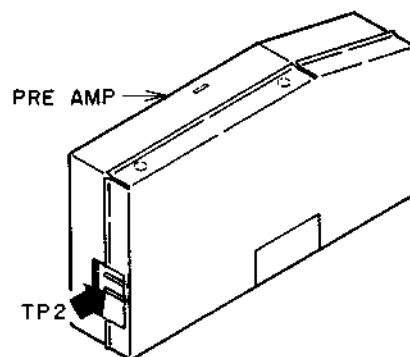


Fig. 10-2

### 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"> <li>1. Depress the Display button to choose a Counter.</li> <li>2. Depress the Counter Reset button.</li> <li>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.</li> </ol>

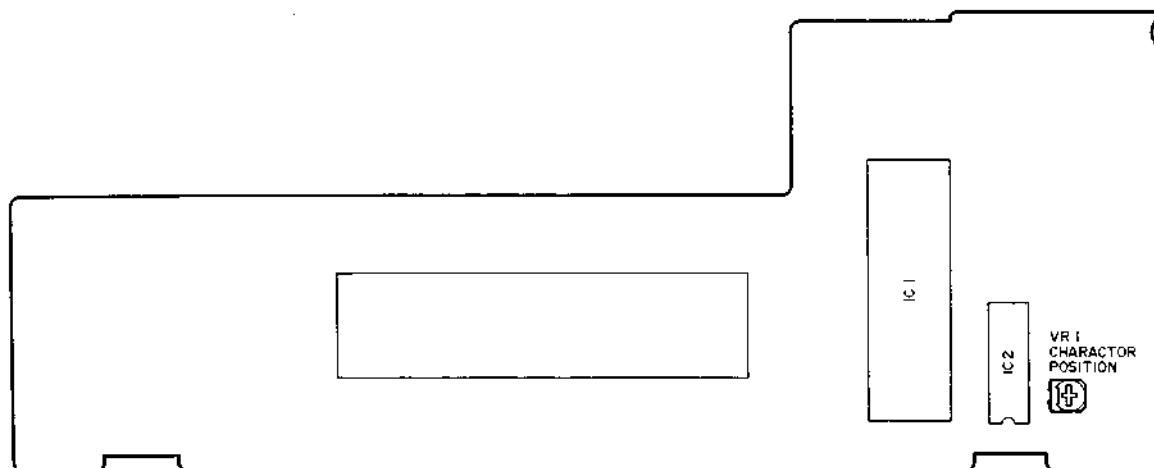


Fig. 10-3

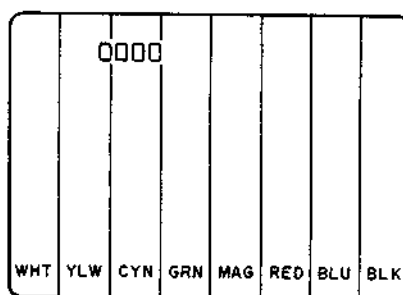


Fig. 10-4

### 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	$-9.0 \pm 0.5$ dBm
2	Tape Speed	PAL Reference Test Tape AT-750775 (TF-508RF)	PB	IC204 ①	Confirmation	$445 \pm 2$ 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, -8dBm 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 $280 \pm 10$ mV (RMS)

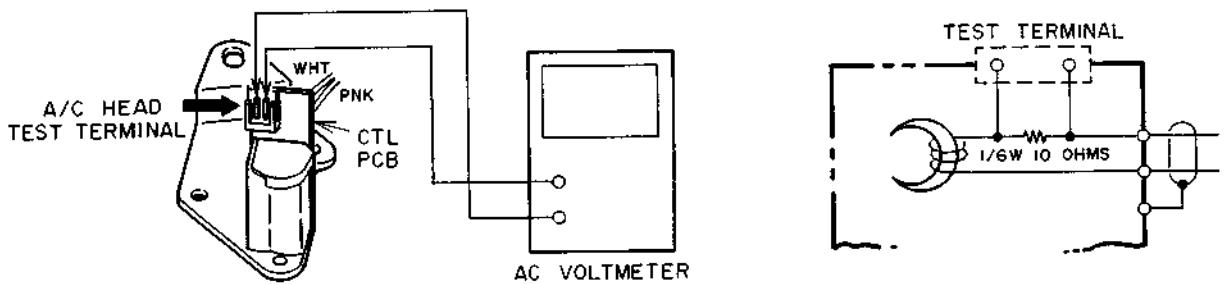


Fig. 10-5

## XI. PC BOARD TITLES AND IDENTIFICATION NUMBERS

PC Board Title		PC Board Number	Remark
MAIN	PC Board	V1047D5010 (2ED)	
OPERATION	PC Board	V1047A5020 (A)	
FUNCTION	PC Board	V1047B5080	
PRE-AMP	PC Board	V1047B5050 (A)	
POWER	PC Board	V1047C5030 (A)	
EVM	PC Board	V1047C5060	EV-M, EK, ES, EG
SUB (3)	PC Board	V1047D5250	EV-M only
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	V1047D5180	

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SECTION 2

**PARTS LIST**

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## 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**

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

NO.	PART NO.	DESCRIPTION
1	BF-B360531	FLYWHEEL CAPSTAN PART
2	BL-B360350	ARM TENSION BAND PART
3	BL-B360342	LEVER TENSION PART
4	BM-361544	CAPSTAN MOTOR MRX PAL
5	BM-B361467	LOADING MOTOR PART
6	BM-M32 23A020A	PC MOTOR BLK SM-230 (DRUM MOTOR)
7	BR-B360517B	SUPPLY REEL PART
8	BR-B360517A	TAKE-UP REEL PART
9	BT-363353	Δ TRANS POWER V47EG [EG]
10	BT-363945	Δ TRANS POWER V47EK [EK,EK(Y1)]
11	BT-363949	Δ TRANS POWER V47ES[ES]
12	BT-363946	Δ TRANS POWER V47EV-M [EV-M]
13	BT-363950	Δ TRANS POWER V47EZ[EZ]
14 N	BV-V10 30A210A	LOWER DRUM BLK VS-603
15	BV-363232	RF CONVERTER BOOSTER EK [EK,EK(Y1),ES]
16	BV-363231	RF CONVERTER BOOSTER EO [EG]
17	BV-363234	RF CONVERTER SW MDLC2D093A EV [EV-M,EZ]
18 N	BV-V10 30A220A	UPPER DRUM BLK VS-603EG
19	ED-363351	Δ D SILICON DSA17C
20	ED-363350	Δ D SILICON S5566B
21	ED-356424	D LED BG5525S GREEN
22	ED-357540	D LED LN59
23	ED-355607	D LED PR 5505S RED
24	ED-705414	D LED SE303A INFRARED
25	ED-360409	D PHOT PN323B
26	ED-718039	D SILICON DAN201
27	ED-357754	D SILICON DS135D 200/1.0A
28	ED-344280	D SILICON H GMA-01-FY2 F05
29	ED-624903	D SILICON H 1S2473
30	ED-362998	D ZENER H HZS9.1J F05 B3
31	ED-313846	D ZENER H HZ16 3
32	ED-329051	D ZENER H HZ24 3 [EV-M]
33	ED-305706	D ZENER H HZ7 B3
34	ED-337266	D ZENER H HZ9 A1
35	ED-346609	D ZENER H HZ9 C1
36	ED-365109	D ZENER H MA1043-H
37 N	EE-364670	TUNING UNIT UBH050027A EA14CH203 [EZ]
38	EE-360405	TUNING UNIT UBH050028A 14CH 203 [EG,EV-M,ES]
39	EE-364472	TUNING UNIT UBH16 12CH 203 [EK,EK(Y1)]
40	EE-345116	TV TUNER TEEB1-013A [EK,EK(Y1)]
41	EE-345115	TV TUNER TEED1-A04A
42	EE-345121	TV TUNER TEEZ1-015A [ES]
43	EE-352284	TV TUNER TEEZ1-020A [EZ]
44	EF-355226	Δ FUSE BET T 1.00A 250V [ED,EK(Y1)]
45	EF-355398	Δ FUSE BET T 2.00A 250V [EK,EK(Y1)]
46	EF-344106	Δ FUSE ICP-N10 150V 0.4A
47	EF-623103	Δ FUSE SEMKO T 1.00A 250V [EG,EZ,ES]
48	EF-601301	Δ FUSE SEMKO T 2.00A 250V [EG,EV-M,EZ,ES]
49	EH-347743	COMP R RKCl/8B4 103J [EG,ES,EV-M]
50	EH-360340	DL EFD-EN645A31P
51	EH-360341	DL EFD-HR124A13D
52	EH-360339	FILTER LC AP AF-25P [EG,EV-M,EZ]
53	EH-364045	FILTER LC FF-78P
54	EH-360337	FILTER LC LP LF-47P

NO.	PART NO.	DESCRIPTION
55	EI-353421	Δ IC BA6229
56	EI-337530	Δ IC μPCS74J
57	EI-360561	IC AN3792
58	EI-360563	IC AN3794
59	EI-360334	IC AW2619
60	EI-356288	IC BA225A
61	EI-360648	IC BA5115
62	EI-360333	IC EHM-M96A8U67K
63	EI-352714	IC HA11752
64	EI-356238	IC LA6324
65	EI-347116	IC LA6358
66	EI-356370	IC LA7224
67	EI-364135	IC MB88501-395M R-OPE3 CUSTOM
68 N	EI-366681	IC MB88521-140M R-SY55 CUSTOM
69	EI-360560	IC MN6178XAL
70	EI-360565	IC M5223P
71	EI-360404	IC M5450-011P
72	EI-360564	IC M54548L
73	EI-360396	IC S-8054HN
74	EI-363347	IC TC9018P
75	EI-358506	IC μPC1513HA
76	EI-749983	IC μPD1943G
77	EI-347991	OSC CE CSA6.00MS 6MHZ
78	EI-749984	OSC CE KBR455BAT
79	EI-356371	OSC X'TAL MS-309 4.194304MHZ
80	EI-364562	OSC X'TAL MX-44 4.433619MHZ
81	EL-363355	PL CORD 12.0V 75MA 200/200
82	EO-360647	COIL OSC 1 MX-102
83	EO-356372	COIL TUN 1 038-332 38KHZ
84	EQ-364207	RELAY SIGNAL G5E-V-H 1TR 5V
85	ER-348272	Δ R FUSE ERD2FC S10 1/4W 12R0G
86	ER-200595	Δ R FUSE ERD2FC S10 1/4W 5R6J
87	ER-362257	Δ R FUSE ERQ-12H F17 1/2W R47K
88	ER-364508	Δ R FUSE ERQ-12H F17 1/2W R56K
89	ER-365157	Δ R FUSE H F10 ERQ-14LE 1/4W R43K
90	ER-353878	Δ R OMF H S15 FS 1W 2R2J
91	ES-354430	Δ SW SLIDE 00220950 02-02-2N [EG,EK,EK(Y1),EV-M,ES]
92	ES-360433	SW LEAF MRX
93	ES-361479	SW LEAF MSW-1594C
94	ES-353622	SW PUSH EVQ-WU7001 02-2
95	ES-360408	SW SLIDE ESD-14187 1-01-02N
96	ES-349474	SW TACT SKHHAM004A
97	ET-360646	Δ TR DTA143ES F05
98	ET-349882	Δ TR 2SA1283 D,E F05
99	ET-356224	Δ TR 2SA1286 G,H,J F05
100	ET-322598	Δ TR 2SB632K E,F
101	ET-363359	Δ TR 2SD1406 GR
102	ET-361463	PHOT SENSOR ON2170 Q,R
103	ET-363953	TR DTA114TS
104	ET-354415	TR DTA144ES
105	ET-353897	TR DTC114ES
106	ET-360399	TR DTC114TS
107	ET-354365	TR DTC114YS
108	ET-354371	TR DTC124ES
109	ET-364060	TR DTC143ES
110	ET-354414	TR DTC144ES
111	ET-356236	TR FET 2SK363 GR.BL
112	ET-361490	TR PHOT PN268 R,S
113	ET-360401	TR UN4116
114	ET-364040	TR UN421D
115	ET-360400	TR UN4210
116	ET-361729	TR UN4217
117	ET-308472	TR 2SA1115 E,F,G F05
118	ET-321644	TR 2SC1213 C
119	ET-308141	TR 2SC2603 G F05
120	ET-355669	TR 2SC3246 G,H,J F05
121	ET-364153	TR 2SC3246 J,K F05
122	ET-361736	TR 2SC3576
123	ET-347961	TR 2SD1012-V G F05
124	ET-718040	TR 2SD1468
125	EV-363511	R S-FIX EVTK-4CA00BQ4 3P 473

NO.	PART NO.	DESCRIPTION
126	EV-356322	R S-FIX H KVSF637A 3P 502
127	EV-356575	R S-FIX H RH0615CJ3J 3P 222
128	EV-356582	R S-FIX H RH0615CS4J 3P 473
129	EV-358862	R S-FIX H RH0615CS5J 3P 474
130	EV-356579	R S-FIX H RH0615C13J 3P 102
131	EV-356577	R S-FIX H RH0615C14J 3P 103
132	EV-366437	R S-FIX H VM6CKPV31S 3P 0.3W 102
133	EV-366436	R S-FIX H VM6CKPV31S 3P 0.3W 104
134	EV-360410	VR ROTARY K091C0G0C 103
135	EV-360569	VR ROTARY K091C0G0C 104
136	EX-361672	DEW SENSOR (HEATER) MRX
137	EZ-362247	Δ CIRCUIT PROTECTOR TBC6211-21-0442 [EV-M]
138	HE-361456	HEAD E HVFMD0005A
139	HR-361454	HEAD COMBO HVMLA1004C
140	MB-360534	BELT IDLER
141	MB-360533	BELT PAL
142	MB-364011	BELT SYNC NB930N15-020T
143	MP-361543	PINCH ROLLER PART
144	MR-364010	PULLEY WORM
145	MZ-361314	GEAR (1)
146	MZ-360640	GEAR (2)
147	MZ-361313	GEAR (3)
148	MZ-360639	GEAR (4)
149	MZ-360638	GEAR (5)
150 N	MZ-364677	GEAR CAM EJECT (2)
151 N	MZ-364676	GEAR CAM MAIN (2)
152	MZ-B360642	GEAR EJECT PART
153	MZ-360384	GEAR LOADING (S)
154	MZ-360385	GEAR LOADING (T)
155 N	MZ-366960	GEAR TU BLK(2)
156	MZ-360453	WORM GEAR
157	VT-363354	ROTARY ENCODER D2ZQ-R9
158	VT-360148	VERTICAL POLE PART

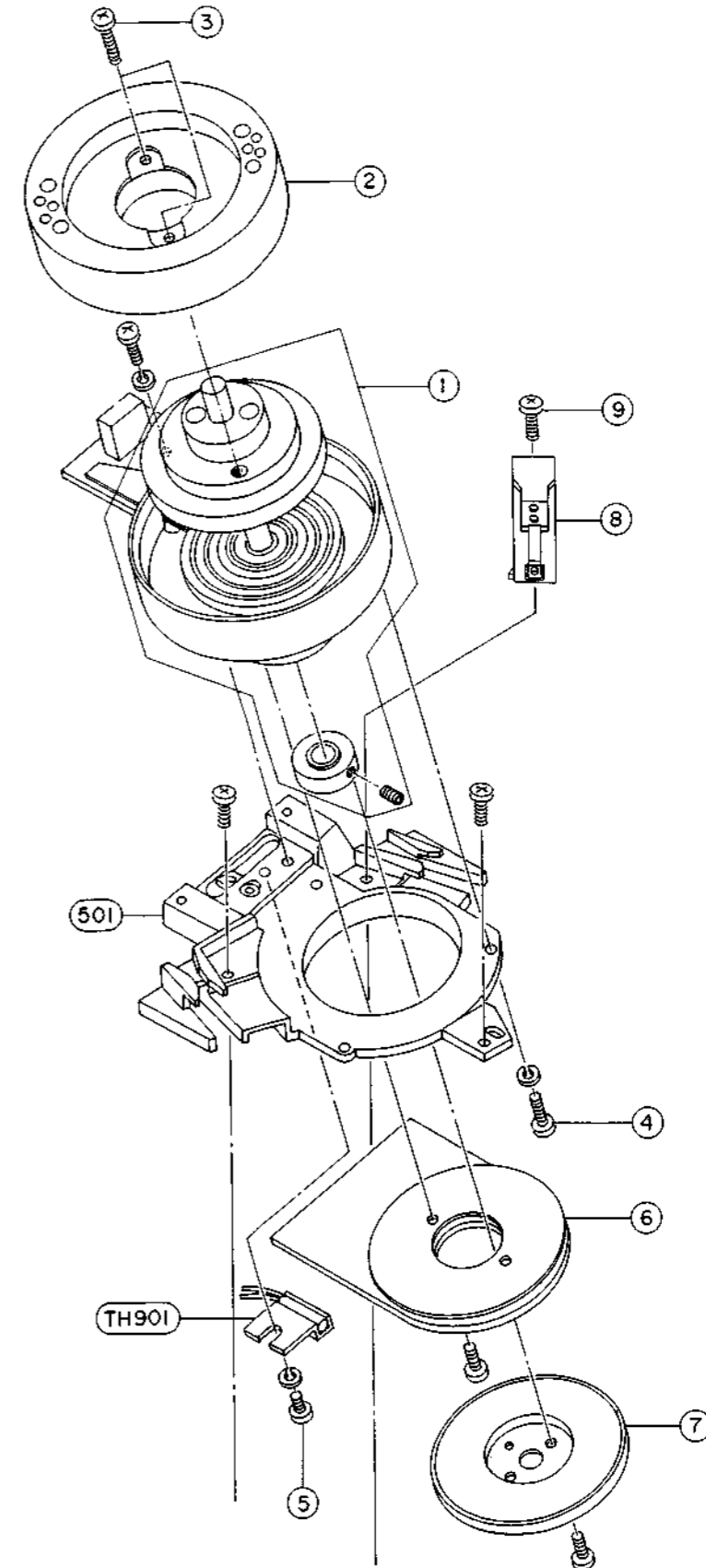
“NOTE” N: New Part

### 1. HEAD DRUM BLOCK

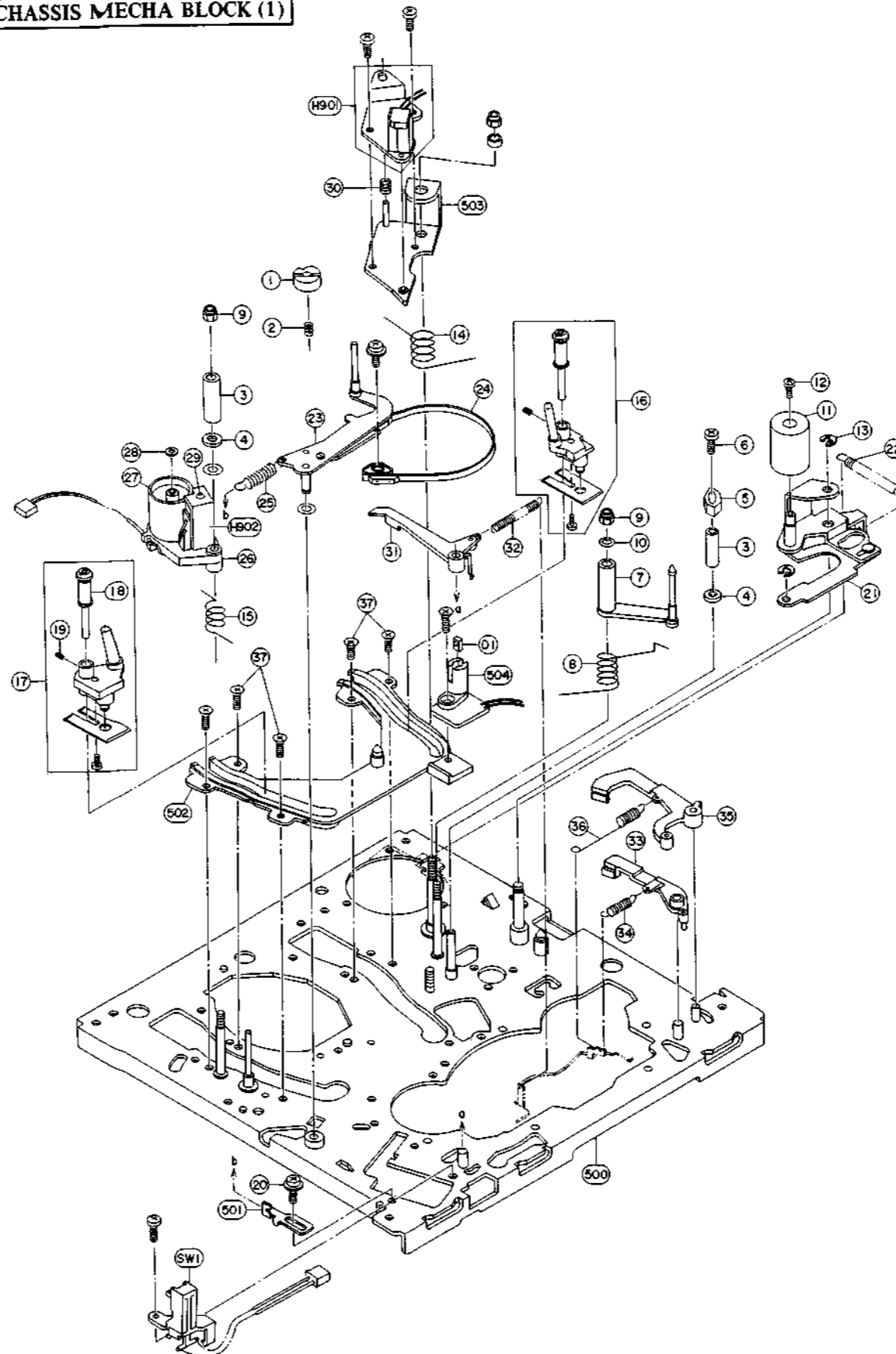
REF. NO.	PART NO.	DESCRIPTION
<b>HEAD DRUM BLOCK</b>		
1-1	BV-V1030A210A	LOWER DRUM BLK VS-603
1-2	BV-V1030A220A	UPPER DRUM BLK VS-603EG
1-3	ZS-36224-1	BID30x09STL CMT [UPPER DRUM FIX]
1-4	ZS-354332	PAN26x08STL CMT SW [LOWER DRUM FIX]
1-5	ZS-432843	PAN26x04STL CMT
1-TH901	EX-361672	DEW SENSOR (HEATER) MRX
<b>MOTOR SM-230 BLOCK</b>		
1-6	BM-M3223A020A	PC MOTOR BLK SM-230 [DRUM MOTOR]
1-7	BV-B362443	YOKE MAGNET (2) PART
<b>ASSEMBLY BLOCK</b>		
1-8	VT-361452	DRUM EARTH SP ASSY (A)
1-9	ZS-421806	PAN30x08STL CMT

NOTE: The parts reference numbered here except the ones in 500's are normally stocked for replacement purpose. The rest of the parts shown in this manual are not stocked since they are seldom required for routine service.

### HEAD DRUM BLOCK



**CHASSIS MECHA BLOCK (1)**



**2. CHASSIS MECHA BLOCK (1)**

REF. NO.	PART NO.	DESCRIPTION
<b>CHASSIS MECHA BLOCK</b>		
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-350839	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-328607	SCREW TRIPLE PAN30x05
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 HVMLA1004C
2-H902	HE-361456	HEAD E HVF MD0005A
2-SW1	ES-360433	SW LEAF MRX
2-D1	ED-357540	D LED LN59

NOTE: The parts reference numbered here except the ones in 500's are normally stocked for replacement purpose. The rest of the parts shown in this manual are not stocked since they are seldom required for routine service.

Some of VS-155E have been manufactured with VS-112E type mechanism. For VS-112E type mechanism, refer to CHASSIS MECHA BLOCK (1), (2) in VS-112E Service Manual.

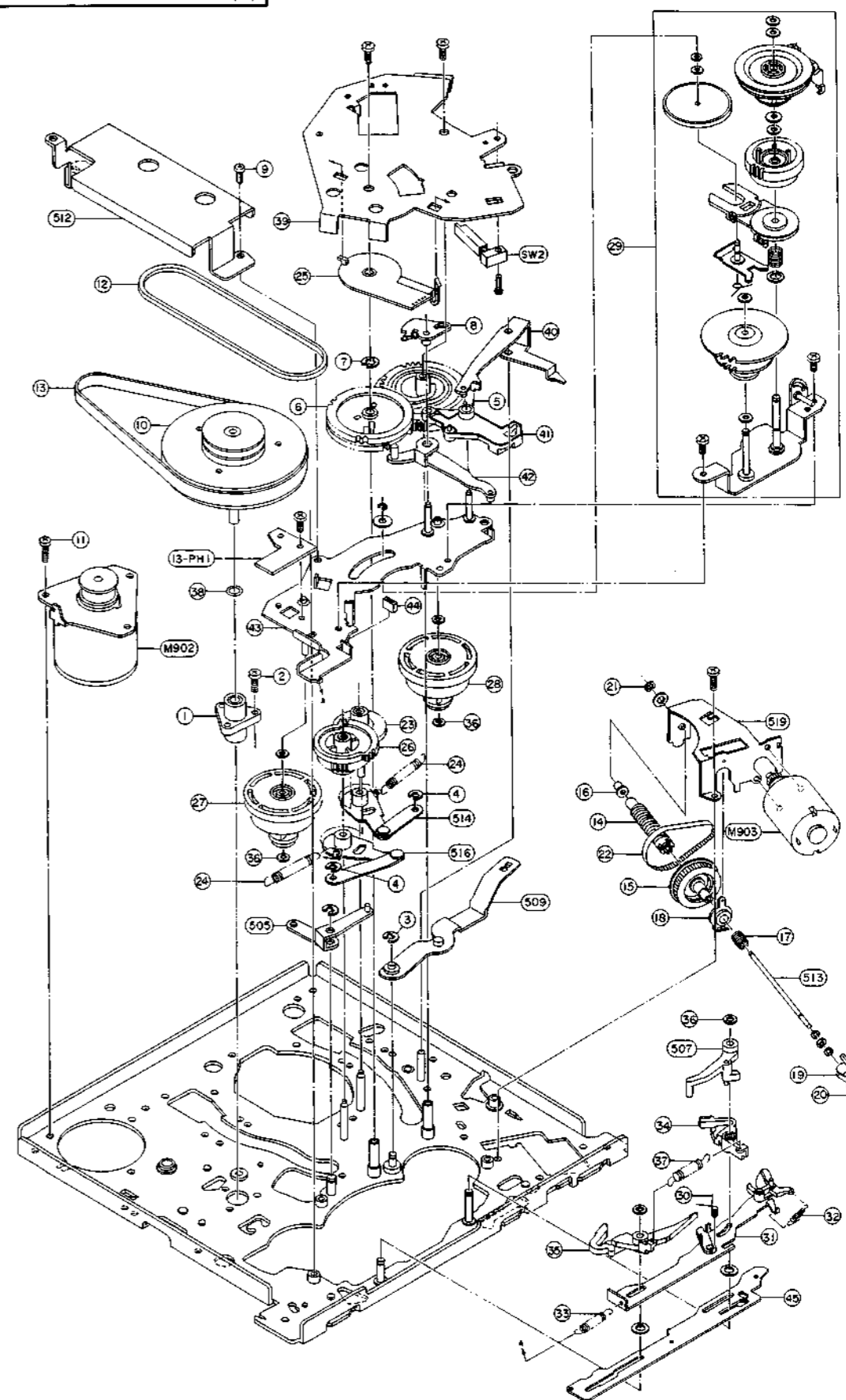
### 3. CHASSIS MECHA BLOCK (2)

REF. NO.	PART NO.	DESCRIPTION
<b>CHASSIS MECHA BLOCK</b>		
3-1	MZ-B360528	HOLDER CAPSTAN PART
3-2	ZS-379350	PAN30x06STL CMT
3-3	ZW-410051	RING E250SUP CMT
3-4	ZW-357164	RING E 230SUP CMT
3-5	MZ-364677	GEAR CAM EJECT (2)
3-6	MZ-364676	GEAR CAM MAIN (2)
3-7	ZW-270101	RING E 300SUP CMT
3-8	ML-366736	ARM SET FREE (2)
3-9	ZS-422076	PAN30x05STL CMT
3-10	BF-B360531	FLYWHEEL CAPSTAN PART
3-11	ZS-422076	PAN30x05STL CMT
3-12	MB-360534	BELT IDLER
3-13	MB-360533	BELT PAL
3-14	MZ-360453	WORM GEAR
3-15	MR-364010	PULLEY WORM
3-16	ZW-360479	WASHER THRUST
3-17	ZG-360441	SP TORSION ONE WAY
3-18	MZ-360440	HOLDER PULLEY WORM
3-19	MR-360432	PULLEY TRIGGER
3-20	ZW-361458	PUSH WASHER 16x032x025PSL
3-21	ZW-356657	RING E150SUP CMT
3-22	MB-364011	BELT SYNC NB930N15-020T
3-23	MZ-360384	GEAR LOADING (S)
3-24	ZG-360601	SP PULL LOADING
3-25	VT-363354	ROTARY ENCODER D2ZQ-R9
3-26	MZ-360385	GEAR LOADING (T)
3-27	BR-B360517A	TAKE-UP REEL PART
3-28	BR-B360517B	SUPPLY REEL PART
3-29	MZ-366960	GEAR TU BLK(2)
3-30	ZG-360438	SP TORSION LIFTER
3-31	MZ-B366734	PLATE F/R SLIDE (2) PART
3-32	ZG-358276	SP T6-03.2/0.20-12.5 T6-041
3-33	ZG-350891	SP T2-04.0/0.40-22.4 T2-114
3-34	ML-B360519	ARM (S) MAIN BRAKE PART
3-35	ML-B360520	ARM (TU) MAIN BRAKE PART
3-36	ZW-360541	WASHER POLY SLIDER (3)
3-37	ZG-358167	SP T5-04.0/0.40-50.0 T5-121
3-38	ZW-360539	STOPPER OIL
3-39	MZ-360477	PLATE MODE SW
3-40	ML-B366735	LEVER CAM TENSION (2) PART
3-41	ML-B366615	LEVER CAM F/R PART
3-42	ML-B360460	LEVER CAM SLIDE PART
3-43	MZ-B360425	SUB FRAME PART
3-44	MB-366733	STOPPER SLIDE (2)
3-45	ML-366738	PLATE MAIN SLIDE (2)
3-M902	BM-361544	CAPSTAN MOTOR MRX PAL
3-M903	BM-B361467	LOADING MOTOR PART
3-SW2	ES-361479	SW LEAF MSW-1594C
<b>SENSOR REEL PC BOARD</b>		
13-PH1	ET-361463	PHOT SENSOR ON2170 Q,R

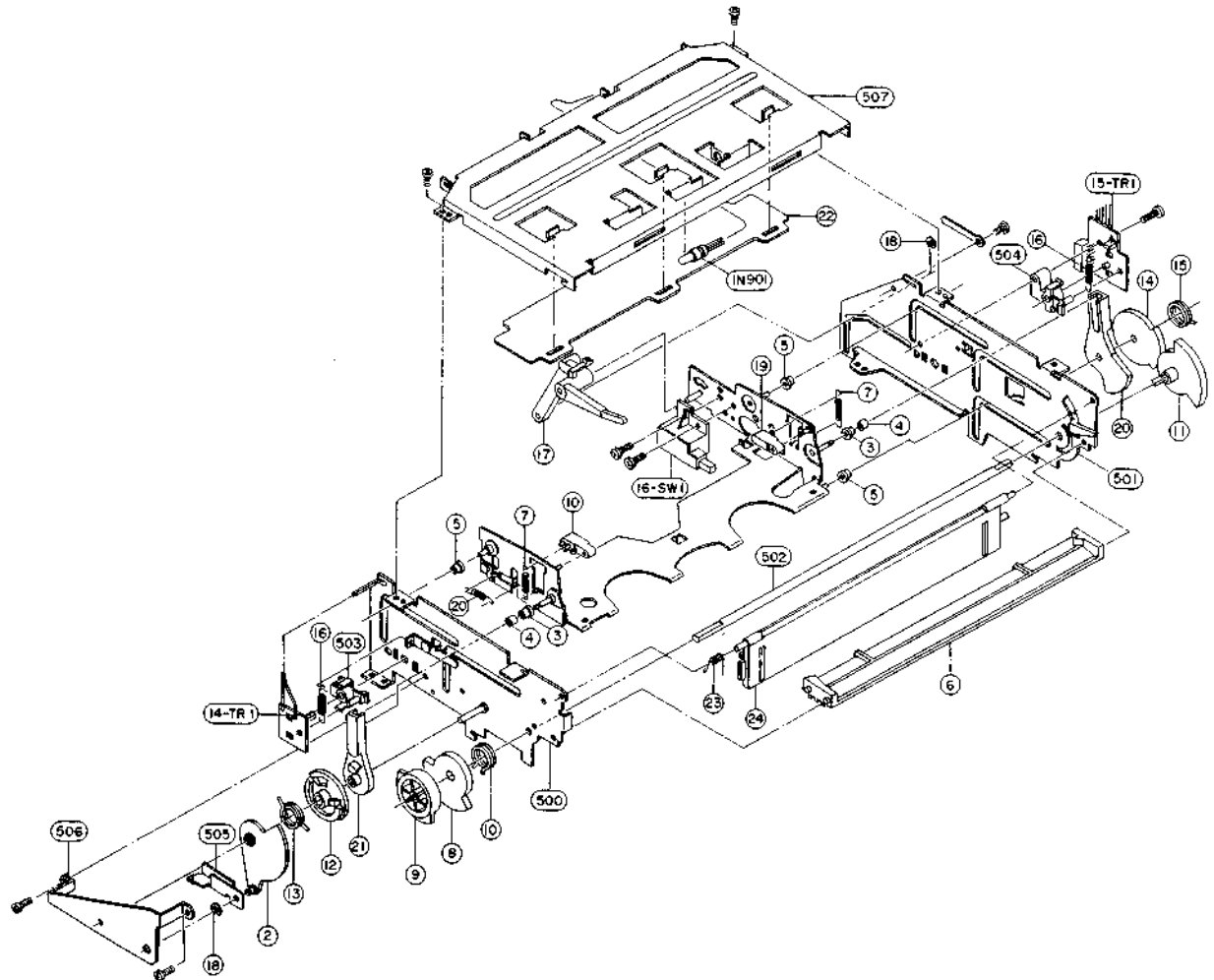
NOTE: The parts reference numbered here except the ones in 500's are normally stocked for replacement purpose. The rest of the parts shown in this manual are not stocked since they are seldom required for routine service.

Some of VS-155E have been manufactured with VS-112E type mechanism. For VS-112E type mechanism, refer to CHASSIS MECHA BLOCK (1), (2) in VS-112E Service Manual.

### CHASSIS MECHA BLOCK (2)



# EJECTOR BLOCK



## 4. EJECTOR BLOCK

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
	<b>EJECTOR BLOCK</b>			<b>SENSOR (R) PC BOARD</b>	
4-1	BV-V1047A250A	EJECTOR BLK VS-112EG	15-TR1	ET-361490	TR PHOT PN268 R,S
4-2	MZ-B360642	GEAR EJECT PART		<b>SWITCH (EJ) PC BOARD</b>	
4-3	MR-361310	ROLLER (1)	16-SW1	ES-353622	SW PUSH EVQ-WU7001 02-2
4-4	MR-361311	ROLLER (2)		<b>ASSEMBLY BLOCK</b>	
4-5	MR-361312	ROLLER (3)	4-22	SP-364666	PLATE MIRROR (2)
4-6	SZ-360607	GUIDE	4-23	ZG-360616	SP TORSION
4-7	ZG-357865	SP T5-04.0/0.40-11.2 T5-108	4-24	SE-361317	MASK CASSETTE
4-8	MZ-361314	GEAR (1)		<b>NOTE: EJECTOR BLOCK includes 4-2 to 4-IN901 and 14-TR1, 15-TR1, 16-SW1.</b>	
4-9	MZ-361313	GEAR (3)		<b>NOTE: The parts reference numbered here except the ones in 500's are normally stocked for replacement purpose. The rest of the parts shown in this manual are not stocked since they are seldom required for routine service.</b>	
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			
	<b>SENSOR (L) PC BOARD</b>				
14-TR1	ET-361490	TR PHOT PN268 R,S			

## 5. PC BOARD BLOCK

REF. NO.	PART NO.	DESCRIPTION
5-1A	BA-V1047C300A	PC MAIN BLK VS-155EG [EG]
5-1B	BA-V1047C300B	PC MAIN BLK VS-155EK [EK,EK(Y1)]
5-1D	BA-V1047C300D	PC MAIN BLK VS-155EV-M [EV-M]
5-1E	BA-V1047C300E	PC MAIN BLK VS-155EZ [EZ]
5-1F	BA-V1047C300F	PC MAIN BLK VS-155ES [ES]
5-2A	BA-V1047C330A	PC OPERATION BLK VS-155EG [EG,ES]
5-2B	BA-V1047C330B	PC OPERATION BLK VS-155EK [EK,EK(Y1)]
5-2C	BA-V1047C330C	PC OPERATION BLK VS-155EA [EZ]
5-2D	BA-V1047C330D	PC OPERATION BLK VS-155EV-M [EV-M]
5-3	BA-V1047A400D	PC PRE AMP BLK VS-155EG

NOTE: PC MAIN BLK includes MAIN PC BOARD and VIF BLOCK.

## 6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
<b>MAIN PC BOARD</b>		
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-IC207	EI-356288	IC BA225A
6-IC401	EI-366681	IC MB88521-140M R-SYS5 CUSTOM
6-IC402	EI-353421	Δ 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 μPC1513HA
6-IC601	EI-337530	Δ IC μPC574J
6-IC701	EI-347116	IC LA6358
6-TR1to3	ET-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]
6-TR27	ET-354415	TR DTA144ES
6-TR28	ET-354414	TR DTC144ES
6-TR29,30	ET-353897	TR DTC114ES [EG,EV-M]
6-TR31	ET-308141	TR 2SC2603 G F05
6-TR32	ET-361729	TR UN4217
6-TR38	ET-354414	TR DTC144ES
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	Δ TR 2SB632K E,F

REF. NO.	PART NO.	DESCRIPTION
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-TR210	ET-354414	TR DTC144ES
6-TR211	ET-360399	TR DTC114TS
6-TR212,213	ET-308472	TR 2SA1115 E,F,G F05
6-TR214,215	ET-353897	TR DTC114ES
6-TR216	ET-308141	TR 2SC2603 G F05
6-TR401	ET-354371	TR DTC124ES
6-TR402	ET-355669	TR 2SC246 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 2SA1115 E,F,G F05
6-TR416to418	ET-308472	TR 2SA1115 E,F,G F05
6-TR501	ET-308141	TR 2SC2603 G F05
6-TR502	ET-354414	TR DTC144ES
6-TR503	ET-360646	Δ TR DTA143ES F05
6-TR601,602	ET-308141	TR 2SC2603 G F05
6-TR603	ET-356224	Δ TR 2SA1286 G,H,J F05
6-TR604	ET-321644	TR 2SC1213 C
6-TR605to607	ET-308472	TR 2SA1115 E,F,G F05 [EG,EV-M,EZ,ES]
6-TR608,609	ET-349882	Δ TR 2SA1283 D,E F05 Q
6-TR611	ET-308141	TR 2SC2603 G F05
6-TR612	ET-356236	TR FET 2SK363 GR. BL
6-TR613	ET-356224	Δ TR 2SA1286 G,H,J F05 [EV-M,EZ,ES]
6-TR701,702	ET-363359	Δ TR 2SD1406 GR
6-TR703	ET-356224	Δ TR 2SA1286 G,H,J F05
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]
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-D210to212	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-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	ED-344280	D SILICON H GMA-01-FY2 F05 [EG,EV-M,EZ,ES]
6-D605,606	ED-344280	D SILICON H GMA-01-FY2 F05
6-D608	ED-337266	D ZENER H HZ9 A1 [EV-M,EZ,ES]
6-D609,610	ED-344280	D SILICON H GMA-01-FY2 F05 [EG,EV-M,EZ,ES]
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-356578	R S-FIX H RH0615C13J 3P 222
6-VR201	EV-366436	R S-FIX H VM6CKPV31S 3P 0.3W 104
6-VR202	EV-356582	R S-FIX H RH0615CS4J 3P 473
6-VR203	EV-358862	R S-FIX H RH0615CS5J 3P 474
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-366437	R S-FIX H VM6CKPV31S 3P 0.3W 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,EV-M,EZ]
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

REF. NO.	PART NO.	DESCRIPTION
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-353901	COIL FIX 1 LAL02 F05 560K [EG,EV-M]
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]
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-X1	EI-364562	OSC X'TAL MX-44 4.433619MHZ
6-X401	EI-347991	OSC CE CSA6.00MS 6MHZ
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
6-R231	ER-360559	Δ R FUSE RF50S F12 1/2W 1R0J
6-R463	ER-353878	Δ 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]
6-1B	EJ-363367	JACK PLARE VIDEO B-1 [EK,EK(Y1),ES]
6-1C	EJ-363369	JACK PLATE VIDEO A-1 [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]
6-3B	BV-363232	RF CONVERTER BOOSTER EK [EK,EK(Y1),ES]
6-3D	BV-363234	RF CONVERTER SW MDLC2D093A EV [EZ,EV-M]
6-4	ZS-363459	PLX BR26x06STL CMT [RF CONVERTER FIX]
6-5A	BV-V1047A900A	VIF BLK VS-112EG [EG,EV-M]
6-5B	BV-V1047A900B	VIF BLK VS-112EK [EK,EK(Y1)]
6-5D	BV-V1047A900E	VIF BLK VS-112EZ [EZ]
6-5E	BV-V1047A900F	VIF BLK VS-112ES [ES]
6-6	EZ-200473	SILICON RUBBER SHEET TC-30
SUB(3) PC BOARD (EV-M only)		
6-TR419	ET-363359	TR 2SD1406 GR [EV-M]
6-TR420	ET-308141	TR 2SC2603 G F05 [EV-M]
6-D409	ED-329051	D ZENER H HZ24 3 [EV-M]

## 7. OPERATION PC BOARD

REF. NO.	PART NO.	DESCRIPTION
7-IC1	EI-364135	IC MB88501-395M R-OPE3 CUSTOM
7-IC2	EI-360404	IC M5450-011P
7-TR1to13	ET-308141	TR 2SC2603 G F05
7-TR14	ET-364060	TR DTC143ES
7-TR15	ET-308141	TR 2SC2603 G F05
7-D1,2	ED-356424	D LED BG5525S GREEN [EG,EV-M,EZ,ES]
7-D3to14	ED-356424	D LED BG5525S GREEN
7-D15to18	ED-624903	D SILICON H 1S2473 [EG,EV-M,EZ,ES]
7-D19to42	ED-624903	D SILICON H 1S2473
7-D50	ED-355607	D LED PR 5505S RED
7-D52	ED-355607	D LED PR 5505S RED [EV-M,EZ]
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-D65	ED-624903	D SILICON H 1S2473 [EZ]
7-D66	ED-624903	D SILICON H 1S2473 [EK,EK(Y1)]
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 [EV-M,EZ]
7-SW4to22	ES-349474	SW TACT SKHHAM004A
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-360405	TUNING UNIT UBH050028A 14CH 203 [EG,EV-M,ES]
7-PM1B	EE-364472	TUNING UNIT UBH16 12CH 203 [EK,EK(Y1)]
7-PM1C	EE-364670	TUNING UNIT UBH050027A EA14CH203 [EZ]

## 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 SKHHAM004A
8-VR1	EV-360410	VR ROTARY K091C0G0C 103
8-VR2	EV-360569	VR ROTARY K091C0G0C 104
8-VR3	EV-363358	VR ROTARY K091C0G0C 504
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-TR5	ET-361736	TR 2SC3576
9-D1	ED-344280	D SILICON H GMA-01-FY2 F05
9-L1	EO-357508	COIL FIX 1 LAL02 F05 151K
9-L2	EO-353902	COIL FIX 1 LAL02 F05 680K
9-L3,4	EO-330252	COIL FIX 1 EL0606SKI 101K
9-RL1	EQ-364207	RELAY SIGNAL G5E-V-H 1TR 5V

## 10. VIF BLOCK

REF. NO.	PART NO.	DESCRIPTION
	<b>TUNER UNIT</b>	
10-1A	EE-345115	TV TUNER TEED1-A04A [EG,EV-M]
10-1B	EE-345116	TV TUNER TEEB1-013A [EK,EK(Y1)]
10-1D	EE-352284	TV TUNER TEEZ1-020A [EZ]
10-1E	EE-345121	TV TUNER TEEZ1-015A [ES]

## 11. POWER SUPPLY PC BOARD

REF. NO.	PART NO.	DESCRIPTION
11-TR1	ET-364153	TR 2SC3246 J,K F05
11-D1,2	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
11-T901A	BT-363353	Δ TRANS POWER V47EG [EG]
11-T901B	BT-363945	Δ TRANS POWER V47EK [EK,EK(Y1)]
11-T901D	BT-363946	Δ TRANS POWER V47EV-M [EV-M]
11-T901E	BT-363950	Δ TRANS POWER V47EZ [EZ]
11-T901F	BT-363949	Δ TRANS POWER V47ES [ES]
11-F1A	EF-623103	Δ FUSE SEMKO T 1.00A 250V [EG,EZ,ES]
11-F2A	EF-601301	Δ FUSE SEMKO T 2.00A 250V [EG,EV-M,EZ,ES]
11-F1B	EF-355226	Δ FUSE BET T 1.00A 250V [EK,EK(Y1)]
11-F2B	EF-355398	Δ FUSE BET T 2.00A 250V [EK,EK(Y1)]

## 12. EVM PC BOARD

REF. NO.	PART NO.	DESCRIPTION
12-SW901	ES-354430	Δ SW SLIDE 00220950 02-02-2N [EG,EK,EV-M,ES]
12-SF1	EZ-362247	Δ CIRCUIT PROTECTOR TBC6211-21-0442 [EV-M]

## 13. SENSOR REEL PC BOARD

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

## 14. SENSOR (L) PC BOARD

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

## 15. SENSOR (R) PC BOARD

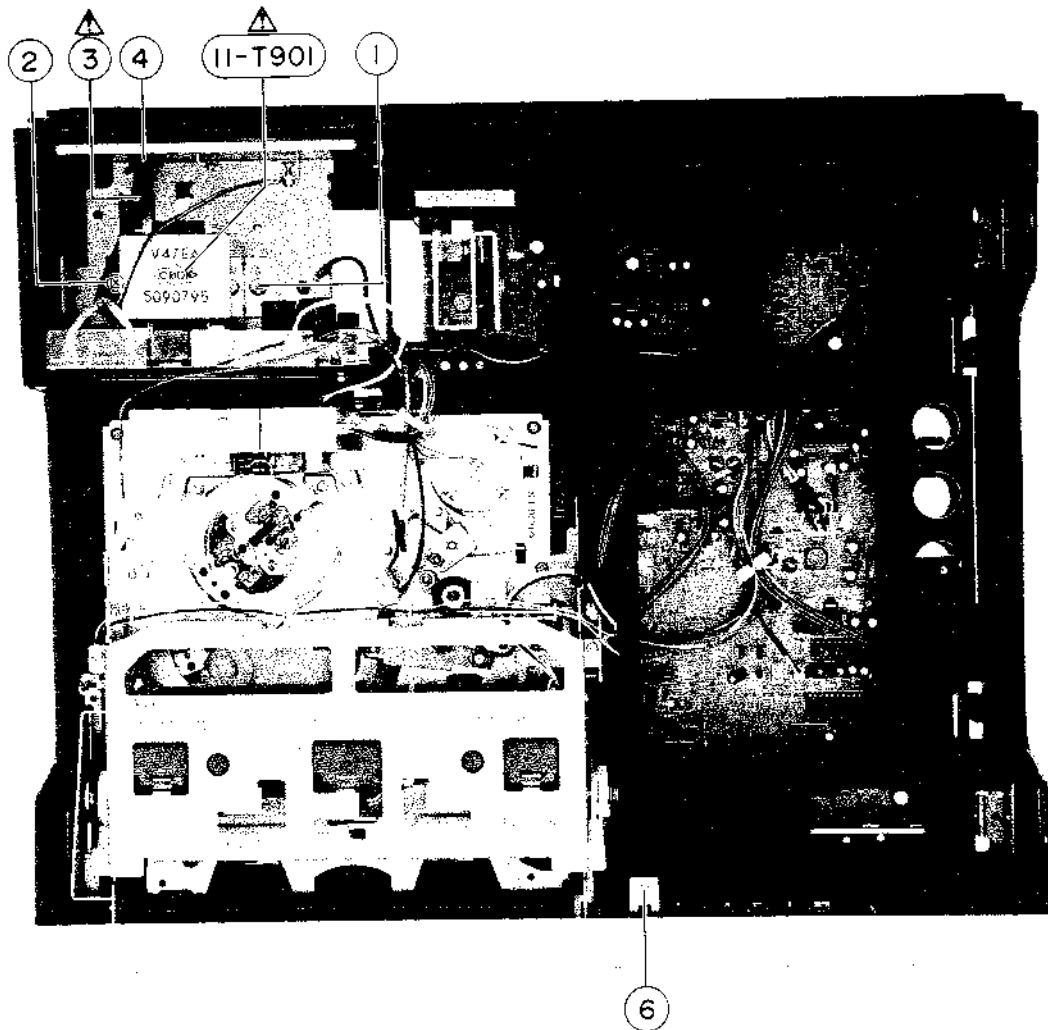
REF. NO.	PART NO.	DESCRIPTION
15-TR1	ET-361490	TR PHOT PN268 R,S

## 16. SWITCH (EJ) PC BOARD

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



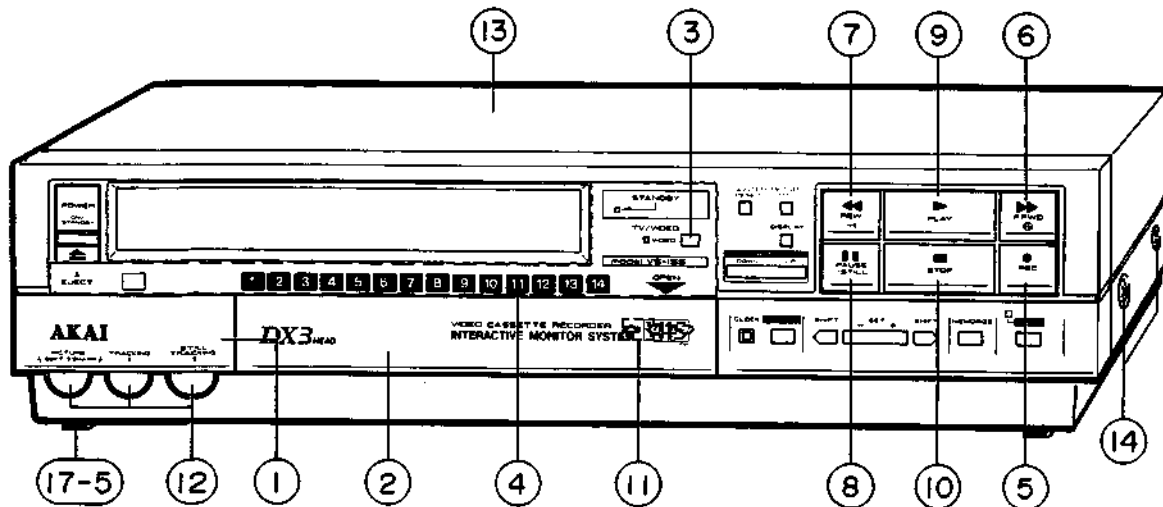
## ASSEMBLY BLOCK



## 17. ASSEMBLY BLOCK

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
	<b>ASSEMBLY BLOCK</b>				
17-1	ZS-357936	DELL TIGHT BID40x08 STL N13 [TRANS POWER FIX]	17-5x	SA-353927B	FOOT (2)
17-2	ZS-363912	PLX BR40x10STL CMT [TRANS POWER FIX]	17-6	ZS-357946	PLX PAN30x10STL CMT C080 [PANEL FRONT FIX]
17-3A	EW-364043	△ AC CORD 2 CORES KP419C, LTCE2F-CB EV [EG,EV-M,ES]	11-T901A	BT-363353	△ TRANS POWER V47EG [EG]
17-3B	EW-364044	△ AC CORD 2 CORES NRBS, LC2x0.75-CB B [EK,EK(Y1)]	11-T901B	BT-363945	△ TRANS POWER V47EK [EK,EK(Y1)]
17-3C	EW-364428	△ AC CORD 3 CORES VM-0418, 3x0.75 S [EZ]	11-T901D	BT-363946	△ TRANS POWER V47EV-M [EV-M]
17-4	EZ-692908	STRAIN RELIEF SR-5N-4 [EZ]	11-T901E	BT-363950	△ TRANS POWER V47EZ [EZ]
			11-T901F	BT-363949	△ TRANS POWER V47ES [ES]

## FINAL ASSEMBLY BLOCK



### 18. FINAL ASSEMBLY BLOCK

REF. NO.	PART NO.	DESCRIPTION
<b>PANEL FRONT BLOCK</b>		
18-1A	BD-V1047C130A	PANEL FRONT BLK VS-155EG [EG]
18-1B	BD-V1047C130B	PANEL FRONT BLK VS-155EK [EK,EK(Y1)]
18-1D	BD-V1047C130F	PANEL FRONT BLK VS-155EV-M [EV-M]
18-1E	BD-V1047C130G	PANEL FRONT BLK VS-155EZ [EZ]
18-1F	BD-V1047C130H	PANEL FRONT BLK VS-155ES [ES]
18-1A-B	BD-V1047D130A	PANEL FRONT BLK VS-155EG-B [EG]
18-1B-B	BD-V1047D130B	PANEL FRONT BLK VS-155EK-B [EK,EK(Y1)]
18-1D-B	BD-V1047D130F	PANEL FRONT BLK VS-155EV-MB [EV-M]
18-1E-B	BD-V1047D130G	PANEL FRONT BLK VS-155EZ-B [EZ]
18-1F-B	BD-V1047D130H	PANEL FRONT BLK VS-155ES-B [ES]
18-2	SP-361332B	PANEL DOOR FRONT
18-2-B	SP-361332A	PANEL DOOR FRONT-B
18-3	SK-361297	KNOB TV/VIDEO [EV-M,EZ]
18-4A	SP-361338Q	PLATE DECORATION VS-155EG [EG]
18-4B	SP-361338R	PLATE DECORATION VS-155EK [EK,EK(Y1)]
18-4D	SP-361338Z	PLATE DECORATION VS-155EV-M [EV-M]
18-4E	SP-361338X	PLATE DECORATION VS-155EZ [EZ]
18-4F	SP-361338T	PLATE DECORATION VS-155ES [ES]
18-5	SK-B361325A	KNOB REC PART
18-5-B	SK-B361325B	KNOB REC-B PART
18-6	SK-B361327A	KNOB FF PART
18-6-B	SK-B361327B	KNOB FF-B PART
18-7	SK-B361328A	KNOB REW PART
18-7-B	SK-B361328B	KNOB REW-B PART
18-8	SK-B361329A	KNOB PAUSE PART
18-8-B	SK-B361329B	KNOB PAUSE-B PART
18-9	SK-B361330A	KNOB PLAY PART

REF. NO.	PART NO.	DESCRIPTION
18-9-B	SK-B361330B	KNOB PLAY-B PART
18-10	SK-361331A	KNOB STOP
18-10-B	SK-361331B	KNOB STOP-B
18-11	AV-361336	DRIVER
<b>ASSEMBLY BLOCK</b>		
18-12	SK-361334	KNOB PICTURE TRACKING
18-13	BC-361486A	COVER UPPER
18-13-B	BC-361486B	COVER UPPER-B
18-14	ZS-357943	ST BID40x10STL N13 SPECIAL [UPPER COVER FIX]
18-14-B	ZS-358696	ST BID40x10STL BNI SPECIAL [UPPER COVER FIX]
18-15x	EW-348414	CORD PAL [ANT CABLE]
17-5	SA-353927B	FOOT (2)

NOTE: PANEL FRONT BLK includes 18-2 to 18-11.

### 19. REMOTE CONTROL UNIT RC-V155

REF. NO.	PART NO.	DESCRIPTION
19-1A	AV-363357	REMOCON RC-V155B-E WIRELESS (T) [EG,EK,EK(Y1),ES]
19-1B	AV-363496	REMOCON RC-V155A-E WIRELESS(T) [EV-M,EZ]
19-1A-B	AV-363494	REMOCON RC-V155B-EB WIRELESS (T) [EG,EK,EK(Y1),ES]
19-1B-B	AV-363498	REMOCON RC-V155A-EB WIRELESS (T) [EV-M,EZ]
19-1C1	EI-749983	IC $\mu$ PD1943G
19-TR1	ET-718040	TR 2SD1468
19-D2	ED-705414	D LED SL303A INFRARED
19-D3	ED-718039	D SILICON DAN201
19-X1	EI-749984	OSC CE KBR455BAT
19-2	SC-718041	COVER BATTERY
19-2-B	SC-718043	COVER BATTERY-B

# INDEX

PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO.
AV-361336	18-11	ED-344280	6-D211	ED-624903	7-D40	EO-353900	6-L15
AV-363357	19-1A	ED-344280	6-D212	ED-624903	7-D41	EO-353901	6-L20
AV-363494	19-1A-B	ED-344280	6-D402	ED-624903	7-D59	EO-353901	6-L29
AV-363496	19-1B	ED-344280	6-D403	ED-624903	7-D65	EO-353902	9-L2
AV-363498	19-1B-B	ED-344280	6-D404	ED-624903	7-D66	EO-354600	6-L12
BA-V1047A400D	5-3	ED-344280	6-D405	ED-624903	7-D70	EO-354600	6-L11
BA-V1047C300A	5-1A	ED-344280	6-D407	ED-624903	7-D18	EO-354600	6-L602
BA-V1047C300B	5-1B	ED-344280	6-D408	ED-624903	7-D58	EO-356372	8-FL1
BA-V1047C300D	5-1D	ED-344280	6-D601	ED-624903	7-D34	EO-356599	6-L3
BA-V1047C300E	5-1E	ED-344280	6-D602	ED-624903	7-D26	EO-356599	6-L21
BA-V1047C300F	5-1F	ED-344280	6-D604	ED-624903	7-D30	EO-356599	6-L24
BA-V1047C330A	5-2A	ED-344280	6-D605	ED-624903	7-D42	EO-357507	6-L4
BA-V1047C330B	5-2B	ED-344280	6-D606	ED-705414	19-D2	EO-357507	6-L5
BA-V1047C330C	5-2C	ED-344280	6-D609	ED-718039	19-D3	EO-357508	6-L25
BA-V1047C330D	5-2D	ED-344280	6-D610	EE-345115	10-1A	EO-357508	9-L1
BC-361486A	18-13	ED-344280	6-D703	EE-345116	10-1B	EO-360554	6-L19
BC-361486B	18-13-B	ED-344280	6-D704	EE-345121	10-1E	EO-360554	6-L601
BD-V1047C130A	18-1A	ED-344280	6-D705	EE-352284	10-1D	EO-360555	6-L8
BD-V1047C130B	18-1B	ED-344280	8-D2	EE-360405	7-PM1A	EO-360555	6-L7
BD-V1047C130F	18-1D	ED-344280	9-D1	EE-364472	7-PM1B	EO-360647	6-FL501
BD-V1047C130G	18-1E	ED-346609	6-D501	EE-364670	7-PM1C	EO-383308	6-L502
BD-V1047C130H	18-1F	ED-355607	7-D50	EF-344106	6-SF1	EO-420344	6-L501
BD-V1047D130A	18-1A-B	ED-355607	7-D52	EF-344106	6-SF201	EQ-364207	9-RL1
BD-V1047D130B	18-1B-B	ED-355607	7-D53	EF-355226	11-F1B	ER-200595	11-FR5
BD-V1047D130C	18-1D-B	ED-355607	7-D55	EF-355398	11-F2B	ER-337336	6-R518
BD-V1047D130G	18-1E-B	ED-355607	7-D56	EF-601301	11-F2A	ER-340542	6-R207
BD-V1047D130H	18-1F-B	ED-355607	7-D57	EF-623103	11-F1A	ER-348272	6-FR1
BF-B360531	3-10	ED-355607	7-D60	EH-347743	7-IB1	ER-353878	6-R463
BL-B360342	2-23	ED-356424	7-D1	EH-360337	6-FL2	ER-360559	6-R231
BL-B360530	2-24	ED-356424	7-D2	EH-360339	6-FL1	ER-362257	11-FR2
BL-B360353	2-7	ED-356424	7-D3	EH-360340	6-DL1	ER-364508	11-FR1
BL-B360361	2-21	ED-356424	7-D4	EH-360341	6-DL2	ER-365157	11-FR3
BL-B360486	2-31	ED-356424	7-D5	EH-364045	6-FL3	ES-349474	7-SW3
BL-B360522	2-35	ED-356424	7-D7	EI-337530	6-IC601	ES-349474	7-SW5
BL-B360525	2-33	ED-356424	7-D8	EI-347116	6-IC701	ES-349474	7-SW6
BL-B361308	4-17	ED-356424	7-D9	EI-347991	6-X401	ES-349474	7-SW7
BM-B361467	3-M903	ED-356424	7-D11	EI-352714	9-IC1	ES-349474	7-SW10
BM-M3223A020A	1-6	ED-356424	7-D12	EI-353421	6-IC402	ES-349474	7-SW9
BM-361544	3-M902	ED-356424	7-D13	EI-356238	6-IC403	ES-349474	7-SW13
BR-B360517A	3-27	ED-356424	7-D54	EI-356288	6-IC207	ES-349474	7-SW14
BR-B360517B	3-28	ED-356424	7-D6	EI-356370	8-IC1	ES-349474	7-SW15
BT-363353	11-T901A	ED-356424	7-D14	EI-356371	7-X1	ES-349474	7-SW17
BT-363945	11-T901B	ED-356424	7-D10	EI-358506	6-IC502	ES-349474	7-SW21
BT-363946	11-T901D	ED-357540	2-D1	EI-360333	6-IC1	ES-349474	7-SW20
BT-363949	11-T901F	ED-357754	6-D406	EI-360334	6-IC2	ES-349474	7-SW22
BT-363950	11-T901E	ED-360409	8-D1	EI-360396	6-IC404	ES-349474	7-SW8
BV-B362443	1-7	ED-362998	6-D202	EI-360404	7-IC2	ES-349474	7-SW18
BV-V1030A210A	1-1	ED-363350	11-D1	EI-360560	6-IC203	ES-349474	7-SW19
BV-V1030A220A	1-2	ED-363350	11-D2	EI-360561	6-IC202	ES-349474	7-SW16
BV-V1047A080A	2-16	ED-363350	11-D7	EI-360563	6-IC205	ES-349474	7-SW12
BV-V1047A090A	2-17	ED-363350	11-D8	EI-360564	6-IC206	ES-349474	7-SW11
BV-V1047A250A	4-1	ED-363350	11-D9	EI-360565	6-IC201	ES-349474	7-SW4
BV-V1047A900A	6-5A	ED-363350	11-D10	EI-360565	6-IC204	ES-349474	8-SW2
BV-V1047A900B	6-5B	ED-363351	11-D3	EI-360648	6-IC501	ES-349474	8-SW1
BV-V1047A900E	6-5D	ED-363351	11-D4	EI-363347	6-IC405	ES-353622	16-SW1
BV-V1047A900F	6-5E	ED-363351	11-D5	EI-364135	7-IC1	ES-354430	12-SW901
BV-363231	6-3A	ED-363351	11-D6	EI-364562	6-X1	ES-360408	7-SW1
BV-363232	6-3B	ED-365109	6-D701	EI-366681	6-IC401	ES-360433	2-SW1
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EC-358805	6-C610	ED-624903	7-D17	EJ-363368	6-1D	ET-308141	6-TR10
EC-361942	11-C5	ED-624903	7-D19	EJ-363369	6-1C	ET-308141	6-TR12
EC-363490	11-C2	ED-624903	7-D20	EL-363355	4-IN901	ET-308141	6-TR18
EC-363491	11-C4	ED-624903	7-D21	EO-330252	6-1	ET-308141	6-TR19
EC-363491	11-C3	ED-624903	7-D22	EO-330252	6-L6	ET-308141	6-TR20
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ED-313846	6-D201	ED-624903	7-D24	EO-330252	6-L14	ET-308141	6-TR23
ED-329051	6-D409	ED-624903	7-D25	EO-330252	6-L17	ET-308141	6-TR31
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ED-337266	5-D608	ED-624903	7-D28	EO-330252	9-L4	ET-308141	6-TR205
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ED-344280	6-D3	ED-624903	7-D31	EO-345889	6-L18	ET-308141	6-TR208
ED-344280	6-D4	ED-624903	7-D32	EO-351865	6-L2	ET-308141	6-TR216
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ED-344280	6-D204	ED-624903	7-D36	EO-351868	6-L16	ET-308141	6-TR601
ED-344280	6-D205	ED-624903	7-D37	EO-351869	6-L26	ET-308141	6-TR602
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# AKAI

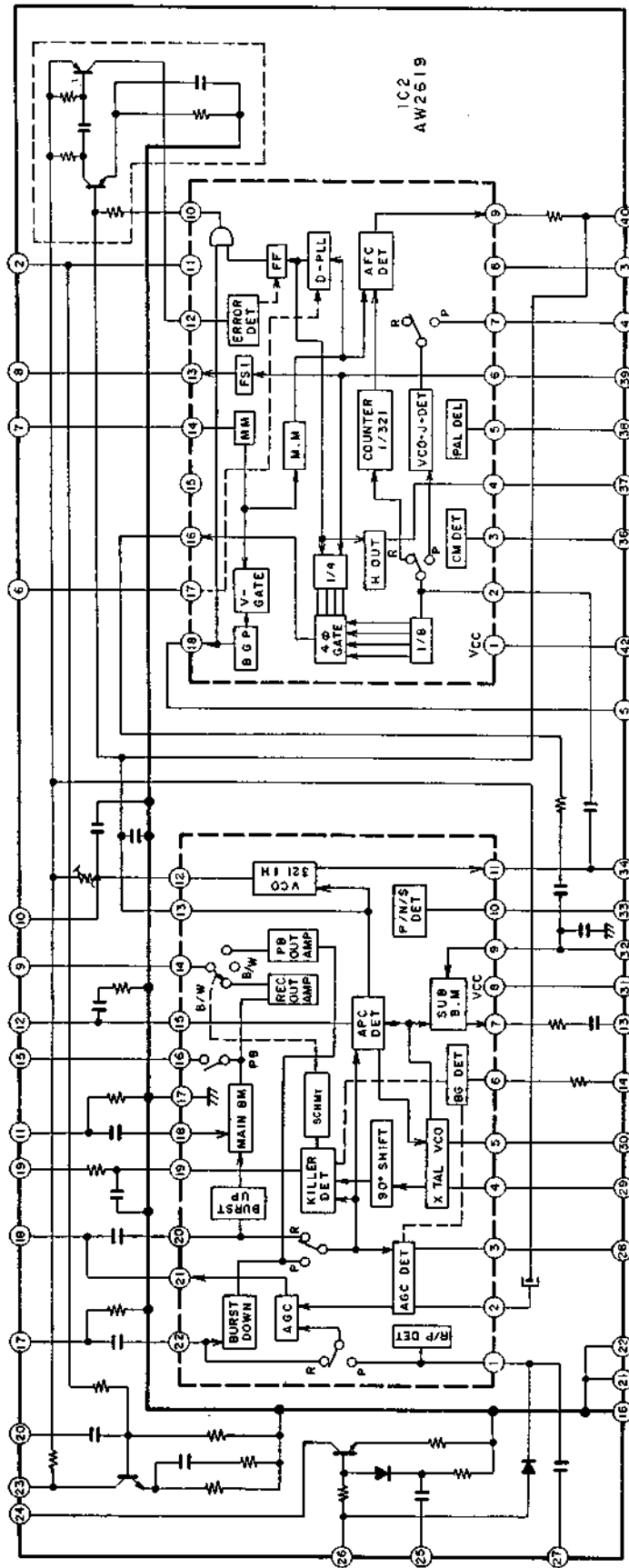
MODEL **VS-155**<sup>EG/EK/ES</sup>/<sub>EV-M/EZ</sub>

## **SCHEMATIC DIAGRAM AND PC BOARDS**

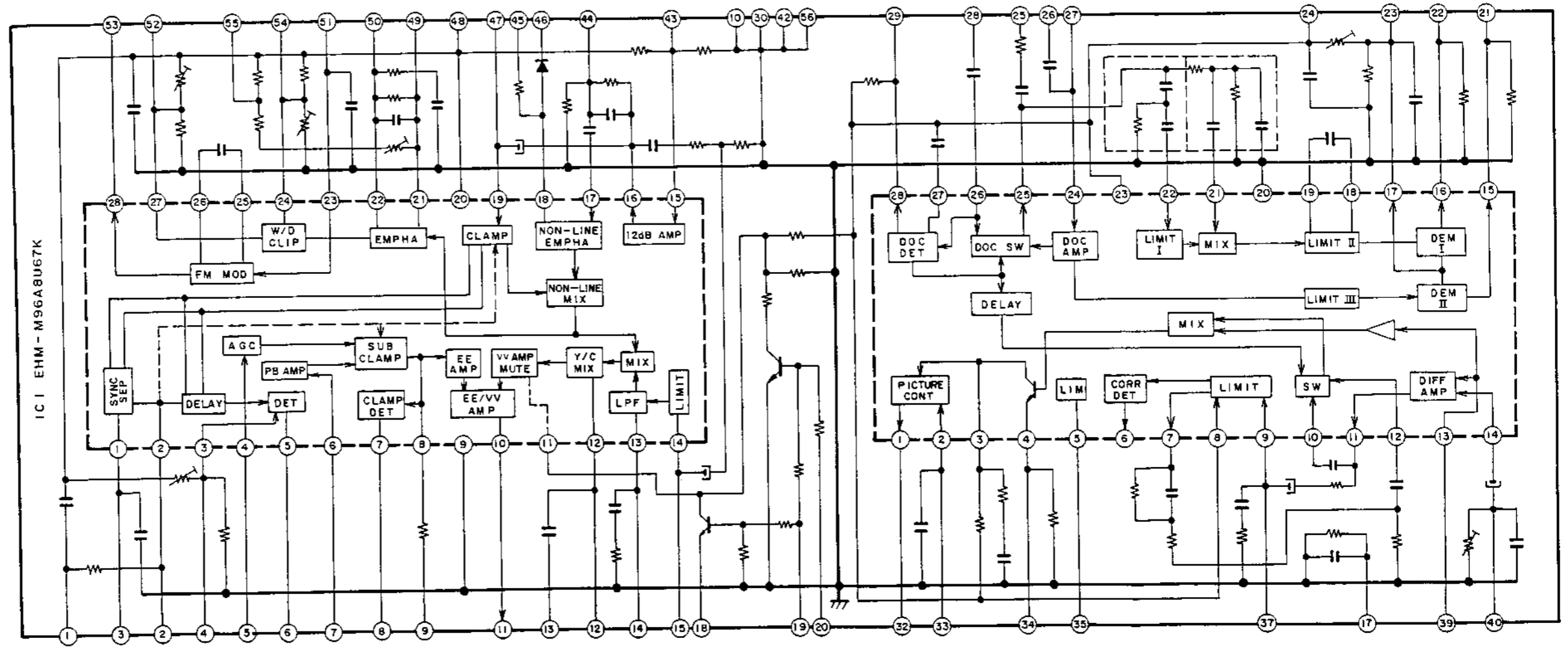
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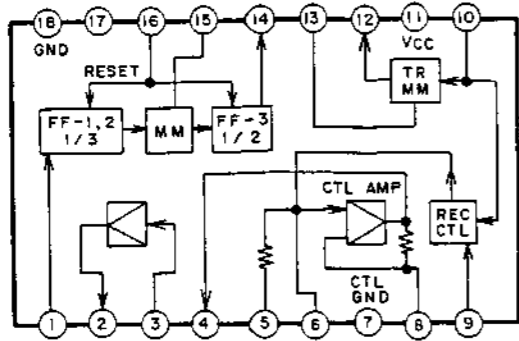
AW2619 [VIDEO (CHROMA) SIGNAL IC]



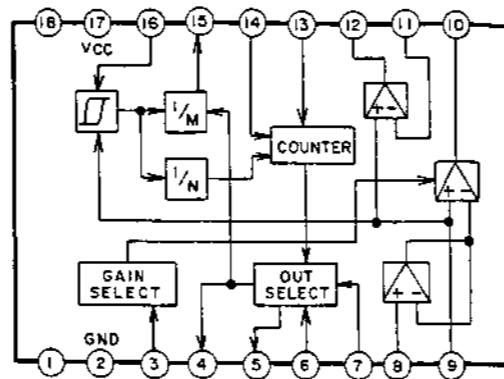
EHM-M96A8 U67K [VIDEO (Y) SIGNAL IC]



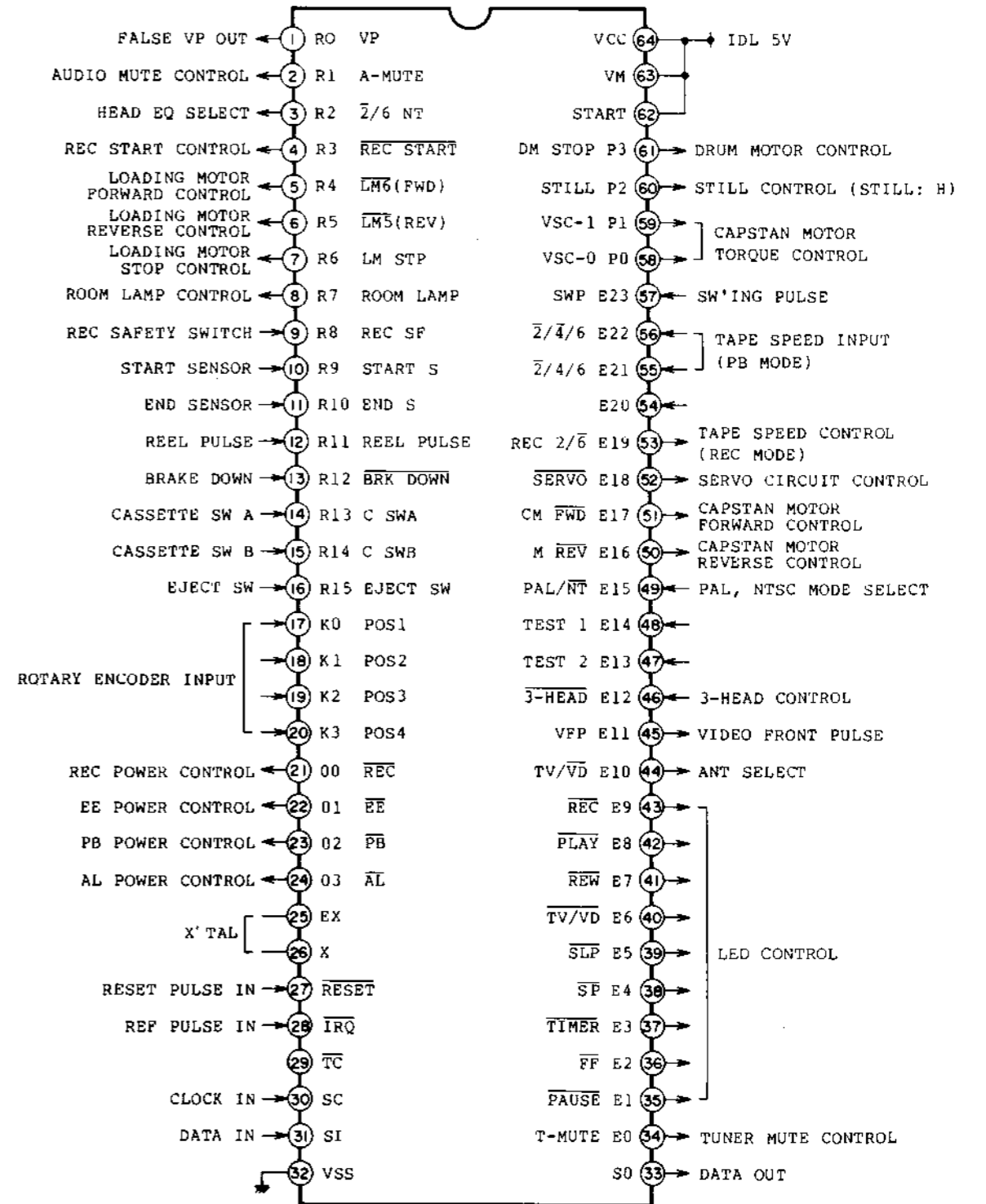
AN3792 (DRUM SERVO INTERFACE IC)



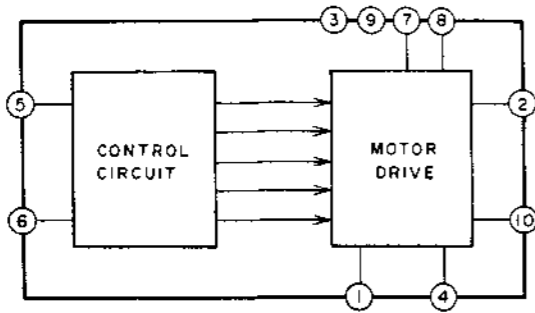
AN3794 (CAPSTAN SERVO INTERFACE IC)



MB88521-135M (SYSCON MPU)



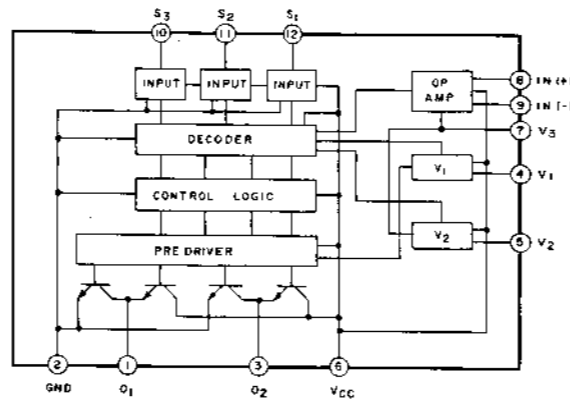
BA6229 (MOTOR DRIVER)



CONTROL MODE

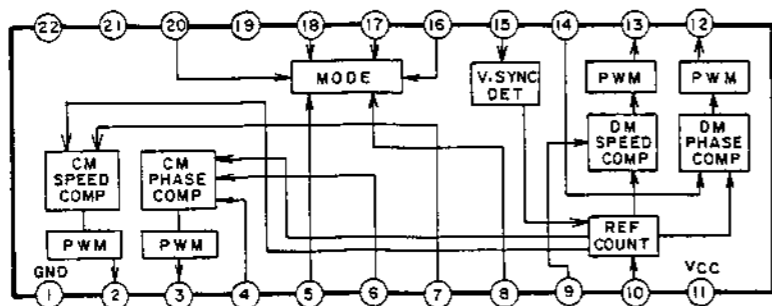
MODE	INPUT		OUTPUT	
	5pin	6pin	2pin	10pin
STOP	L	L	OPEN	OPEN
NORMAL	H	L	H	L
REVERSE	L	H	L	H
BRAKE	H	H	L	L

M54548L (CAPSTAN DRIVE IC)









INPUT			OUTPUT		Vcc SELECT	MODE
S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	O <sub>1</sub>	O <sub>2</sub>		
L	L	L	"OFF" STATE	"OFF" STATE	-	STOP
L	L	H	H	L	V <sub>s</sub>	PLAY (+)
L	H	L	L	H	V <sub>s</sub>	PLAY (-)
L	H	H	H	L	V <sub>1</sub>	FF (2)
H	L	L	L	H	V <sub>2</sub>	REW (2)
H	L	H	H	L	V <sub>1</sub>	FF (1)
H	H	L	L	H	V <sub>1</sub>	REW (1)
H	H	H	L	L	V <sub>s</sub>	BRAKE


MN6178XAL (DIGITAL SERVO IC)



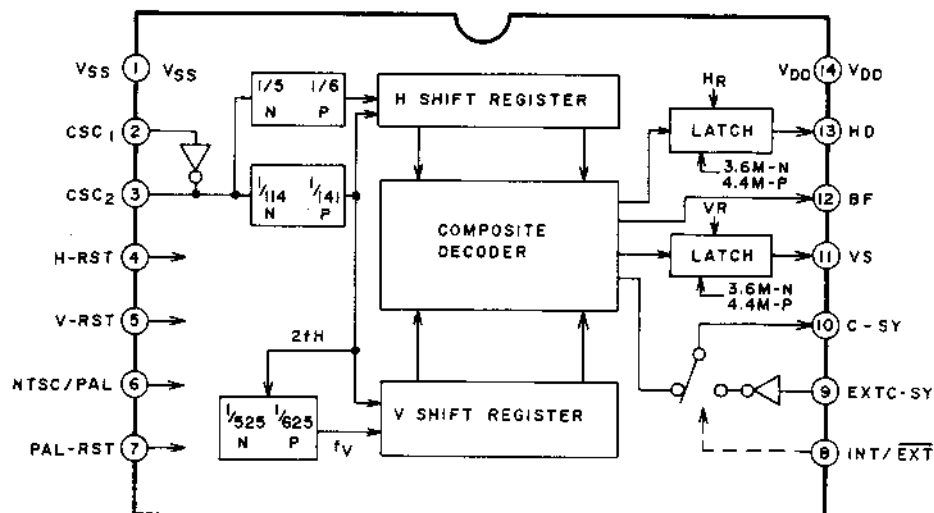


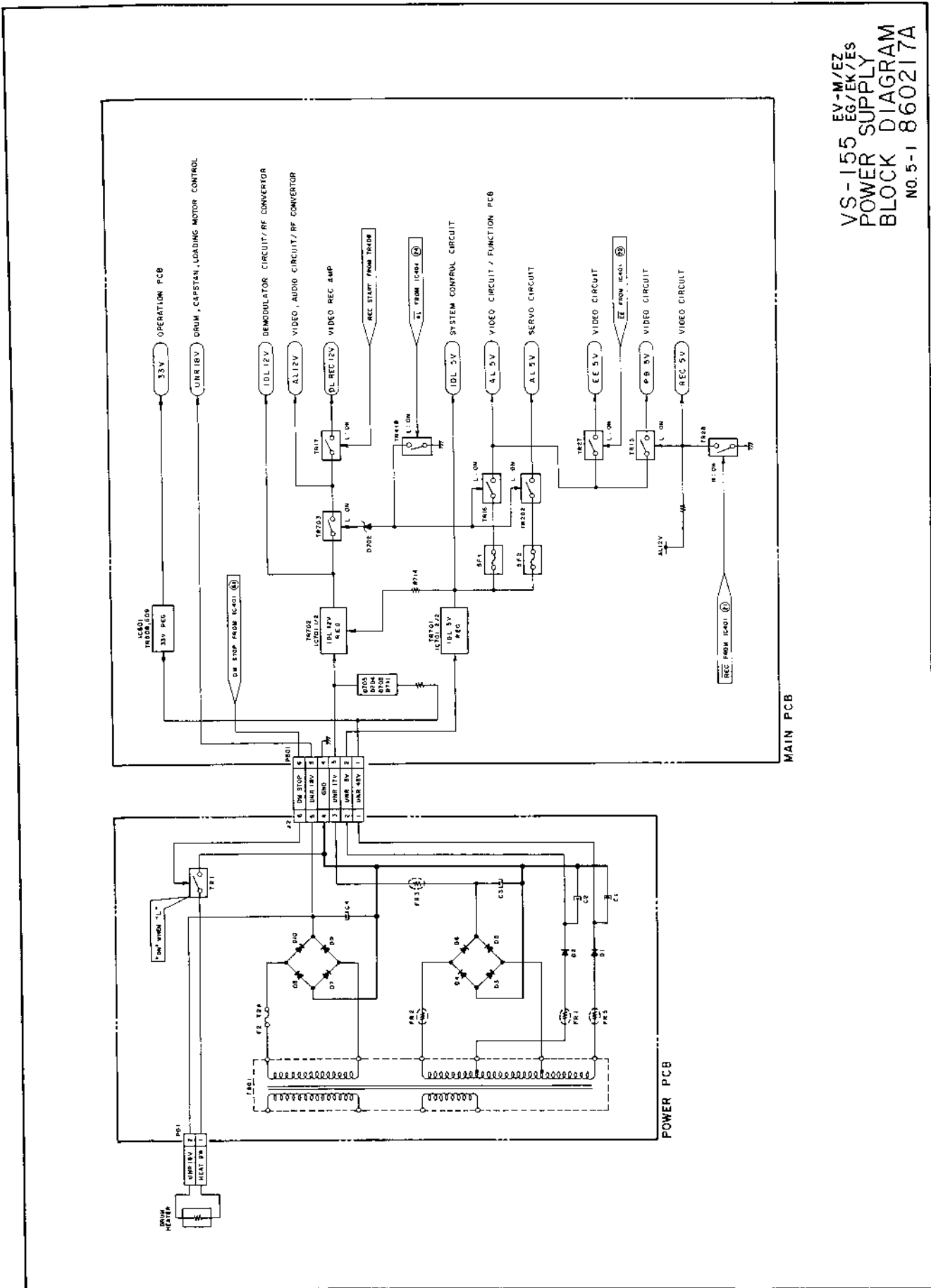
MB88521-135M

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</th> <th>⑥</th> <th>⑦</th> </tr> <tr> <th></th> <th>LM6 (FWD)</th> <th>LM5 (REV)</th> <th>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	⑥	⑦		LM6 (FWD)	LM5 (REV)	LM STP	FWD	L	H	L	REV	H	L	L	STOP	H	H	H
MODE \ TERMINAL	⑤	⑥	⑦																					
	LM6 (FWD)	LM5 (REV)	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																					

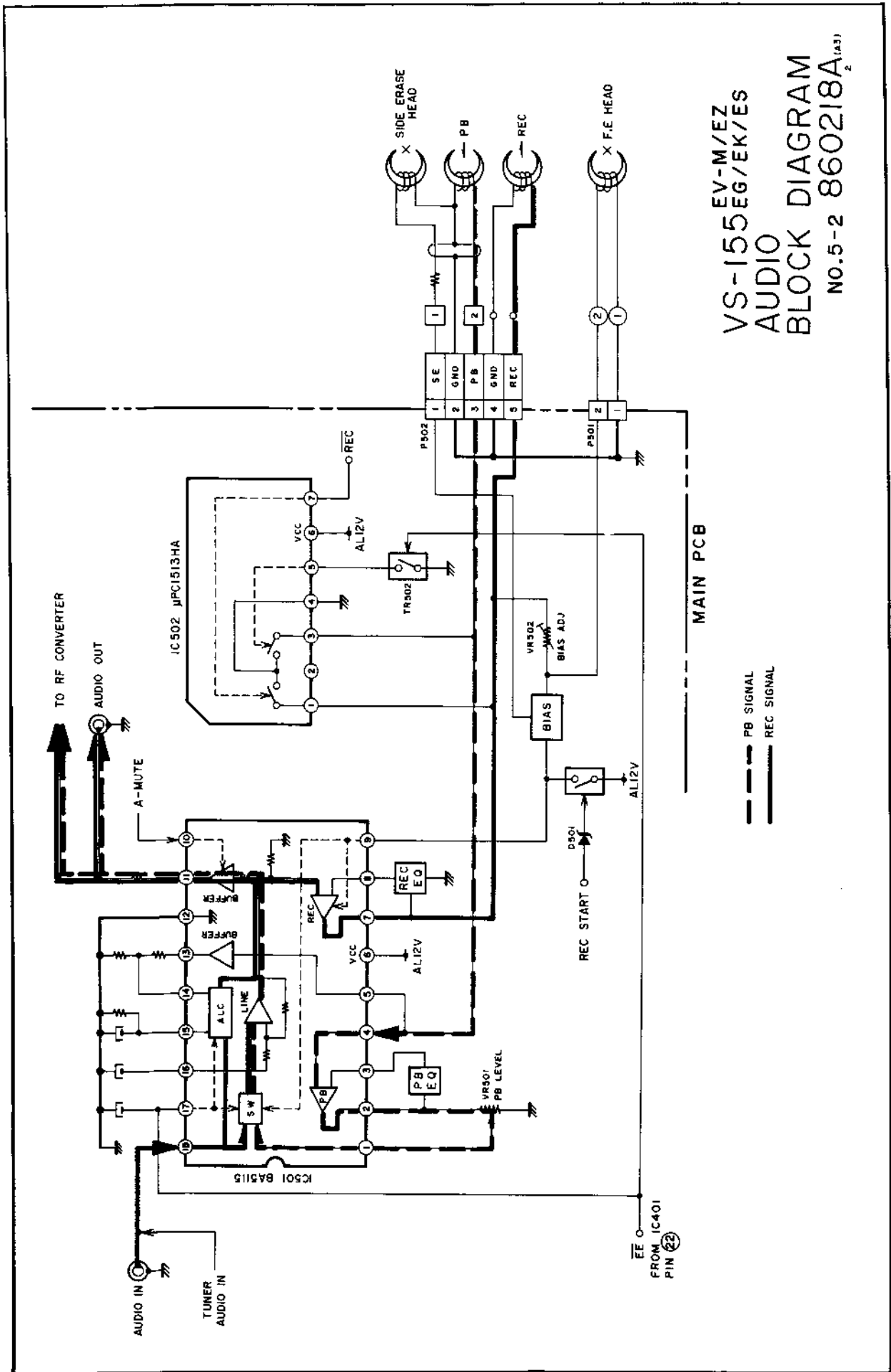
Pin No.	Port Name	I/O	Active	Description																																										
49	PAL/NT	I	H/L	PAL, NTSC SELECT H: PAL L: NTSC																																										
50	CM REV	O	L	CAPSTAN MOTOR REVERSE CONTROL CAPSTAN MOTOR FORWARD CONTROL																																										
51	CM FWD	O	L																																											
				<table border="1"> <thead> <tr> <th>MODE \ TERMINAL</th> <th>⑤1</th> <th>⑤0</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	⑤0	FWD	L	H	REV	H	L	STOP	H	H																														
MODE \ TERMINAL	⑤1	⑤0																																												
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</th> <th>⑤6</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	⑤6	SP	L	L	LP	H	L	SLP	H	H																														
TAPE SPEED \ TERMINAL	⑤5	⑤6																																												
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																																													

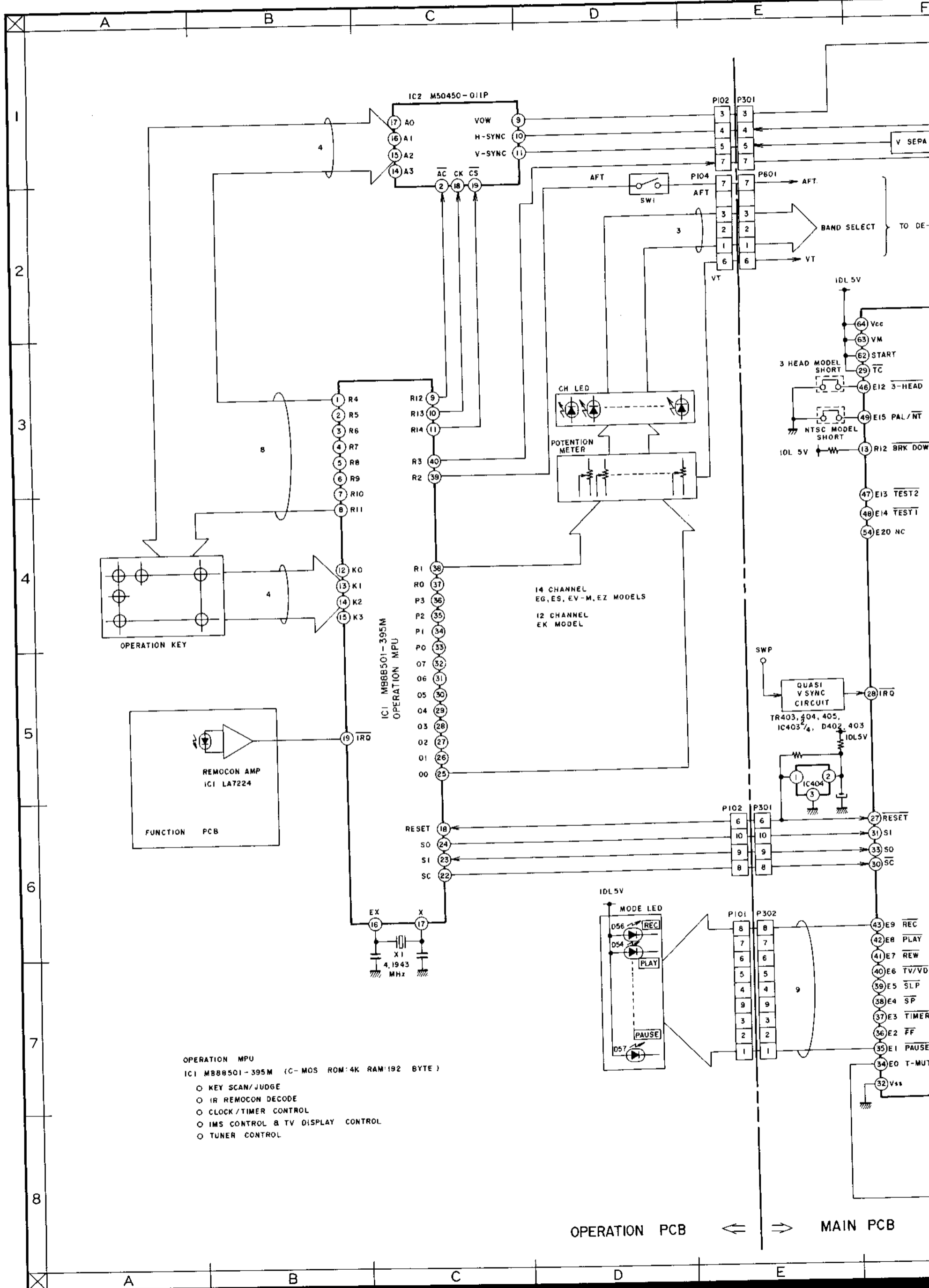
### TC9018P (TV SYNC GENERATOR)





VS-155 EV-M/EZ  
EG/EK/ES  
POWER SUPPLY  
BLOCK DIAGRAM  
NO. 5-1 860217A

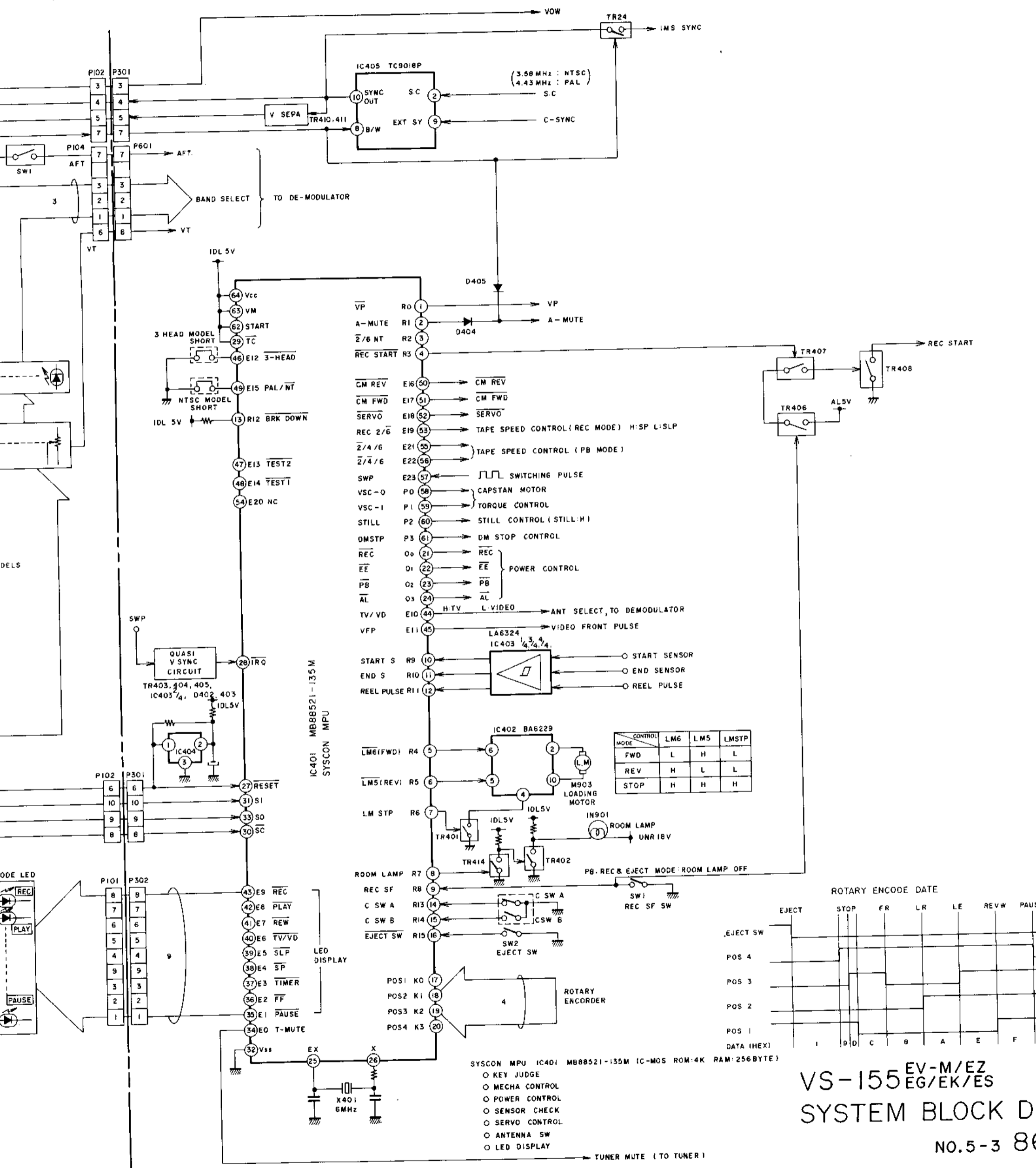


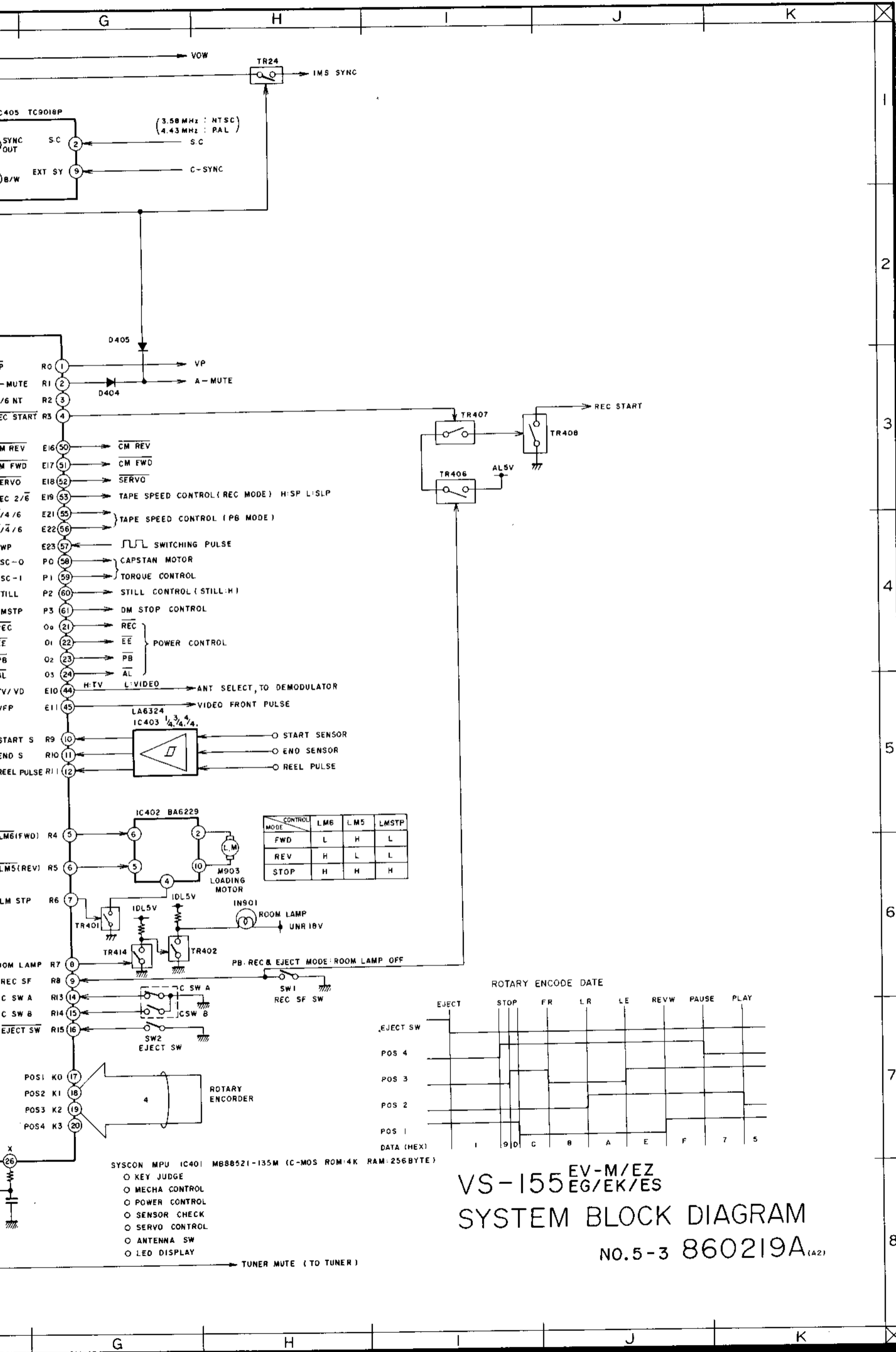


OPERATION MPU  
 IC1 MB88501-395M (C-MOS ROM:4K RAM:192 BYTE)

- KEY SCAN/JUDGE
- IR REMOCON DECODE
- CLOCK/TIMER CONTROL
- IMS CONTROL & TV DISPLAY CONTROL
- TUNER CONTROL

OPERATION PCB ← → MAIN PCB

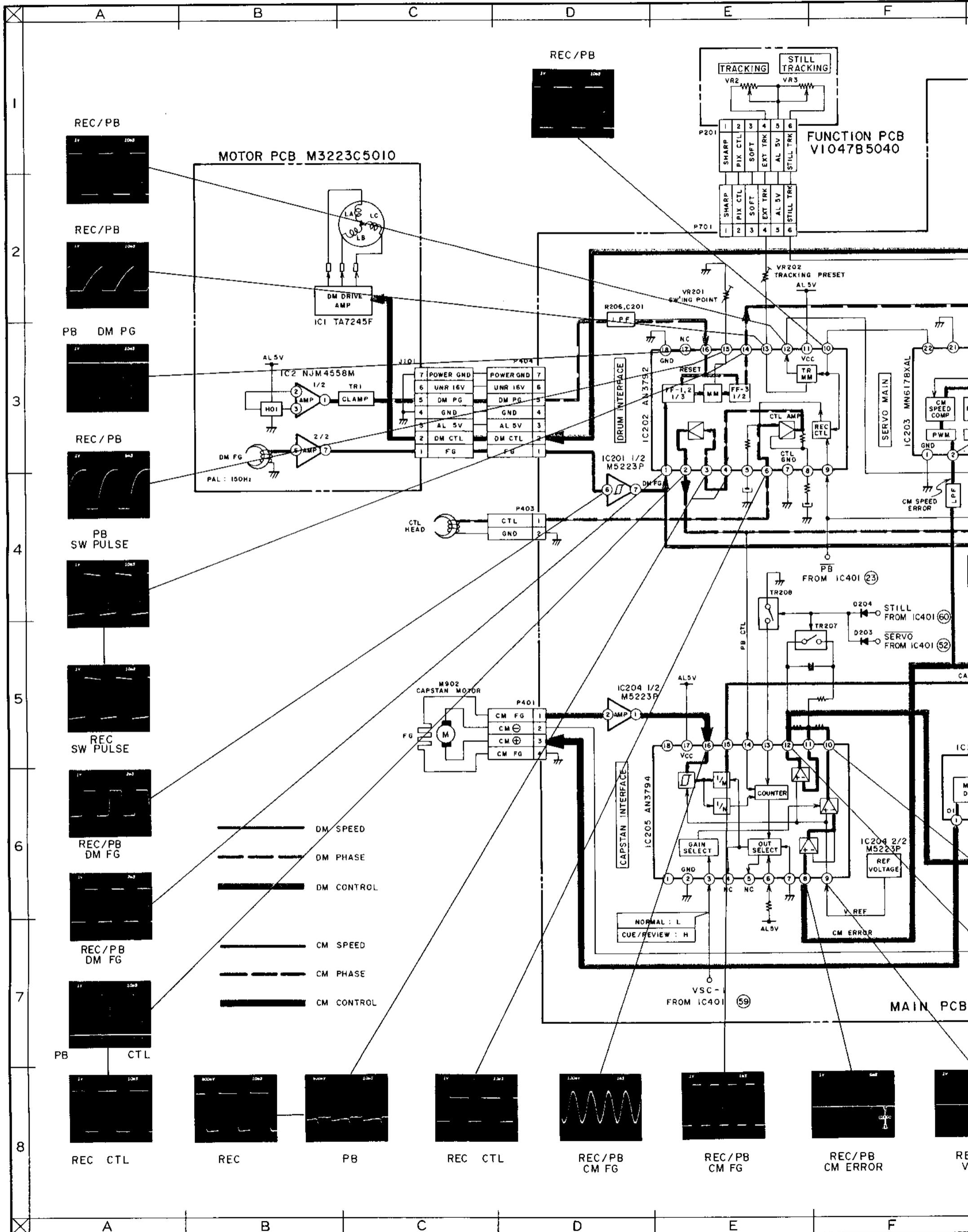




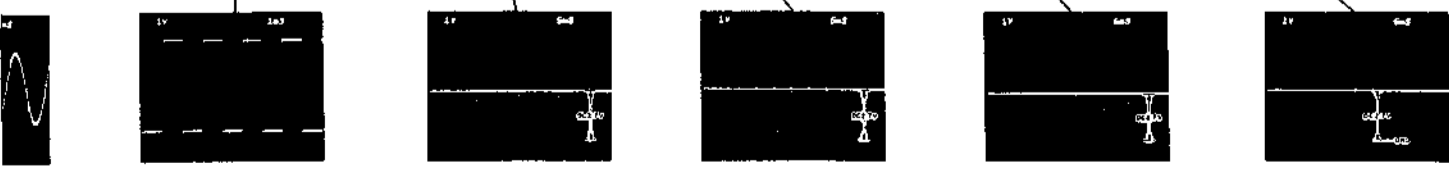
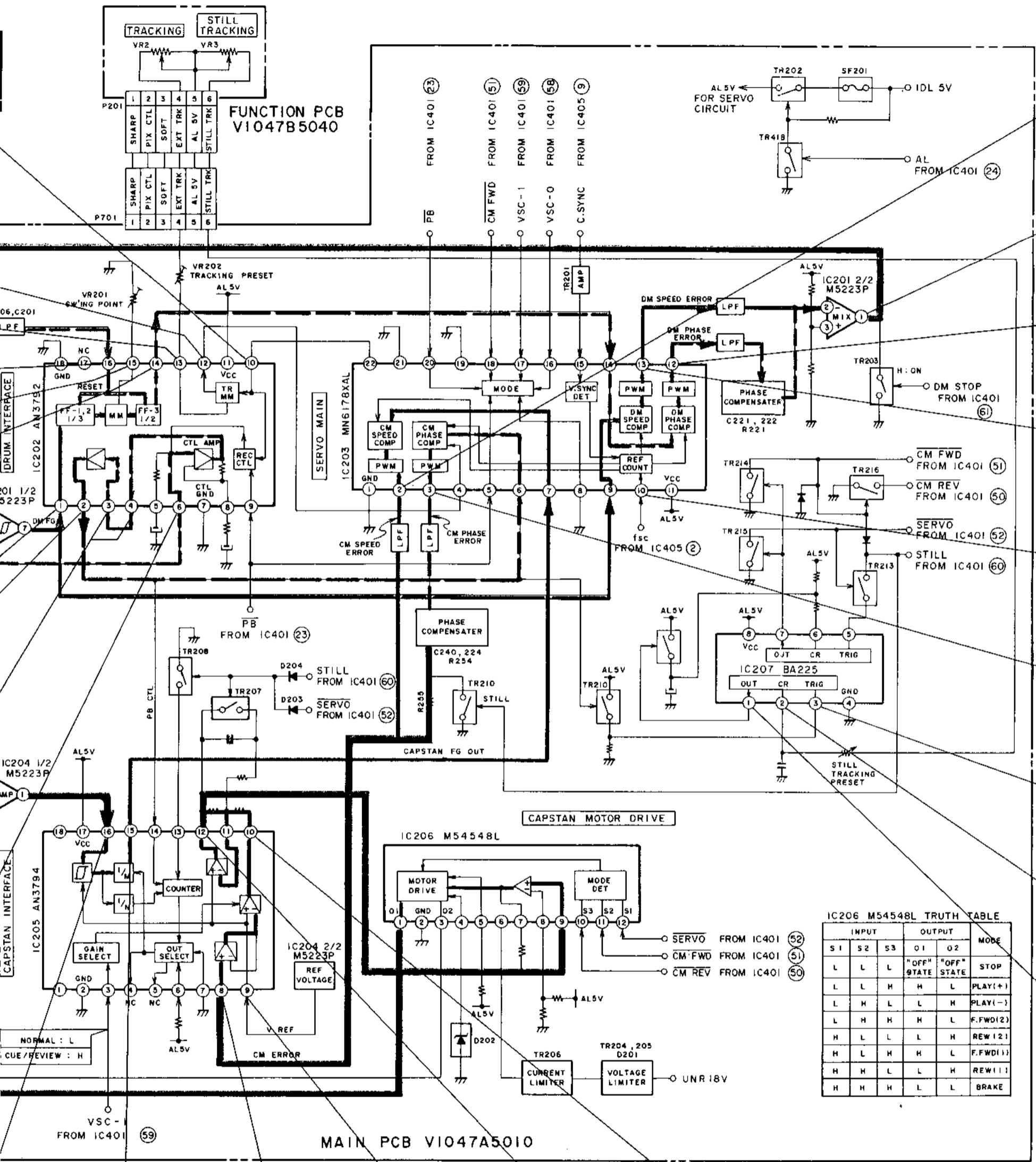
G  
H  
I  
J  
K

1  
2  
3  
4  
5  
6  
7  
8

VS-155 EV-M/EZ  
EG/EK/ES  
SYSTEM BLOCK DIAGRAM  
No.5-3 860219A (A2)

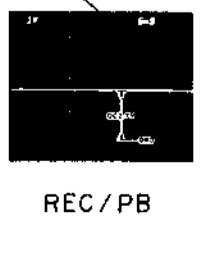
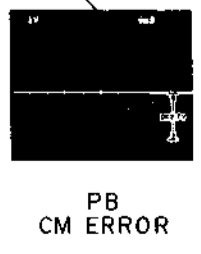
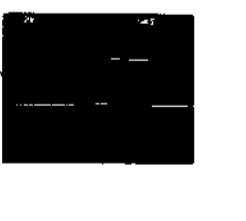
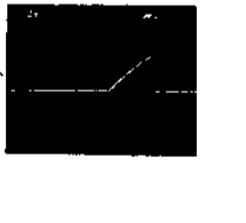
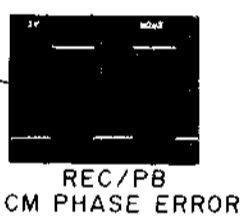
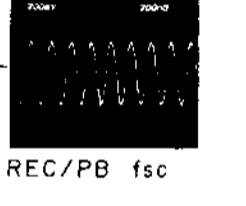
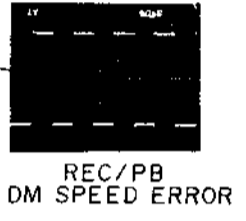
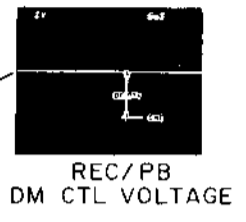
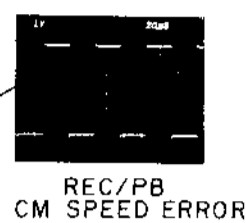
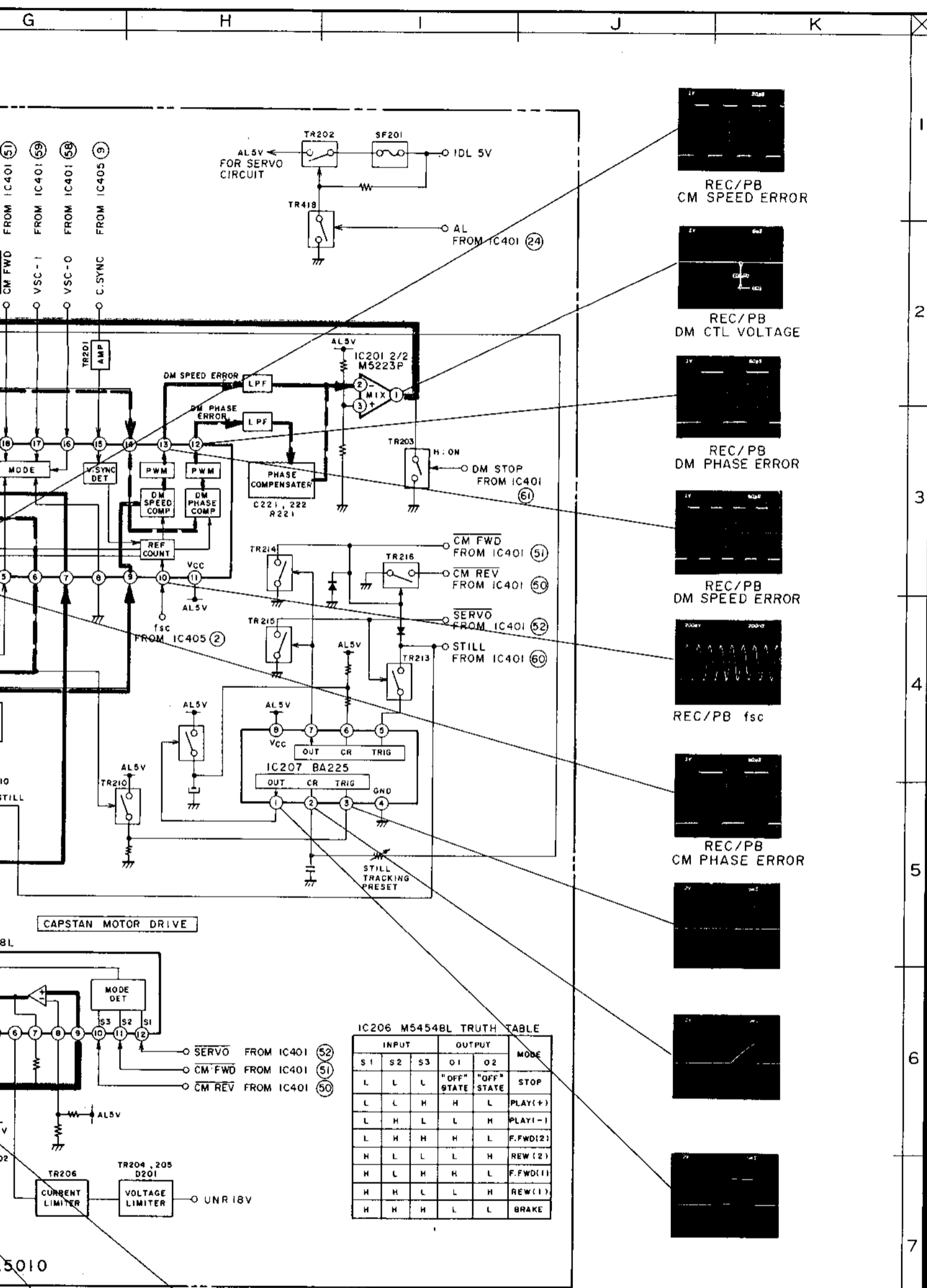




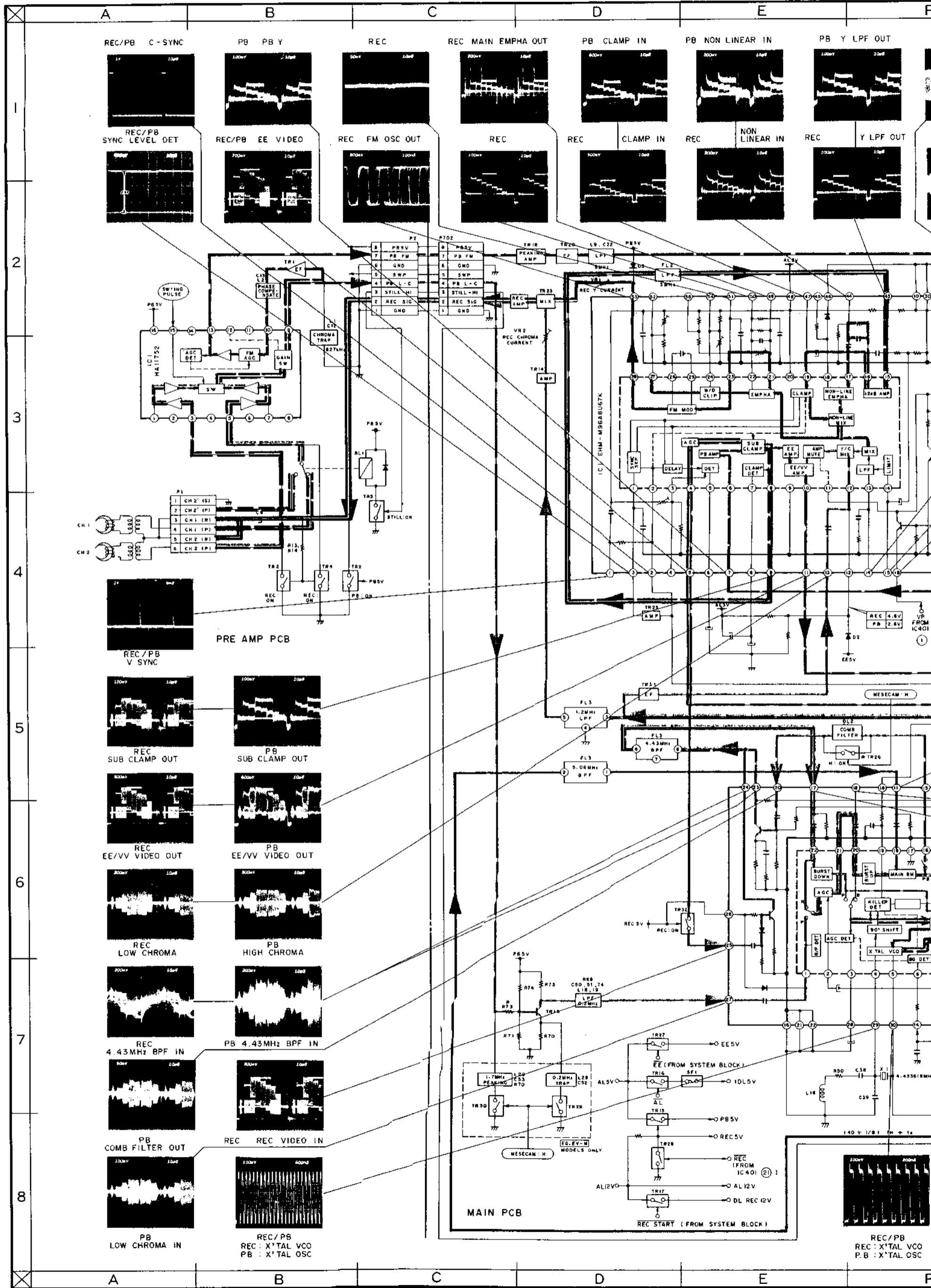


REC/PB CM FG      REC/PB CM ERROR      REC/PB V REF      PB CM ERROR      REC/PB

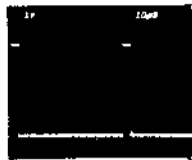
VS-155 EV-M/EZ  
EG/EK/ES  
**SERVO**  
**BLOCK DIAGRAM**  
NO.5-4 860220A (A1)



VS-155 EV-M/EZ  
EG/EK/ES  
SERVO  
BLOCK DIAGRAM  
NO.5-4 860220A (A1)



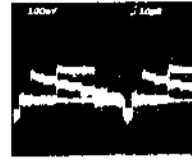
REC/PB C-SYNC



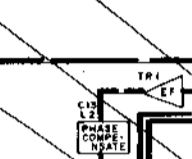
REC/PB SYNC LEVEL DET



PB PB Y



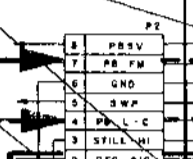
REC/PB EE VIDEO



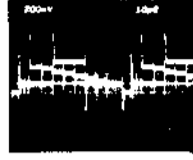
REC



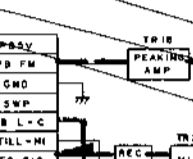
REC FM OSC OUT



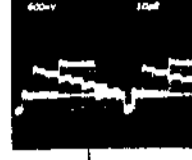
REC MAIN EMPHA OUT



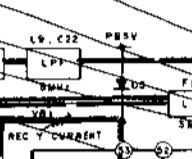
REC



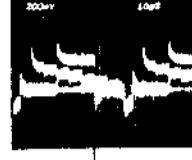
PB CLAMP IN



REC CLAMP IN



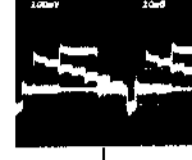
PB NON LINEAR IN



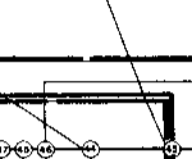
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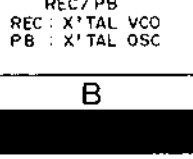
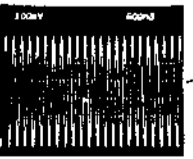
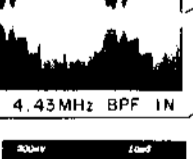
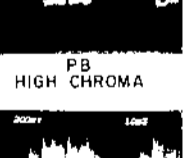
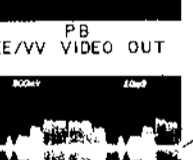
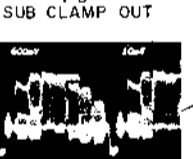
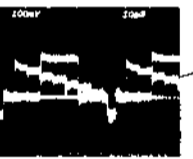
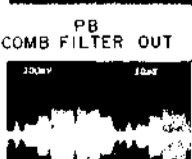
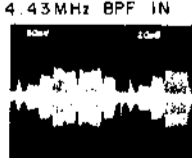
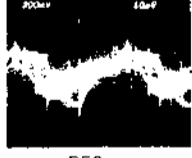
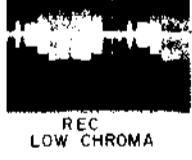
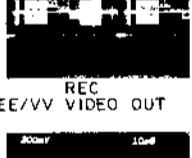
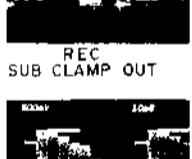
PB Y LPF OUT



REC Y LPF OUT



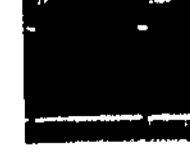
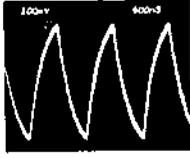
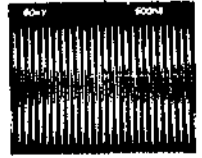
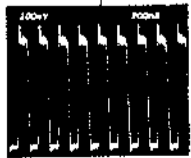
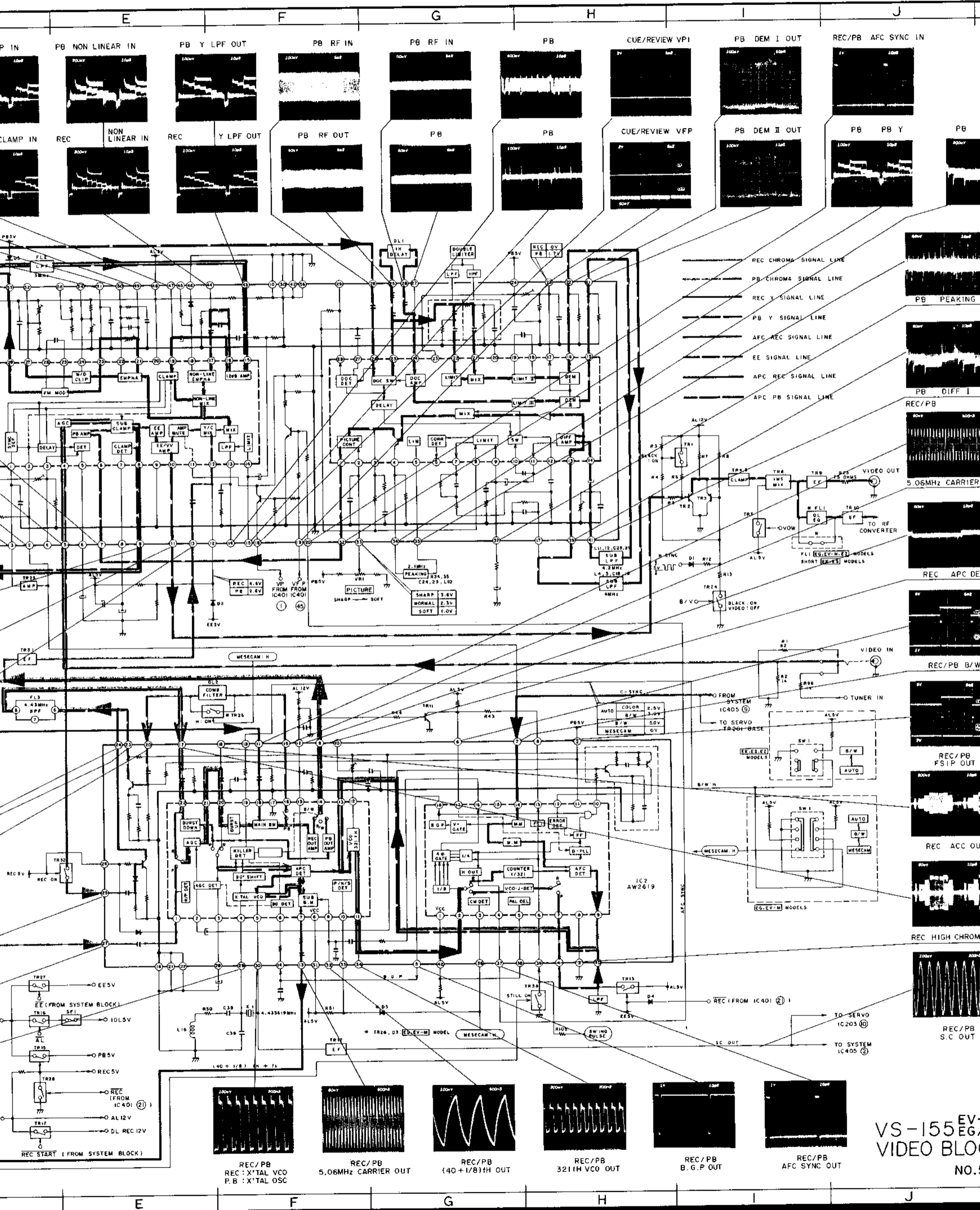
PRE AMP PCB



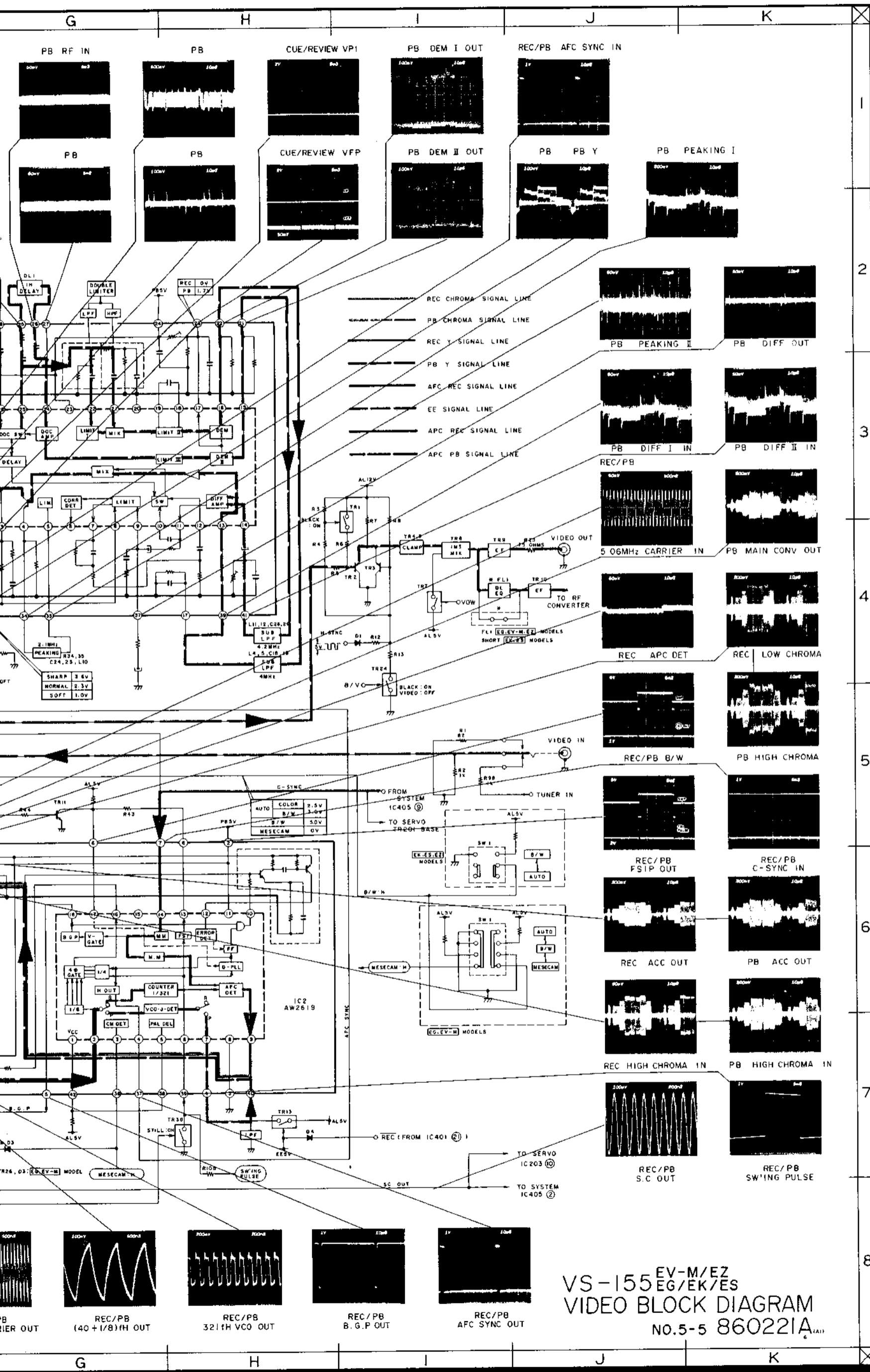
MAIN PCB

REC/PB REC: X'TAL VCO  
PB: X'TAL OSC

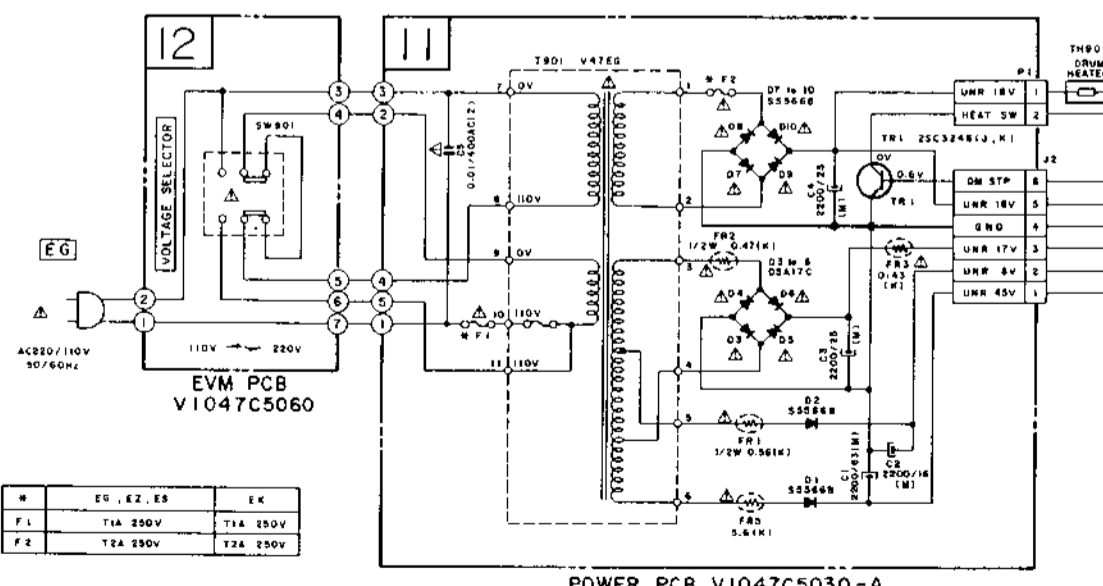
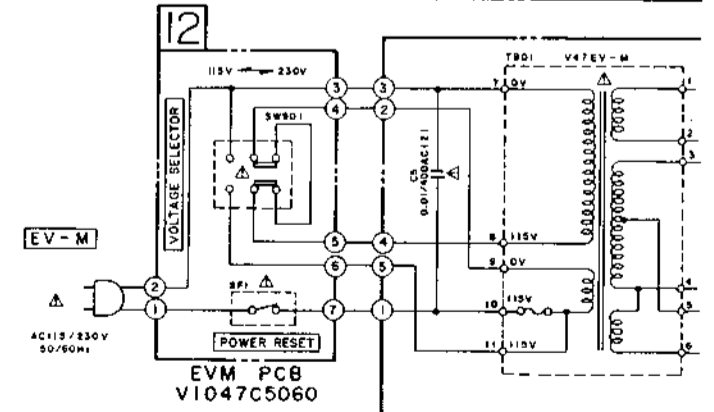
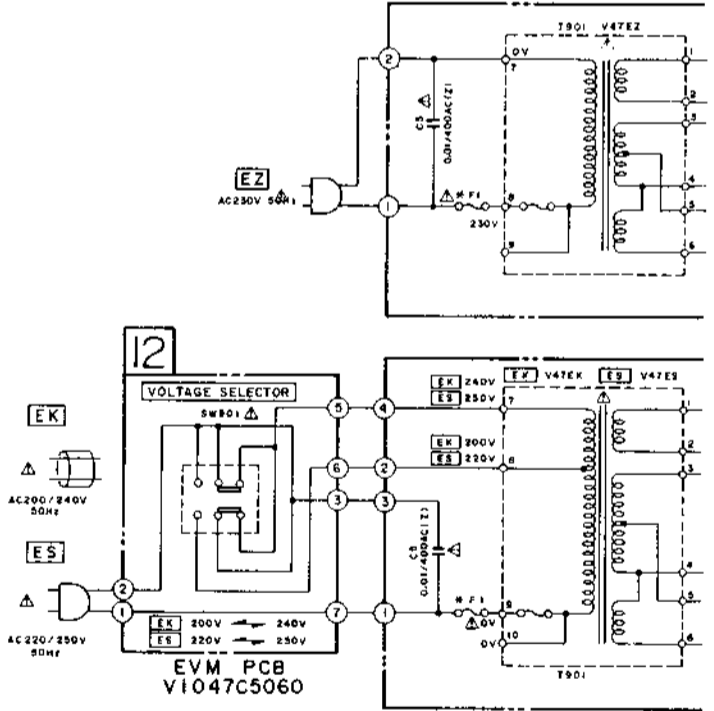
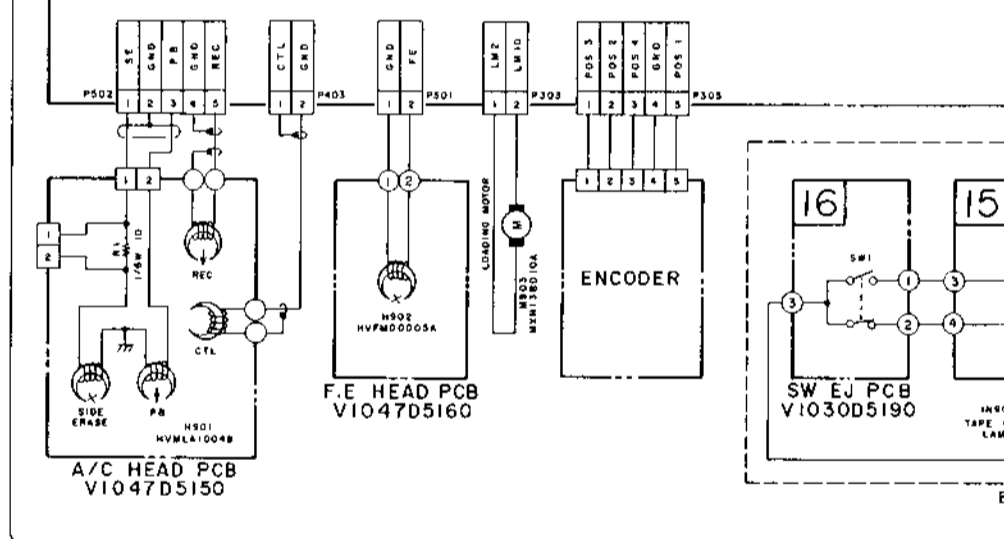
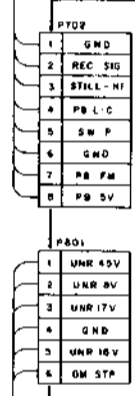
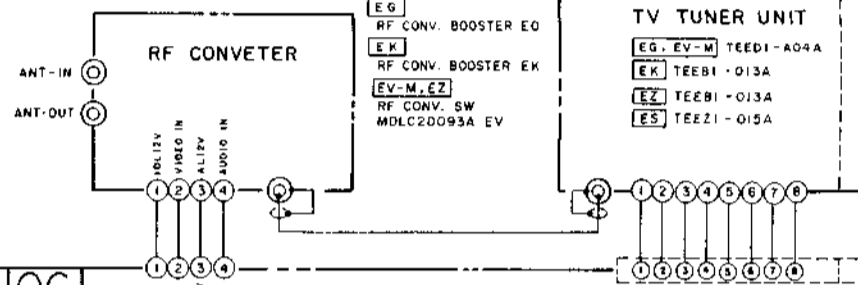
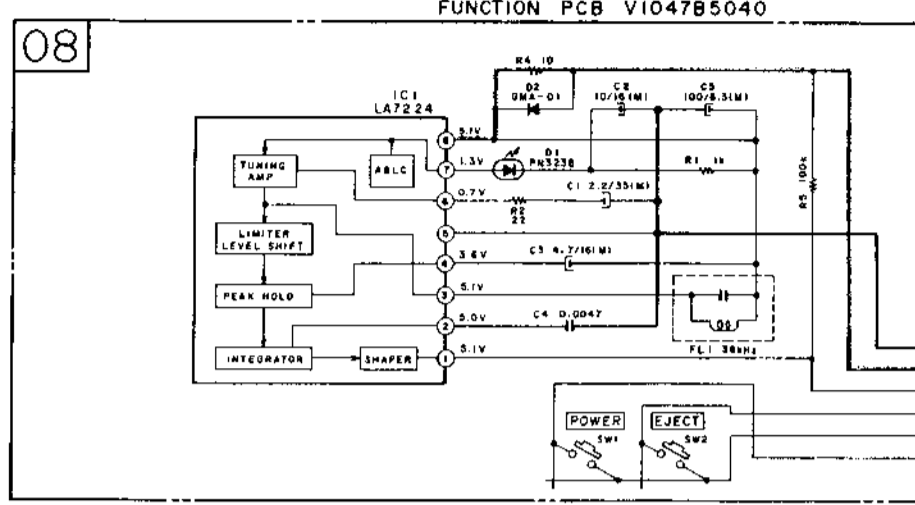
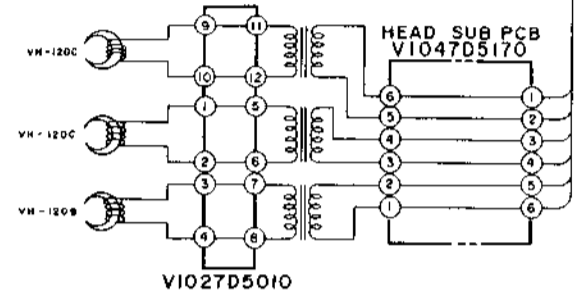
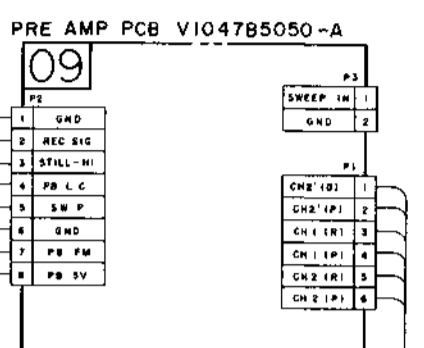
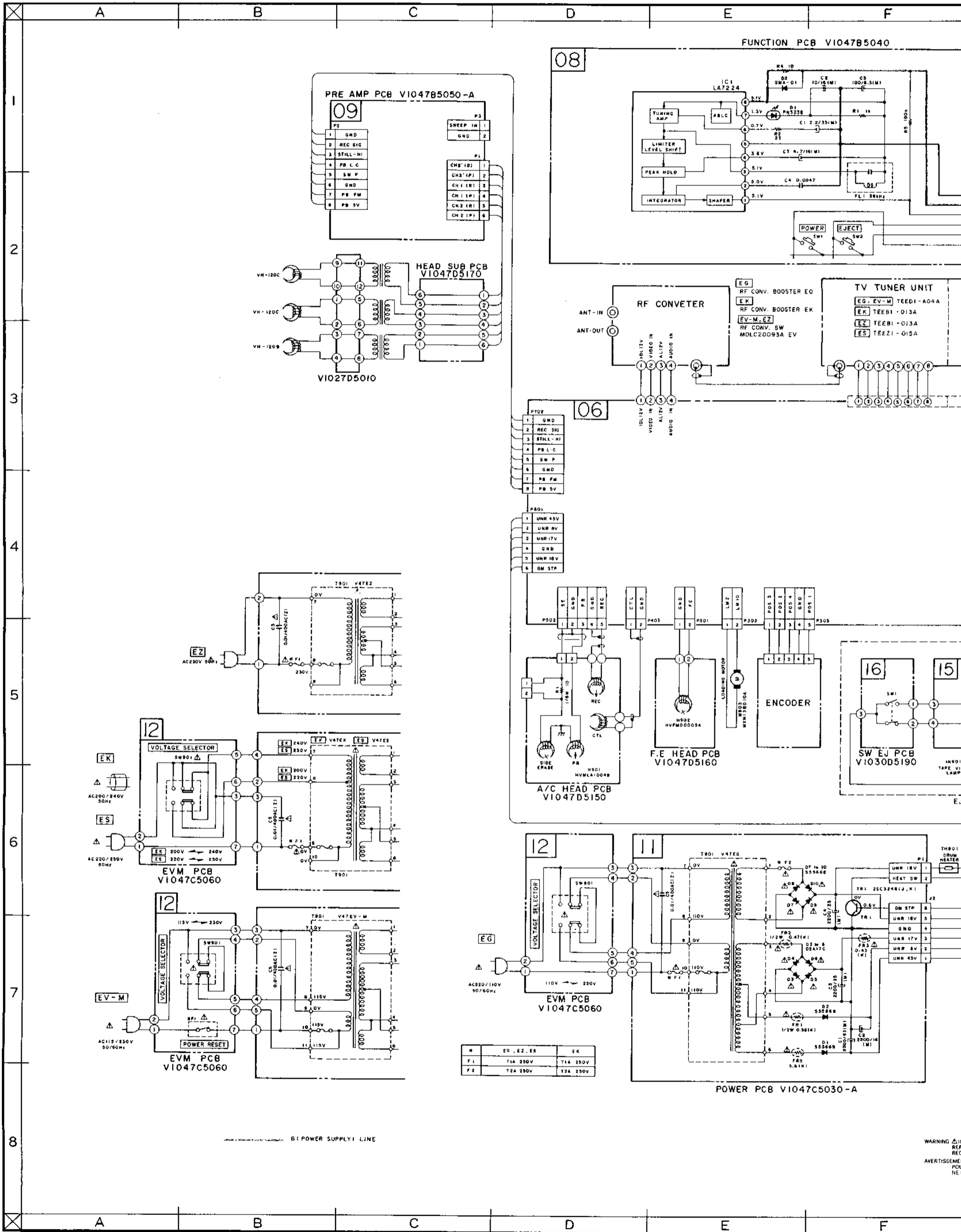
REC/PB REC: X'TAL VCO  
P.B: X'TAL OSC



VS-155 EV  
EG  
VIDEO BLO  
NO. 1



VS-155 EV-M/EZ  
EG/EK/Es  
VIDEO BLOCK DIAGRAM  
NO.5-5 860221A



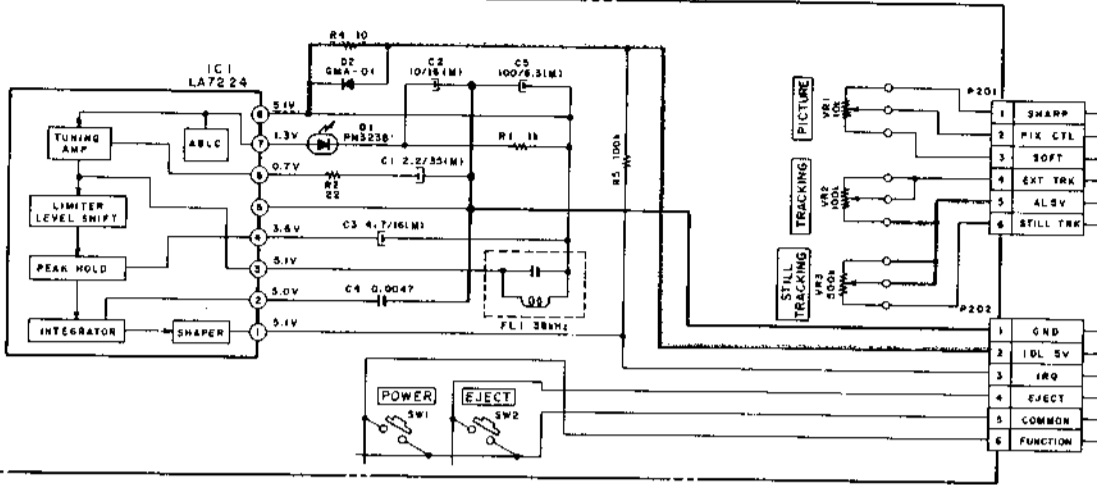
R	EG, EZ, ES	EK
F1	T1A 250V	T1A 250V
F2	T2A 250V	T2A 250V

B (POWER SUPPLY) LINE

WARNING  
REC  
AVERTISSEME  
POI  
NE

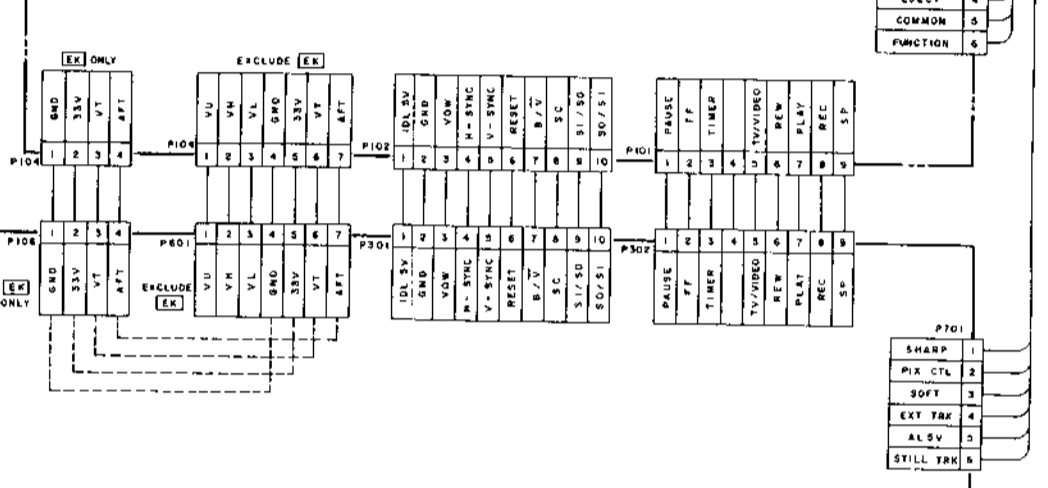
E F G H I J

FUNCTION PCB V1047B5040

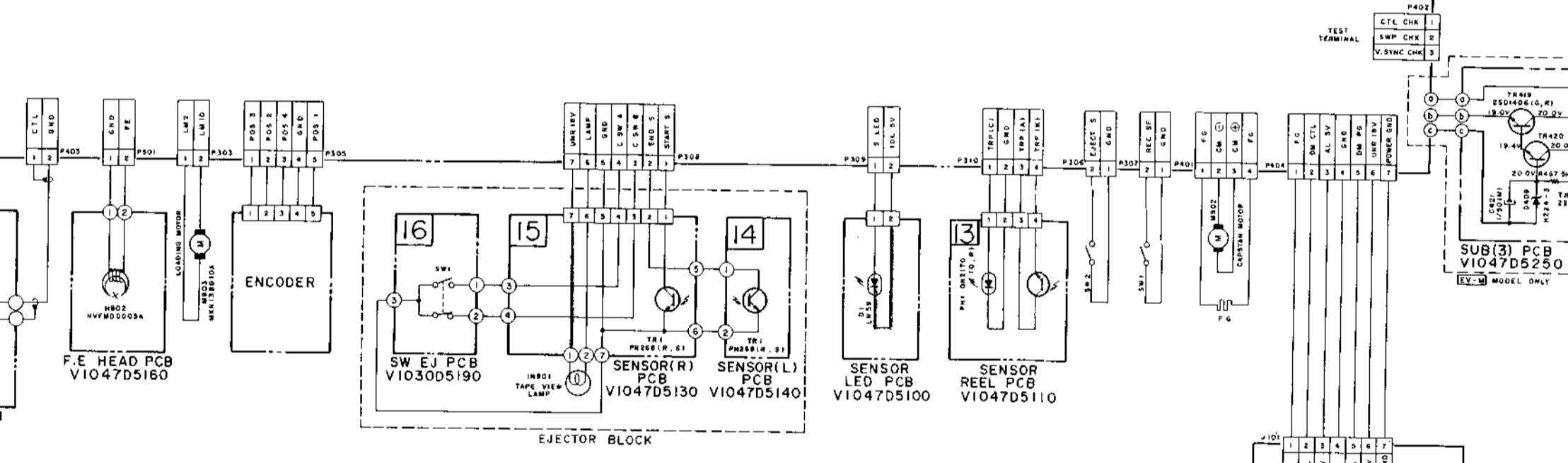


07

OPERATION PCB V1047A5020-A

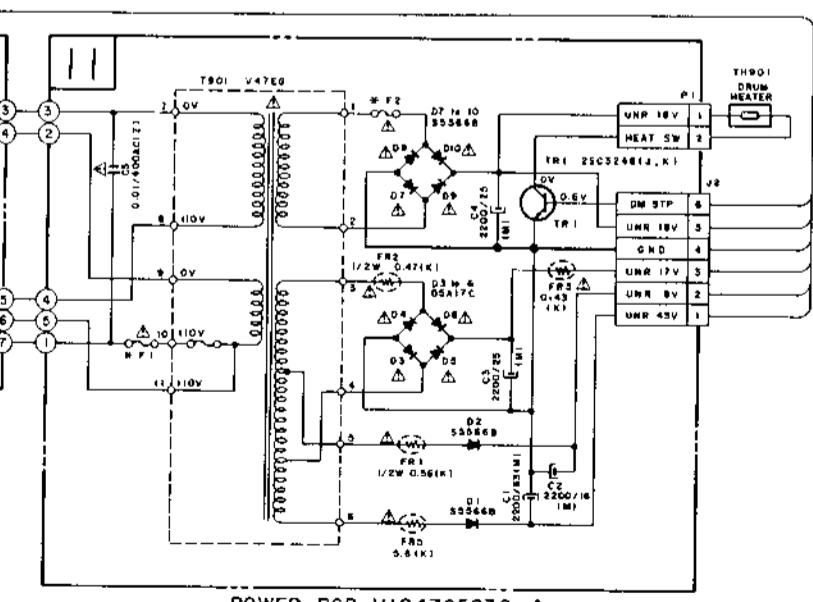


MAIN PCB V1047A5010

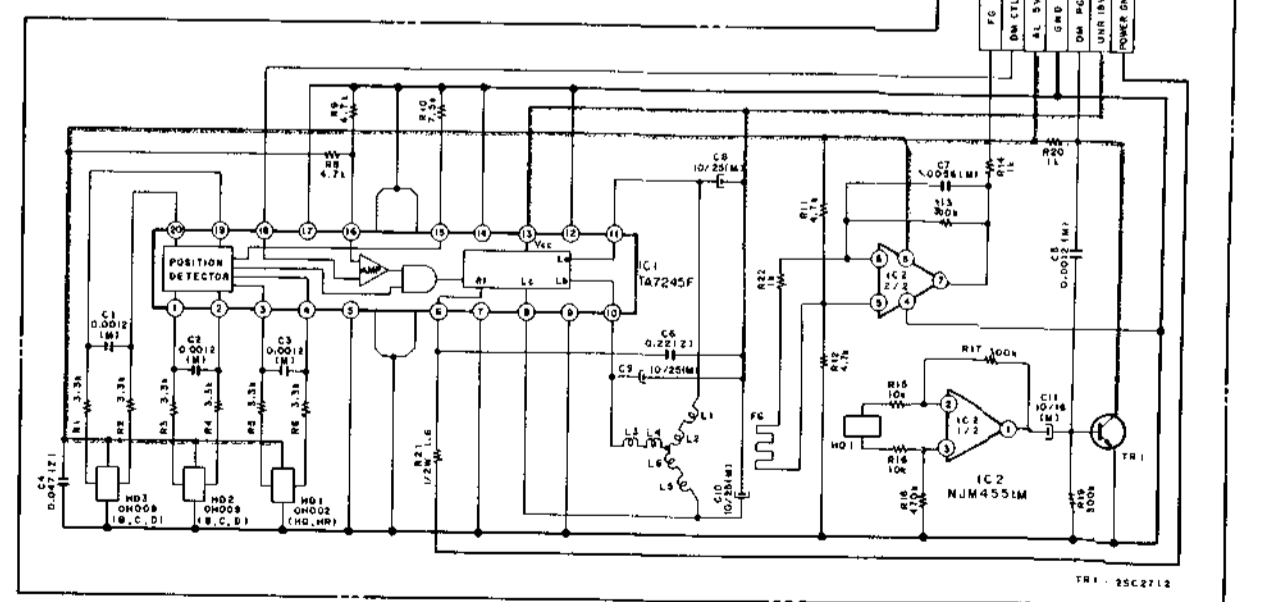


SUB(3) PCB V1047D5250 EV-M MODEL ONLY

POWER PCB V1047C5030-A



MOTOR PCB M3223C5010

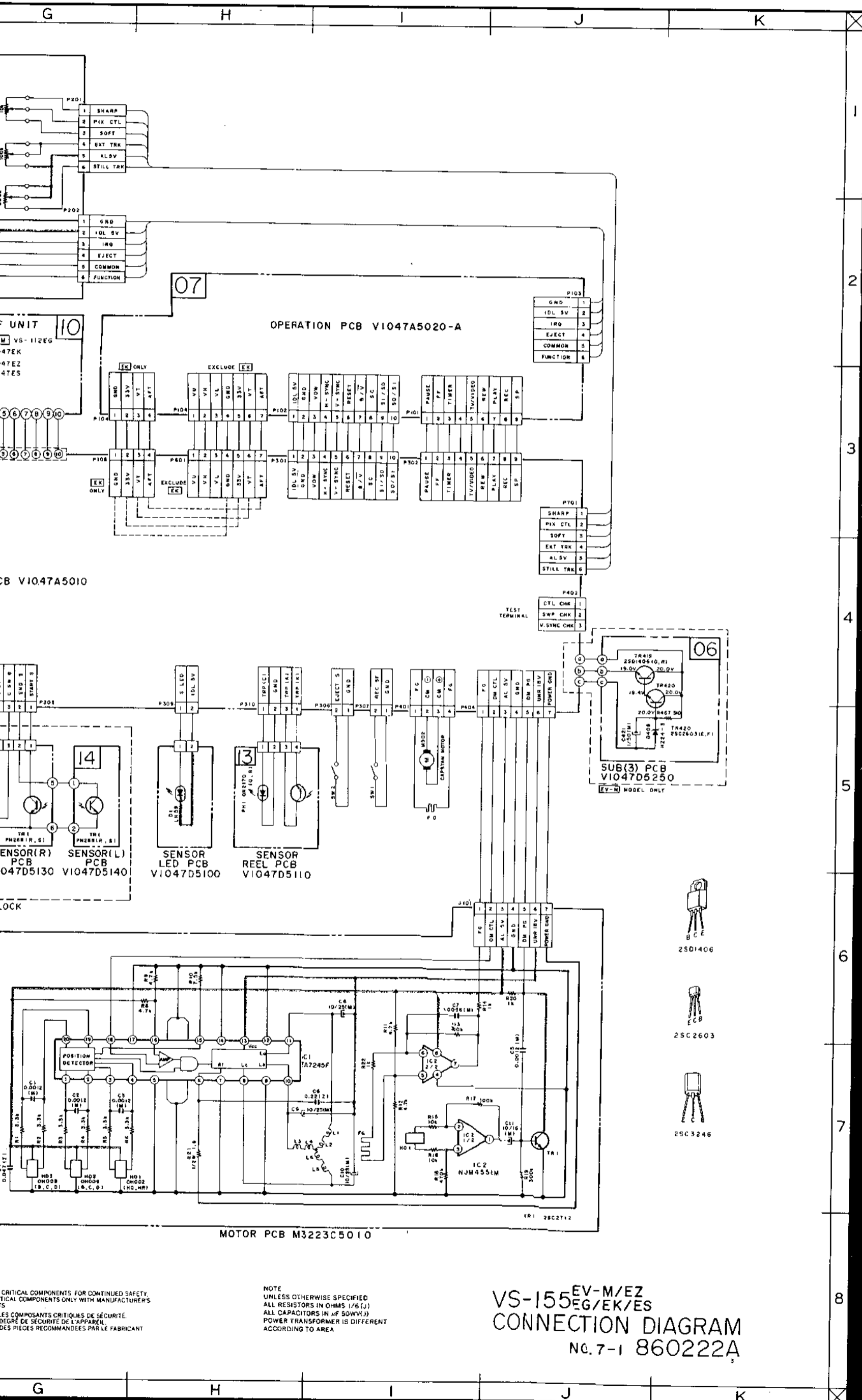


WARNING:  $\Delta$  INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.  
 AVERTISSEMENT:  $\Delta$  IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL. NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

NOTE: UNLESS OTHERWISE SPECIFIED ALL RESISTORS IN OHMS 1/6(J) ALL CAPACITORS IN  $\mu$ F 50WV(J) POWER TRANSFORMER IS DIFFERENT ACCORDING TO AREA

EV-M/EZ  
 VS-155EG/EK/ES  
 CONNECTION DIAG  
 NO.7-1 8602

E F G H I J



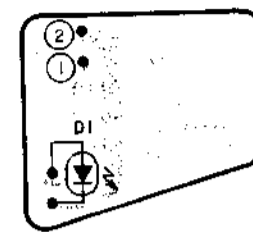
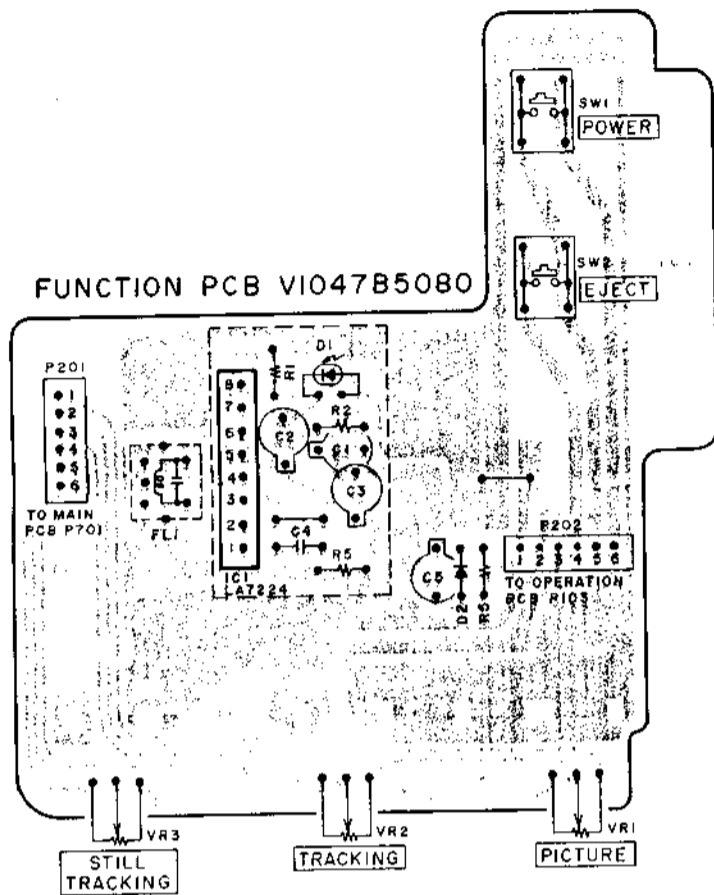
CRITICAL COMPONENTS FOR CONTINUED SAFETY.  
 CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S  
 PART NUMBER.  
 LES COMPOSANTS CRITIQUES DE SÉCURITÉ.  
 SEULEMENT LES COMPOSANTS AVEC LE N° DE  
 DÉSIGNATION DU FABRICANT.

NOTE  
 UNLESS OTHERWISE SPECIFIED  
 ALL RESISTORS IN OHMS (1/6(J)  
 ALL CAPACITORS IN μF (50WV(J)  
 POWER TRANSFORMER IS DIFFERENT  
 ACCORDING TO AREA

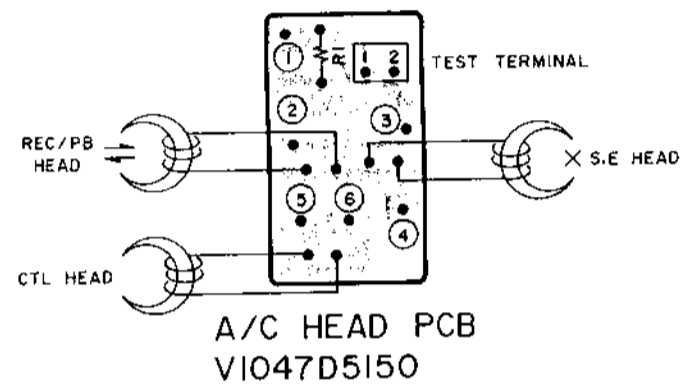
VS-155 EV-M/EZ  
 EG/EK/ES  
 CONNECTION DIAGRAM  
 No. 7-1 860222A

- 25D1406
- 25C2603
- 25C3246

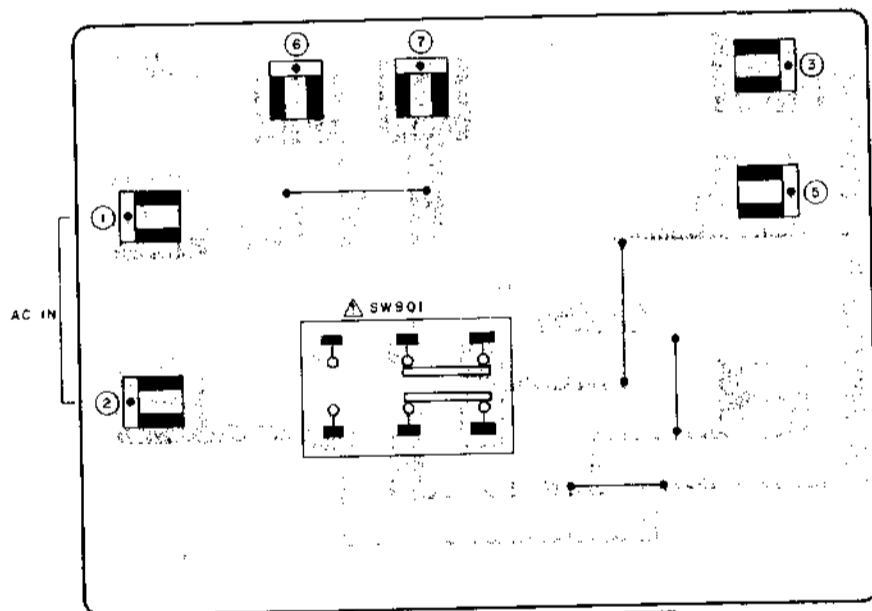




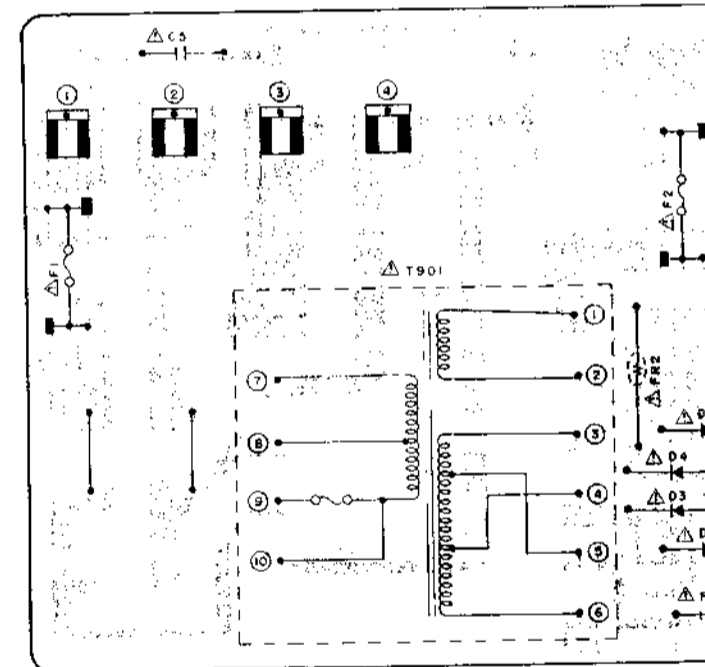
SENSOR LED PCB  
V1047D5100



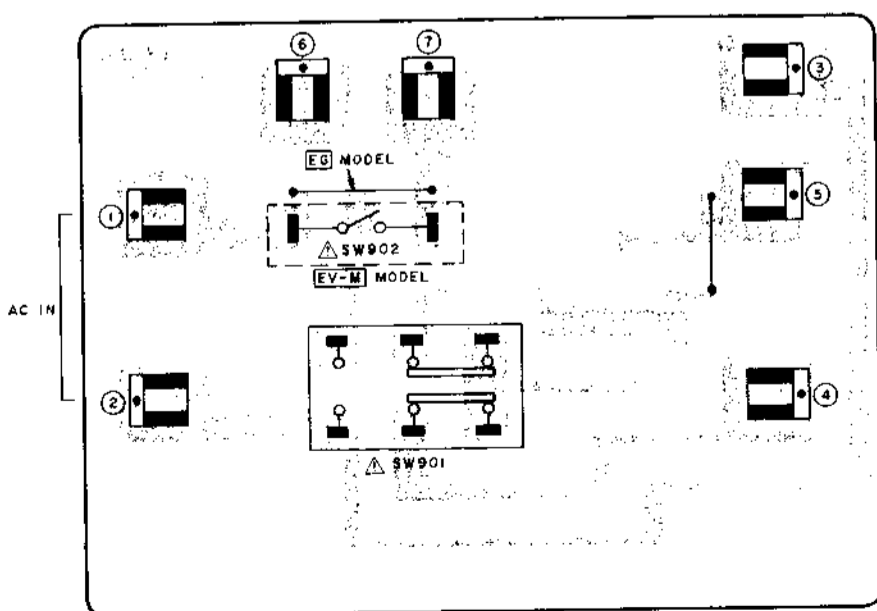
A/C HEAD PCB  
V1047D5150



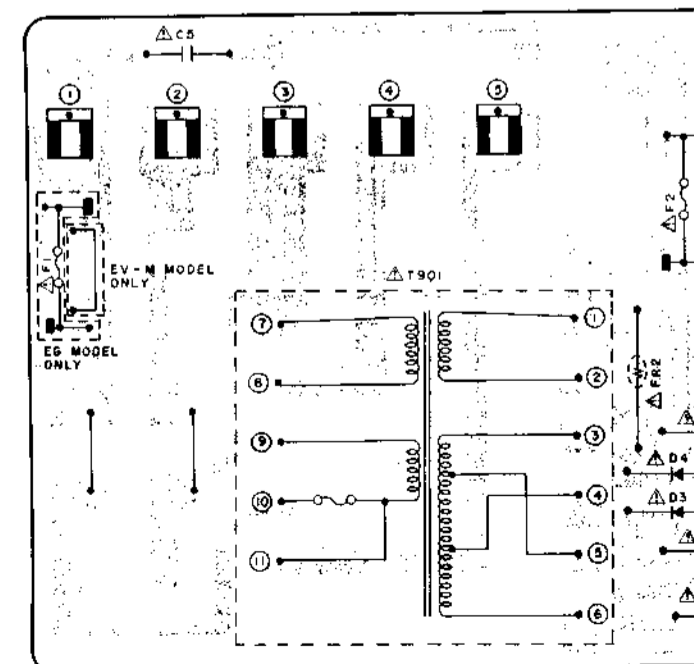
EVM PCB V1047C5060 [EK], [ES]



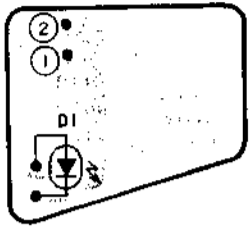
POWER PCB V1047C5030-A



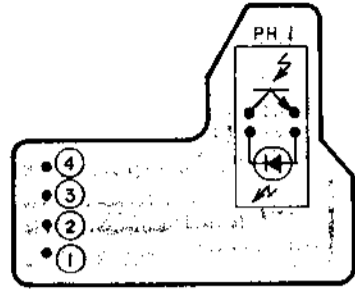
EVM PCB V1047C5060 [EG], [EV-M]



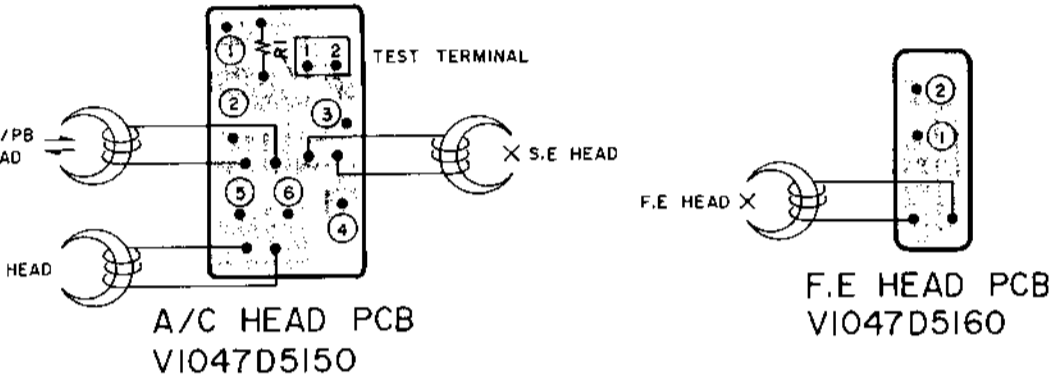
POWER PCB V1047C5030-A



SENSOR LED PCB  
VI047D5100

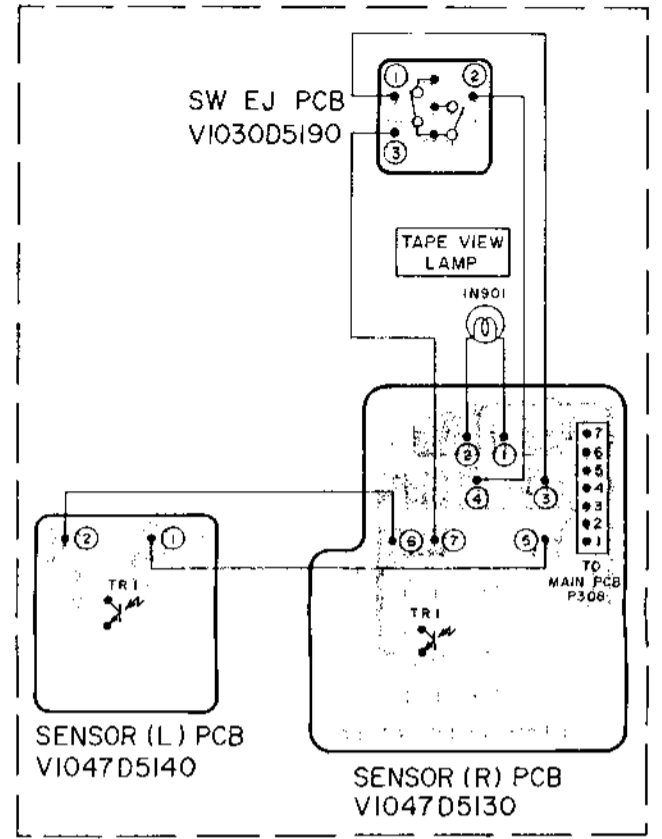


SENSOR REEL PCB  
VI047D5110

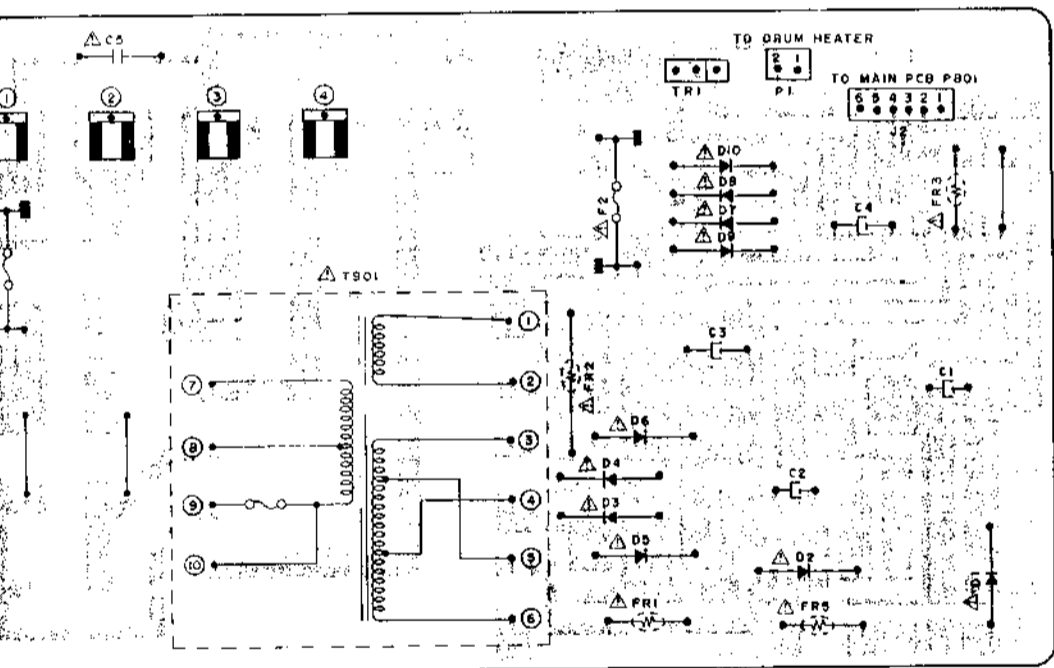


A/C HEAD PCB  
VI047D5150

F.E. HEAD PCB  
VI047D5160



EJECTOR BLOCK

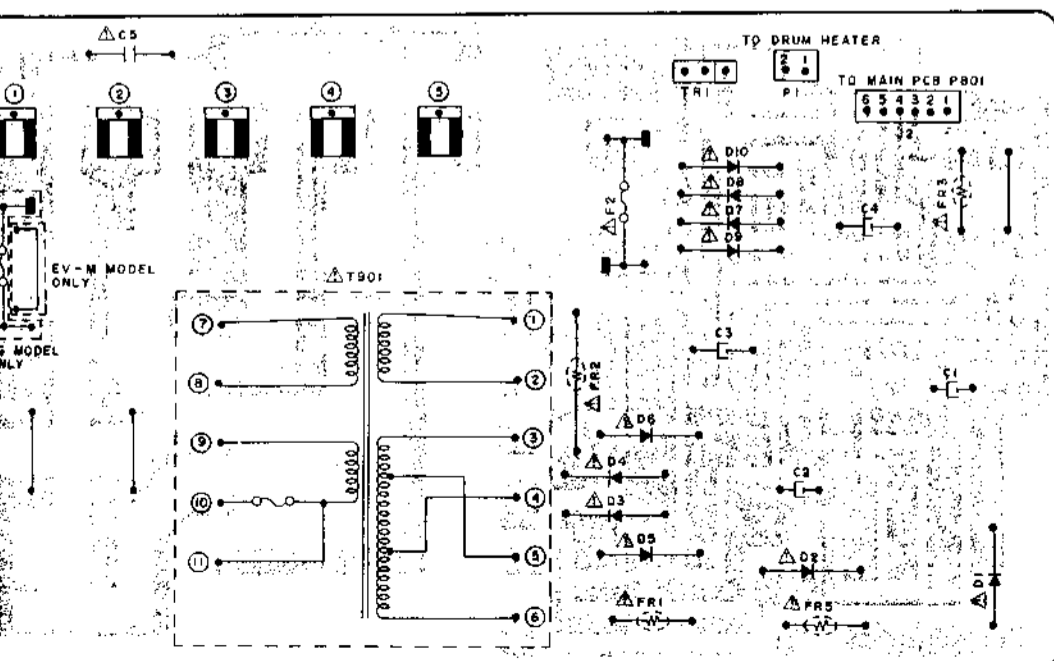


POWER PCB VI047C5030-A

[EK, ES]

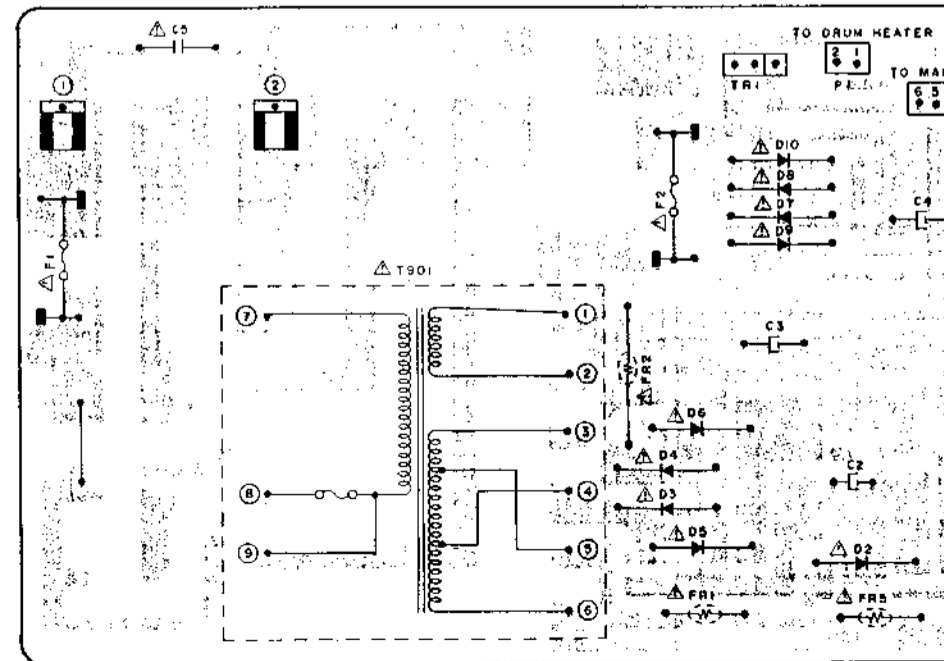
WARNING:  $\Delta$  INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT:  $\Delta$  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



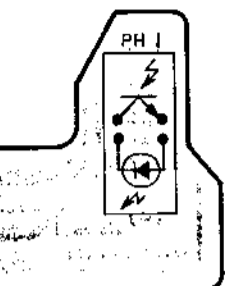
POWER PCB VI047C5030-A

[EG, EV-M]

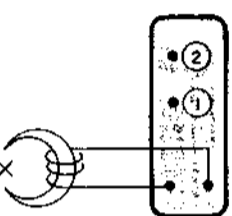


POWER PCB VI047C5030-A

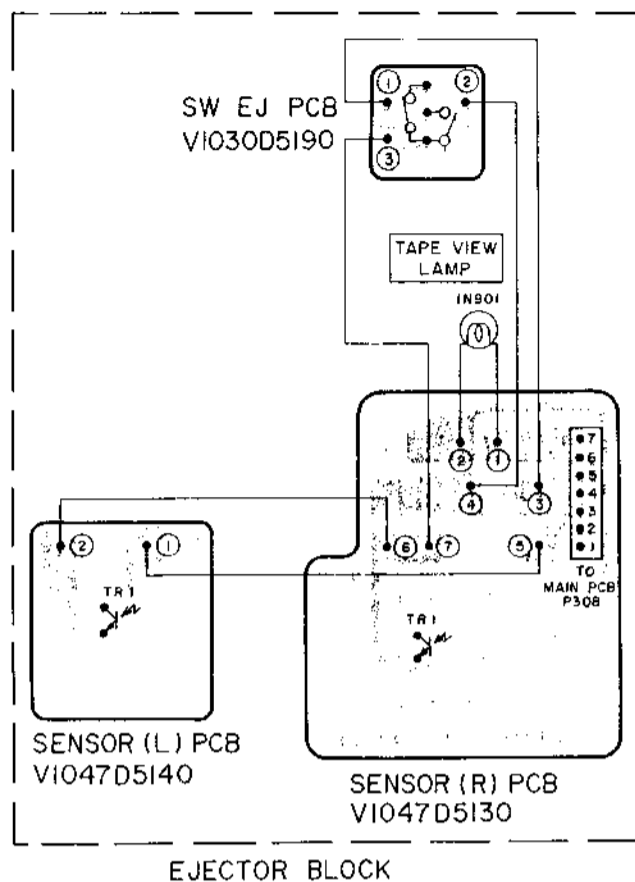
[EZ]



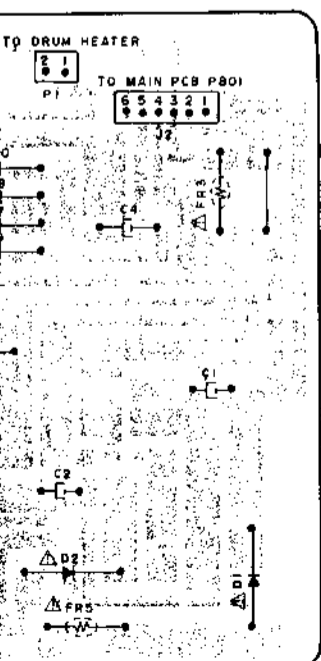
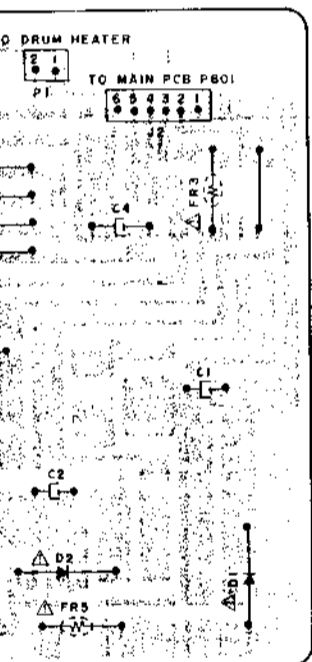
REEL PCB  
V05110



F.E HEAD PCB  
V1047D5160

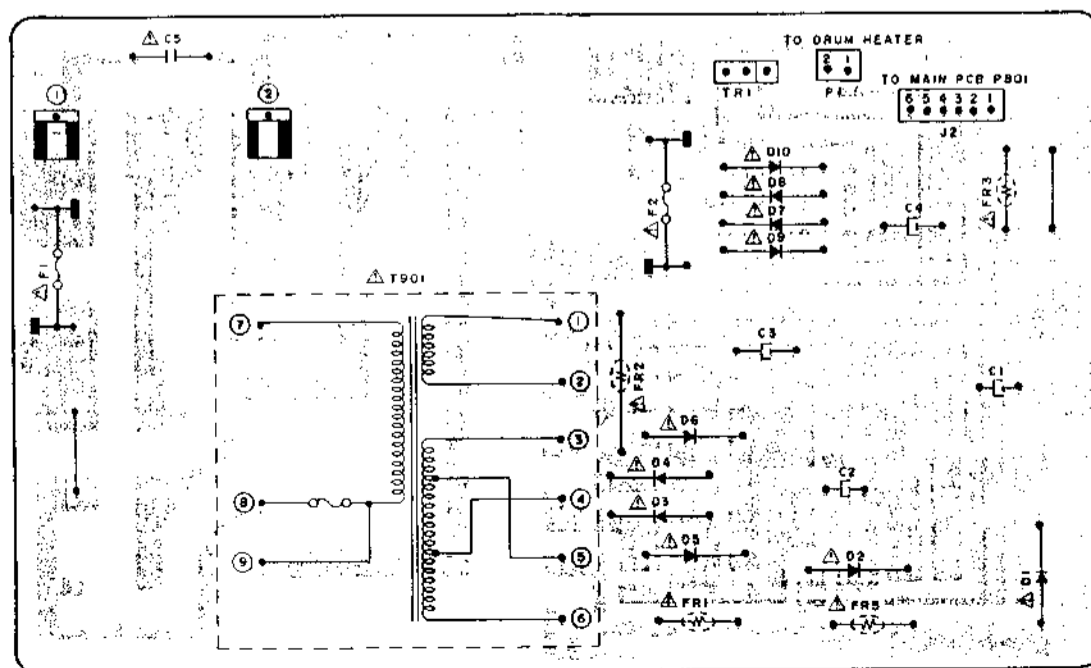


EJECTOR BLOCK

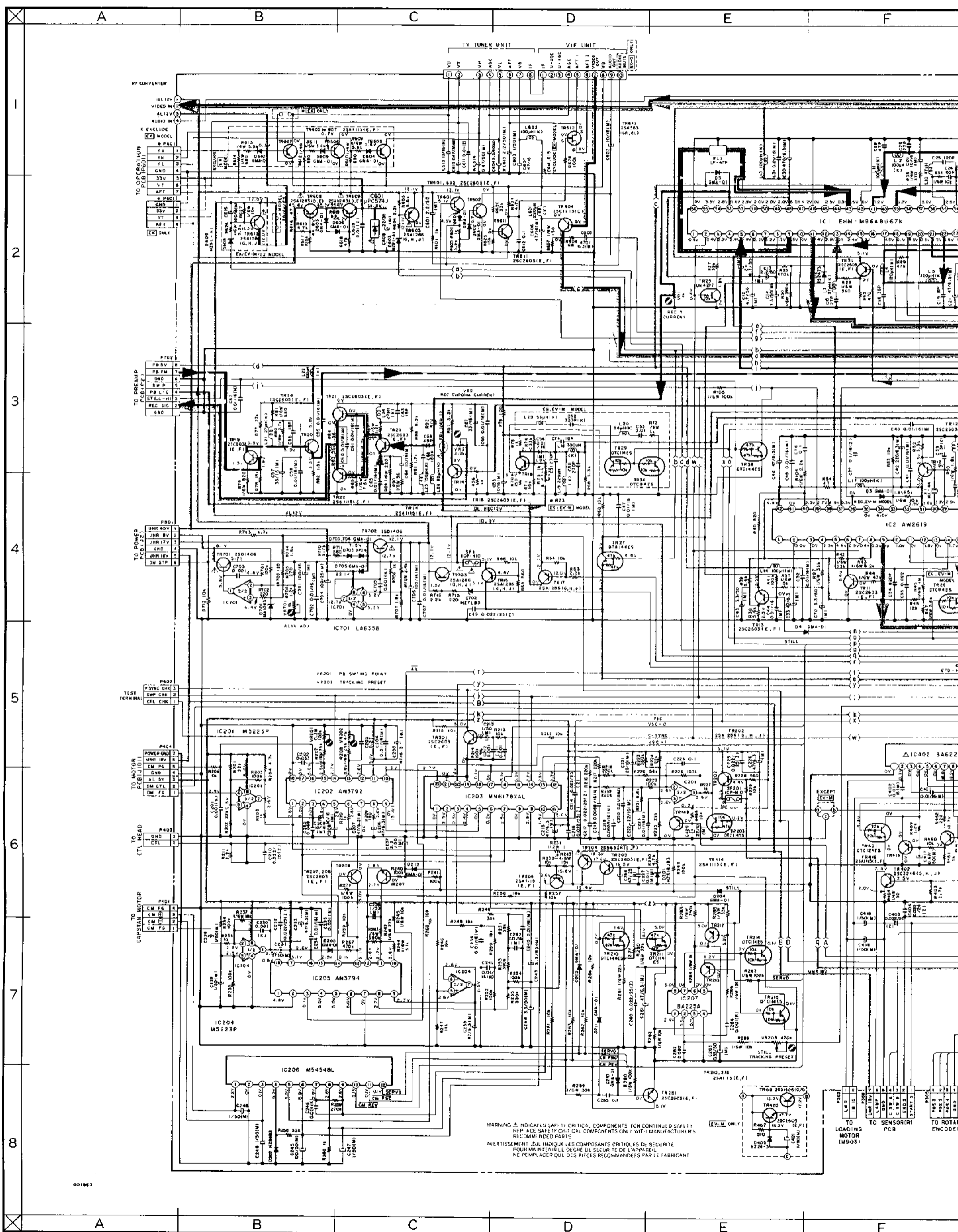


WARNING:  $\Delta$  INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT:  $\Delta$  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



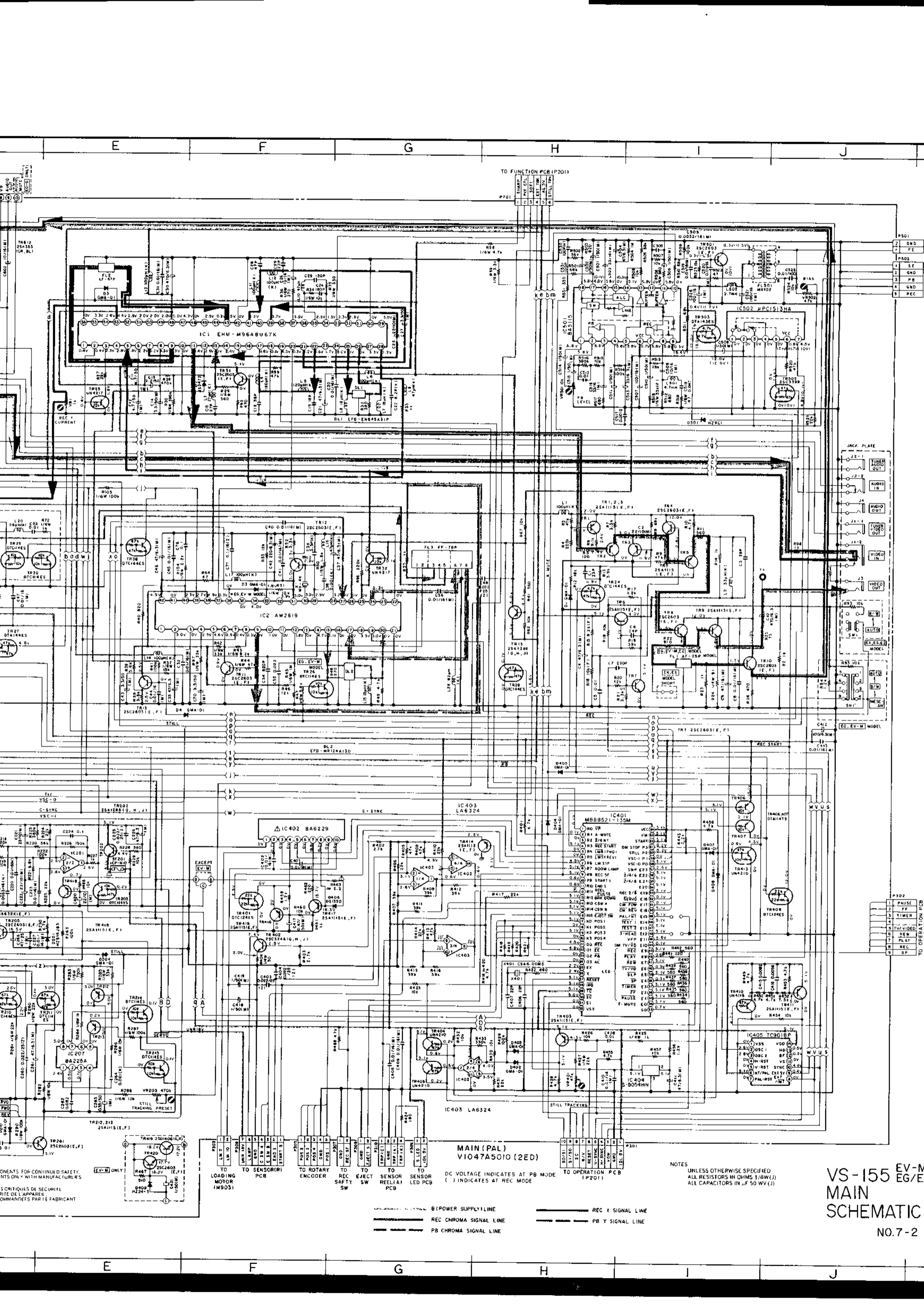
POWER PCB V1047C5030-A [EZ]



WARNING: INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

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

001860



TO FUNCTION PCB (P201)

P201

P501  
 2 GND  
 7 FE  
 P502  
 1 SE  
 2 PB  
 3 GND  
 4 GND  
 5 REC

JACK PLATE  
 J2-1  
 J2-2  
 J4  
 J1-1  
 J1-2  
 J3  
 J5  
 J6  
 J7  
 J8  
 J9  
 J10  
 J11  
 J12  
 J13  
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 J89  
 J90  
 J91  
 J92  
 J93  
 J94  
 J95  
 J96  
 J97  
 J98  
 J99  
 J100

P302  
 1 FF  
 2 TIMER  
 3 TV/VIDEO  
 4 PLAY  
 5 REC  
 6 SP

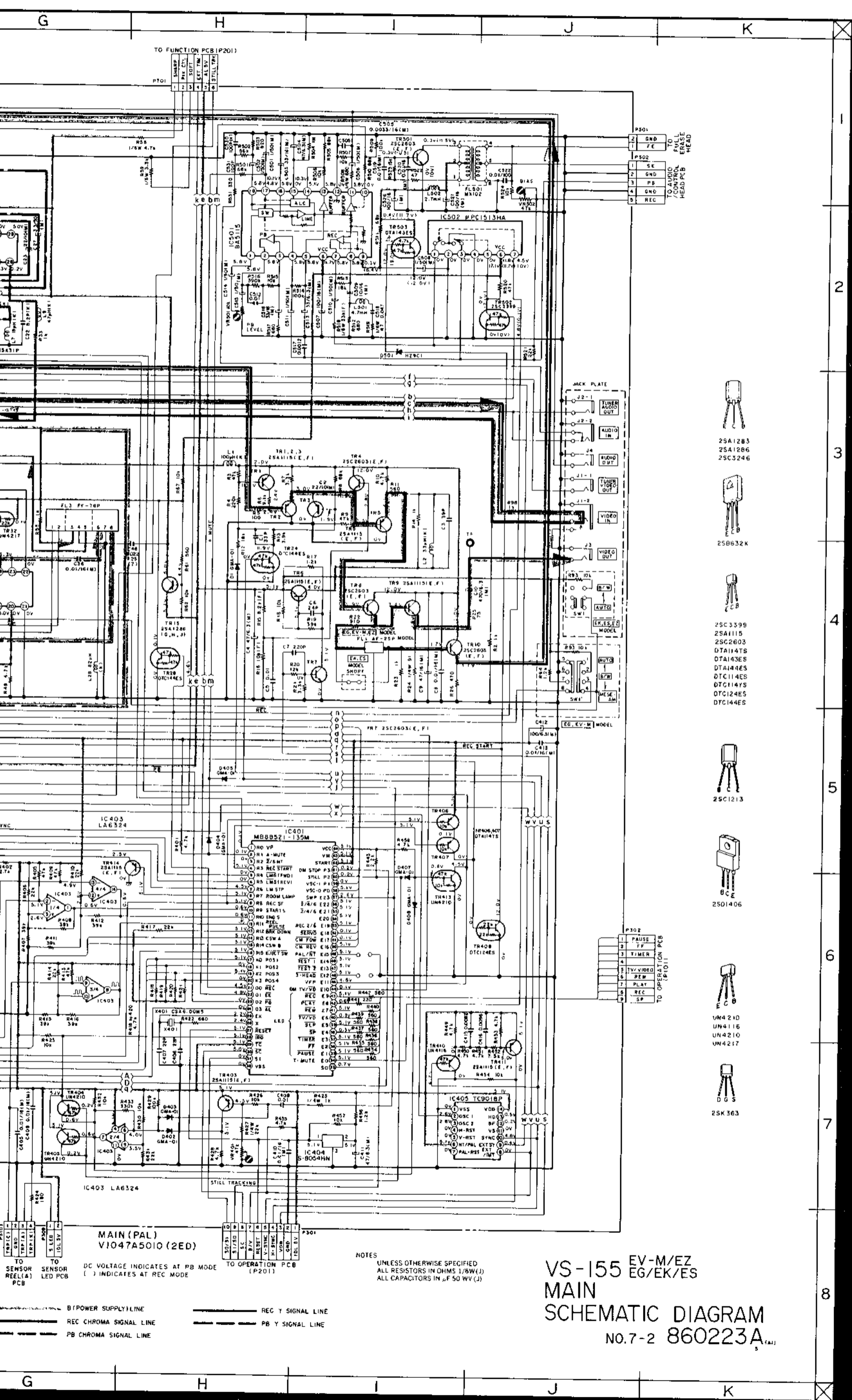
MAIN (PAL)  
 V1047A5010 (2ED)

NOTES  
 UNLESS OTHERWISE SPECIFIED  
 ALL RESISTORS IN OHMS (R/WV(J))  
 ALL CAPACITORS IN μF (50 WV(J))

VS-155 EV-M  
 EG/E  
 MAIN  
 SCHEMATIC  
 NO.7-2

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

5 CRITIQUES DE SECURITE  
 SITE DE L'APPAREIL  
 COMMANDES PAR LE FABRICANT



1  
2  
3  
4  
5  
6  
7  
8

- 25A1283
- 25A1286
- 25C3246
- 25B832K
- 25C3399
- 25A1115
- 25C2603
- DTA144S
- DTA143ES
- DTA144ES
- DTC114ES
- DTC114YS
- DTC124ES
- DTC144ES
- 25C1213
- 25D1406
- UN4210
- UN4116
- UN4210
- UN4217
- DGS
- 25K363

VS-155 EV-M/EZ  
EG/EK/ES  
MAIN  
SCHEMATIC DIAGRAM  
NO.7-2 860223A(1)

NOTES  
UNLESS OTHERWISE SPECIFIED  
ALL RESISTORS IN OHMS 1/8W(J)  
ALL CAPACITORS IN μF 50 WV(J)

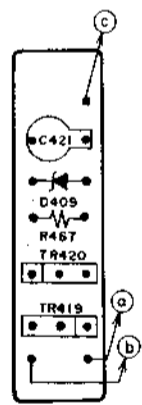
TO FUNCTION PCB (P201)  
TO OPERATION PCB (P101)  
TO SENSOR REEL(A) PCB  
TO SENSOR LED PCB  
DC VOLTAGE INDICATES AT PB MODE  
( ) INDICATES AT REC MODE  
TO OPERATION PCB (P201)  
TO OPERATION PCB (P101)

BIPOWER SUPPLY LINE  
REC CHROMA SIGNAL LINE  
PB CHROMA SIGNAL LINE  
REC Y SIGNAL LINE  
PB Y SIGNAL LINE

LOCATION OF COMPONENT

IC's	CONNECTOR's
IC1	B4
IC2	E4
IC201	F1
IC202	F2
IC203	G2
IC204	G1
IC205	GH1
IC206	H1
IC207	H3
IC401	H5
IC402	H4
IC403	G5
IC404	H6
IC406	G6
IC501	D2
IC502	E2
IC601	B2
IC701	D6
P301	H6
P302	H5
P303	H4
P305	G5
P306	G5
P307	G4
P308	F5, 6
P309	F4
P310	F4
P401	F4
P402	F, G3
P403	F, G2
P404	F1
P501	E3
P502	E2
P601	B, C2
P701	E3
P702	C, D3
P801	D6

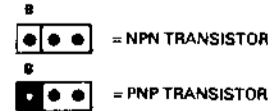
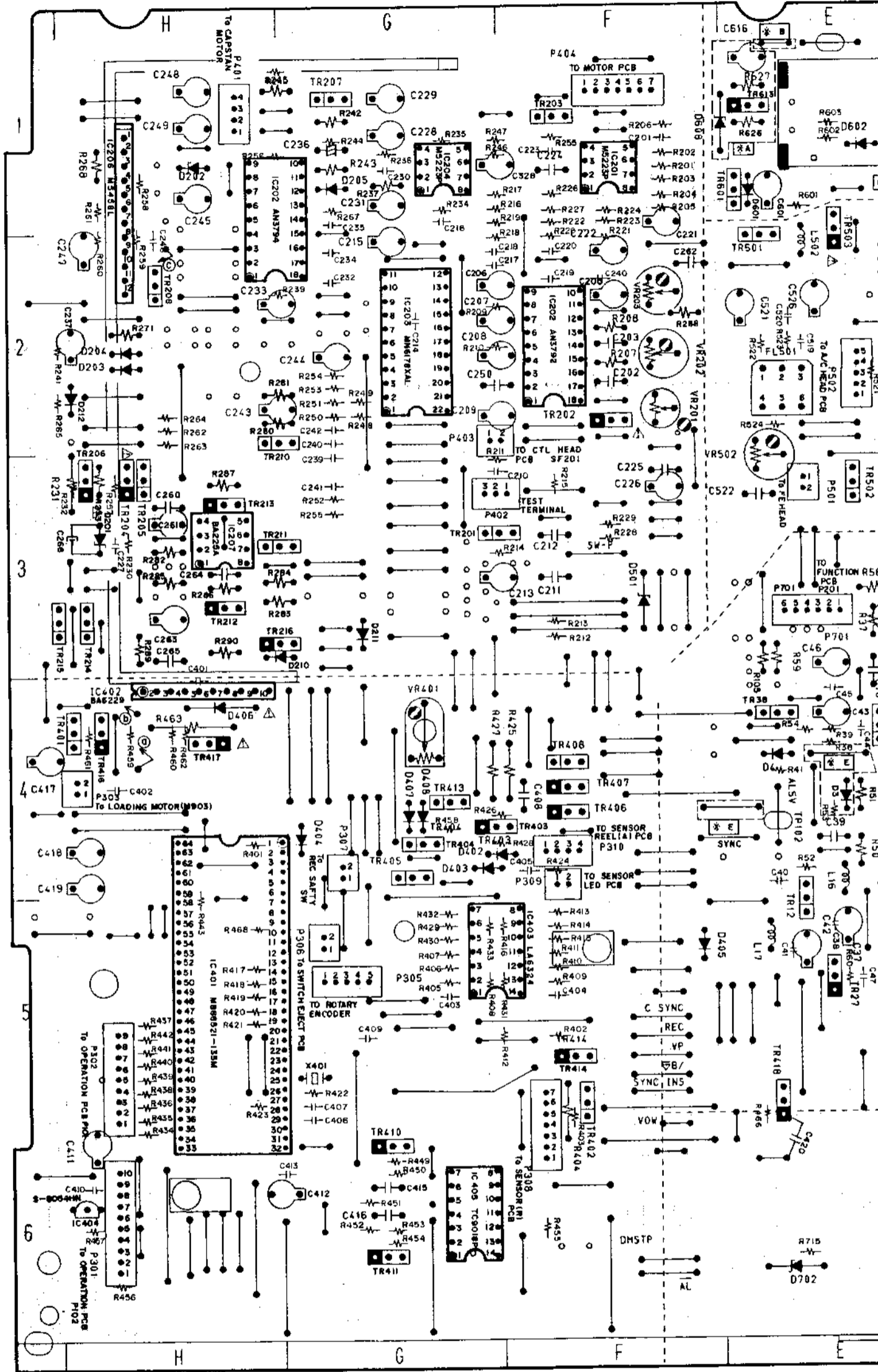
TRANSISTOR's	
TR1	C5, 6
TR2	C5
TR3	C5
TR4	C5
TR5	B5
TR6	B5, 6
TR7	B5, 6
TR8	B5
TR9	B5
TR10	B5
TR11	D4
TR12	E4, 5
TR13	E4
TR14	D4
TR15	D5, 6
TR16	D5
TR17	C5
TR18	C4
TR19	C4
TR20	C3
TR21	D3
TR22	D3
TR23	D4
TR24	C, D5
TR25	B, C5
TR26	D4
TR27	E5
TR28	E6
TR29	C4
TR30	C4
TR31	B, C4
TR32	E5
TR38	E4
TR201	FG3
TR202	F2
TR203	F1
TR204	H3
TR205	H3
TR206	H3
TR207	G1
TR208	H2
TR210	G, H2
TR211	G, H3
TR212	H3
TR213	H3
TR214	H3
TR215	H3
TR216	G, H3
TR401	H4
TR402	F5
TR403	F, G4
TR404	G4
TR405	G4
TR406	F4
TR407	F4
TR408	F4
TR410	G6
TR411	G6
TR413	G4
TR414	F5
TR416	H4
TR417	H4
TR418	E5, 6
TR501	E2
TR502	E3
TR503	E1, 2
TR601	E1
TR602	E1
TR603	C2
TR604	C1
TR605	C1, 2
TR606	B1, 2
TR607	B1, 2
TR608	B2
TR609	B2
TR611	B2
TR612	B1
TR613	E1
TR701	B6
TR702	B6
TR703	D, E6



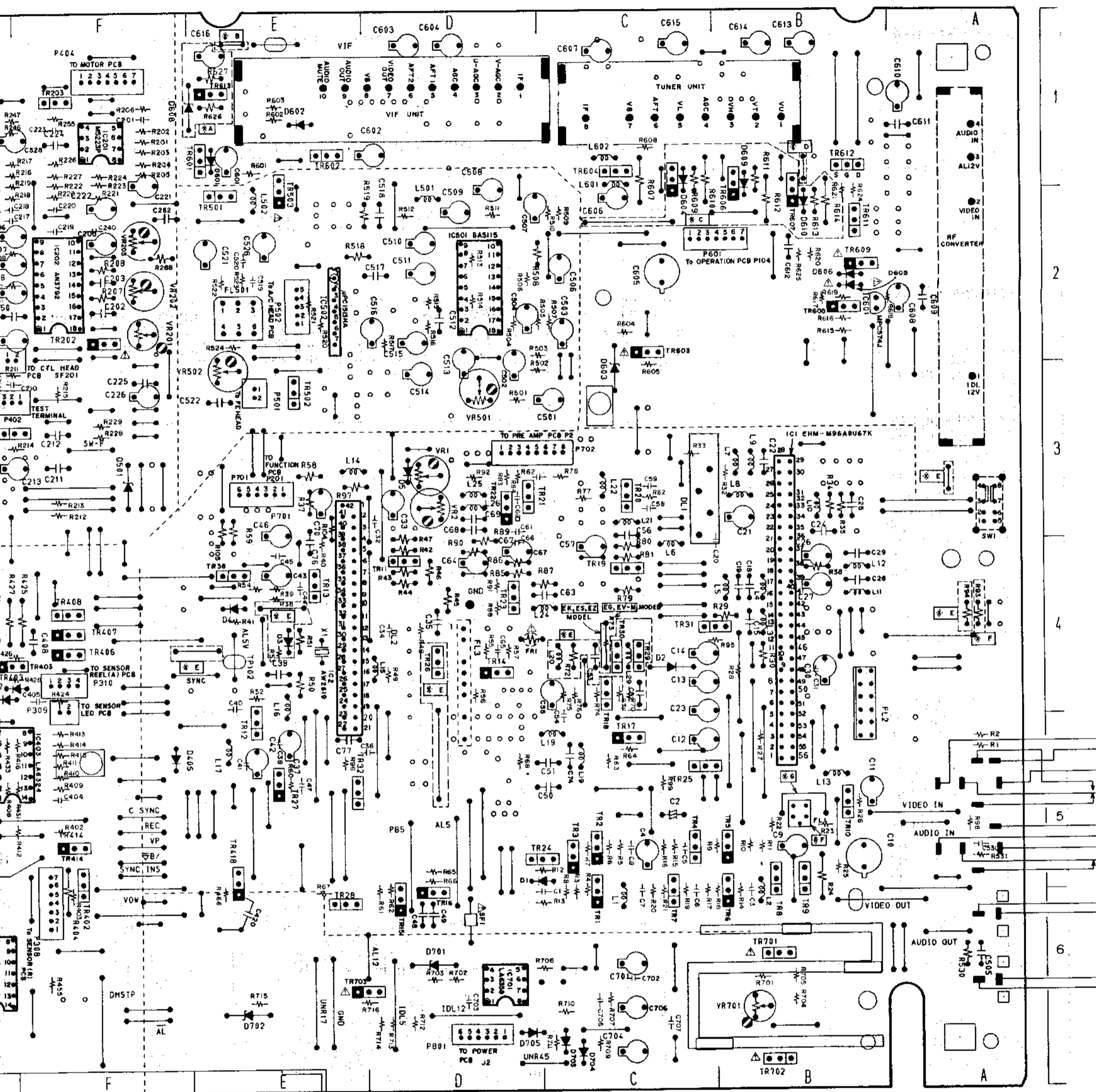
SUB(3)PCB  
VIO47D5250

ADJUSTMENT VOLUME's

VR NO.	LOCATION	ADJUSTMENT ITEM
VR1	D3	Y REC CURRENT
VR2	D3	CHROMA REC CURRENT
VR201	E2	PB SWITCHING POINT
VR202	E2	TRACKING PRESET
VR203	E2	STILL TRACKING PRESET
VR401	G4	VERTICAL STABILITY
VR501	D3	PB AUDIO LEVEL
VR502	E2, 3	AUDIO BIAS CURRENT
VR701	A6	AL 5 VOLT

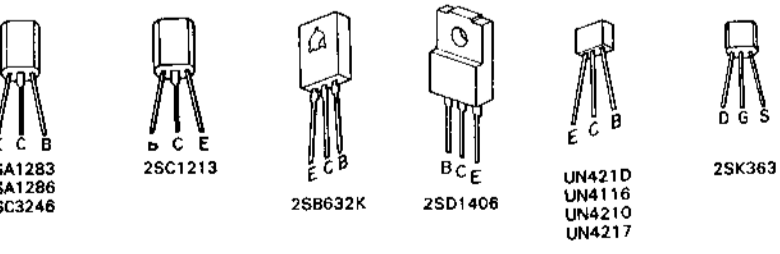


- 2SA1115
- 2SC2603
- 2S3399
- DTA114TS
- DTA143ES
- DTA144ES
- DTC114ES
- DTC114YS
- DTC124ES
- DTC144ES
- 2SA1283
- 2SA1286
- 2SC3246
- 2SC1213
- 2SB632K
- 2SD1406
- UN421D
- UN4116
- UN4210
- UN4217



**MAIN PCB VIO47A5010 (2ED)**

ALL THE CHIP PARTS CONNECTED ON THE PATTERN SIDE THEY ARE INDICATED BY -W- H- MARKS



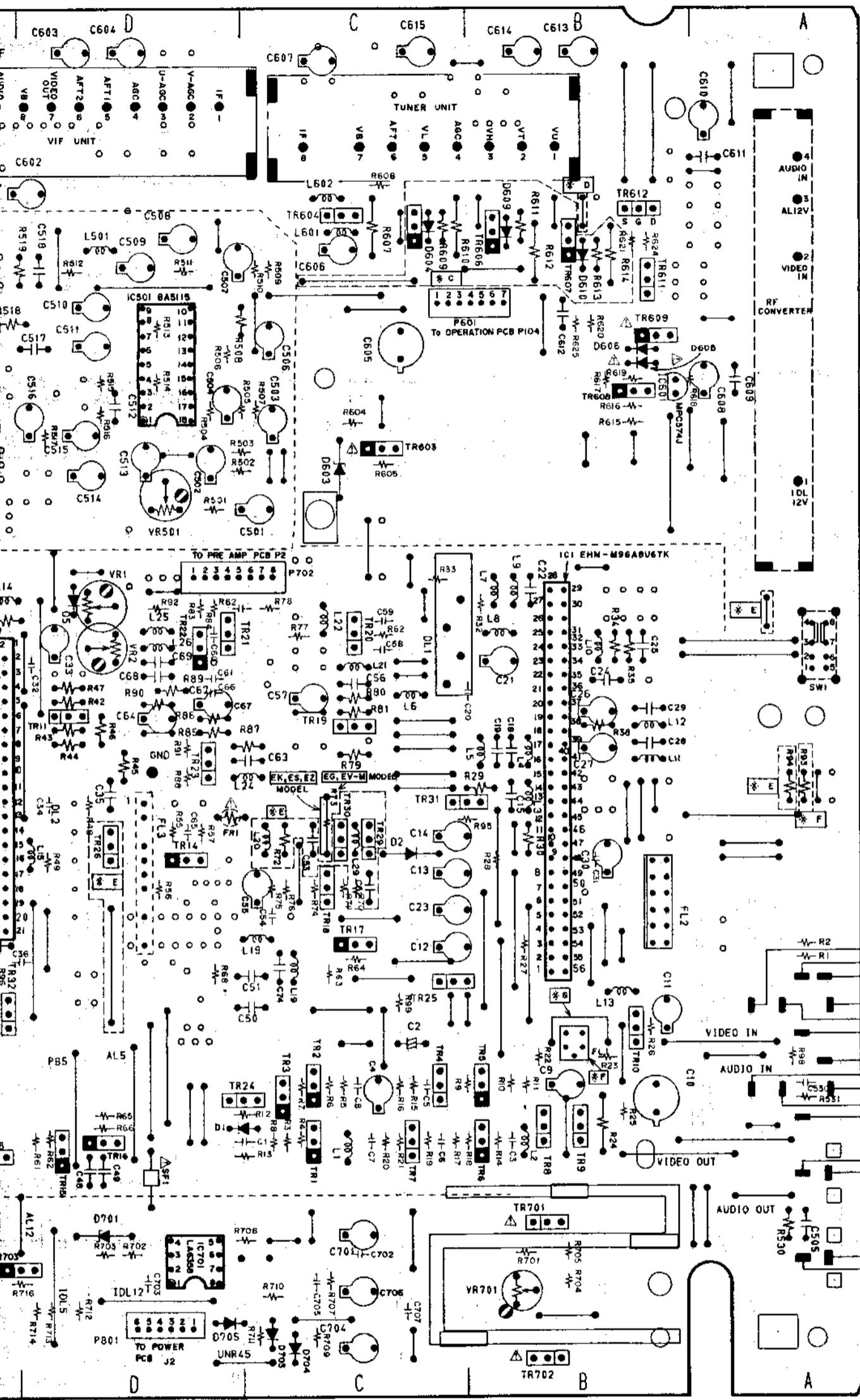
WARNING ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

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.

NOTE \* M

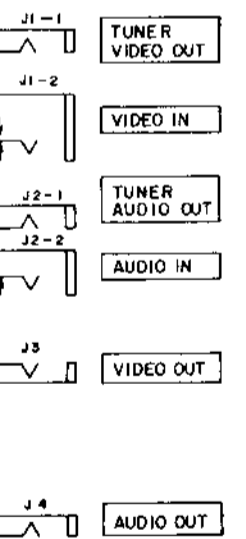
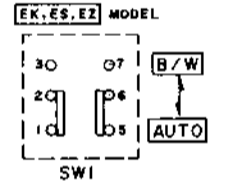
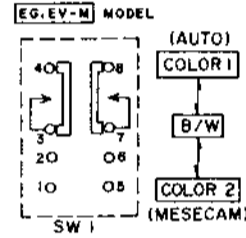
MARK
*A
*B
*C
*D
*E
*F
*G





**TRANSISTOR'S**

TR1 to 3, 5, 6, 9, 14, 22, 205, 212, 213, 403, 411, 414 to 418, 605 to 607	2SA1115 (E,F,G)
TR4, 7, 8, 10 to 13, 18 to 21, 23, 31, 201, 205, 207, 208, 216, 420, 501, 601, 602, 611	2SC2603 (G)
TR15 to 17, 202, 603, 613, 703	2SA1286 (G,H,J)
TR24, 28, 38, 210	DTC144ES
TR25, 32	UN4217
TR26, 29, 30, 214, 215	DTC114ES
TR27	DTA144ES
TR203	DTC114YS
TR204	2SB632K
TR211	DTC114TS
TR401, 408	DTC124ES
TR402	2SC3246 (G,H,J)
TR404, 405	UN4210
TR406, 407	DTA114TS
TR410	UN4116
TR413	UN411D
TR502	2SC3399
TR503	DTA143ES
TR604	2SC1213C
TR608, 609	2SA1283 (D,E)
TR612	2SK363 (GR,BL)
TR701, 702	2SD1408 (GR)



**MAIN PCB VIO47A5010 (2ED)**

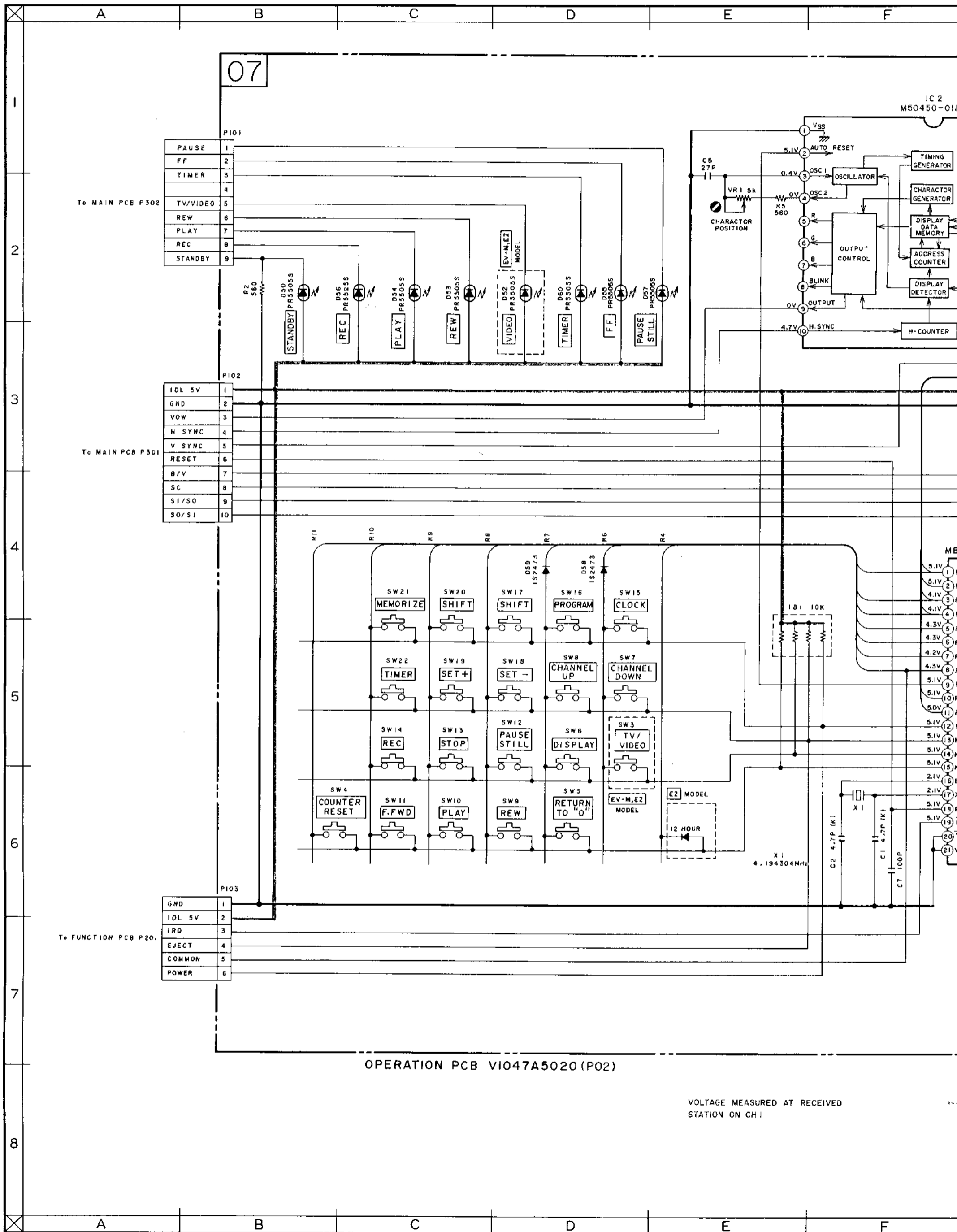
ALL THE CHIP PART'S CONNECTED ON THE PATTERN SIDE THEY ARE INDICATED BY -W-H- MARKS

**WARNING** ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'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.

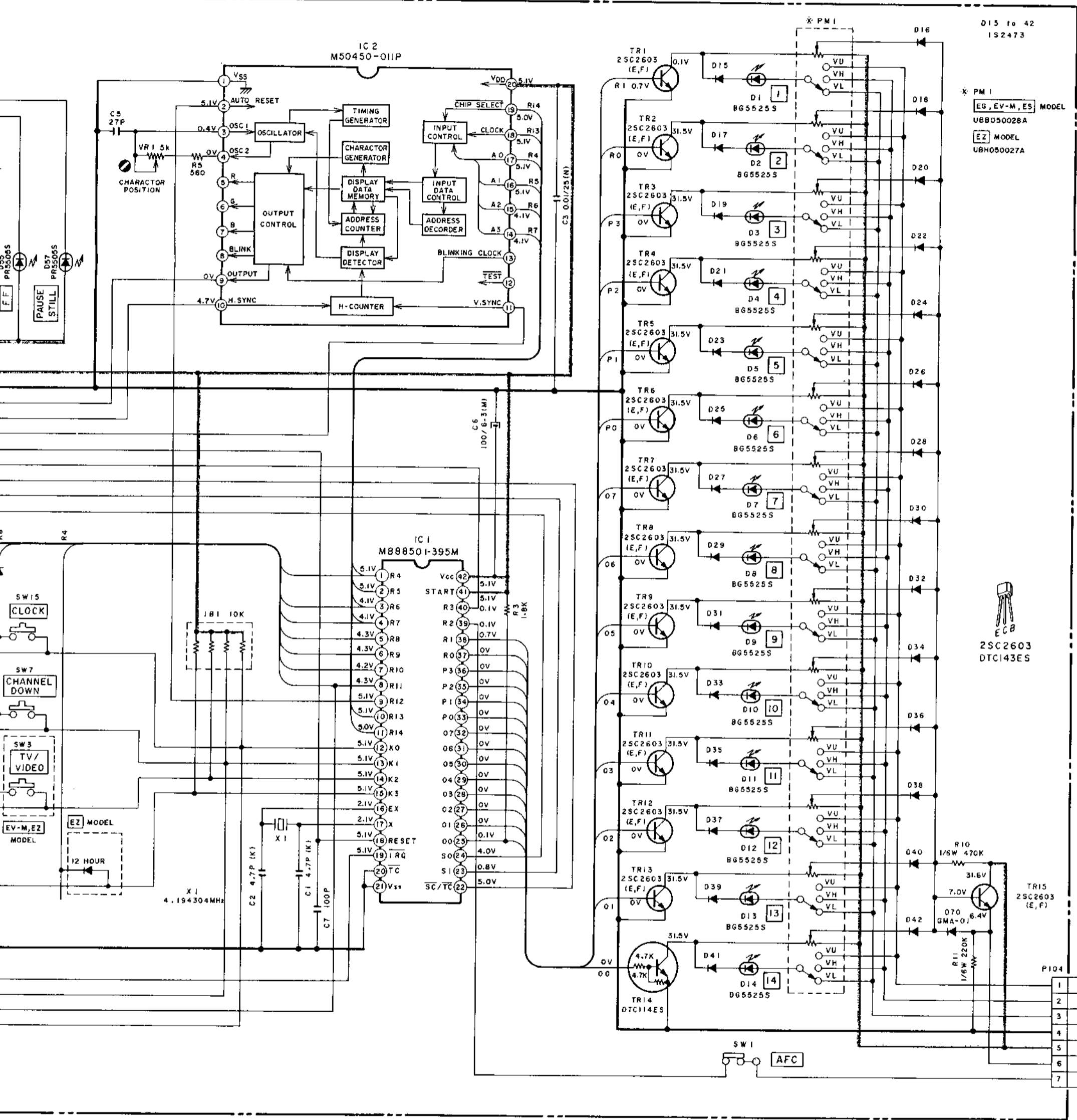
**NOTE \* MARK**

MARK	DESTINATION
*A	EV-M EZ model only
*B	EG, EK, ES model only
*C	EG, ES, EV-M, EZ model only
*D	EK model only
*E	EG, EV-M model only
*F	EK, ES model only
*G	EG, EV-M, EZ model only



OPERATION PCB V1047A5020 (P02)

VOLTAGE MEASURED AT RECEIVED STATION ON CH 1

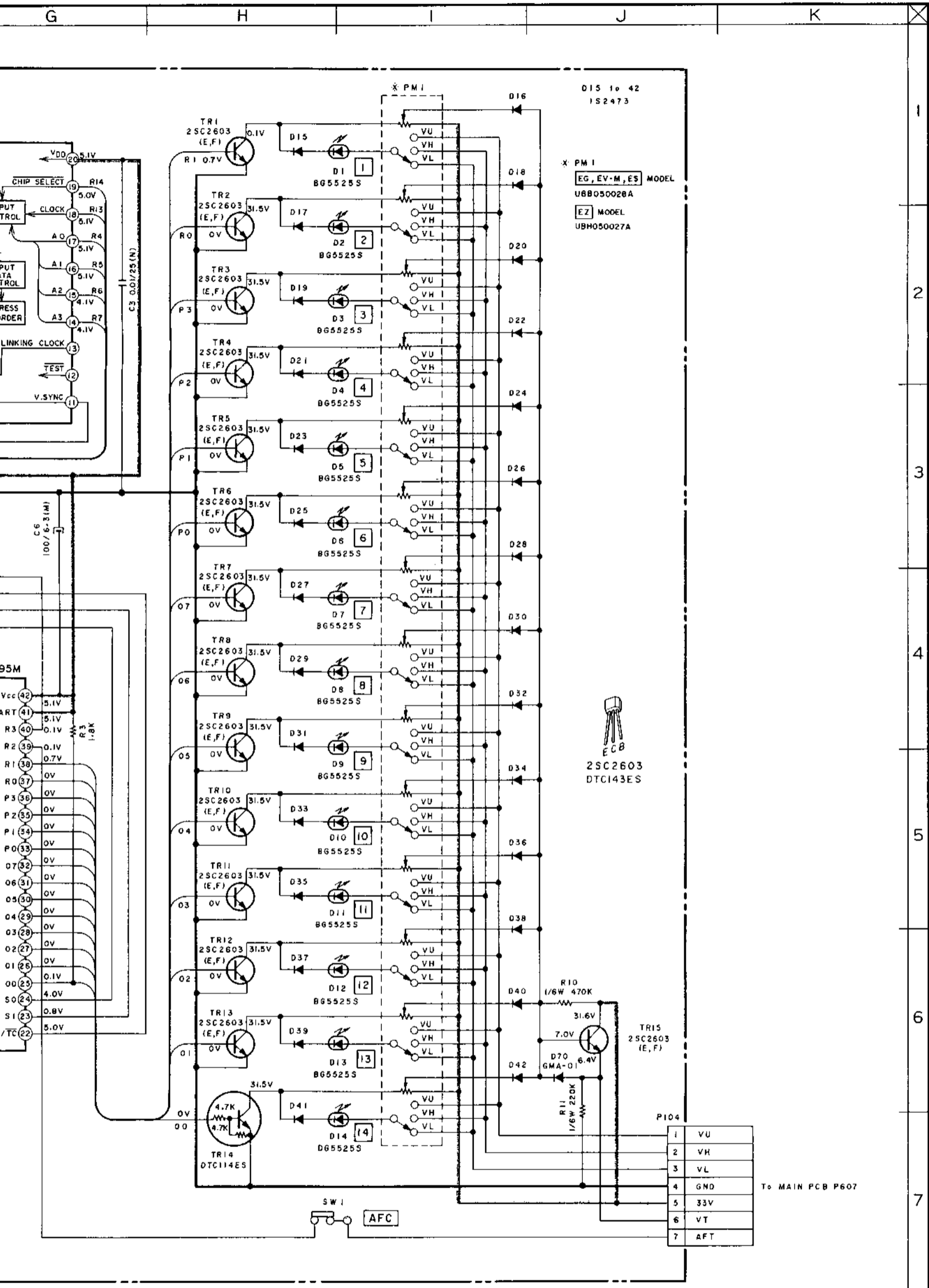


VOLTAGE MEASURED AT RECEIVED STATION ON CH 1

... = B (POWER SUPPLY) LINE

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

**VS-155 EG/ES/EV OPERATION SCHEMATIC D**



D15 to 42  
152473

\* PM 1  
EG, EV-M, ES MODEL  
UBB050028A  
EZ MODEL  
UBH050027A

ECB  
2SC2603  
DTC143ES

1	VU
2	VH
3	VL
4	GND
5	33V
6	VT
7	AFT

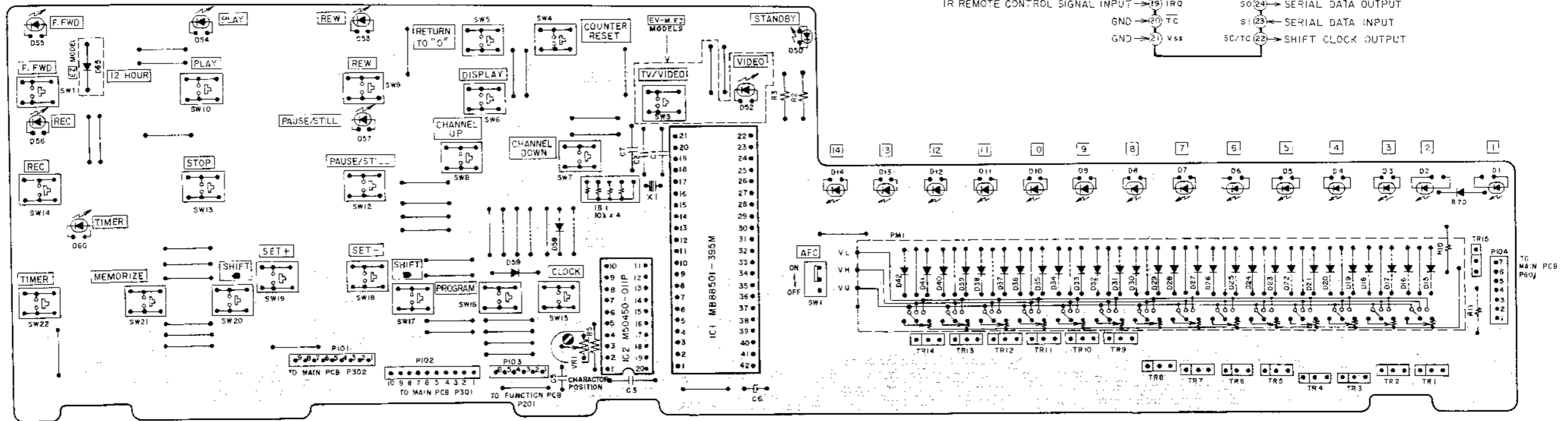
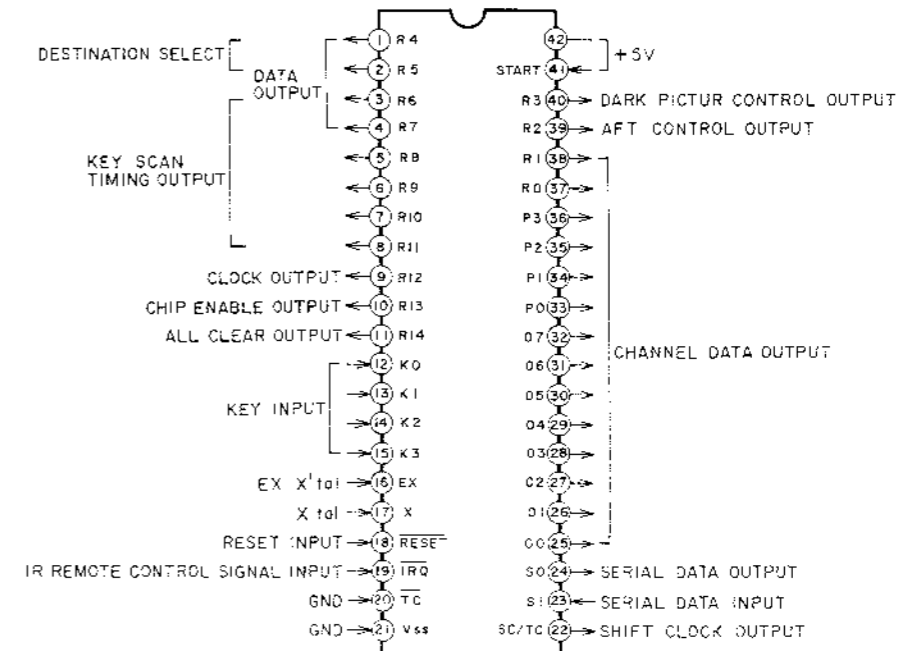
To MAIN PCB P607

NOTE  
UNLESS OTHERWISE SPECIFIED  
ALL RESISTORS IN OHMS 1/4W(J)  
ALL CAPACITORS IN  $\mu$ F 50V(J)

VS-155 EG/ES/EV-M/EZ  
OPERATION  
SCHEMATIC DIAGRAM  
NO. 7-3 860224 A

--- B (POWER SUPPLY) LINE

MB88501-395M (OPERATION MPU)

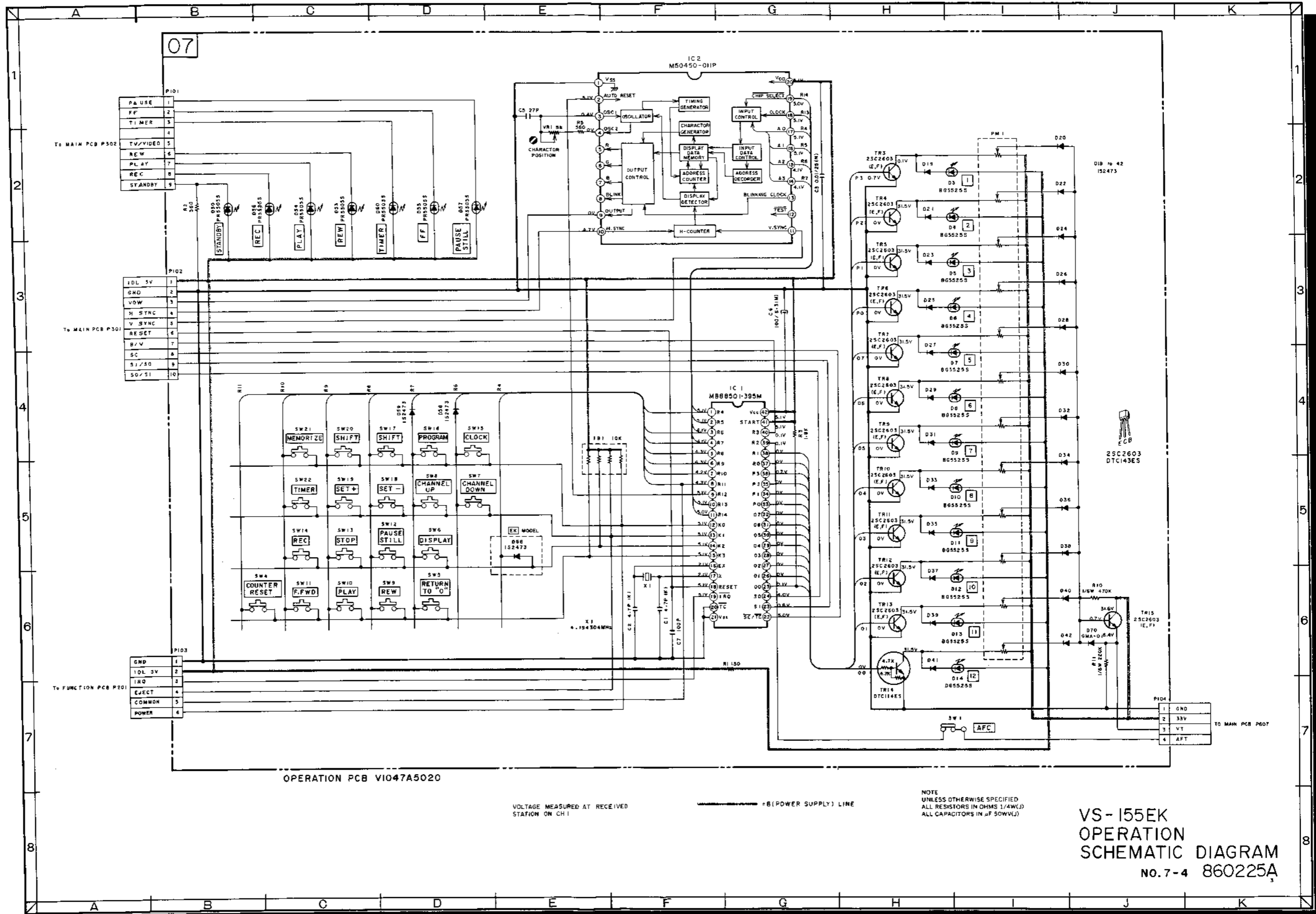


OPERATION PCB V1047A5020-A

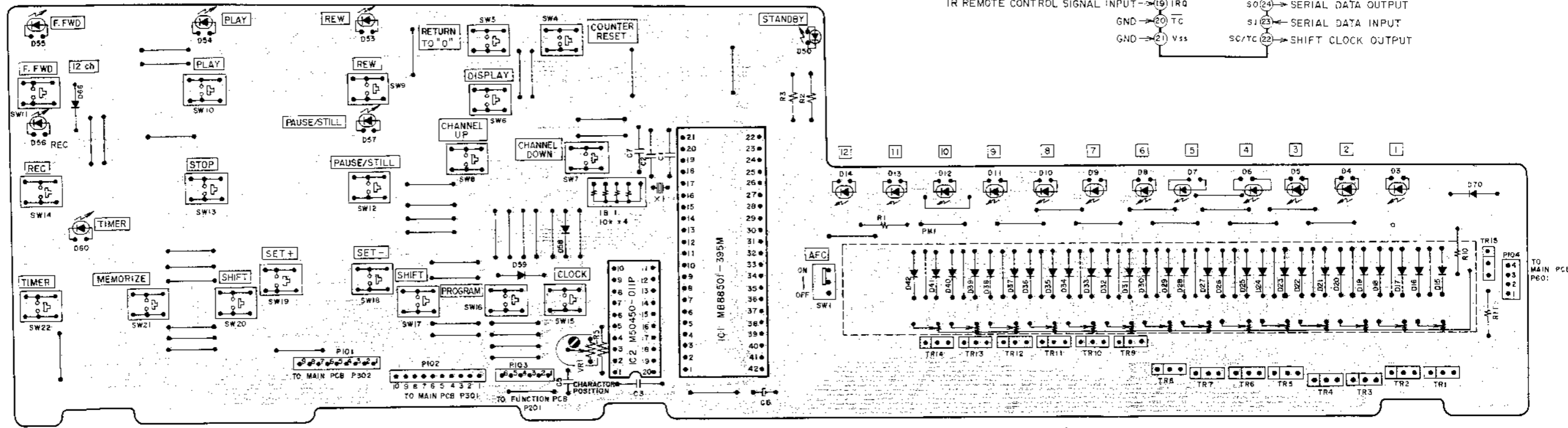
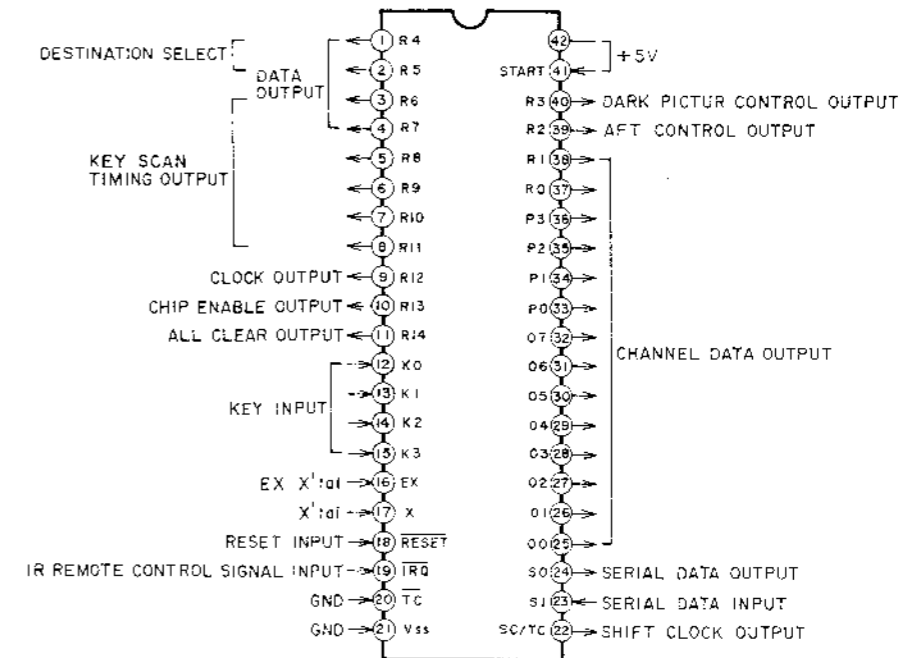
□ NPN TRANSISTOR

TR7 to 13, 15..... 2SC2603  
TR14..... DTC143ES

2SC2603  
DTC143ES

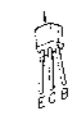


MB88501-395M (OPERATION MPU)



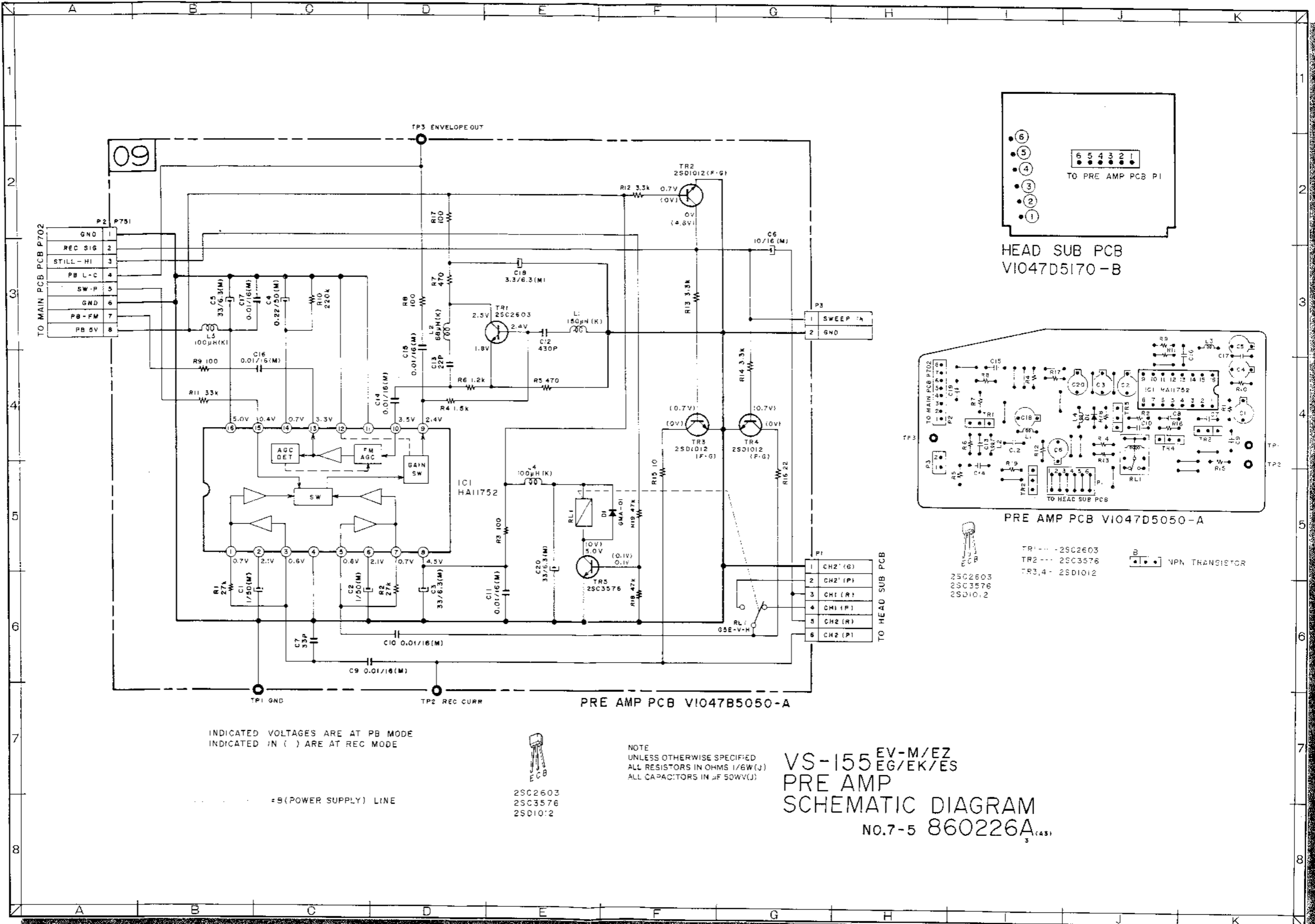
OPERATION PCB V1047A5020 - A

NPN TRANSISTOR



TR1 to TR13 ..... 2SC2603(E,F)  
 TR14 ..... DTC114ES

2SC2603  
 DTC143ES



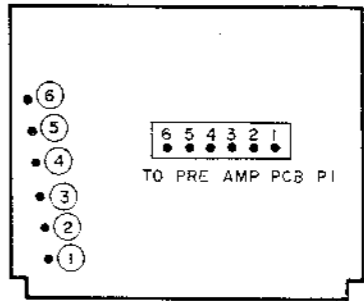
09

TO MAIN PCB P702

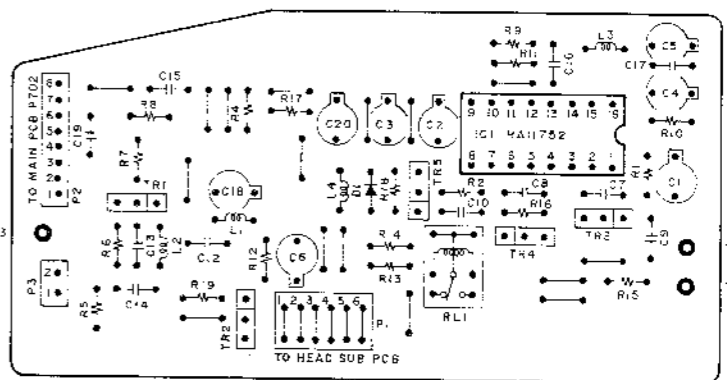
P2 P751	1	GND
	2	REC SIG
	3	STILL-HI
	4	PB L-C
	5	SW-P
	6	GND
	7	PB-FM
	8	PB 5V

P3	1	SWEEP IN
	2	GND

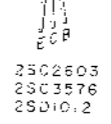
P1	1	CH2 (G)
	2	CH2 (P)
	3	CH1 (R)
	4	CH1 (P)
	5	CH2 (R)
	6	CH2 (P)



HEAD SUB PCB  
VIO47D5170-B



PRE AMP PCB VIO47D5050-A



TR1 --- 2SC2603  
TR2 --- 2SC3576  
TR3,4 - 2SD1012

NPN TRANSISTOR

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

#B (POWER SUPPLY) LINE

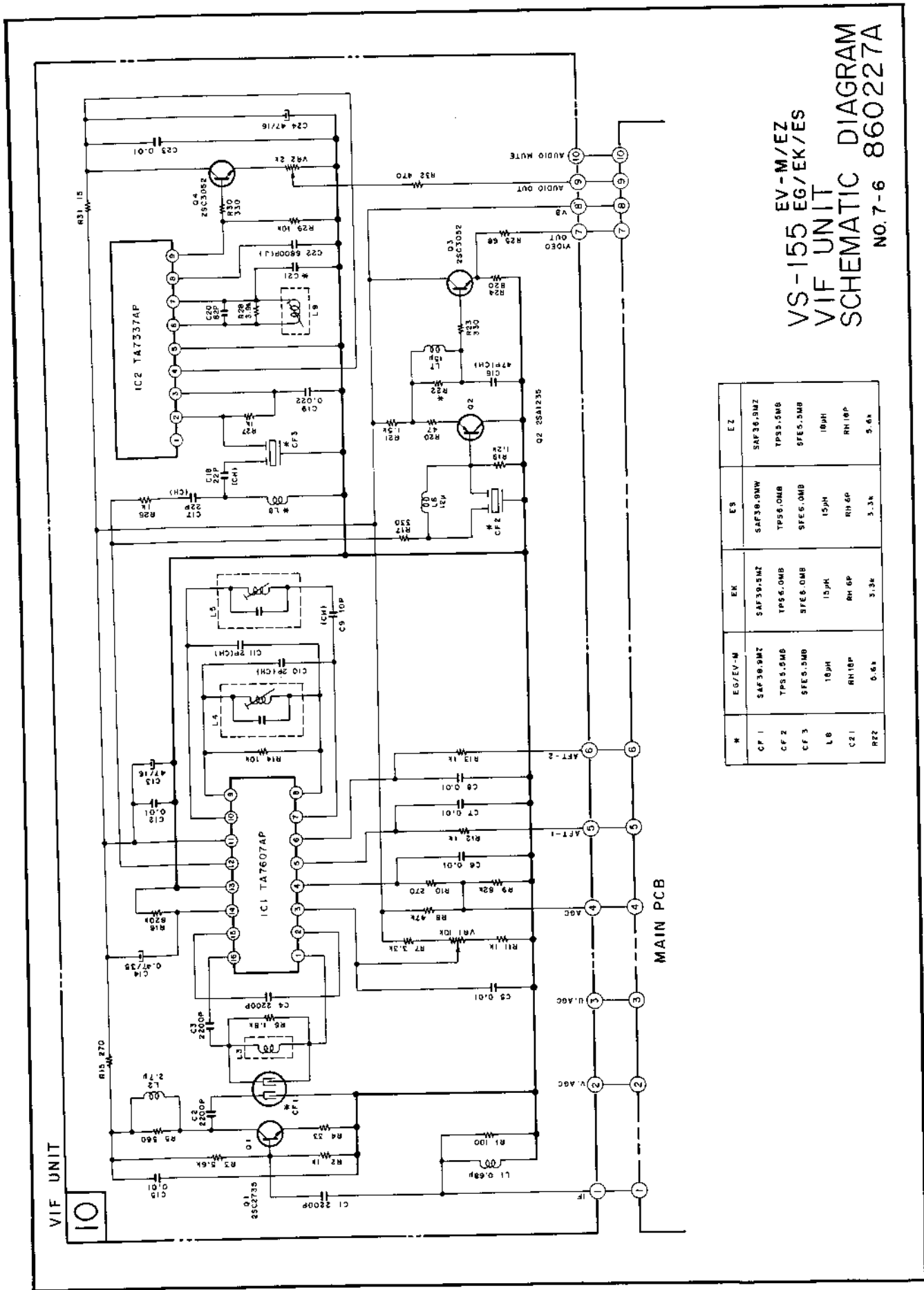


2SC2603  
2SC3576  
2SD1012

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

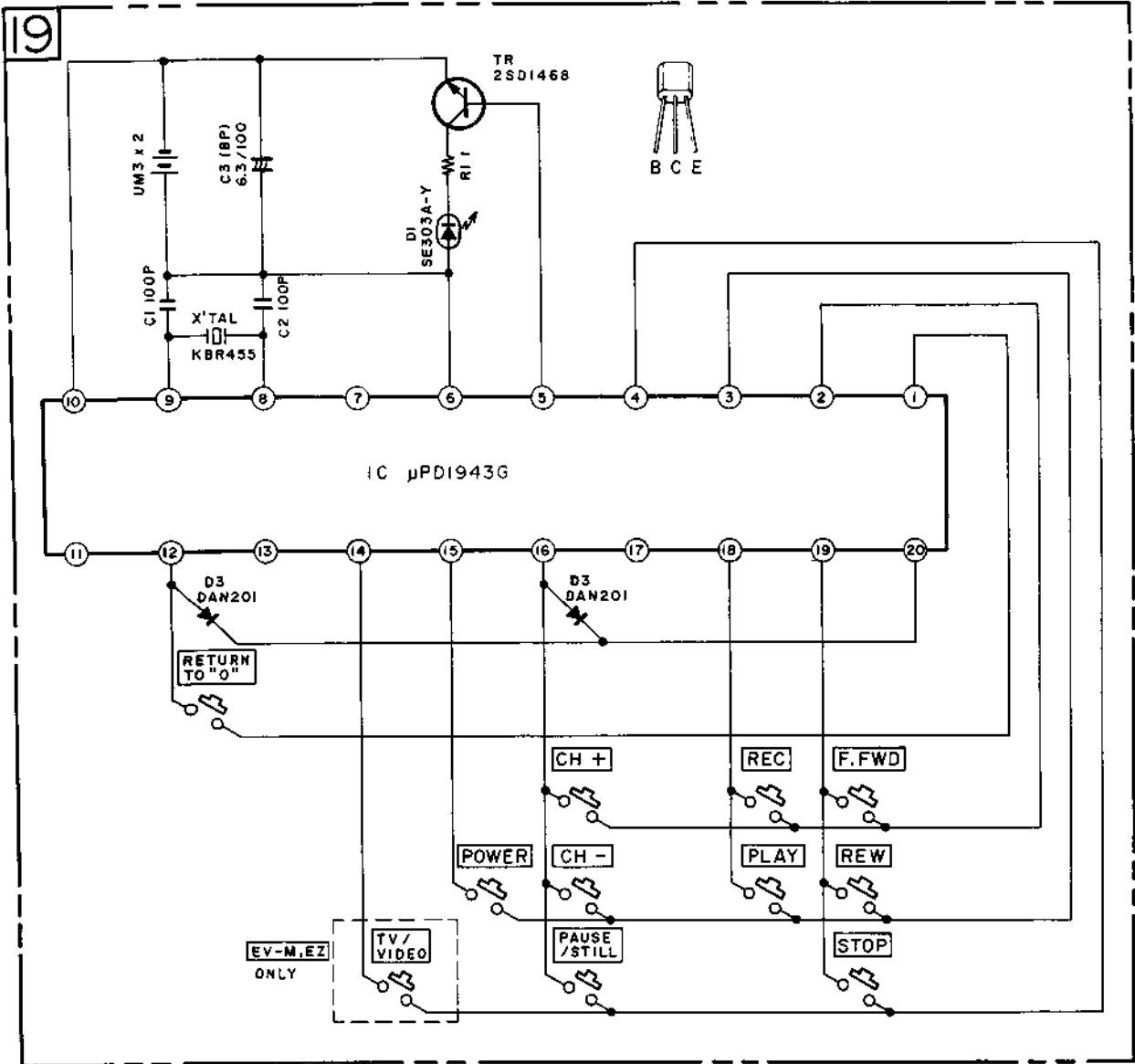
VS-155 EV-M/EZ  
EG/EK/ES  
PRE AMP  
SCHEMATIC DIAGRAM  
NO.7-5 860226A (43)





VS-155 EV-M/EZ  
EG/EK/ES  
VIF UNIT  
SCHEMATIC DIAGRAM  
NO.7-6 860227A

#	EV/EV-M	EK	ES	EZ
CF 1	SAF36.0MZ	SAF39.5MZ	SAF36.0MW	SAF36.0MZ
CF 2	TPS5.5MB	TPS5.0MB	TPS6.0MB	TPS5.5MB
CF 3	SFE5.5MB	SFE5.0MB	SFE6.0MB	SFE5.5MB
LB	10µH	15µH	15µH	10µH
C2 1	RN10P	RH 6P	RH 6P	RH 10P
R22	0.6k	3.3k	3.3k	5.6k



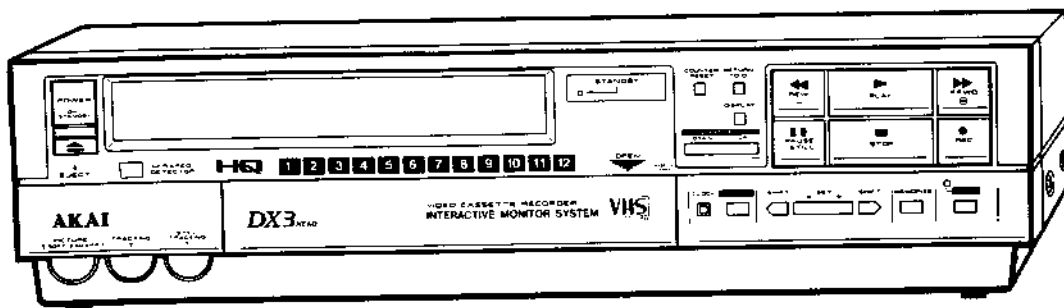
NOTE  
 UNLESS OTHERWISE SPECIFIED  
 ALL RESISTORS IN OHMS 1/4W(J)  
 ALL CAPACITORS IN μF 50WV(J)

**RC-VI55**  
**REMOTE CONTROL UNIT**  
**SCHEMATIC DIAGRAM**  
 NO.7-7 860228A<sup>(A2)</sup>

# AKAI SERVICE MANUAL

## (ADDITIONAL)

This additional Schematic Diagram is made for the model VS-155HQ EK which added for VS-155EK.  
Use this additional Schematic Diagram together with the model VS-155EG/EK/ES/EV-M/EZ  
SERVICE MANUAL which published previously.



### VIDEO CASSETTE RECORDER

## MODEL VS-155HQ EK

### SPECIFICATIONS

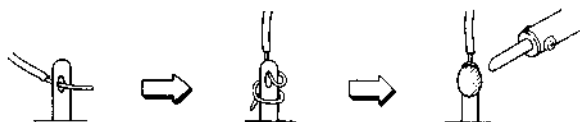
Format . . . . .	VHS standard	S/N ratio . . . . .	more than 40 dB
Video recording system . . . . .	Rotary, slant azimuth two-head helical scan system	Frequency response . . . . .	70 - 10,000 Hz
Heads . . . . .	2 video heads	Recording/Playback time . . . . .	240 min, with E-240 cassette
RF input . . . . .	System I	Tape speed . . . . .	
	UHF: ch 21 - 69	SP mode . . . . .	23.39 mm/sec.
RF output . . . . .	System I type modulation	Quick finder . . . . .	Approx. 7 times normal speed (noise bars fixed)
	UHF: ch 30 - 39 adjustable (preset ch 36)	FF, REW time . . . . .	Approx. 5 min. with E-240 cassette
Recording (line input) . . . . .	PAL, CCIR (System I, B, G)	Timer . . . . .	
Playback (line output) . . . . .	PAL, CCIR (System I, B, G)	Programs . . . . .	4 programs/2-week and sleep timer
Video . . . . .		Clock reference . . . . .	Quartz crystal
Line input level . . . . .	0.5 - 2.0 Vp-p/75 ohms, unbalanced	Display . . . . .	TV screen (Tape counter, Timer etc)
Line output level . . . . .	1.0 Vp-p/75 ohms, unbalanced	Power requirements . . . . .	200/240V AC, 50 Hz
S/N ratio . . . . .	more than 45 dB	Power consumption . . . . .	28W
Horizontal resolution . . . . .	more than 250 lines	Operating temperature . . . . .	5°C - 40°C
Audio . . . . .		Dimensions . . . . .	440(W) x 108(H) x 380(D) mm
Line input level . . . . .	-8 dBm/50 kohms, unbalanced	Weight . . . . .	7.6 kg
Line output level . . . . .	-6 dB/1 kohms, unbalanced		

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

# ★ SAFETY INSTRUCTIONS

## PRECAUTIONS DURING SERVICING

- Parts identified by the  $\Delta$  symbol parts are critical for safety. Replace only with parts number specified.
- In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.  
Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
- Use specified internal wiring. Note especially:
  - 1) Wires covered with PVC tubing
  - 2) Double insulated wires
  - 3) High voltage leads
- Use specified insulating materials for hazardous live parts. Note especially:
  - 1) Insulation Tape
  - 2) PVC tubing
  - 3) Spacers (Insulating Barriers)
  - 4) Insulation sheets for transistors
  - 5) Plastic screws for fixing microswitch (especially in turntable)
- When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



- Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).

- Check that replaced wires do not contact sharp edged or pointed parts.
- Also check areas surrounding repaired locatoins.
- Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

## SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 M ohms. but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for [C] or [A], specified insulation resistance should be headphone jacks line-in-out jacks etc. more than 2.2 M ohms (ground terminals, microphone jacks).

# ★ INFORMATION

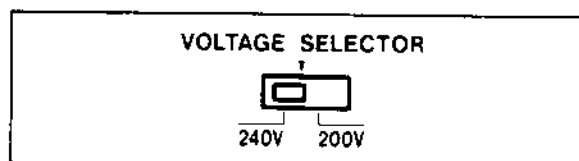
## SYMBOLS FOR PRIMARY DESTINATION

Alphabet indicates the destination of the units as listed below.

Symbols	Principal Destinations
[A]	USA
[B]	UK
[C]	Canada
[E]	Europe (except UK)
[J]	Japan
[S]	Australia
[V]	W. Germany only
[U]	Universal Area
[Y*]	Custom version

## VOLTAGE CONVERSION

Before connecting the power cord. SET the VOLTAGE SELECTOR located on the rear panel with a screwdriver so that the correct voltage is indicated.



# PARTS LIST

## 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
6-1C1	EI-324536	IC HD14049BP
6-1C2	EI-336801	IC MB8841-564M
6-C1A	EC-338399	C MMY V 223M 250 AC [U,E,B,S]
6-C1B	EC-350949	C MMY V 223M 250 DC [J]
6-C1C	EC-338397	C MMY V 223M 125 AC [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.

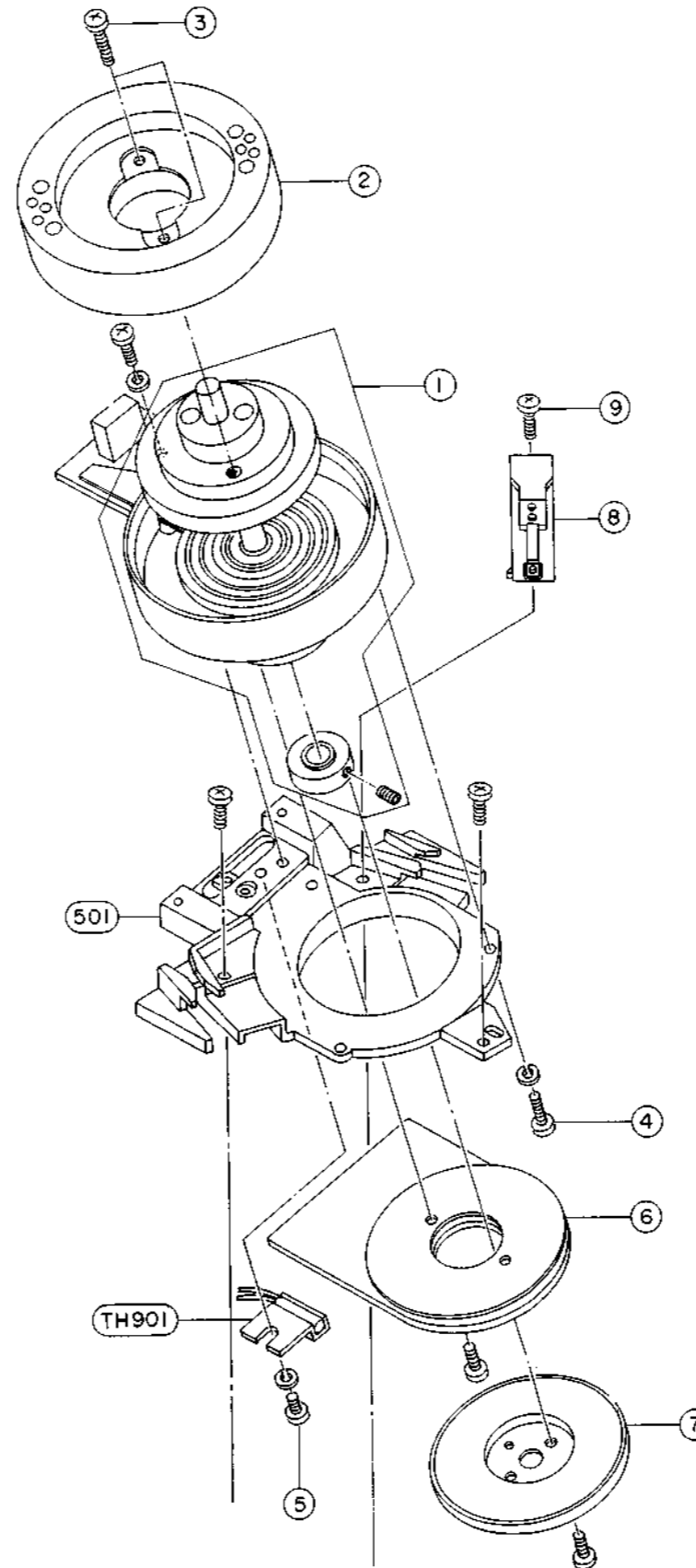
## 1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref. No.	Part No.	Description
1	BF-B380531-B	FLYWHEEL CAPSTAN PART
2	BM-361544-B	CAPSTAN MOTOR MRX PAL
3	SM-B361467	LOADING MOTOR PART
4	BM-M3223A020B	PC MOTOR BLK SM-230B
5	BR-B360517B	SUPPLY REEL TABLE PART
6	BR-B360517A	TAKE-UP REEL TABLE PART
7	*BT-363945	TRANS POWER V47EK
8	BV-V1047A090A	LOADING LEADER(L) BLK VS-112EG
9	BV-V1047A080A	LOADING LEADER(R) BLK VS-112EG
10	BV-V1047A210A	LOWER DRUM BLK VS-155
11	BV-363232-A	RF CONVERTER BOOSTER EK
12	BV-V1047A220A	UPPER DRUM BLK VS-155EG
13	BV-V1047A900B	VIF BLK VS-112EK
14	ED-356424	D LED BG55255 GREEN
15	ED-357540	D LED LN59
16	ED-355607	D LED PH5505S RED
17	ED-705414	D LED SE303A INFRARED
18	ED-360409	D PHOT PN323B
19	ED-718039	D SILICON DAN201
20	ED-367199	D SILICON DSA17C F12
21	ED-357754	D SILICON DS135D 200//1.0A
22	ED-344280	D SILICON H GMA-01-FY2 F05
23	ED-523427	D SILICON H 1S516
24	ED-624903	D SILICON H 1S2473
25	ED-367202	D SILICON S5566B F12
26	ED-362998	D ZENER H HZ59.1J F05 B3
27	ED-313846	D ZENER H HZ16 3
28	ED-305706	D ZENER H HZ7 B3
29	ED-346609	D ZENER H HZ9 C1
30	ED-365109	D ZENER H MA1043-H
31	EE-364472	TUNING UNIT UBH16 12CH 203
32	EE-345116	TV TUNER TEEB1-013A
33	*EF-355226	FUSE BET T 1.00A 250V
34	*EF-355398	FUSE BET T 2.00A 250V
35	*EF-344108	FUSE ICP-N10 50V 0.4A
36	EH-360340-A	DL EFD-ENG45A31P
37	EH-360341	DL EFD-HR124A13D
38	EH-364045	FILTER LC FF-78P
39	EH-360337	FILTER LC LP LF-47P
40	EI-360561	IC AN3792
41	EI-360563	IC AN3794
42	EI-360334	IC AW2619
43	EI-356288	IC BA225A
44	EI-360648	IC BA5115
45	EI-353421	IC BA6229
46	EI-385162	IC EHM-M96A8U83K
47	EI-352714	IC HA11752
48	EI-356370	IC LA7224
49	EI-366680	IC MB88501-436M R-OPE4
50	EI-366681	IC MB88521-140M R-SYSS CUSTOM
51	EI-360560	IC MN6178XAL
52	EI-360404	IC M50450-011P
53	EI-360565	IC M5223P
54	EI-356811	IC M5224P
55	EI-360564	IC M54548L
56	EI-360396	IC S-8054HN
57	EI-363347	IC TC9018P
58	EI-358506	IC UPC1513HA
59	EI-337530	IC UPC574J
60	EI-749983	IC UPD1943G
61	EI-347991	OSC CE CSA6.00MS 6MHZ
62	EI-710037	OSC CE CS8455E 455KHZ
63	EI-356371	OSC X'TAL MS-309 4.194304MHZ
64	EI-364562	OSC X'TAL MX-44 4.433619MHZ
65	EO-360647	COIL OSC 1 MX-102
66	*ER-348272	R FUSE ERD2FC S10 1/4W 12R0G
67	*ER-200595	R FUSE ERD2FC S10 1/4W 5R6J
68	*ER-362257	R FUSE ERQ-12H F17 1/2W R47K
69	*ER-364508	R FUSE ERQ-12H F17 1/2W R56K
70	*ER-365157	R FUSE HF10 ERQ-14LE 1/4W R43K

Ref. No.	Part No.	Description
71	ES-360433	SW LEAF MRX
72	ES-361479	SW LEAF MSW-1594C
73	ES-353622-A	SW PUSH EVQ-WU7001 02-2
74	ES-360408	SW SLIDE ESD-14187 1-01-02N
75	ES-354430	SW SLIDE 00220950 02-02-2N
76	ES-349474	SW TACT SKHHAM004A
77	ET-361463	DETECTOR ON2170 Q.R
78	ET-363953	TR DTA114TS
79	ET-360646	TR DTA143ES F05
80	ET-354415	TR DTA144ES
81	ET-353897	TR DTC114ES
82	ET-360399	TR DTC114TS
83	ET-354365	TR DTC114YS
84	ET-354371	TR DTC124ES
85	ET-364060	TR DTC143ES
86	ET-354414	TR DTC144ES
87	ET-354094	TR DTC144WS
88	ET-356236	TR FET 25K363 GR.BL
89	ET-361490	TR PHOT PN268 R.S
90	ET-360400	TR UN4210
91	ET-361729	TR UN4217
92	ET-308472	TR 2SA1115 E.F.G F05
93	ET-364093	TR 2SA1283 E.F F05
94	ET-371005	TR 2SA1284 D.E F05
95	ET-356224	TR 2SA1286 G.H.J F05
96	ET-322598	TR 2SB632K E.F
97	ET-321844	TR 2SC1213 C
98	ET-308141	TR 2SC2603 G F05
99	ET-355669	TR 2SC3248 G.H.J F05
100	ET-364153	TR 2SC3246 J.K F05
101	ET-361736	TR 2SC3576
102	ET-347961	TR 2SD1012-V G F05
103	ET-362113	TR 2SD1406 Y,GR
104	ET-318604	TR 2SD545NP E.F
105	EV-360410	VR ROTARY K091COGOC 103
106	EV-360569	VR ROTARY K091COGOC 104
107	EV-369699	VR ROTARY 09P10XOG B504
108	EX-361672	DEW SENSOR(HEATER) MRX
109	HE-361456	HEAD E HVFMD0005A
110	HR-361454	HEAD COMBO HVMLA1004C
111	MB-360534	BELT IDLER
112	MB-360533	BELT PAL
113	MB-364011	BELT SYNC NB930N15-020T
114	MP-361543-B	PINCH ROLLER PART
115	MR-364010	PULLEY WORM
116	MZ-361314-A	GEAR (1)
117	MZ-360640-A	GEAR (2)
118	MZ-361313	GEAR (3)
119	MZ-360639	GEAR (4)
120	MZ-360638	GEAR (5)
121	MZ-360384	GEAR LOADING (S)
122	MZ-360385-A	GEAR LOADING (T)
123	MZ-366960	GEAR TU BLK (2)
124	MZ-360453	WORM GEAR
125	VT-363354	ROTARY RECORDER D22Q-R9

**HEAD DRUM BLOCK**



**2. HEAD DRUM BLOCK**

Ref. No.	Part No.	Description
2-1	BV-V1047A210A	LOWER DRUM BLK VS-155
2-2	ZS-354332	PAN26X08STL CMT SW
2-3	BV-V1047A220A	UPPER DRUM BLK VS-155EG
2-4	ZS-362241	BID30X09STL CMT
2-5	ZS-432843	PAN26X04STL CMT
2-TH901	EX-361672	DEW SENSOR(HEATER) MRX
2-6	BM-M3223A020B	PC MOTOR BLK SM-230B
2-7	BV-B362443	YOKE MAGNET (2) PART
2-8	ZS-356536	PAN26X06BRS N13
2-9	VT-361452	DRUM EARTH SP ASSY(A)
2-10	ZS-421806	PAN30X08STL CMT

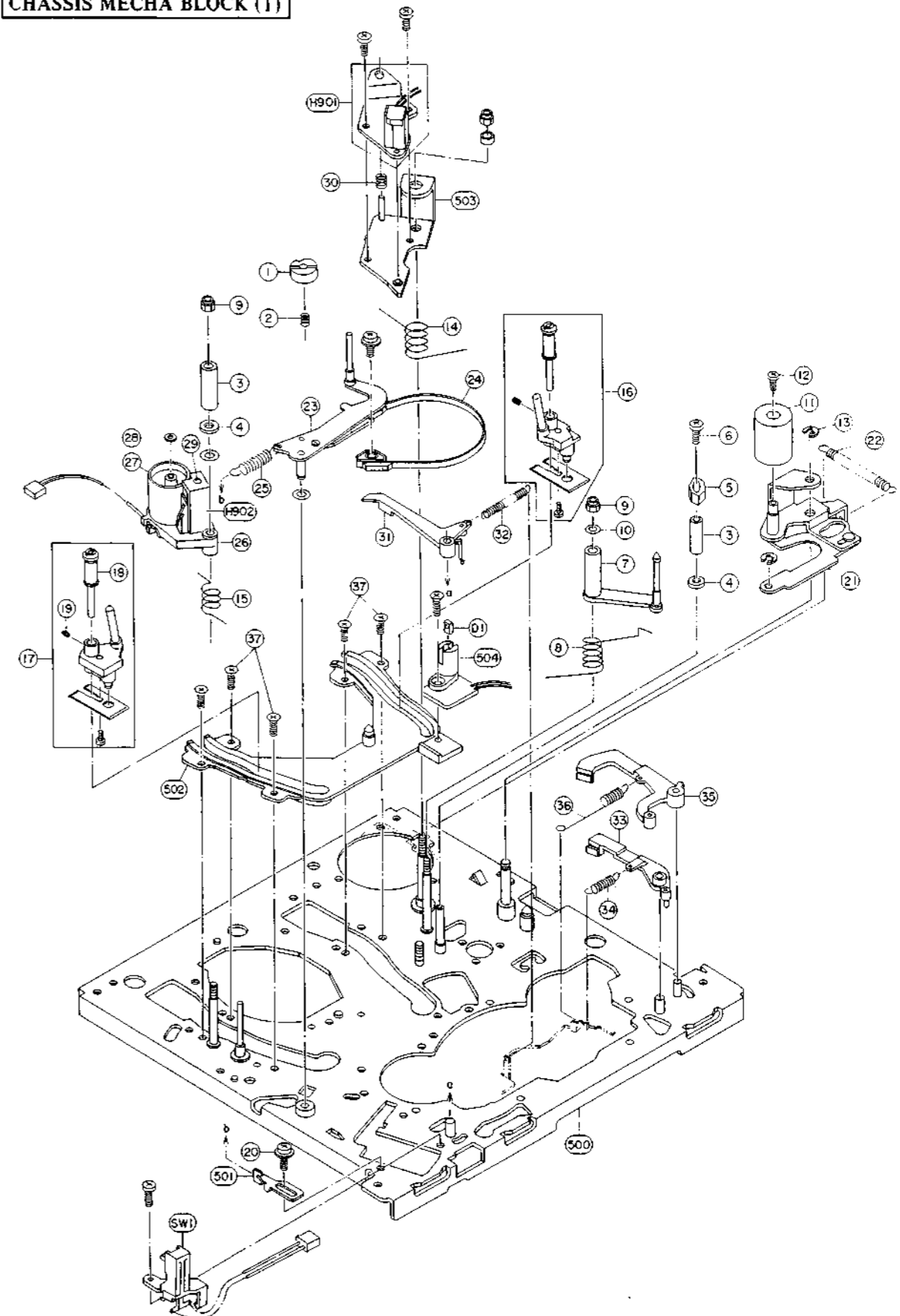
NOTE: The parts reference numbered here except the ones in 500's are normally stocked for replacement purpose. The rest of the parts shown in this manual are not stocked since they are seldom required for routine service.

### 3. CHASSIS MECHA BLOCK (1)

### CHASSIS MECHA BLOCK (1)

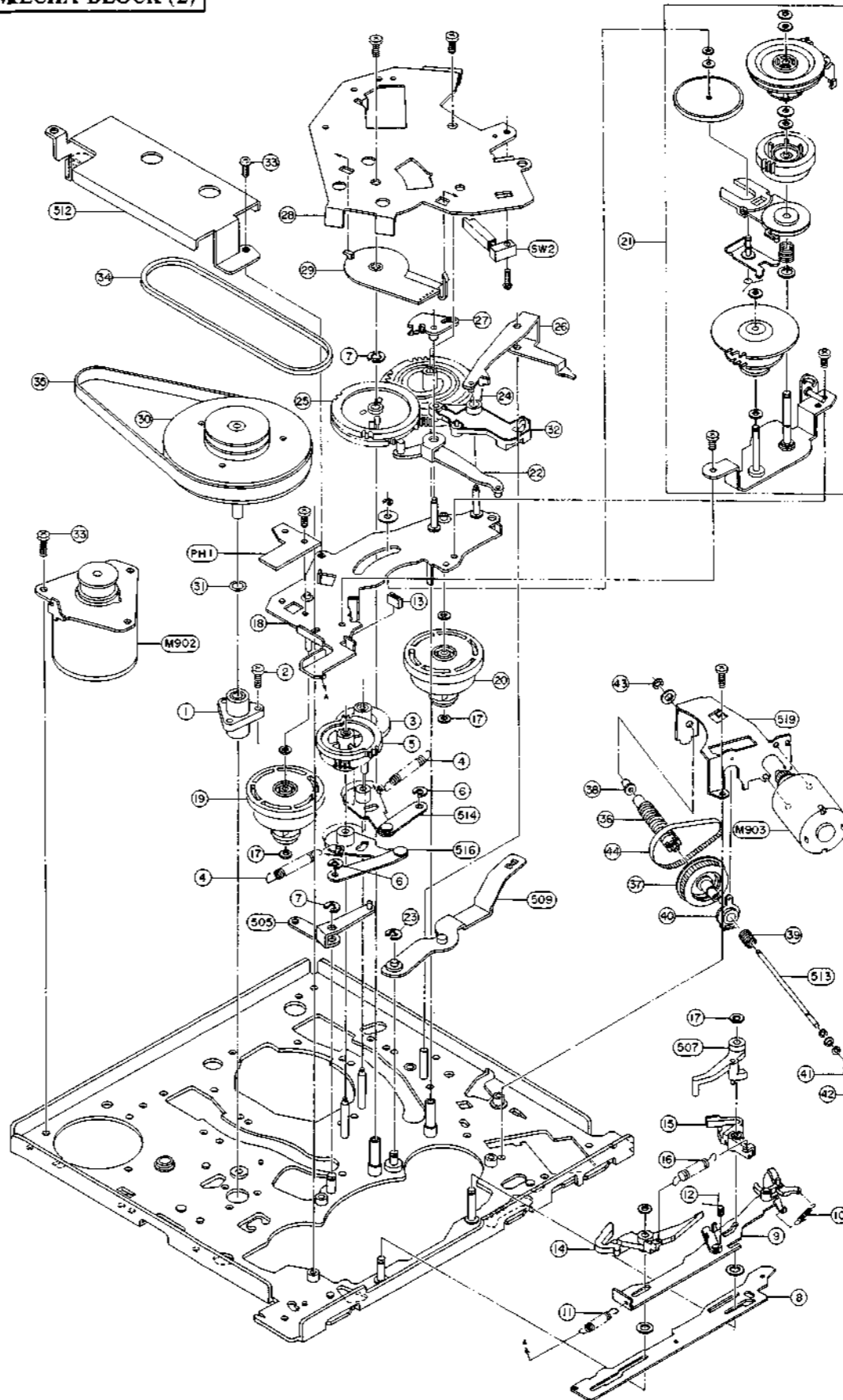
Ref. No.	Part No.	Description
3-1	ZS-360372-A	SCREW ADJUST
3-2	ZG-363349	SP PUSH ADJUST SCREW
3-3	MS-364796	GUIDE TAPE (3)
3-4	MS-370840	GUIDE TAPE (5)
3-5	MS-362181	GUIDE TAPE TU
3-6	ZS-608095	PAN20X05STL CMT
3-7	ZS-360391	SCREW SPECIAL
3-8	BL-8360353	LEVER REVIEW PART
3-9	ZG-360605	SP TORSION REVIEW ARM
3-10	ZW-350839	N30 NYLON
3-11	ZW-354859	PW31X070X100PSL
3-12	BL-8360361-B	ARM PINCH ROLLER PART
3-13	ZG-360602	SP PULL PINCH
3-14	MP-361543-B	PINCH ROLLER PART
3-15	ZS-477876	PAN20X03STL CMT
3-16	ZW-270101	RING E 300SUP CMT
3-17	ZG-313258	SP C-03.5/0.80-10.0 C-102
3-18	ZG-360603	SP TORSION A/C HEAD
3-19	MZ-8362281	HOLDER FE HEAD (2) PART
3-20	MR-364335	ROLLER IMPEDANCE
3-21	ZW-361458	PUSH WASHER 18X032X025PSL
3-22	ZS-460440	PAN20X04STL CMT
3-23	ZG-360604	SP TORSION HOLDER FE HEAD
3-24	BL-8360342-A	LEVER TENSION PART
3-25	BL-8360350	ARM TENSION BAND PART
3-26	ZG-321731	SP T2-04.0/0.40-25.0 T2-115
3-27	ZS-200614	SCREW TRIPLE PAN30X06
3-28	BV-V1047A080A	LOADING LEADER(R) BLK VS-112EG
3-29	BV-V1047A090A	LOADING LEADER(L) BLK VS-112EG
3-303	VT-360148-A	VERTICAL POLE PART
3-31	ZS-321729	6SET20X040SCM PKR WP
3-32	BL-8360486	LEVER FF BRAKE PART
3-33	ZG-364338-A	SP PULL FF BRAKE
3-34	ML-8364686	LEVER SUB BRAKE(R-2) PART
3-35	ZG-364339	SP PULL REW BRAKE
3-36	ML-8364685	LEVER BRAKE REVIEW(2) PART
3-37	ZG-364337	SP PULL REVIEW BRAKE
3-D1	ED-357540	D LED LN59
3-H901	HR-361454	HEAD COMBO HVMLA1004C
3-H902	HE-361456	HEAD E HVFMD0005A
3-SW1	ES-360433	SW LEAF MRX

NOTE: The parts reference numbered here except the ones in 500's are normally stocked for replacement purpose. The rest of the parts shown in this manual are not stocked since they are seldom required for routine service.





**CHASSIS MECHA BLOCK (2)**

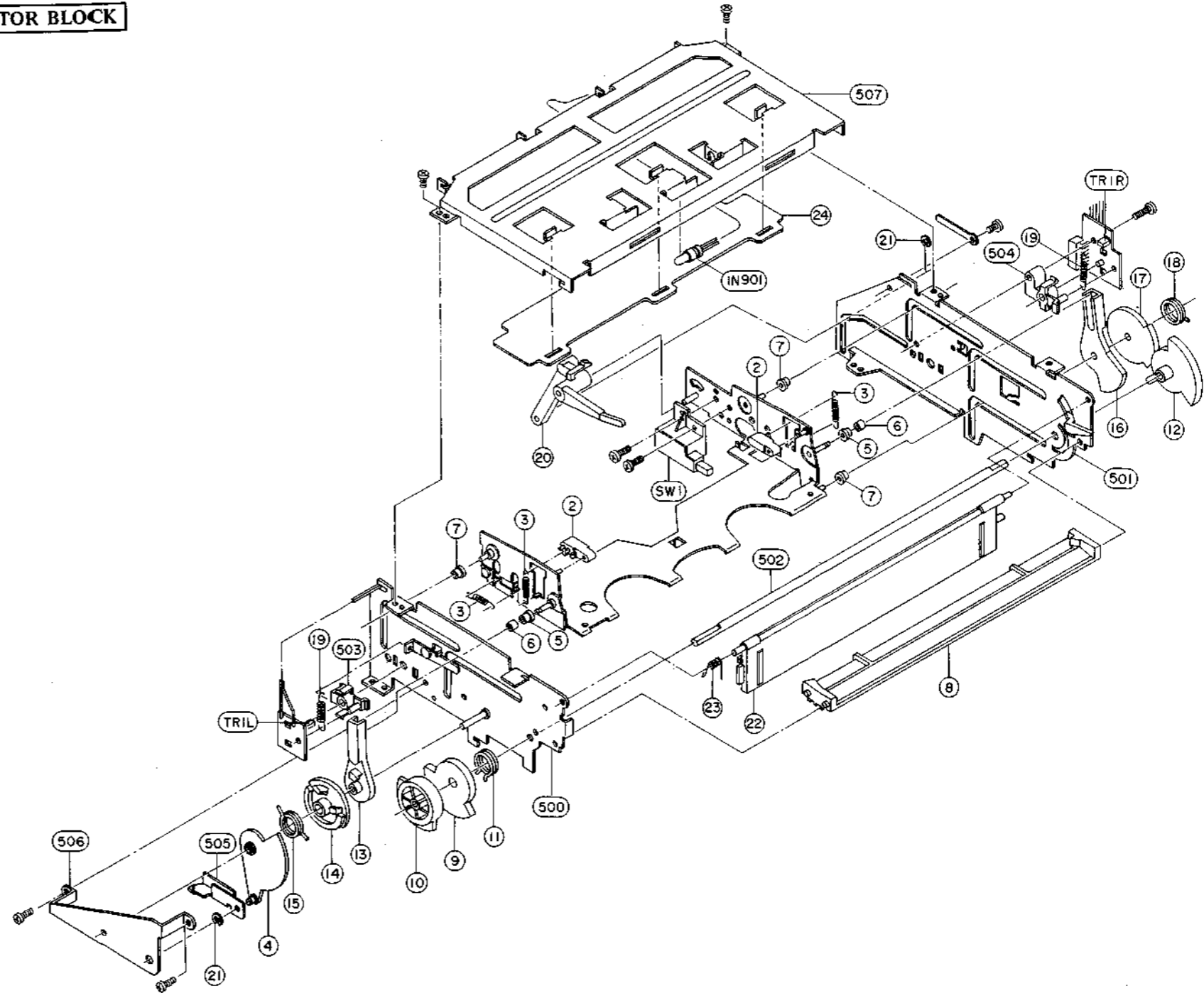


**4. CHASSIS MECHA BLOCK (2)**

Ref. No.	Part No.	Description
4-1	MZ-B360528	HOLDER CAPSTAN PART
4-2	ZS-379350	PAN30X06STL CMT
4-3	MZ-360384	GEAR LOADING (S)
4-4	ZG-360601-A	SP PULL LOADING
4-5	MZ-360385-A	GEAR LOADING (T)
4-6	ZW-357164	RING E 230SUP CMT
4-7	ZW-270101	RING E 300SUP CMT
4-8	ML-366738	PLATE MAIN SLIDE(2)
4-9	MZ-B366734	PLATE F/R SLIDE (2)PART
4-10	ZG-358276	SP T6-03.2/0.20-12.5 T6-041
4-11	ZG-350891	SP T2-04.0/0.40-22.4 T2-114
4-12	ZG-360438	SP TORSION LIFTER
4-13	MB-366733	STOPPER SLIDE (2)
4-14	ML-B364684	ARM(TU) MAIN BRAKE(2) PART
4-15	ML-B364683	ARM(S) MAIN BRAKE(2) PART
4-16	ZG-366617	SP PULL MAIN BRAKE
4-17	ZW-360541	WASHER POLY SLIDER(3)
4-18	MZ-B360425-B	SUB FRAME PART
4-19	BR-B360517A	TAKE-UP REEL TABLE PART
4-20	BR-B360517B	SUPPLY REEL TABLE PART
4-21	MZ-366960	GEAR TU BLK (2)
4-22	ML-B360460-A	LEVER CAM SLIDE PART
4-23	ZW-410051	RING E250SUP CMT
4-24	MZ-364677	GEAR CAM EJECT(2)
4-25	MZ-364676	GEAR CAM MAIN(2)
4-26	ML-B366735	LEVER CAM TENSION(2) PART
4-27	ML-366736	ARM SET FREE(2)
4-28	MZ-360477-B	PLATE MODE SW
4-29	VT-363354	ROTARY ENCODER D22Q-R9
4-30	BF-B360531-B	FLYWHEEL CAPSTAN PART
4-31	ZW-360539	STOPPER OIL
4-32	ML-B366615-A	LEVER CAM F/R PART
4-33	ZS-379350	PAN30X06STL CMT
4-34	MB-360534	BELT IDLER
4-35	MB-360533	BELT PAL
4-36	MZ-360453	WORM GEAR
4-37	MR-364010	PULLEY WORM
4-38	ZW-360479-A	WASHER THRUST
4-39	ZG-360441	SP TORSION ONE WAY
4-40	MZ-360440-A	HOLDER PULLEY WORM
4-41	MR-360432	PULLEY TRIGGER
4-42	ZW-361458	PUSH WASHER 16X032X025PSL
4-43	ZW-356657	RING E150SUP CMT
4-44	MB-364011	BELT SYNC NB930N15-020T
4-M902	BM-361544-B	CAPSTAN MOTOR MRX PAL
4-M903	BM-B361467	LOADING MOTOR PART
4-SW2	ES-361479	SW LEAF MSW-1594C
4-PH1	ET-361463	DETECTOR ON2170 Q.R

**NOTE:** The parts reference numbered here except the ones in 500's are normally stocked for replacement purpose. The rest of the parts shown in this manual are not stocked since they are seldom required for routine service.

**EJECTOR BLOCK**



**5. EJECTOR BLOCK**

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
5-1	BV-V1047A250A	EJECTOR BLK VS-112EG	5-14	MZ-360639	GEAR (4)	5-23	ZG-360816	SP TORSION
5-2	ML-361316	ARM PRESSING	5-15	ZG-360814	SP TORSION (L)	5-24	SP-364666	PLATE MIRROR (2)
5-3	ZG-367865	SP T5-04.0/0.40-11.2 T5-108	5-16	ML-360634	ARM LOADING (R)			
5-4	MZ-B360642	GEAR EJECT PART	5-17	MZ-360638	GEAR (5)			
5-5	MR-361310	ROLLER (1)	5-18	ZG-360613	SP TORSION (R)			
5-6	MR-361311	ROLLER (2)	5-19	ZG-358212	SP T5-06.3/0.50-16.0 T5-180			
5-7	MR-361312	ROLLER (3)	5-20	BL-B361308	ARM LID OPENER PART			
5-8	SZ-360607	GUIDE	5-21	ZW-357164	RING E 230SUP CMT			
5-9	MZ-361314-A	GEAR (1)	5-IN901	EL-363355	PL CORD 12.0V 75MA 200/200			
5-10	MZ-361313	GEAR (3)	5-SW1	ES-353622-A	SW PUSH EVQ-WU7001 02-2			
5-11	ZG-360615	SP TORSION (EJ)	5-TR1L	ET-361490	TR PHOT PN268 R.S			
5-12	MZ-360640-A	GEAR (2)	5-TR1R	ET-361490	TR PHOT PN268 R.S			
5-13	ML-360635	ARM LOADING (L)	5-22	SE-361317	MASK CASSETTE			

**NOTE:** The parts reference numbered here except the ones in 500's are normally stocked for replacement purpose. The rest of the parts shown in this manual are not stocked since they are seldom required for routine service.

## 6. P.C BOARD BLOCK

Ref. No.	Part No.	Description
6-1	BA-V1047C300M	PC MAIN(PAL) BLK VS-155HQEK
6-2	BA-V1047C330B	PC OPERATION BLK VS-155EK
6-3	BA-V1047A400D	PC PRE AMP BLK VS-155EG

NOTE: PC MAIN BLK consists of MAIN (PAL) P.C BOARD, VIF BLOCK and HQ PC BOARD.

## 7. MAIN P.C BOARD

Ref. No.	Part No.	Description
7-C2	EC-307793	C EC V F05 NP SM 220M 10DC
7-C236	EC-200948	C EC V F05 NP SM 1R0M 50DC
7-C522	EC-337966	C PP V APS 103J 100DC
7-C610	EC-358805	C TT V EF R47M 35.0DC
7-DL1	EH-360340-A	DL EFD-EN645A31P
7-DL2	EH-360341	DL EFD-HR124A13D
7-D1	ED-344280	D SILICON H GMA-01-FY2 F05
7-D2	ED-624903	D SILICON H 1S2473
7-D4	ED-344280	D SILICON H GMA-01-FY2 F05
7-D5	ED-344280	D SILICON H GMA-01-FY2 F05
7-D201	ED-313846	D ZENER H HZ16 3
7-D202	ED-362998	D ZENER H HZ59.1J F05 63
7-D203	ED-344280	D SILICON H GMA-01-FY2 F05
7-D204	ED-344280	D SILICON H GMA-01-FY2 F05
7-D205	ED-344280	D SILICON H GMA-01-FY2 F05
7-D210	ED-344280	D SILICON H GMA-01-FY2 F05
7-D211	ED-344280	D SILICON H GMA-01-FY2 F05
7-D212	ED-344280	D SILICON H GMA-01-FY2 F05
7-D402	ED-344280	D SILICON H GMA-01-FY2 F05
7-D403	ED-344280	D SILICON H GMA-01-FY2 F05
7-D404	ED-344280	D SILICON H GMA-01-FY2 F05
7-D405	ED-344280	D SILICON H GMA-01-FY2 F05
7-D406	ED-357754	D SILICON DS135D 200/1.0A
7-D407	ED-344280	D SILICON H GMA-01-FY2 F05
7-D408	ED-344280	D SILICON H GMA-01-FY2 F05
7-D410	ED-344280	D SILICON H GMA-01-FY2 F05
7-D413	ED-344280	D SILICON H GMA-01-FY2 F05
7-D501	ED-346609	D ZENER H HZ9 C1
7-D601	ED-344280	D SILICON H GMA-01-FY2 F05
7-D602	ED-344280	D SILICON H GMA-01-FY2 F05
7-D603	ED-337266	D ZENER H HZ9 A1
7-D605	ED-344280	D SILICON H GMA-01-FY2 F05
7-D606	ED-344280	D SILICON H GMA-01-FY2 F05
7-D701	ED-365109	D ZENER H MA1043-H
7-D702	ED-305708	D ZENER H HZ7 B3
7-D703	ED-344280	D SILICON H GMA-01-FY2 F05
7-D704	ED-344280	D SILICON H GMA-01-FY2 F05
7-D705	ED-344280	D SILICON H GMA-01-FY2 F05
7-FL2	EH-360337	FILTER LC LP LF-47P
7-FL3	EH-364045	FILTER LC FF-78P
7-FL501	EO-380647	COIL OSC 1 MX-102
7-FR1	*ER-348272	R FUSE ERD2FC S10 1/4W 12R0G
7-IC1	EI-365162	IC EHM-M96A8U83K
7-IC2	EI-360334	IC A W2619
7-IC201	EI-360565	IC M5223P
7-IC202	EI-360561	IC AN3792
7-IC203	EI-360560	IC MN6178XAL
7-IC204	EI-360565	IC M5223P
7-IC205	EI-360563	IC AN3794
7-IC206	EI-360564	IC M54548L
7-IC207	EI-356288	IC BA225A
7-IC401	EI-366681	IC MB88521-140M R-SYS5 CUSTOM
7-IC402	*EI-353421	IC BA6229
7-IC403	EI-356811	IC M5224P
7-IC404	EI-360396	IC S-8054HN
7-IC405	EI-363347	IC TC9018P
7-IC501	EI-360648	IC BA5115
7-IC502	EI-358506	IC UPC1513HA
7-IC601	*EI-337530	IC UPC574J

Ref. No.	Part No.	Description
7-IC701	EI-360565	IC M5223P
7-L1	EO-330252	COIL FIX 1 ELO606SKI 101K
7-L2	EO-351865	COIL FIX 1 LAL02 F05 330J
7-L3	EO-356599	COIL FIX 1 LAL02 F05 270K
7-L4	EO-357507	COIL FIX 1 LAL02 F05 121K
7-L5	EO-357507	COIL FIX 1 LAL02 F05 121K
7-L6	EO-330252	COIL FIX 1 ELO606SKI 101K
7-L7	EO-360555	COIL FIX 1 LAL02 F05 180K
7-L8	EO-360555	COIL FIX 1 LAL02 F05 180K
7-L9	EO-351868	COIL FIX 1 LAL02 F05 470K
7-L10	EO-351868	COIL FIX 1 LAL02 F05 470K
7-L11	EO-354600	COIL FIX 1 LAL02 F05 101K
7-L12	EO-354600	COIL FIX 1 LAL02 F05 101K
7-L13	EO-330252	COIL FIX 1 ELO606SKI 101K
7-L14	EO-330252	COIL FIX 1 ELO606SKI 101K
7-L15	EO-353900	COIL FIX 1 LAL02 F05 150K
7-L16	EO-351868	COIL FIX 1 LAL02 F05 470K
7-L17	EO-330252	COIL FIX 1 ELO606SKI 101K
7-L18	EO-345889	COIL FIX 1 ELO606SKI 331J
7-L19	EO-360554	COIL FIX 1 LAL02 F05 221K
7-L21	EO-356599	COIL FIX 1 LAL02 F05 270K
7-L22	EO-330252	COIL FIX 1 ELO606SKI 101K
7-L24	EO-356599	COIL FIX 1 LAL02 F05 270K
7-L25	EO-357508	COIL FIX 1 LAL02 F05 151K
7-L26	EO-351869	COIL FIX 1 LAL02 F05 820K
7-L28	EO-360554	COIL FIX 1 LAL02 F05 221K
7-L501	EO-420344	COIL FIX 1 FL7H 472J
7-L502	EO-383308	COIL FIX 1 FL7H 272J
7-L601	EO-360554	COIL FIX 1 LAL02 F05 221K
7-L602	EO-354600	COIL FIX 1 LAL02 F05 101K
7-R231	*ER-360559	R FUSE RF50S F12 1/2W 1R0J
7-R463	*ER-353878	R OMF H S15 FS 1W 2R2J
7-SF1	*EF-344106	FUSE ICP-N10 50V 0.4A
7-SF201	*EF-344106	FUSE ICP-N10 50V 0.4A
7-TR1	ET-308472	TR 2SA1115 E,F,G F05
7-TR2	ET-308472	TR 2SA1115 E,F,G F05
7-TR3	ET-308472	TR 2SA1115 E,F,G F05
7-TR4	ET-308141	TR 2SC2603 G F05
7-TR5	ET-308472	TR 2SA1115 E,F,G F05
7-TR6	ET-308472	TR 2SA1115 E,F,G F05
7-TR7	ET-308141	TR 2SC2603 G F05
7-TR8	ET-308141	TR 2SC2603 G F05
7-TR9	ET-308472	TR 2SA1115 E,F,G F05
7-TR10	ET-308141	TR 2SC2603 G F05
7-TR11	ET-308141	TR 2SC2603 G F05
7-TR12	ET-308141	TR 2SC2603 G F05
7-TR13	ET-308141	TR 2SC2603 G F05
7-TR14	ET-308472	TR 2SA1115 E,F,G F05
7-TR15	ET-356224	TR 2SA1286 G,H,J F05
7-TR16	ET-356224	TR 2SA1286 G,H,J F05
7-TR17	ET-356224	TR 2SA1286 G,H,J F05
7-TR18	ET-308141	TR 2SC2603 G F05
7-TR19	ET-308141	TR 2SC2603 G F05
7-TR20	ET-308141	TR 2SC2603 G F05
7-TR21	ET-308141	TR 2SC2603 G F05
7-TR22	ET-308472	TR 2SA1115 E,F,G F05
7-TR23	ET-308141	TR 2SC2603 G F05
7-TR24	ET-354414	TR DTC144ES
7-TR25	ET-361729	TR UN4217
7-TR27	ET-354415	TR DTA144ES
7-TR28	ET-354414	TR DTC144ES
7-TR31	ET-308141	TR 2SC2603 G F05
7-TR32	ET-361729	TR UN4217
7-TR38	ET-354414	TR DTC144ES
7-TR201	ET-308141	TR 2SC2603 G F05
7-TR202	ET-356224	TR 2SA1286 G,H,J F05
7-TR203	ET-354365	TR DTC114YS
7-TR204	*ET-322598	TR 2SB032K E,F
7-TR205	ET-308141	TR 2SC2603 G F05
7-TR206	ET-308472	TR 2SA1115 E,F,G F05
7-TR207	ET-308141	TR 2SC2603 G F05
7-TR208	ET-308141	TR 2SC2603 G F05
7-TR210	ET-354414	TR DTC144ES
7-TR211	ET-360399	TR DTC114TS
7-TR212	ET-308472	TR 2SA1115 E,F,G F05
7-TR213	ET-308472	TR 2SA1115 E,F,G F05
7-TR214	ET-353897	TR DTC114ES
7-TR215	ET-353897	TR DTC114ES

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
7-TR216	ET-308141	TR 2SC2603 G F05	8-D24	ED-624903	D SILICON H 1S2473
7-TR401	ET-354371	TR DTC124ES	8-D25	ED-624903	D SILICON H 1S2473
7-TR402	ET-355669	TR 2SC3246 G.H.J F05	8-D26	ED-624903	D SILICON H 1S2473
7-TR403	ET-308472	TR 2SA1115 E,F,G F05	8-D27	ED-624903	D SILICON H 1S2473
7-TR404	ET-360400	TR UN4210	8-D28	ED-624903	D SILICON H 1S2473
7-TR405	ET-360400	TR UN4210	8-D29	ED-624903	D SILICON H 1S2473
7-TR406	ET-363953	TR DTA114TS	8-D30	ED-624903	D SILICON H 1S2473
7-TR407	ET-363953	TR DTA114TS	8-D31	ED-624903	D SILICON H 1S2473
7-TR408	ET-354371	TR DTC124ES	8-D32	ED-624903	D SILICON H 1S2473
7-TR410	ET-360401	TR UN4116	8-D33	ED-624903	D SILICON H 1S2473
7-TR411	ET-308472	TR 2SA1115 E,F,G F05	8-D34	ED-624903	D SILICON H 1S2473
7-TR413	ET-354094	TR DTC144WS	8-D35	ED-624903	D SILICON H 1S2473
7-TR414	ET-308472	TR 2SA1115 E,F,G F05	8-D36	ED-624903	D SILICON H 1S2473
7-TR416	ET-308472	TR 2SA1115 E,F,G F05	8-D37	ED-624903	D SILICON H 1S2473
7-TR417	ET-308472	TR 2SA1115 E,F,G F05	8-D38	ED-624903	D SILICON H 1S2473
7-TR418	ET-308472	TR 2SA1115 E,F,G F05	8-D39	ED-624903	D SILICON H 1S2473
7-TR501	ET-308141	TR 2SC2603 G F05	8-D40	ED-624903	D SILICON H 1S2473
7-TR502	ET-354414	TR DTC144ES	8-D41	ED-624903	D SILICON H 1S2473
7-TR503	*ET-360646	TR DTA143ES F05	8-D42	ED-624903	D SILICON H 1S2473
7-TR601	*ET-308141	TR 2SC2603 G F05	8-D50	ED-355607	D LED PR5505S RED
7-TR602	*ET-308141	TR 2SC2603 G F05	8-D53	ED-355607	D LED PR5505S RED
7-TR603	ET-356224	TR 2SA1286 G.H.J F05	8-D54	ED-356424	D LED BG5525S GREEN
7-TR604	ET-321644	TR 2SC1213 C	8-D55	ED-355607	D LED PR5505S RED
7-TR608	*ET-371005	TR 2SA1284 D,E F05	8-D56	ED-355607	D LED PR5505S RED
7-TR609	*ET-364093	TR 2SA1283 E,F F05	8-D57	ED-355607	D LED PR5505S RED
7-TR611	ET-308141	TR 2SC2603 G F05	8-D58	ED-624903	D SILICON H 1S2473
7-TR612	ET-356236	TR FET 2SK363 GR,BL	8-D59	ED-624903	D SILICON H 1S2473
7-TR701	*ET-362113	TR 2SD1406 Y,GR	8-D60	ED-355607	D LED PR5505S RED
7-TR702	*ET-362113	TR 2SD1406 Y,GR	8-D66	ED-624903	D SILICON H 1S2473
7-TR703	*ET-356224	TR 2SA1286 G.H.J F05	8-D70	ED-624903	D SILICON H 1S2473
7-VR1	EV-356579	R S-FIX H RH0615C13J 3P 102	8-IB1	EH-347743	COMP R RKC1/884 103J
7-VR2	EV-356575	R S-FIX H RH0615C13J 3P 222	8-IC1	EI-366680	IC MB88501-436M R-OPE4
7-VR201	EV-366436	R S-FIX H VM6CKPV31S 3P 0.3W 104	8-IC2	EI-360404	IC M50450-011P
7-VR202	EV-356582	R S-FIX H RH0615CS4J 3P 473	8-PM1	EE-364472	TUNING UNIT UBH16 12CH 203
7-VR401	EV-363511	R S-FIX EVTK-4CA00BQ4 3P 473	8-SW1	ES-360408	SW SLIDE ESD-14187 1-01-02N
7-VR501	EV-356577	R S-FIX H RH0615C14J 3P 103	8-SW4	ES-349474	SW TACT SKHHAM004A
7-VR502	EV-356582	R S-FIX H RH0615CS4J 3P 473	8-SW5	ES-349474	SW TACT SKHHAM004A
7-VR701	EV-366437	R S-FIX H VM6CKPV31S 3P 0.3W 102	8-SW6	ES-349474	SW TACT SKHHAM004A
7-X1	EI-384562	OSC X'TAL MX-44 4.433619MHZ	8-SW7	ES-349474	SW TACT SKHHAM004A
7-X401	EI-347991	OSC CE CSA6.00MS 6MHZ	8-SW8	ES-349474	SW TACT SKHHAM004A
7-1	BV-V1047A900B	VIF BLK VS-112EK	8-SW9	ES-349474	SW TACT SKHHAM004A
7-2	EE-345116	TV TUNER TEEB1-013A	8-SW10	ES-349474	SW TACT SKHHAM004A
7-3	E2-200473	SILICON RUBBER SHEET TC-30	8-SW11	ES-349474	SW TACT SKHHAM004A
7-4	EJ-363367	JACK PLATE VIDEO B-1	8-SW12	ES-349474	SW TACT SKHHAM004A
7-5	ZS-353965	PLX BR30X12STL CMT [JACK PLATE FIX]	8-SW13	ES-349474	SW TACT SKHHAM004A
7-6	BV-363232-A	RF CONVERTER BOOSTER EK	8-SW14	ES-349474	SW TACT SKHHAM004A
7-7	ZS-354335	PLX BR26X08STL CMT [RF CONVERTER FIX]	8-SW15	ES-349474	SW TACT SKHHAM004A
			8-SW16	ES-349474	SW TACT SKHHAM004A
			8-SW17	ES-349474	SW TACT SKHHAM004A
			8-SW18	ES-349474	SW TACT SKHHAM004A
			8-SW19	ES-349474	SW TACT SKHHAM004A
			8-SW20	ES-349474	SW TACT SKHHAM004A
			8-SW21	ES-349474	SW TACT SKHHAM004A
			8-SW22	ES-349474	SW TACT SKHHAM004A
			8-TR1	ET-308141	TR 2SC2603 G F05
			8-TR2	ET-308141	TR 2SC2603 G F05
			8-TR3	ET-308141	TR 2SC2603 G F05
			8-TR4	ET-308141	TR 2SC2603 G F05
			8-TR5	ET-308141	TR 2SC2603 G F05
			8-TR6	ET-308141	TR 2SC2603 G F05
			8-TR7	ET-308141	TR 2SC2603 G F05
			8-TR8	ET-308141	TR 2SC2603 G F05
			8-TR9	ET-308141	TR 2SC2603 G F05
			8-TR10	ET-308141	TR 2SC2603 G F05
			8-TR11	ET-308141	TR 2SC2603 G F05
			8-TR12	ET-308141	TR 2SC2603 G F05
			8-TR13	ET-308141	TR 2SC2603 G F05
			8-TR14	ET-364060	TR DTC143ES
			8-TR15	ET-308141	TR 2SC2603 G F05
			8-VR1	EV-356322	R S-FIX H KVSF637A 3P 502
			8-X1	EI-356371	OSC X'TAL MS-309 4.194304MHZ

## 8. OPERATION P.C BOARD

Ref. No.	Part No.	Description
8-D3	ED-356424	D LED BG5525S GREEN
8-D4	ED-356424	D LED BG5525S GREEN
8-D5	ED-356424	D LED BG5525S GREEN
8-D6	ED-356424	D LED BG5525S GREEN
8-D7	ED-356424	D LED BG5525S GREEN
8-D8	ED-356424	D LED BG5525S GREEN
8-D9	ED-356424	D LED BG5525S GREEN
8-D10	ED-356424	D LED BG5525S GREEN
8-D11	ED-356424	D LED BG5525S GREEN
8-D12	ED-356424	D LED BG5525S GREEN
8-D13	ED-356424	D LED BG5525S GREEN
8-D14	ED-356424	D LED BG5525S GREEN
8-D19	ED-624903	D SILICON H 1S2473
8-D20	ED-624903	D SILICON H 1S2473
8-D21	ED-624903	D SILICON H 1S2473
8-D22	ED-624903	D SILICON H 1S2473
8-D23	ED-624903	D SILICON H 1S2473

## 9. FUNCTION P.C BOARD

Ref. No.	Part No.	Description
9-D1	ED-360409	D PHOT PN323B
9-D2	ED-344280	D SILICON H GMA-01-FY2 F05
9-FL1	EO-358372	COIL TUN 1 038-332 38KHZ
9-IC1	EI-358370	IC LA7224
9-SW1	ES-349474	SW TACT SKHHAM004A
9-SW2	ES-349474	SW TACT SKHHAM004A
9-VR1	EV-360410	VR ROTARY K091COGOC 103
9-VR2	EV-360569	VR ROTARY K091COGOC 104
9-VR3	EV-369699	VR ROTARY 09P10XOG B504

## 10. PRE-AMP P.C BOARD

Ref. No.	Part No.	Description
10-D1	ED-344280	D SILICON H GMA-01-FY2 F05
10-IC1	EI-352714	IC HA11752
10-L1	EO-357508	COIL FIX 1 LAL02 F05 151K
10-L2	EO-353902	COIL FIX 1 LAL02 F05 680K
10-L3	EO-330252	COIL FIX 1 EL0808SKI 101K
10-L4	EO-330252	COIL FIX 1 EL0808SKI 101K
10-RL1	EQ-364207	RELAY SIGNAL G5E-V-H 1TR 5V
10-TR1	ET-308141	TR 2SC2603 G F05
10-TR2	ET-347961	TR 2SD1012-V G F05
10-TR3	ET-347961	TR 2SD1012-V G F05
10-TR4	ET-347961	TR 2SD1012-V G F05
10-TR5	ET-361736	TR 2SC3576

## 11. H.Q P.C BOARD

Ref. No.	Part No.	Description
11-D1	ED-523427	D SILICON H 1SS16
11-D2	ED-523427	D SILICON H 1SS16
11-L1	EO-354600	COIL FIX 1 LAL02 F05 101K
11-L2	EO-354600	COIL FIX 1 LAL02 F05 101K
11-TR1	ET-308472	TR 2SA1115 E,F,G F05
11-TR2	ET-308472	TR 2SA1115 E,F,G F05
11-TR3	ET-308141	TR 2SC2603 G F05
11-TR4	ET-308472	TR 2SA1115 E,F,G F05
11-TR5	ET-308141	TR 2SC2603 G F05
11-TR6	ET-308472	TR 2SA1115 E,F,G F05
11-TR7	ET-308141	TR 2SC2603 G F05

## 12. POWER SUPPLY P.C BOARD

Ref. No.	Part No.	Description
12-C2	EC-363490	C EC V CUT SME 222M 16.0DC
12-C3	EC-363491	C EC V CUT SME 222M 25.0DC
12-C4	EC-363491	C EC V CUT SME 222M 25.0DC
12-C5	*EC-361942	C CE V DNS103ZV V 103Z 400AC
12-D1	ED-367202	D SILICON S5566B F12
12-D2	ED-367202	D SILICON S5566B F12
12-D3	*ED-367199	D SILICON DSA17C F12
12-D4	*ED-367199	D SILICON DSA17C F12
12-D5	*ED-367199	D SILICON DSA17C F12
12-D6	*ED-367199	D SILICON DSA17C F12
12-D7	*ED-367202	D SILICON S5566B F12
12-D8	*ED-367202	D SILICON S5566B F12
12-D9	*ED-367202	D SILICON S5566B F12
12-D10	*ED-367202	D SILICON S5566B F12
12-FR1	*ER-364508	R FUSE ERQ-12H F17 1/2W R56K
12-FR2	*ER-362257	R FUSE ERQ-12H F17 1/2W R47K
12-FR3	*ER-365157	R FUSE H F10 ERQ-14LE 1/4W R43K
12-FR5	*ER-200595	R FUSE ERD2FC S10 1/4W 5R6J
12-TR1	ET-364153	TR 2SC3246 JK F05
12-F1	*EF-355226	FUSE BET T 1.00A 250V
12-F2	*EF-355398	FUSE BET T 2.00A 250V
12-T901	*8T-363945	TRANS POWER V47EK

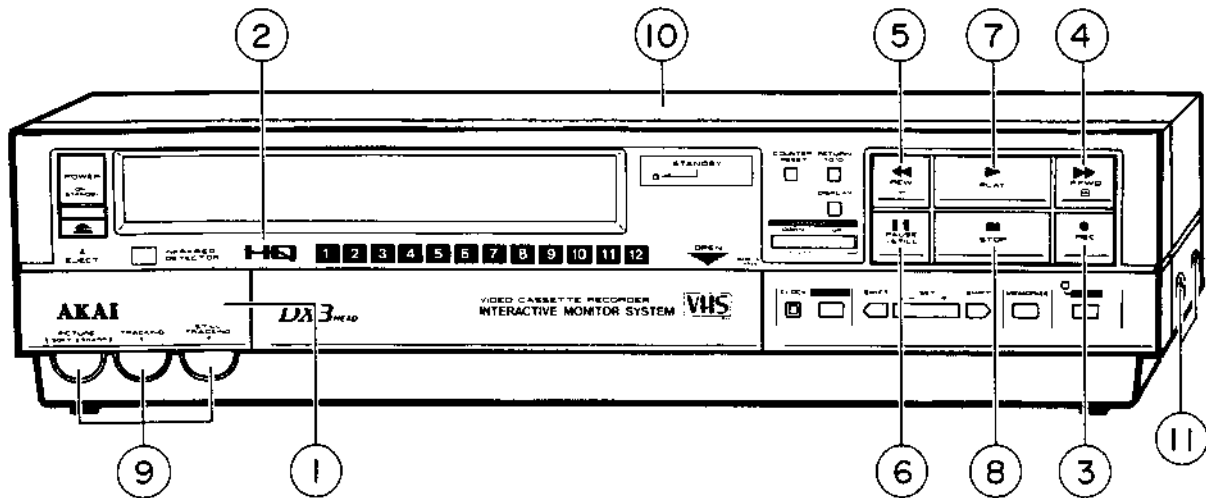
## 13. EVM P.C BOARD

Ref. No.	Part No.	Description
13-SW901	*ES-354430	SW SLIDE 00220950 02-02-2N

## 14. ASSEMBLY BLOCK

Ref. No.	Part No.	Description
14-1	ZS-385291	DELL TIGHT BID40X08STL CMT [POWER TRANS FIX]
14-2	ZS-363912	PLX BR40X10STL CMT [POWER TRANS FIX]
14-3	*EW-364044	AC CORD 2 CORES NRBS.LC2X0.75-CB B
14-4	ZS-353963	PLX BR30X10STL CMT [PANEL FRONT FIX]
14-5	SA-353927B	FOOT(2)

## FINAL ASSEMBLY BLOCK



### 15. FINAL ASSEMBLY BLOCK

Ref. No.	Part No.	Description
15-1	BD-V1047C130D	PANEL FRONT BLK VS-155HQEK
15-1-B	BD-V1047D130D	PANEL FRONT BLK VS-155HQEK-B
15-2	SP-361782X	PLATE DECORATION VS-155HQEK
15-2-B	SP-361782X	PLATE DECORATION VS-155HQEK
15-3	SK-B361325A	KNOB REC PART
15-3-B	SK-B361325B	KNOB REC-B PART
15-4	SK-B361327A	KNOB FF PART
15-4-B	SK-B361327B	KNOB FF-B PART
15-5	SK-B361328A	KNOB REW PART
15-5-B	SK-B361328B	KNOB REW-B PART
15-6	SK-B361329A	KNOB PAUSE PART
15-6-B	SK-B361329B	KNOB PAUSE-B PART
15-7	SK-B361330A	KNOB PLAY PART
15-7-B	SK-B361330B	KNOB PLAY-B PART
15-8	SK-361331A	KNOB STOP
15-8-B	SK-361331B	KNOB STOP-B
15-9	SK-361334	KNOB PICTURE TRACKING
15-10	SP-361486A	COVER UPPER
15-10-B	SP-361486B	COVER UPPER-B
15-11	ZS-357943	ST BID40X10STL N13 SPECIAL
15-11-B	ZS-358696	ST BID40X10STL BNI SPECIAL
15-12X	EW-348414	CORD PAL

### 16. REMOTE CONTROL UNIT RC-V120

Ref. No.	Part No.	Description
16-1	AV-370093	REMOCON RC-V120B-E WIRELESS(T)
16-1-B	AV-370094	REMOCON RC-V120B-EB WIRELESS(T)
16-D1	ED-705414	D LED SE303A INFRARED
16-D2	ED-718039	D SILICON DAN201
16-IC1	EI-749983	IC UPD1943G
16-TR1	ET-318604	TR 2SD545NP E.F
16-X1	EI-710037	OSC CE CSB455E 455KHZ
16-2	SC-718689	COVER BATTERY
16-2-B	SC-718690	COVER BATTERY-B

#### SYMBOL FOR COLOR VARIATION

NON : SILVER

B : BLOCK

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AV-370094	16-1-B	ED-346609	29	ED-718039	19	EO-330252	7-L17
BA-V1047A400D	6-3	ED-346609	7-D501	ED-718039	16-D2	EO-330252	7-L22
BA-V1047C300M	6-1	ED-355607	16	EE-345116	32	EO-330252	10-L3
BA-V1047C330B	6-2	ED-355607	8-D50	EE-345116	7-2	EO-330252	10-L4
BD-V1047C130D	15-1	ED-355607	8-D53	EE-364472	31	EO-345889	7-L18
BD-V1047D130D	15-1-B	ED-355607	8-D55	EE-364472	8-PM1	EO-351865	7-L2
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BL-B360342-A	3-24	ED-355607	8-D60	EF-344106	7-SF201	EO-351868	7-L16
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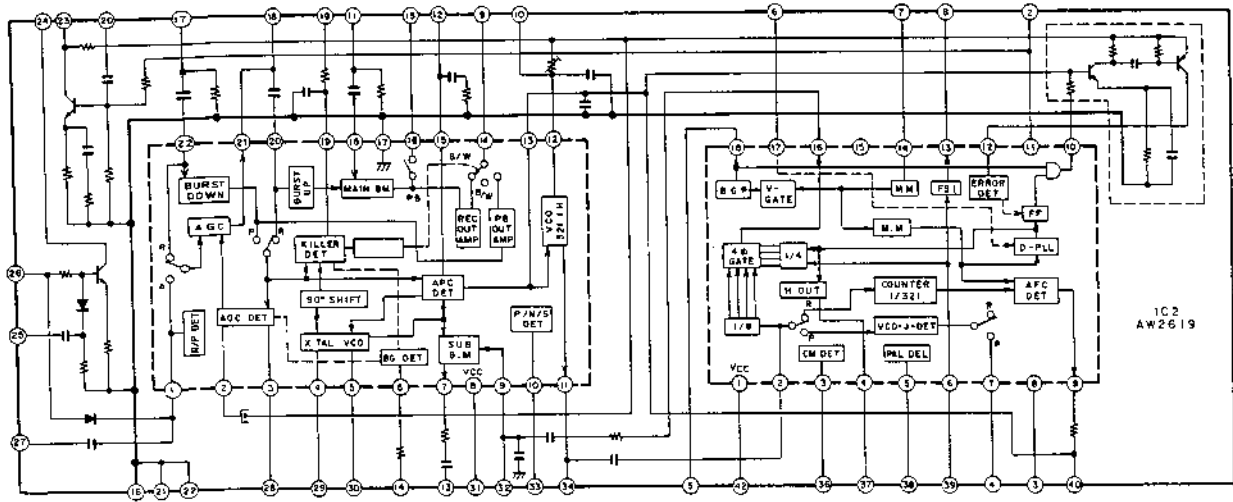
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# **SCHEMATIC DIAGRAM AND PC BOARDS**

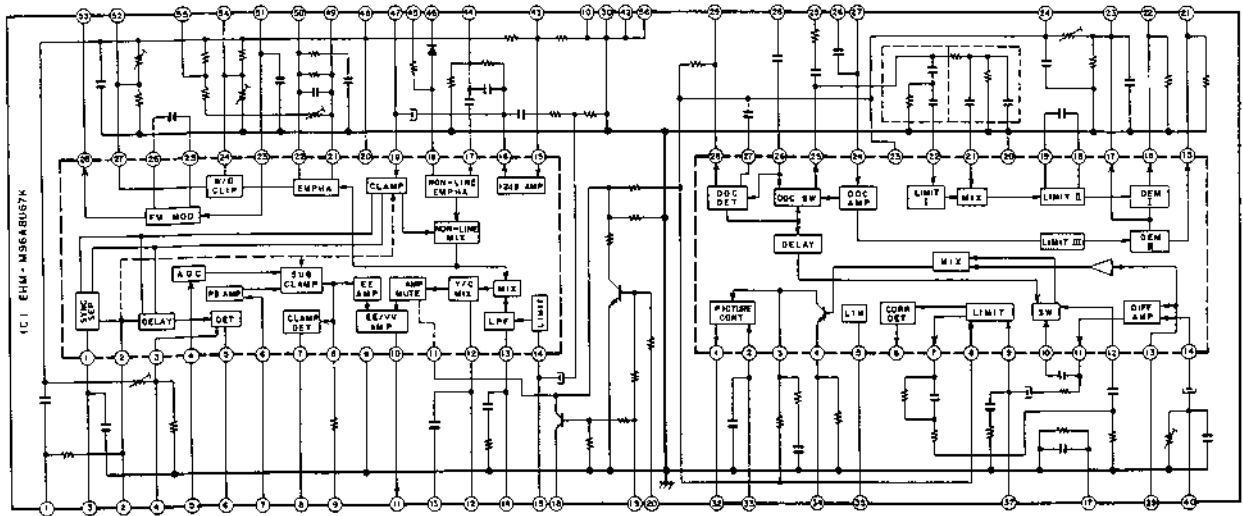
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14. PRE AMP PC BOARD .....	29
15. REMOTE CONTROL UNIT SCHEMATIC DIAGRAM .....	30

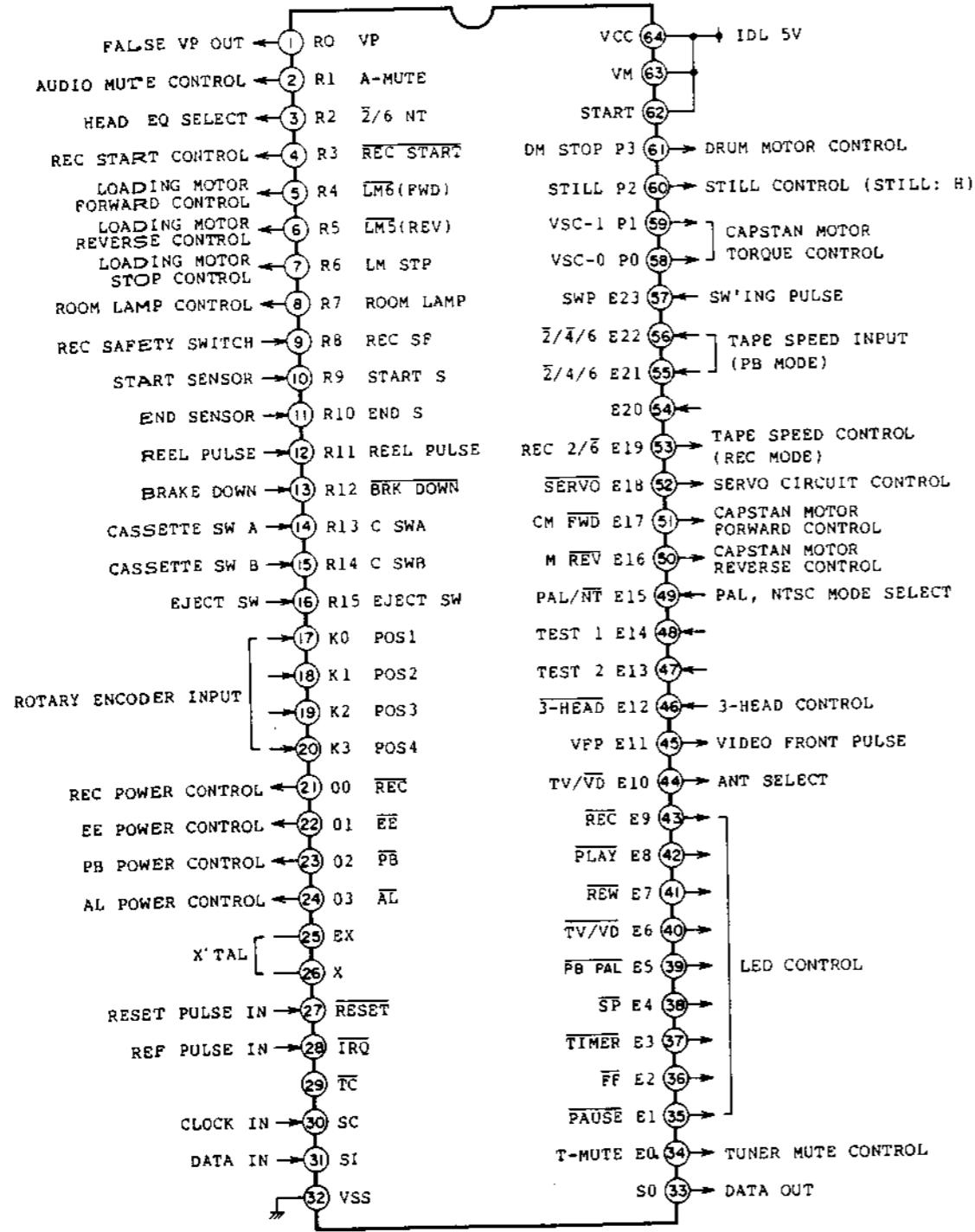
AW2619 [VIDEO (CHROMA) SIGNAL IC]



EHM-M96A8U83K [VIDEO (Y) SIGNAL IC]

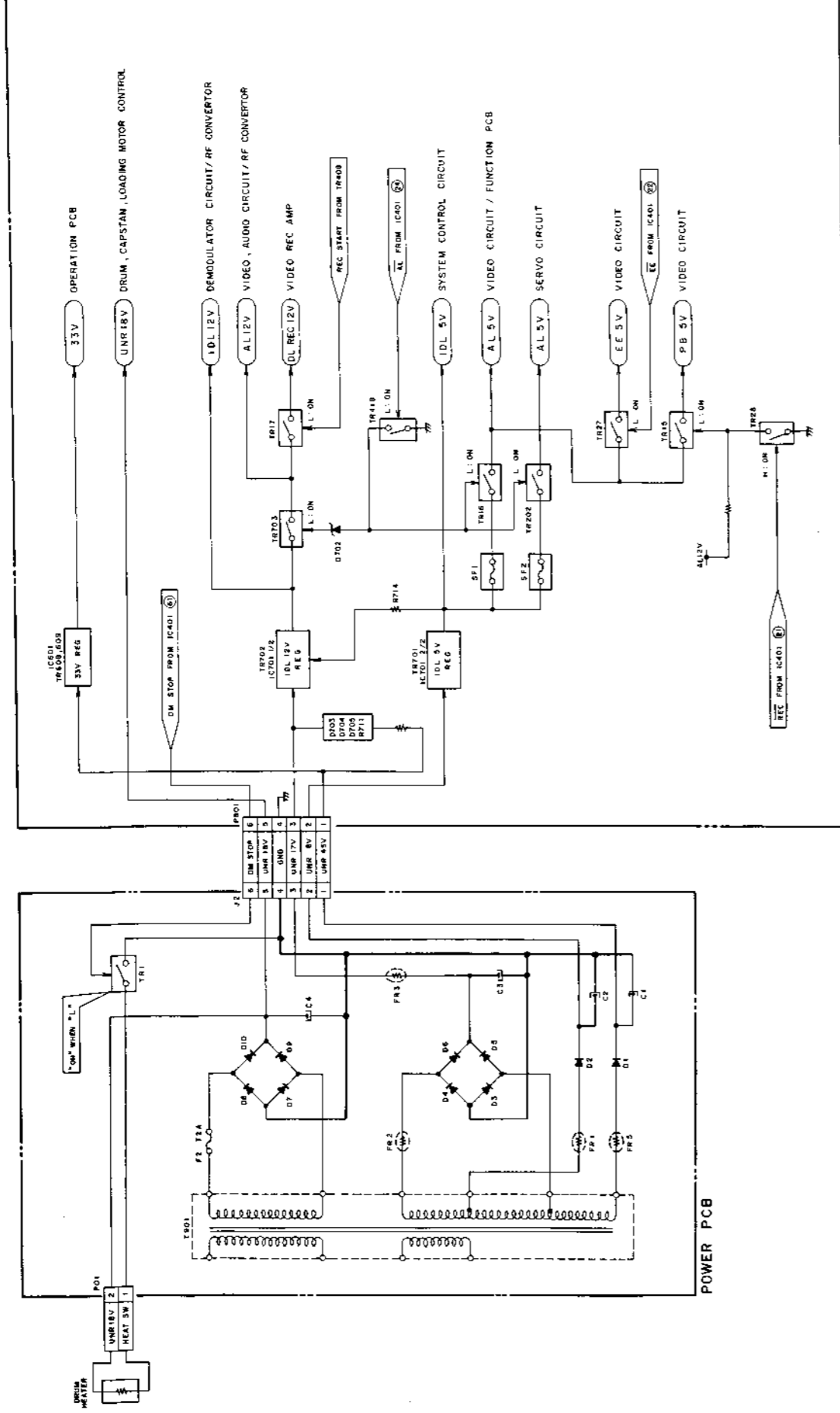


MB88521-140 M (SYSICON MPU)



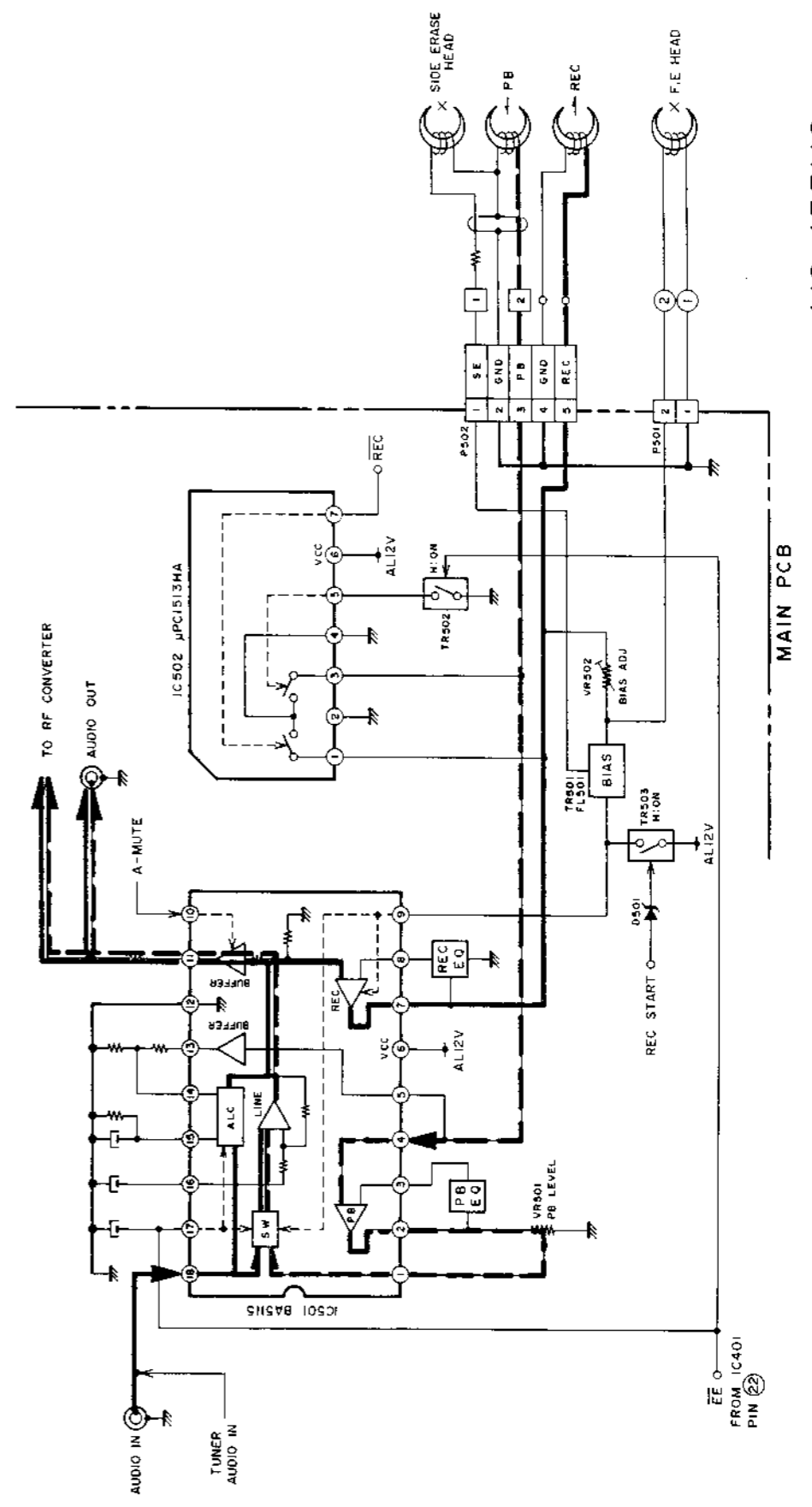
Pin No.	Port Name	I/O	Active	Description
49	PAL/NT	1	H/L	PAL, NTSC SELECT
50	CM REV	0	L	CAPSTAN MOTOR REVERSE CONTROL
51	CM FWD	0	L	CAPSTAN MOTOR FORWARD CONTROL
52	SERVO	0	L	SERVO CIRCUIT CONTROL
53	REC 2/6	0	H/L	TAPE SPEED CONTROL (REC MODE)
54	NC			NC
55	2/4/6	1		TAPE SPEED CONTROL (PB MODE)
56	2/4/6	1		TAPE SPEED CONTROL (PB MODE)
57	SWP	1		SWITCHING PULSE IN
58	VSC-0	0	H/L	CAPSTAN MOTOR TORQUE CONTROL
59	VSC-1	0	H/L	CAPSTAN MOTOR TORQUE CONTROL
60	STILL	0	H	STILL CONTROL
61	DM STP	0	L	DRUM MOTOR CONTROL
62	START			
63	VM			
64	VCC			+5V

Pin No.	Port Name	I/O	Active	Description
1	VP	0		False V Sync On on Trick Mode (CUE, REVIEW, STILL)
2	A-MUTE	0	H	Audio Mute Control
3	2/6 NT	0	L/H	EQ SELECT CONTROL (NTSC ONLY)
4	REC START	0	L	REC START CONTROL
5	LM6 (FWD)	0	L	LOADING MOTOR FORWARD CONTROL
6	LM5 (REV)	0	L	LOADING MOTOR REVERSE CONTROL
7	LM STP	0	L	LOADING MOTOR STOP CONTROL
8	ROOM LAMP	0	H	ROOM LAMP CONTROL
9	REC SF	1		PB, REC AND EJECT MODE: ROOM LAMP OFF
10	START S	1		REC SAFETY SW IN
11	END S	1		L: ACCEPT REC. H: NOT ACCEPT REC
12	REEL PULSE	1		END SENSOR IN
13	BRK DOWN	1		REEL PULSE IN
14	C SW A	1		BRAKE DOWN IN
15	C SW B	1		L: CASSETTE IN
16	EJECT SW	1		H: CASSETTE IN
17	POS 1	1		EJECT SW
18	POS 2	1		ROTARY ENCODER DATA IN
19	POS 3	1		
20	POS 4	1		
21	REC	0	L	REC POWER CONTROL
22	EE	0	L	EE POWER CONTROL
23	PB	0	L	PB POWER CONTROL
24	AL	0	L	AL POWER CONTROL
25	EX	0		X:TAL
26	X	0		
27	RESET	1	L	RESET PULSE IN
28	IRQ	1	L	REF PULSE (of VP OUT) IN
29	TC	1		NC
30	SC	1		CLOCK IN
31	SI	1		DATA IN (FROM OPERATION MPU)
32	VSS			GND
33	SO	0		DATA OUT (TO OPERATION MPU)
34	T-MUTE	0	H	TUNER MUTE CONTROL
35	PAUSE	0	L	PAUSE LED CONTROL
36	FF	0	L	FF LED CONTROL
37	TIMER	0	L	TIMER LED CONTROL
38	SP	0	L	SP LED CONTROL
39	PB PAL	0	L	PB PAL LED CONTROL
40	TV/VD	0	L	TV/VIDEO LED CONTROL
41	REW	0	L	REW LED CONTROL
42	PLAY	0	L	PLAY LED CONTROL
43	REC	0	L	REC LED CONTROL
44	TV/VD	0	L/H	ANT SELECT CONTROL
45	VFP	0	L	H: TV L: VIDEO
46	3-HEAD	1	L	VIDEO FRONT PULSE
47	TEST 1	1	L	(3-HEAD MODEL ONLY)
48	TEST 2	1	L	



MAIN PCB

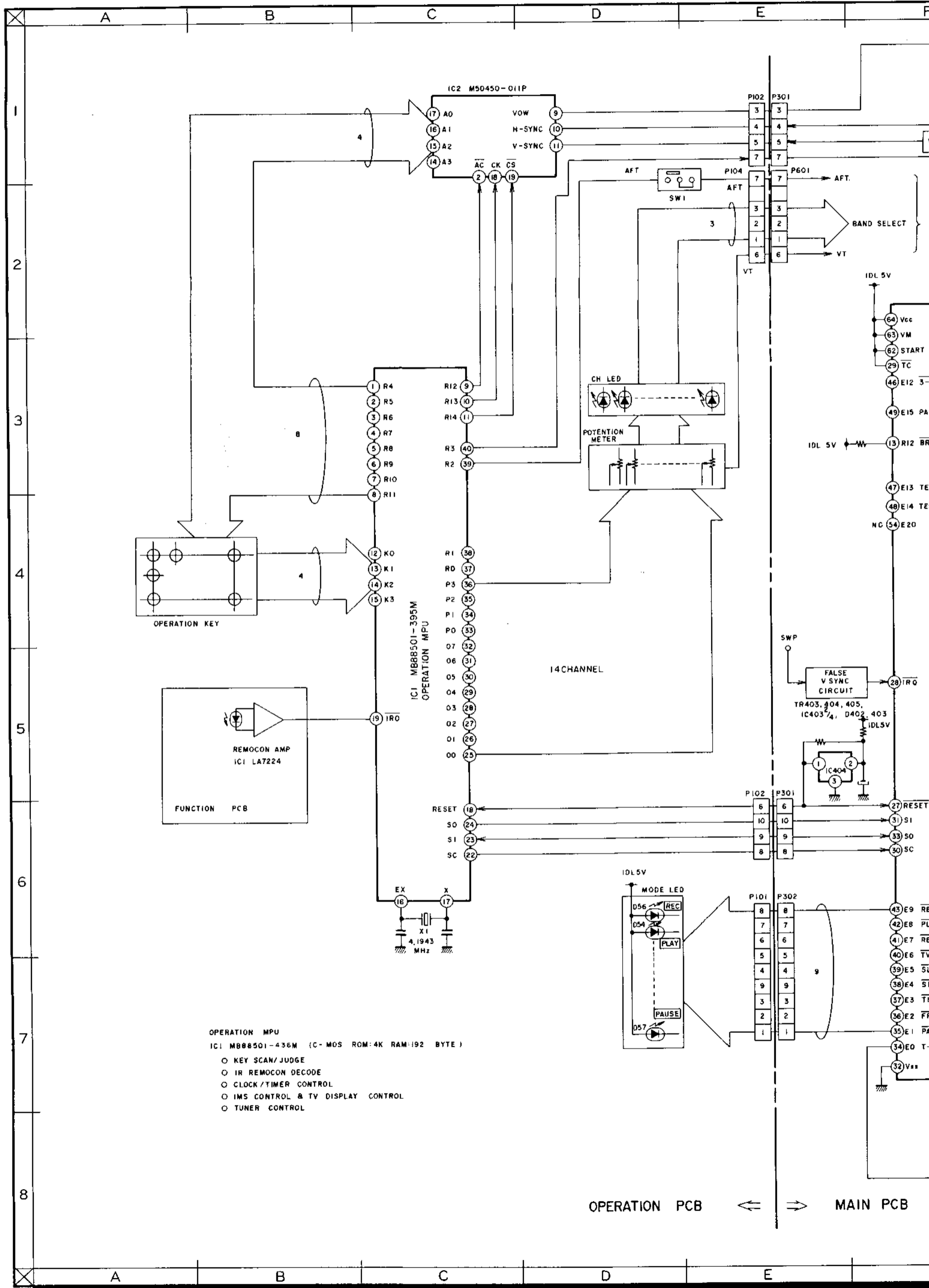
VS-155HQEK  
POWER SUPPLY  
BLOCK DIAGRAM  
NO.5-1 860701A



MAIN PCB

VS-155HQEK  
AUDIO  
BLOCK DIAGRAM  
NO.5-2 860702A

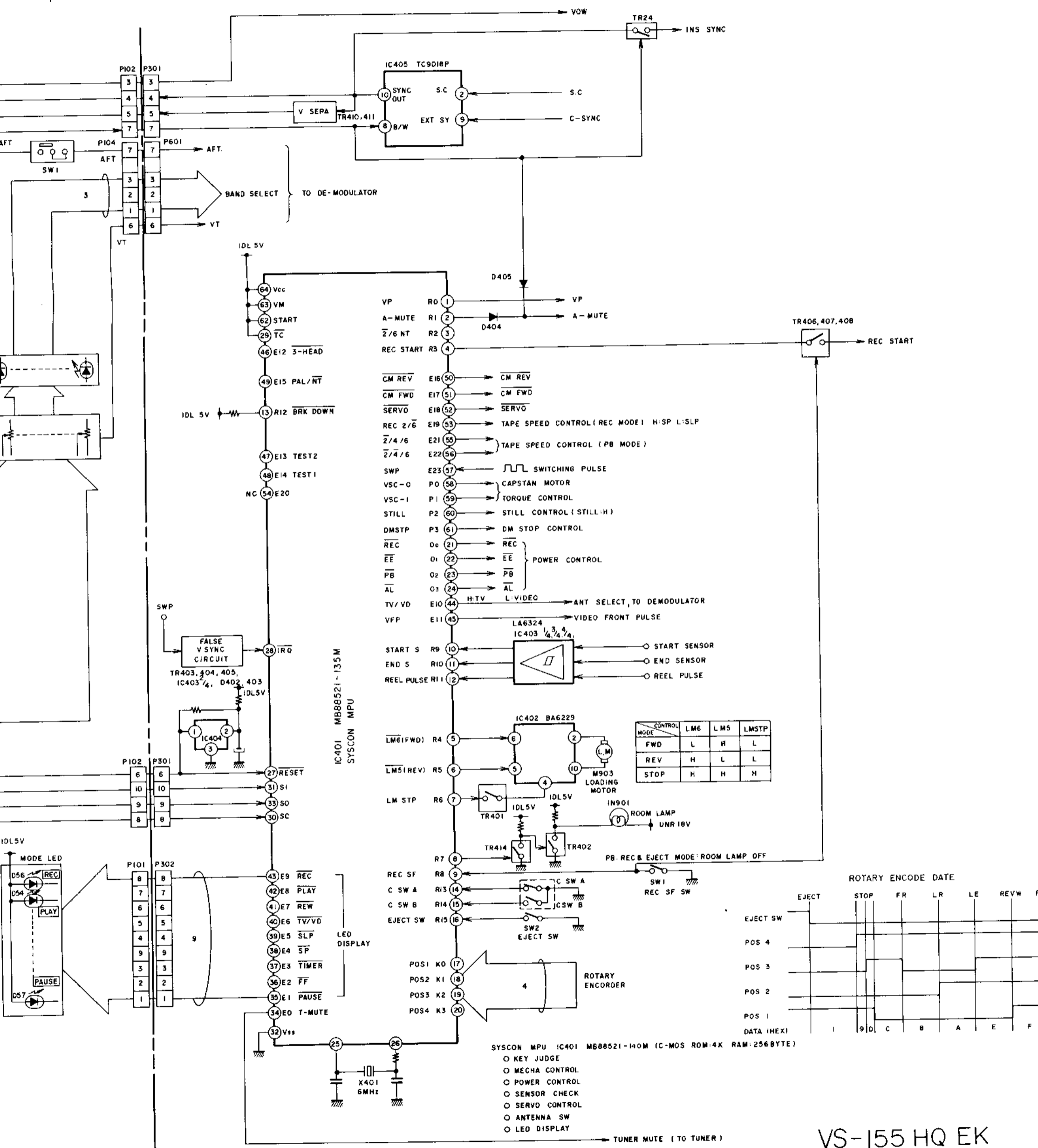
--- PB SIGNAL  
--- REC SIGNAL



- OPERATION MPU**  
 IC1 MB88501-436M (C-MOS ROM:4K RAM:192 BYTE)
- KEY SCAN/JUDGE
  - IR REMOCON DECODE
  - CLOCK/TIMER CONTROL
  - IMS CONTROL & TV DISPLAY CONTROL
  - TUNER CONTROL

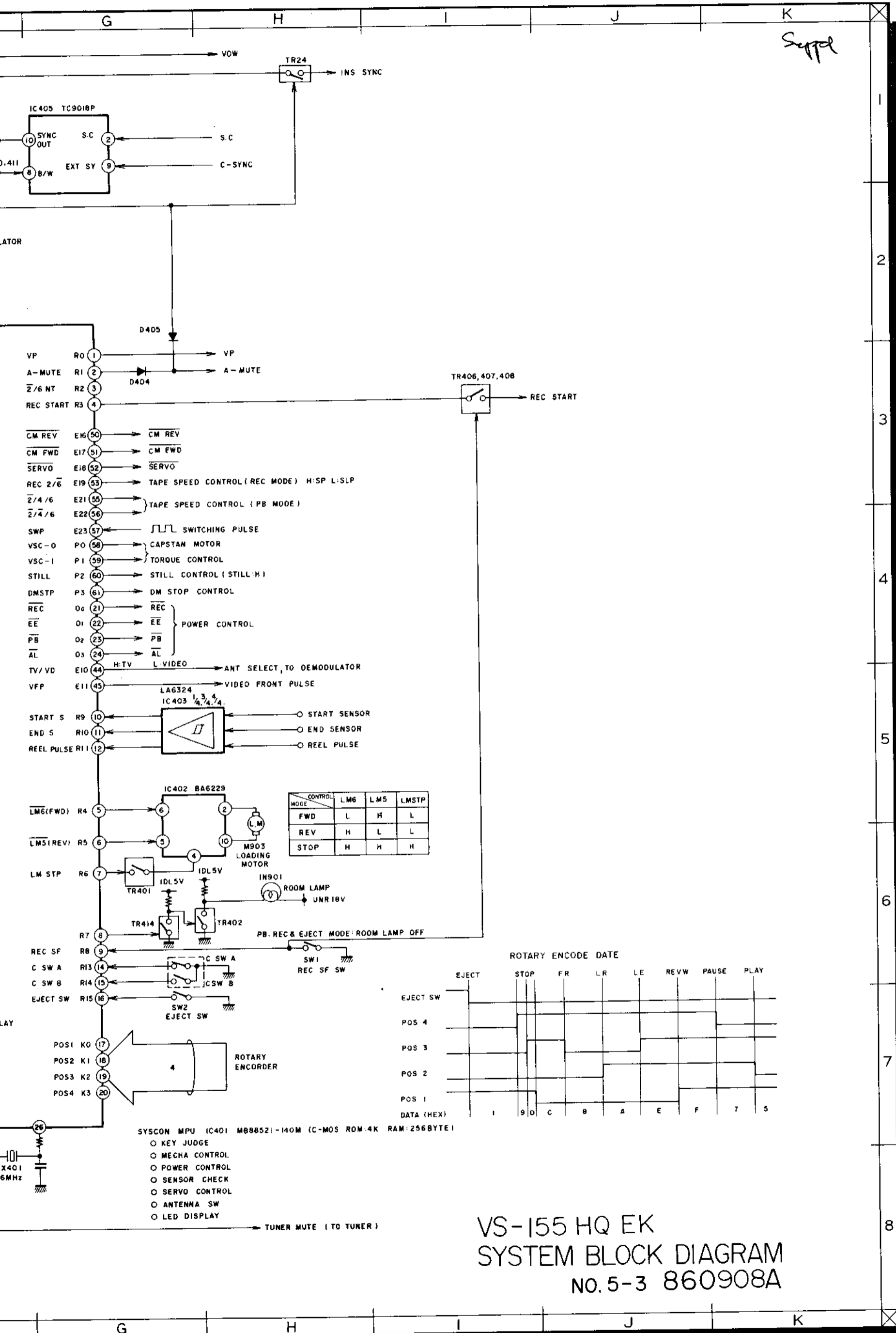
OPERATION PCB ↔ MAIN PCB

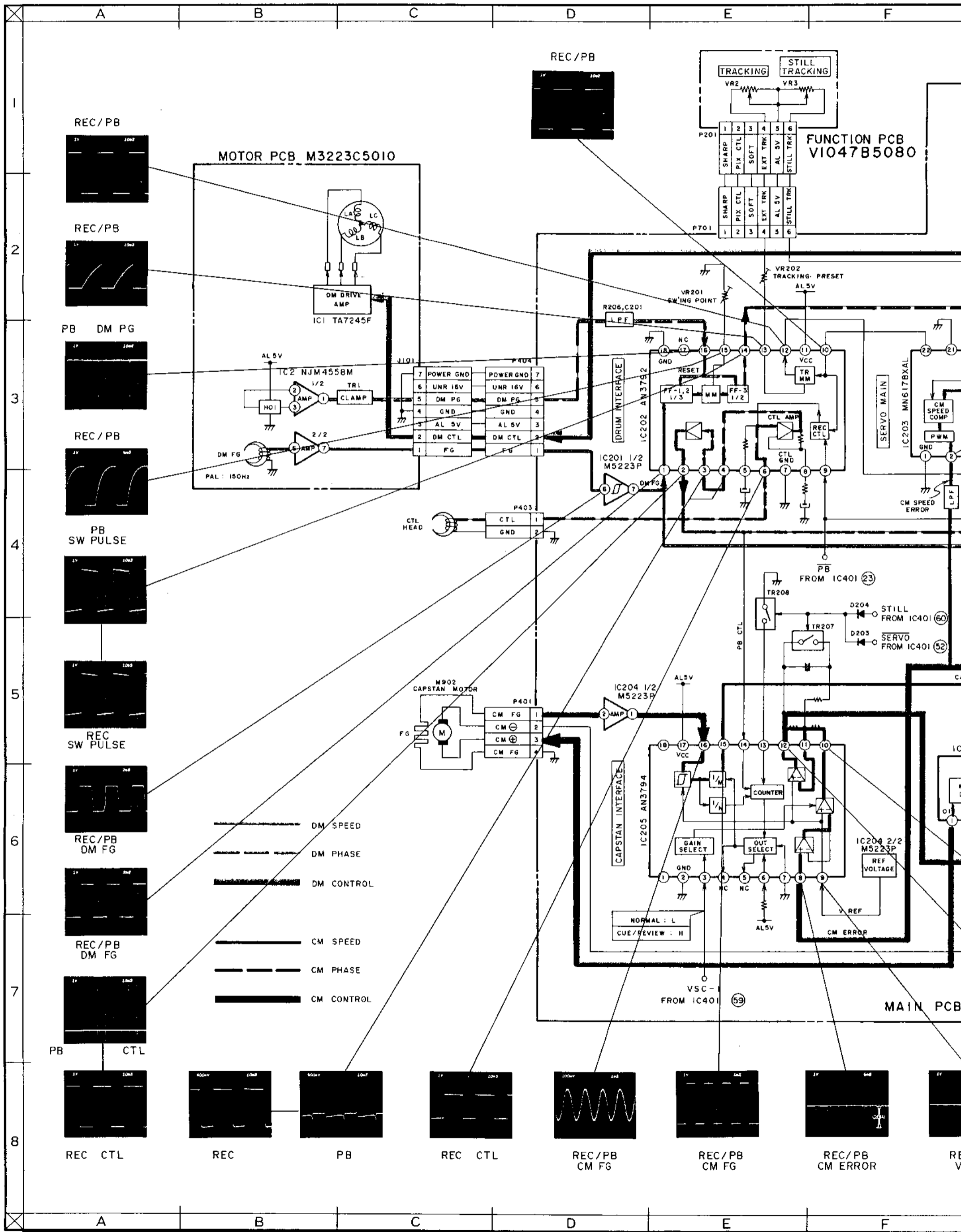
Suppl



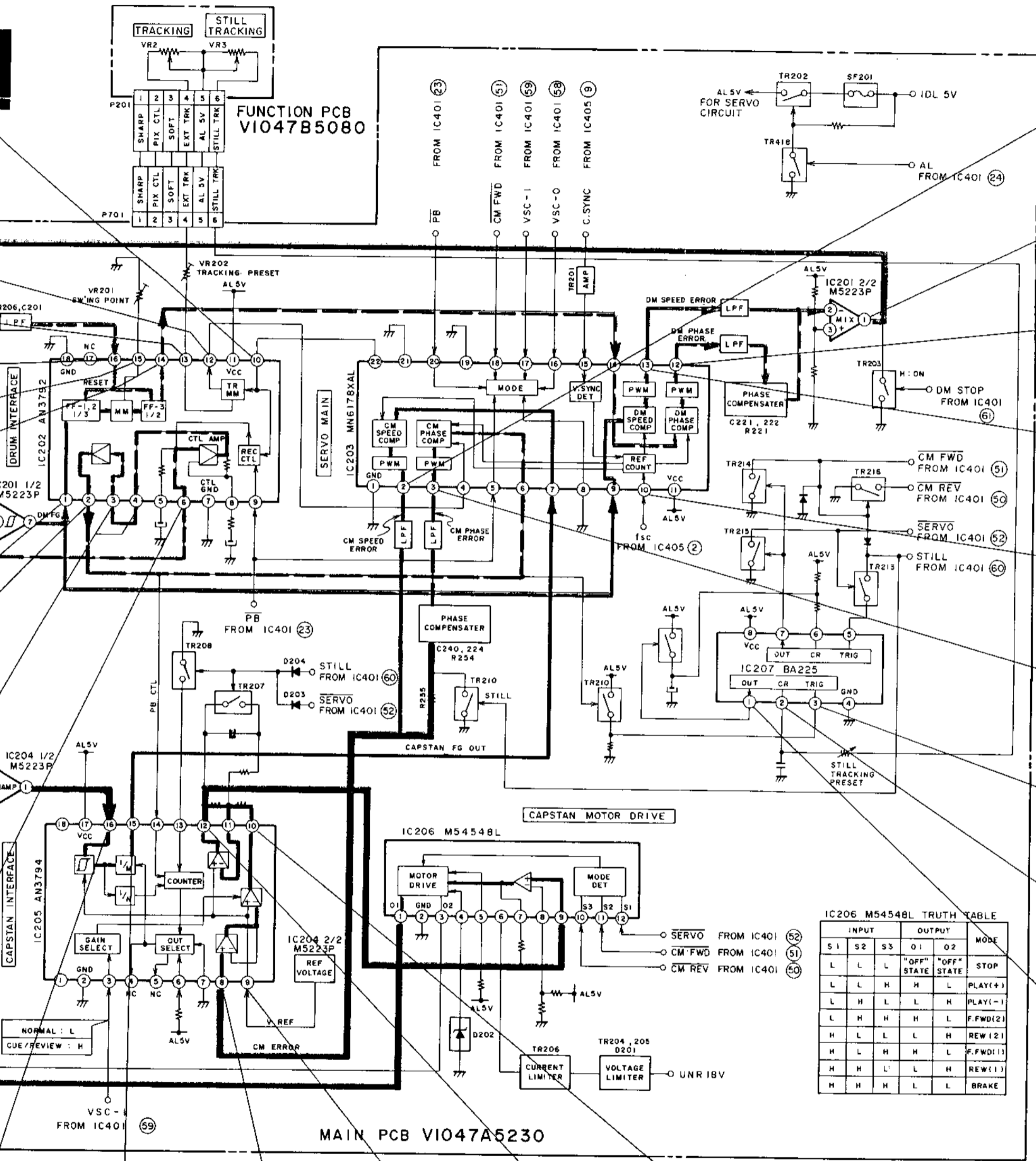
TUNER PCB ↔ MAIN PCB

VS-155 HQ EK  
 SYSTEM BLOCK DIA  
 NO. 5-3 860





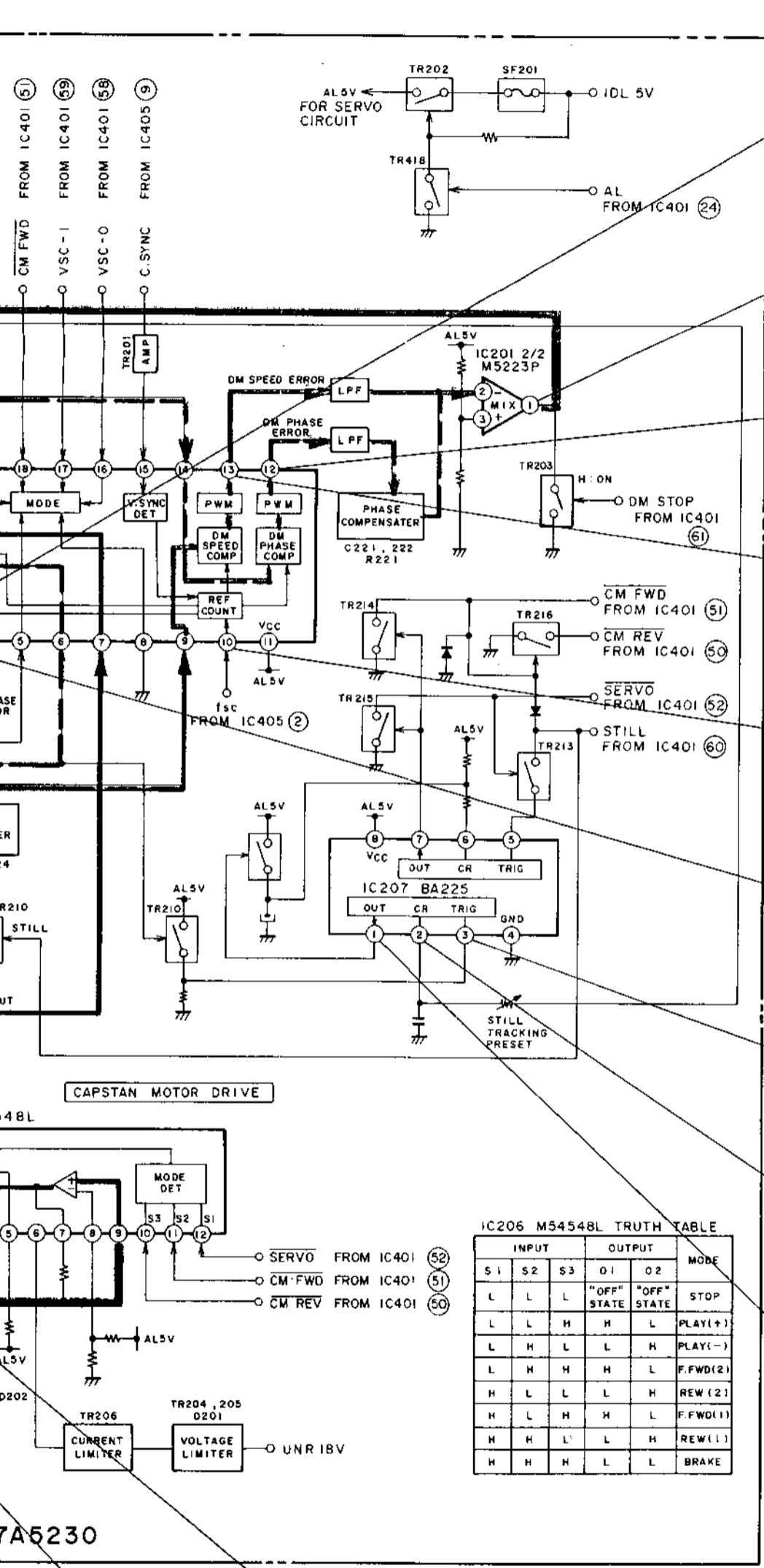




REC/PB CM FG      REC/PB CM ERROR      REC/PB V REF      PB CM ERROR      REC/PB

VS-155HQEK  
SERVO  
BLOCK DIAG  
NO.5-4 8602

G H I J K

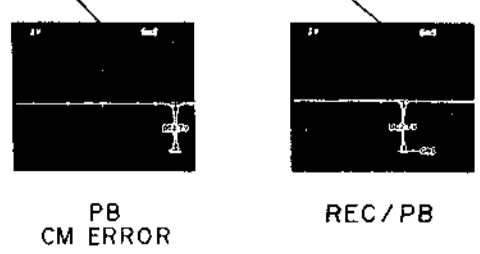


IC206 M54548L TRUTH TABLE

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	H	L	F.FWD(1)
H	H	L	L	H	REW(1)
H	H	H	L	L	BRAKE

- REC/PB CM SPEED ERROR
- 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
- REC/PB

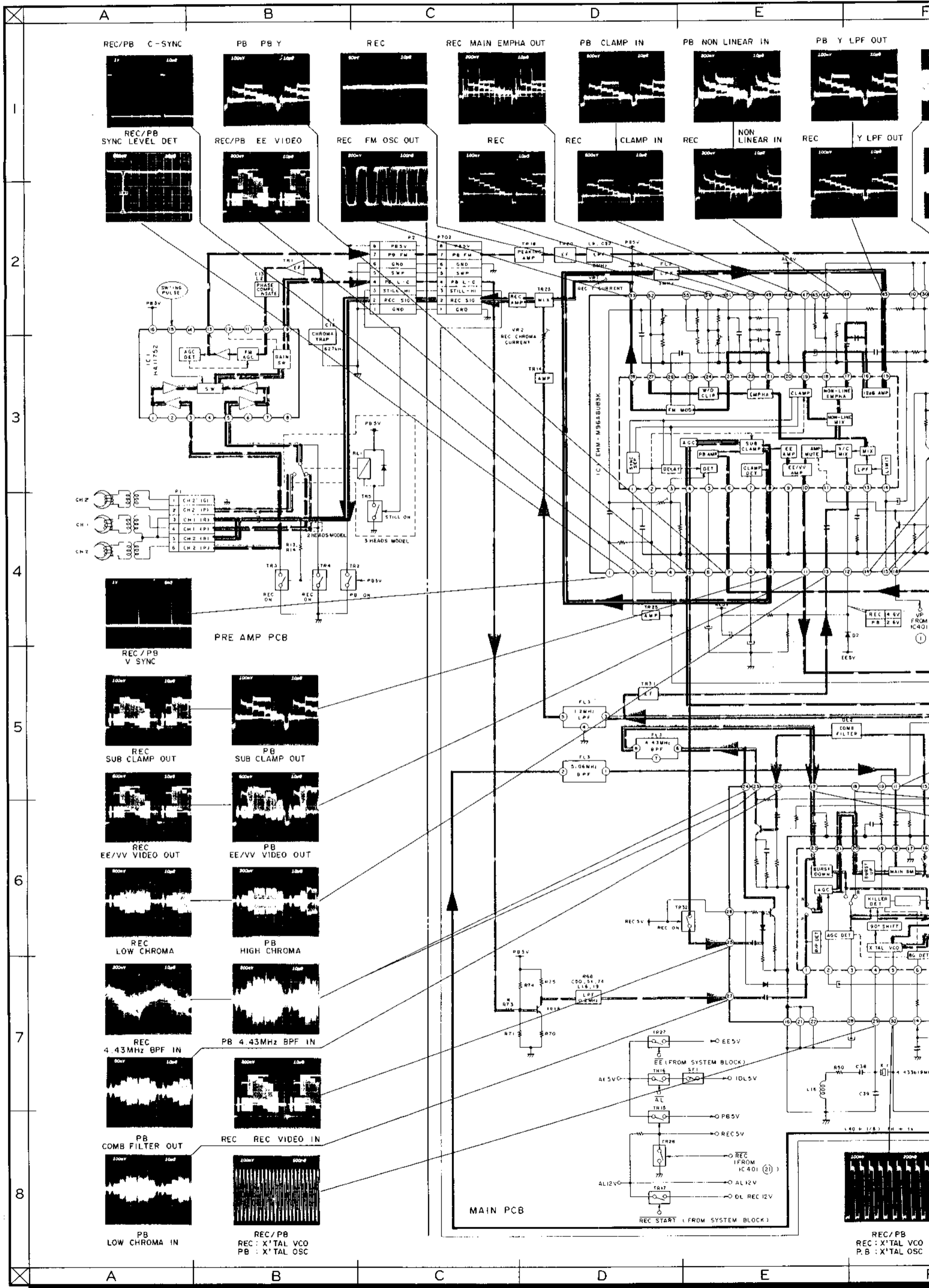
1  
2  
3  
4  
5  
6  
7



VS-155HQEK  
SERVO  
BLOCK DIAGRAM  
NO.5-4 860220A

8

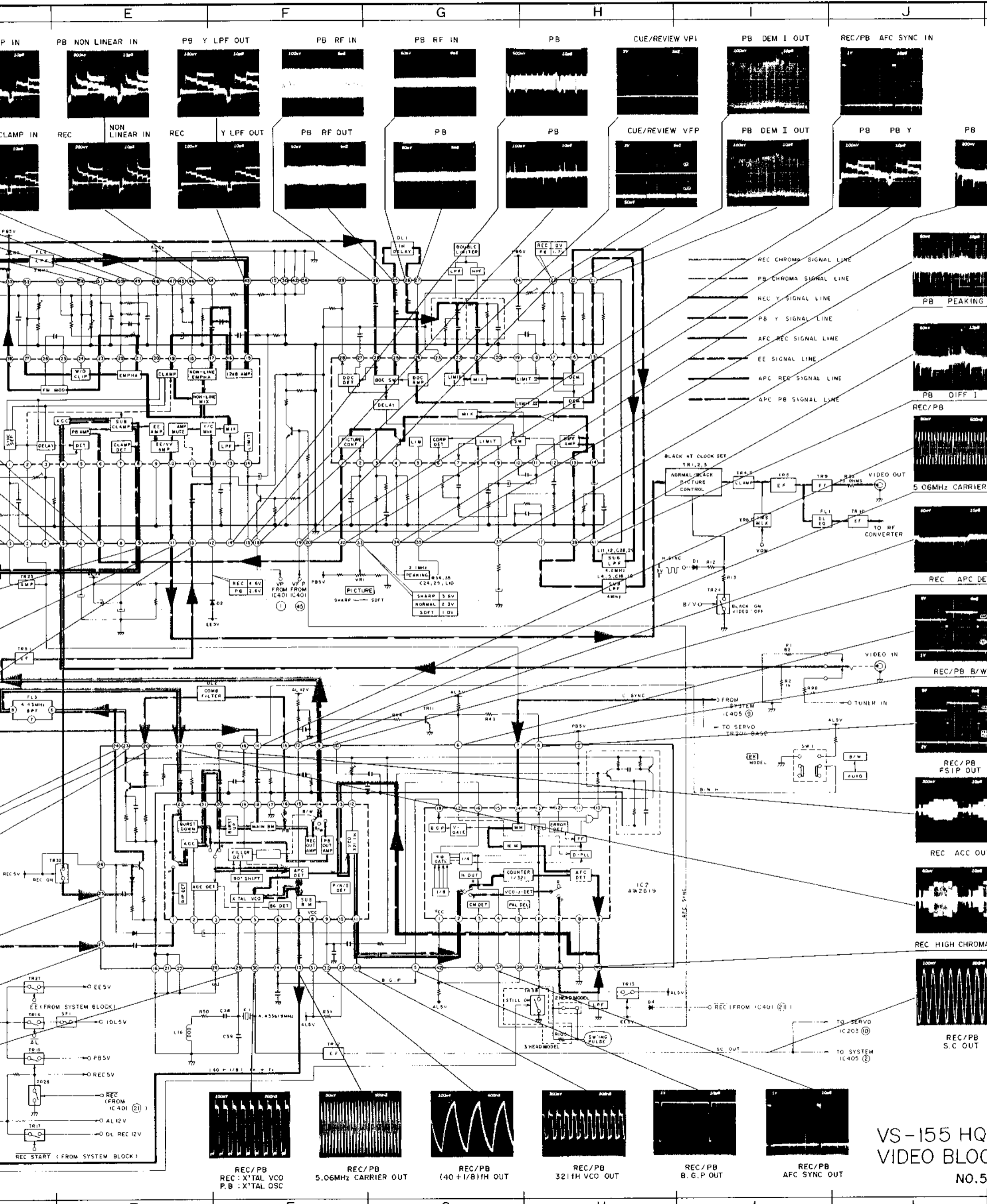
G H I J K



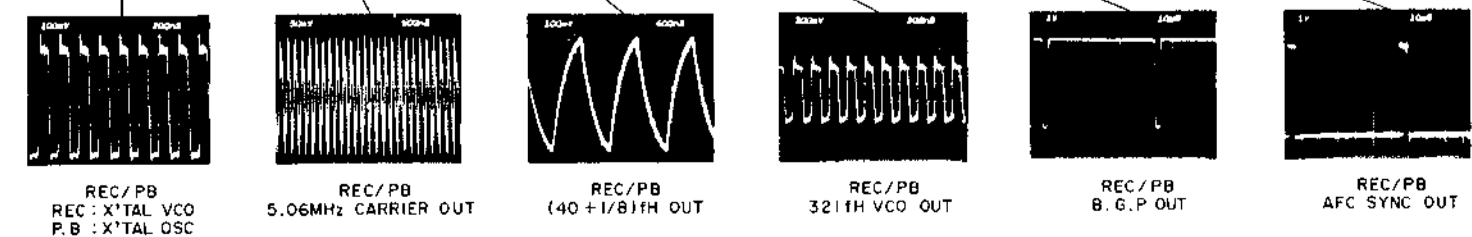
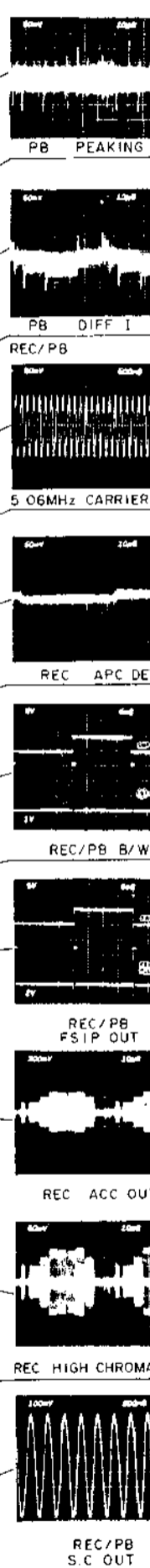
Copy

1  
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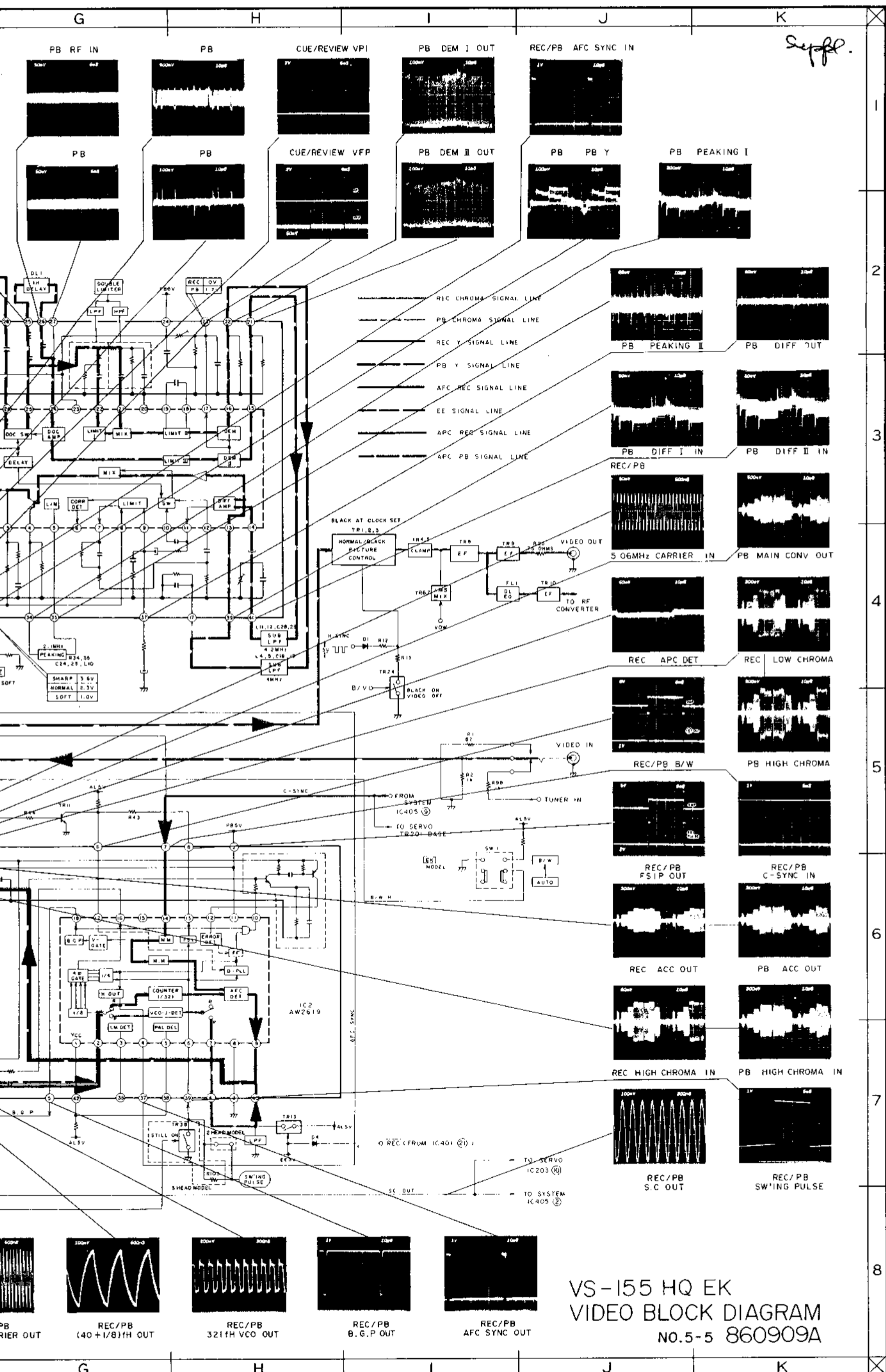
A REC/PB C-SYNC  
 B PB PB Y  
 C REC  
 D REC MAIN EMPHA OUT  
 E PB CLAMP IN  
 F PB NON LINEAR IN  
 REC/PB SYNC LEVEL DET  
 REC/PB EE VIDEO  
 REC FM OSC OUT  
 REC CLAMP IN  
 REC NON LINEAR IN  
 REC Y LPF OUT  
 REC SUB CLAMP OUT  
 PB SUB CLAMP OUT  
 REC EE/VV VIDEO OUT  
 PB EE/VV VIDEO OUT  
 REC LOW CHROMA  
 PB HIGH CHROMA  
 REC 4.43MHz BPF IN  
 PB 4.43MHz BPF IN  
 PB COMB FILTER OUT  
 REC REC VIDEO IN  
 PB LOW CHROMA IN  
 REC/PB REC: X'TAL VCO  
 PB: X'TAL OSC  
 REC/PB V SYNC  
 REC/PB FM  
 REC CHROMA TRAP  
 REC CHROMA CURRENT  
 REC Y CURRENT  
 REC CHROMA  
 REC CLIP  
 REC EMPHA  
 REC CLAMP  
 REC NON-LINE EMPHA  
 REC NON-LINE MIX  
 REC AGC  
 REC SUB CLAMP  
 REC EE/VV AMP  
 REC Y/C MIX  
 REC LPF  
 REC LIMIT  
 REC BURST DOWN  
 REC MAIN BM  
 REC KILLER DET  
 REC 90° SHIFT  
 REC X'TAL VCO  
 REC AGC DET  
 REC PIP DET  
 REC 4.5V  
 REC PB 2.6V  
 REC START (FROM SYSTEM BLOCK)  
 REC EE (FROM SYSTEM BLOCK)  
 REC 10LSV  
 REC PB5V  
 REC REC5V  
 REC AL12V  
 REC DL REC 12V  
 REC X'TAL VCO  
 REC P.B: X'TAL OSC



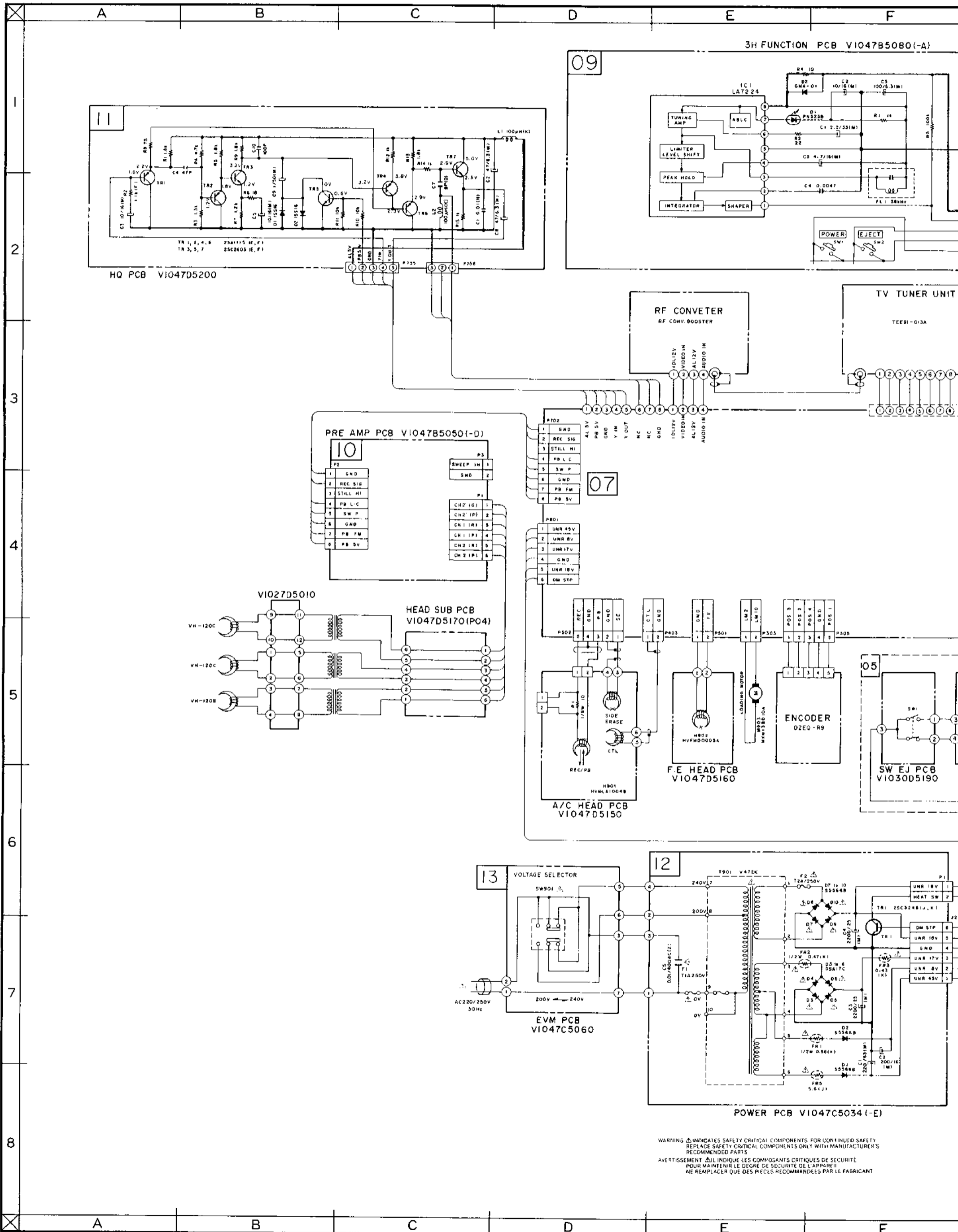
- REC CHROMA SIGNAL LINE
- PB CHROMA SIGNAL LINE
- REC Y SIGNAL LINE
- PB Y SIGNAL LINE
- AFC REC SIGNAL LINE
- EE SIGNAL LINE
- APC REC SIGNAL LINE
- APC PB SIGNAL LINE



VS-155 HQ  
VIDEO BLOC  
NO.5



VS-155 HQ EK  
 VIDEO BLOCK DIAGRAM  
 NO.5-5 860909A



3H FUNCTION PCB V1047B50B0(-A)

HQ PCB V1047D5200

PRE AMP PCB V1047B5050(-D)

HEAD SUB PCB V1047D5170(P04)

A/C HEAD PCB V1047D5150

F.E HEAD PCB V1047D5160

ENCODER 02EQ-R9

SW EJ PCB V1030D5190

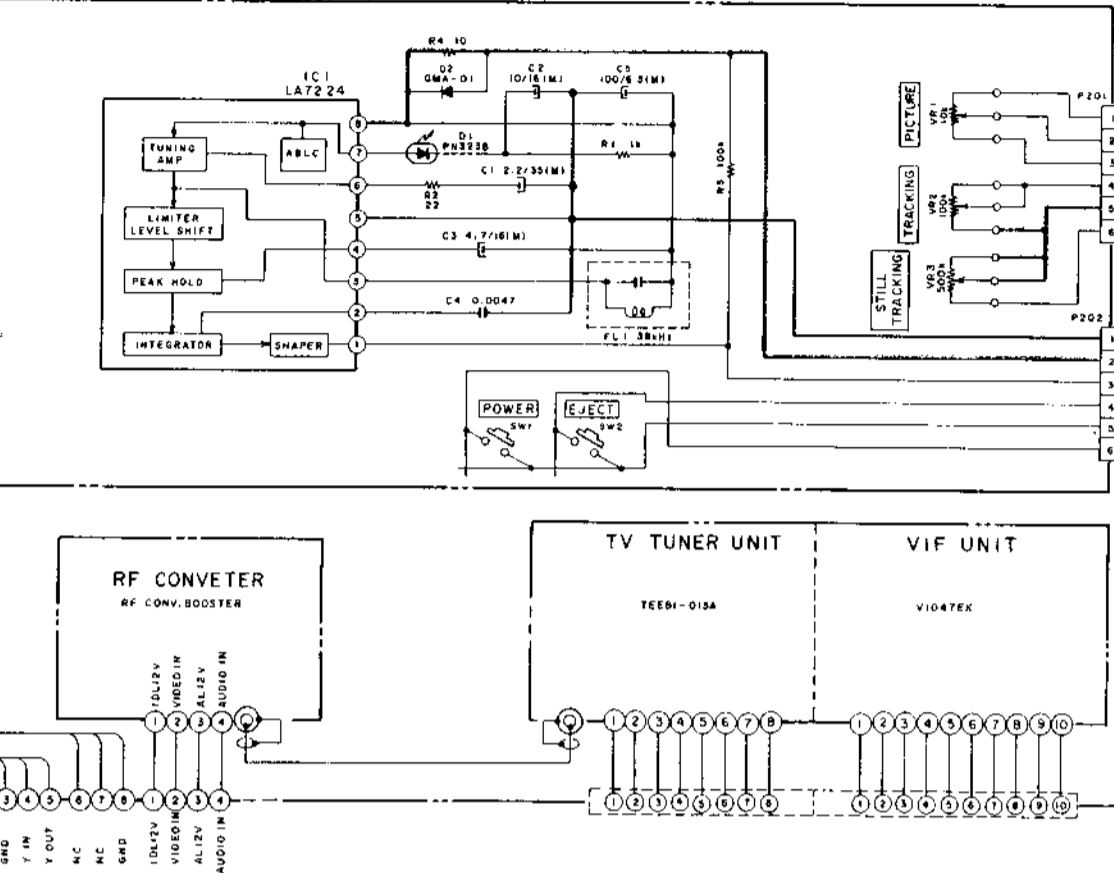
VOLTAGE SELECTOR

EVM PCB V1047C5060

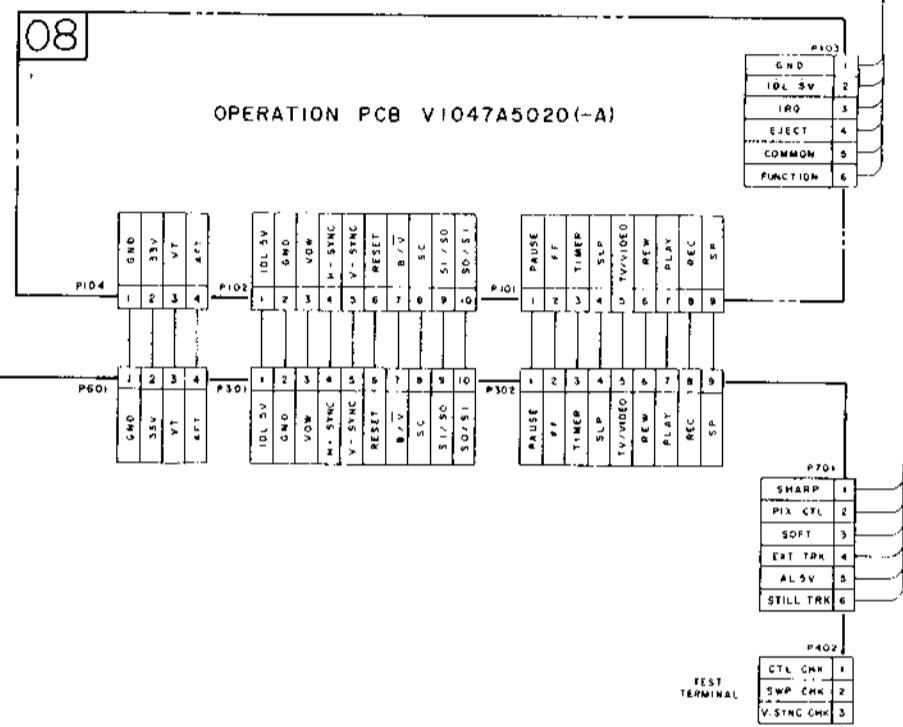
POWER PCB V1047C5034(-E)

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

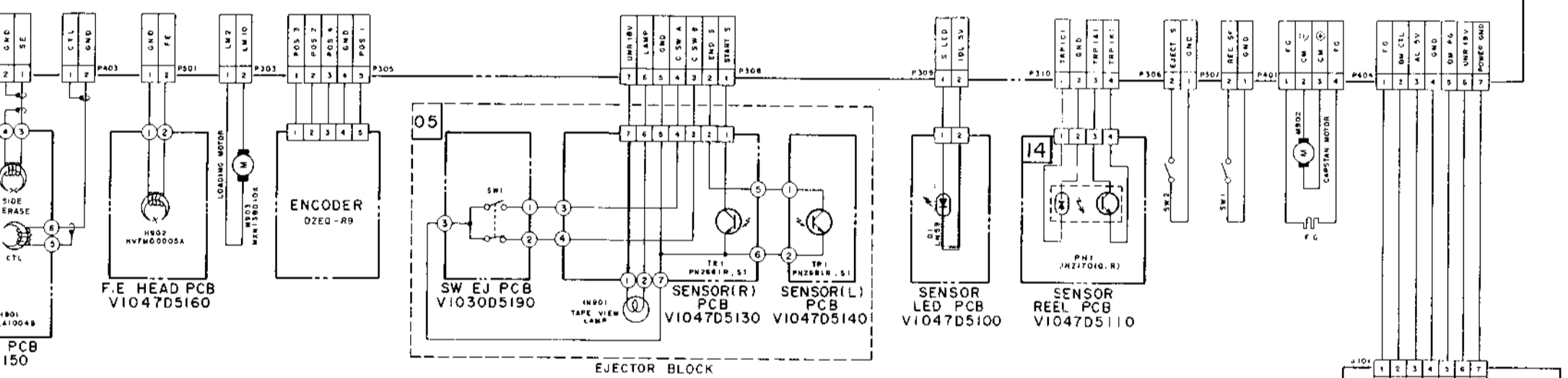
3H FUNCTION PCB V1047B5080(-A)



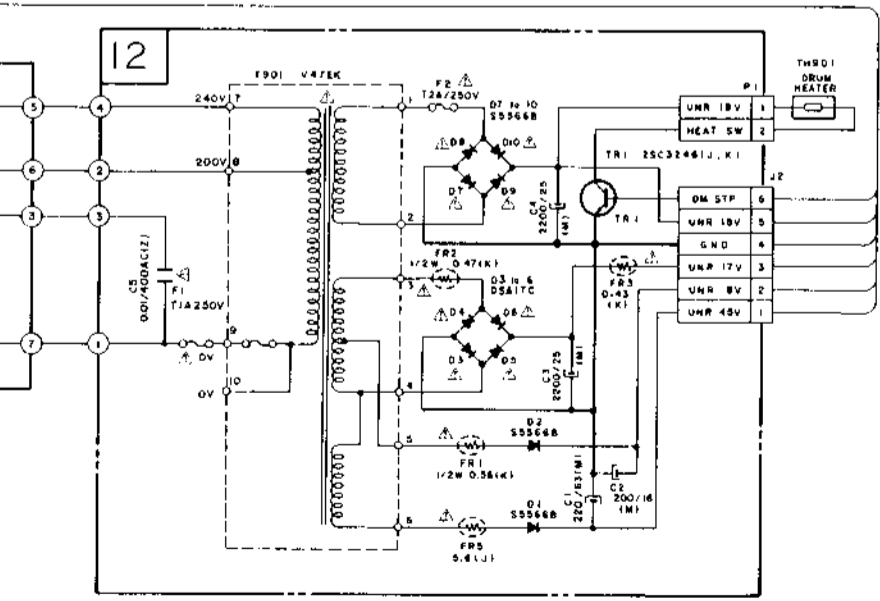
OPERATION PCB V1047A5020(-A)



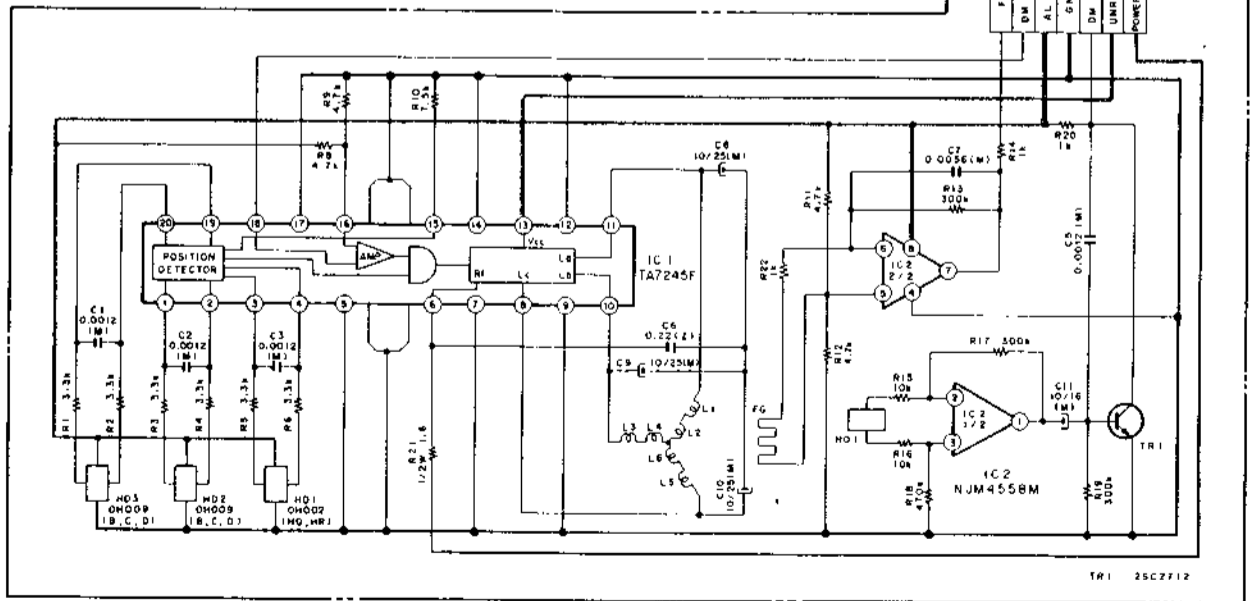
MAIN PCB V1047A5230(-A)



POWER PCB V1047C5034(-E)



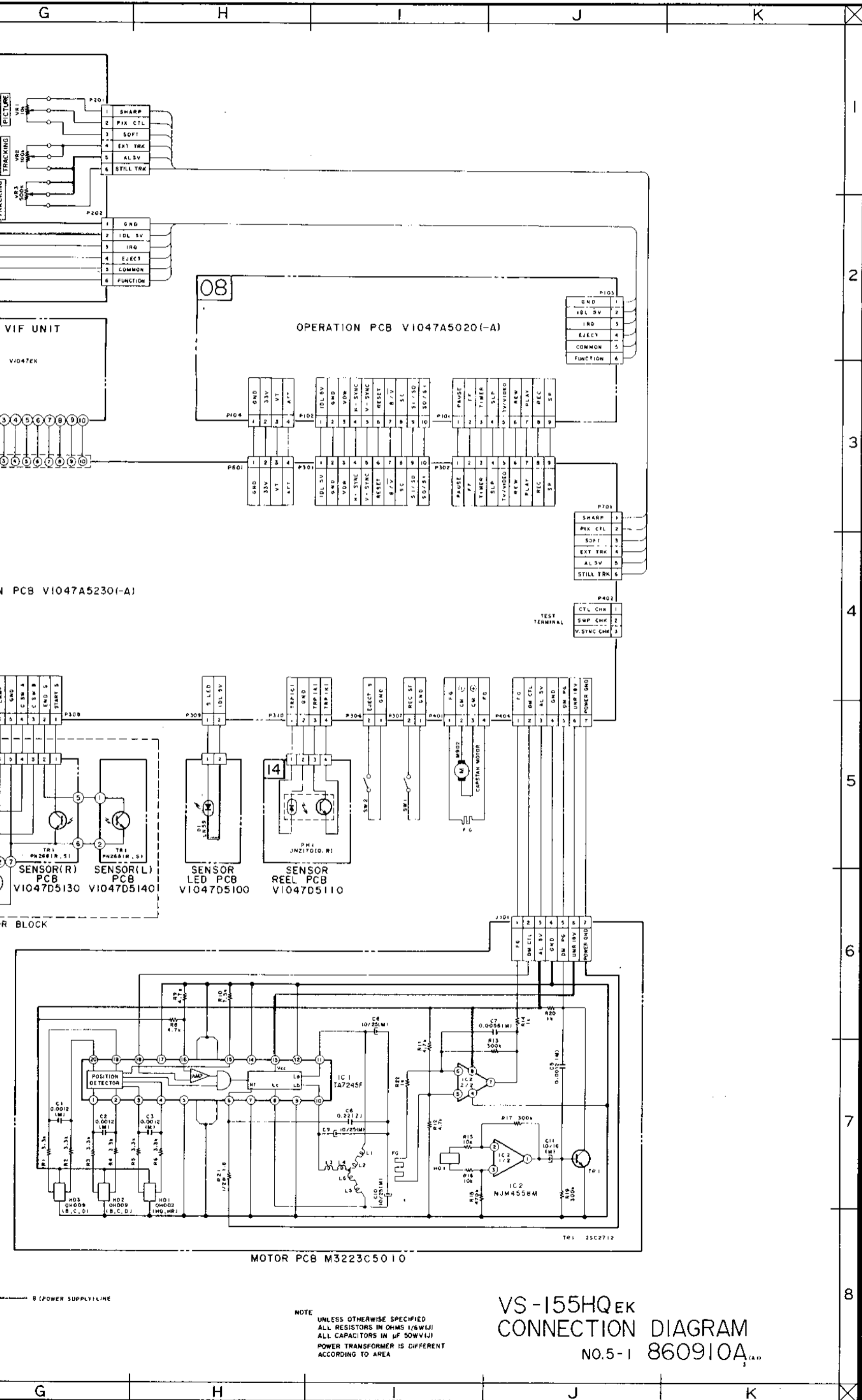
MOTOR PCB M3223C5010



WARNING  $\Delta$  INDICATES SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS  
 AVERTISSEMENT  $\Delta$  IL INDIQUE LES COMPOSANTS CRITIQUES DE SECURITE POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL  
 NE REMPLACER QUE DES PIECES RECOMMANDEES PAR LE FABRICANT

NOTE  
 UNLESS OTHERWISE SPECIFIED  
 ALL RESISTORS IN OHMS 1/8W(J)  
 ALL CAPACITORS IN  $\mu$ F 50WV(J)  
 POWER TRANSFORMER IS DIFFERENT  
 ACCORDING TO AREA

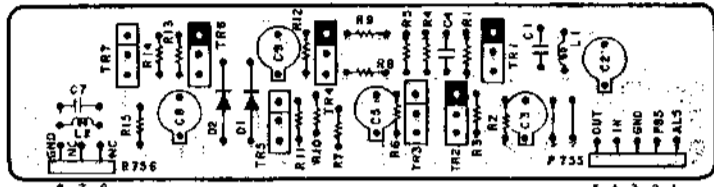
VS-155HQEK  
 CONNECTION DIA  
 No.5-1 86



NOTE  
 UNLESS OTHERWISE SPECIFIED  
 ALL RESISTORS IN OHMS (1/6W/1/2)  
 ALL CAPACITORS IN μF (50WV/1)  
 POWER TRANSFORMER IS DIFFERENT  
 ACCORDING TO AREA

VS-155HQEK  
 CONNECTION DIAGRAM  
 NO.5-1 860910A





□ = PNP TRANSISTOR

□ = NPN TRANSISTOR

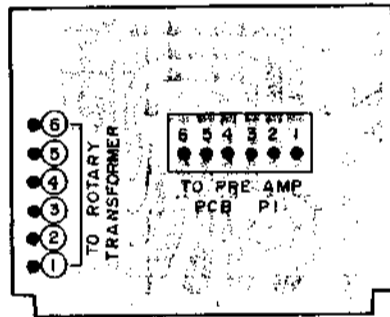
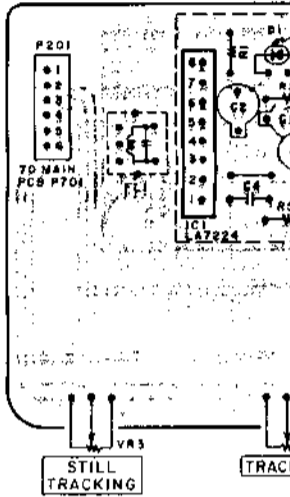
TR1, 2, 4, 6 --- 2SA1115  
TR3, 5, 7 --- 2SC2603



2SA1115  
2SC2603

HQ PCB V1047D5200

FUNCTION PCB V1047B50

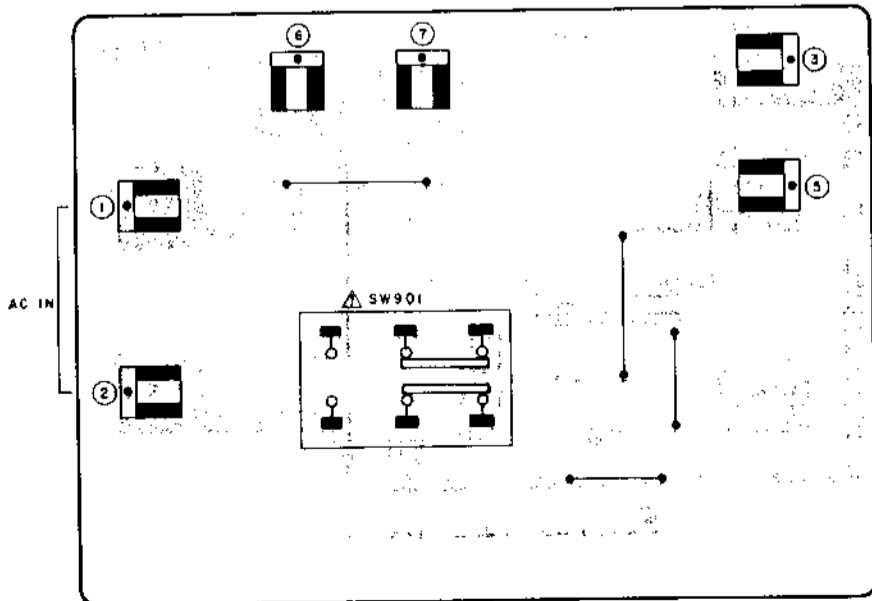


HEAD SUB PCB  
V1047D5170(-B)

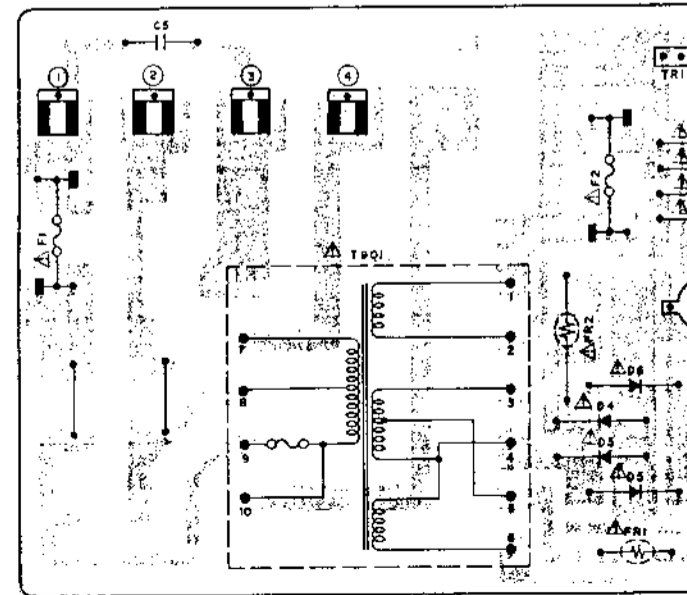
WARNING:  $\Delta$  INDICATES SAFETY CRITICAL COMPONENTS  
REPLACE SAFETY CRITICAL COMPONENTS ON  
RECOMMENDED PARTS

AVERTISSEMENT:  $\Delta$  IL INDIQUE LES COMPOSANTS CRITIQUES  
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE  
NE REMPLACER QUE DES PIÈCES RECOMMANDÉES

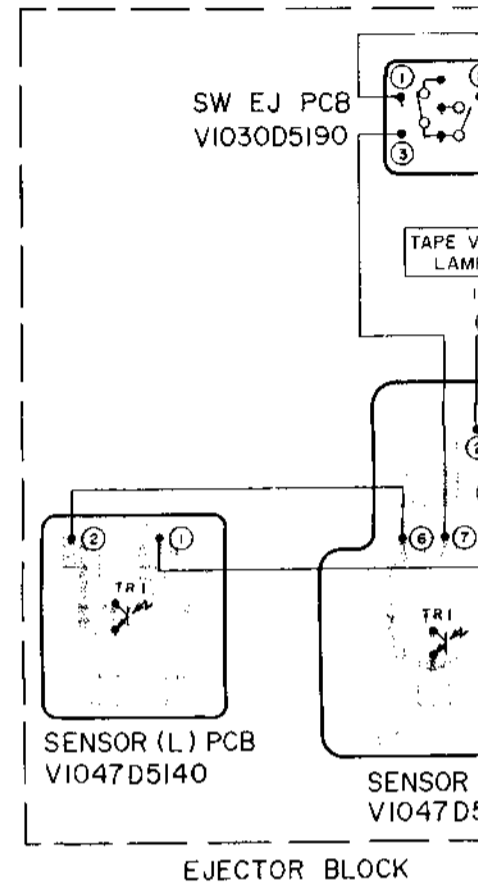
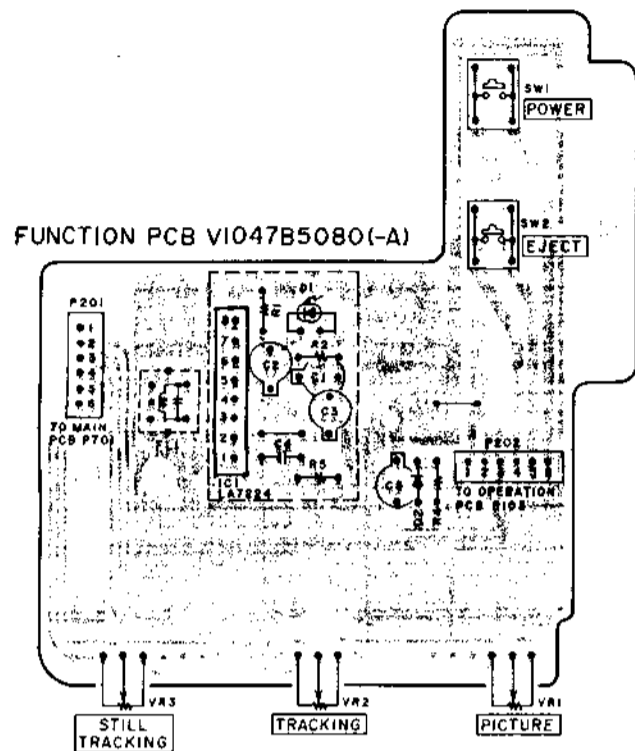
Supplies



EVM PCB V1047C5060 [EK]

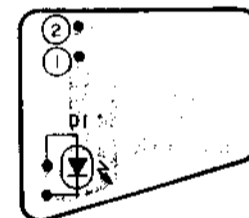


POWER PCB V1047C5034(-E) [EK]

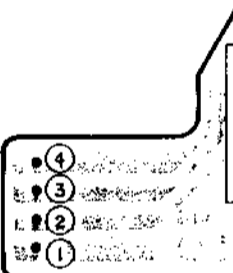


WARNING:  $\Delta$  INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

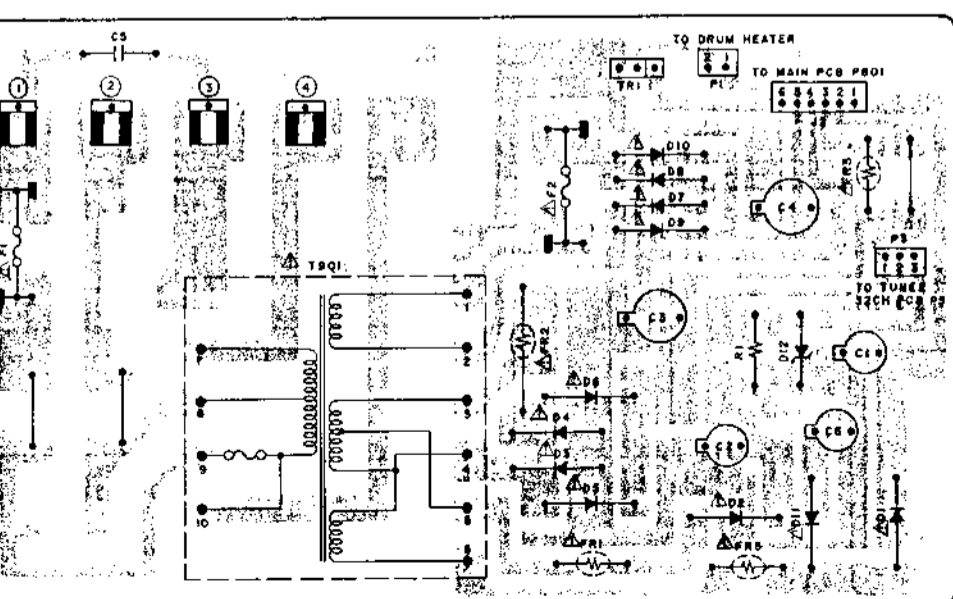
AVERTISSEMENT:  $\Delta$  IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.



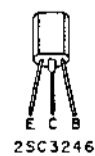
SENSOR LED PCB V1047D5100



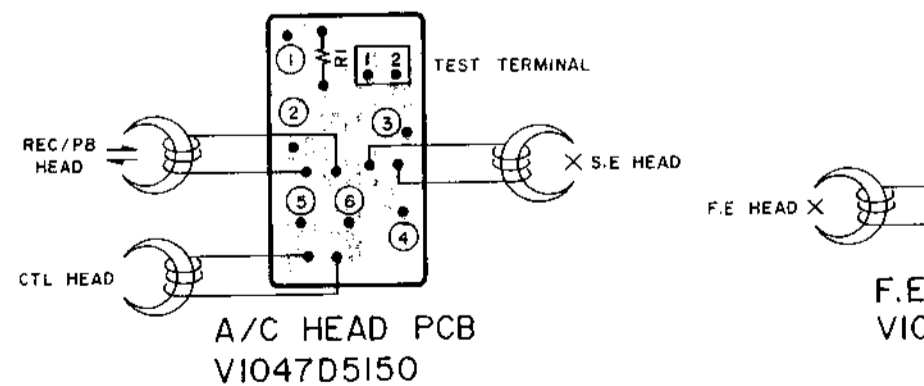
SENSOR REEL V1047D5110



POWER PCB V1047C5034 (-E) [EK]

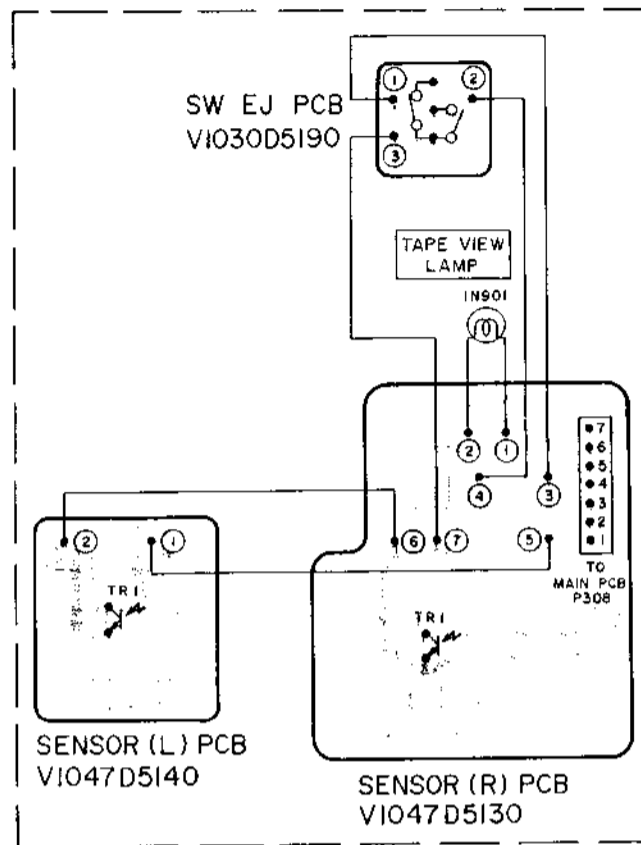
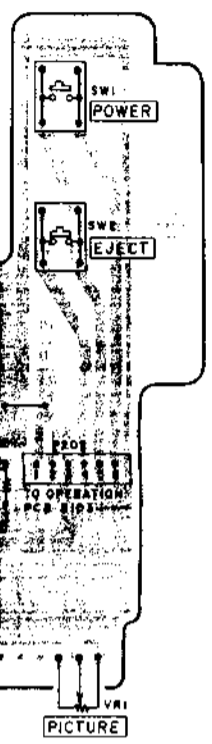


$\square$  = NPN TRANSISTOR



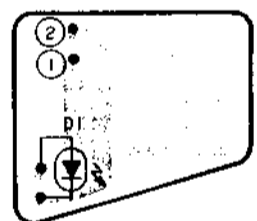
A/C HEAD PCB V1047D5150

Suppl

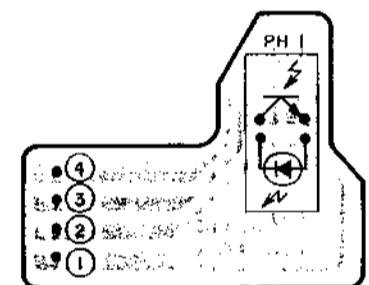


EJECTOR BLOCK

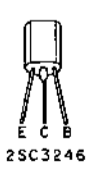
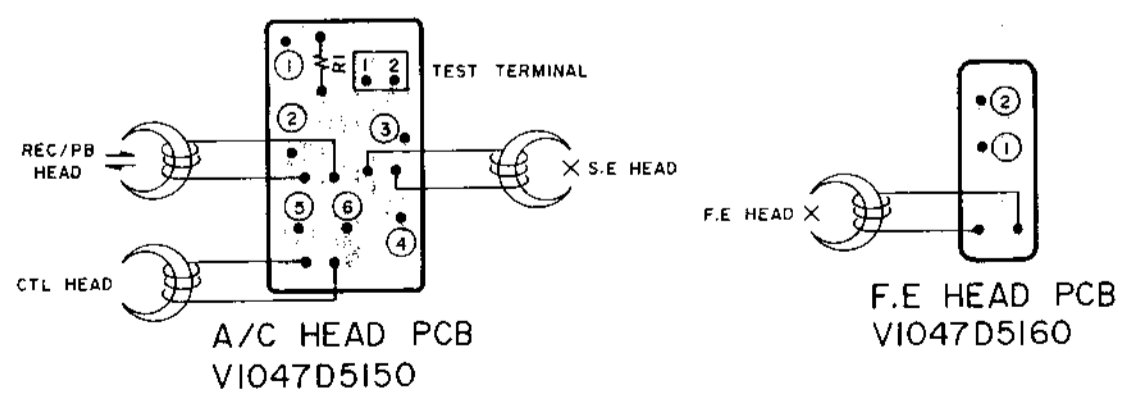
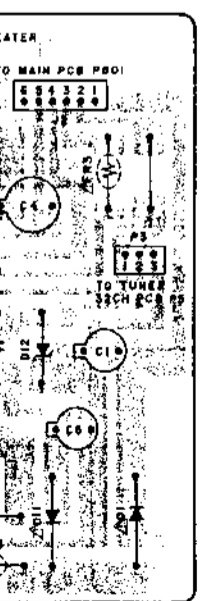
CONTINUED SAFETY.  
MANUFACTURER'S  
SECURITÉ.  
LE FABRICANT



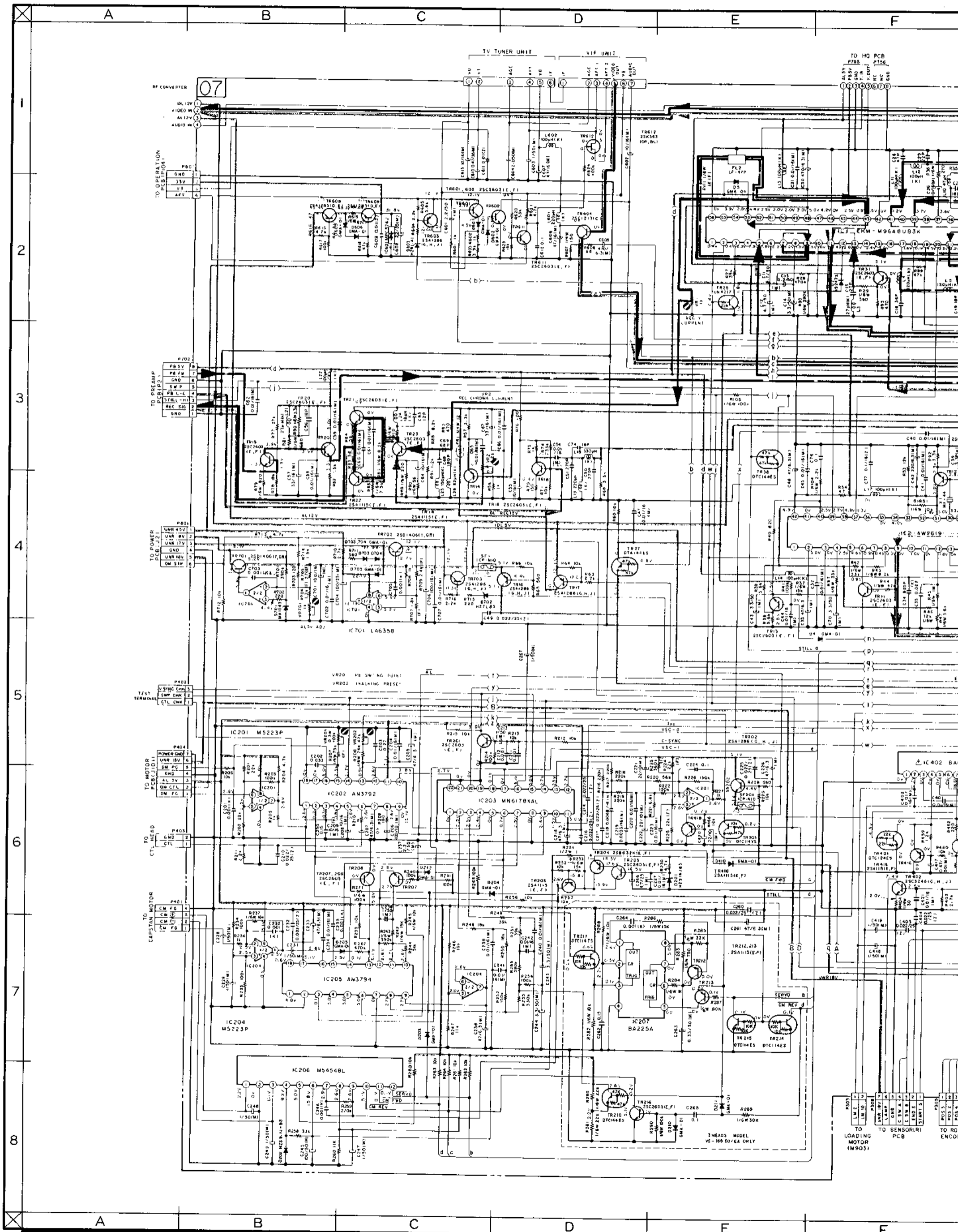
SENSOR LED PCB  
V1047D5100

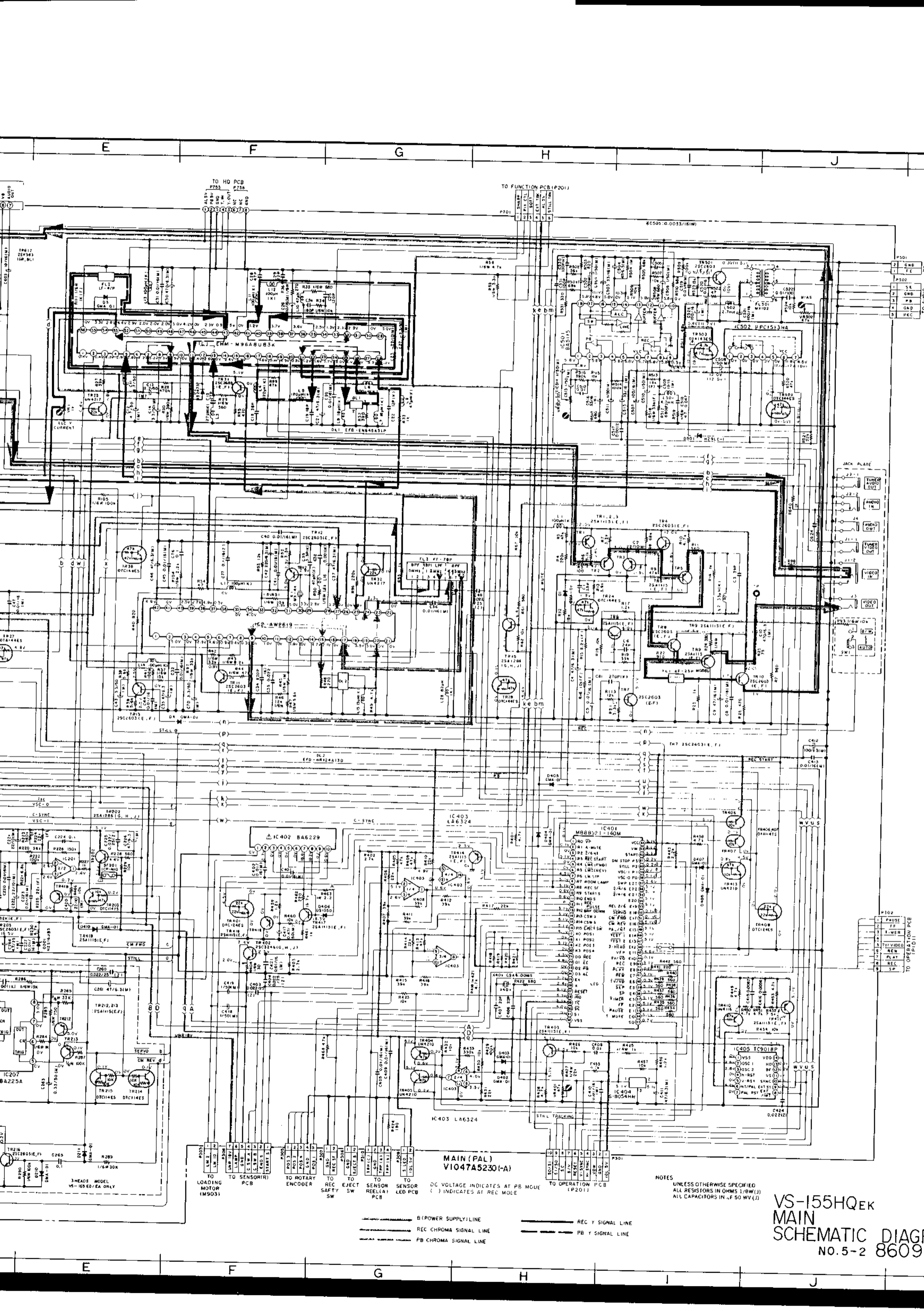


SENSOR REEL PCB  
V1047D5110

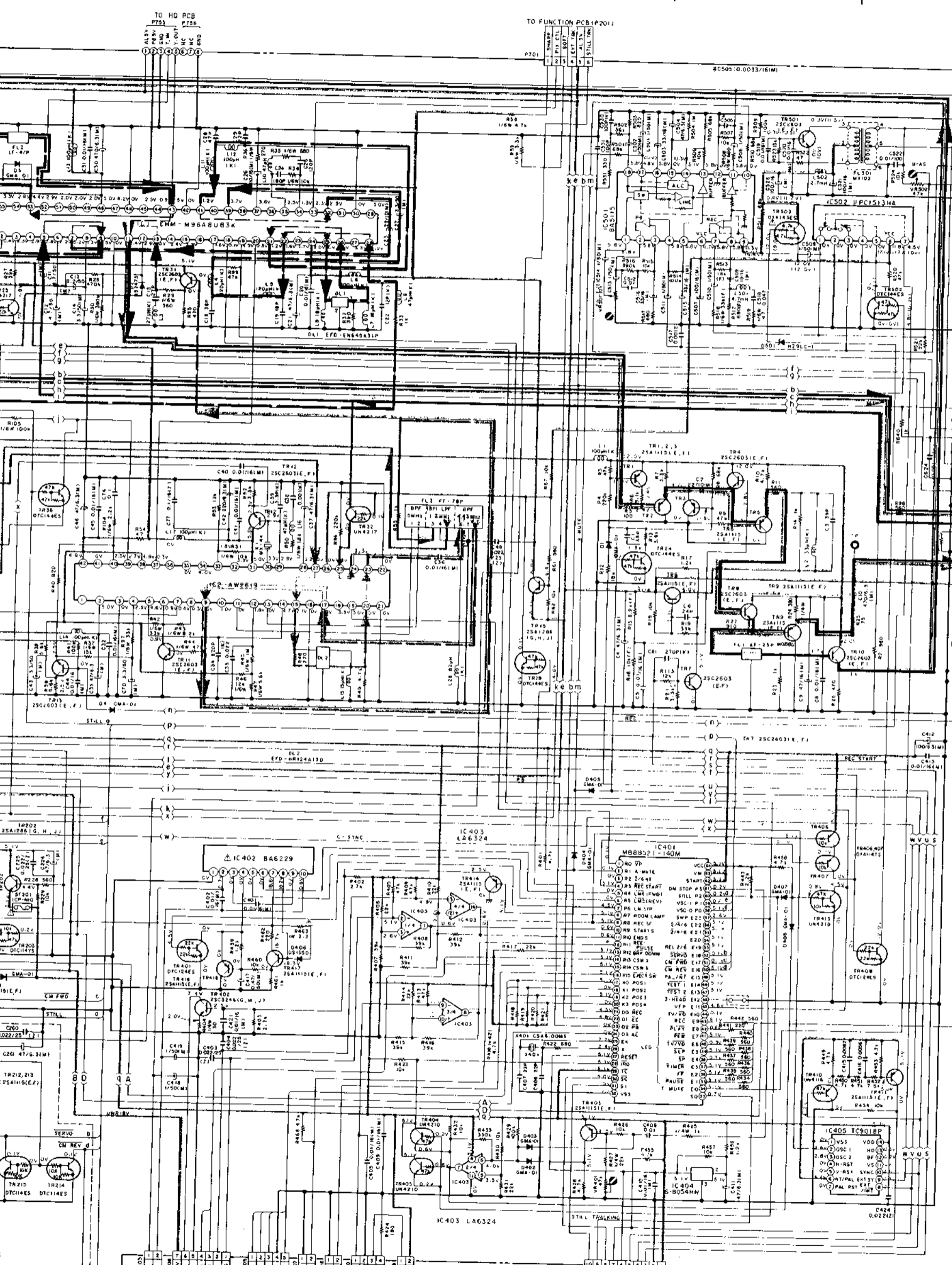


••• - NPN TRANSISTOR





E F G H I J



MAIN (PAL)  
V1047A5230(A)

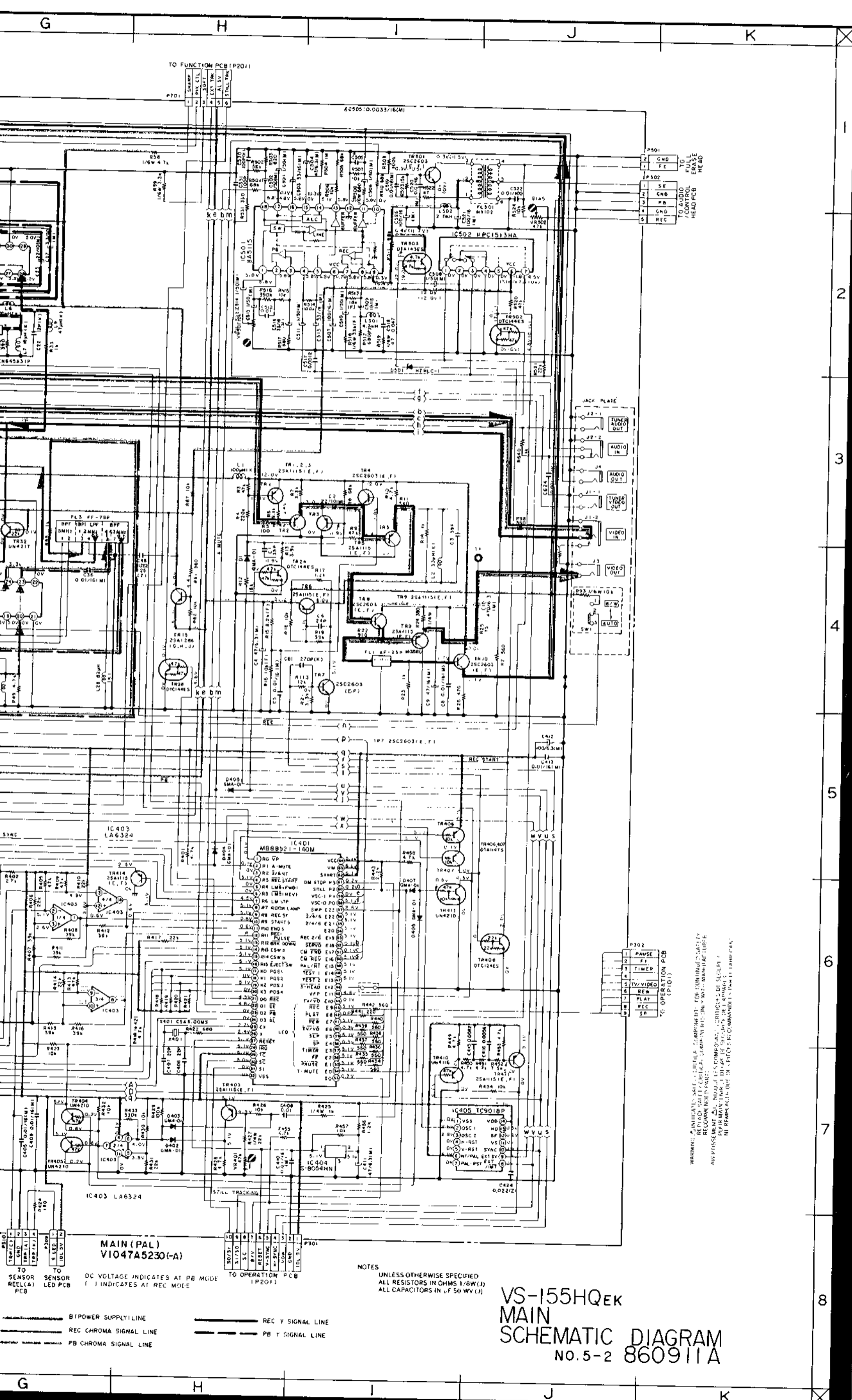
DC VOLTAGE INDICATES AT PB MODE  
( ) INDICATES AT REC MODE

NOTES  
UNLESS OTHERWISE SPECIFIED  
ALL RESISTORS IN OHMS (1/8W)  
ALL CAPACITORS IN P.F. (50 WV)

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

VS-155HQEK  
MAIN  
SCHEMATIC DIAGRAM  
NO. 5-2 8609

E F G H I J



TO FUNCTION PCB (P201)

40505:0.0033/16(M)

P801  
1 GND  
2 FE  
3 SE  
4 GND  
5 REC  
TO AUDIO  
TO VIDEO  
TO ERASE  
TO HEAD PCB

JACK PLATE  
TUNER AUDIO OUT  
AUDIO IN  
AUDIO OUT  
TUNER VIDEO OUT  
VIDEO IN  
VIDEO OUT  
EJECT  
AUTO

P802  
1 PAUSE  
2 EJECT  
3 TIMER  
4 TV/VIDEO  
5 REW  
6 PLAY  
7 REC  
8 SP  
TO OPERATION PCB (P101)

WARNING: DANGEROUS! SAFETY! SERVICING SHOULD BE DONE BY QUALIFIED PERSONNEL ONLY. TO PREVENT ELECTRIC SHOCK, DISCONNECT MAIN POWER SUPPLY BEFORE SERVICING. ALWAYS USE PROPER SAFETY PRECAUTIONS. SERVICE MANUAL IS AVAILABLE FROM SANYO ELECTRONIC CO., LTD. (P.O. BOX 108, SHIBUYA-KU, TOKYO 150, JAPAN).

MAIN (PAL)  
V1047A5230(-A)

TO SENSOR PCB  
TO LED PCB  
DC VOLTAGE INDICATES AT PB MODE  
( ) INDICATES AT REC MODE

TO OPERATION PCB (P201)

NOTES  
UNLESS OTHERWISE SPECIFIED  
ALL RESISTORS IN OHMS 1/8W(J)  
ALL CAPACITORS IN μF 50V(J)

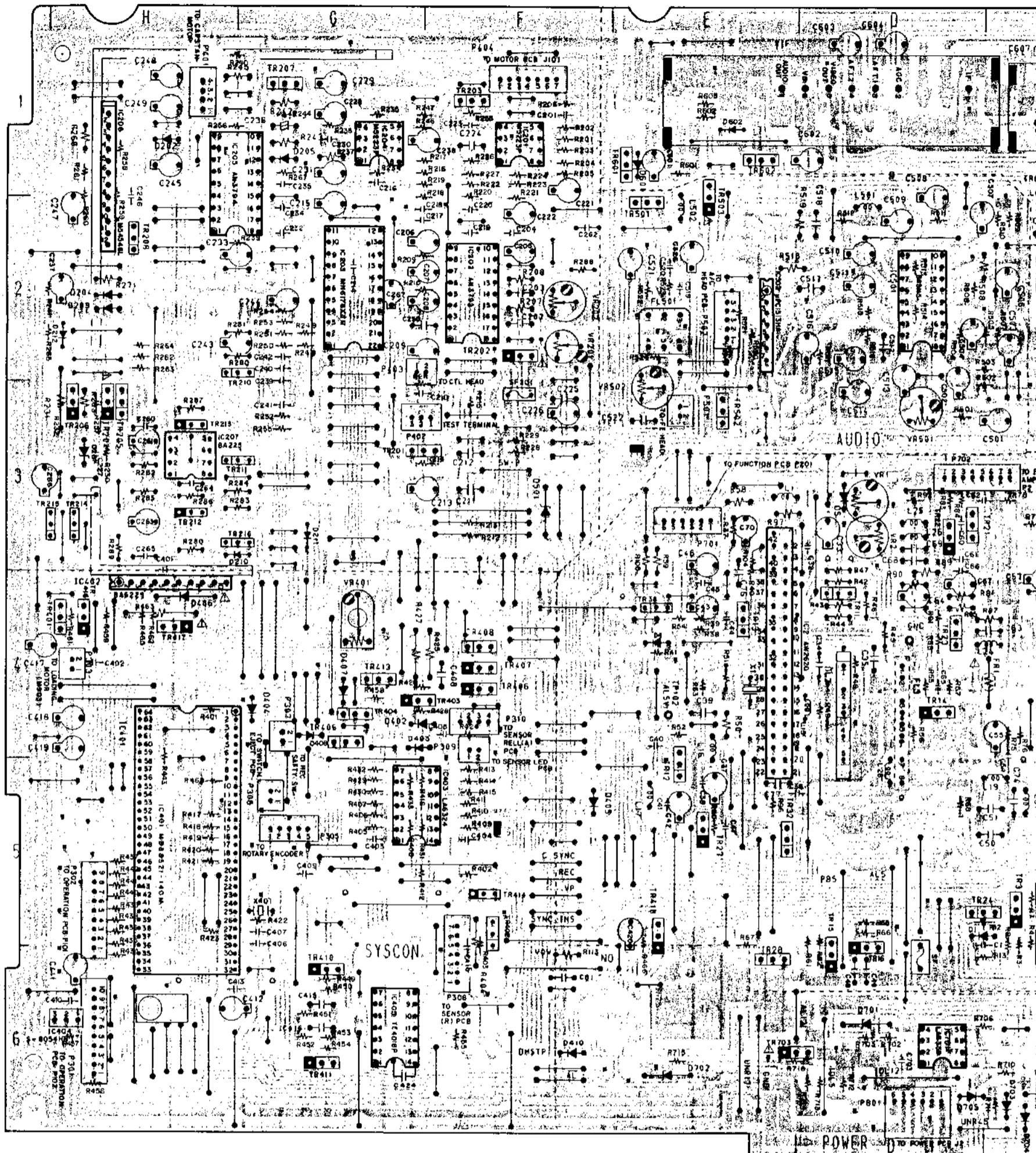
VS-155HQEK  
MAIN  
SCHEMATIC DIAGRAM  
NO.5-2 860911A

BIPOWER SUPPLY LINE  
REC Y SIGNAL LINE  
REC CHROMA SIGNAL LINE  
PB CHROMA SIGNAL LINE

2  
3  
4  
5  
6  
7  
8

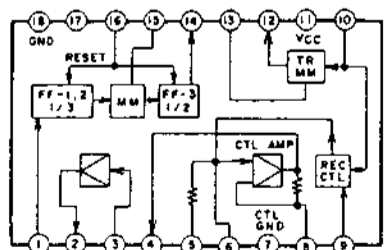
ALL THE CHIP PARTS CONNECTED ON THE PA ARE INDICATED WITH -W- MARKS

MAIN PCB VIO47A5230(-A)



Supps

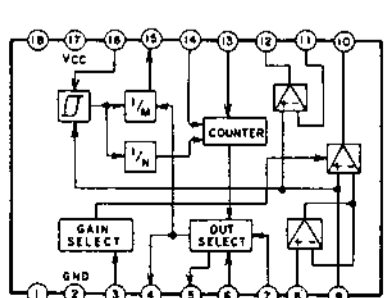
AN3792 (DRUM SERVO INTERFACE IC)



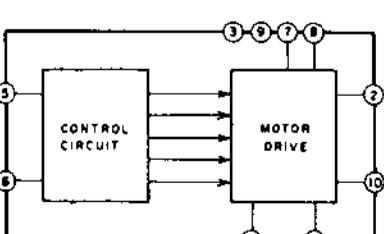
WARNING:  $\Delta$  INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT:  $\Delta$  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

AN3794 (CAPSTAN SERVO INTERFACE IC)



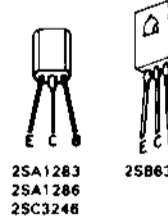
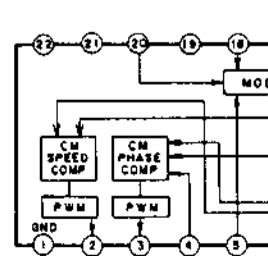
BA6229 (MOTOR DRIVER)



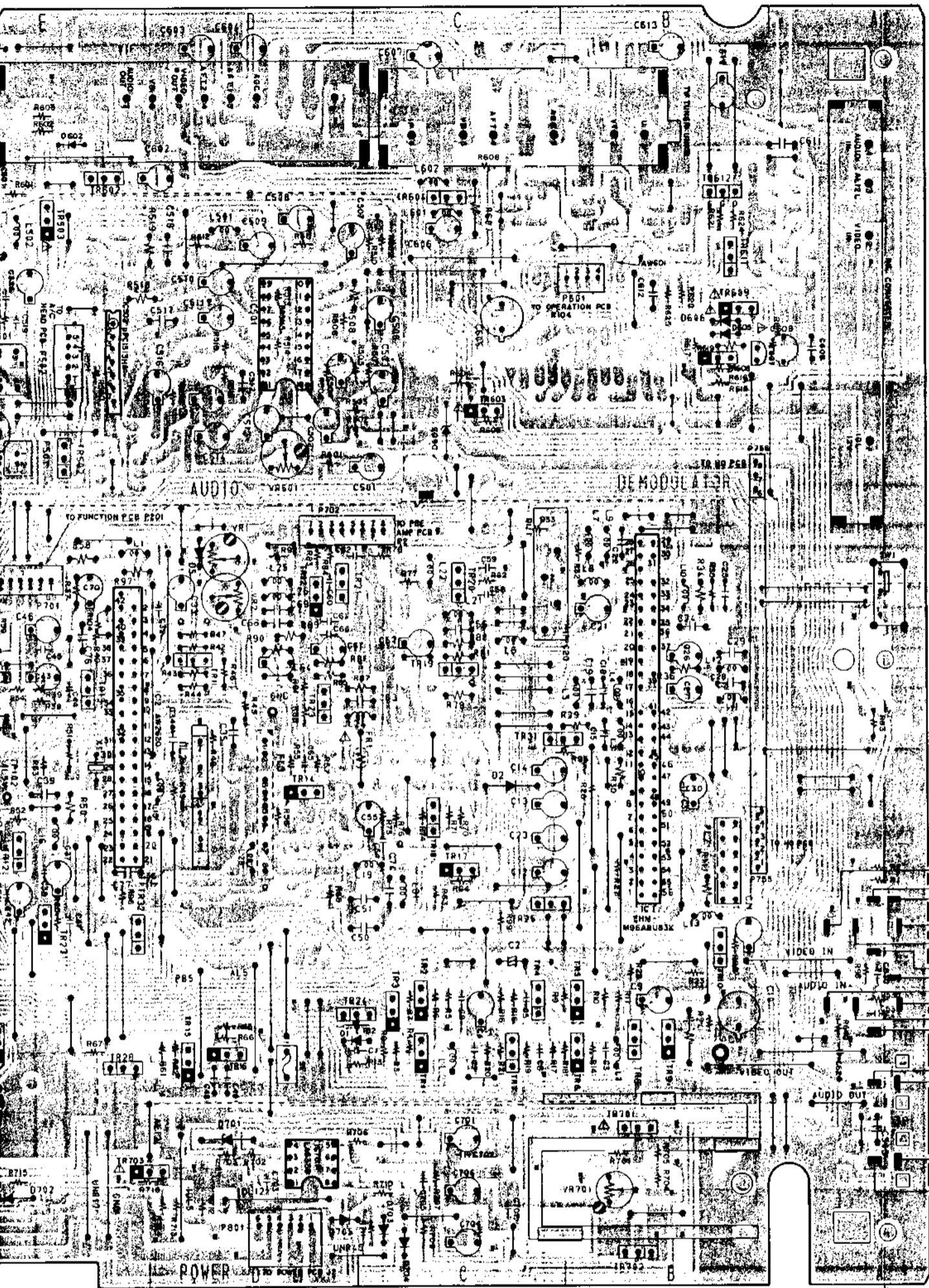
CONTROL MODE

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

MN6178XAL (DIGITAL SERVO)



ALL THE CHIP PARTS CONNECTED ON THE PATTERN SIDE, THEY ARE INDICATED WITH —W— —I— MARKS



LOCATION OF CO

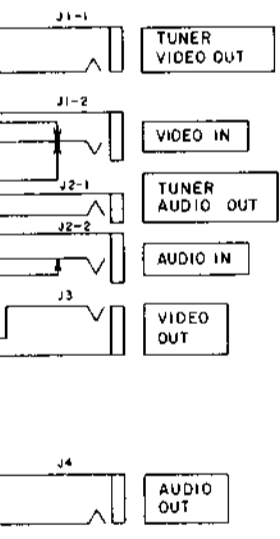
IC's	CON
IC1.....B4	P301
IC2.....E4	P302
IC201.....F1	P303
IC202.....F2	P305
IC203.....G2	P306
IC204.....G1	P307
IC205.....G,H1	P308
IC206.....H1	P309
IC207.....H3	P310
IC401.....H5	P401
IC402.....H4	P402
IC403.....G5	P403
IC404.....H6	P404
IC405.....G6	P501
IC501.....E2	P502
IC502.....E2	P601
IC601.....B2	P701
IC701.....D6	P702
	P755
	P756
	P801

ADJUSTMENT VOLUME'S

VR NO	LOCATION	ADJUSTMENT ITEM
VR1	D3	Y REC CURRENT
VR2	I3	CHROMA REC CURRENT
VR201	E1	PB SWITCHING POINT
VR202	E2	TRACKING PRESET
VR401	G4	VERTICAL STABILITY
VR501	D2	PB AUDIO LEVEL
VR701	I2	AUDIO BIAS CURRENT
VR702	A6	A1.5 VOLT

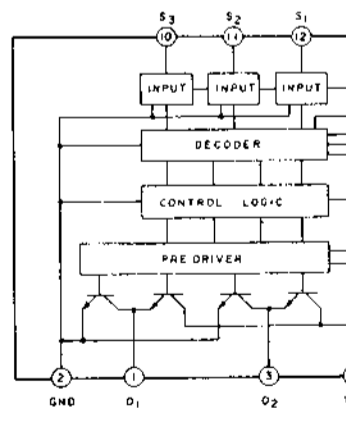
TRANSISTOR'S

TR1.....C5,6	T1
TR2.....C5	T2
TR3.....C5	T3
TR4.....C5	T4
TR5.....B5	T5
TR6.....B5,6	T6
TR7.....C5,6	T7
TR8.....B5	T8
TR9.....B5	T9
TR10.....B5	T10
TR11.....D4	T11
TR12.....E4,5	T12
TR13.....E4	T13
TR14.....D4	T14
TR15.....D5,6	T15
TR16.....D5	T16
TR17.....C5	T17
TR18.....C4	T18
TR19.....C4	T19
TR20.....C3	T20
TR21.....D3	T21
TR22.....D3	T22
TR23.....D4	T23
TR24.....C,D5	T24
TR25.....B,C5	T25
TR27.....E5	T27
TR28.....E6	T28
TR31.....B,C4	T31
TR32.....E5	T32
TR38.....E4	T38
TR201.....PG3	T201
TR202.....F2	T202
TR203.....F1	T203
TR204.....H3	T204
TR205.....H3	T205
TR206.....H3	T206
TR207.....G1	T207
TR208.....H2	T208



= NPN TRANSISTOR  
 = PNP TRANSISTOR

M54548L (CAPSTAN DRIVE IC)

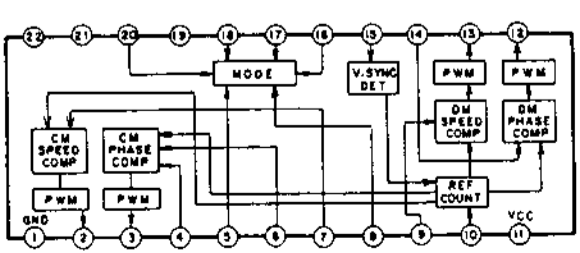


INPUT		OUTPUT	
S <sub>1</sub>	S <sub>2</sub>	O <sub>1</sub>	O <sub>2</sub>
L	L	"OFF" TIME	"OFF" TIME
L	L	H	L
L	H	L	H
L	H	H	L
H	L	H	L
H	L	L	H
H	H	L	L
H	H	H	H

CONTINUED SAFETY,  
 MANUFACTURER'S  
 SECURITÉ,  
 REIL,  
 PAR LE FABRICANT

PUT	OUTPUT
6pin	2pin 10pin
L	OPEN OPEN
L	H L
H	L H
H	L L

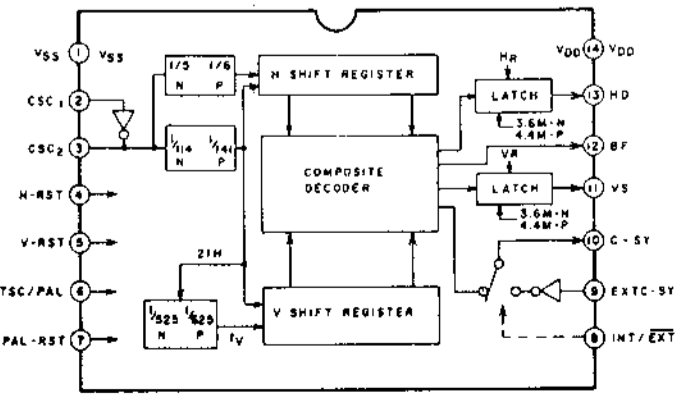
MN6178XAL (DIGITAL SERVO IC)



- 2SA1115
- 2SA1283
- 2SA1286
- 2SA1286
- 2SC2446
- 2SC2603
- DTA114TS
- DTA143ES
- DTA144ES
- DTC114ES
- DTC114TS
- DTC114YS
- DTC124ES
- DTC144ES

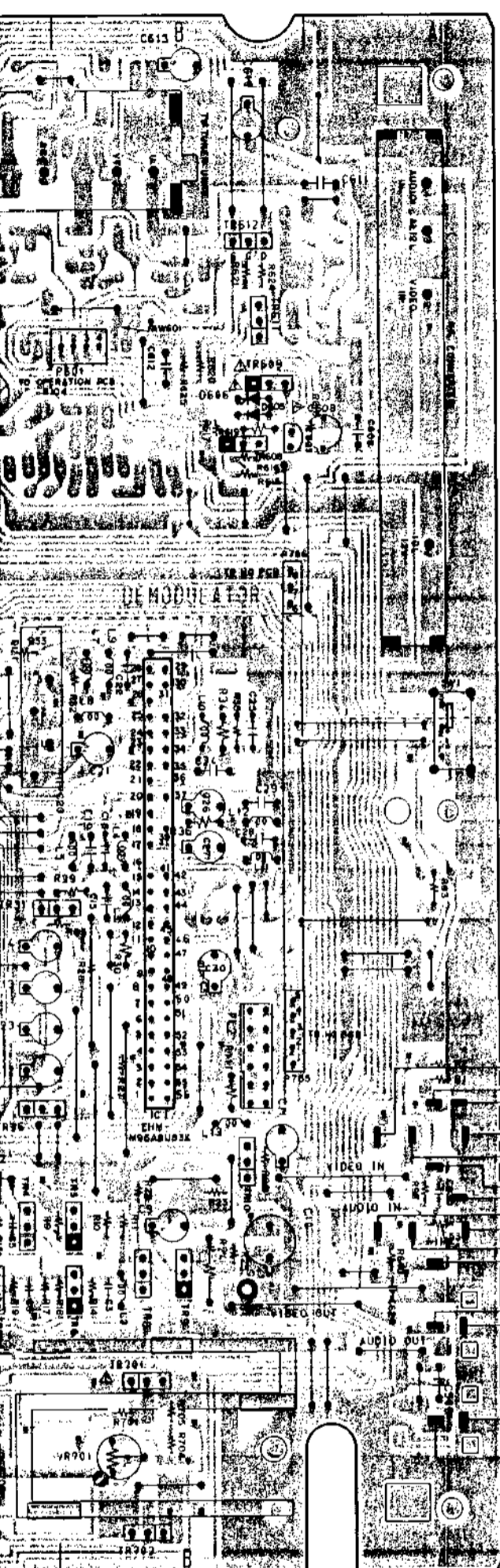
- 25A1283
- 258632K
- 25C1213C
- 25D1406
- 25A1115
- 25C2603
- DTA114TS
- DTA143ES
- DTA144ES
- DTC114ES
- DTC114TS
- DTC114YS
- DTC124ES
- DTC144ES

TC9018P (TV SYNC GENERATOR)





Suppl



**ADJUSTMENT VOLUME'S**

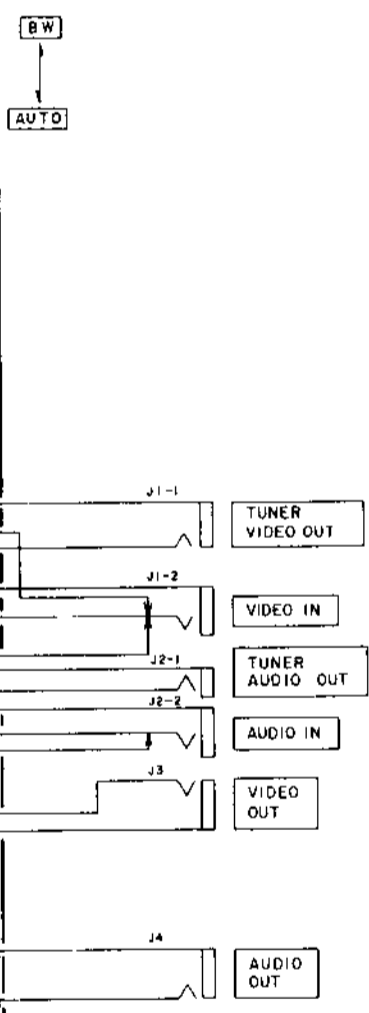
VR NO	LOCATION	ADJUSTMENT ITEM
VR1	D3	Y REC CURRENT
VR2	D3	CHROMA REC CURRENT
VR201	F7	PB SWITCHING POINT
VR202	E2	TRACKING PRESET
VR401	G4	VERTICAL STABILITY
VR501	D3	PB AUDIO LEVEL
VR701	L3	AUDIO BIAS CURRENT
VR702	A6	41.5 VOLT

**LOCATION OF COMPONENT**

IC'S	CONNECTOR'S
IC1.....B4	P301.....H6
IC2.....E4	P302.....H5
IC201.....F1	P303.....H4
IC202.....F2	P305.....G5
IC203.....G2	P306.....G5
IC204.....G1	P307.....G4
IC205.....G,H1	P308.....F5,6
IC206.....H1	P309.....F4
IC207.....H3	P310.....F4
IC401.....H5	P401.....H1
IC402.....H4	P402.....F,G3
IC403.....G5	P403.....F,G2
IC404.....H6	P404.....F1
IC405.....G6	P501.....E3
IC501.....D2	P502.....E2
IC502.....E2	P601.....B,C2
IC601.....B2	P701.....E3
IC701.....D6	P702.....C,D3
	P755.....B4,5
	P756.....B3
	P801.....D6

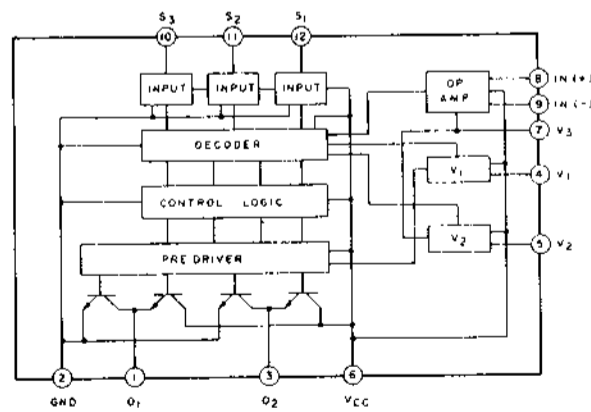
**TRANSISTOR'S**

TR1.....C5,6	TR210.....G,H2
TR2.....C5	TR211.....G,H3
TR3.....C5	TR212.....H3
TR4.....C5	TR213.....H3
TR5.....B5	TR214.....H3
TR6.....B5,6	TR215.....H3
TR7.....C5,6	TR216.....G,H3
TR8.....B5	TR401.....H4
TR9.....B5	TR402.....F5
TR10.....B5	TR403.....F,G4
TR11.....D4	TR404.....G4
TR12.....E4,5	TR405.....G4
TR13.....E4	TR406.....F4
TR14.....D4	TR407.....F4
TR15.....D5,6	TR408.....F4
TR16.....D5	TR410.....G6
TR17.....C5	TR411.....G6
TR18.....C4	TR413.....G4
TR19.....C4	TR414.....F5
TR20.....C3	TR416.....H4
TR21.....D3	TR417.....H4
TR22.....D3	TR418.....E5,6
TR23.....D4	TR501.....E2
TR24.....C,D5	TR502.....E3
TR25.....B,C5	TR503.....E1,2
TR27.....E5	TR601.....E1
TR28.....E6	TR602.....E1
TR31.....B,C4	TR603.....C2
TR32.....E5	TR604.....C1
TR38.....E4	TR608.....B2
TR201.....FG3	TR609.....B2
TR202.....F2	TR611.....B2
TR203.....F1	TR614.....B2
TR204.....H3	TR701.....B6
TR205.....H3	TR702.....B6
TR206.....H3	TR703.....D,E6
TR207.....G1	
TR208.....H2	



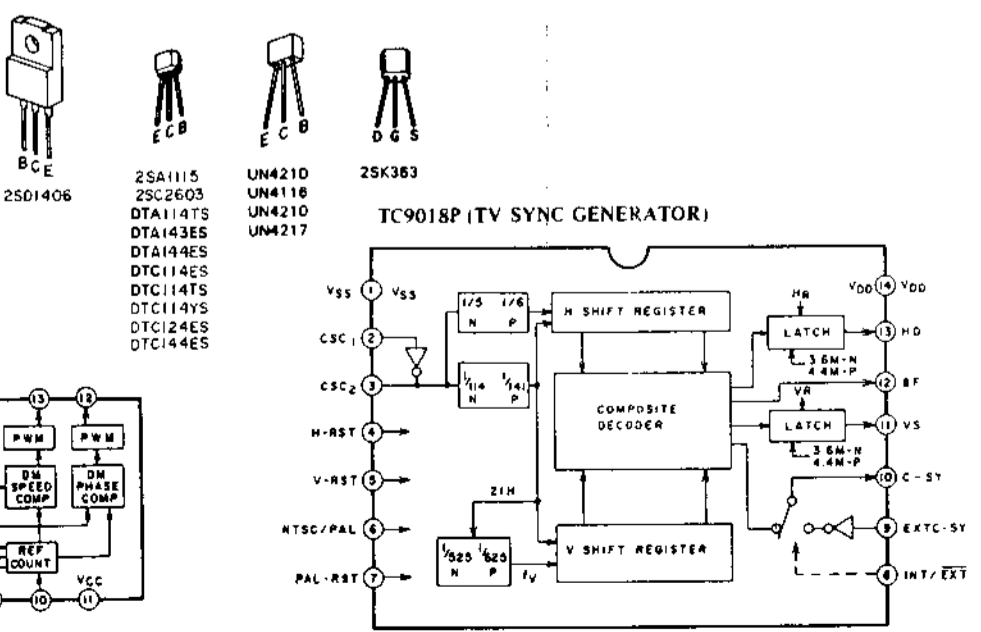
= NPN TRANSISTOR  
 = PNP TRANSISTOR

**M54548L (CAPSTAN DRIVE IC)**

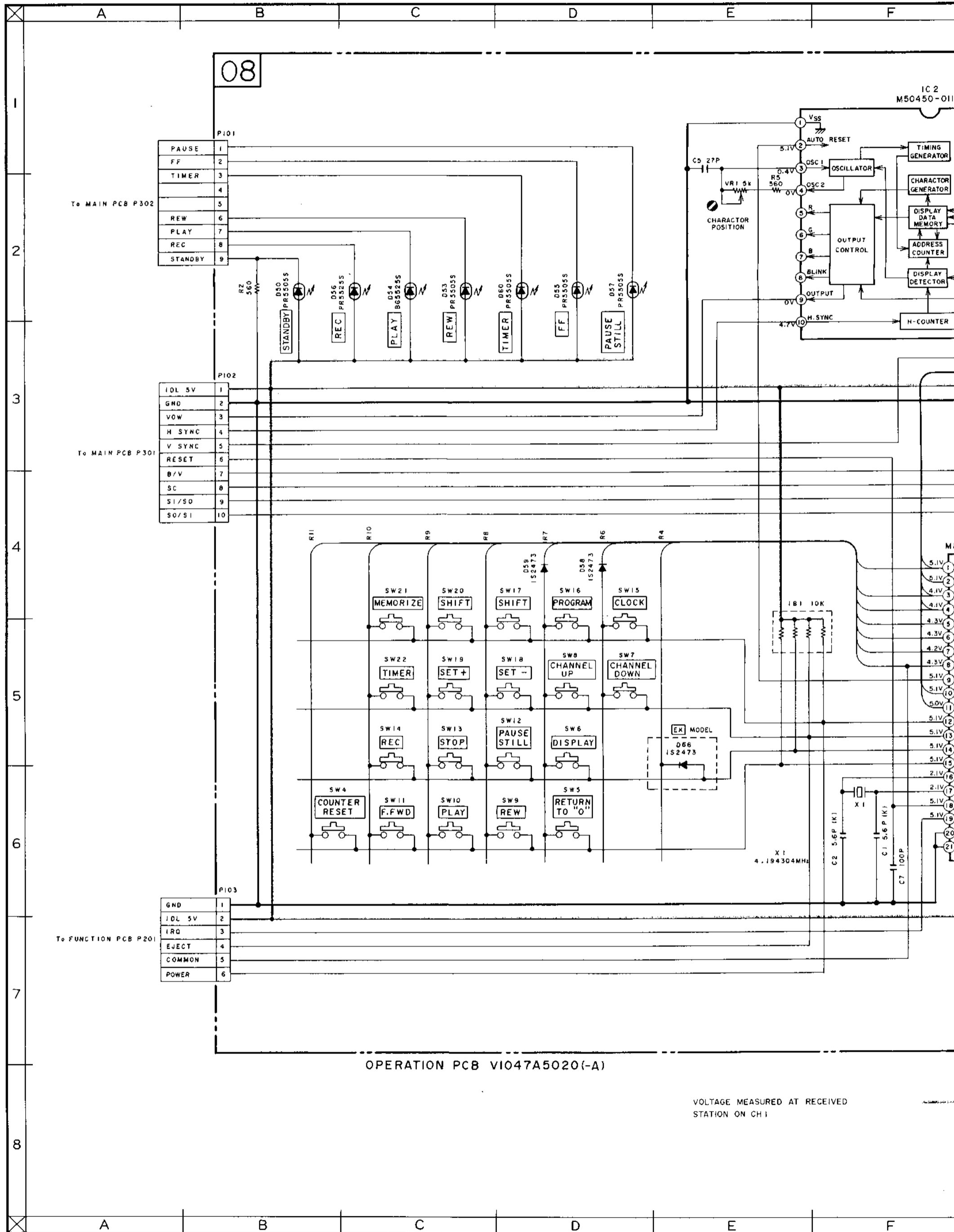


INPUT			OUTPUT		Vcc SELECT	MODE
S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	O <sub>1</sub>	O <sub>2</sub>		
L	L	L	"OFF" state	"OFF" state	-	STOP
L	L	H	H	L	V <sub>1</sub>	PLAY (+)
L	H	L	L	H	V <sub>1</sub>	PLAY (-)
L	H	H	H	L	V <sub>2</sub>	FF (2)
H	L	L	L	H	V <sub>2</sub>	REW (2)
H	L	H	H	L	V <sub>1</sub>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

**TC9018P (TV SYNC GENERATOR)**

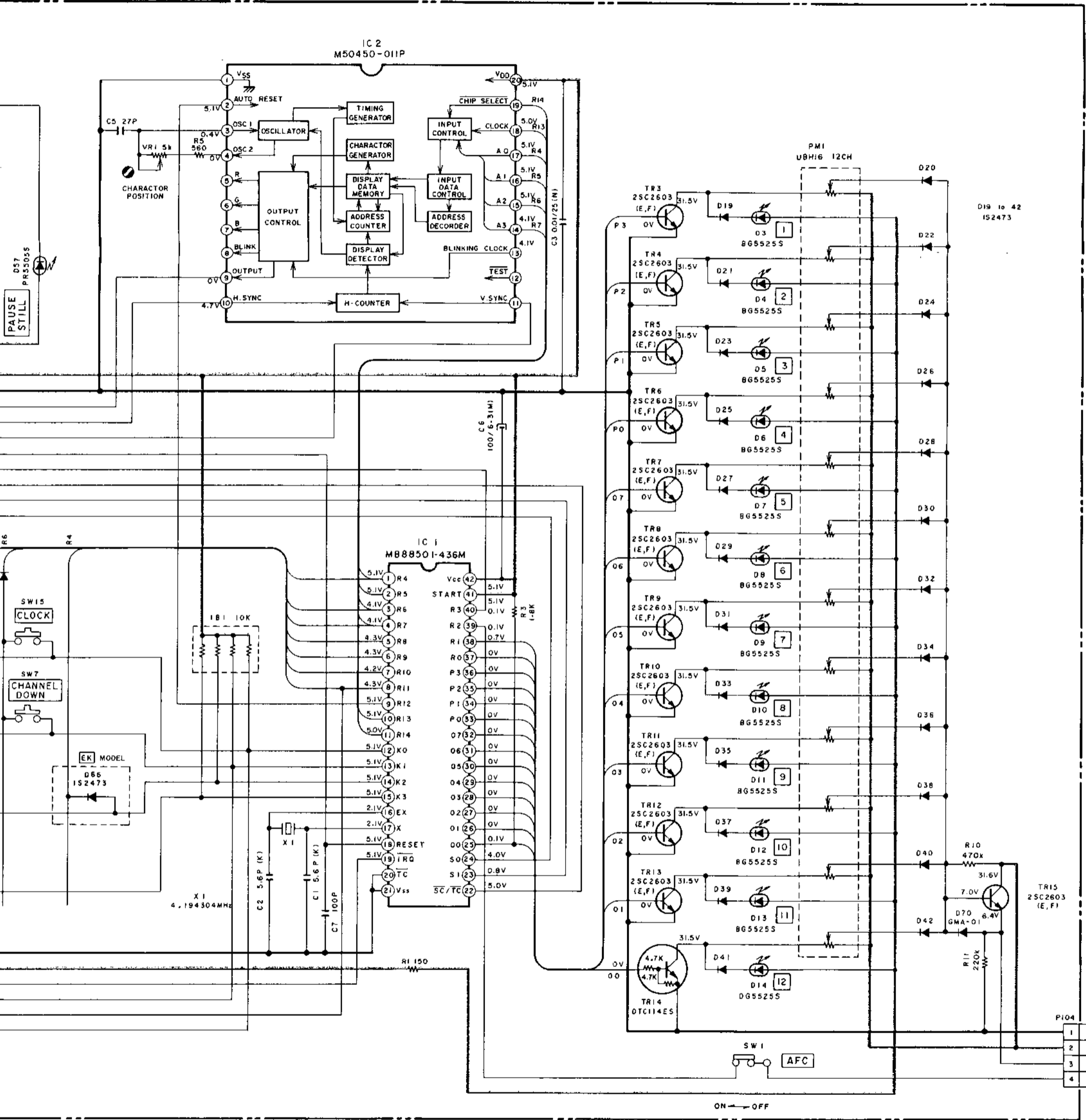


- 2501406
- 2SA1115
- 2SC2603
- DTA114TS
- DTA143ES
- DTA144ES
- DTC114ES
- DTC114TS
- DTC114YS
- DTC124ES
- DTC144ES
- UN4210
- UN4118
- UN4210
- UN4217
- 25K363



OPERATION PCB V1047A5020(-A)

VOLTAGE MEASURED AT RECEIVED STATION ON CH 1

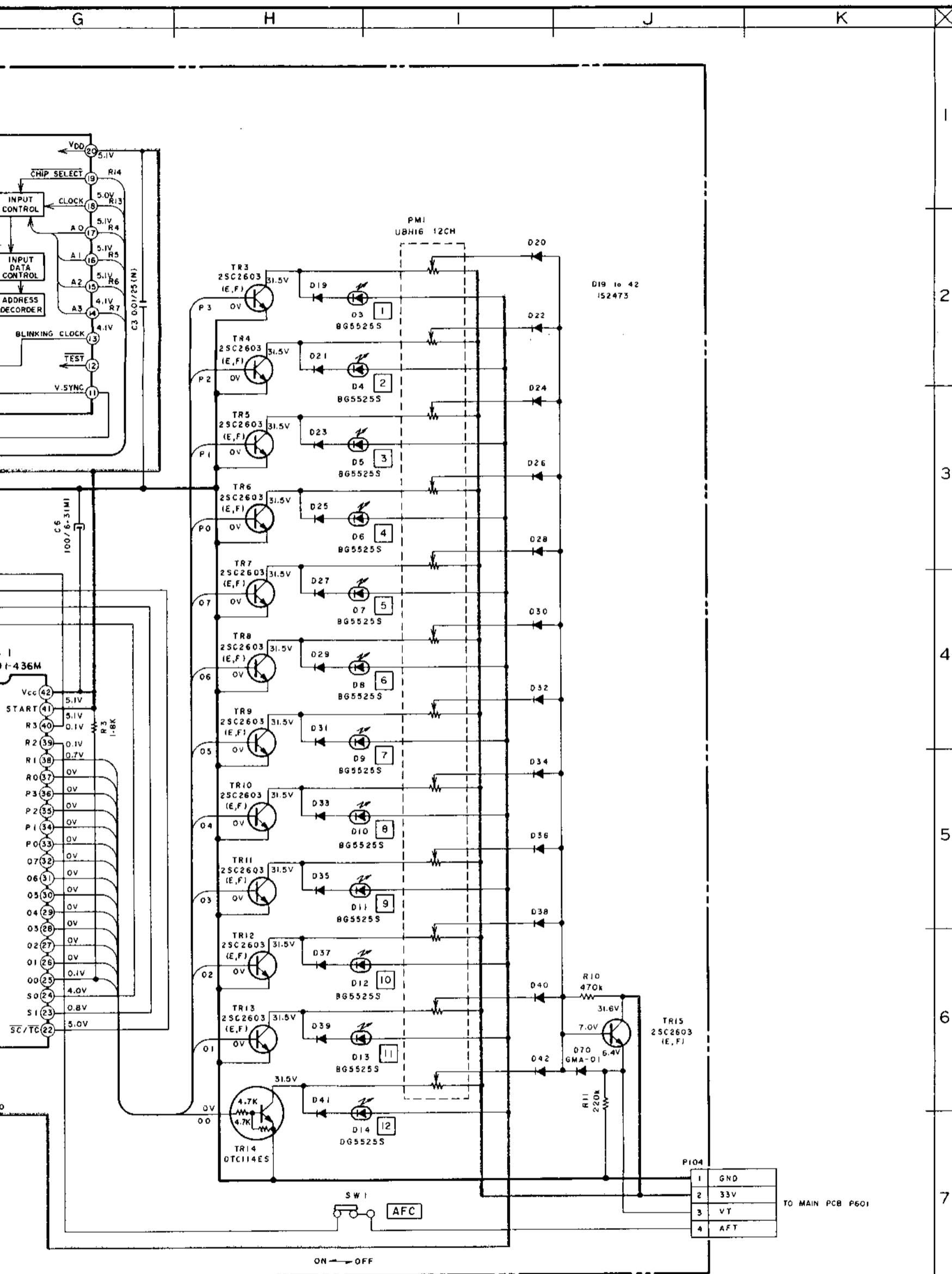


VOLTAGE MEASURED AT RECEIVED STATION ON CH1

—B(Power Supply) LINE

NOTE  
UNLESS OTHERWISE SPECIFIED  
ALL RESISTORS IN OHMS 1/4W(J)  
ALL CAPACITORS IN  $\mu$ F 50V(J)

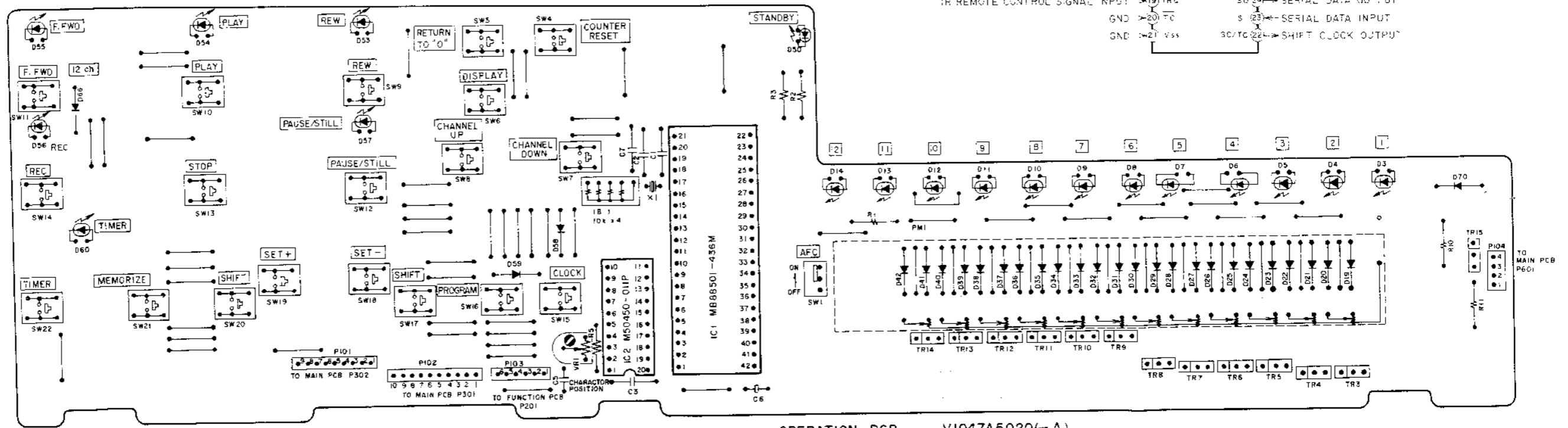
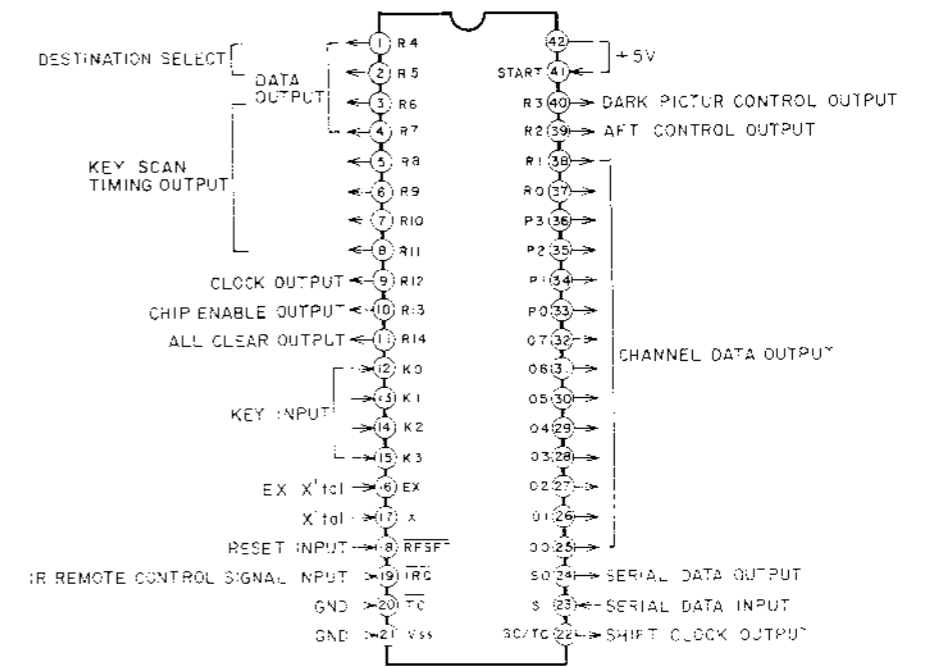
# VS-155HQ EK OPERATION SCHEMATIC



NOTE  
 UNLESS OTHERWISE SPECIFIED  
 ALL RESISTORS IN OHMS 1/4W(J)  
 ALL CAPACITORS IN  $\mu$ F 50WV(J)

VS-155HQ EK  
 OPERATION  
 SCHEMATIC DIAGRAM  
 No. 5-3 860912A

MB88501-436M (OPERATION MPU)



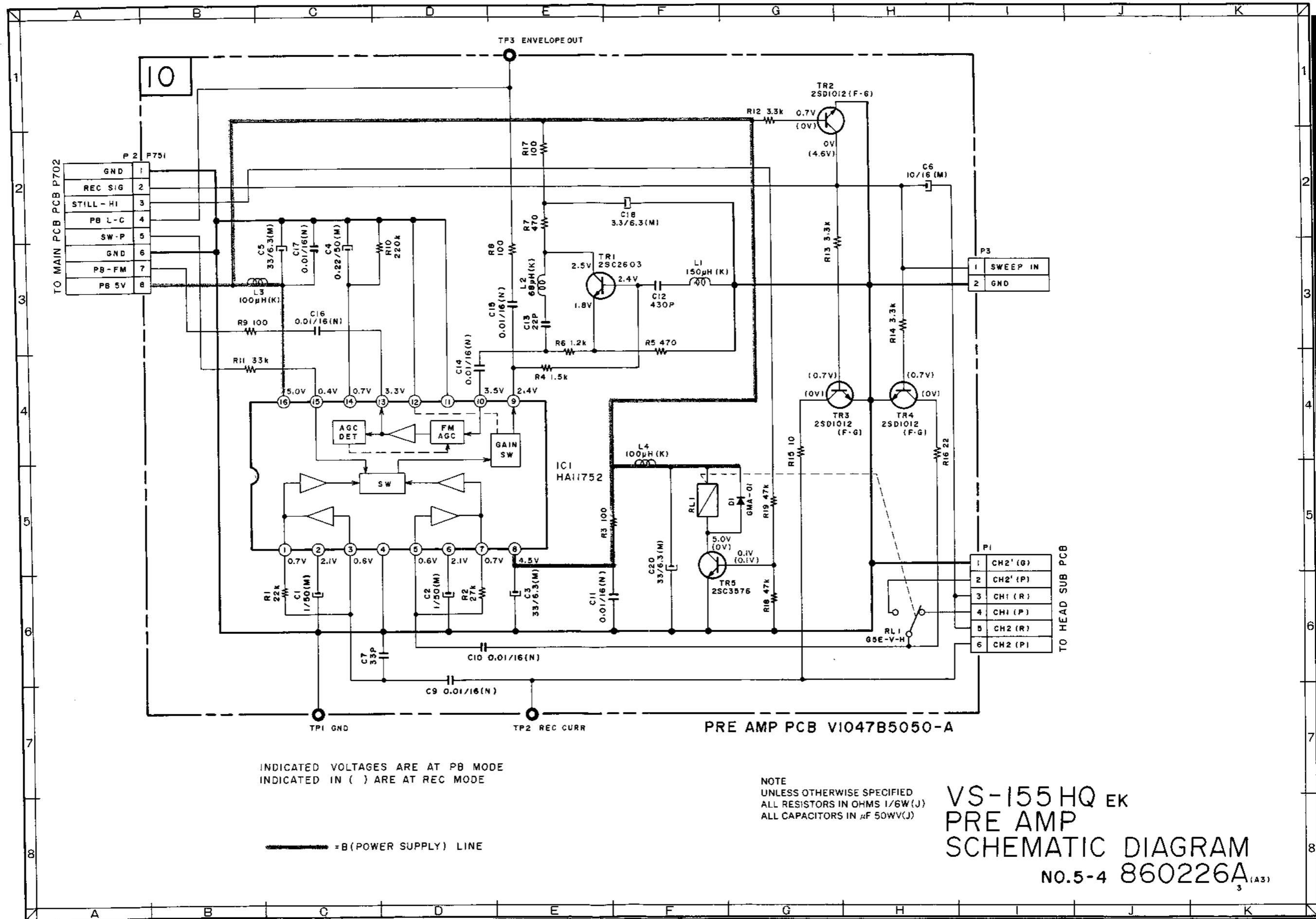
OPERATION PCB V1047A5020(-A)

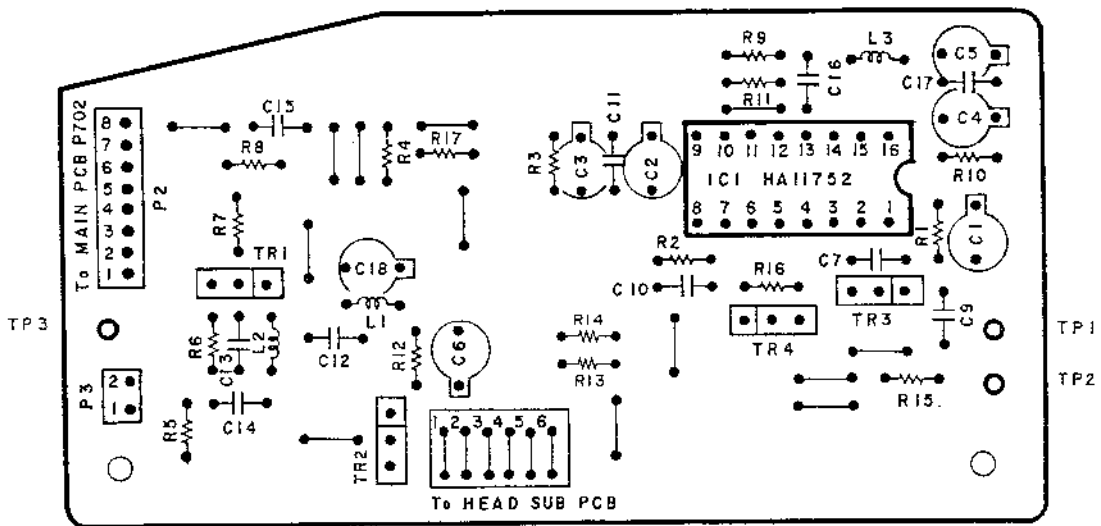
9 NPN TRANSISTOR



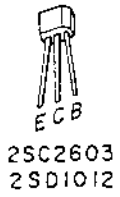
TR3 to 13 ..... 2SC2603 (E,F)  
TR14 ..... DTC114ES

2SC2603  
DTC114ES



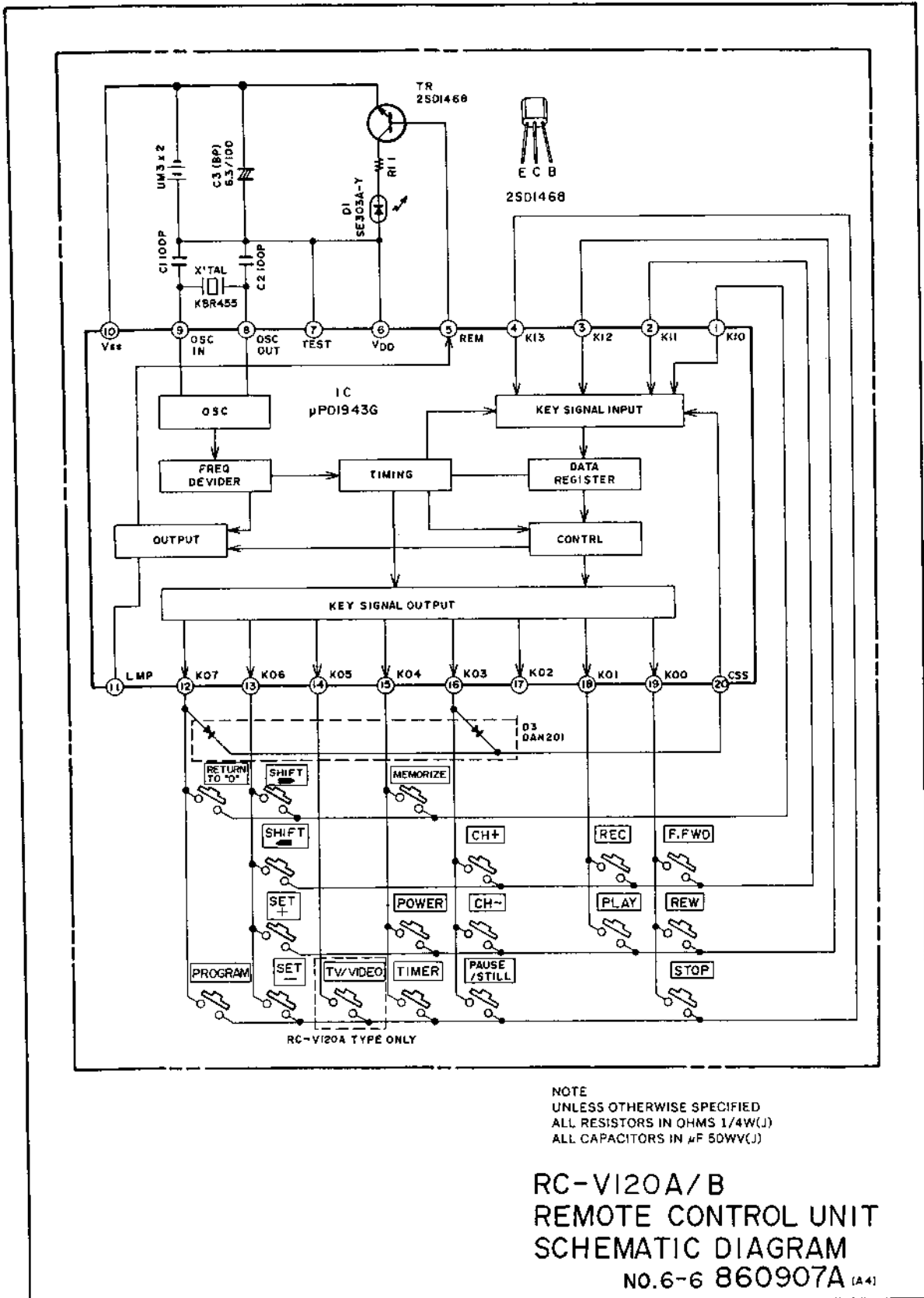


PRE AMP PCB V107435050(-D)



TR1----2SC2603(G)  
TR2 to 4--2SD1012(F,G)

B  
= NPN TRANSISTOR



# AKAI ELECTRIC CO., LTD.

12-14, 2-Chome, Higashi-Kojiya, Ohta-Ku, Tokyo, Japan

TEL: Tokyo (742) 5111 CABLE: HIFIAKAI TOKYO TELEX: J26261

Printed No 860925-11-1000

Printed Date: October 17, 1986

Printed in Japan



# PARTS PRICE LIST

MODEL **VS-155** EG/EK/ES /EV-M/EZ

**AKAI** AKAI ELECTRIC CO. LTD.

12-14, 2-Chome, Higashi-Kojima, Ohta-Ku, Tokyo, Japan  
TEL Tokyo (742) 5111 CABLE HIFIAKAI TOKYO TELEX J26261

REF. NO.	PART NO.	UNIT PRICE YEN(¥)	REF. NO.	PART NO.	UNIT PRICE YEN(¥)	REF. NO.	PART NO.	UNIT PRICE YEN(¥)	REF. NO.	PART NO.	UNIT PRICE YEN(¥)
<b>RECOMMENDED SPARE PARTS LIST</b>			44	EF-355226	40	91	ES-354430	80	145	MZ-361314	15
1	BF-B360531	300	45	EF-355398	40	92	ES-360433	50	146	MZ-360640	20
2	BL-B360350	60	46	EF-344106	43	93	ES-361479	50	147	MZ-361313	15
3	BL-B360342	80	47	EF-623103	40	94	ES-353522	150	148	MZ-360639	20
4	BM-361544-B	1,500	48	EF-601301	40	95	ES-360408	60	149	MZ-360638	20
5	BM-B361467	400	49	EH-347743	13	96	ES-349474	50	150	MZ-364677	30
6	BM-M3223A020A	3,000	50	EH-360340	330	97	ET-360646	40	151	MZ-364676	20
7	BR-B360517B	85	51	EH-360341	550	98	ET-349882	40	152	MZ-B360642	50
8	BR-B360517A	80	52	EH-360339	65	99	ET-356224	40	153	MZ-360384	15
9	BT-363353	1,200	53	EH-364045	200	100	ET-322598	50	154	MZ-360385	20
10	BT-363945	1,200	54	EH-360337	200	101	ET-363359	50	155	MZ-366960	600
11	BT-363949	1,200	55	EI-353421	150	102	ET-361463	100	156	MZ-360453	30
12	BT-363946	1,200	56	EI-337530	100	103	ET-363953	40	157	VT-363354	150
13	BT-363950	1,200	57	EI-360561	250	104	ET-354415	40	158	VT-360148	200
14	BV-V1030A210A	9,000	58	EI-360565	300	105	ET-353897	40			
15	BV-363232	3,000	59	EI-360334	2,500	106	ET-360399	40			
16	BV-363231	3,000	60	EI-356288	100	107	ET-354365	40			
17	BV-363234	3,000	61	EI-360648	180	108	ET-354371	40			
18	BV-V1030A220A	12,000	62	EI-360333	3,000	109	ET-364060	40			
19	ED-363351	30	63	EI-352714	300	110	ET-354414	20			
20	ED-363350	20	64	EI-356238	130	111	ET-356236	40			
21	ED-356424	20	65	EI-347116	100	112	ET-361490	50			
22	ED-357540	100	66	EI-356370	150	113	ET-360401	40			
23	ED-355607	20	67	EI-364135	1,000	114	ET-364040	40			
24	ED-705414	240	68	EI-366681	1,000	115	ET-360400	40			
25	ED-360409	80	69	EI-360560	700	116	ET-361729	40			
26	ED-718039	60	70	EI-360565	100	117	ET-308472	40			
27	ED-357754	20	71	EI-360404	800	118	ET-321644	40			
28	ED-344280	20	72	EI-360564	300	119	ET-308141	40			
29	ED-624903	20	73	EI-360396	100	120	ET-355669	40			
30	ED-362998	20	74	EI-363347	400	121	ET-364153	40			
31	ED-313846	20	75	EI-358506	130	122	ET-361736	40			
32	ED-329051	20	76	EI-749983	350	123	ET-347961	40			
33	ED-305706	20	77	EI-347991	45	124	ET-718040	80			
34	ED-337266	20	78	EI-749984	100	125	EV-363511	40			
35	ED-346609	20	79	EI-356371	150	126	EV-356322	20			
36	ED-365109	20	80	EI-364562	150	127	EV-356575	20			
37	EE-364670	700	81	EL-363355	60	128	EV-356582	20			
38	EE-360405	800	82	EO-360647	80	129	EV-358862	20			
39	EE-364472	600	83	EQ-356372	80	130	EV-356579	20			
40	EE-345116	5,000	84	EQ-364207	250	131	EV-356577	20			
42	EE-345121	5,000	85	ER-348272	10	132	EV-366437	30			
43	EE-352284	5,000	86	ER-200595	10	133	EV-366436	30			
			87	ER-362257	40	134	EV-360410	60			
			88	ER-364508	40	135	EV-360569	50			
			89	ER-365157	40	136	EX-361672	130			
			90	ER-353878	90	137	EZ-362247	10			
						138	HE-361456	300			
						139	HR-361454	800			
						140	MB-360534	30			
						141	MB-360533	40			
						142	MB-364011	100			
						143	MP-361543	400			
						144	MR-364010	20			

REF. NO.	PART NO.	UNIT PRICE YEN(W)	REF. NO.	PART NO.	UNIT PRICE YEN(W)	REF. NO.	PART NO.	UNIT PRICE YEN(W)	REF. NO.	PART NO.	UNIT PRICE YEN(W)
<b>1. HEAD DRUM BLOCK</b>			<b>2. CHASSIS MECHA BLOCK (1)</b>			<b>3. CHASSIS MECHA BLOCK (2)</b>			<b>4. EJECTOR BLOCK</b>		
<b>HEAD DRUM BLOCK</b>			<b>CHASSIS MECHA BLOCK</b>			<b>CHASSIS MECHA BLOCK</b>			<b>EJECTOR BLOCK</b>		
1-1	BV-V1030A210A	9,000	2-1	ZS-360372	20	3-1	MZ-B360528	200	4-1	BV-V1047A250A	2,300
1-2	BV-V1030A220A	12,000	2-2	ZG-363349	6	3-2	ZS-379350	1	4-2	MZ-B360642	50
1-3	ZS-362261	3	2-3	MS-364796	40	3-3	ZW-410051	2	4-3	MR-361310	10
1-4	ZS-354332	3	2-4	MS-364797	10	3-4	ZW-357164	2	4-4	MR-361311	10
1-5	ZS-432843	2	2-5	MS-362181	10	3-5	MZ-364677	30	4-5	MR-361312	10
1-TH901	EX-361672	130	2-6	ZS-608095	1	3-6	MZ-364676	20	4-6	SZ-360607	60
<b>MOTOR SM-230 BLOCK</b>			2-7	BL-B360353	120	3-7	ZW-270101	1	4-7	ZG-357865	5
1-6	BM-M3223A020A	3,000	2-8	ZG-360605	3	3-8	ML-366736	10	4-8	MZ-361314	15
1-7	BV-B362443	50	2-9	ZW-350839	10	3-9	ZS-422076	1	4-9	MZ-361313	15
<b>ASSEMBLY BLOCK</b>			2-10	ZW-354859	3	3-10	BF-B360531	300	4-10	ZG-360615	13
1-8	VT-361452	60	2-11	MP-361543	400	3-11	ZS-422076	1	4-11	MZ-360640	20
1-9	ZS-421806	1	2-12	ZS-477876	1	3-12	MB-360534	30	4-12	MZ-360639	20
			2-13	ZW-270101	1	3-13	MB-360533	40	4-13	ZG-360614	20
			2-14	ZG-360603	5	3-14	MZ-360453	30	4-14	MZ-360638	20
			2-15	ZG-360604	3	3-15	MR-364010	20	4-15	ZG-360613	10
			2-16	BV-V1047A080A	1,000	3-16	ZW-360479	5	4-16	ZG-358212	3
			2-17	BV-V1047A090A	1,000	3-17	ZG-360441	5	4-17	BL-B361308	20
			2-18	VT-360148	200	3-18	MZ-360440	10	4-18	ZW-357164	2
			2-19	ZS-321729	25	3-19	MR-360432	10	4-19	ML-361316	10
			2-20	ZS-328607	2	3-20	ZW-361458	3	4-20	ML-360634	25
			2-21	BL-B360361	80	3-21	ZW-356657	1	4-21	ML-360635	25
			2-22	ZG-360602	15	3-22	MB-364011	100	4-IN901	EL-363355	60
			2-23	BL-B360342	80	3-23	MZ-360384	15	<b>SENSOR (L) PC BOARD</b>		
			2-24	BL-B360350	60	3-24	ZG-360601	8	14-TR1	ET-361490	50
			2-25	ZG-321731	5	3-25	VT-363354	150	<b>SENSOR (R) PC BOARD</b>		
			2-26	MZ-B362281	100	3-26	MZ-360385	20	15-TR1	ET-361490	50
			2-27	MR-364335	50	3-27	BR-B360517A	80	<b>SWITCH (EJ) PC BOARD</b>		
			2-28	ZW-361458	3	3-28	BR-B360517B	85	16-SW1	ES-353622	150
			2-29	ZS-460440	1	3-29	MZ-366960	600	<b>ASSEMBLY BLOCK</b>		
			2-30	ZG-313258	3	3-30	ZG-360438	3	4-22	SP-364666	50
			2-31	BL-B360486	30	3-31	MZ-B366734	150	4-23	ZG-360616	3
			2-32	ZG-364338	5	3-32	ZG-358276	3	4-24	SE-361317	100
			2-33	BL-B360525	40	3-33	ZG-350891	5	<b>5. PC BOARD BLOCK</b>		
			2-34	ZG-364339	3	3-34	ML-B360519	40	5-1A	BA-V1047C300A	30,000
			2-35	BL-B360522	30	3-35	ML-B360520	40	5-1B	BA-V1047C300B	30,000
			2-36	ZG-364337	15	3-36	ZW-360541	3	5-1D	BA-V1047C300D	30,000
			2-37	ZS-360391	10	3-37	ZG-358167	10	5-1E	BA-V1047C300E	30,000
			2-H901	HR-361454	800	3-38	ZW-360539	10	5-1F	BA-V1047C300F	30,000
			2-H902	HE-361456	300	3-39	MZ-360477	60	5-2A	BA-V1047C330A	6,000
			2-SW1	ES-360433	50	3-40	ML-B366735	30	5-2B	BA-V1047C330B	6,000
			2-D1	ED-357540	100	3-41	ML-B366615	30	5-2C	BA-V1047C330C	6,000
						3-42	ML-B360460	40	5-2D	BA-V1047C330D	6,000
						3-43	MZ-B360425	300	5-3	BA-V1047A400D	1,000
						3-44	MB-366733	10			
						3-45	ML-366738	100			
						3-M902	BM-361544	1,500			
						3-M903	BM-B361467	400			
						3-SW2	ES-361479	50			
						<b>SENSOR REEL PC BOARD</b>					
						13-PH1	ET-361463	100			



REF. NO.	PART NO.	UNIT PRICE YEN(¥)	REF. NO.	PART NO.	UNIT PRICE YEN(¥)	REF. NO.	PART NO.	UNIT PRICE YEN(¥)	REF. NO.	PART NO.	UNIT PRICE YEN(¥)
<b>10. VIF BLOCK</b>			<b>13. SENSOR REEL PC BOARD</b>			<b>18. FINAL ASSEMBLY BLOCK</b>			<b>19. REMOTE CONTROL UNIT RC-V155</b>		
<b>TUNER UNIT</b>						<b>PANEL FRONT BLOCK</b>					
10-1A	EE-345115	5,000	13-PH1	ET-361463	100	18-1A	BD-V1047C130A	3,500	19-1A	AV-363357	1,200
10-1B	EE-345116	5,000				18-1B	BD-V1047C130B	3,500	19-1B	AV-363496	1,200
10-1D	EE-352284	5,000				18-1D	BD-V1047C130F	3,500	19-1A-B	AV-363494	1,200
10-1E	EE-345121	5,000				18-1E	BD-V1047C130G	3,500	19-1B-B	AV-363498	1,200
						18-1F	BD-V1047C130H	3,500	19-1C1	EI-749983	350
						18-1A-B	BD-V1047D130A	3,500	19-TR1	ET-718040	80
						18-1B-B	BD-V1047D130B	3,500	19-D2	ED-705414	240
						18-1D-B	BD-V1047D130F	3,500	19-D3	ED-718039	60
						18-1E-B	BD-V1047D130G	3,500	19-X1	EI-749984	100
						18-1F-B	BD-V1047D130H	3,500	19-2	SC-718041	60
						18-2	SP-361332B	50	19-2-B	SC-718043	60
						18-2-B	SP-361332A	50			
						18-3	SK-361297	15			
						18-4A	SP-361338Q	250			
						18-4B	SP-361338R	250			
						18-4D	SP-361338Z	250			
						18-4E	SP-361338X	250			
						18-4F	SP-361338T	250			
						18-5	SK-B361325A	50			
						18-5-B	SK-B361325B	50			
						18-6	SK-B361327A	50			
						18-6-B	SK-B361327B	50			
						18-7	SK-B361328A	50			
						18-7-B	SK-B361328B	50			
						18-8	SK-B361329A	50			
						18-8-B	SK-B361329B	50			
						18-9	SK-B361330A	60			
						18-9-B	SK-B361330B	60			
						18-10	SK-361331A	40			
						18-10-B	SK-361331B	40			
						18-11	AV-361336	10			
						<b>ASSEMBLY BLOCK</b>			<b>ASSEMBLY BLOCK</b>		
						17-1	ZS-357936	3	18-12	SK-361334	15
						17-2	ZS-363912	3	18-13	BC-361486A	1,000
						17-3A	EW-364043	230	18-13-B	BC-341486B	1,000
						17-3B	EW-364044	160	18-14	ZS-357943	3
						17-3C	EW-364428	600	18-14-B	ZS-358696	3
						17-4	EZ-692908	14	18-15x	EW-348414	250
						17-5	SA-353927B	10			
						17-6	ZS-357946	3			
						<b>POWER SUPPLY PC BOARD</b>					
						11-T901A	BT-363353	1,200			
						11-T901B	BT-363945	1,200			
						11-T901D	BT-363946	1,200			
						11-T901E	BT-363950	1,200			
						11-T901F	BT-363949	1,200			
<b>11. POWER SUPPLY PC BOARD</b>			<b>14. SENSOR (L) PC BOARD</b>			<b>15. SENSOR (R) PC BOARD</b>					
11-TR1	ET-364153	40	14-TR1	ET-361490	50	15-TR1	ET-361490	50			
11-D1,2	ED-363350	20									
11-D3to6	ED-363351	30									
11-D7to10	ED-363350	20									
11-FR1	ER-364508	40									
11-FR2	ER-362257	40									
11-FR3	ER-365157	40									
11-FR5	ER-200595	10									
11-C2	EC-363490	55									
11-C3,4	EC-363491	80									
11-C5	EC-361942	30									
11-T901A	BT-363353	1,200									
11-T901B	BT-363945	1,200									
11-T901D	BT-363946	1,200									
11-T901E	BT-363950	1,200									
11-T901F	BT-363949	1,200									
11-F1A	EF-623103	40									
11-F2A	EF-601301	40									
11-F1B	EF-355226	40									
11-F2B	EF-355398	40									
<b>12. EVM PC BOARD</b>			<b>16. SWITCH (EJ) PC BOARD</b>			<b>17. ASSEMBLY BLOCK</b>					
12-SW901	ES-354430	80	16-SW1	ES-353622	150						
12-SF1	EZ-362247	10									