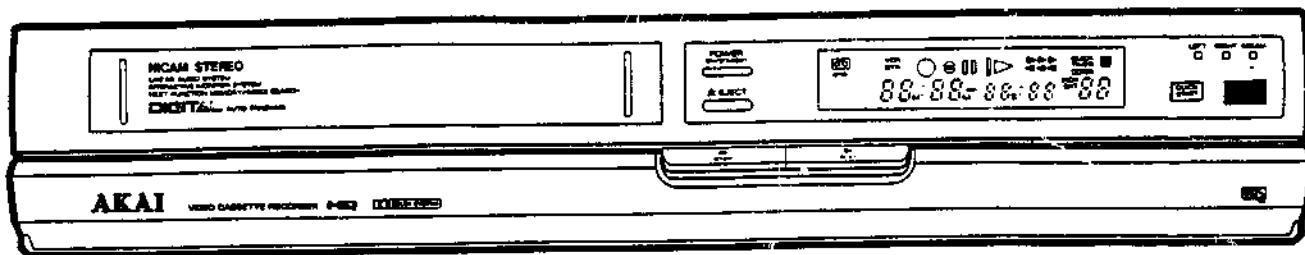


VS-422EOH
VS-425EM/EOG/EOH
VS-427,467,485EK

AKAI SERVICE MANUAL



HQ VHS
HIGH QUALITY

VIDEO CASSETTE RECORDER

MODEL VS-422_{EOH}

MODEL VS-425_{EM/EOG/EOH}

MODEL VS-427,467,485_{EK}

SPECIFICATIONS

Format	EK VHS standard EM/EOG/EOH . VHS standard(PAL, MESECAM)	S/N ratio	EXCEPT EK more than 40 dB EK more than 36 dB (improves by 8.5 dB with Dolby NR ON)
Video recording system	..... Rotary, slant azimuth two-head helical scan system	Frequency response	EXCEPT EOG ... 70 - 10,000 Hz EOG 80 - 10,000 Hz
Rotary heads	EXCEPT 467EK 2 video heads 467EK 3 video heads	Recording/playback time	..... 240 min. with E-240 cassette in SP mode
RF input	EK System I UHF ch 21 - 69 EM System B, G (PAL, SECAM) Middle East VHF ch 2 - 12 UHF ch 21 - 69	Tape speed	..... 23.39 mm/sec.
EOG	..... System B, G (PAL, SECAM) VHF ch 2 - 4, 5 - 12 UHF ch 21 - 69	Quick finder	..... approx. 5 or 15 times normal speed
EOH	..... Cable ch S1' - S3', S1 - S20 System B, G (PAL, SECAM) VHF ch 2 - 4, 5 - 12 UHF ch 21 - 69	FF, REW time	..... approx. 5 min. with E-180 cassette
RF output	EK System I type modulation UHF ch 30 - 39 adjustable(preset ch 36)	Timer	Program 8 program / 1 year and QUICK TIMER Clock reference Quartz crystal
EM	..... System B type modulation VHF ch 3, 4 switchable(preset ch 4)	Display	..... TV screen & FL(Tape counter, Timer etc.)
EOG/EOH	..... System G type modulation UHF ch 30 - 39 adjustable(preset ch 36)	Power requirements	422EOH/425EOG/ 425EOH 220 V AC, 50 Hz 425EM 110-127/220-240 V AC, 50/60 Hz 427EK/467EK/485EK 240 V AC, 50 Hz
Recording(line input)	EK PAL EM/EOG/EOH . PAL, SECAM(recorded as MESECAM)	Power consumption	425EM/427EK/467EK 36 W 422EOH/425EOH/ 425EOG 37 W 485EK 38 W
Playback(line output)	EK PAL EM/EOG/EOH . PAL, SECAM(MESECAM Tape)	Operating temperature	..... 5°c - 40°c
Video	Line input level 0.5 - 2.0 Vp-p/75 ohms, unbalanced Line output level 1.0 Vp-p/75 ohms, unbalanced SN ratio more than 45dB Horizontal resolution more than 250 lines	Dimensions	422EOH/427EK/ 467EK/485EK 425(W) × 82(H) × 318(B) mm 425EM/425EOG/ 425EOH 425(W) × 82(H) × 310(B) mm
Audio	Line input level -6 dBs/ 50 K ohms, unbalanced Line output level -6 dBs/ 1 K ohms, unbalanced	Weight	..... 5.0 Kg
		Standard accessories	(except EK model) (EK model)
		Connection cord	..... 1 1
		Remote control unit	..... 1 1
		Batteries for remote control	..... 2 4
		Function decal sheet	..... - 1
		Operator's manual	..... 1 1

- * For improvement purposes, specifications and design are subject to change without notice.
- * Noise reduction manufactured under license from dolby laboratories licensing corporation.
"DOLBY" and symbol are trade marks of dolby licensing corporation.

★ SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the Δ (*) symbol are critical for safety. Replace only with parts number specified.
2. 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.
3. Use specified internal wiring. Note especially:
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
4. 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)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



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

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

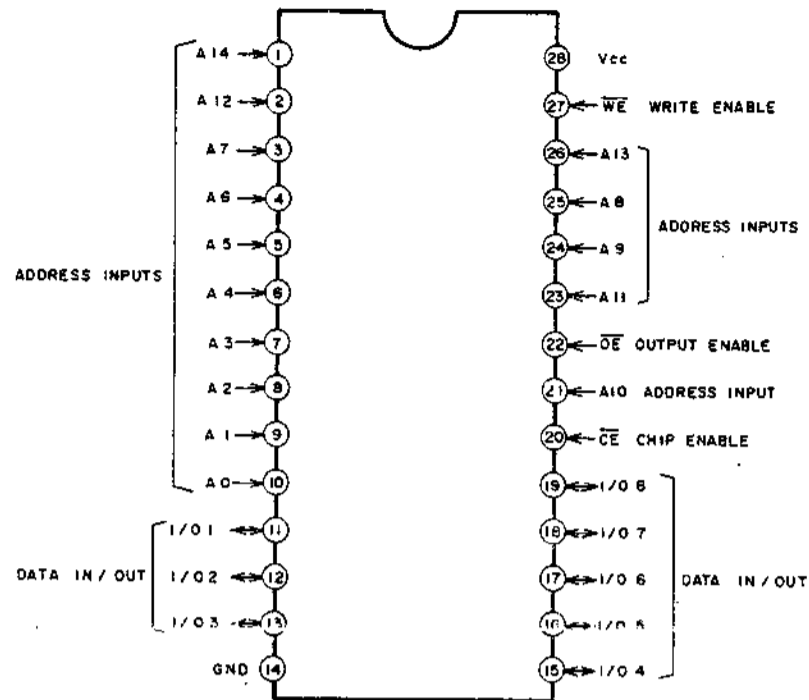
SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.

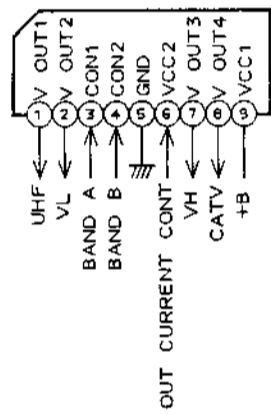
The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal-input/output connectors, etc.) and the earth ground through a resistor of 1500 ohms paralleled with a 0.15 μ F capacitor, under the unit's normal working conditions. The leakage-current should be less than 0.5 mA rms AC.

The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2 Mohms.

CXK58256PF-12L (32768x8 BIT HI-SPEED STATIC RAM)



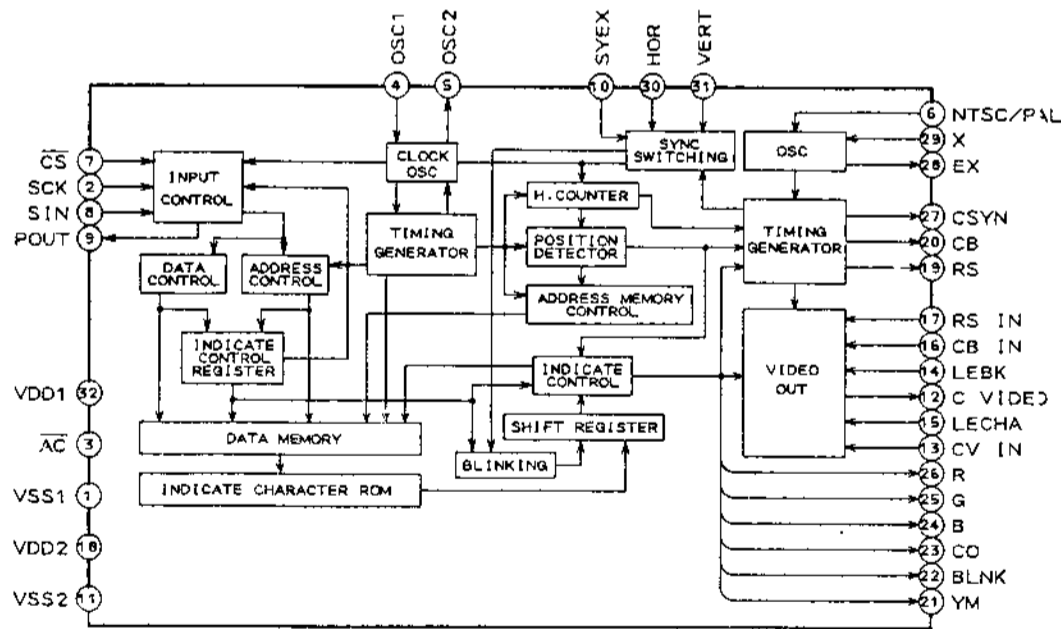
LA7910 (TUNER BAND SELECTOR)



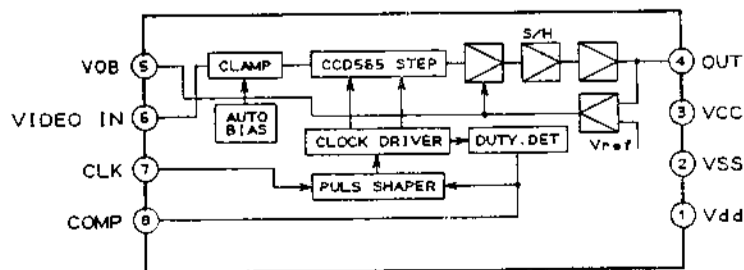
INPUT		OUTPUT			
CON1	CON2	V OUT1	V OUT2	V OUT3	V OUT4
L	L	H	Z	Z	Z
H	L	Z	H	Z	Z
L	H	Z	Z	H	Z
H	H	Z	Z	Z	H

Z: HIGH IMPEDANCE

M50455-142SP (CHARACTER GENERATOR)

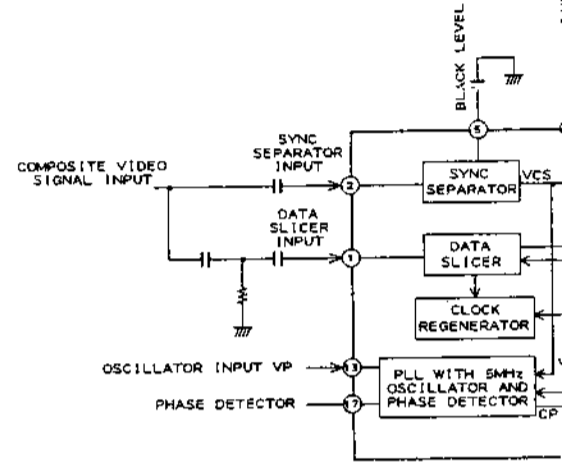


MSM6965-3RS (1H CCD DELAY LINE)

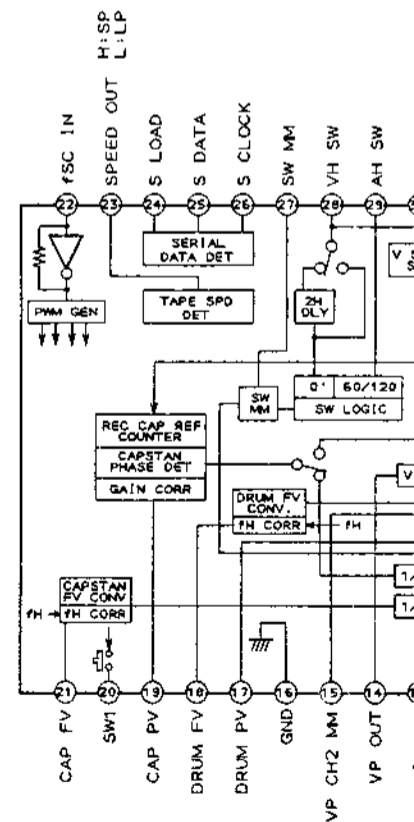


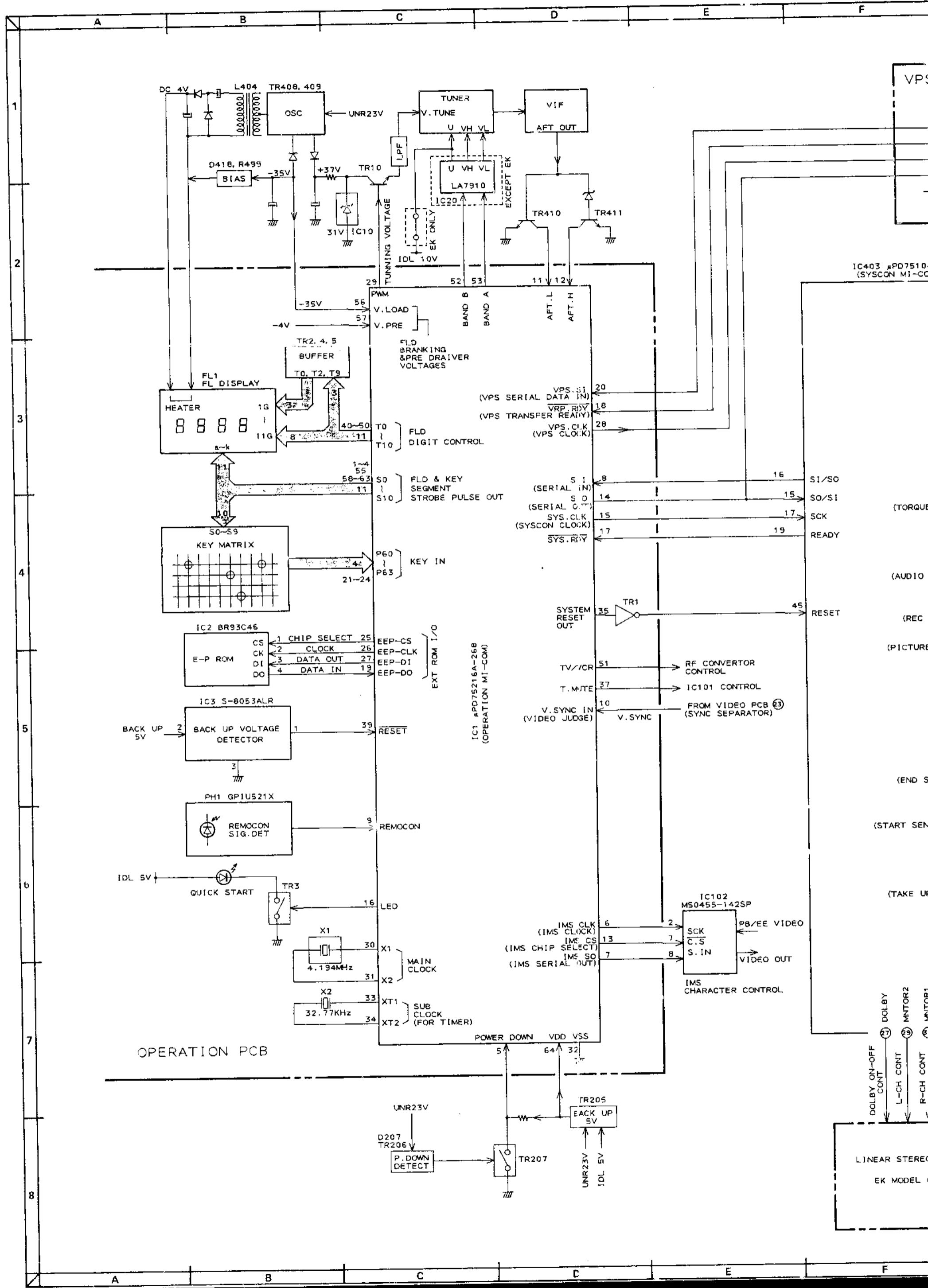
S-8053ALR (C-MOS VOLTAGE)

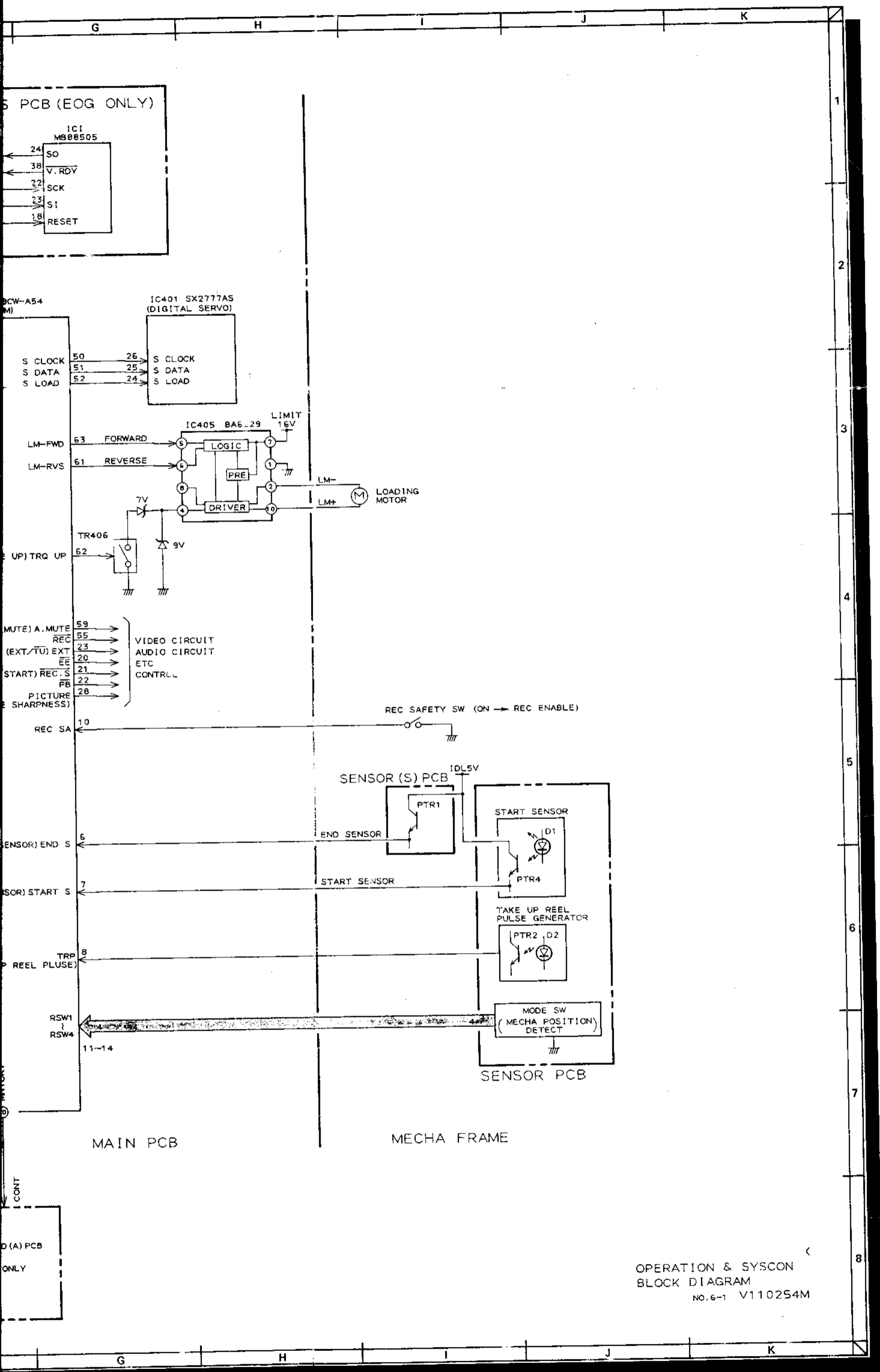
SAA4700 (VPS DATA LINE P)



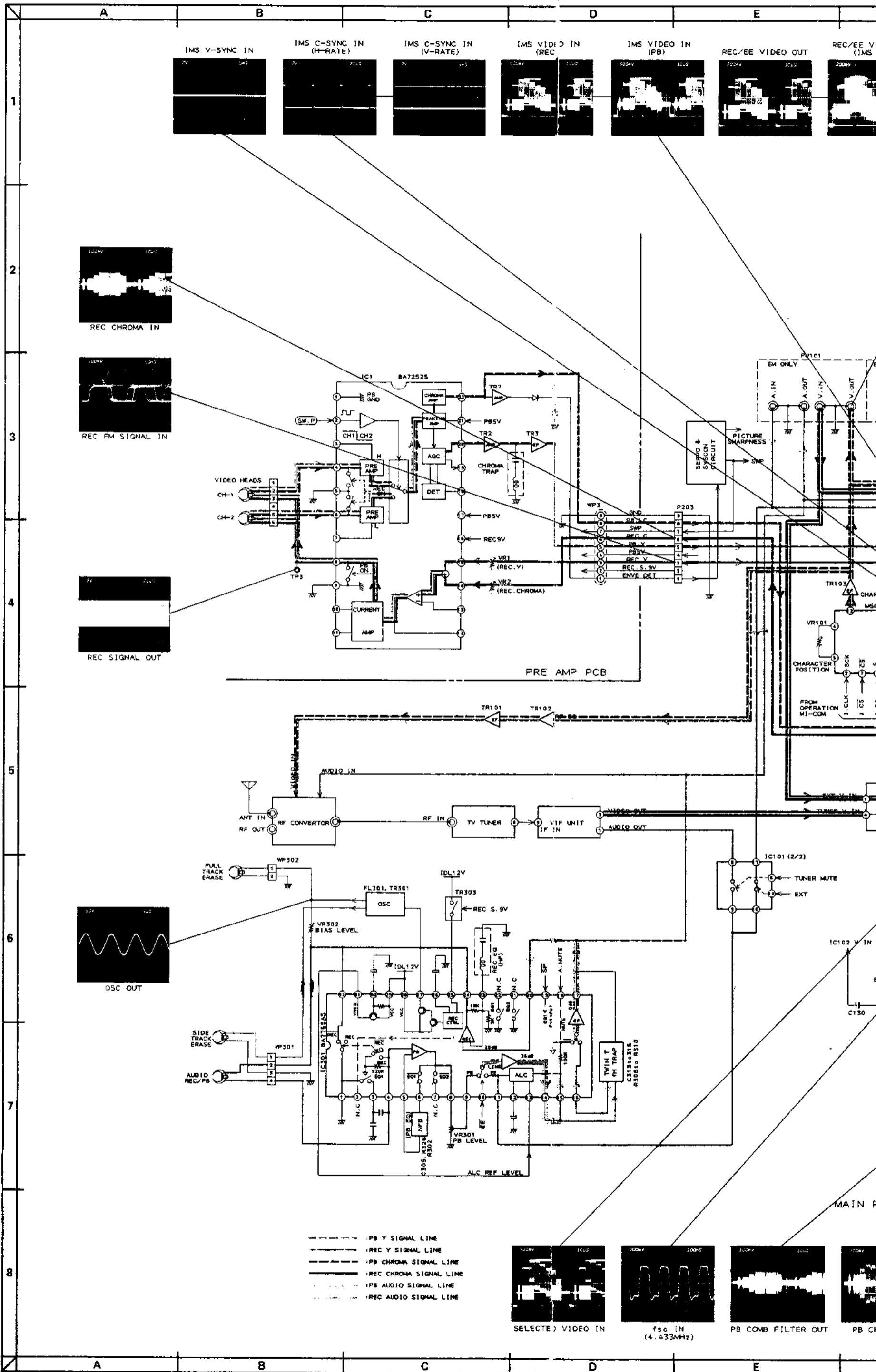
SX2777AS (DIGITAL SERVO)

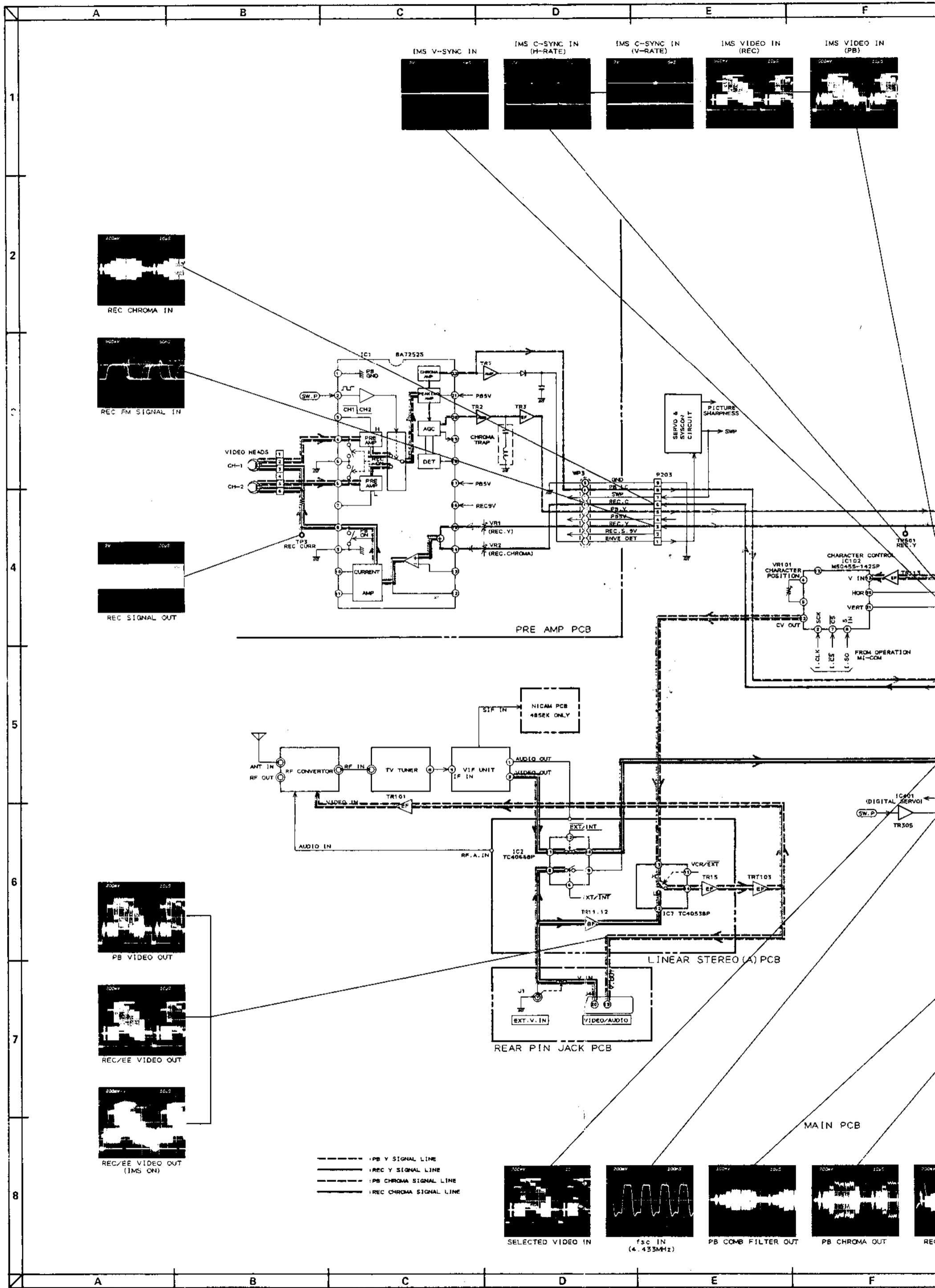


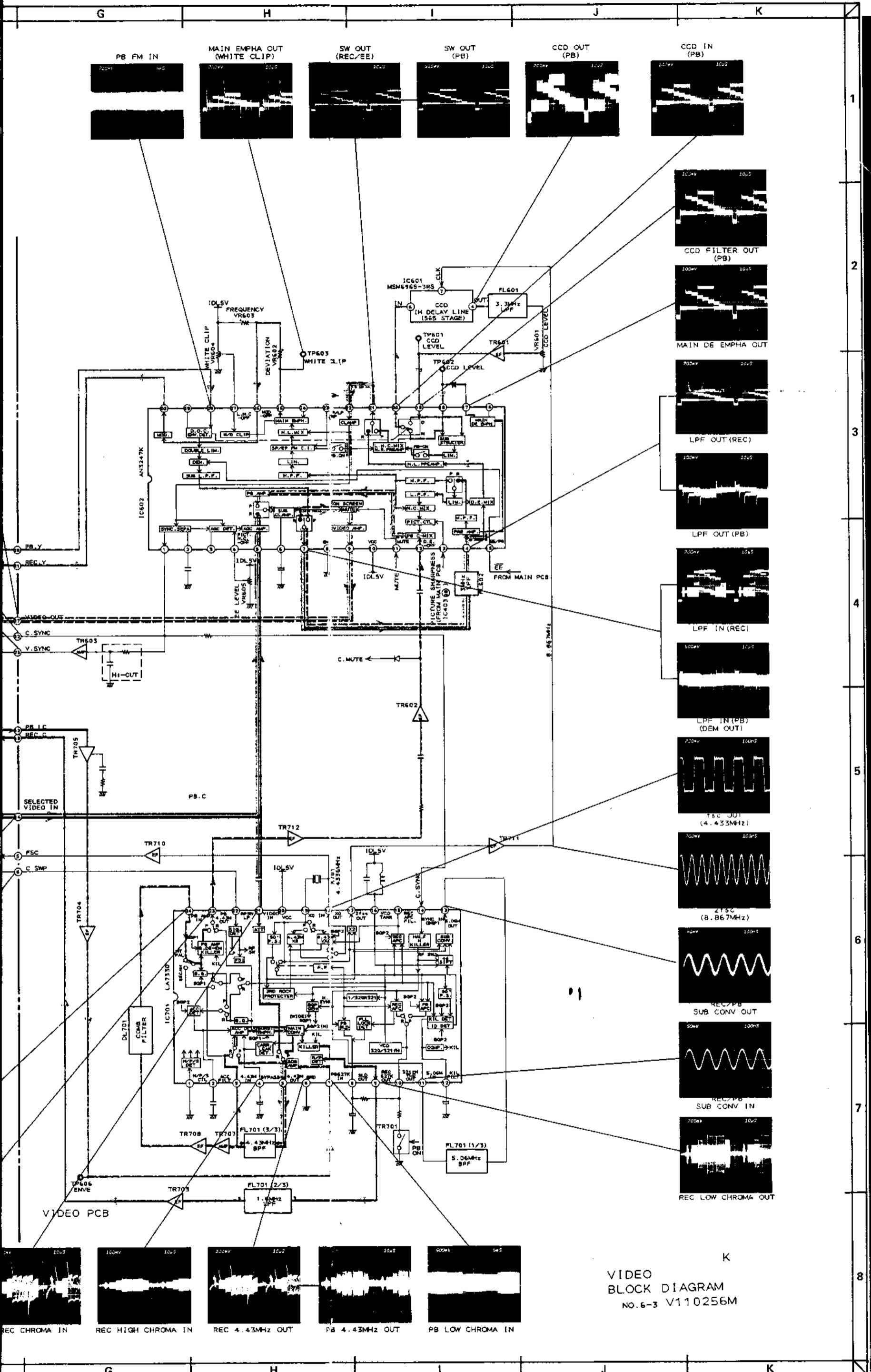




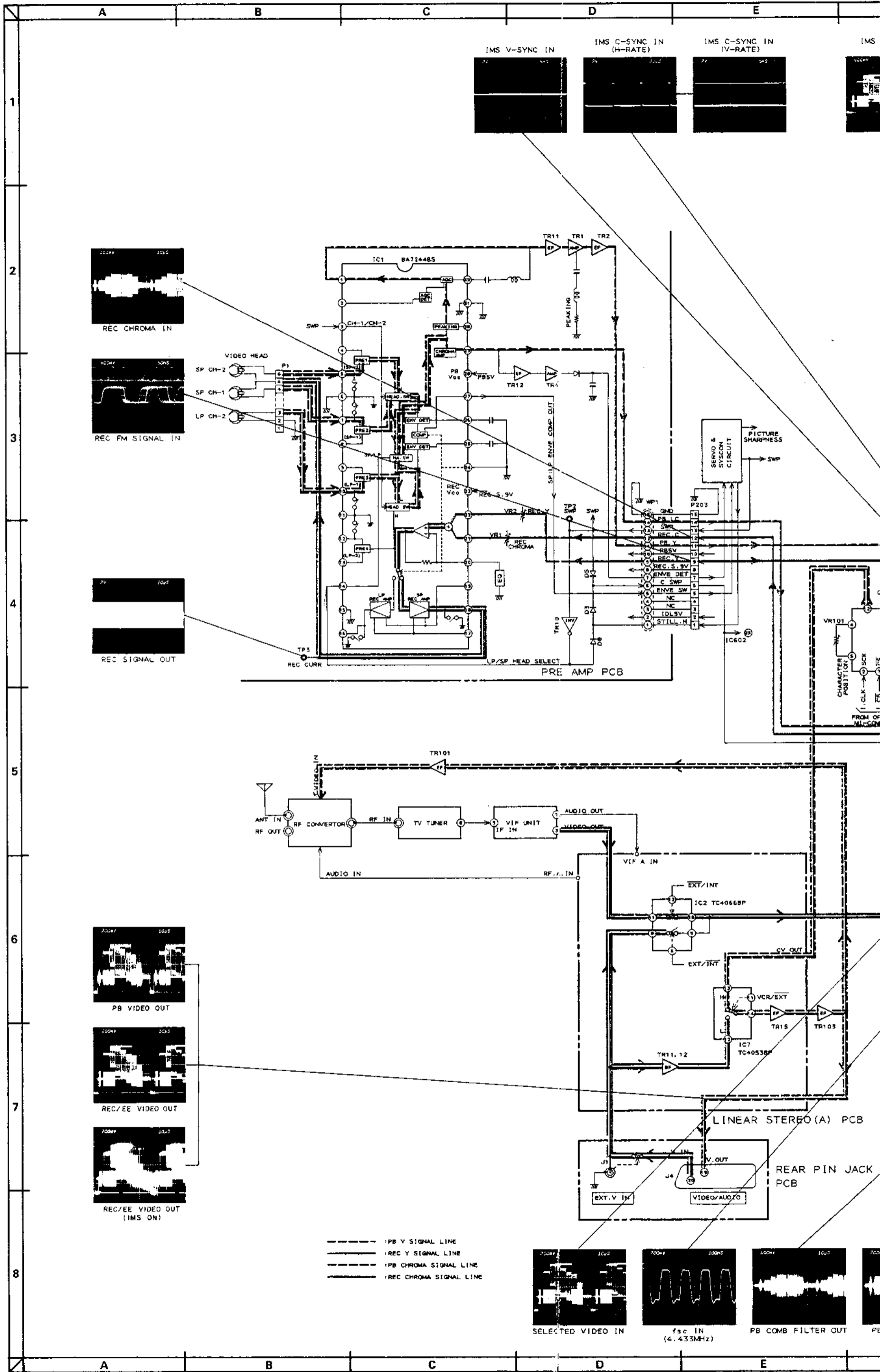
OPERATION & SYSCON
 BLOCK DIAGRAM
 NO. 6-1 V110254M

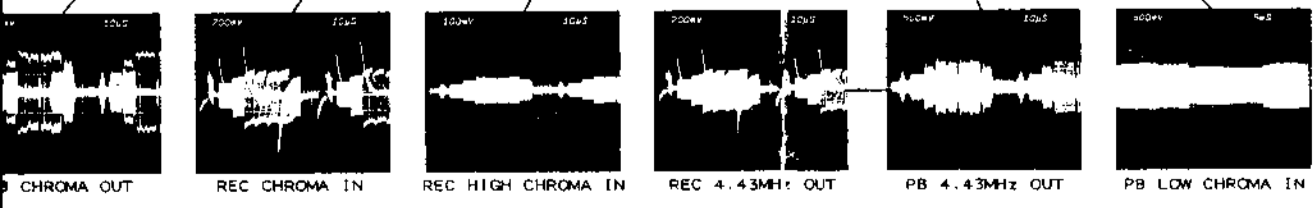
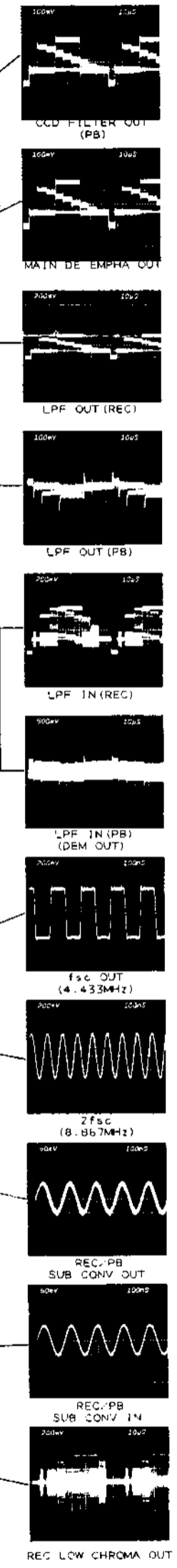
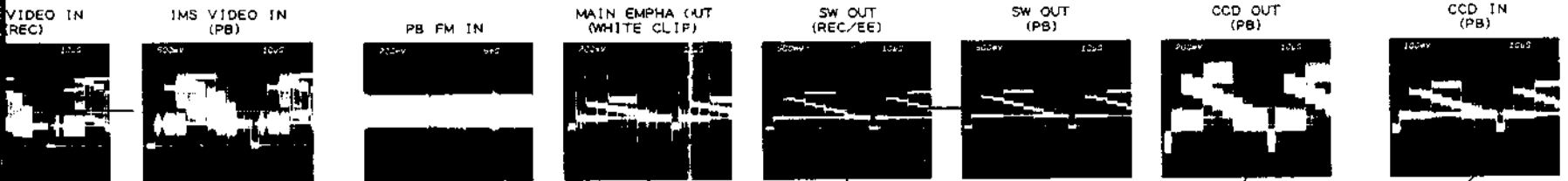
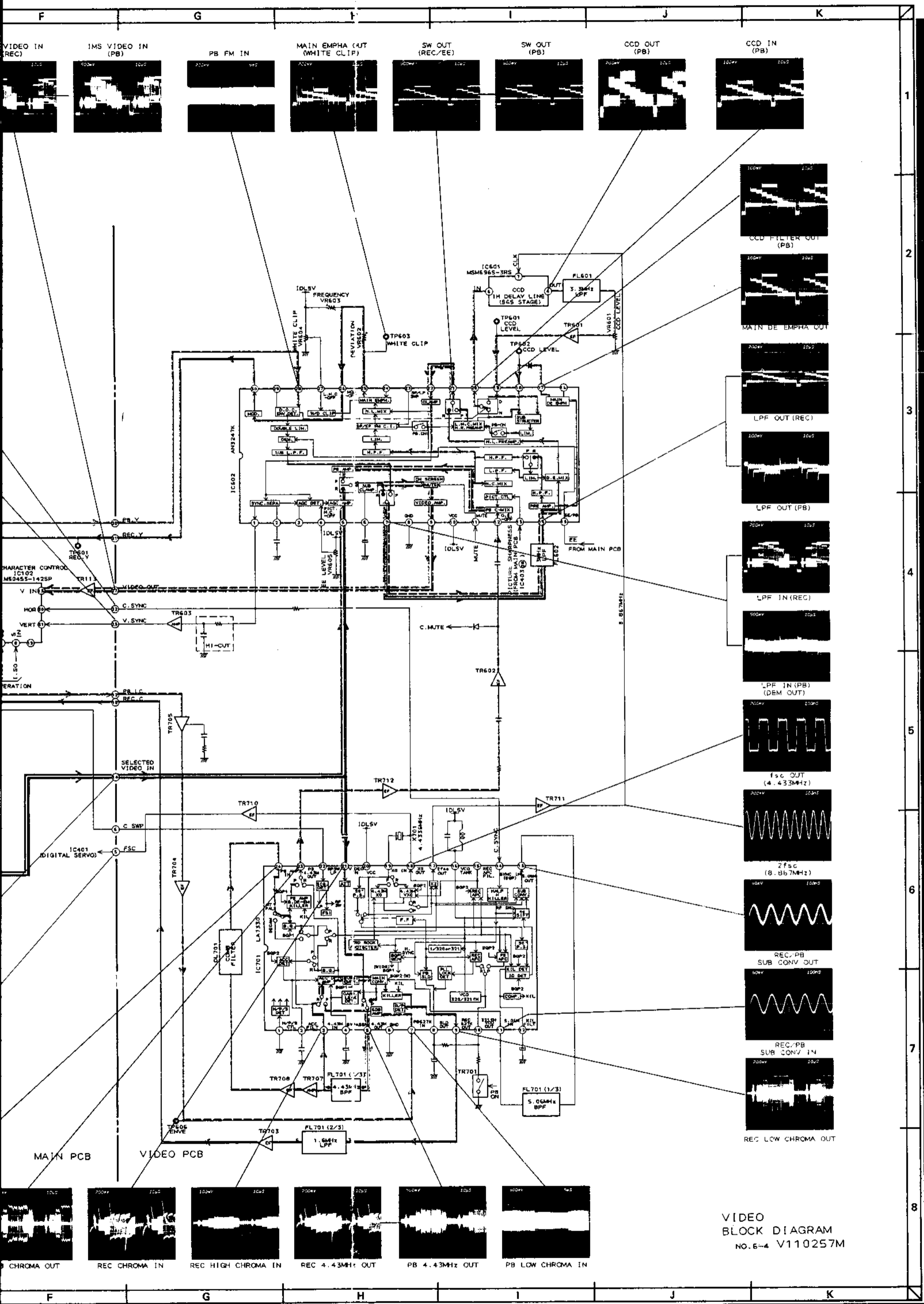






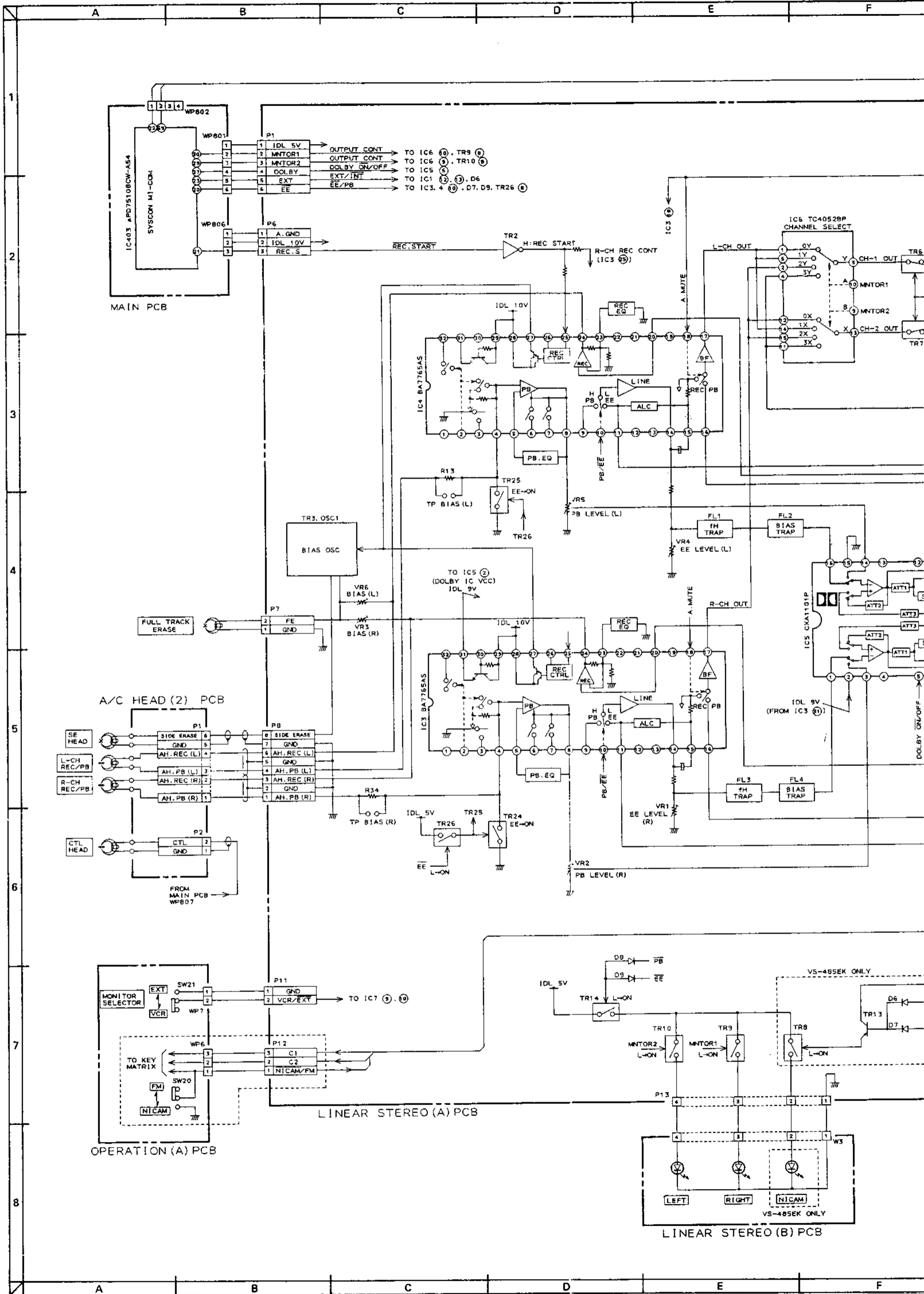
K
VIDEO
BLOCK DIAGRAM
NO. 6-3 V110256M

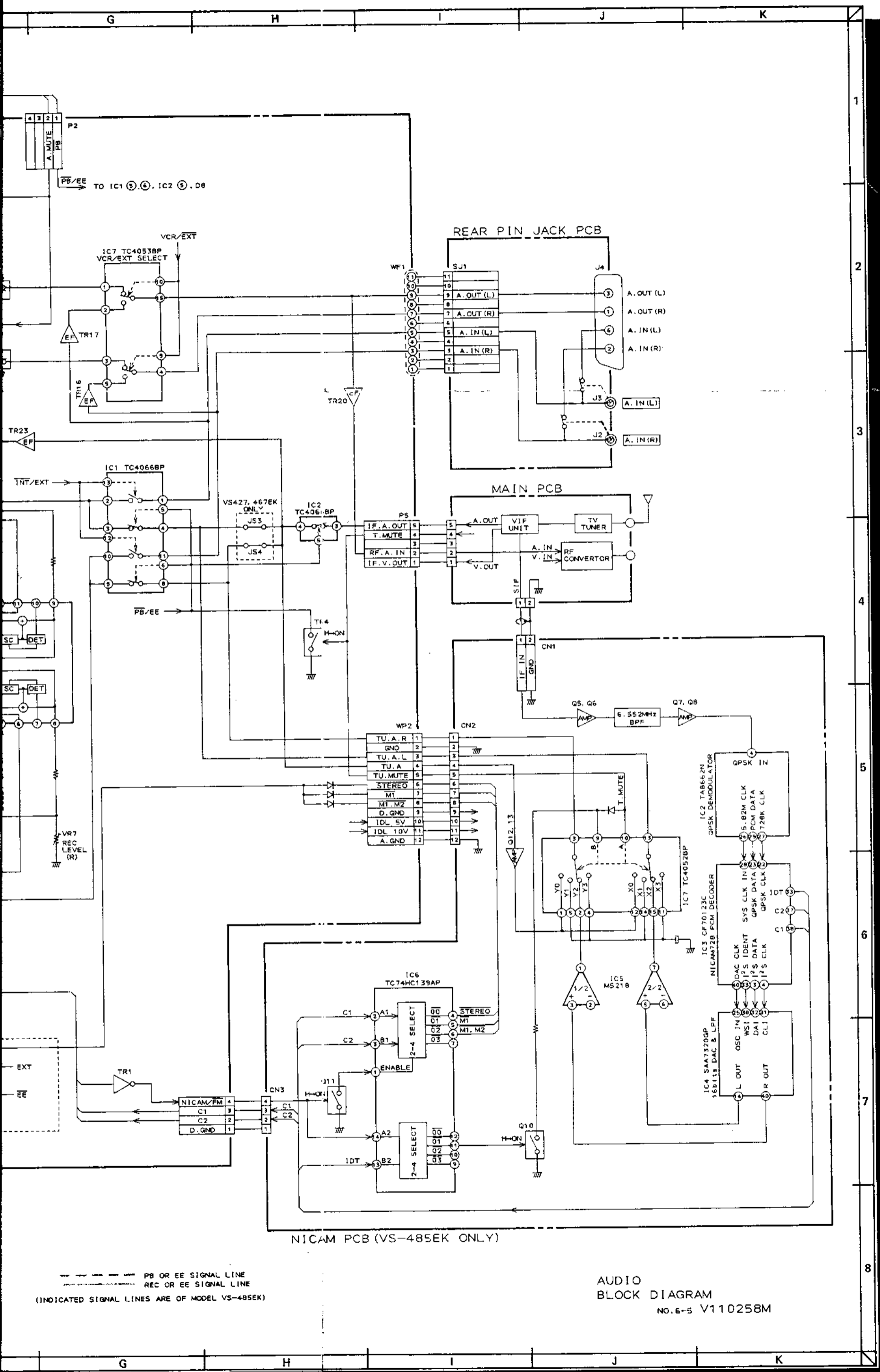




VIDEO BLOCK DIAGRAM
NO. 6-4 V110257M

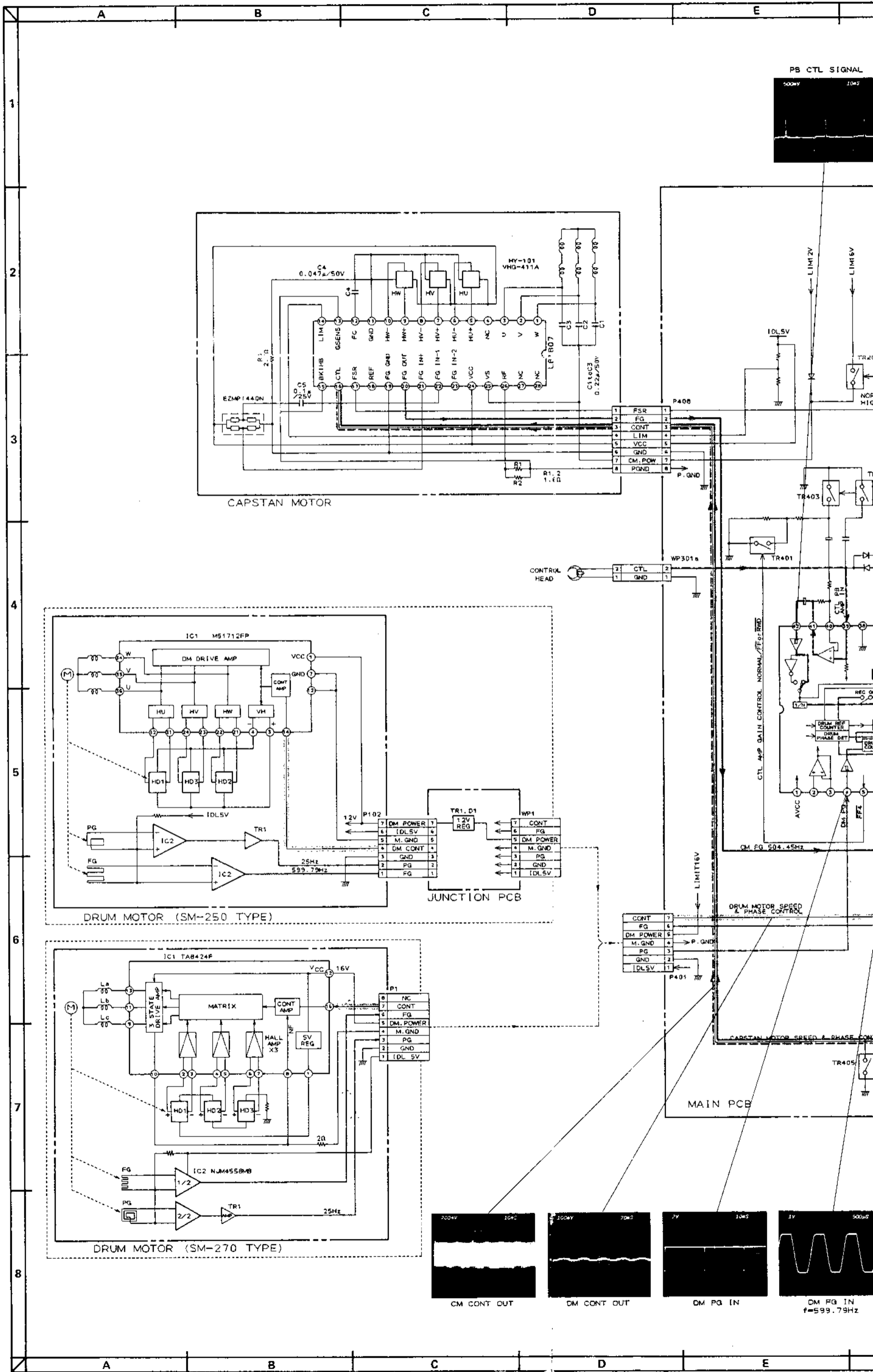
1
2
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8

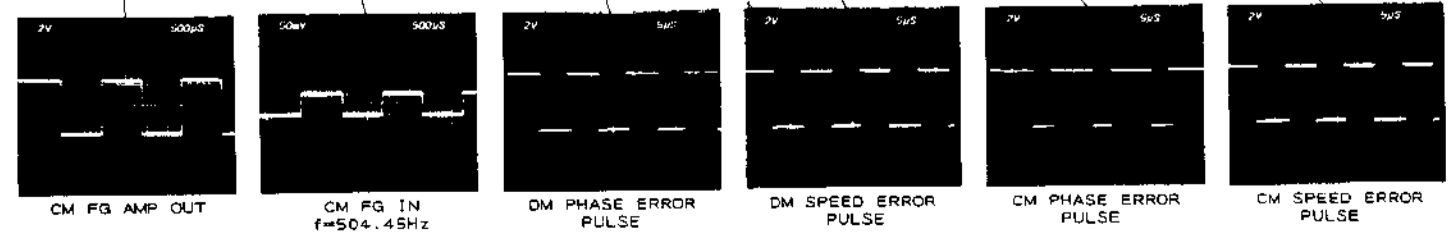
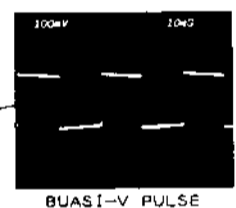
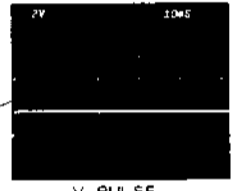
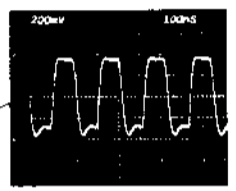
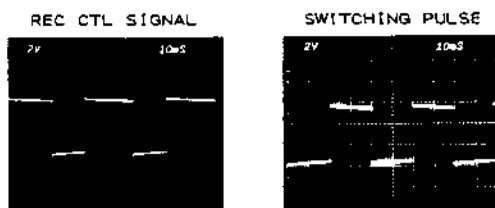
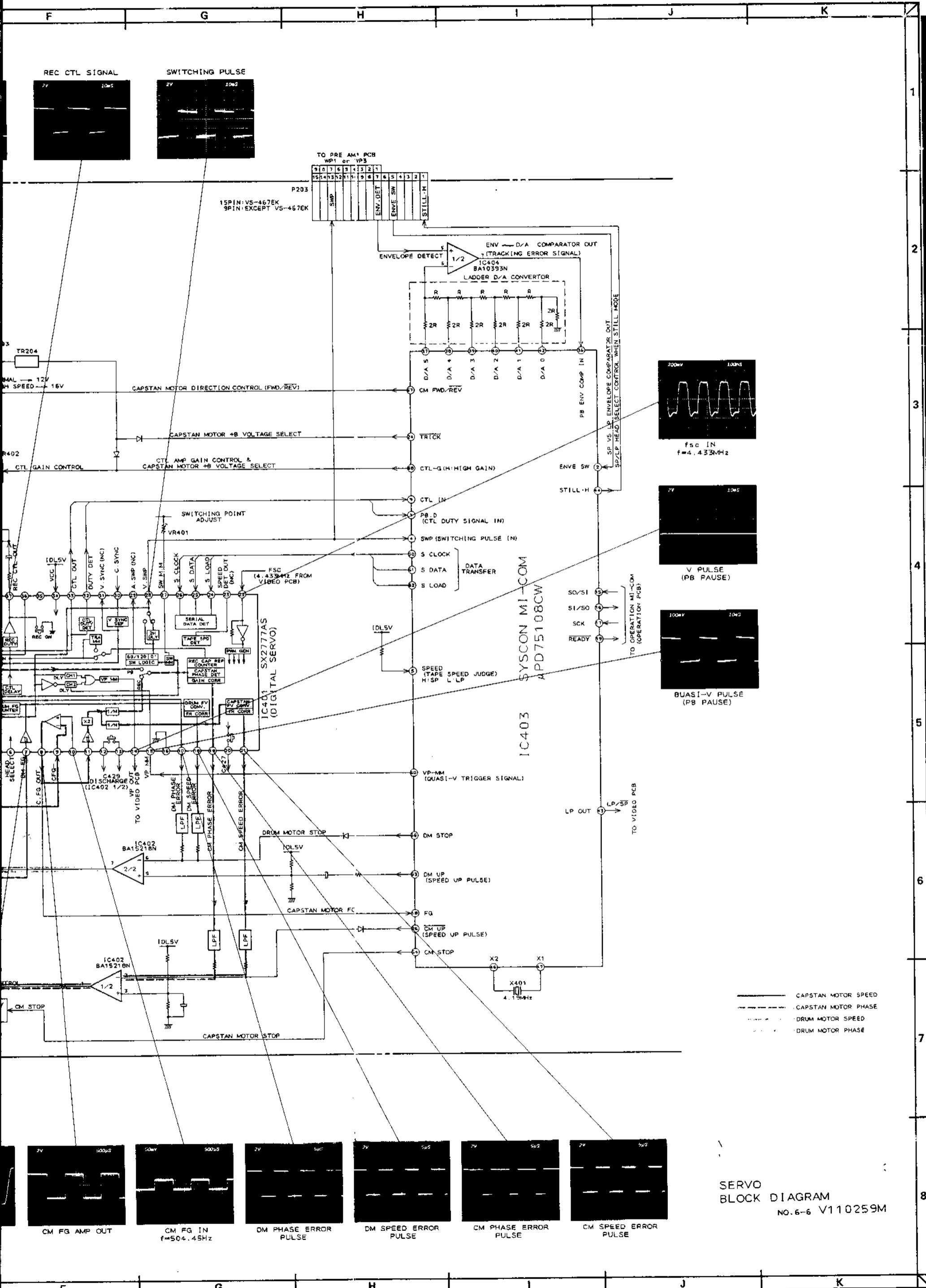




--- PB OR EE SIGNAL LINE
 - - - REC OR EE SIGNAL LINE
 (INDICATED SIGNAL LINES ARE OF MODEL VS-485EK)

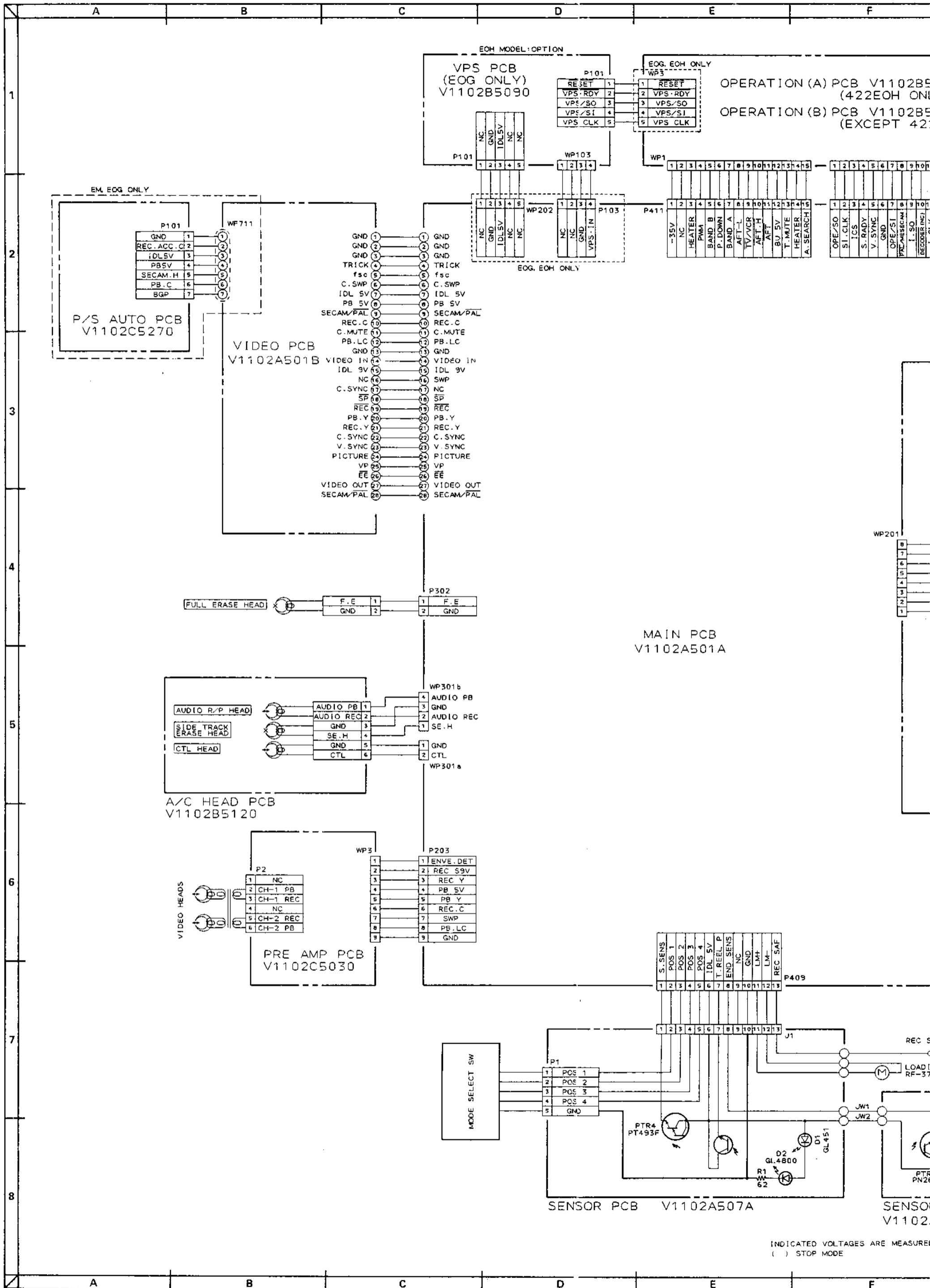
AUDIO
 BLOCK DIAGRAM
 NO. 6-5 V110258M



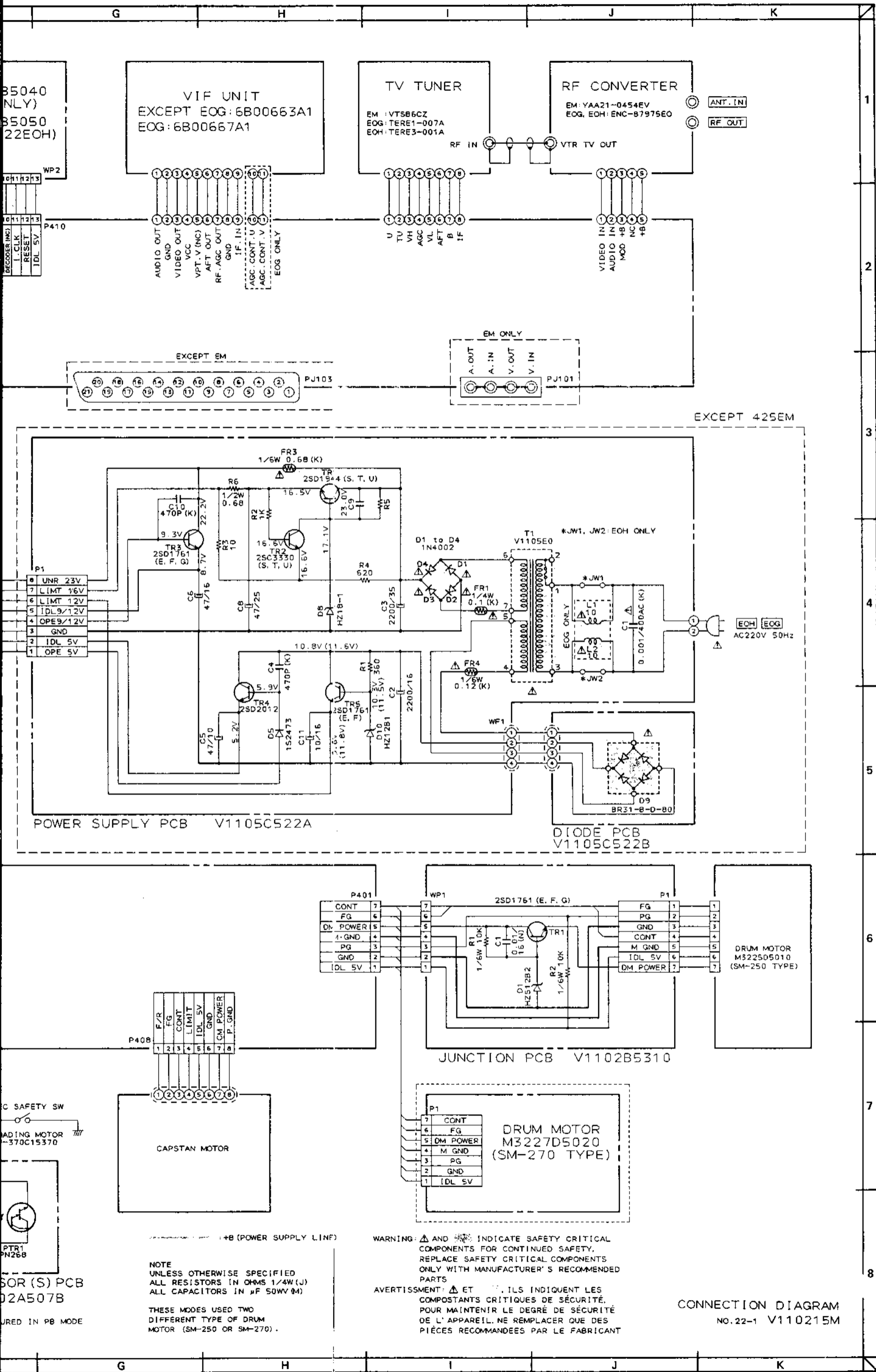


SERVO BLOCK DIAGRAM
NO. 6-6 V110259M

1
2
3
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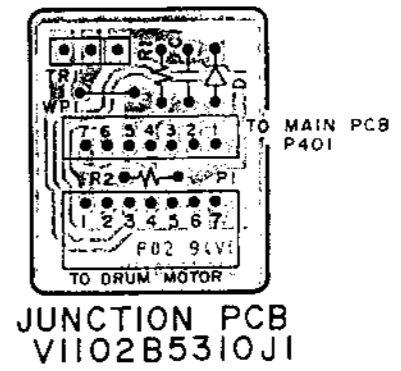
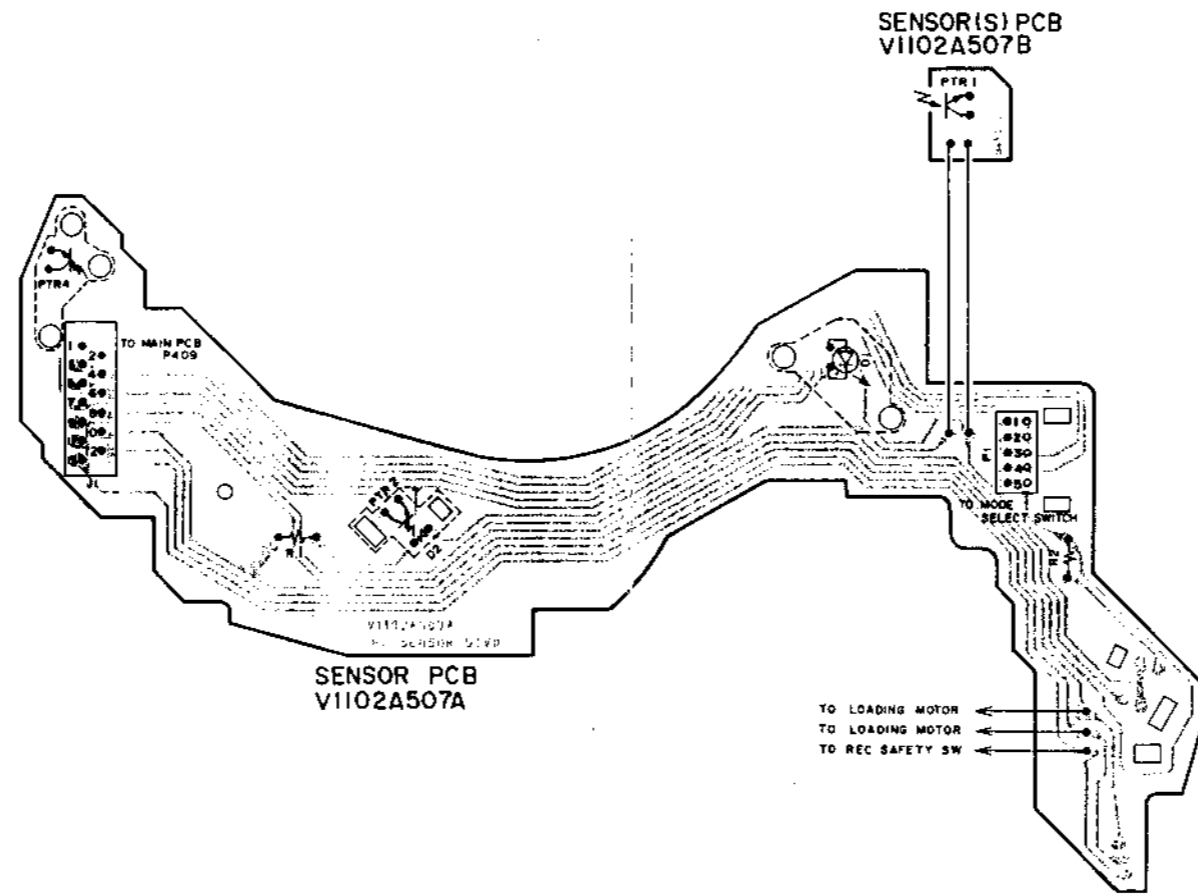
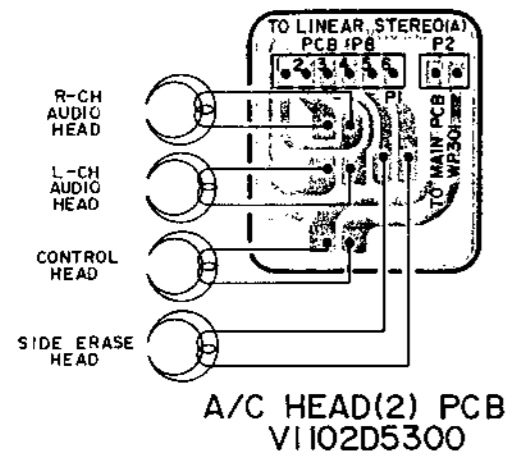
INDICATED VOLTAGES ARE MEASURED IN STOP MODE



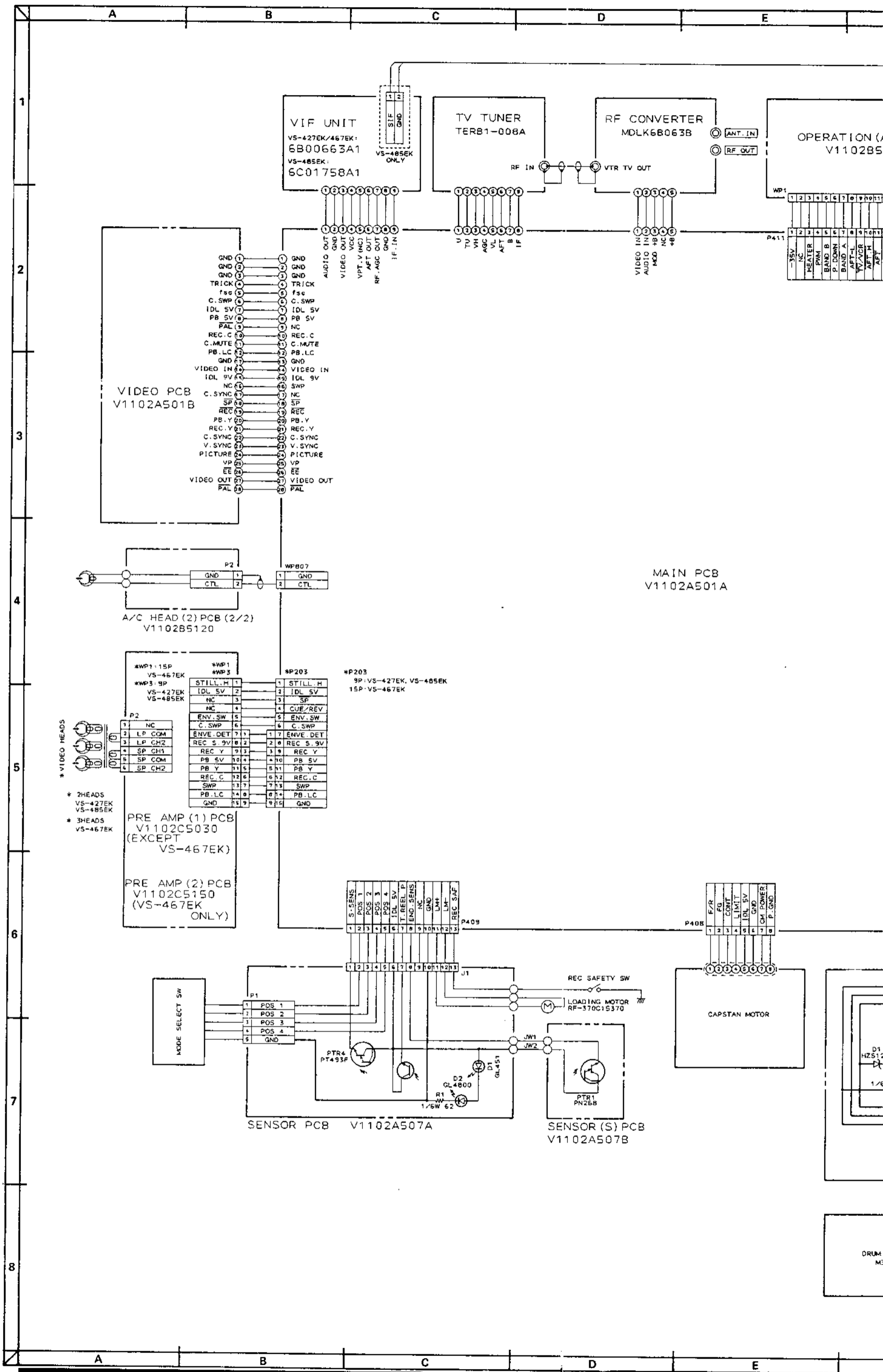
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN µF 50WV(M)

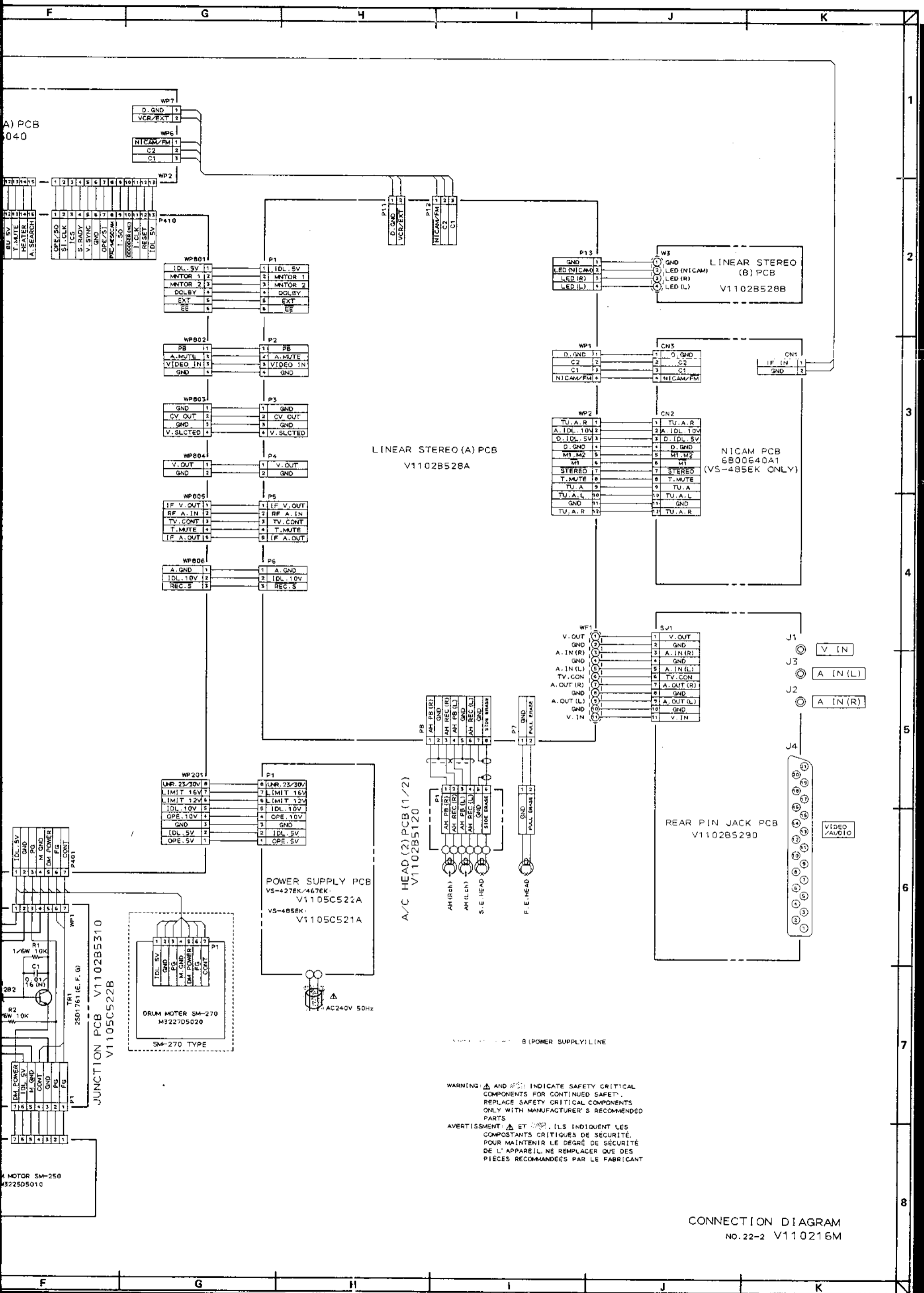
THESE MODES USED TWO
DIFFERENT TYPE OF DRUM
MOTOR (SM-250 OR SM-270).

CONNECTION DIAGRAM
NO.22-1 V110215M

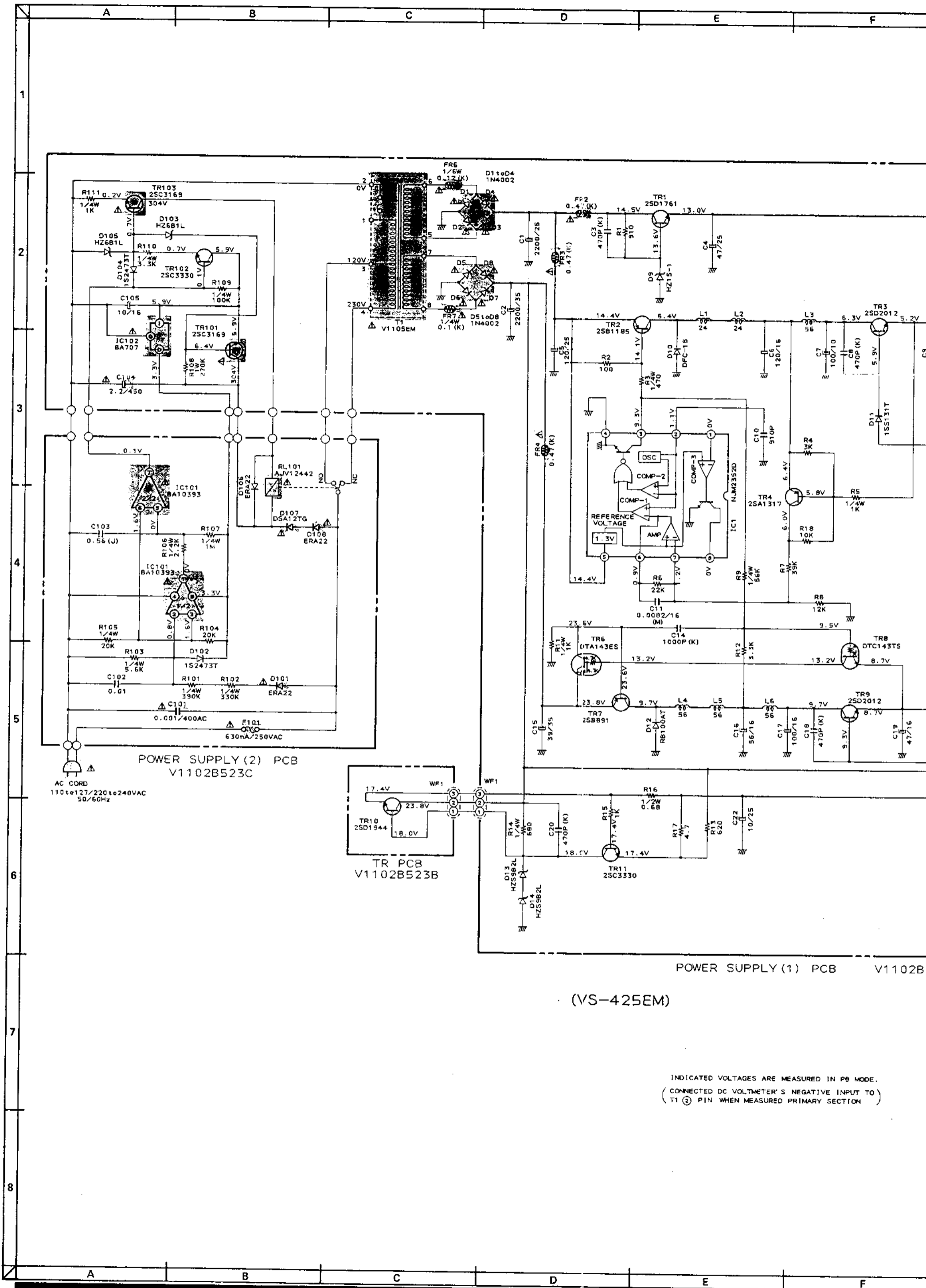


B C E
• • • = NPN TRANSISTOR





CONNECTION DIAGRAM
No. 22-2 V110216M



POWER SUPPLY (2) PCB
V1102B523C

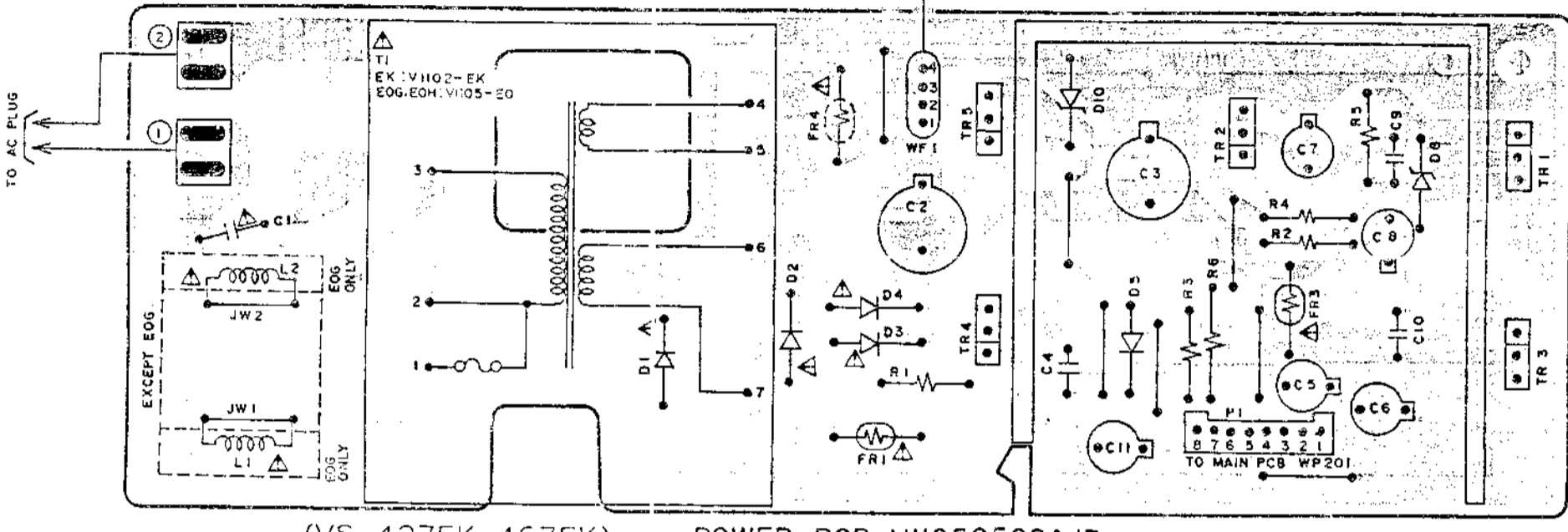
TR PCB
V1102B523B

POWER SUPPLY (1) PCB V1102B523B

(VS-425EM)

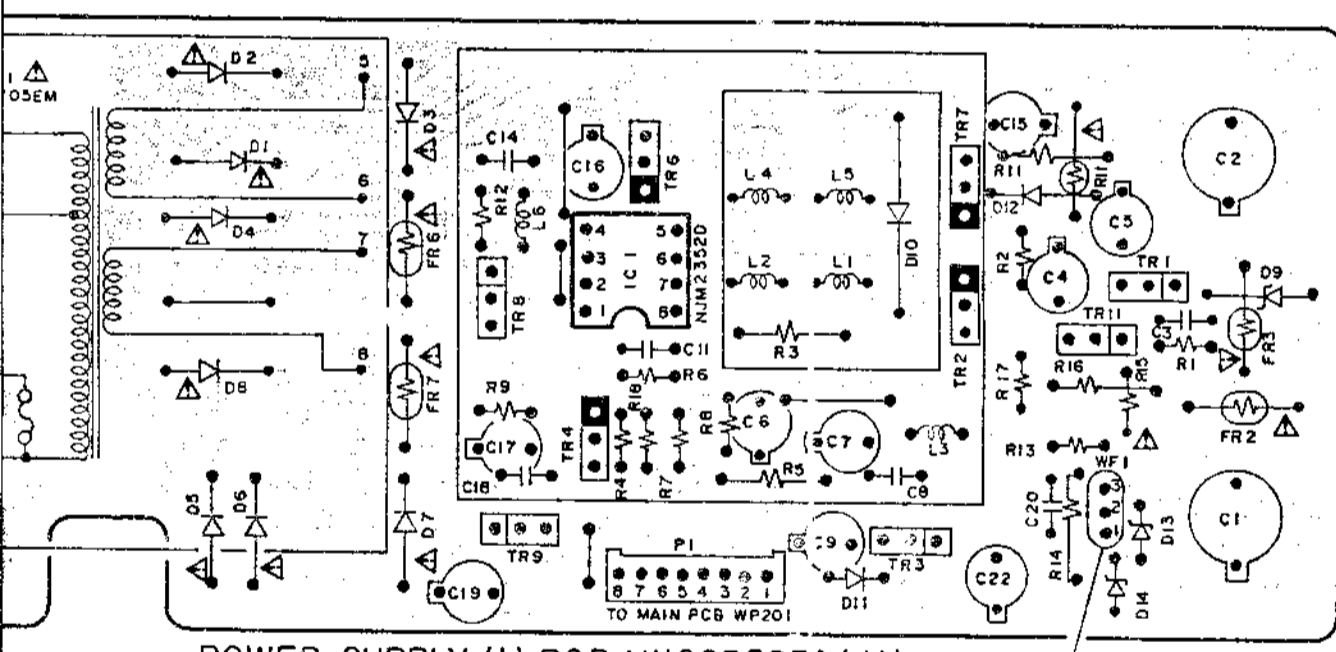
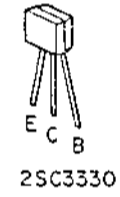
INDICATED VOLTAGES ARE MEASURED IN PB MODE.
(CONNECTED DC VOLTMETER'S NEGATIVE INPUT TO
T1 (2) PIN WHEN MEASURED PRIMARY SECTION)

DIODE PCB
VII05C522BJ3

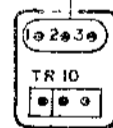


(VS-427EK, 467EK) POWER PCB VII05C522AJ3

B C D
• • • = NPN TRANSISTOR

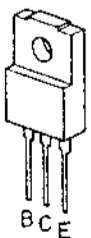


POWER SUPPLY (I) PCB VII02B523A(J1)



TR PCB
VII02B523B(J1)

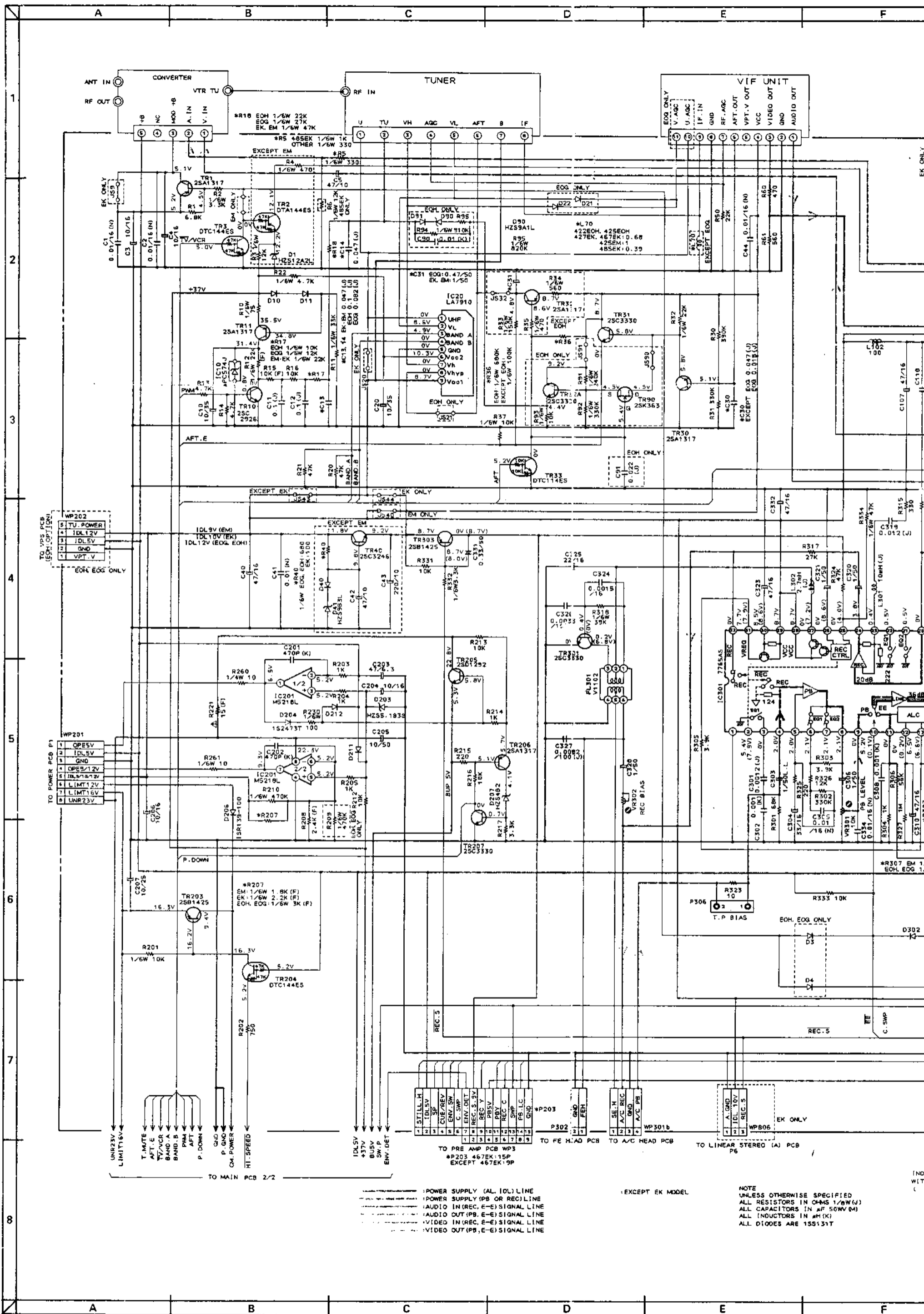
NPN TRANSISTOR
PNP TRANSISTOR



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

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

91	2SD3169	2SA1317
	2SD1761	2SC3330
	2SD1944	DTC143ES
	2SD2012	DTC143TS

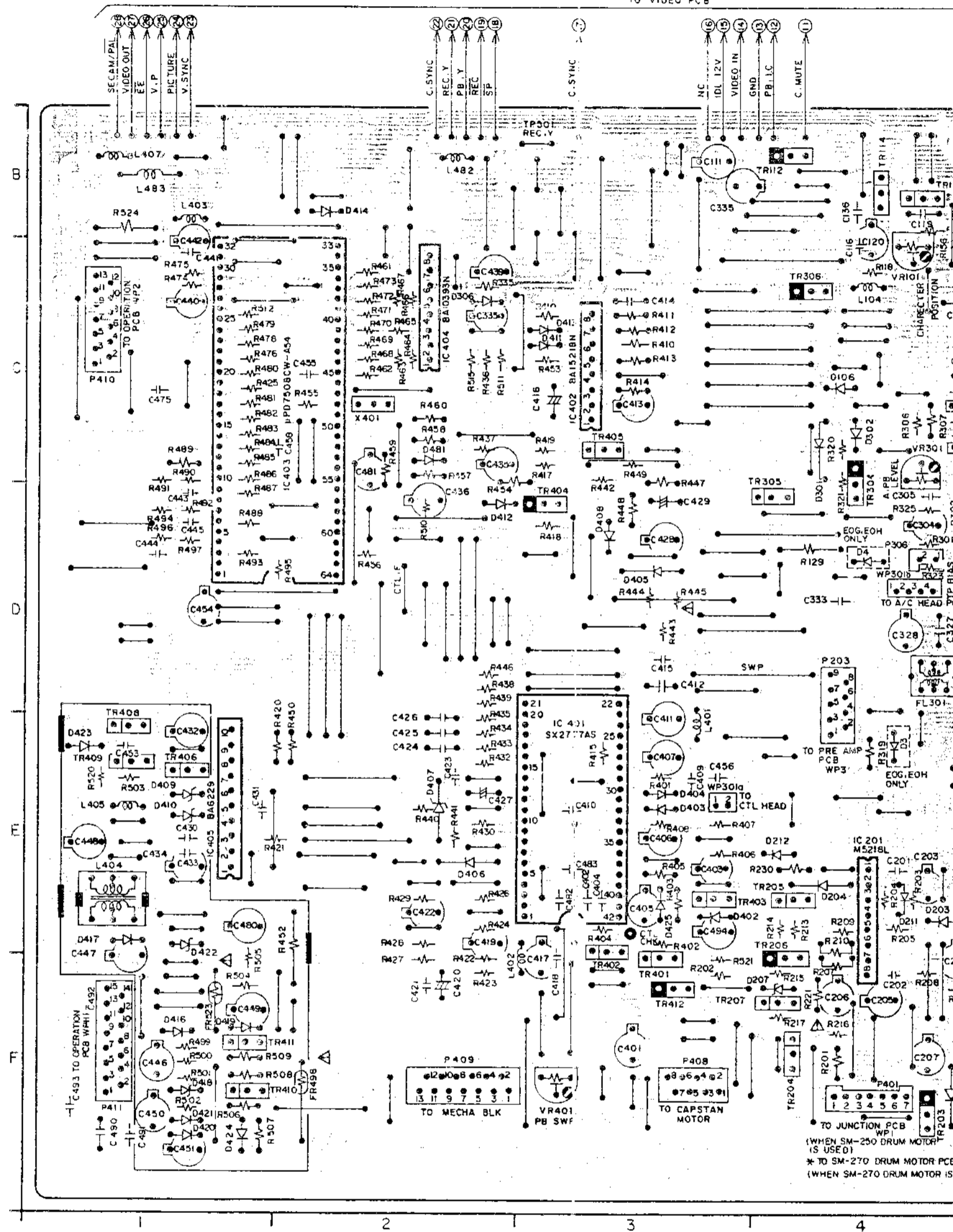


- - - - - : POWER SUPPLY (AL, IDL) LINE
 - - - - - : POWER SUPPLY (PS OR REC) LINE
 - - - - - : AUDIO IN (REC, E-E) SIGNAL LINE
 - - - - - : AUDIO OUT (PB, E-E) SIGNAL LINE
 - - - - - : VIDEO IN (REC, E-E) SIGNAL LINE
 - - - - - : VIDEO OUT (PB, E-E) SIGNAL LINE

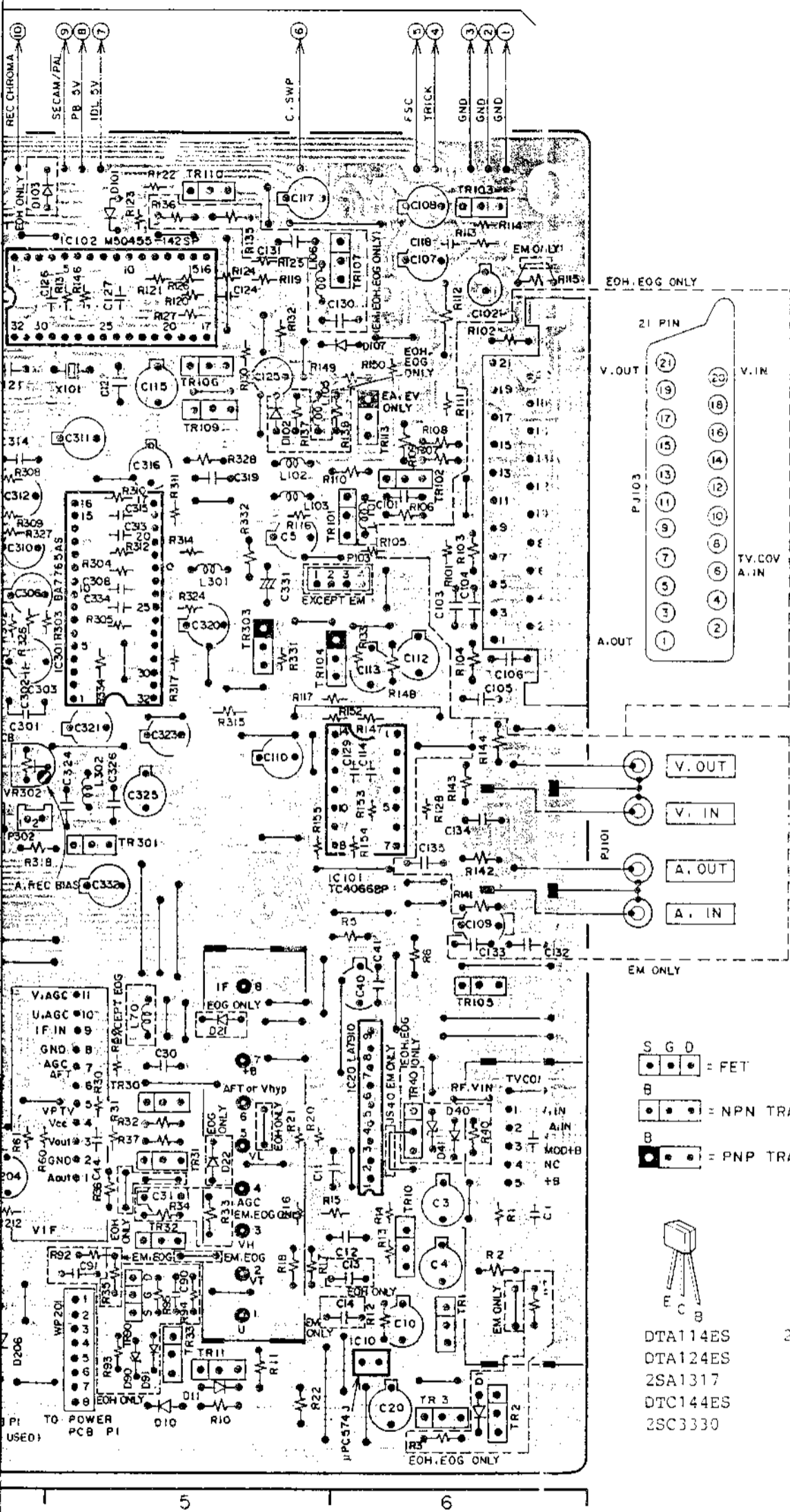
EXCEPT EK MODEL

NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS (1/8W) (1/4W)
 ALL CAPACITORS IN PF (50WV) (50V)
 ALL INDUCTORS IN MH (K)
 ALL DIODES ARE 1SS131T

TO VIDEO PCB



MAIN PCB V1102A501A (J1)

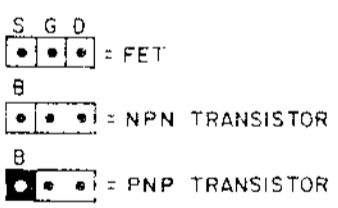


PRINCIPAL PARTS LOCATION

ICS		TRANSISTORS	
IC101.....	F16	TR1.....	F6
IC101.....	D6	TR2.....	F6
IC201.....	F4	TR3.....	F6
IC301.....	D5	TR10.....	F6
IC401.....	E3	TR11.....	F5
IC403.....	D1	TR30.....	E5
IC404.....	C2	TR32.....	F5
IC405.....	E1	TR33.....	E5
		TR40.....	E6
WP.....		TR90.....	F5
WP2.....	C1	TR101.....	C5,6
WP102.....	C6	TR102.....	C6
WP201.....	F5	TR103.....	B6
WP301a.....	E3	TR104.....	D5,6
WP301b.....	D4	TR105.....	E6
		TR107.....	B6
		TR110.....	B4
		TR111.....	B4
		TR112.....	B4
		TR113.....	C6
		TR114.....	B4
		TR203.....	F4
		TR205.....	E4
		TR206.....	E, F4
		TR207.....	F4
		TR301.....	D5
		TR303.....	D5
		TR304.....	D4
		TR305.....	D4
		TR306.....	C4
		TR401.....	F3
		TR402.....	E, F3
		TR403.....	E3
		TR404.....	D3
		TR405.....	C3
		TR406.....	E1
		TR407.....	C2
		TR408.....	E, D1
		TR409.....	E1
		TR410.....	F1
		TR411.....	F1
		TR412.....	F3

CONNECTORS

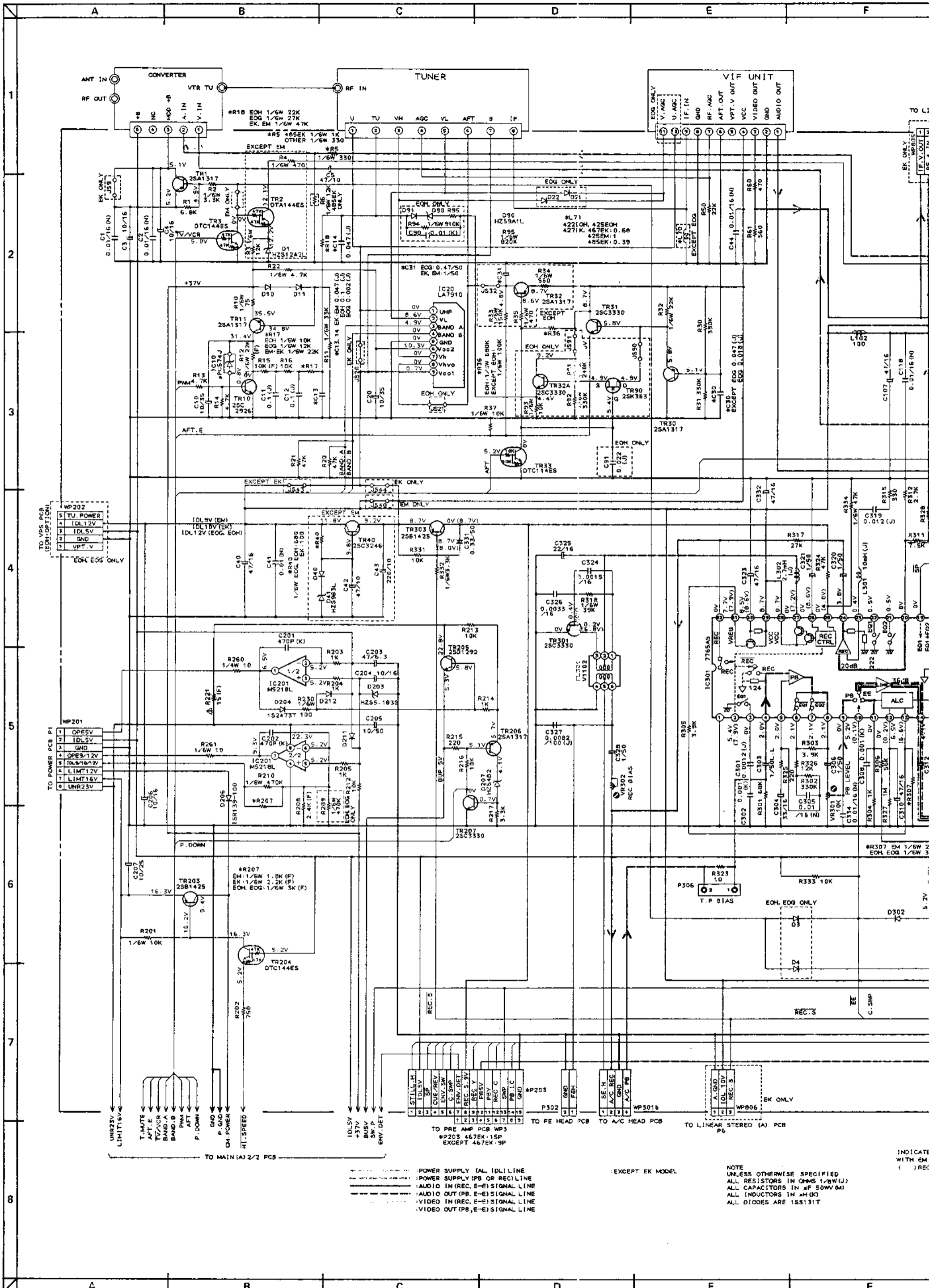
P103.....	C, D6
P105.....	C6
P106.....	C3
P203.....	E4
P302.....	E4
P306.....	D4
P401.....	F4
P408.....	F3
P409.....	F2
P410.....	C1
P411.....	F1



- DTA114ES
- DTA124ES
- 2SA1317
- DTC144ES
- 2SC3330

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.



TO VPS PCB
(OPTIONAL)

TO POWER PCB P1
(OPTIONAL)

TO MAIN (A) 2/2 PCB

TO PRE AMP PCB WP3
*P203 467EK-15P
EXCEPT 467EK-9P

TO FE HEAD PCB

TO A/C HEAD PCB

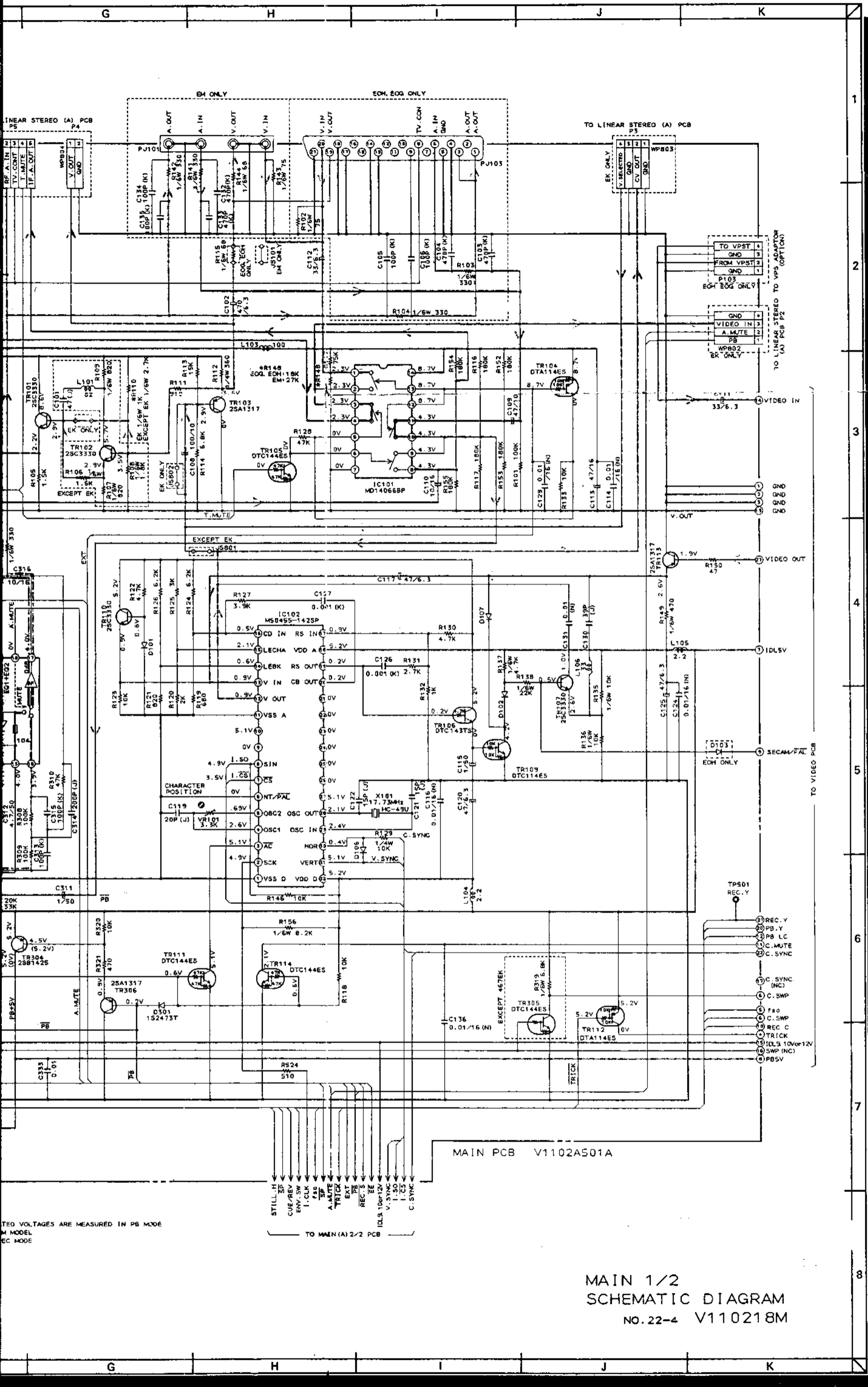
TO LINEAR STEREO (A) PCB
P6

--- POWER SUPPLY (AL, IDL) LINE
 - - - POWER SUPPLY (PB OR REC) LINE
 ... AUDIO IN (REC, E-E) SIGNAL LINE
 ... AUDIO OUT (PB, E-E) SIGNAL LINE
 ... VIDEO IN (REC, E-E) SIGNAL LINE
 ... VIDEO OUT (PB, E-E) SIGNAL LINE

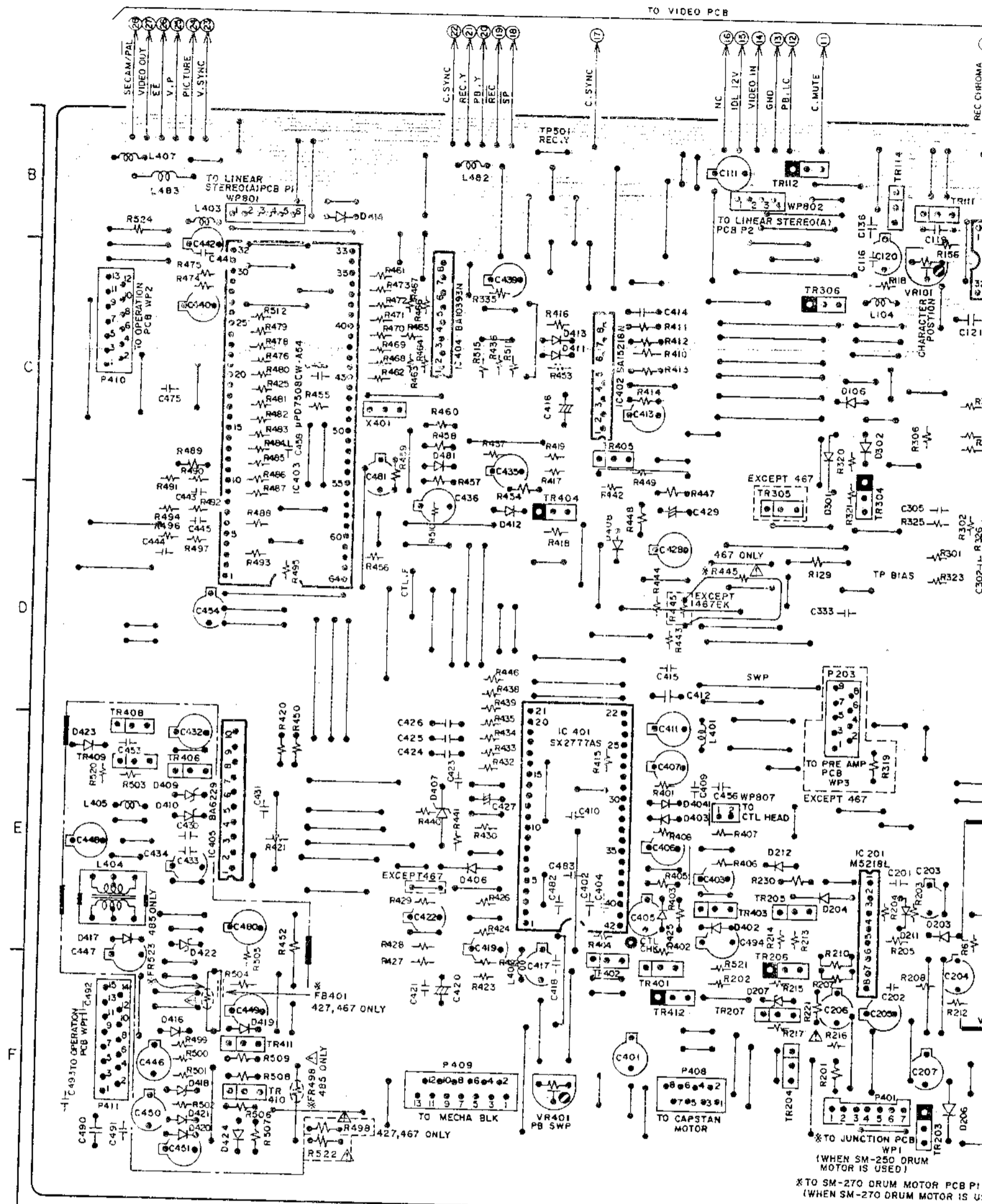
EXCEPT EK MODEL

NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS (1/8W) (J)
 ALL CAPACITORS IN µF (50WV) (M)
 ALL INDUCTORS IN µH (K)
 ALL DIODES ARE 1S5131T

INDICATE WITH EM () REC

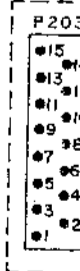


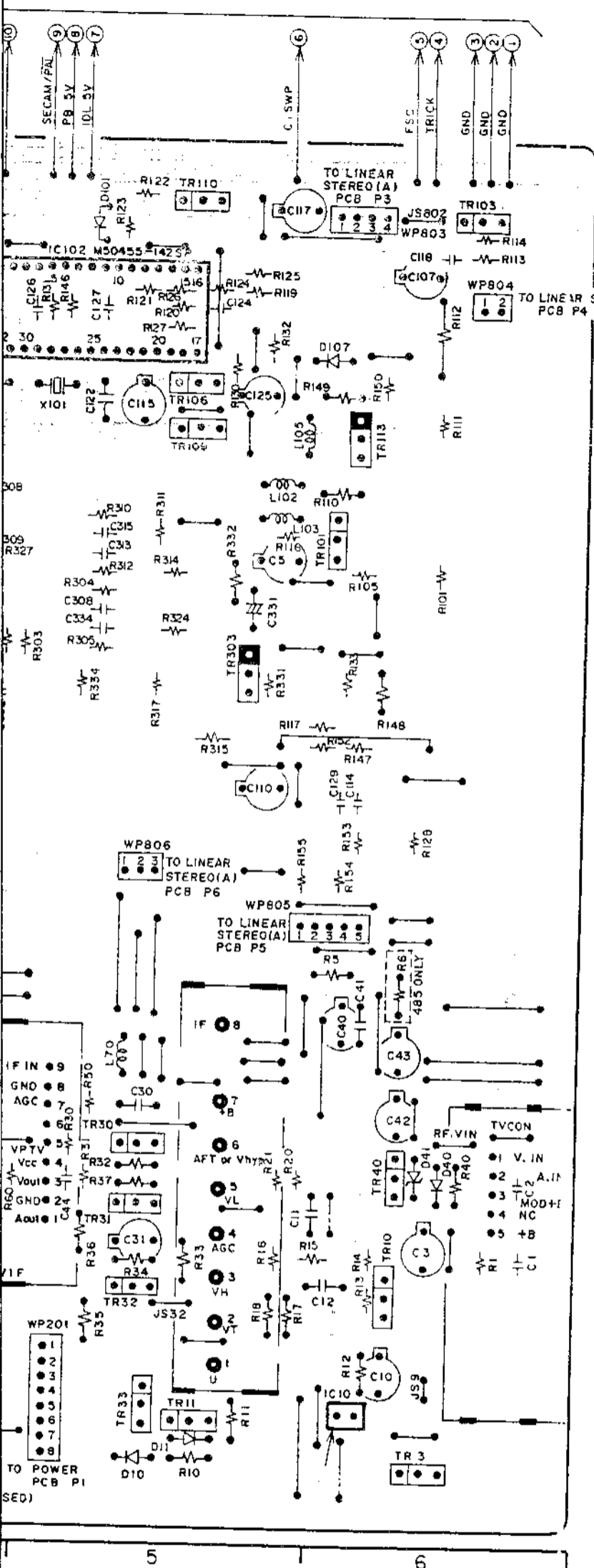
MAIN 1/2
SCHEMATIC DIAGRAM
NO. 22-4 V110218M



MAIN PCB VII02A501A (J1)

(V)



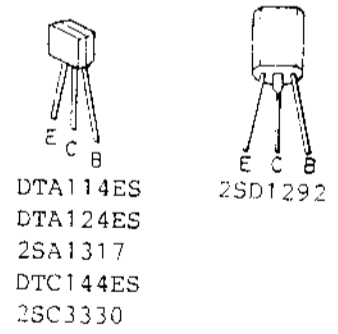
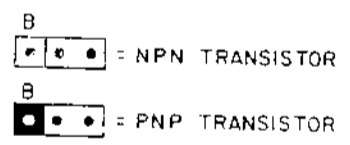


PRINCIPAL PARTS LOCATION

ICS		TRANSISTORS	
IC10.....	F16	TR3.....	F6
IC201.....	F4	TR10.....	F6
IC401.....	E3	TR11.....	F5
IC403.....	D1	TR30.....	E5
IC404.....	C2	TR32.....	F5
IC405.....	E1	TR33.....	E5
		TR40.....	E6
		TR90.....	F5
		TR101.....	C5, 6
		TR103.....	B6
		TR106.....	C5
		TR110.....	B4
		TR111.....	B4
		TR112.....	B4
		TR113.....	C6
		TR114.....	B4
		TR203.....	F4
		TR205.....	E4
		TR206.....	E, F4
		TR207.....	F4
		TR303.....	D5
		TR304.....	D4
		TR305.....	D4
		TR306.....	C4
		TR401.....	F3
		TR402.....	E, F3
		TR403.....	E3
		TR404.....	D3
		TR405.....	C3
		TR406.....	E1
		TR407.....	C2
		TR408.....	E, D1
		TR409.....	E1
		TR410.....	F1
		TR411.....	F1
		TR412.....	F3

CONNECTORS

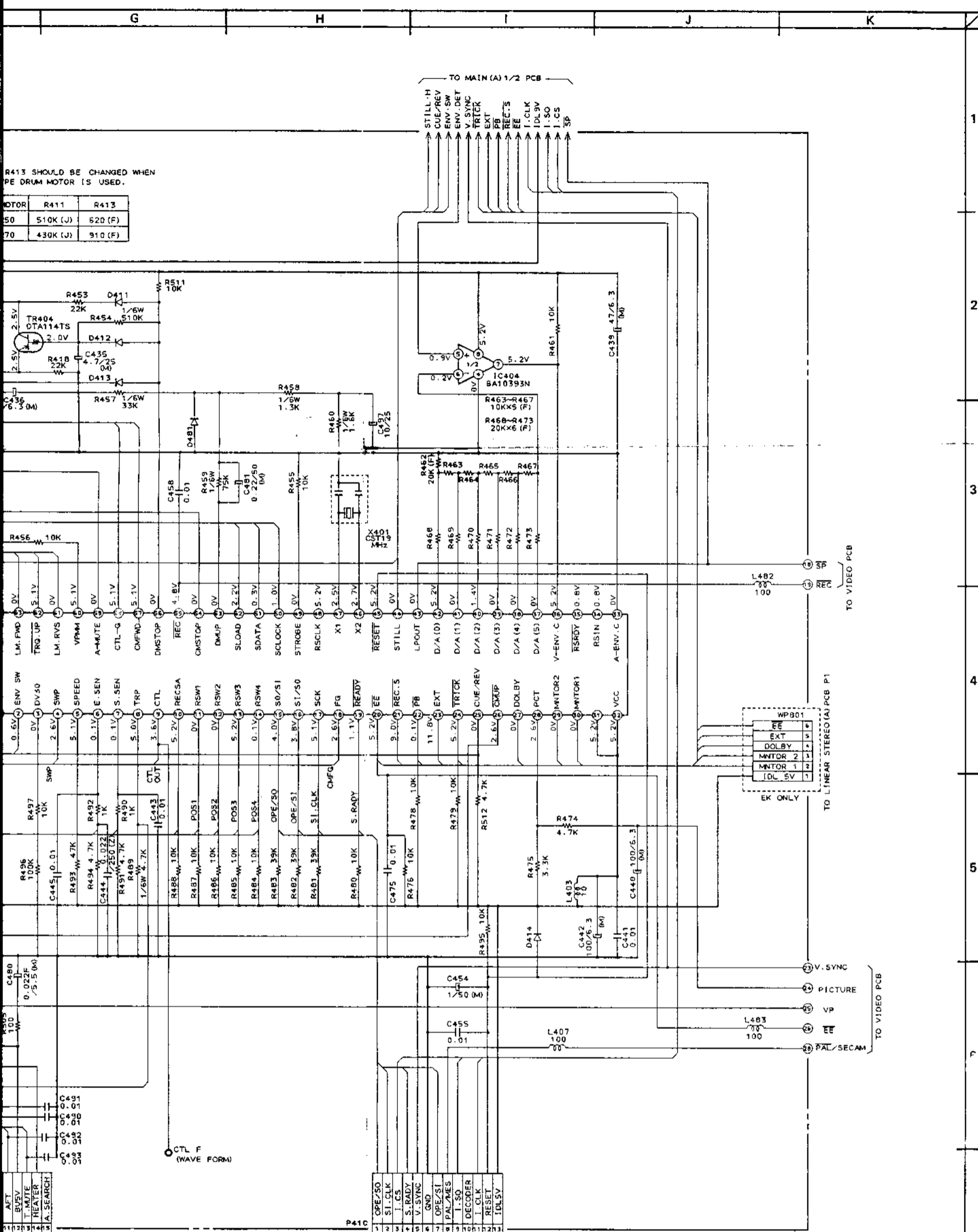
P105.....	C6
P106.....	C3
P203.....	E4
P401.....	F4
P408.....	F3
P409.....	F2
P410.....	C1
P411.....	F1



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

AVERTISSEMENT INDIQUE LES COMPOSANTS CRITIQUES DE SECURITE POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL. NE REMPLACER QUE DES PIECES RECOMMANDEES PAR LE FABRICANT

467EK ONLY
TO PRE AMP(2) PCB
WPI

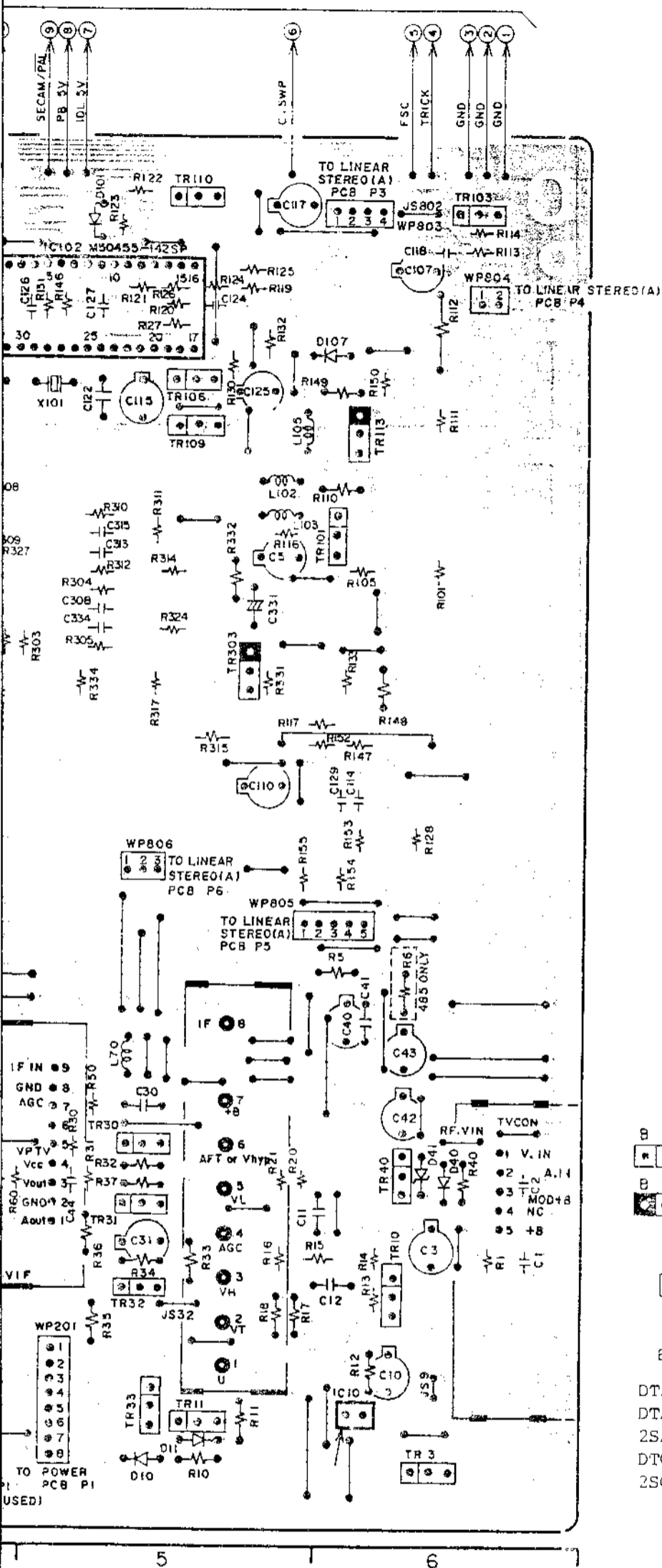


WARNING: ⚠ AND ⚡ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ ET ⚡ ILS INDICENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

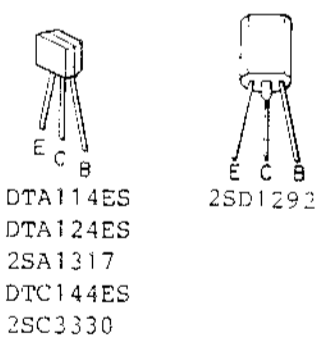
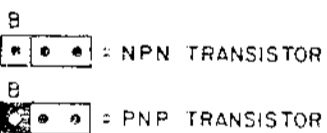
MAIN 2/2 (SERVO/SYSCON)
SCHEMATIC DIAGRAM
NO. 22-5 V110219M

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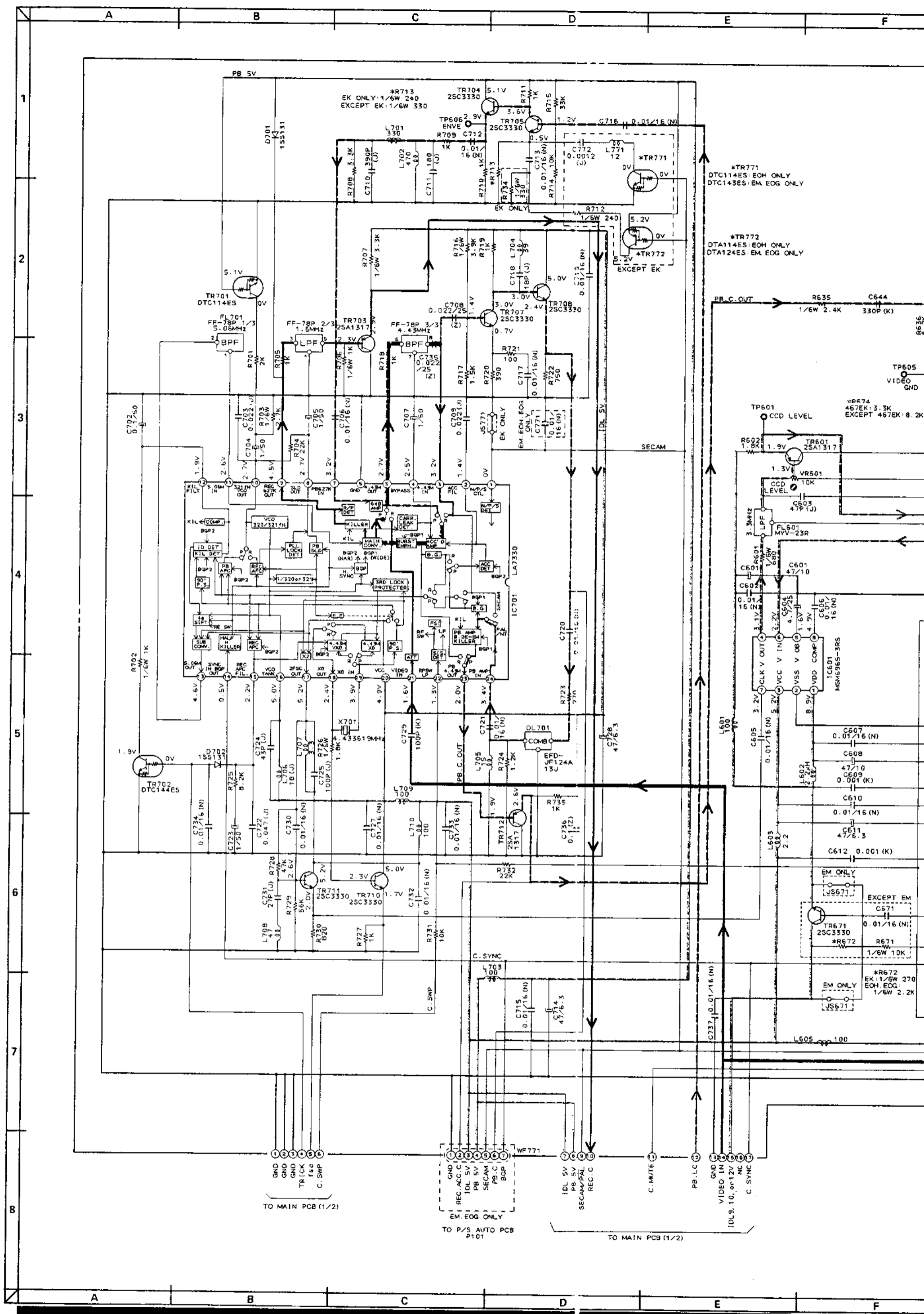
PRINCIPAL PARTS LOCATION

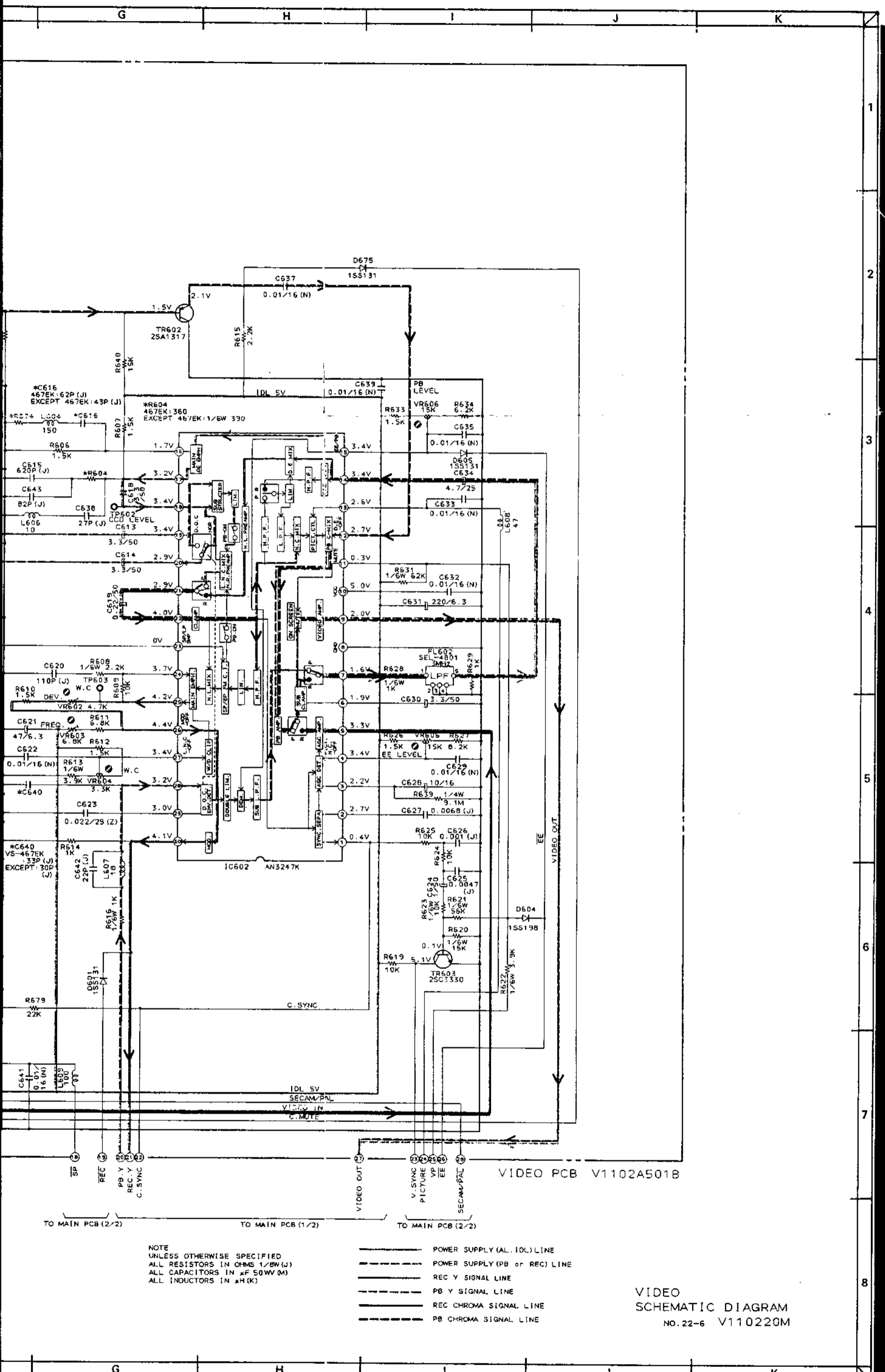
ICS	TRANSISTORS
IC10.....F16	TR3.....F6
IC201.....F4	TR10.....F6
IC401.....E3	TR11.....F5
IC403.....D1	TR30.....E5
IC404.....C2	TR32.....F5
IC405.....E1	TR33.....E5
	TR40.....E6
WP	TR90.....F5
WP2.....C1	TR101.....C5,6
WP102.....C6	TR103.....B6
WP201.....F5	TR106.....C5
WP801.....B1	TR110.....B4
WP802.....B3,4	TR111.....B4
WP803.....B6	TR112.....B4
WP804.....B,C6	TR113.....C6
WP805.....E5,6	TR114.....B4
WP806.....D5	TR203.....F4
WP807.....E3	TR205.....E4
	TR206.....E,F4
	TR207.....F4
CONNECTORS	TR303.....D5
P105.....C6	TR304.....D4
P106.....C3	TR305.....D4
P203.....E4	TR306.....C4
P401.....F4	TR401.....F3
P408.....F3	TR402.....E,F3
P409.....F2	TR403.....E3
P410.....C1	TR404.....D3
P411.....F1	TR405.....C3
	TR406.....E1
	TR407.....C2
	TR408.....E,D1
	TR409.....E1
	TR410.....F1
	TR411.....F1
	TR412.....F3



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.





NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS 1/50W(J)
 ALL CAPACITORS IN μF 50W(M)
 ALL INDUCTORS IN μH(K)

- POWER SUPPLY (AL. IDL) LINE
- POWER SUPPLY (PB or REC) LINE
- REC Y SIGNAL LINE
- PB Y SIGNAL LINE
- REC CHROMA SIGNAL LINE
- PB CHROMA SIGNAL LINE

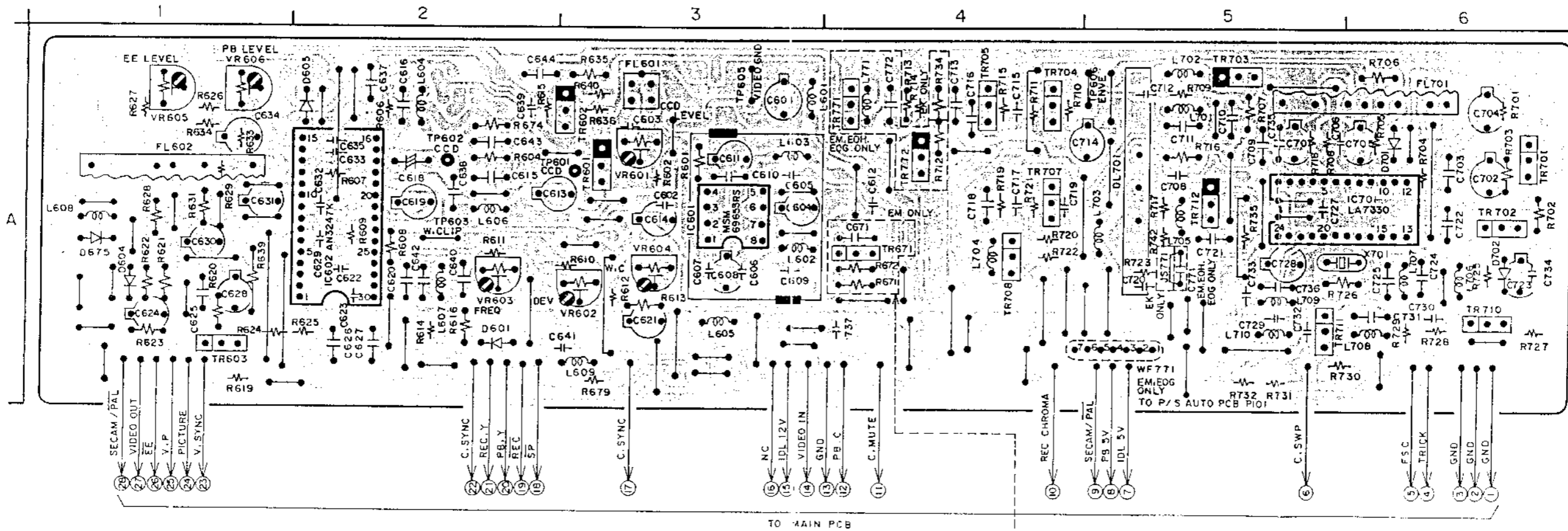
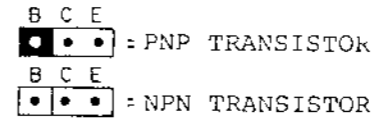
VIDEO
 SCHEMATIC DIAGRAM
 NO. 22-6 V110220M

LOCATION OF COMPONENTS

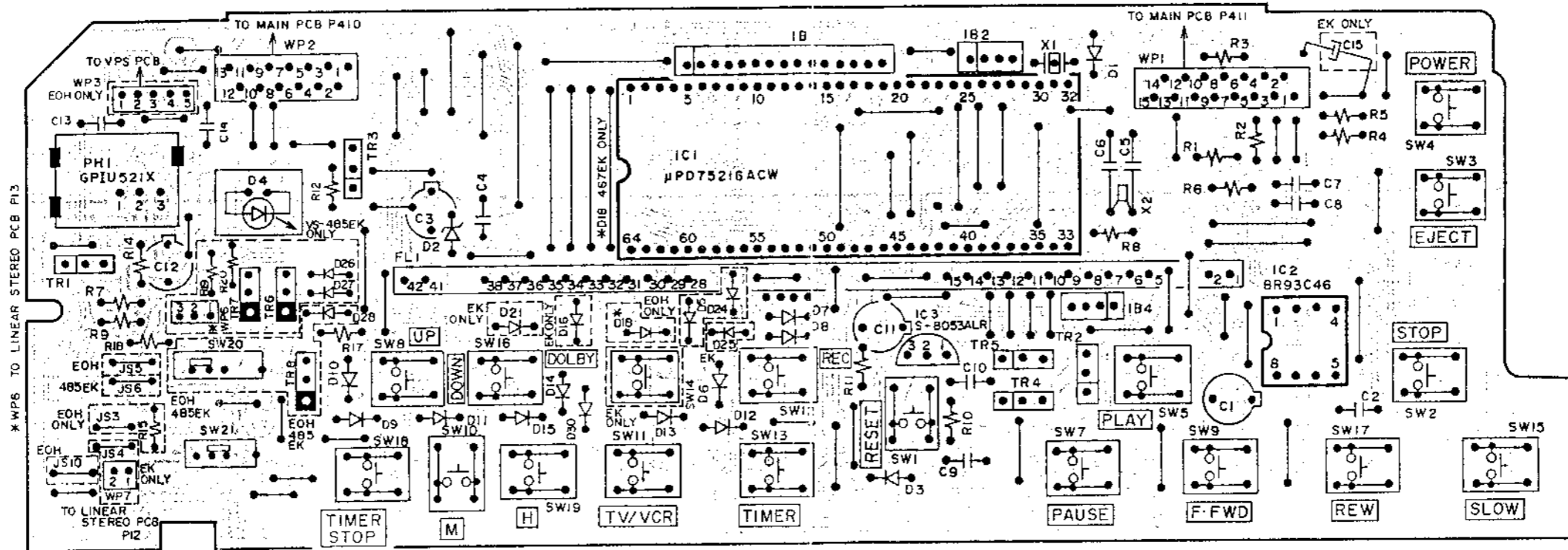
ICS	TRANSISTORS
IC601.....A3	TR601.....A3
IC602.....A2	TR602.....A2,3
IC701.....A5,6	TR603.....A1
WIRE	TR671.....A4
WF771.....A4,5	TR701.....A6
(EM,EOG ONLY)	TR702.....A6
	TR703.....A5
	TR704.....A4
	TR705.....A4
	TR707.....A4
	TR708.....A4
	TR710.....A6
	TR711.....A5
	TR712.....A5
	TR771.....A4
	TR772.....A4



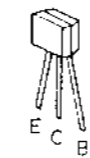
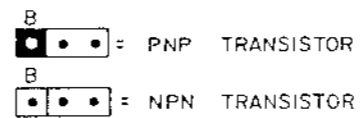
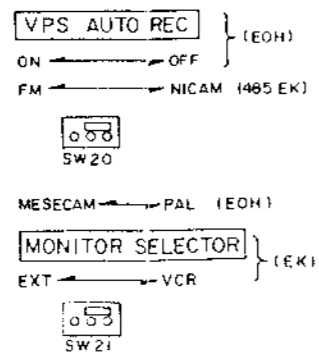
- DTA124ES
- DTC114ES
- DTC143ES
- DTC144ES
- 2SA1317
- 2SC3330



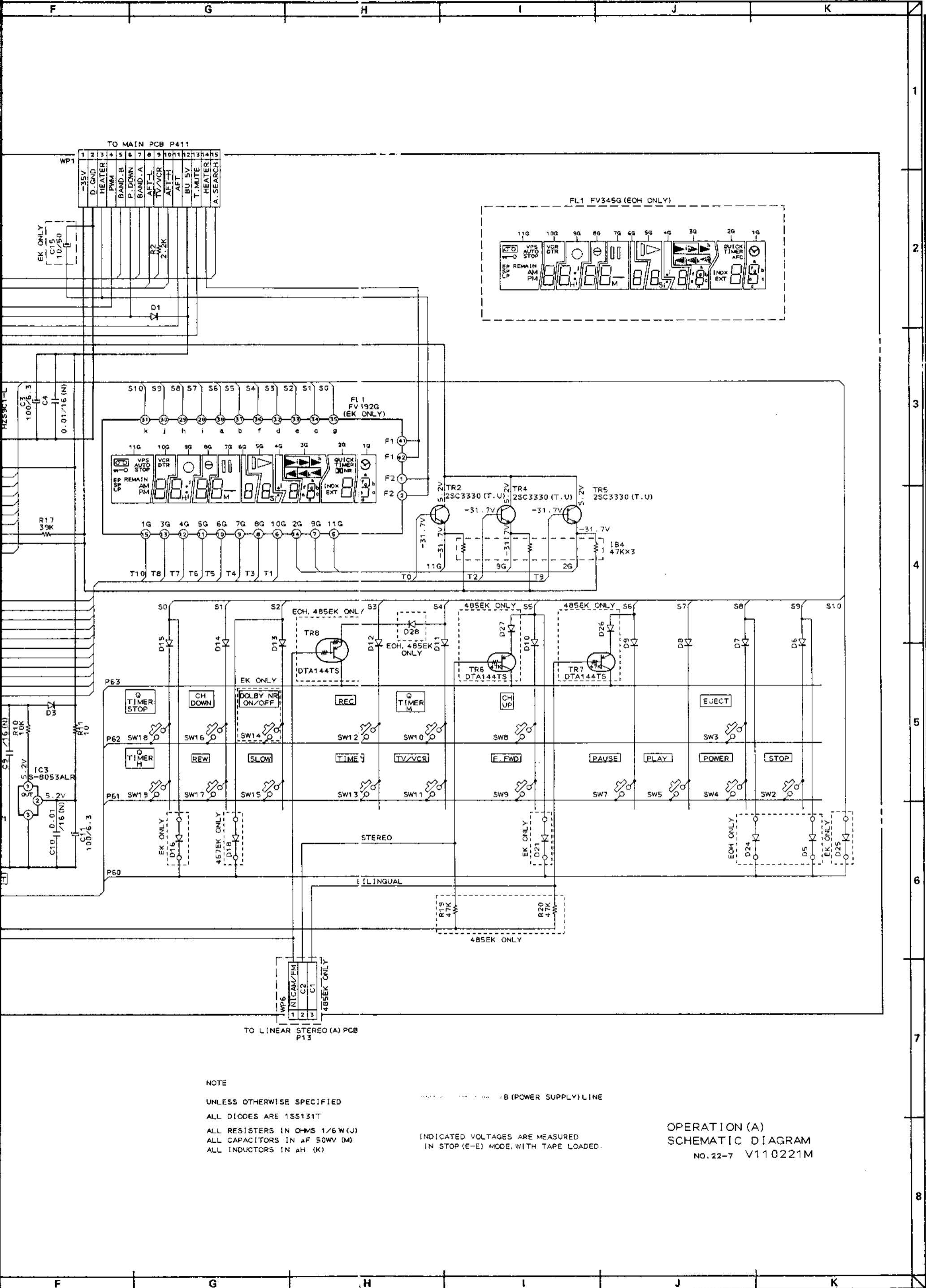
VIDEO PCB VII02A501B (JI)



OPERATION (A) PCB VII02B5040



2SC3330
DTC114ES
DTA144TS



TO MAIN PCB P411

FL1 FV345G (EOH ONLY)

FL2 FV192G (EK ONLY)

TO LINEAR STEREO (A) PCB P13

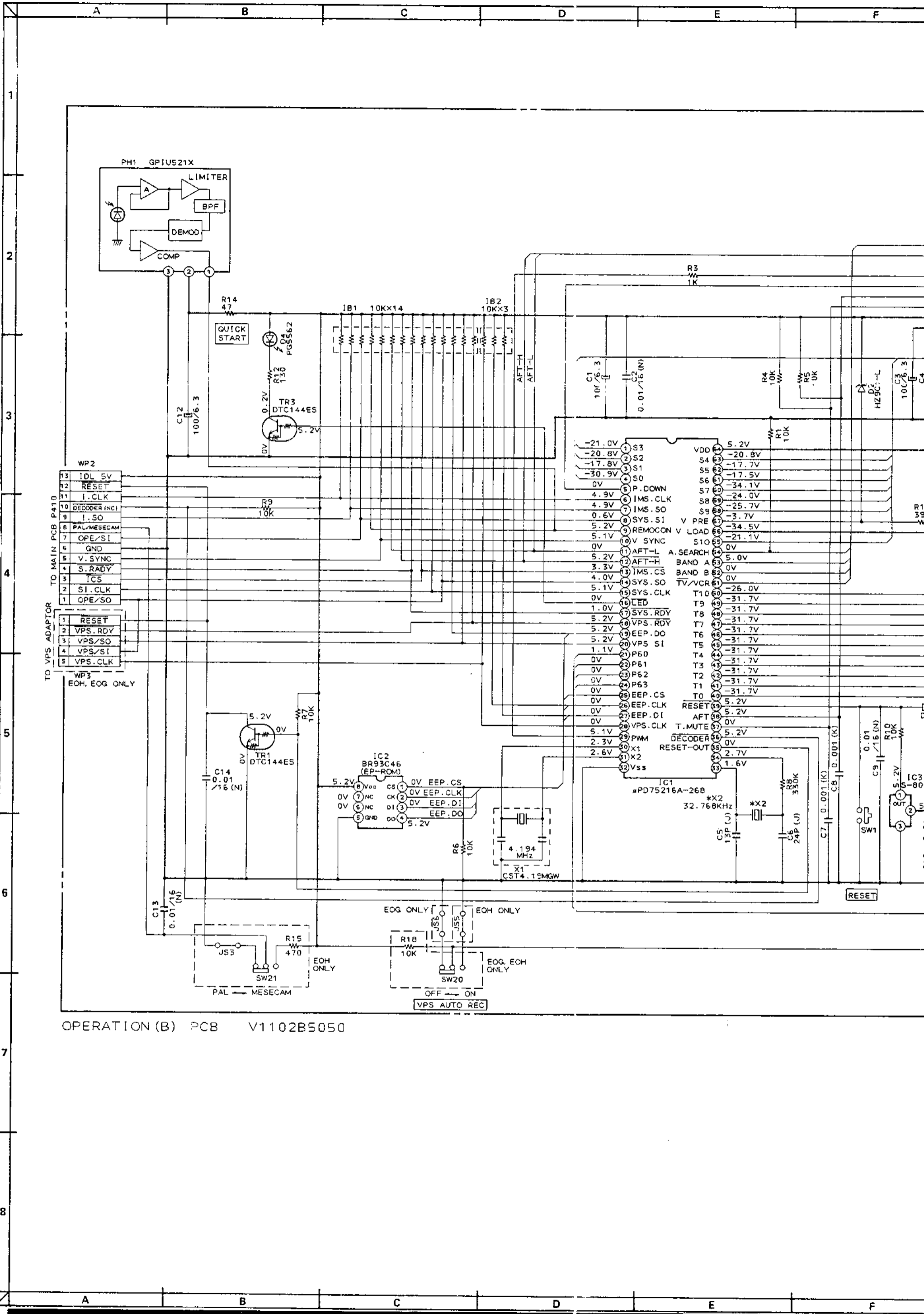
NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL DIODES ARE 1SS131T
 ALL RESISTORS IN OHMS 1/6W (J)
 ALL CAPACITORS IN μ F 50WV (M)
 ALL INDUCTORS IN μ H (K)

TO POWER SUPPLY LINE

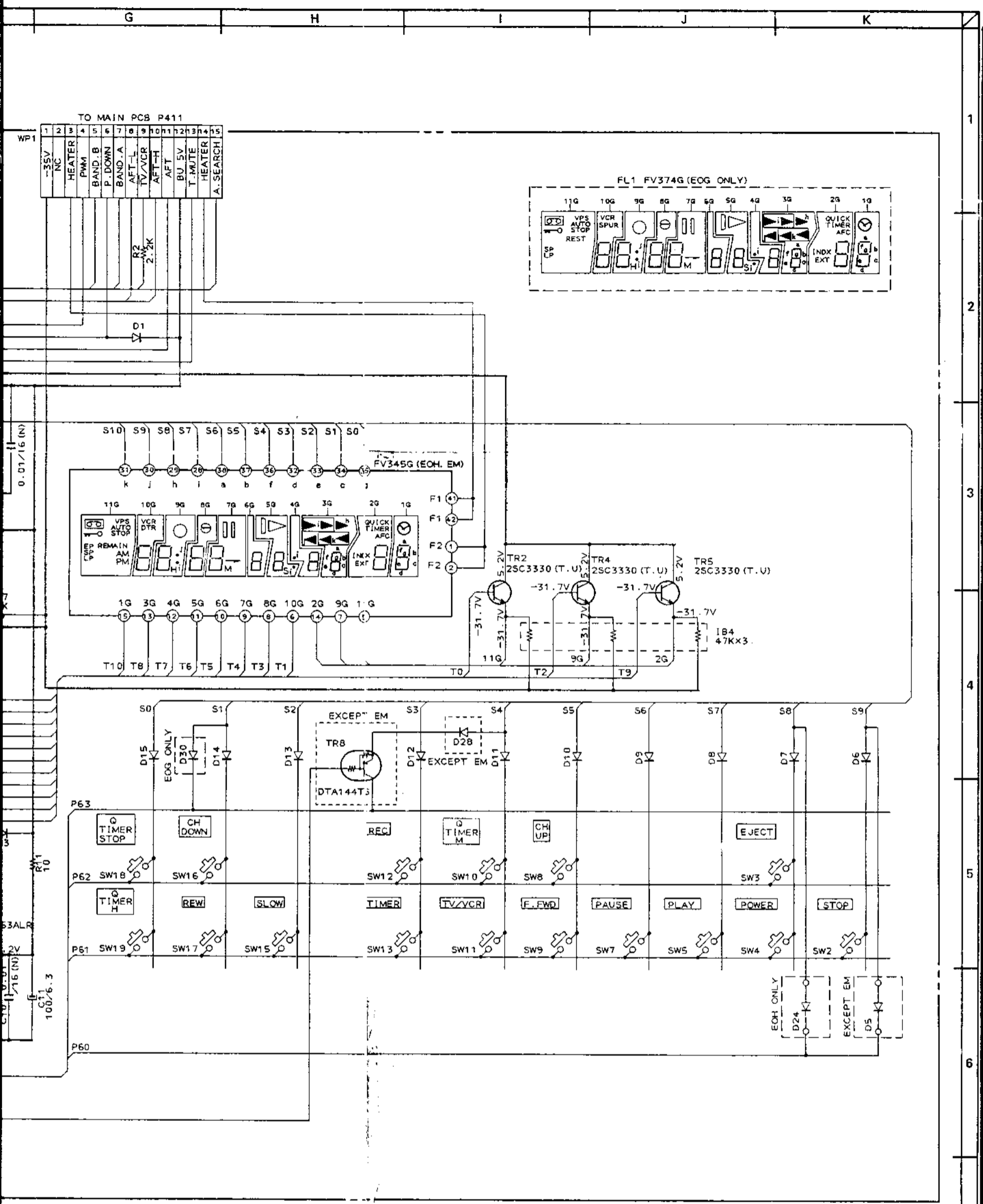
INDICATED VOLTAGES ARE MEASURED
 IN STOP (E-E) MODE, WITH TAPE LOADED.

OPERATION (A)
 SCHEMATIC DIAGRAM
 NO. 22-7 V110221M

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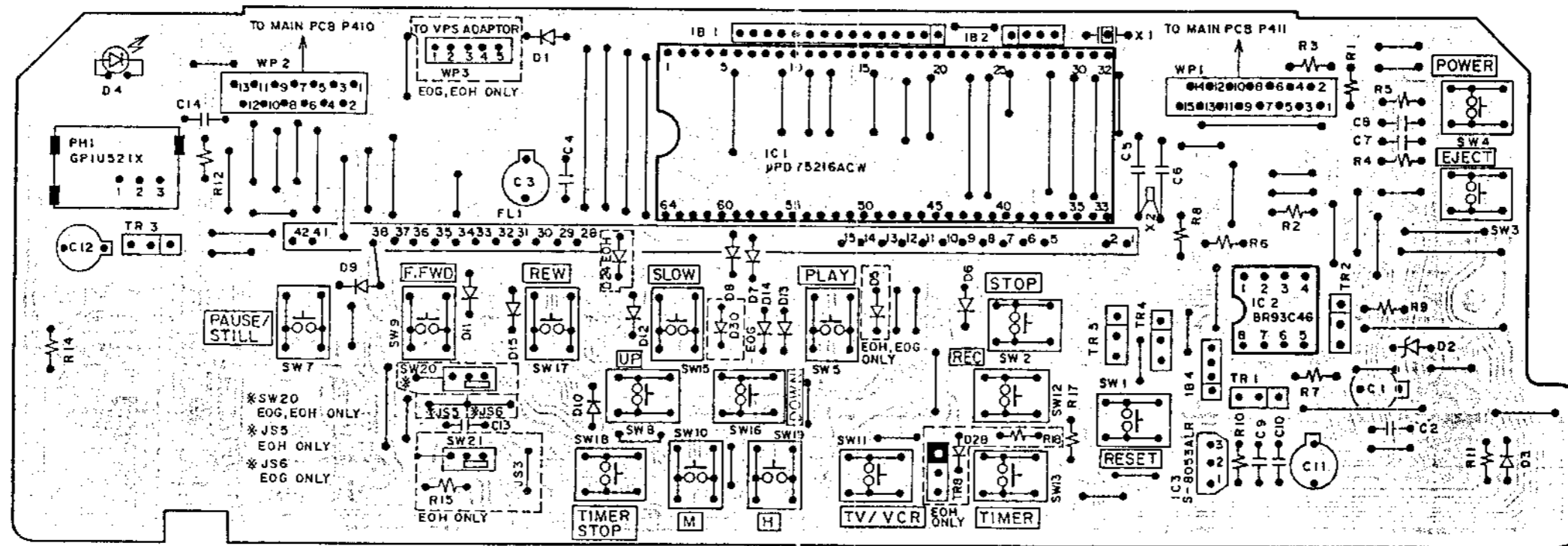
OPERATION (B) PCB V1102B5050



NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL DIODES ARE 1SS131T
 ALL RESISTORS IN OHMS 1/8 W.(J)
 ALL CAPACITORS IN μ F 50WV (M)
 ALL INDUCTORS IN μ H (K)

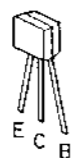
— 18 (POWER SUPPLY) LINE
 INDICATED VOLTAGES ARE MEASURED
 IN STOP (E-E) MODE, WITH TAPE LOADED.

OPERATION (B)
 SCHEMATIC DIAGRAM
 NO.22-8 V110222M



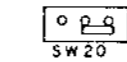
OPERATION (B) PCB VII02B5050 (J1)

B
 = NPN TRANSISTOR

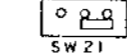


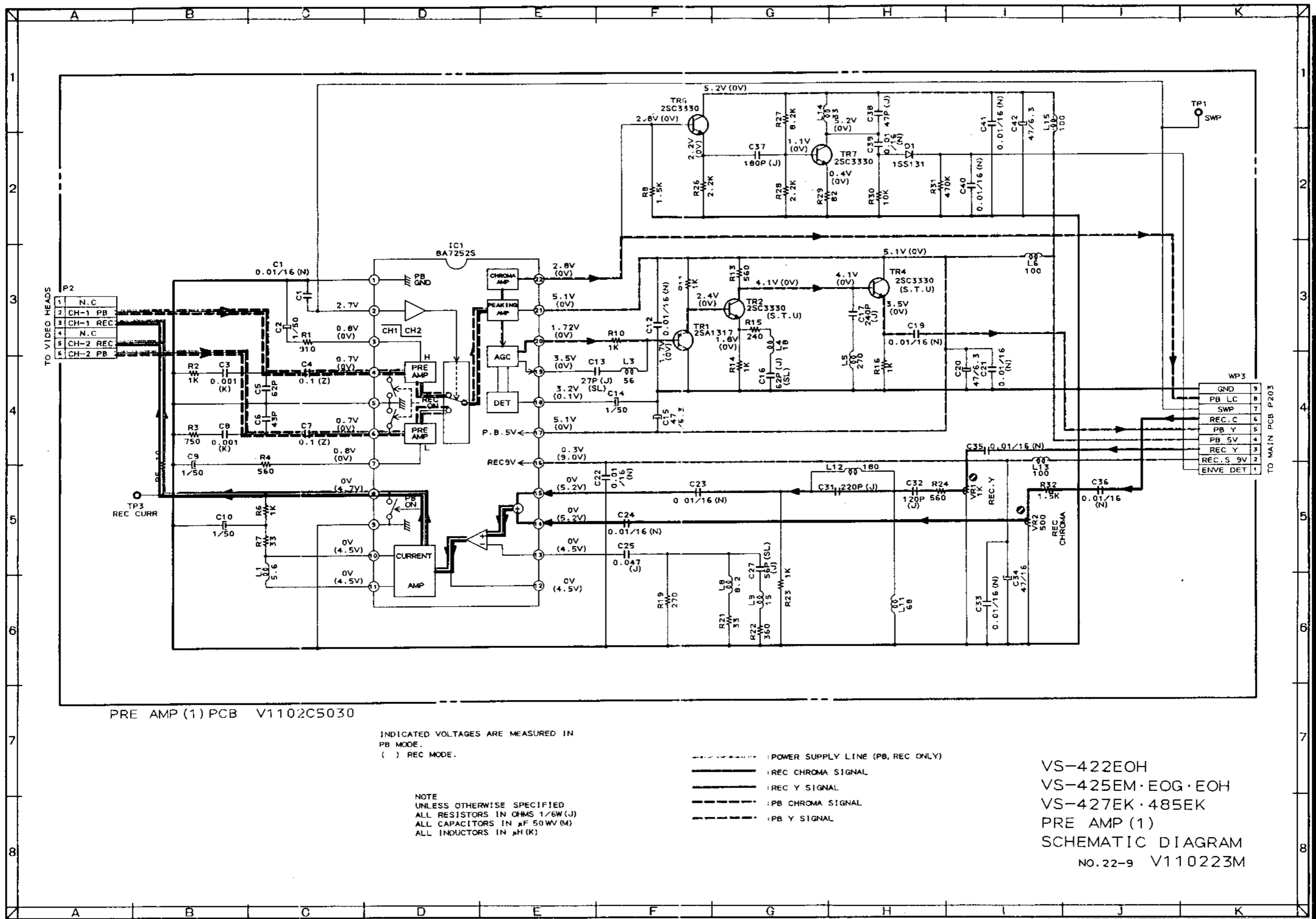
2SC3330
 DTC114ES
 DTA144TS

VPS AUTO REC
 ON OFF (EOH)
 OFF ON (EOG)



MESECAM PAL





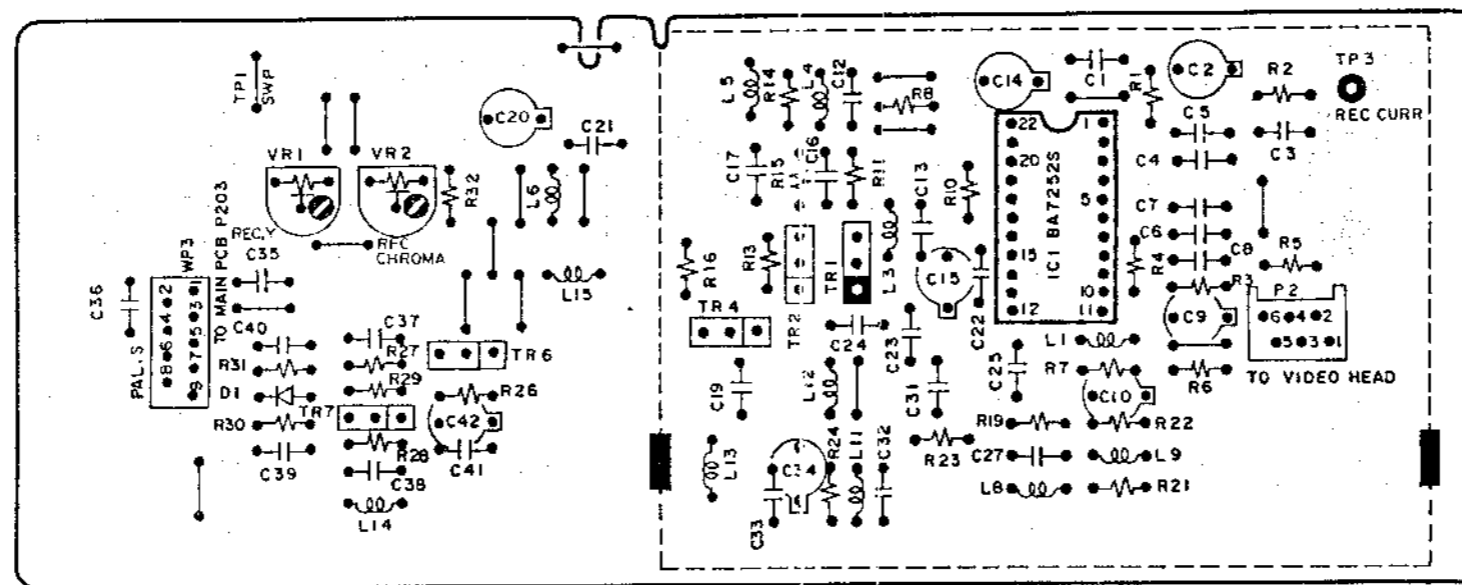
PRE AMP (1) PCB V1102C5030

INDICATED VOLTAGES ARE MEASURED IN
PB MODE.
() REC MODE.

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/5W(J)
ALL CAPACITORS IN μ F 50WV(M)
ALL INDUCTORS IN μ H(K)

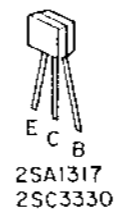
- POWER SUPPLY LINE (PB, REC ONLY)
- REC CHROMA SIGNAL
- REC Y SIGNAL
- PB CHROMA SIGNAL
- PB Y SIGNAL

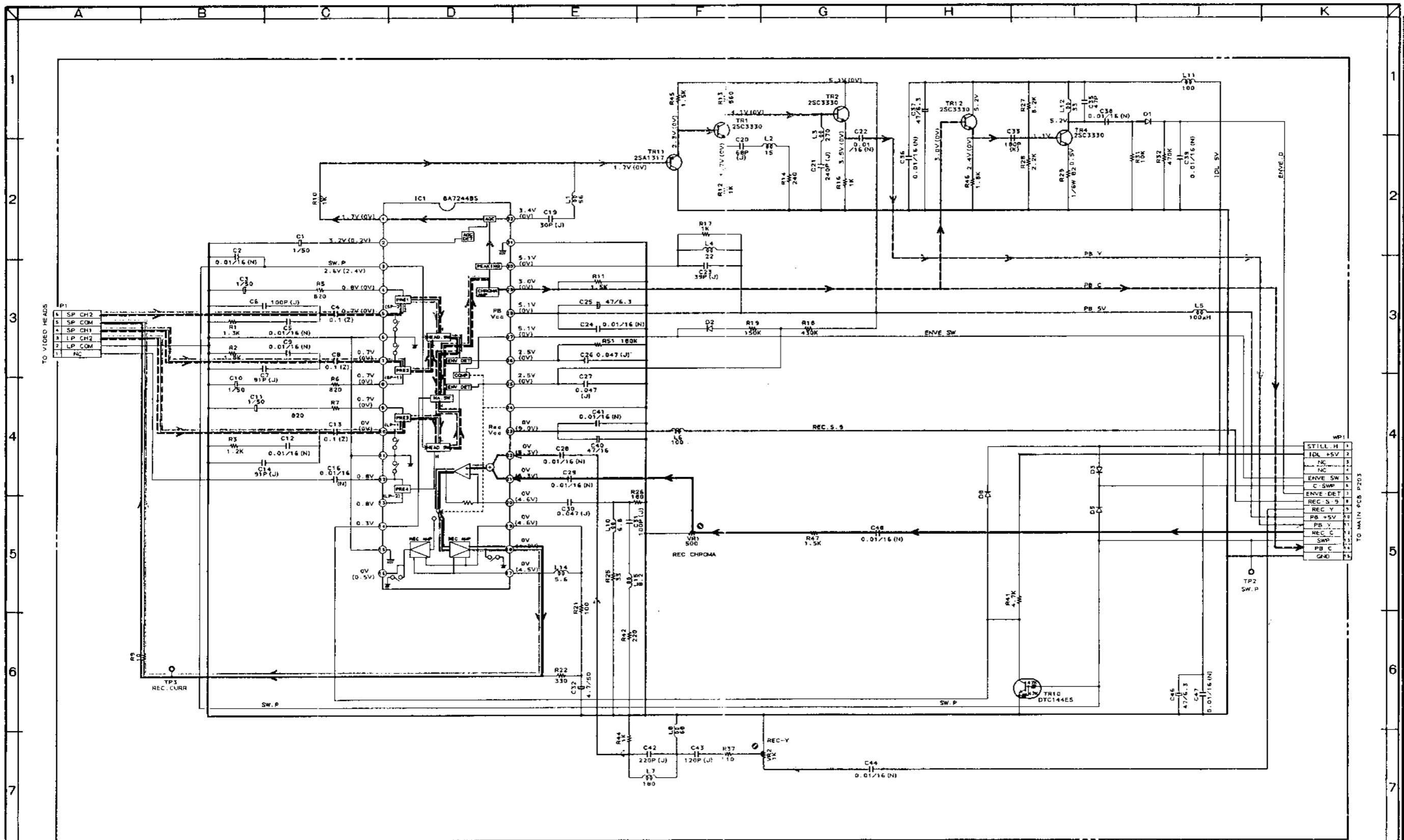
VS-422EOH
VS-425EM·EOG·EOH
VS-427EK·485EK
PRE AMP (1)
SCHEMATIC DIAGRAM
NO.22-9 V110223M



PRE AMP (I) PCB VII02C5030J2

- B = NPN TRANSISTOR
- B = PNP TRANSISTOR



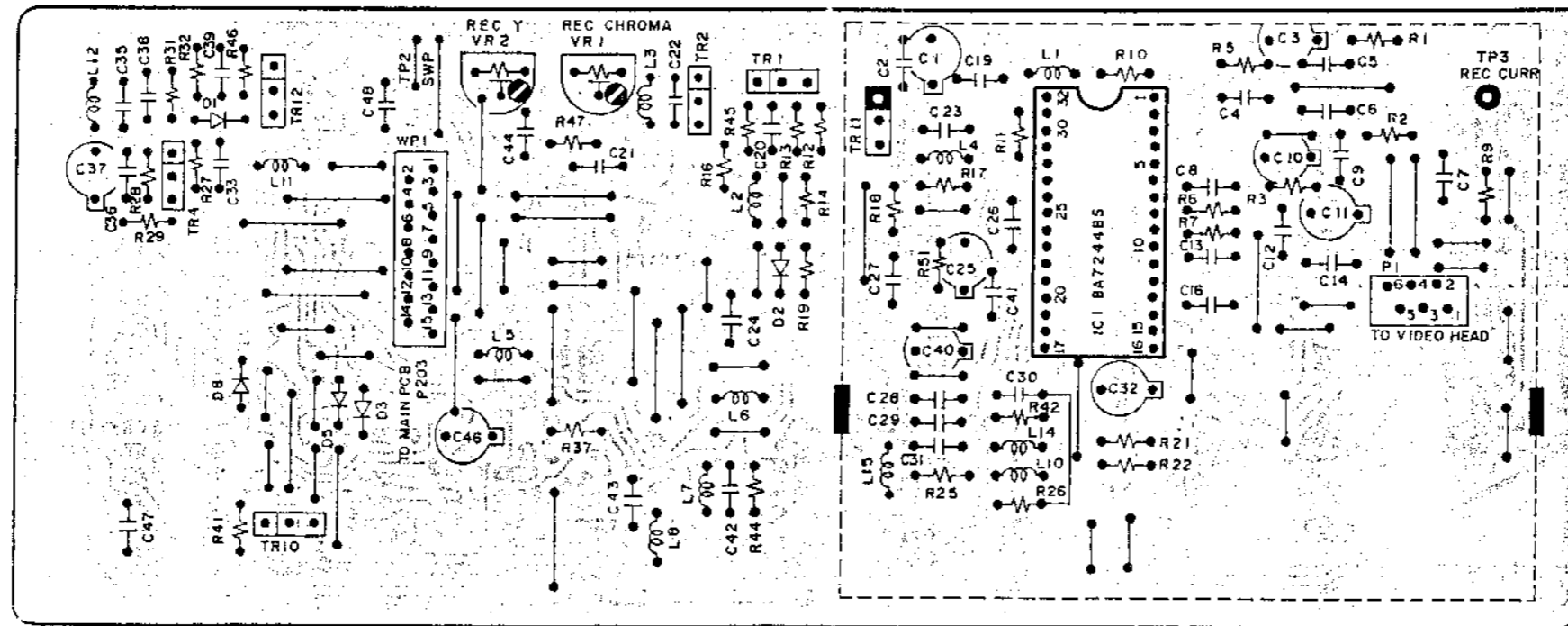


PREAMP (2) PCB V1102C5150

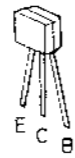
- POWER SUPPLY LINE (AL, IDL)
- POWER SUPPLY LINE (PB OR REC ONLY)
- PB Y SIGNAL LINE
- REC Y SIGNAL LINE
- PB CHROMA SIGNAL LINE
- REC CHROMA SIGNAL LINE

NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS (1/5W/04)
 ALL CAPACITORS IN μF (50WV/04)
 ALL INDUCTORS IN μH (K)
 ALL DIODES ARE 1S5131-77
 INDICATED VOLTAGES ARE MEASURED IN PB MODE
 () REC MODE.

SCHMATIC DIAGRAM
 NO. 22-10 V110224M



PRE AMP(2) PCB VII02C5I50 (J1)

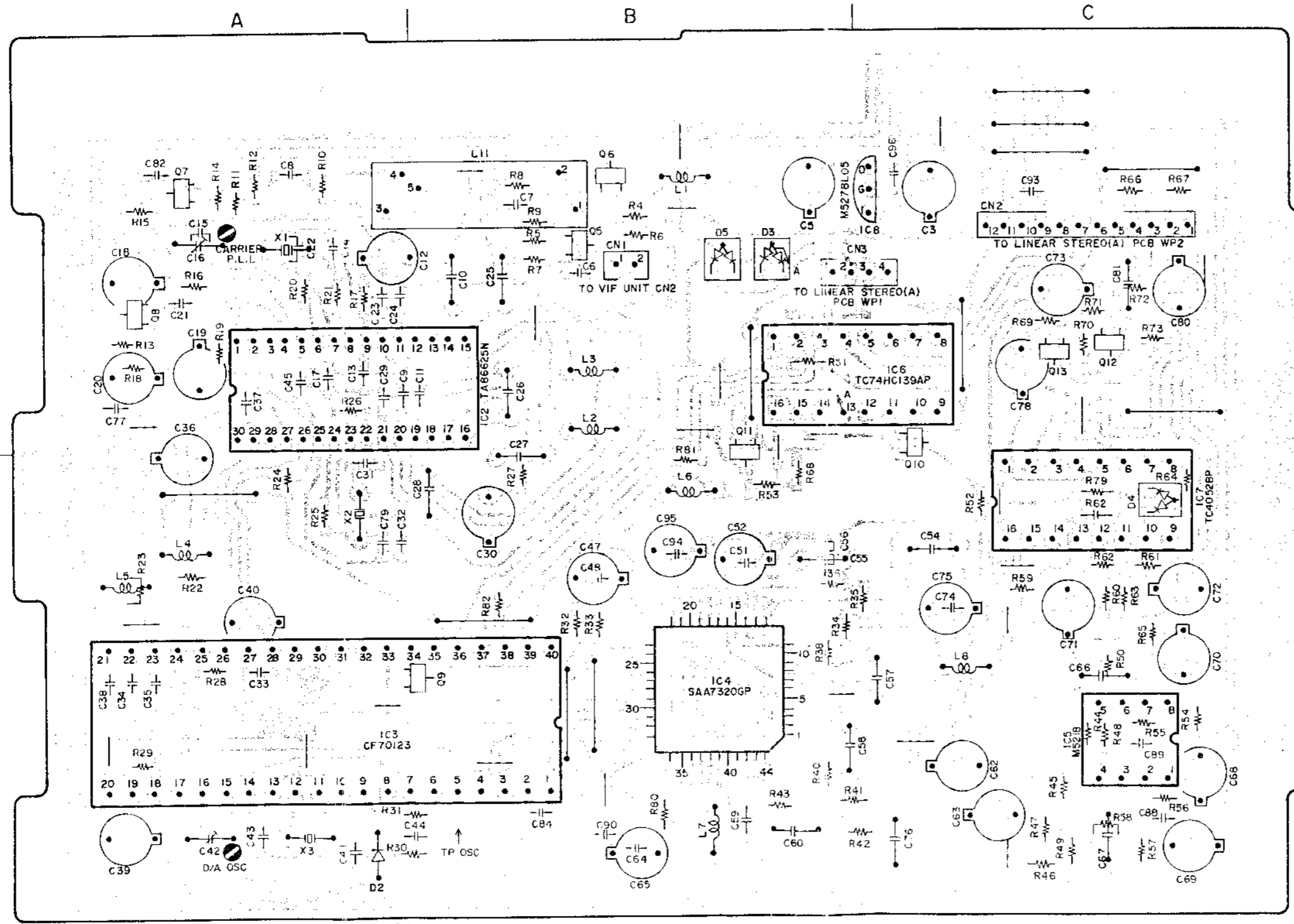


- 2SA1317
- 2SC3330
- DTC114ES
- DTC144ES

- | | | |
|---|---|---|
| B | C | E |
| • | • | • |

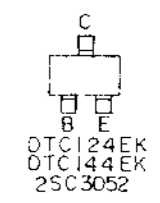
 = NPN TRANSISTOR
- | | | |
|---|---|---|
| B | C | E |
| • | • | • |

 = PNP TRANSISTOR

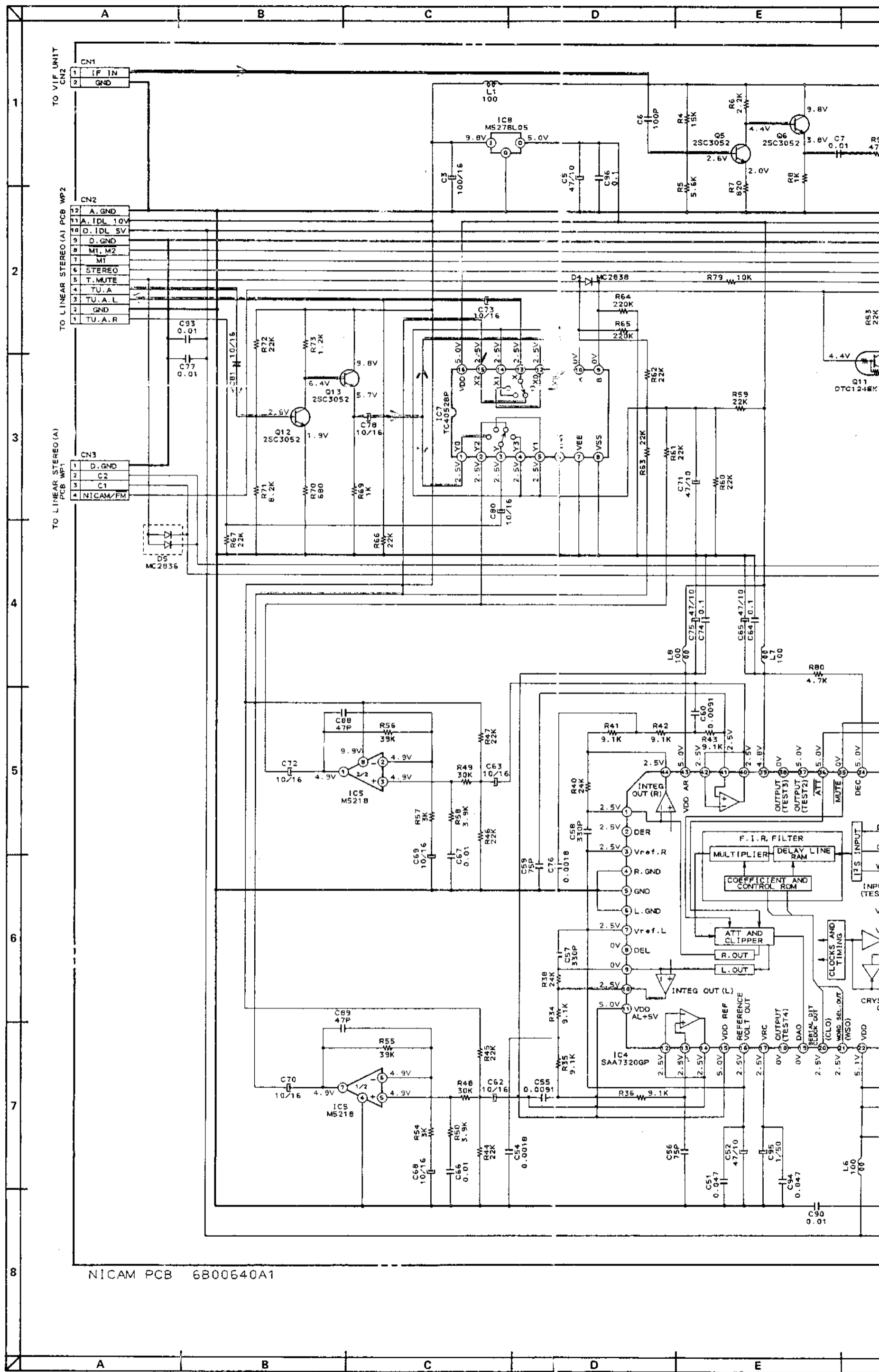


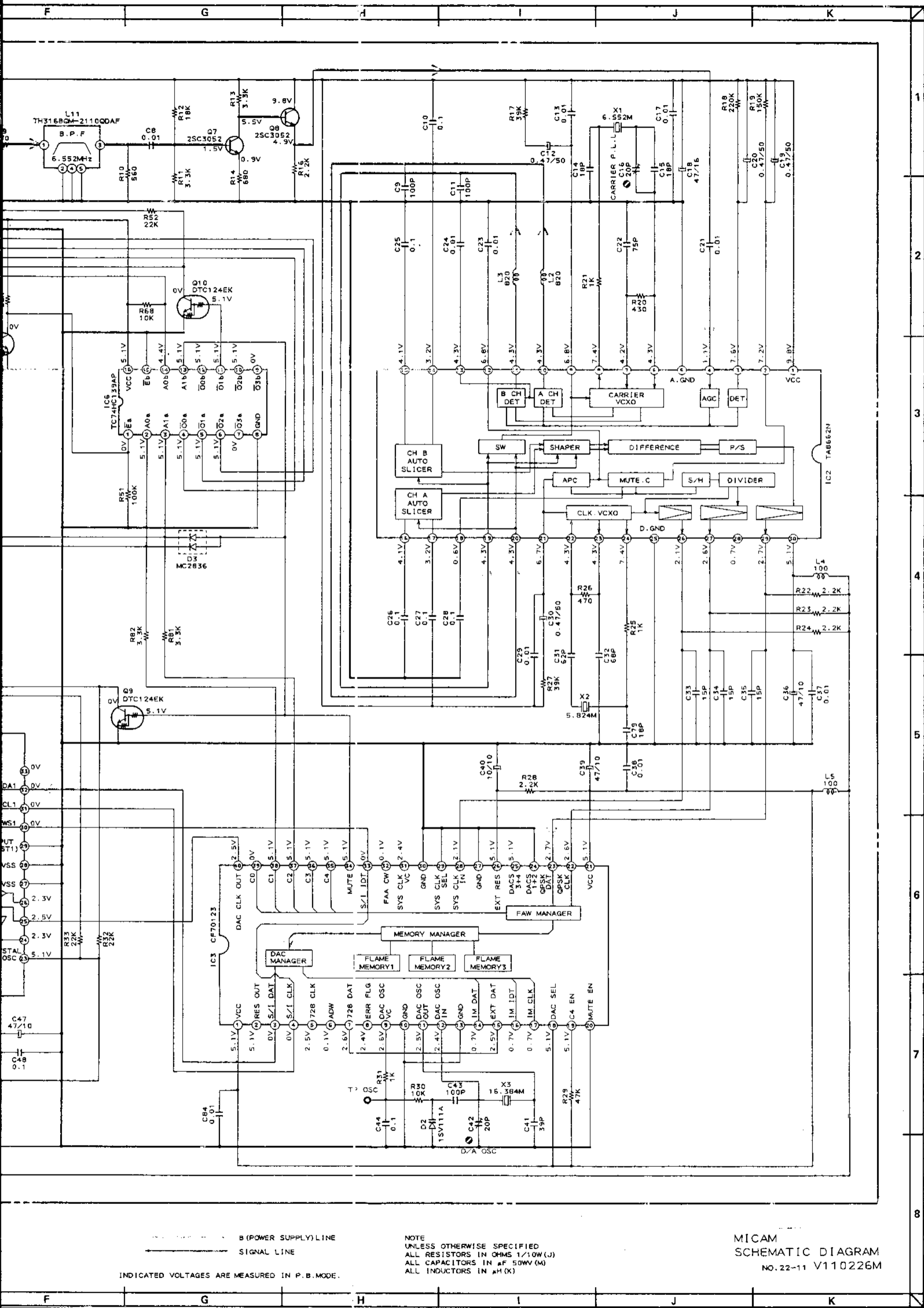
NICAM PCB 6B00640A1

- LOCATION OF COMPONENTS
- ICS
 IC2.....A,B1
 IC3.....A,B2
 IC4.....B2
 IC5.....C2
 IC6.....B,C1
 IC7.....C2
- TRANSISTORS
 Q5.....B1
 Q6.....B1
 Q7.....A1
 Q8.....A1
 Q9.....A2
 Q10.....C1
 Q11.....B1
 Q12.....C1
 Q13.....C1
- CONNECTORS
 CN1.....B1
 CN2.....C2
 CN3.....B,C1



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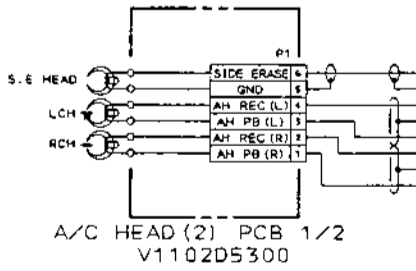
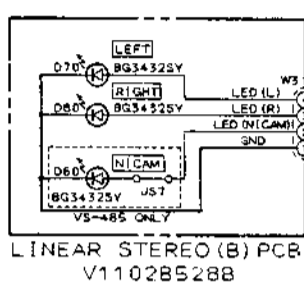
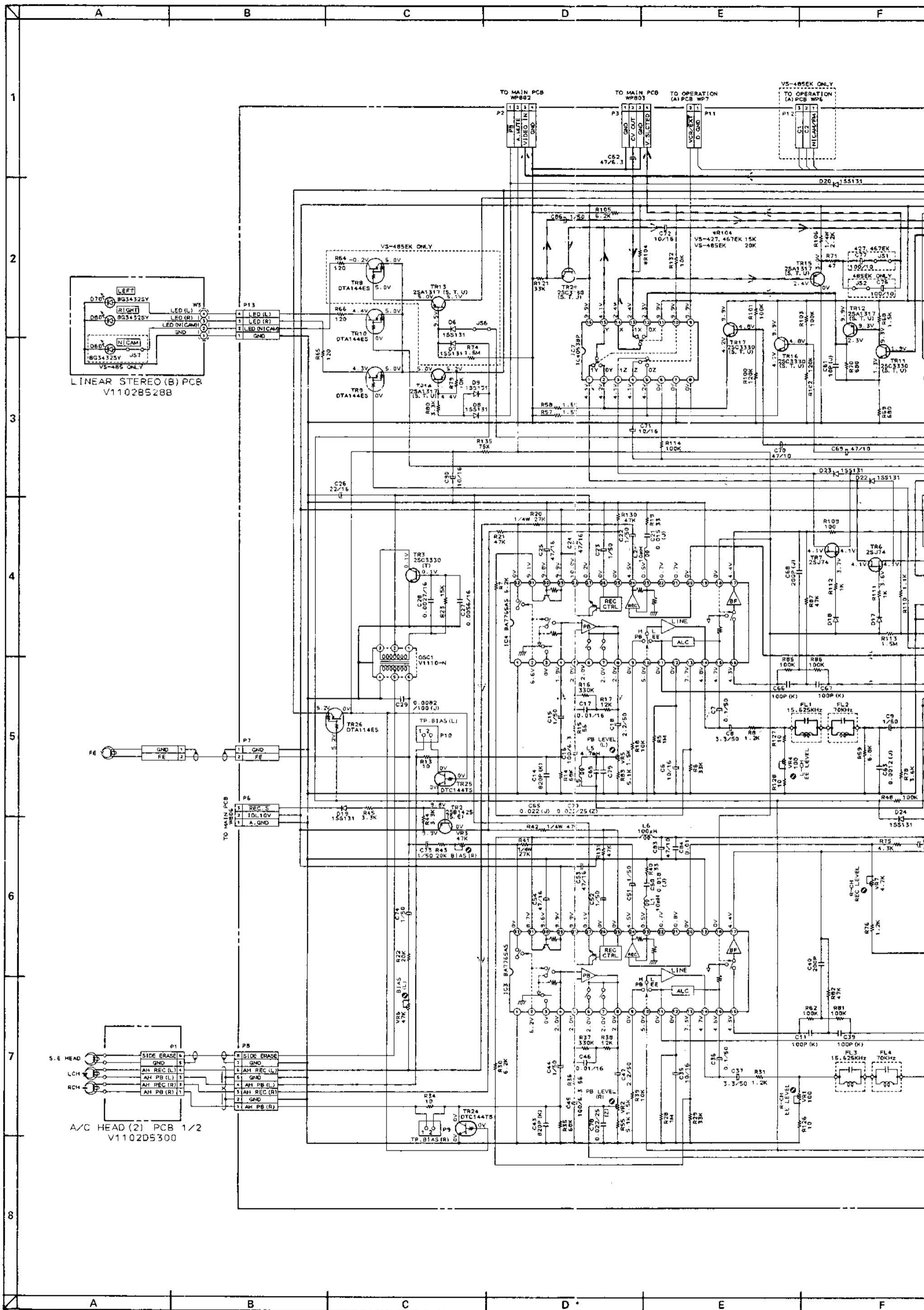


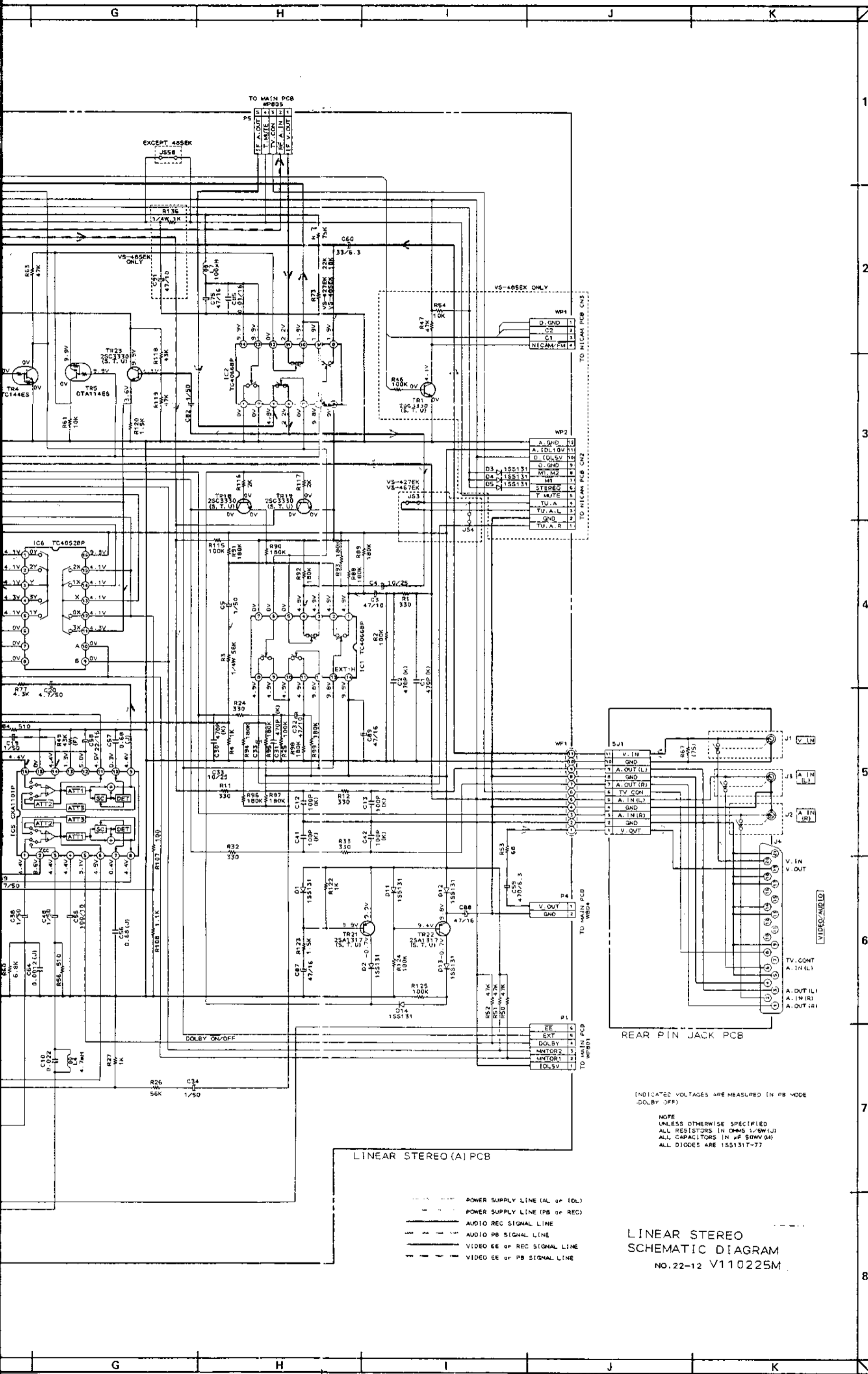
- - - - - B (POWER SUPPLY) LINE
 ———— SIGNAL LINE
 INDICATED VOLTAGES ARE MEASURED IN P.B.MODE.

NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS 1/10W(J)
 ALL CAPACITORS IN μ F 50WV(M)
 ALL INDUCTORS IN μ H(X)

MICAM
 SCHEMATIC DIAGRAM
 NO. 22-11 V110226M

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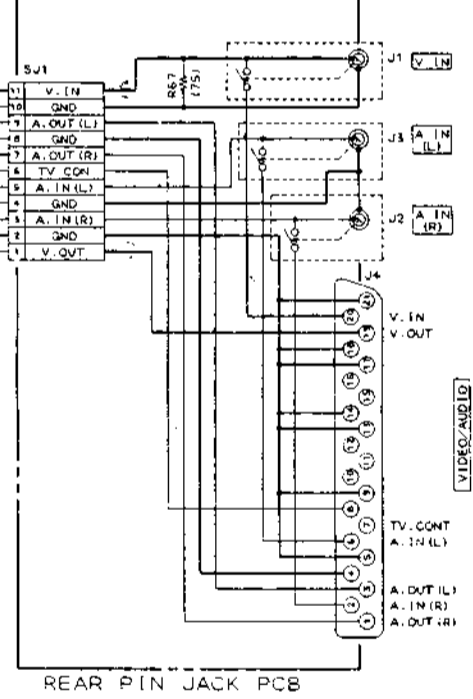
LINEAR STEREO (A) PCB

- POWER SUPPLY LINE (AL or 10L)
- POWER SUPPLY LINE (PB or REC)
- AUDIO REC SIGNAL LINE
- AUDIO PB SIGNAL LINE
- VIDEO EE or REC SIGNAL LINE
- VIDEO EE or PB SIGNAL LINE

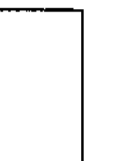
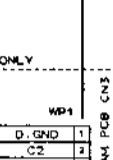
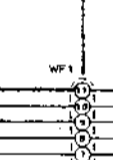
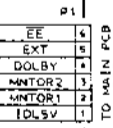
LINEAR STEREO
SCHEMATIC DIAGRAM
NO. 22-12 V110225M

INDICATED VOLTAGES ARE MEASURED IN PB MODE
(DOLBY OFF)

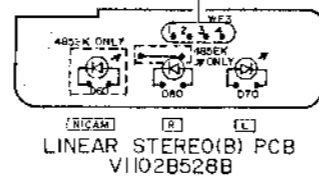
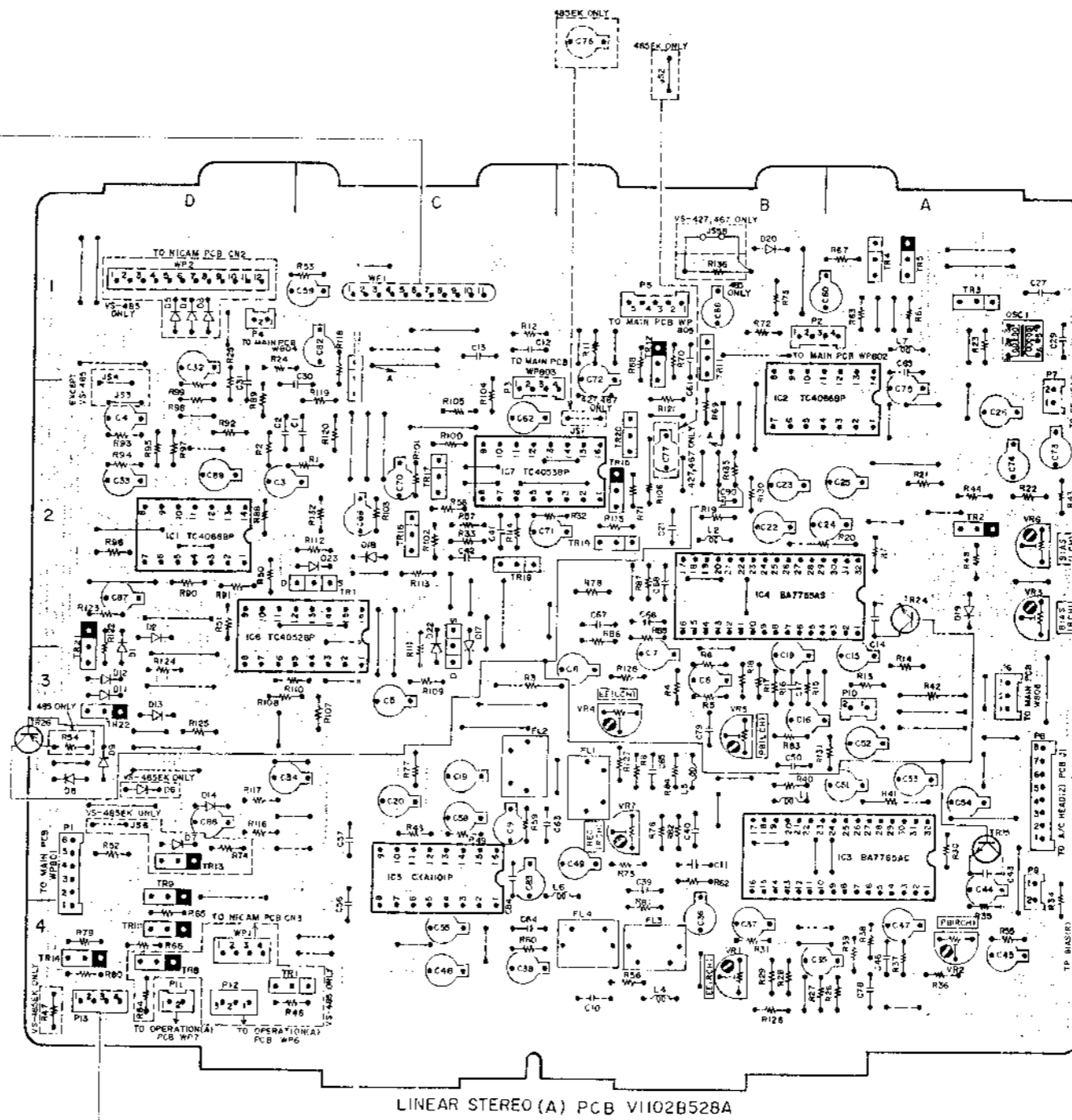
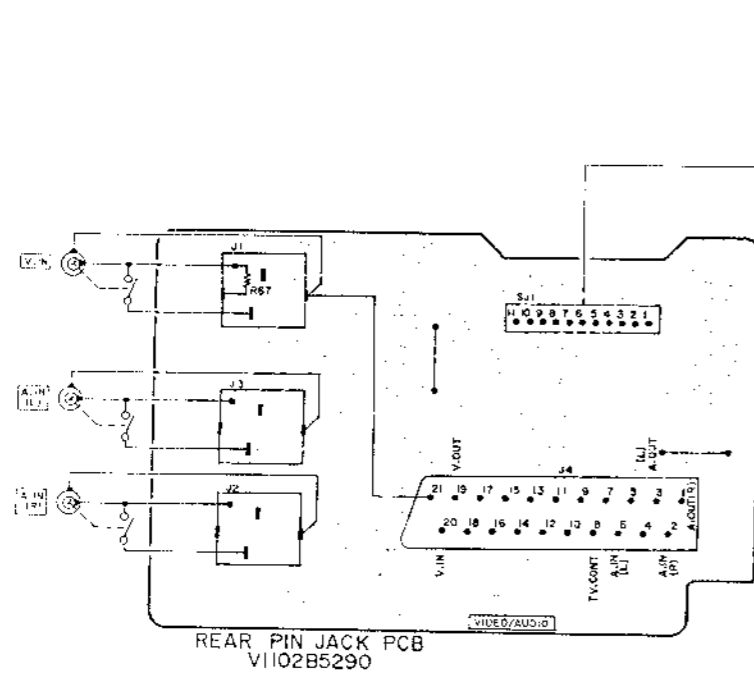
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W (J)
ALL CAPACITORS IN μF 50WV (M)
ALL DIODES ARE 1SS131T-77



REAR PIN JACK PCB



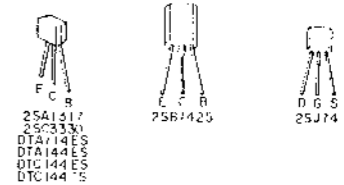
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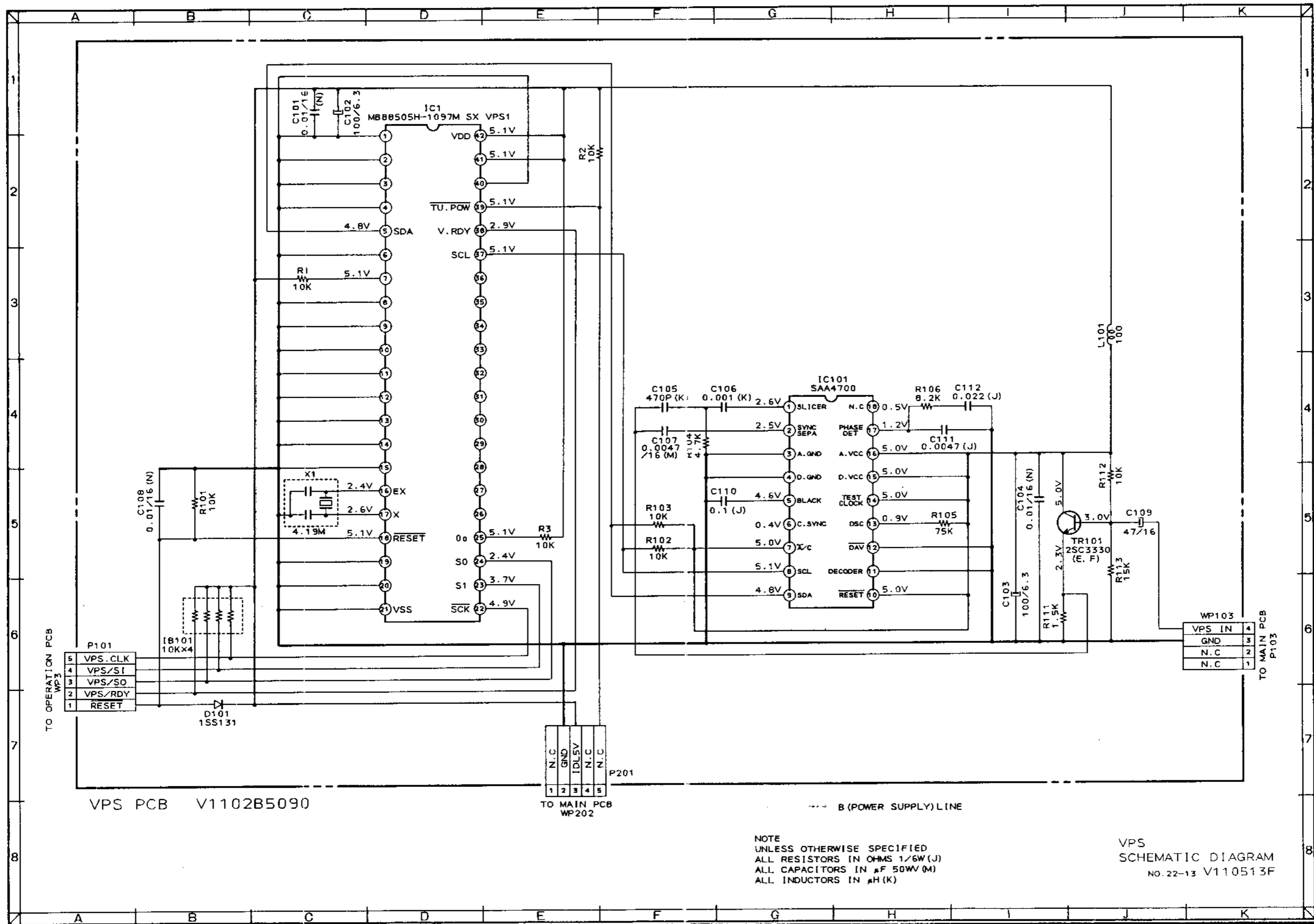


LOCATION OF COMPONENTS

IC'S	CONNECTORS
IC1.....02	P1.....D3,4
IC2.....A,B1,2	P2.....A,B1
IC3.....A,B1	P7.....B,C1,2
IC4.....A,B2	P4.....B1
IC5.....C3	P5.....B1
IC6.....C,D2,1	P6.....A1
IC7.....B,C2	P7.....A1,2
TRANSISTORS	P9.....A3
TR1.....C4	P9.....A3
TR2.....A2	P10.....A3
TR3.....A1	P11.....D4
TR4.....A1	P2.....D4
TR5.....A1	P13.....D4
TR6.....C,3	WP1.....C1
TR7.....C2	WP1.....D4
TR8.....D4	WP2.....D1
TR10.....D4	
TR11.....B1	
TR12.....B1	
TR13.....D3	
TR14.....D4	
TR15.....B2	
TR16.....C2	
TR17.....C2	
TR18.....C2	
TR19.....B2	
TR20.....B2	
TR21.....D2,3	
TR22.....D3	
TR23.....C1,2	
TR24.....A2	
TR25.....A3	
TR26.....D1	

- D G S
 FET
 PNP TRANSISTOR
 NPN TRANSISTOR





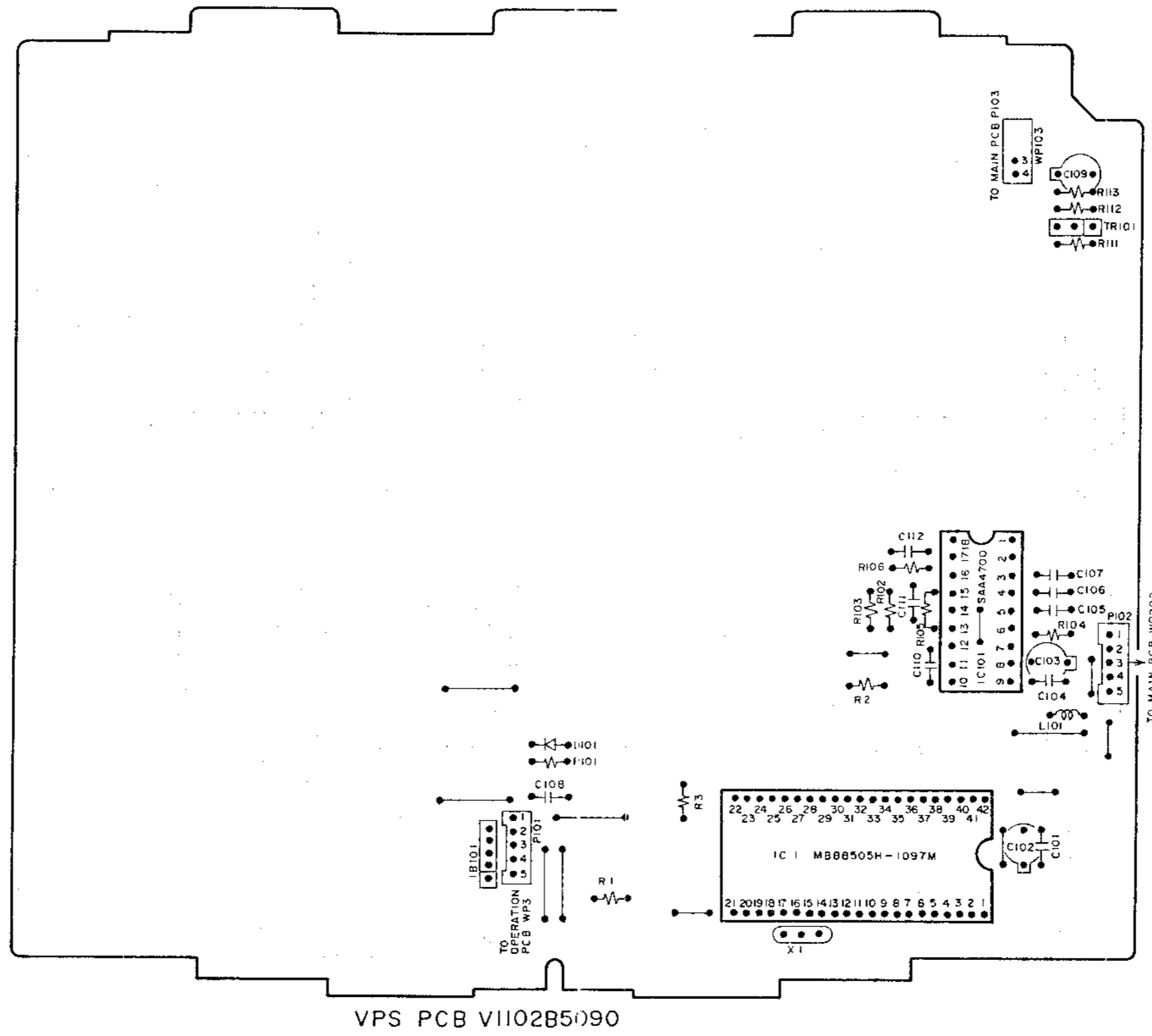
VPS PCB V1102B5090

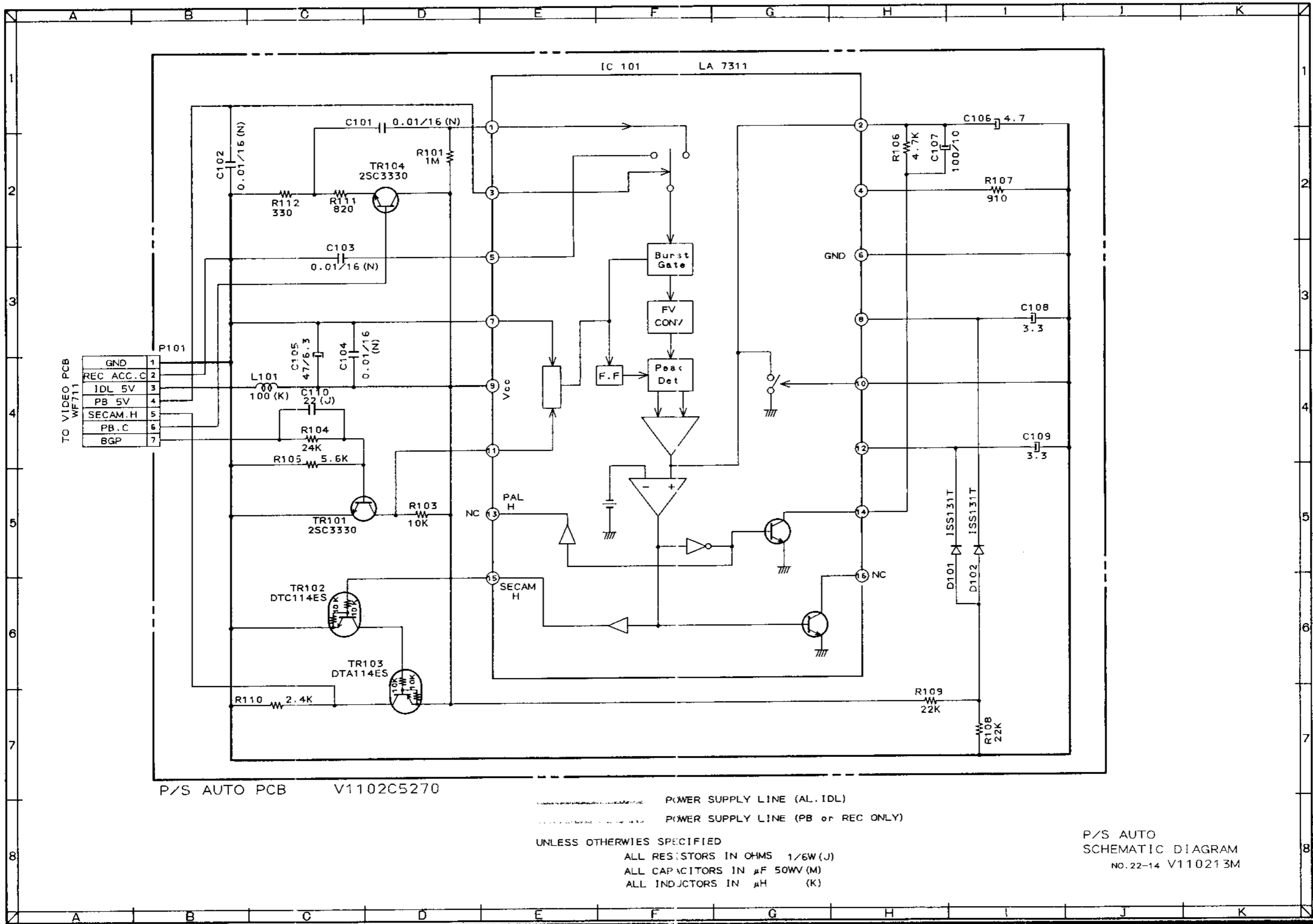
TO MAIN PCB
WP202

--- B (POWER SUPPLY) LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN μ F 50WV(M)
ALL INDUCTORS IN μ H(K)

VPS
SCHEMATIC DIAGRAM
NO.22-13 V110513F





5-3. A/C HEAD POSITION ADJUSTMENT

5-3-1. Azimuth adjustment

- 1) Connect an AC volt meter or an oscilloscope to the AUDIO OUT terminal on the rear panel.
- 2) Play back the reference tape TF-530RFS (AT-751775).
- 3) Adjust the (b) screw to obtain the maximum audio output.

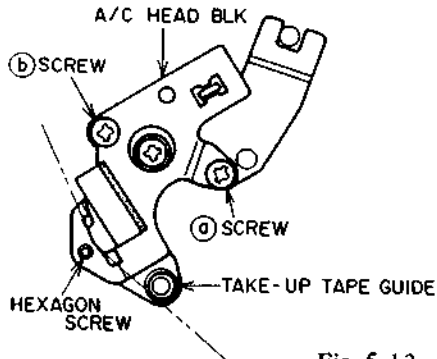


Fig. 5-13

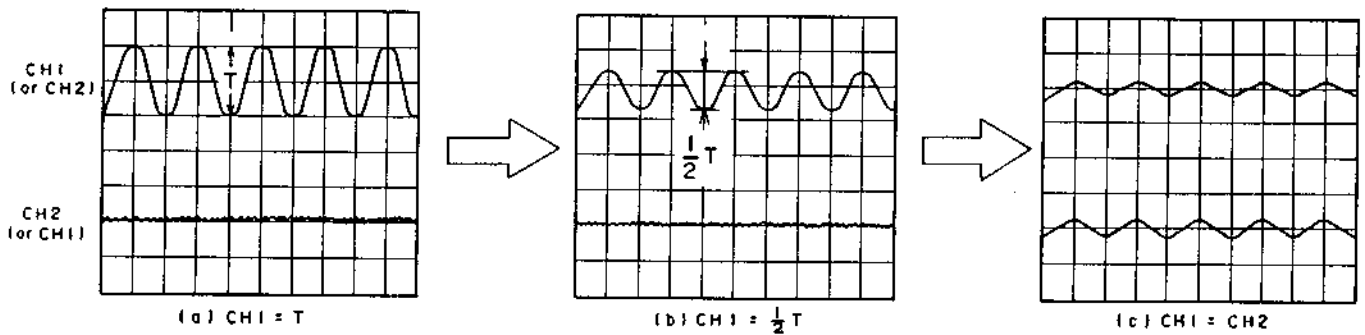


Fig. 5-14

5-3-3. Phase adjustment

- 1) Connect an oscilloscope to TP606 (ENVE) on the VIDEO PCB.
- 2) Play back the reference tape TF-530RFS (AT-851775).
- 3) Press one of the TRACKING buttons on the remote control until the "X" mark can be seen in the center position of the tracking range on the TV screen as shown in Fig. 5-15.

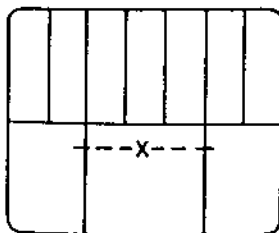


Fig. 5-15

5-3-2. Height adjustment

- 1) Play back the test tape TF-526HH (AT-751788).
- 2) Connect an oscilloscope's CH-1 to the LEFT CHANNEL AUDIO OUT terminal on the rear panel and CH-2 to TP-CTL CHK on the MAIN PCB.
- 3) Turn the hexagon screw to obtain 1/2 of the output level of either CH-1 or CH-2 whichever has an output signal as shown in Fig. 5-14. Then set the oscilloscope's both channel to 100 mV / div and fine-adjust the hexagon screw until both signals of CH-1 and CH-2 are nearly the same level.
- 4) Slightly turn the (a) screw until the tape edge barely touches the lower part of the TAKE UP TAPE GUIDE without any curl or wrinkle as shown in Fig. 5-4.
- 5) Adjust the head azimuth again. (Turning the hexagon screw or (a) screw will cause head azimuth mis-alignment. Refer 5-3-1. Azimuth adjustment.)
- 6) Confirm that both signals of CH-1 and CH-2 are nearly the same level (The output level of CH-1 or CH-2 whichever has higher output level should be less than 100 mV p-p). If the result is not satisfactory, repeat steps 3) to 5).

- 4) Loosen the (c) screw slightly so that the A/C HEAD PLATE can be moved with reasonable tightness.
- 5) Insert a sharp flat head (→) screwdriver into the A/C HEAD BASE and (a) hole as shown in Fig. 5-15.
- 6) Move the A/C HEAD BASE by moving a screwdriver in the direction of the arrow as shown in Fig. 5-15 to obtain the maximum RF output, then tighten the (c) screw.

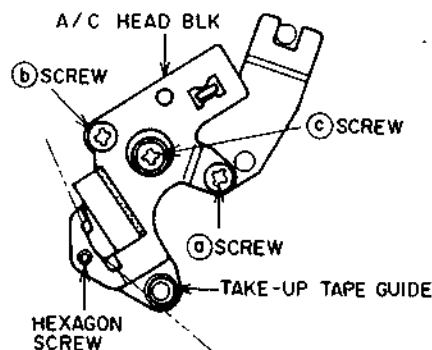


Fig. 5-16

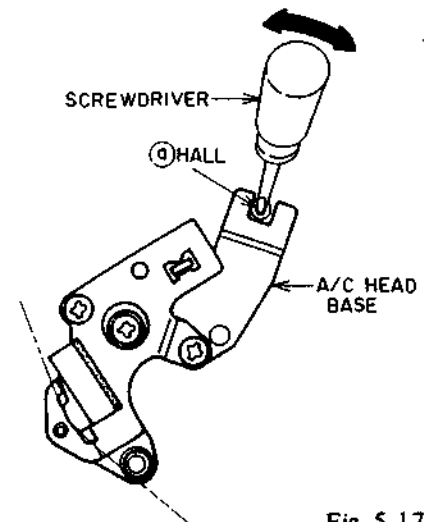


Fig. 5-17

VI. ELECTRICAL ADJUSTMENT

6-1. VIDEO, SERVO CIRCUITS

AUDIO CIRCUIT.

Precautionary items prior to adjustments

1. The color bar generator output should be 1.0 Vp-p.
2. The video output terminal should be terminated with 75 ohms (connect dummy load or 75 ohms input TV).

Required following test tapes.

Test tape	Parts No.
TF-527BL	AT-711880
TF-530RES	AT-751775
TF-532CBS	AT-751360

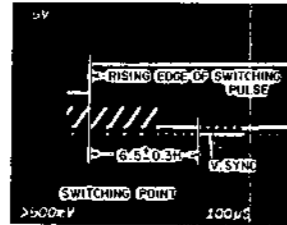
STEP ADJUSTMENT ITEM

1. MODE and INPUT SIGNAL/TEST TAPE
2. TEST POINT and ADJ part
3. RESULT & REMARKS

ADJ. part
Test point

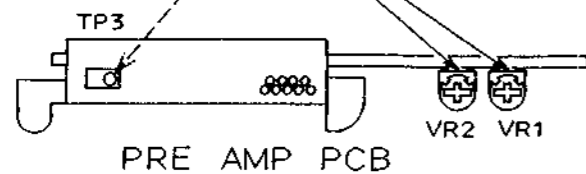
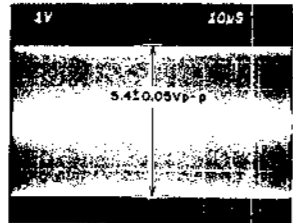
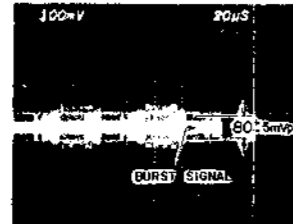
1 PB SWITCHING POINT

1. "PB", test tape TF-530RES
2. TP-SWP, VIDEO OUT & VR401 (SW.POINT)
3. * Connect an oscilloscope's CH-1 to TP-SWP for triggering and CH-2 to VIDEO OUT
- * Adjust VR401 so that the switching point is positioned 6.5 ± 0.3 H from the V-SYNC left edge as shown.



7 VIDEO REC CURRENT

1. "REC", PAL color bar signal
2. TP3(REC.CURR), JW149(C.SYNC) & VR1(Y), VR2(CHROMA)
3. * Connect an oscilloscope's CH-1 to TP3 (REC.CURR), CH-2 to JW149(C.SYNC) for triggering and ground to PRE AMP P.C.B.
- * Turn the VR1(Y) fully counter-clockwise.
- * Adjust VR2(CHROMA) so that the chroma REC current becomes 80 ± 5 mVp-p at burst signal area.
- * Disconnect the input signal, then adjust VR1(Y) so that Y REC current becomes 5.4 ± 0.05 Vp-p.



3 AUDIO REC BIAS

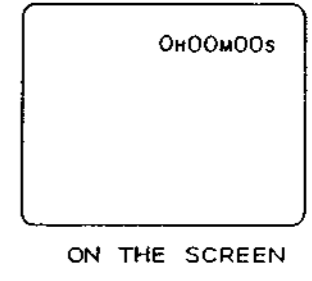
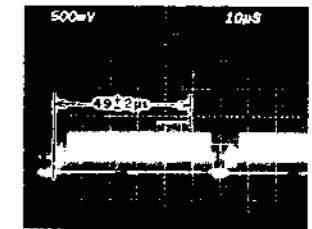
1. "REC" (no signal input)
2. P306 @ pin, @ pin & VR302
3. * Connect an AC voltmeter to P306 @ pin(GND side) and @ pin
- * Adjust VR302 so that the reading on the AC voltmeter becomes 2.4 ± 0.1 mV.

2 AUDIO PB LEVEL

1. "PB", test tape TF-527BL
2. AUDIO OUT & VR301
3. * Connect AC voltmeter to AUDIO OUT
- * -4 ± 1 dBs

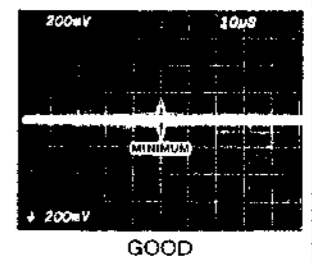
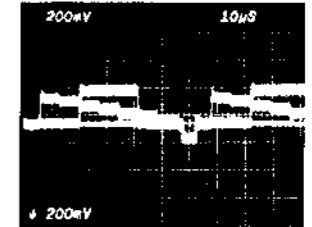
10 CHARACTER POSITION

1. "E-E" (stop mode), (No signal input)
2. VIDEO OUT, TV screen & VR101(IMS)
3. * Press "DISPLAY" button once on the remote control to display elapsed tape counter.
- * Connect an oscilloscope to VIDEO OUT
- * Adjust VR101(IMS) so that right end of the IMS signal becomes 49 ± 2 µs from the H-SYNC as shown.



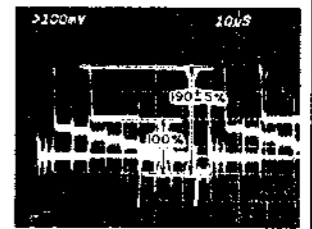
8 CCD

1. "PB", test tape TF-532CBS
2. TP601(CCD), TP602(CCD) & VR601 (CCD LEVEL)
3. * Set an oscilloscope to "ADD" mode and CH-2's polarity to "INVERTED".
- * Connect CH-1 to TP601(CCD) and CH-2 to TP602(CCD).
- * Adjust VR601 so that waveform level on the oscilloscope becomes minimum.



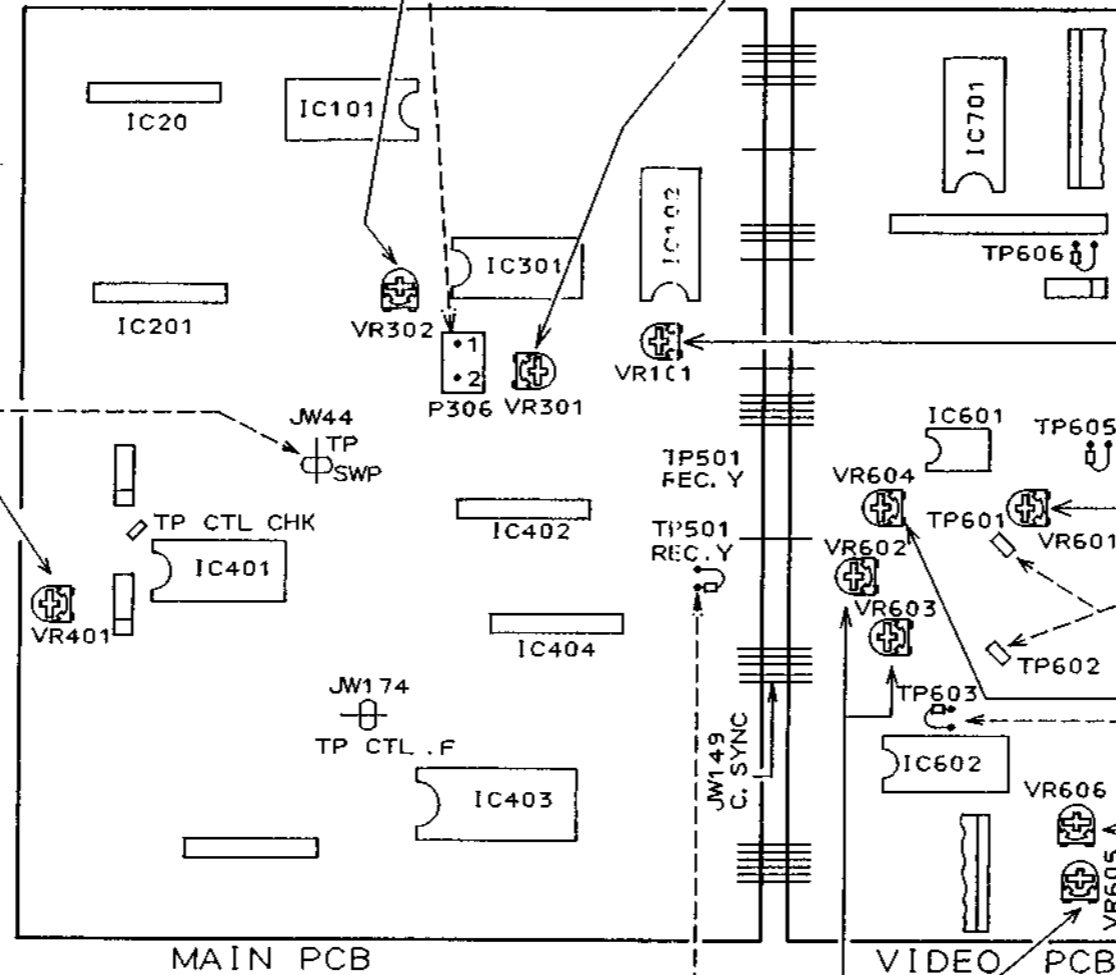
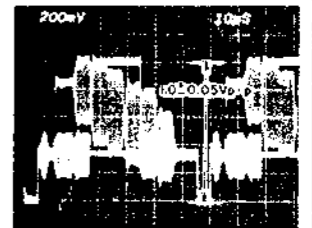
5 WHITE CLIP

1. "E-E" (stop mode), PAL color bar signal
2. TP603(W.CLIP) & VR604(W.CLIP)
3. * Connect an oscilloscope to TP603(W.CLIP)
- * Adjust VR604(W.CLIP) so that white clip level becomes $190 \pm 5\%$ as shown.



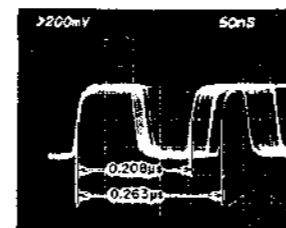
9 VIDEO PB LEVEL

1. "REC"- "PB", PAL color bar signal
2. VIDEO OUT & VR606(PB LEVEL)
3. * Connect an oscilloscope to VIDEO OUT
- * Make some recording on the tape then play it back
- * Adjust VR606 so that PB level becomes 1.0 ± 0.05 Vp-p



6 CARRIER SET & DEVIATION

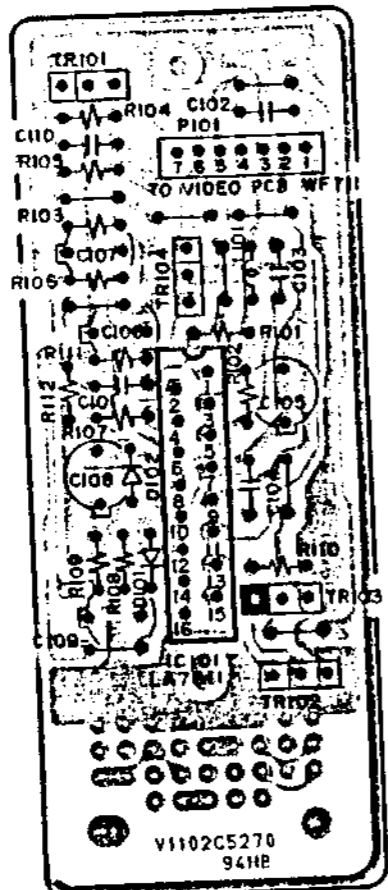
1. "REC", PAL color bar signal
2. TP501(REC.Y) & VR603(CARRIER), VR602(DEVIATION)
3. * Connect an oscilloscope to TP501 (REC.Y)
- * VR603(CARRIER), 0.263 µs (3.8 MHz)
- * VR602(DEVIATION), 0.208 µs (4.8 MHz)



4 VIDEO E-E LEVEL

1. "E-E" (stop mode), PAL color bar signal
2. VIDEO OUT & VR605(E-E LEVEL)
3. * Connect an oscilloscope to VIDEO OUT.
- * 1.0 ± 0.05 Vp-p





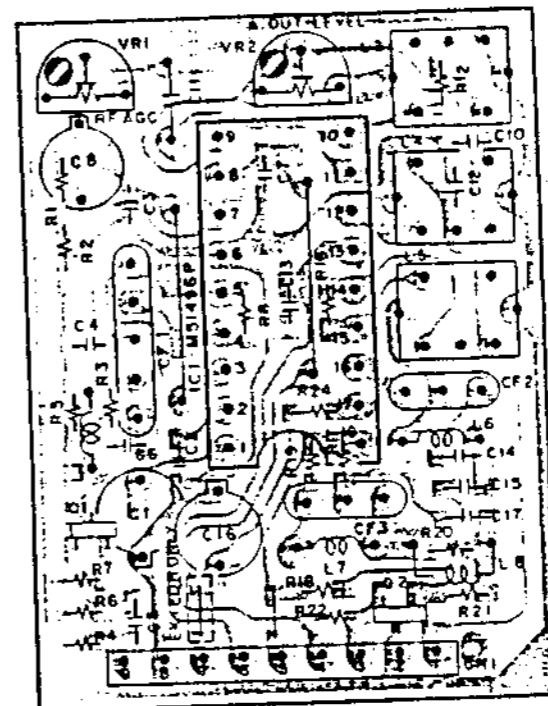
P/S AUTO PCB
V1102C5270



B C E	= PNP TRANSISTOR
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B C E	= NPN TRANSISTOR
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DTA114ES
DTC114ES
2SC3330



VIF UNIT 6800663A1

6-2.

Precautionary items prior to adjustments

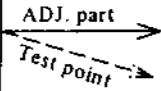
1. All adjustment should be performed without DOLBY (DOLBY OFF).
2. Unless otherwise specified, set AUDIO SIGNAL GENERATOR to 1 kHz.

Required following test tapes.

Test tape	Parts No.
TF-527BL	AT-711880

STEP ADJUSTMENT ITEM

1. MODE and INPUT SIGNAL/TEST TAPE
2. TEST POINT and ADJ part
3. RESULT & REMARKS



5 L-CH REC BIAS

1. "REC", no signal input
2. P10(TP-BIAS) ① pin, ② pin & VR6(L-CH REC BIAS)
3. * Connect AC voltmeter to P10 ① pin (ground side) and ② pin.
* Adjust VR6(L-CH REC BIAS) so that reading on the AC voltmeter becomes 4.2 ± 0.1 mV.
* Make some recording (Input -26 dBs 1 kHz and 10 kHz alternately) then play it back. Check frequency response whether it is within ± 3 dB or not. If the comparison of the 10 kHz level is over than $+3$ dB, readjust VR6 so that reading is 4.4 mV.
If 10 kHz level is lower than -3 dB, readjust VR6 so that reading is 4.0 mV.

6 R-CH REC BIAS

1. "REC", no signal input
2. P9(TP-BIAS) ① pin, ② pin & VR3(R-CH REC BIAS)
3. * Connect AC voltmeter to P9 ① pin (ground side) and ② pin.
* Adjust VR3(R-CH REC BIAS) so that reading on the AC voltmeter becomes 4.4 ± 0.1 mV.
* Check frequency response in the same manner as 5.(L-CH REC BIAS).
* If the result is not satisfactory, readjust VR3 so that the reading is 4.6 mV or 4.2 mV.

4 R-CH PB LEVEL

1. "PB", test tape TF-527BL
2. R-CH AUDIO OUT & VR2(R-CH PB LEVEL)
3. * Connect an AC voltmeter to R-CH AUDIO OUT.
* Adjust VR2(R-CH PB LEVEL) so that the output level becomes -5.0 ± 0.1 dBs.

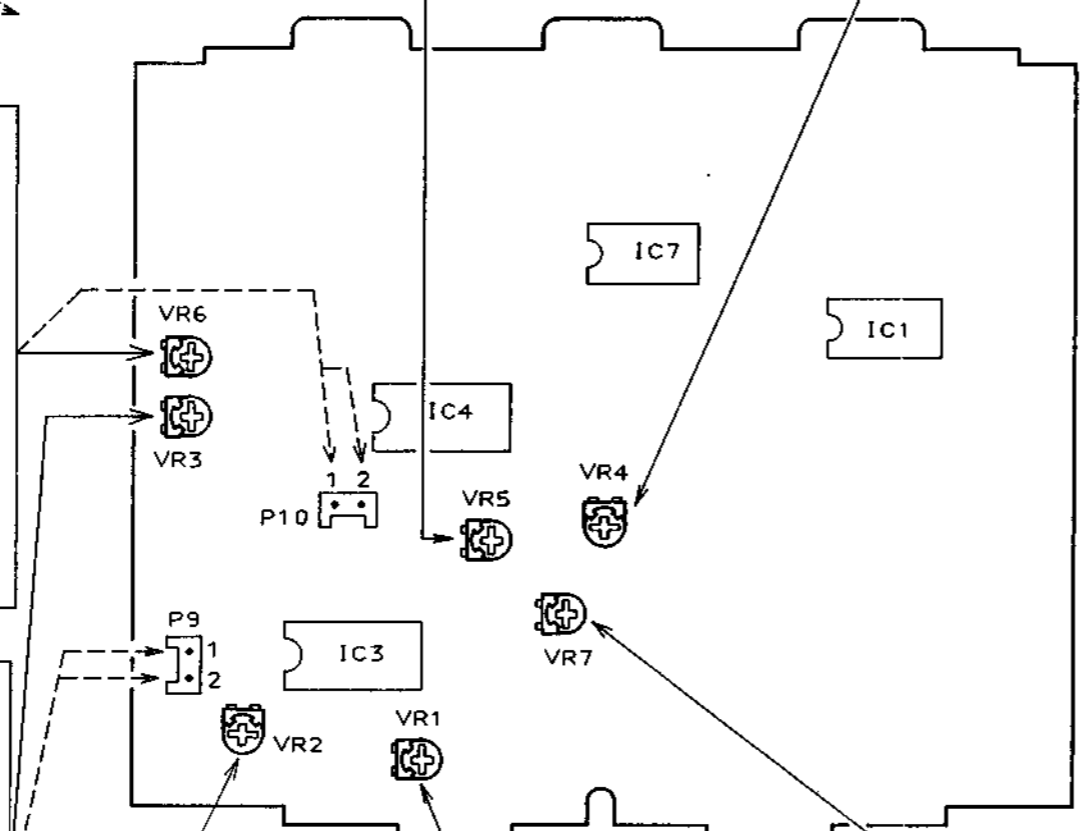
3 L-CH PB LEVEL

1. "PB", test tape TF-527BL
2. L-CH AUDIO OUT & VR5(L-CH PB LEVEL)
3. * Connect an AC voltmeter to L-CH AUDIO OUT.
* Adjust VR5(L-CH PB LEVEL) so that the output level becomes -5.0 ± 0.1 dBs.

1 L-CH EE LEVEL

1. "E-E"(stop mode), AUDIO SIGNAL GENERATOR(-6 dBs 1 kHz)
2. L-CH AUDIO OUT & VR4(L-CH EE LEVEL)
3. * Adjust an AUDIO SIGNAL GENERATOR's output to -6 dBs (0 dBs = 0.775 V). Then connect the AUDIO SIGNAL GENERATOR to L-CH AUDIO IN terminal.
* Connect an AC voltmeter to L-CH AUDIO OUT.
* Adjust VR4 (L-CH EE LEVEL) so that the output level of L-CH becomes -6 ± 0.1 dBs.

LINEAR STEREO (A) PCB



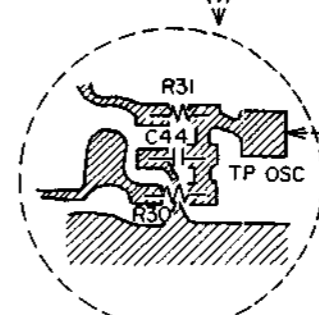
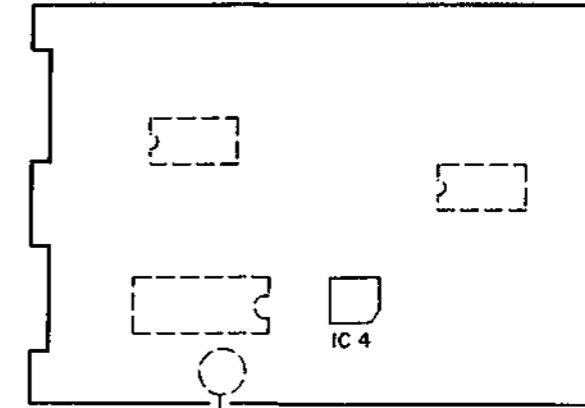
2 R-CH EE LEVEL

1. "E-E"(stop mode), AUDIO SIGNAL GENERATOR(-6 dBs 1 kHz)
2. R-CH AUDIO OUT & VR1(R-CH EE LEVEL)
3. * Connect an AUDIO SIGNAL GENERATOR to R-CH AUDIO IN terminal (The same situation as L-CH EE LEVEL adjustment).
* Connect an AC voltmeter to R-CH AUDIO OUT.
* Adjust VR1 (R-CH EE LEVEL) so that the output level of R-CH becomes -6 ± 0.1 dBs.

7 R-CH REC LEVEL

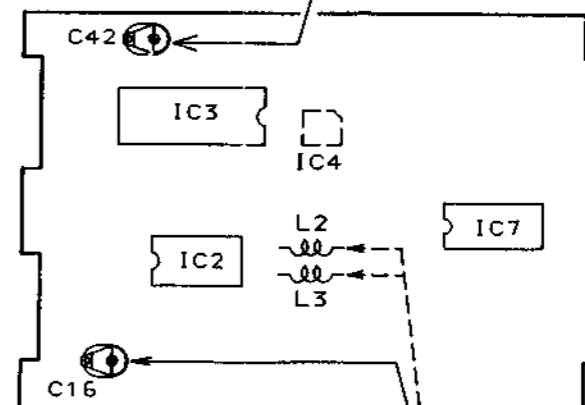
1. "REC"-PB, AUDIO SIGNAL GENERATOR (-6 dBs, 1 kHz)
2. L-CH, R-CH AUDIO OUT & VR7(R-CH REC LEVEL)
3. * Connect an AUDIO SIGNAL GENERATOR (-6 dBs, 1 kHz) to L-CH and R-CH AUDIO INPUT
* Make some recording then play it back and check the level difference between L-CH and R-CH. If the difference is higher than 2 dB, adjust VR7(R-CH REC LEVEL) so that R-CH level is ± 2 dB of L-CH PB(REC-PB)level.

NICAM PCB PATTERN SIDE



9 D/A OSC

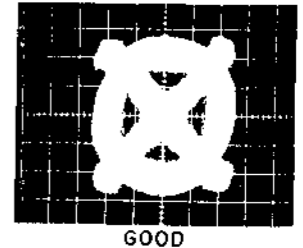
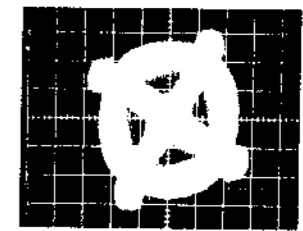
1. "E-E" (stop mode), receive NICAM broadcast station
2. TP-OSC & C42(D/A OSC)
3. * Connect an oscilloscope to TP-OSC and set input mode to "DC".
* Adjust C42(D/A OSC) so that average DC voltage becomes 1.8 V.



VS-485EK ONLY

8 CARRIER P.L.L

1. "E-E" (stop mode), receive NICAM broadcast station
2. Lead of L3, L2 & C16(CARRIER PLL)
3. * Set the oscilloscope's display mode to "X-Y" mode and 20 mV/div. Connect an oscilloscope's CH-1 to the lead of L3 and CH-2 to the lead of L2.
* Adjust C16(CARRIER PLL) so that the vertical line of the waveform becomes straight as shown.



V.II 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

2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
1	BH-T2023A320A	HEAD BASE BLOCK
2	HP-H2206A010A	HEAD R/P PR4-8FU C
3	ZS-477876	PAN20X03STL CMT
4	ZS-536488	BID20X08STL CMT
5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification
This number corresponds with the individual parts index number in that figure.

b) PC Board

6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
IC1	EI-324536	IC HD14049BP
IC2	EI-336801	IC MB8841-564M
C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
C1B	EC-350949	C MMY V 223M 250DC [J]
C1C	EC-338397	C MMY V 223M 125AC [C,A]
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 (Universa Area)
[C]: CSA (Canada) Area)
[E]: CEE (Europe) [V]: VDE (W. Germany)
[J]: JPN (Japan) [Y]: Custom Version

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.

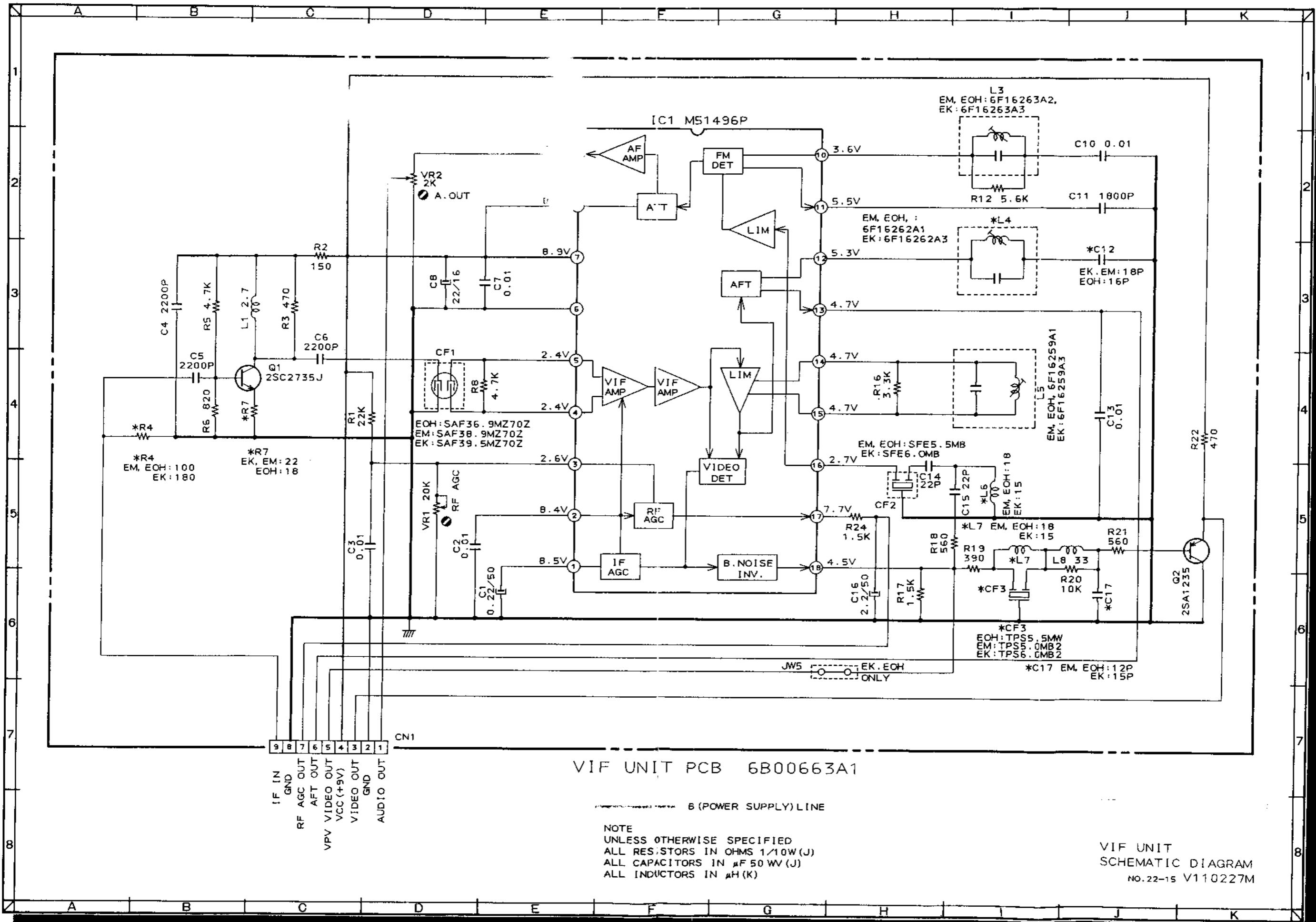
AVERTISSEMENT

△(*) 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.

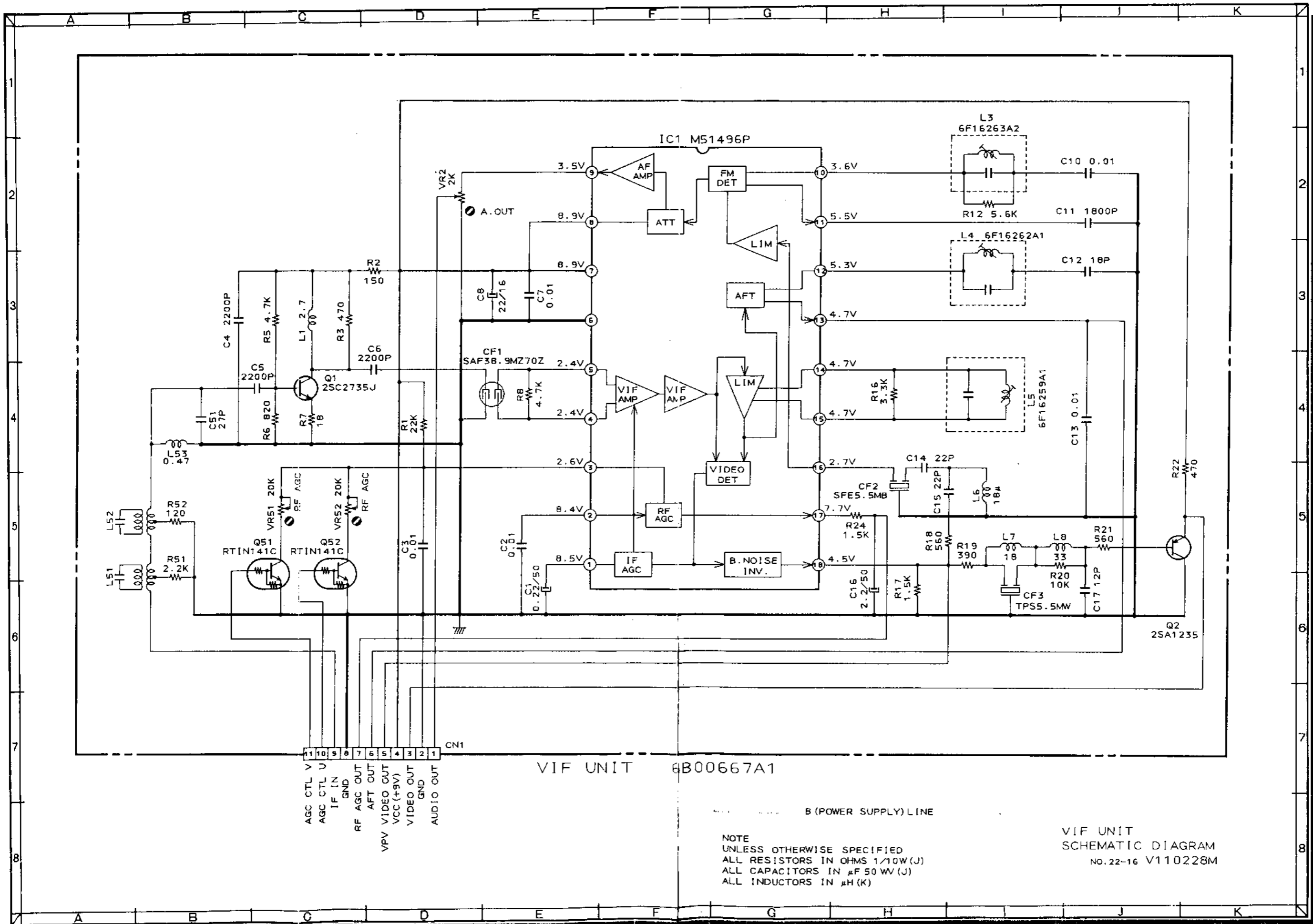
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
	BB-V1102A020A	MECHA DECK BLK 425EA [EOH-E,EOG,EM-E]	61	ET-370310	TR DTC144TS
	BB-V1102A020C	MECHA DECK BLK 427EK [EK-B]	62	ET-361490	TR PHOTO PN268 R,S [PTR1]
2	BL-V1102A140A	ARM LOADING BLK 425EA	63	ET-390010J	TR PHOTO PT4800 [PTR2]
3	BL-387458J1	CAPSTAN BRAKE PART	64	ET-390009J	TR PHOTO PT493F [PTR4]
4	BL-387501J	HOLDER PINCH PART	65	ET-353899	TR 2SA1317 S,T,U
5	BL-V1102A050A	TENSION ARM BLK 425EA	66	ET-366365	TR 2SB1185 E,F
6	BM-386236J	MOTOR DFX-67B3VWA1	67	ET-356817	TR 2SB891 Q,R
7	BM-387503J	MOTOR PART	68	ET-302502	TR 2SC2001 K
8	BM-M3225A020C	PC MOTOR BLK SM-250	69	*ET-389415J	TR 2SC3169
9	*BT-389239J	TRANS POW V1102 EK [EK-B]	70	ET-360137	TR 2SC3330 U,V F05
10	*BT-391109J	TRANS POW V1105 EO [EOH-E,EOG]	71	ET-380685J	TR 2SD1761 E,F,G
11	*BT-389240J	TRANS POW V1105-EM	72	ET-373025	TR 2SD1944 J1,J2,K
12	BV-V1102A150A	CASSETTE LOAD BLK 425EA	73	ET-391025J	TR 2SD2012
13	BV-V1102A070A	LEADER S BLK 425EA	74	ET-390826J	TR.CHIP 2SD1619 T,U TC T08
14	BV-V1102A080A	LEADER T BLK 425EA	75	HE-361456	HEAD E HVFMD0015B
15	BV-V1102A410A	LOWER DRUM BLK 425EA [422/425/427/485]	76	HR-390015J	HEAD COMBO HVMZA1045C [EOH-E,EOG,EM-E]
16	BV-V1102A410B	LOWER DRUM BLK 465EA [467]	77	HR-389866J	HEAD COMBO HVSMC1017A [EK-B]
17	BV-V1102A420A	UPPER DRUM BLK [422/425/427/485]	78	MA-387474J	BASE DRUM
18	BV-V1102A420C	UPPER DRUM BLK [467]	79	MB-387289J	BELT CAPSTAN
19	ED-390011J	D LED GL451 INFRARED [D1]	80	MI-387294J	IDLER PART
20	ED-390012J	D LED GL4800 INFRARED [D2]	81	ML-391745J1	ARM DAMPER
21	ED-390686J	D LED TLN105B INFRARED	82	ML-387350J1	ARM LID OPENER
22	ED-386226J	D SCHOTTKY RB100AT-32T26 40/1	83	ML-387423J	ARM LOADING BRAKE
23	*ED-389296J	D SILICON BR31-B-D-80 100/3.0A	84	ML-387277J	ARM REVIEW PART
24	ED-380089J	D SILICON DFC15TC-FD1 200/1.5A	85	ML-387402J	LEVER TRIGGER
25	*ED-378455	D SILICON DSA12TG 600/1.2A	86	ML-387316J	MAIN BRAKE(S) PART
26	*ED-385935J	D SILICON ERA22-04V3 T26 400/5	87	ML-387318J	MAIN BRAKE(T) PART
27	ED-307572	D SILICON H 1SS131	88	ML-387321J	REVIEW BRAKE PART
28	ED-624903	D SILICON H 1S2473	89	ML-387324J	SLIDER BRAKE PART
29	*ED-511907	D SILICON 1N4002 100/1.0A	90	ML-387327J	SLIDER TRIGGER
30	ED-391103J	D ZENER H HZ512B2	91	MR-387406J	HOLDER THRUST WORM
31	ED-343996	D ZENER H HZ12 B1	92	MR-391968J	PULLEY TRIGGER(2)
32	ED-346618	D ZENER H HZ15 1	93	MR-387286J	ROLLER IMPEDANCE
33	ED-322046	D ZENER H HZ18 1	94	MT-390954J1	DISK (2)PART
34	ED-346526	D ZENER H HZ6B1L	95	MZ-387298J1	DISK CLUTCH PART
35	ED-346541	D ZENER H HZ9B2L	96	MZ-387331J	GEAR CAM SLIDER
36	*EF-601942	FUSE SEMKO T 250V 630MA	97	MZ-387335J	GEAR EJECT
37	*EI-376794J1	IC BA10393	98	MZ-387333J	GEAR FRONT LOADING
38	*EI-368152	IC BA707	99	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
39	EI-387586J	IC BA7244BS	100	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
40	EI-387598J	IC BA7252S	101	MZ-387330J	GEAR WORM PART
41	EI-380090J	IC NJM2352D	102	MZ-387332J	GEAR WORM WHEEL
42	EI-390825J	IC S-8052ANB-NE T1			
43	EI-376112	IC UPD6122G			
44	EI-390822J	IC UPD75304G-057-3B9 SXREMA1			
45	EI-390687J	OSC CE CSU455PL 455KHZ			
46	EI-389972J	OSC CE W/C FCR2.2MC3 2.2MHZ			
47	EI-368825	OSC X'TAL MX-38T 32.768KHZ			
48	*EQ-389298J	RELAY POW AJV12442 1NO 100V			
49	*ER-392819J	R FUSE H S10 RF25SC 1/4W R10K			
50	*ER-392807J	R FUSE H S10 RF25SC 1/6W R12K			
51	*ER-391043J	R FUSE H S10 RF25SC 1/6W R47K			
52	*ER-391044J	R FUSE H S10 RF25SC 1/6W R68K			
53	ER-389875J	R OMF H S10 FS 1/2W R68J			
54	ES-373099	SW LEAF MTS10110MPC1			
55	ES-387465J	SW MODE SELECT MMS00070ZLBO			
56	ET-356336	TR DTA114ES			
57	ET-360646	TR DTA143ES			
58	ET-354364	TR DTC143TS			
59	ET-354414	TR DTC144ES			



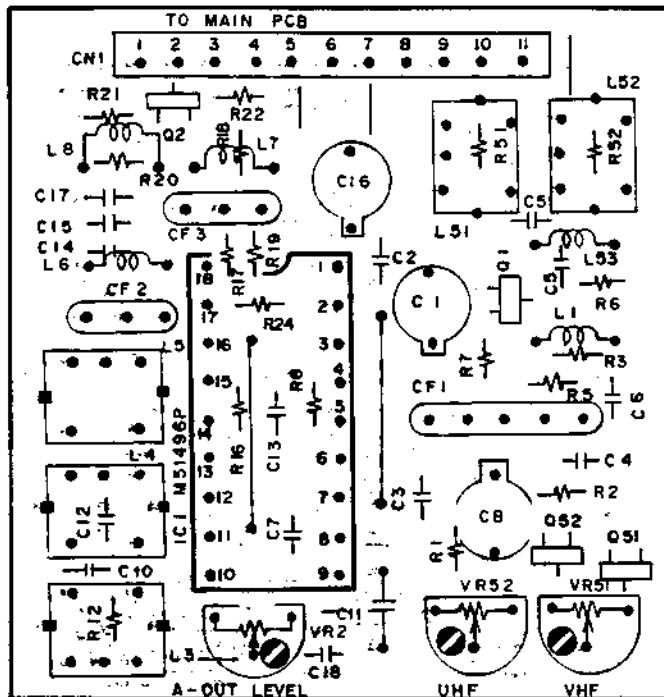
VIF UNIT PCB 6B00663A1

NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS 1/10W (J)
 ALL CAPACITORS IN μF 50 WV (J)
 ALL INDUCTORS IN μH (K)

VIF UNIT
 SCHEMATIC DIAGRAM
 NO. 22-15 V110227M



10 AGC CTL V
 9 AGC CTL U
 8 IF IN
 7 GND
 6 RF AGC OUT
 5 AFT OUT
 4 VPV VIDEO OUT
 3 VCC (+9V)
 2 VIDEO OUT
 1 GND
 AUDIO OUT

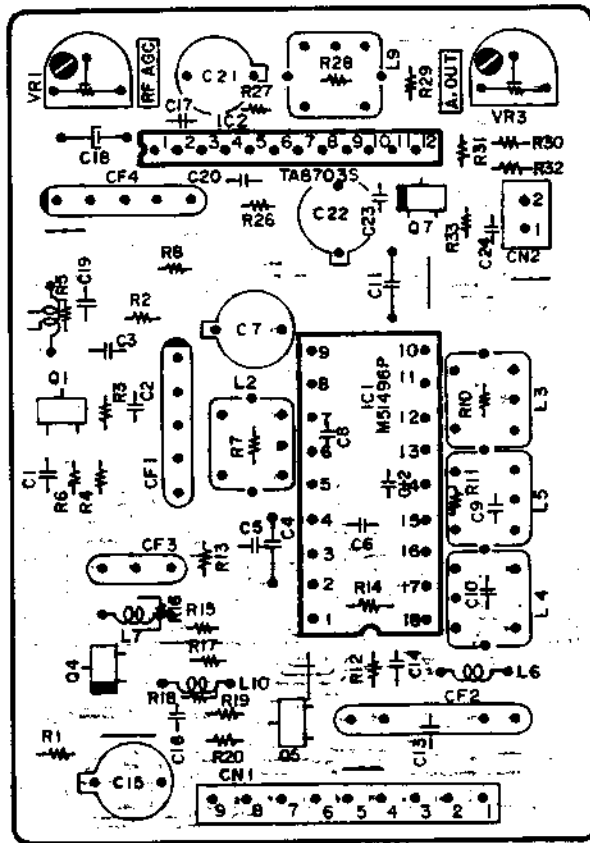


VIF UNIT 6B00667A1

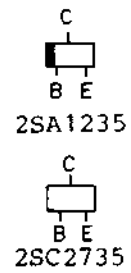
CHIP TRANSISTOR

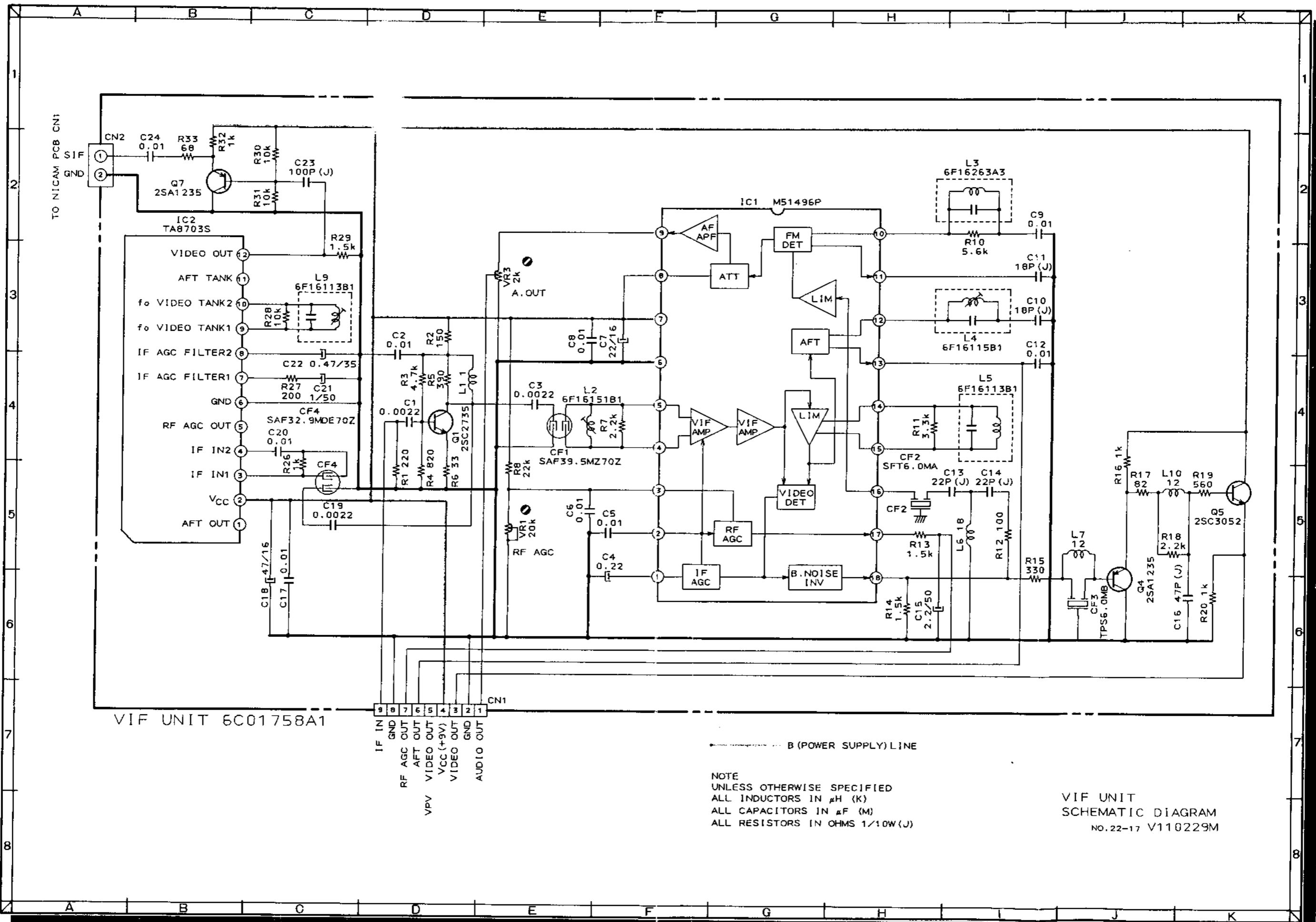
C MF : 2SA1235F
 NI : RTINI41C
 JC : 2SC2735





VIF UNIT(EKN) 6C01758A1





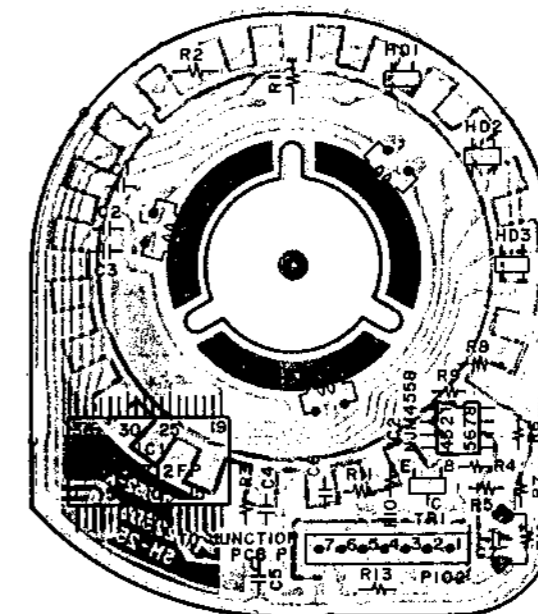
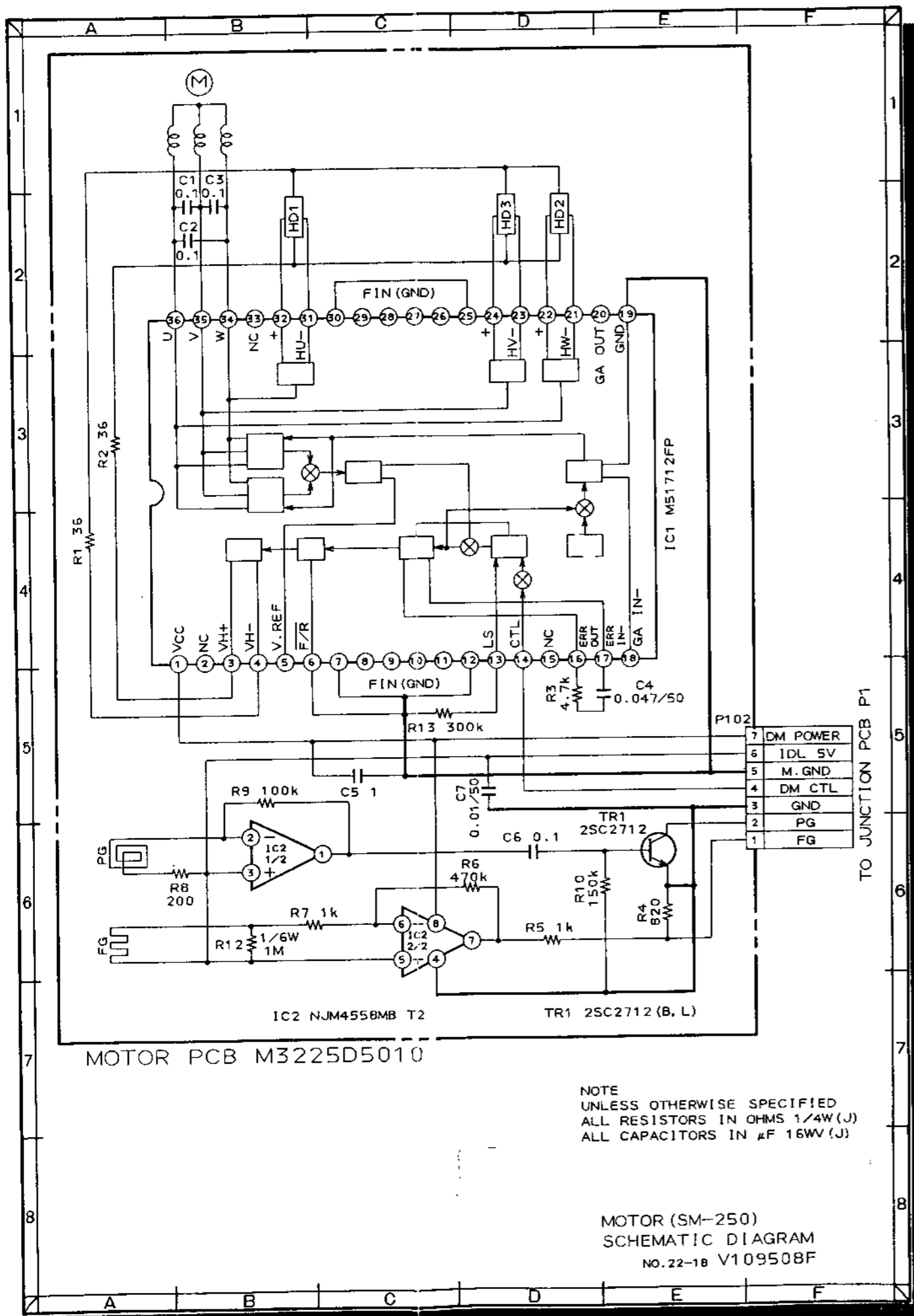
VIF UNIT 6C01758A1

IF IN
GND
RF AGC OUT
AFT OUT
VIDEO OUT
VCC (+9V)
VIDEO OUT
GND
AUDIO OUT

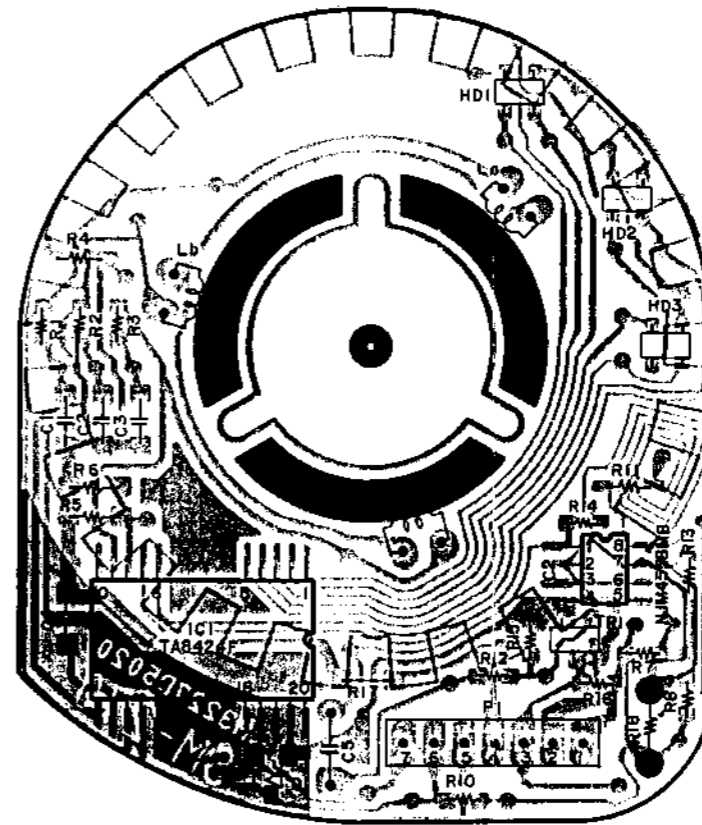
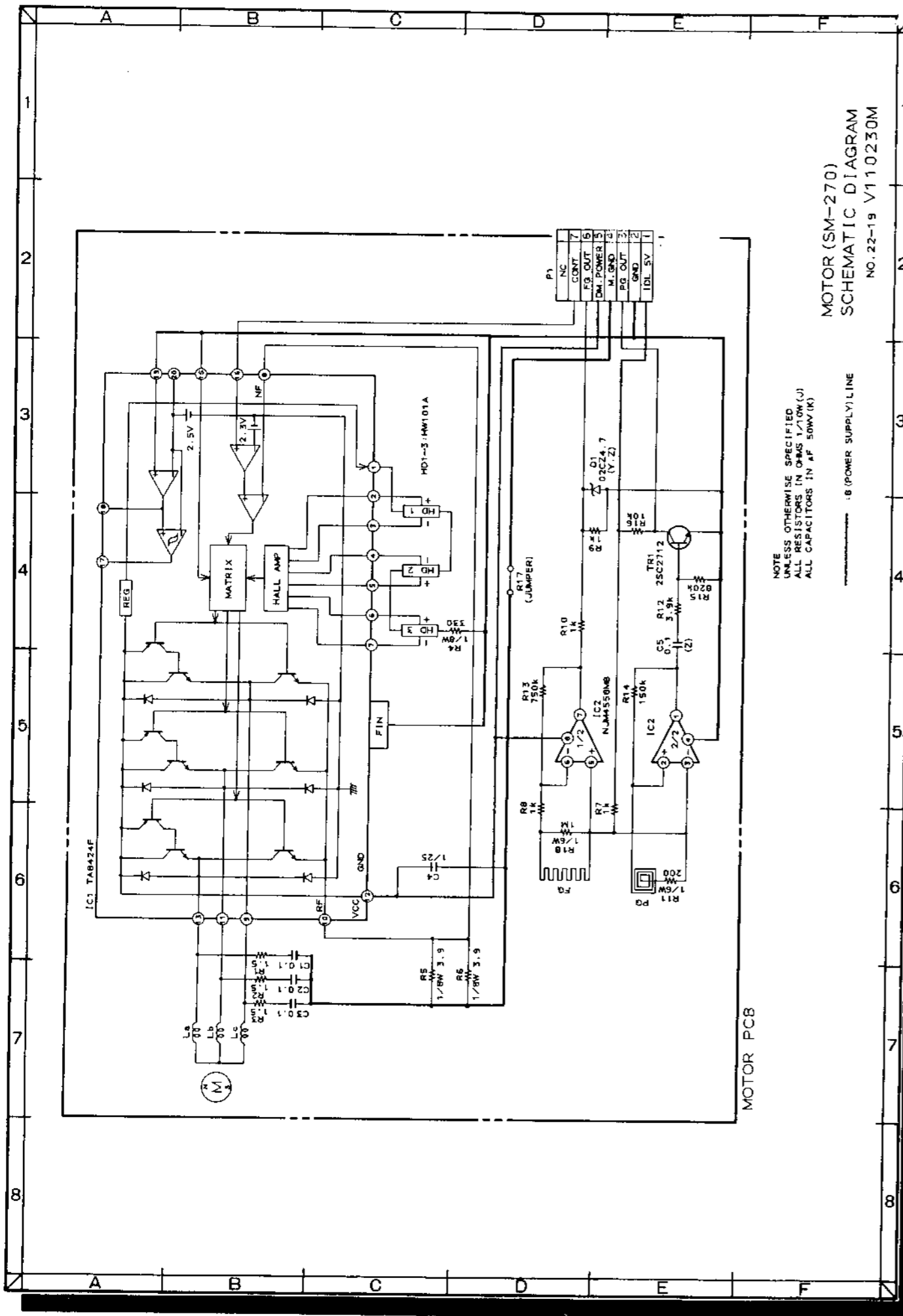
----- B (POWER SUPPLY) LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL INDUCTORS IN μH (K)
ALL CAPACITORS IN μF (M)
ALL RESISTORS IN OHMS 1/10W(J)

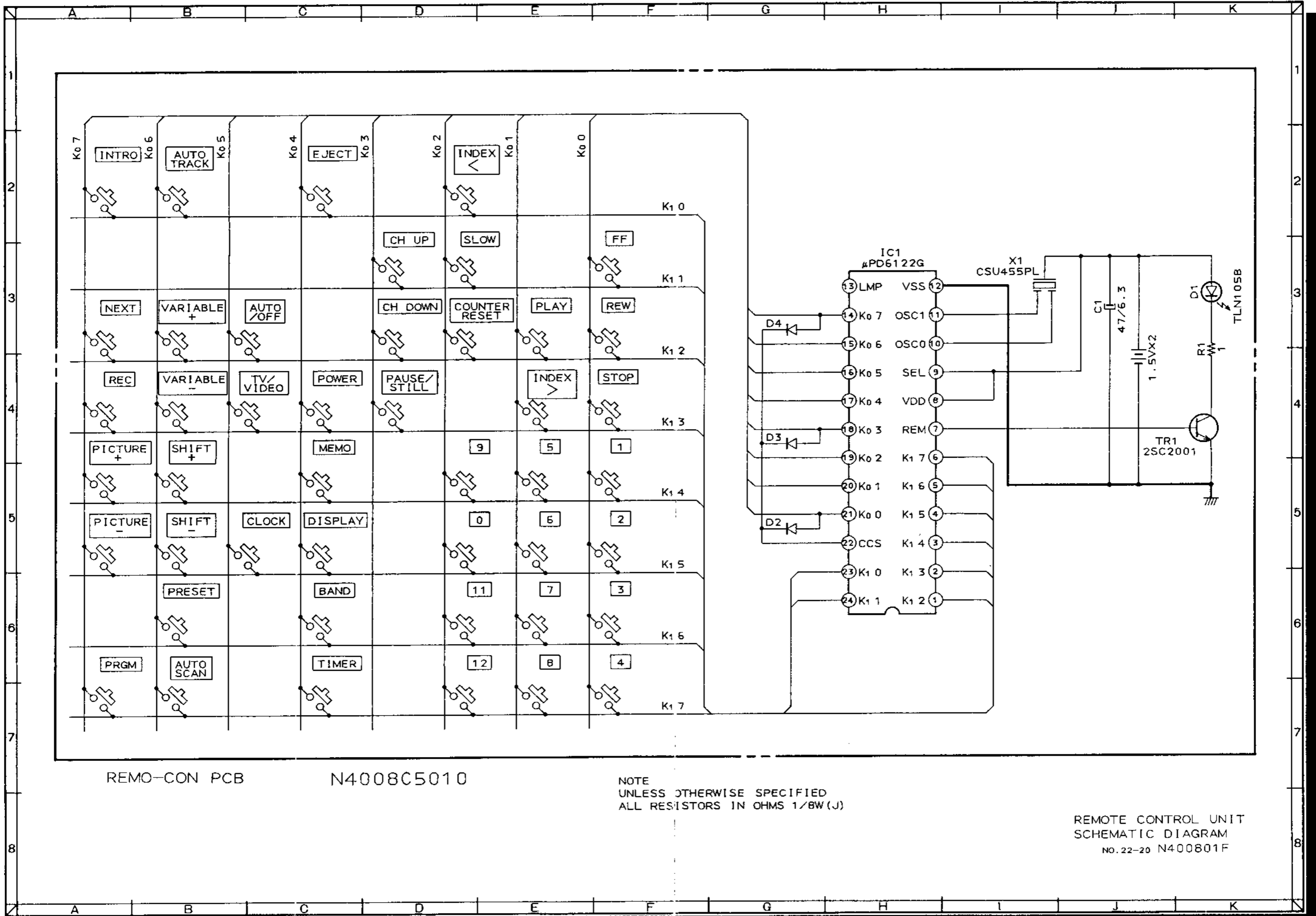
VIF UNIT
SCHEMATIC DIAGRAM
NO. 22-17 V110229M



DRUM MOTOR M3225D5010
(P02)



DRUM MOTOR PCB(SM-270)
M3227D5020J1

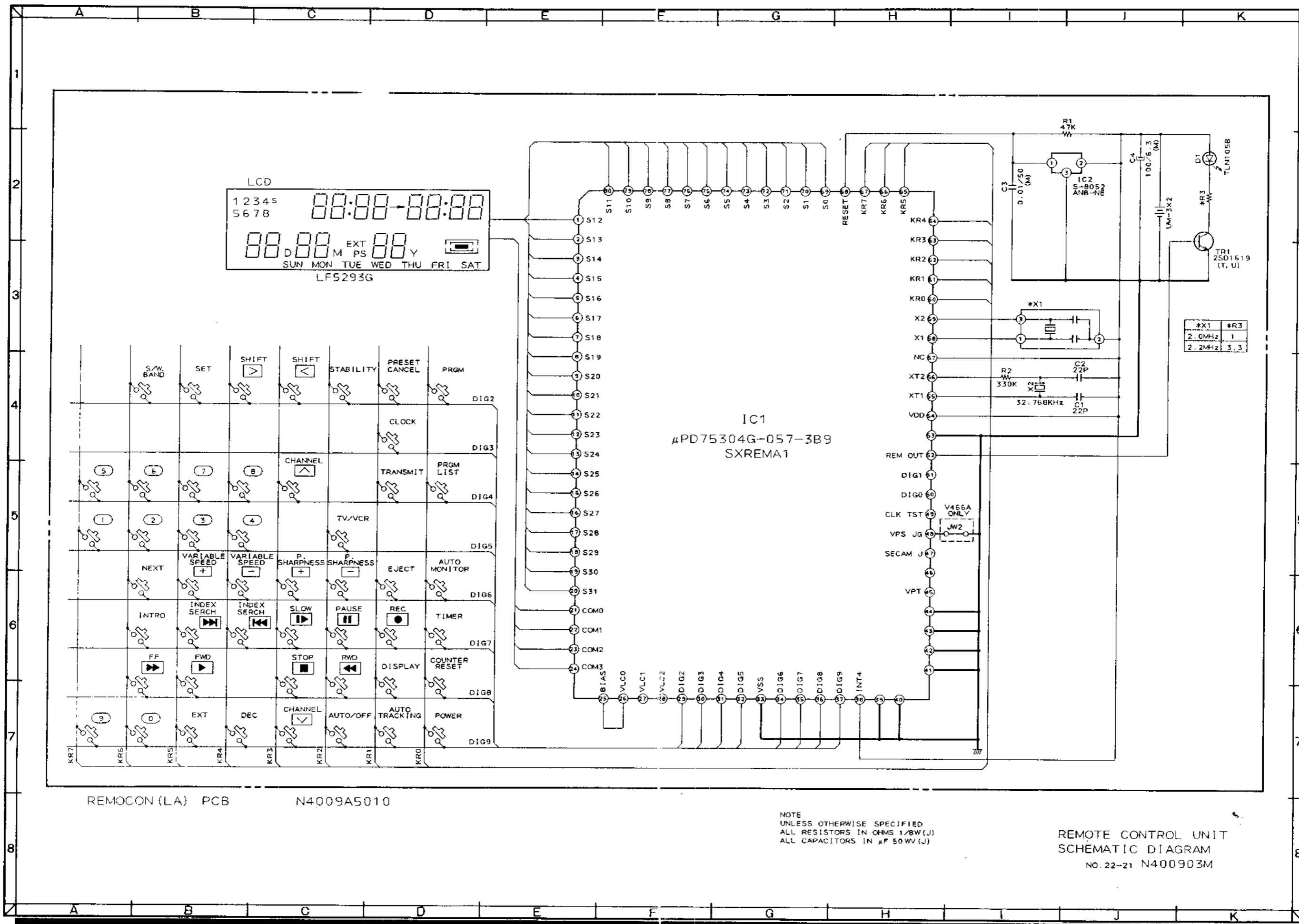


REMO-CON PCB

N4008C5010

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W(J)

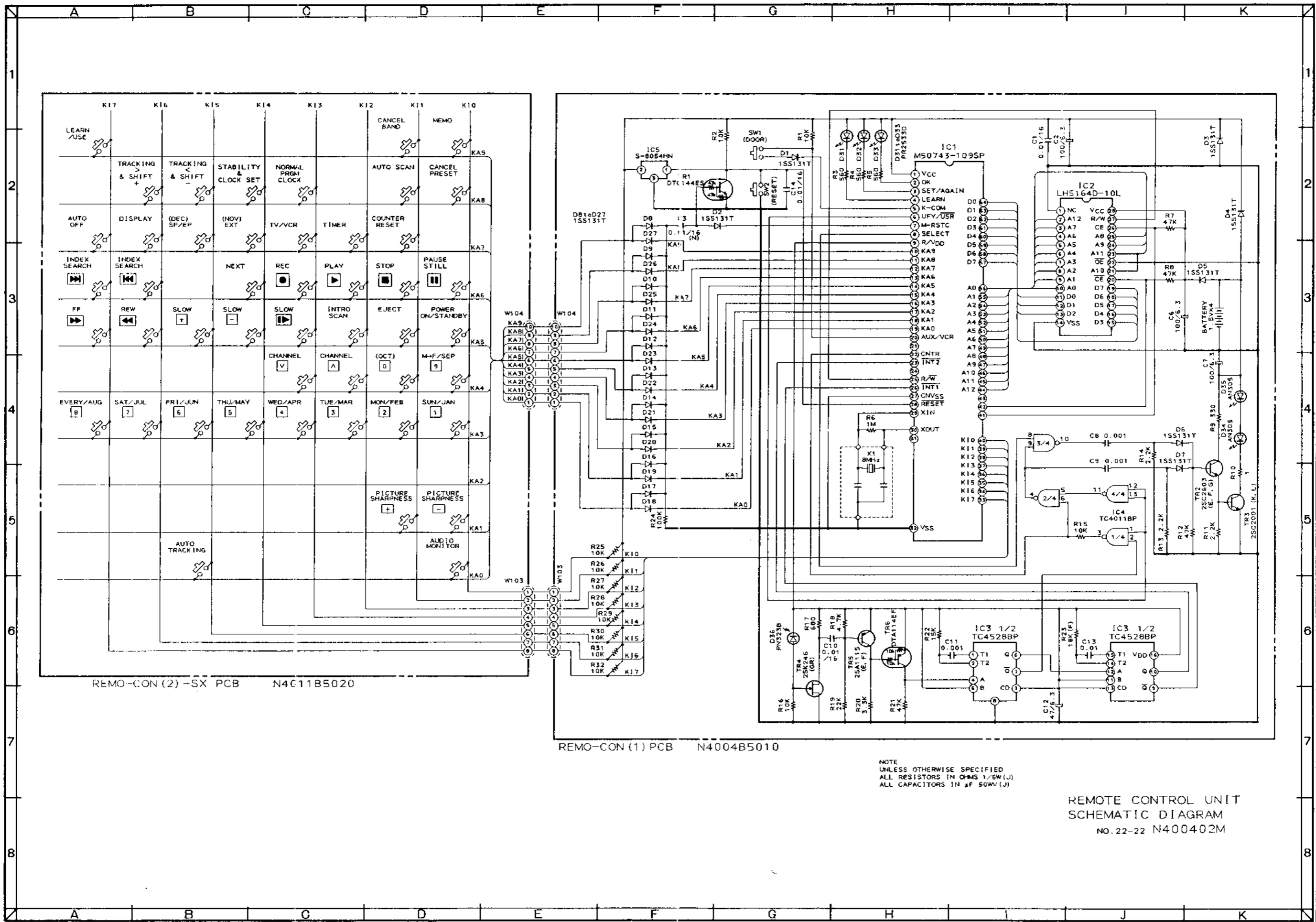
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM
NO. 22-20 N400801F



REMOCON (LA) PCB N4009A5010

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W(J)
ALL CAPACITORS IN μ F 50WV(J)

REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM
NO. 22-21 N400903M



NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS 1/5W(J)
 ALL CAPACITORS IN pF 50WV(J)

REMOTE CONTROL UNIT
 SCHEMATIC DIAGRAM
 NO. 22-22 N400402M

AKAI

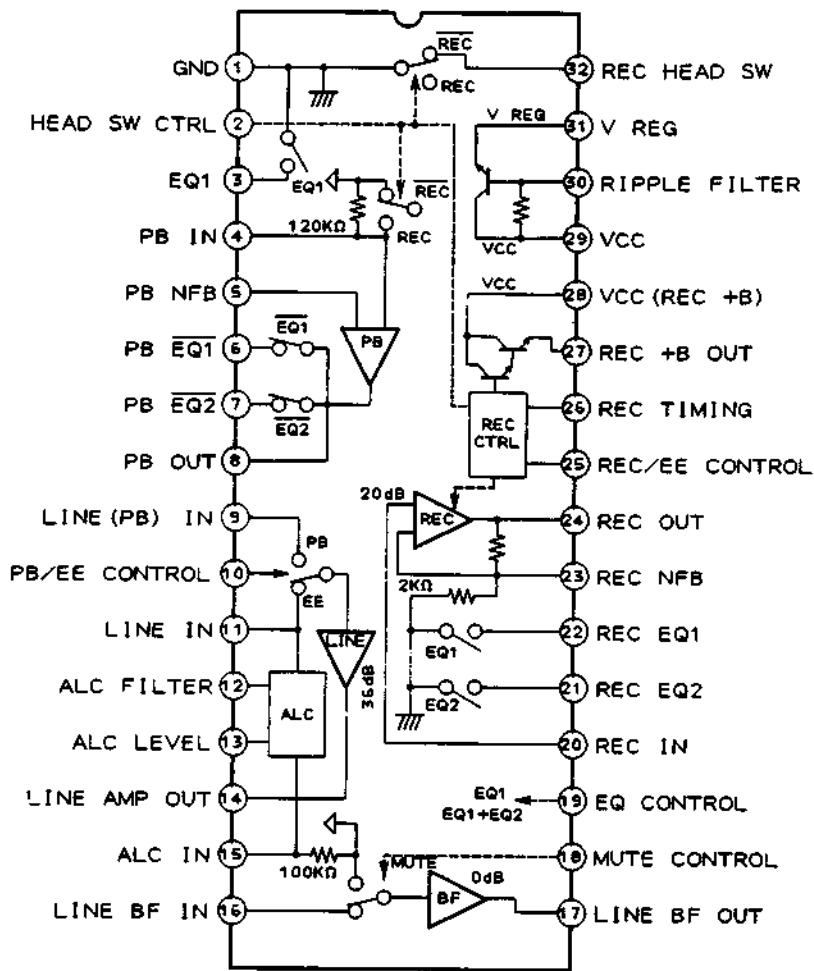
MODEL **VS-422**^{EOH}
MODEL **VS-425**^{EM/EOG/EOH}
MODEL **VS-427**^{EK}, **467**^{EK}, **485**^{EK}

SCHEMATIC DIAGRAMS AND PC BOARDS

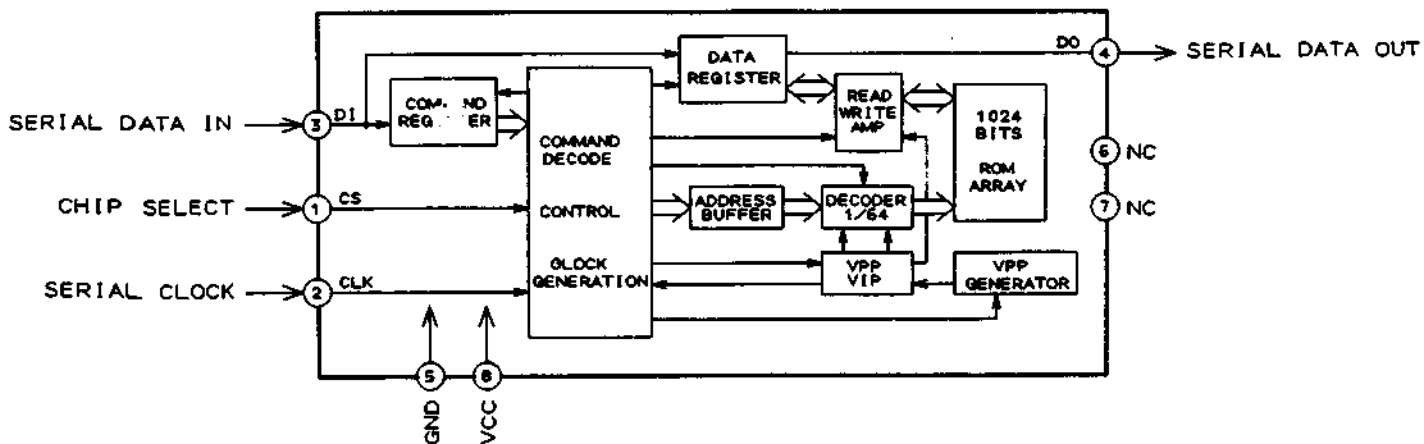
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BA7765AS (AUDIO SIGNAL REC/PB AMPLIFIER)



BR93C46 (64x16BIT EEP ROM)



★ INFORMATION

SYMBOLS OF MODEL NAME FOR PRIMARY DESTINATION

Symbol indicates the destination of the units as listed below.

Symbol	Classification	Principal Destination	System	
			Color	Broadcast
EA	S	Australia	PAL	B, G
ED	E	China	PAL	D
EDG	E	East Europe	PAL	D, K
EDI	E	China, Hong Kong	PAL	D, K, I
EG	E	Spain, Northern Europe, Other	PAL	B, G
	Y7	Saudi Arabia		
EK	B	U.K.	PAL	I
	Y1	Hong kong		
EM	E	Middle East	PAL	B, G
	Y7	Saudi Arabia		
EO	E	Holland, Switzerland, Northern Europe	PAL	B, G
	V	Italy		
EOH	E	Holland, Belgium	PAL	B, G
	V	Italy		
EOG	V	W. Germany	PAL	B, G
ES	E	South Africa, Ireland, Hong kong	PAL	I
EV	E	South-East Asia	PAL	B, G
	U	Middle East, South-East Asia		
	Y1	New Zealand		
	Y7	Saudi Arabia		
EZ	S	New Zealand	PAL	B, G
EGN	E	Middle East	PAL, NTSC	B, G
	Y7	Saudi Arabia		
S	E	France	SECAM	L
SK	E	Latin America, Oceania, SECAM-OIRT	SECAM	K, K1
SEG	E	France, Switzerland	SECAM, PAL	L, B, G
U	A	U.S.A.	NTSC	M
	C	Canada		
UM	U	Latin America	NTSC	M
J	J	Japan	NTSC	M

Quick start function

This VCR contains the quick start function.

When a video tape is inserted into this VCR, the QUICK START indicator will automatically light on the front panel. This indicates that the VCR is in the quick start mode and that any function button pressed will operate immediately. If a function button is not pressed within 5 minutes, the indicator will disappear and the VCR will be released from the quick start mode. If the play or record button is pressed after the indicator has disappeared, there will be a short time before the VCR responds.

Automatic functions

This VCR contains the following auto functions.

1. Auto power on

The VCR power is automatically turned on when the tape is inserted.

2. Auto play

If the video tape's recording defeat tab has been removed, playback will begin automatically when the tape is inserted into the VCR.

3. Auto tape reject

If a video tape with its recording defeat tab removed is loaded, the VCR will automatically eject it when the REC or TIMER button is pressed.

4. Power off eject

Even when the VCR's power is off, pressing the EJECT button will turn the power on and eject the tape. Once ejected the power will be turned off automatically.

5. Auto counter display

When the display mode is on, the tape counter will be displayed on the TV screen automatically during fast forward or rewind.

6. Auto rewind

The video tape is automatically rewound when the end of the tape is reached during the play, recording or quick finder forward mode. (Auto rewind will not function during the next mode when it has been set after the timer recording, fast forward or recording mode.)

7. Auto dimmer display

Between the hours of 23:00 and 6:00, if the VCR is not in use, the FL display is automatically dimmed to a lower light level.

Safety lock system (Remote control only)

This VCR's PLAY button can be locked to prevent access by small children.

This feature can be operated by the remote control only.

To lock: With the VCR POWER ON, press and hold the remote control's stop button for approx. 8 seconds. The safety lock indicator \rightarrow will appear on the FL display to indicate that the VCR is locked.

To unlock: Press and hold the remote control's play button for approx. 8 seconds. The safety lock indicator will flash and disappear from the display.

Multi-language display

The language of your choice can be selected for the on-screen display. You can choose any one of the following languages: English, German, Spanish, French, Italian, Dutch, Finnish or Swedish. If a language is not selected, the VCR will select English automatically.

- 1) Press the AUTO/OFF button on the remote control unit. The language list will be displayed on the TV screen.
- 2) Select the desired number with the multi-function buttons.

Variable speed playback (Remote control only)

The VARIABLE SPEED +, - buttons make playback speed increase or decrease possible with the remote control.

The tape speed can be increased up to 15 times the normal playback speed in the forward or reverse directions. In the forward direction, the speed can also be decreased to 1/12 of the normal playback speed.

Press the remote control's VARIABLE SPEED + or - button repeatedly during playback until you reach the desired speed.

During this mode, no sound will be heard.

Playback picture sharpness adjustment (Remote control only)

Playback picture sharpness adjustment is now possible with the remote control.

Press the PICTURE SHARPNESS + button repeatedly to sharpen the picture or press the - button to soften the picture.

INTRO SCAN system (Remote control only)

This VCR is capable of quickly fast forwarding (or rewinding) to the beginning of each recorded segment on a tape, briefly playing back that segment, and then fast forwarding (or rewinding) to the next segment.

This system works in combination with the control signal which is recorded at the beginning of each recorded segment.

Press the INTRO SCAN button on the remote control during the "play", "stop", "fast forward" or "rewind" mode. The VCR will immediately fast forward (or rewind) the tape to the beginning of the program and play back about the first 8 seconds. The VCR will then again fast forward (or rewind) the tape to the beginning of the next recorded segment and again play back the first 8 seconds of the program.

This operation continues until the end of the tape (or the beginning of the tape) or another mode (such as PLAY or STOP) is chosen. During the INTRO SCAN mode, the index number will be displayed on the TV screen and flash on the FL display. This number will advance each time an index code is found. The INDX indicator will light on the FL display during the intro scan mode.

While intro scan is searching for the beginning of the program, the fast forward (or rewind) indicator lights and the play indicator flashes. During the 8 seconds of playback, the play indicator lights and the fast forward (or the rewind) indicator flashes.

INDEX SEARCH System (Remote control only)

Use the index search mode to jump directly to the beginning of any recorded segment, within 99 segments of your starting point, in either the forward or reverse direction. Using the index code (automatically added when tapes are recorded on this VCR) as a guide, the VCR forwards or rewinds the video tape to the segment you have chosen and begins playback automatically. Because the index search feature uses the index code that is added to the tape when programmes are originally recorded, this feature will only operate with tapes that include this index code.

Press the INDEX SEARCH forward or reverse button the number of index codes you wish to skip on the remote control.

The tape will be fast forwarded or quickly rewound to the desired segment and playback will begin automatically. During the index search mode the index number will be displayed on the TV screen and flash on the FL display. This number will decrease each time an index code is found.

TEST MODE

To set the VCR to the TEST MODE, press and hold both the "POWER" and "EJECT" buttons on the front panel, then plug in the AC power cord. The TEST MODE can also be set by pressing the SYSTEM RESET button while pressing both the "POWER" and "EJECT" buttons.

When the TEST MODE has been engaged, the QUICK START indicator turns on even when the POWER is turned OFF.

The TEST MODE can be cancelled by disconnecting the AC power cord or simply by pressing the SYSTEM RESET button.

1) TRACKING POSITION DISPLAY

In the SP play mode, pressing the manual TRACKING buttons during playback or when the auto tracking system is operating displays tracking position data. Data is displayed in 64 steps (in hexadecimal numbers from "00" to "3F") in the channel number indicator segment on the FL display.

Pressing the PICTURE SHARPNESS + button sets tracking to the maximum "3F" tracking position directly during playback and pressing the - button sets it to the minimum "00" position.

Pressing the PLAY button during playback sets tracking to the center position automatically.

Pressing the MEMO button will change the FL display's tracking indication to the center of the tracking range. (This tracking data will be kept in EP-ROM IC even when the TEST MODE has been reset. Therefore, do not forget to return to the original center position "1F". Press the manual TRACKING buttons to set the indication to "1F", then press the MEMO button.)

2) FL DISPLAY CONFIRMATION

By pressing the QUICK TIMER "M" button on the front panel, all indicator segments in the FL display will light up.

3) TIMER FUNCTION CONFIRMATION

During the TEST MODE, the clock's minute display will advance by one every second to facilitate quick timer function confirmation.

4) SUSPENSION OF THE TAPE PROTECTION SYSTEM

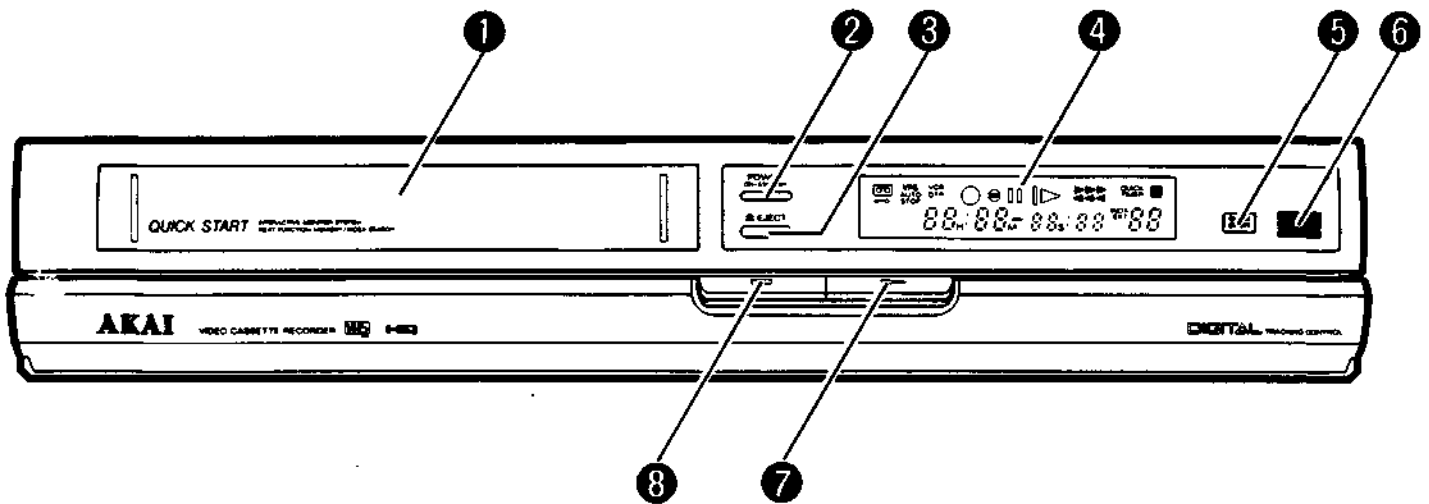
When the VCR is not in the TEST MODE, the REC PAUSE mode will be released after 30 minutes in order to protect the tape. The "STILL" mode will also be released after 5 minutes. During the TEST MODE however, the tape protection system will not operate.

5) AUTO PRESETTING OF THE TV STATIONS

Once you have pressed the "PRESET" and "AUTO SCAN" buttons during the TEST MODE, TV stations will be memorized automatically when the system finds TV stations.

I. CONTROLS

1-1. FRONT PANEL (VS-422EOH)



1 Cassette loading slot

Load the VHS video tape here.

2 POWER ON/STANDBY button

To turn the VCR on or off (standby mode).

3 ▲ EJECT button

To eject the video tape. The tape can be ejected even when the VCR's power is off.

4 FL (Fluorescent) display

Provides visual reference of the VCR's operating modes.

5 QUICK START indicator

Lights when the VCR is in the quick start mode.

6 Remote sensor window

For reception of the remote control's signal.

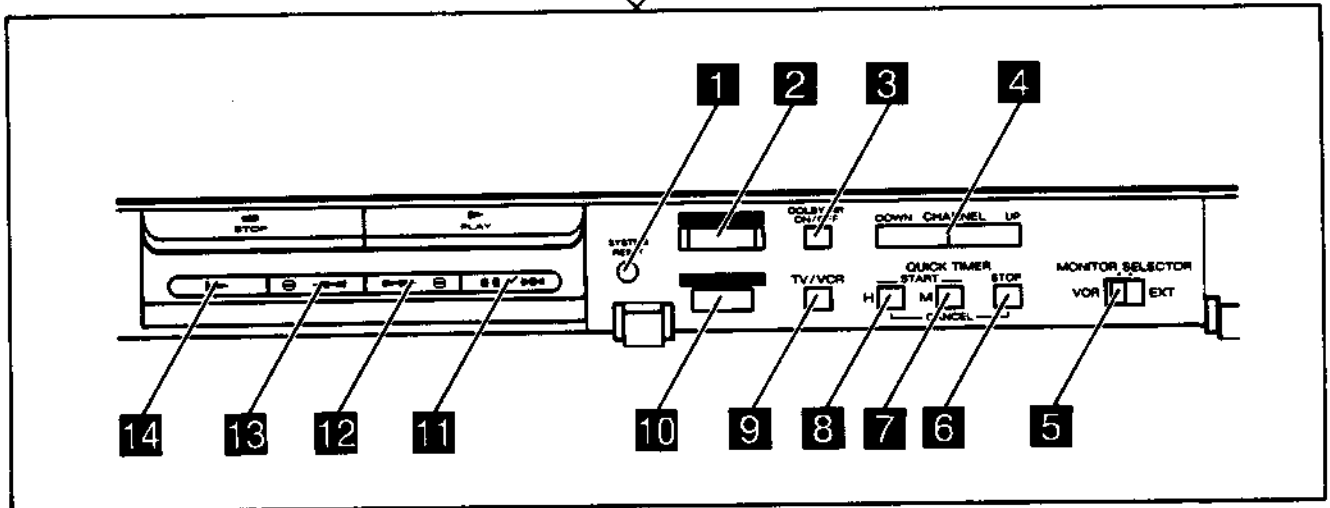
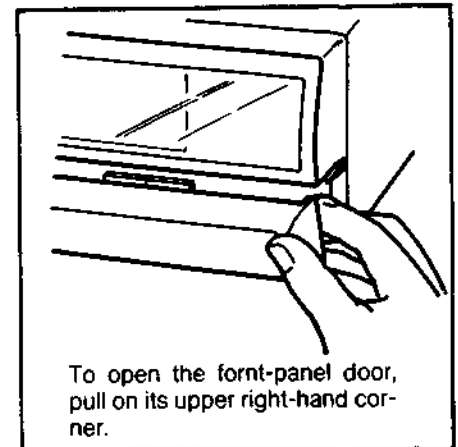
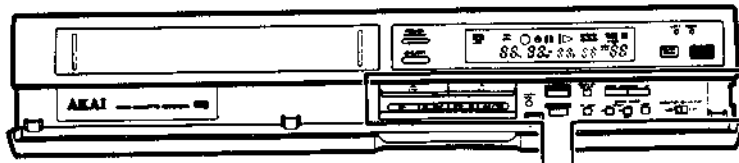
7  Play button


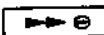
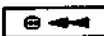

To start video tape playback.

8  Stop button

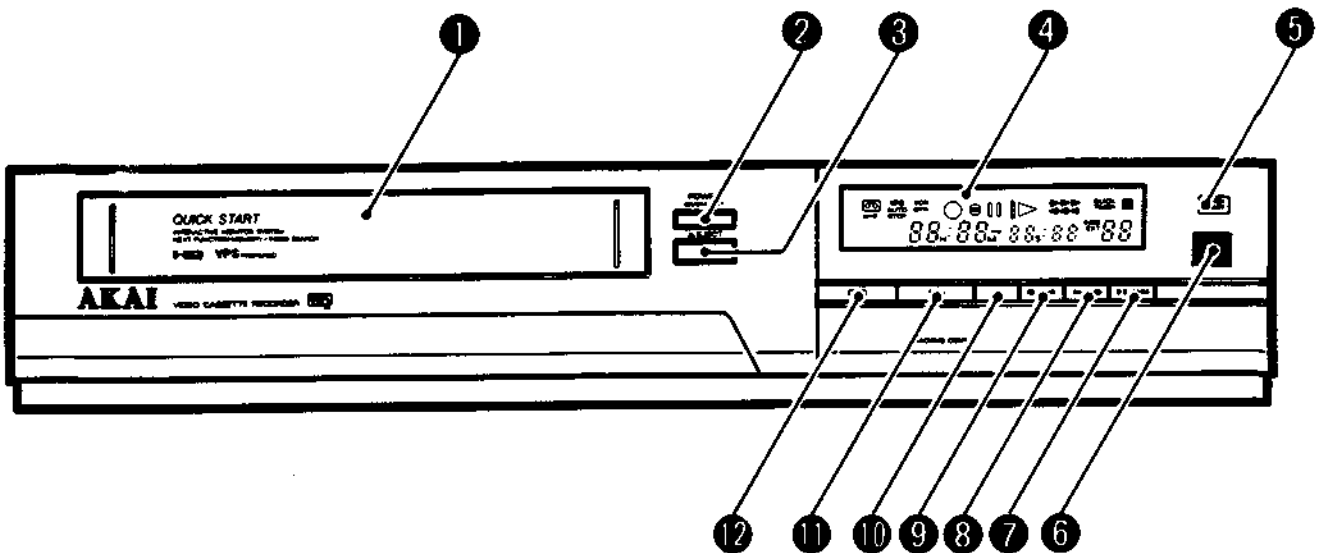
To stop the video tape.

1-2. SUB PANEL (VS-422EOH)



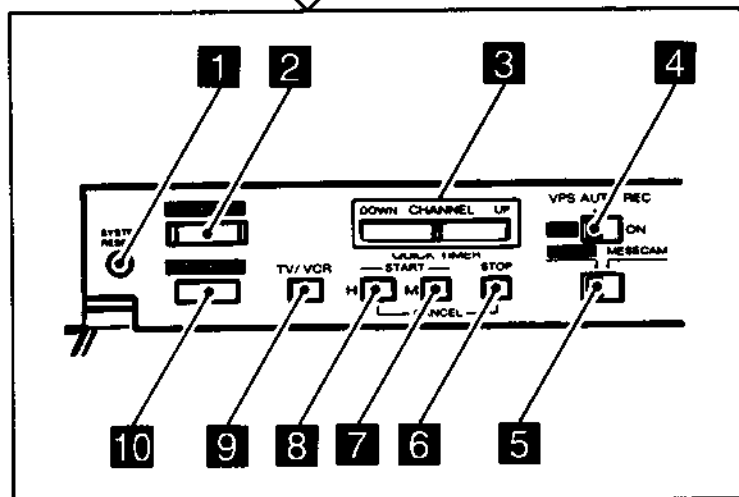
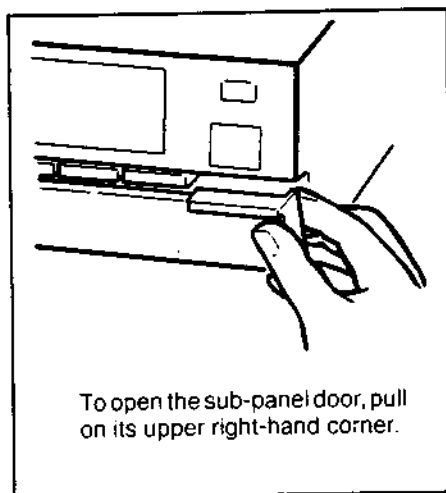
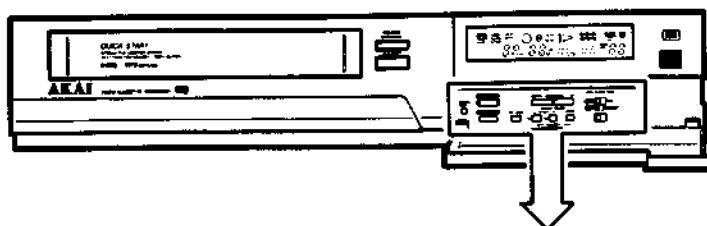
- 1 SYSTEM RESET button**
To reset the VCR if malfunction has occurred. Clock and programme data will be cancelled when the SYSTEM RESET button is pressed.
- 2 REC (Record) button**
To start recording.
- 3 DOLBY NR ON/OFF button**
To turn the Dolby NR system (B-type) on or off for recording or playback.
- 4 CHANNEL buttons**
To select channels.
- 5 MONITOR SELECTOR switch**
To set the VCR for output of the VCR's internal signal (VCR position) or for output of a signal received externally (EXT position). When this selector is set to the EXT position, only the signal received from an external source connected to the external input (VIDEO IN/AUDIO IN) terminals will be output by the VCR. For audio and picture output when using the VCR, this selector must be set to the VCR position.
- 6 QUICK TIMER STOP button**
To set the stop time for quick timer recording. Also used to cancel programmes preset for quick timer recording.
- 7 QUICK TIMER M (Minute) button**
To set the start time minutes for quick timer recording.
- 8 QUICK TIMER H (Hour) button**
To set the start time hour for quick timer recording. Also used to cancel programmes preset for quick timer recording.
- 9 TV/VCR button**
To watch a programme on a different TV channel than the one you are recording.
- 10 TIMER button**
To set or cancel the timer recording mode.
- 11  Pause/still button**
To set the VCR to the recording pause mode or the recording or stop mode, or to set it to the still mode from the playback mode.
- 12  Fast forward button**
To fast forward the video tape. Also to start quick finder forward during playback.
- 13  Rewind button**
To rewind the video tape. Also to start quick finder reverse during playback.
- 14  Slow button**
To start slow motion playback.

1-3. FRONT PANEL (VS-425EM,EOG,EOH)



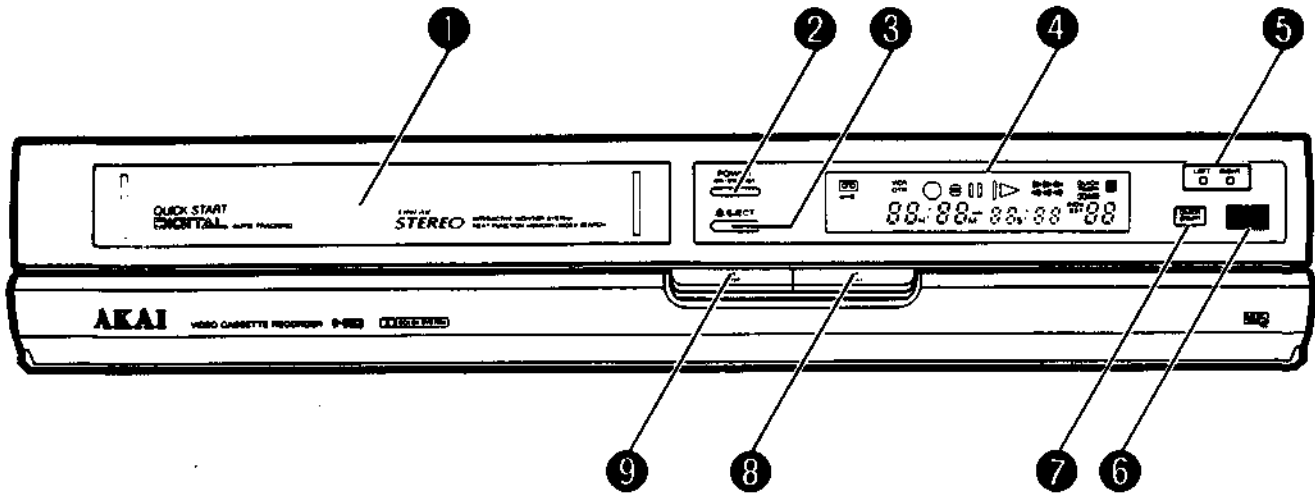
- 1** **Cassette loading slot**
Load the VHS video tape here.
- 2** **POWER ON/STANDBY button**
To turn the VCR on or off (standby mode).
- 3** **EJECT button**
To eject the video tape. The tape can be ejected even when the VCR's power is off.
- 4** **FL (Fluorescent) display**
Provides visual reference of the VCR's operating modes.
- 5** **QUICK START indicator**
Lights when the VCR is in the quick start mode.
- 6** **Remote sensor window**
For reception of the remote control's signal.
- 7** **Pause/still button**
To set the VCR to the recording pause mode from the recording or stop mode, or to set it to the still mode from the playback mode.
- 8** **Fast forward button**
To fast forward the video tape. Also to start quick finder forward during playback.
- 9** **Rewind button**
To rewind the video tape. Also to start quick finder reverse during playback.
- 10** **Slow button**
To start slow motion playback.
- 11** **Play button**
To start video tape playback.
- 12** **Stop button**
To stop the video tape.



1-4. SUB PANEL (VS-425EM,EOG,EOH)



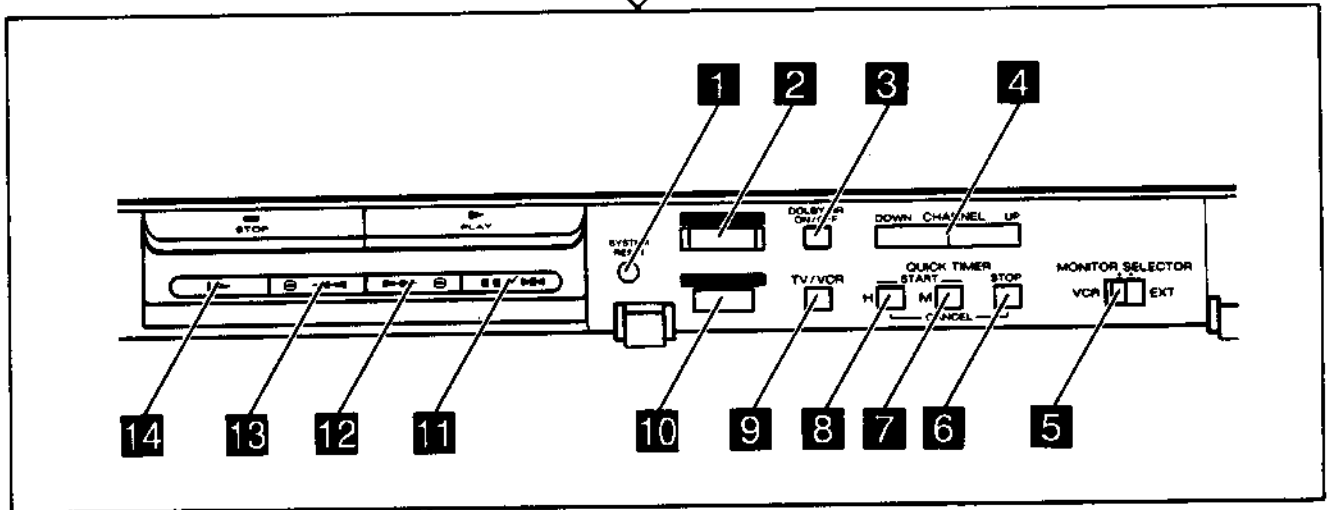
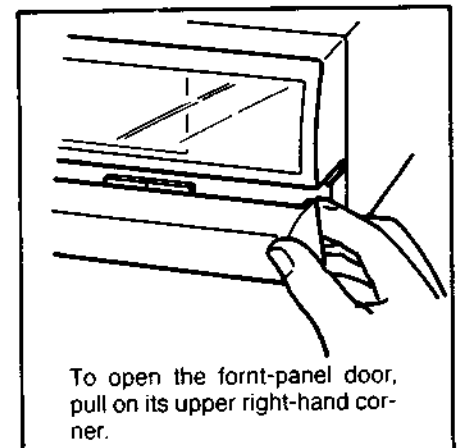
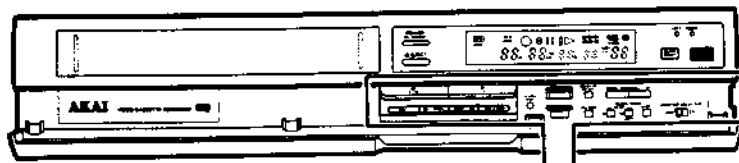
- 1 SYSTEM RESET button**
To reset the VCR if malfunction has occurred. Clock and programme data will be cancelled when the SYSTEM RESET button is pressed.
- 2 REC (Record) button**
To start recording.
- 3 CHANNEL buttons**
To select channels.
- 4 VPS AUTO REC switch (except VS-425EM)**
To set the VPS video programme system on or off. (This feature is optional and requires a VPS adapter available from your video dealer.)
- 5 Video mode switch (VS-425EOH ONLY)**
To select the type of signal to be played back or recorded.
PAL: Set to this position for PAL color system playback or recording. (This switch should normally be set to this position).
MESECAM: Set to this position for MESECAM color system playback or recording. (MESECAM: Middle East SECAM system B/G.)
- 6 QUICK TIMER STOP button**
To set the stop time for quick timer recording. Also used to cancel programmes preset for quick timer recording.
- 7 QUICK TIMER M (Minute) button**
To set the start time minutes for quick timer recording.
- 8 QUICK TIMER H (Hour) button**
To set the start time hour for quick timer recording. Also used to cancel programmes preset for quick timer recording.
- 9 TV/VCR button**
To watch a programme on a different TV channel than the one you are recording.
- 10 TIMER button**
To set or cancel the timer recording mode.





1-5. FRONT PANEL (VS-427EK, 467EK)



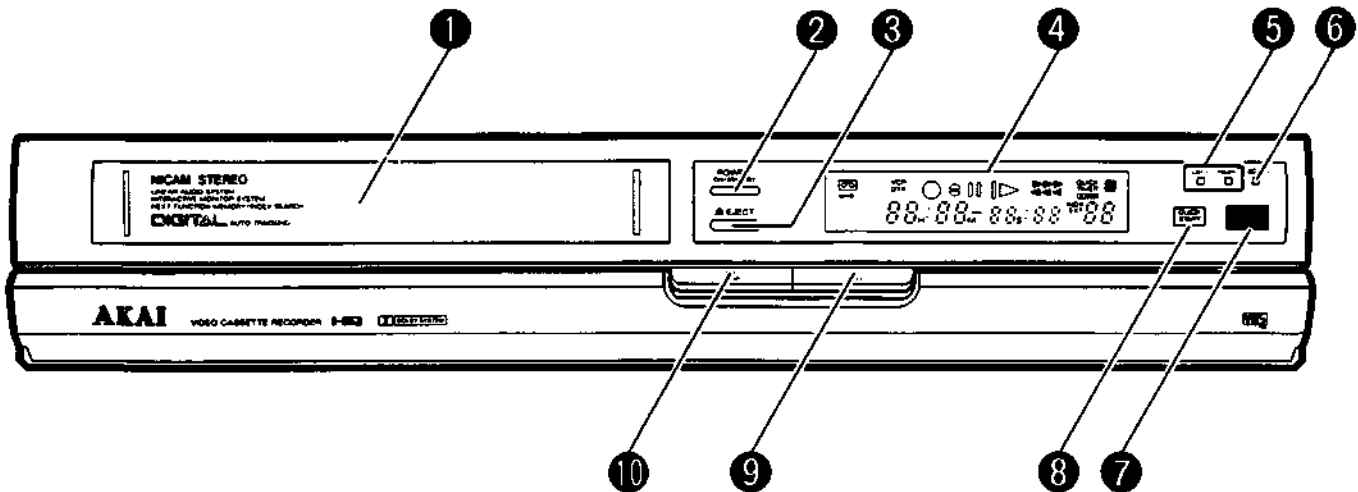
- 1 Cassette loading slot**
Load the VHS video tape here.
- 2 POWER ON/STANDBY button**
To turn the VCR on or off (standby mode).
- 3 ▲ EJECT button**
To eject the video tape. The tape can be ejected even when the VCR's power is off.
- 4 FL (Fluorescent) display**
Provides visual reference of the VCR's operating modes.
- 5 Audio output indicators**
Indicate audio output mode.
- 6 Remote sensor window**
For reception of the remote control's signal.
- 7 QUICK START indicator**
Lights when the VCR is in the quick start mode.
- 8  Play button**
To start video tape playback
- 9  Stop button**
To stop the video tape.

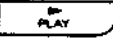
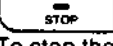
1-6. SUB PANEL (VS-427EK, 467EK)



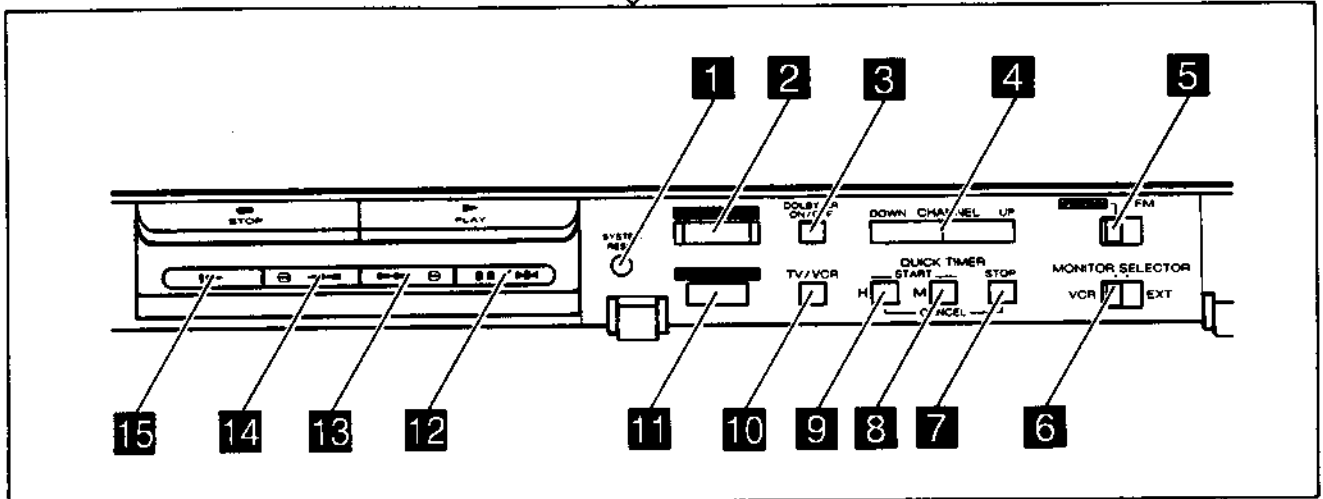
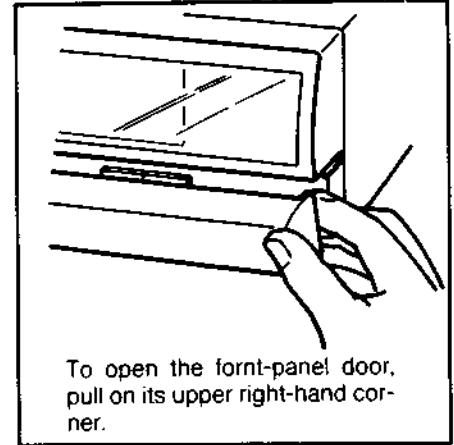
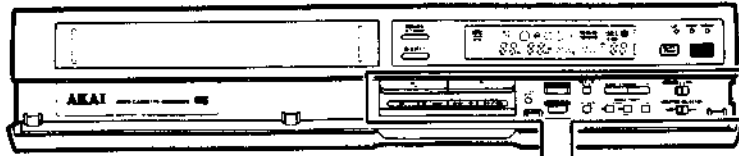
- 1 SYSTEM RESET button**
To reset the VCR if malfunction has occurred. Clock and programme data will be cancelled when the SYSTEM RESET button is pressed.
- 2 REC (Record) button**
To start recording.
- 3 DOLBY NR ON/OFF button**
To turn the Dolby NR system (B-type) on or off for recording or playback.
- 4 CHANNEL buttons**
To select channels.
- 5 MONITOR SELECTOR switch**
To set the VCR for output of the VCR's internal signal (VCR position) or for output of a signal received externally (EXT position). When this selector is set to the EXT position, only the signal received from an external source connected to the external input (VIDEO IN/AUDIO IN) terminals will be output by the VCR. For audio and picture output when using the VCR, this selector must be set to the VCR position.
- 6 QUICK TIMER STOP button**
To set the stop time for quick timer recording. Also used to cancel programmes preset for quick timer recording.
- 7 QUICK TIMER M (Minute) button**
To set the start time minutes for quick timer recording.
- 8 QUICK TIMER H (Hour) button**
To set the start time hour for quick timer recording. Also used to cancel programmes preset for quick timer recording.
- 9 TV/VCR button**
To watch a programme on a different TV channel than the one you are recording.
- 10 TIMER button**
To set or cancel the timer recording mode.
- 11  Pause/still button**
To set the VCR to the recording pause mode from the recording or stop mode, or to set it to the still mode from the playback mode.
- 12  Fast forward button**
To fast forward the video tape. Also to start quick finder forward during playback.
- 13  Rewind button**
To rewind the video tape. Also to start quick finder reverse during playback.
- 14  Slow button**
To start slow motion playback.

1-7. FRONT PANEL (VS-485EK)



- 1 Cassette loading slot**
Load the VHS video tape here.
- 2 POWER ON/STANDBY button**
To turn the VCR on or off (standby mode).
- 3 ▲ EJECT button**
To eject the video tape. The tape can be ejected even when the VCR's power is off.
- 4 FL (Fluorescent) display**
Provides visual reference of the VCR's operating modes.
- 5 Audio output indicators**
Indicate audio output mode.
- 6 NICAM indicator**
Lights when a NICAM broadcast is received.
- 7 Remote sensor window**
For reception of the remote control's signal.
- 8 QUICK START indicator**
Lights when the VCR is in the quick start mode.
- 9  Play button**
To start video tape playback
- 10  Stop button**
To stop the video tape.

1-8. SUB PANEL (VS-485EK)



1 SYSTEM RESET button

To reset the VCR if malfunction has occurred. Clock and programme data will be cancelled when the SYSTEM RESET button is pressed.

2 REC (Record) button

To start recording.

3 DOLBY NR ON/OFF button

To turn the Dolby NR system (B-type) on or off for recording or playback.

4 CHANNEL buttons

To select channels.

5 NICAM switch

To select VCR audio reception NICAM or regular TV sound (FM).

6 MONITOR SELECTOR switch

To set the VCR for output of the VCR's internal signal (VCR position) or for output of a signal received externally (EXT position). When this selector is set to the EXT position, only the signal received from an external source connected to the external input (VIDEO IN, AUDIO IN) terminals will be output by the VCR.

For audio and picture output when using the VCR, this selector must be set to the VCR position.

7 QUICK TIMER STOP button

To set the stop time for quick timer recording. Also used to cancel programmes preset for quick timer recording.

8 QUICK TIMER M (Minute) button

To set the start time minutes for quick timer recording.

9 QUICK TIMER H (Hour) button

To set the start time hour for quick timer recording. Also used to cancel programmes preset for quick timer recording.

10 TV/VCR button

To watch a programme on a different TV channel than the one you are recording.

11 TIMER button

To set or cancel the timer recording mode.

12 Pause/still button

To set the VCR to the recording pause mode from the recording or stop mode, or to set it to the still mode from the playback mode.

13 Fast forward button

To fast forward the video tape. Also to start quick finder forward during playback.

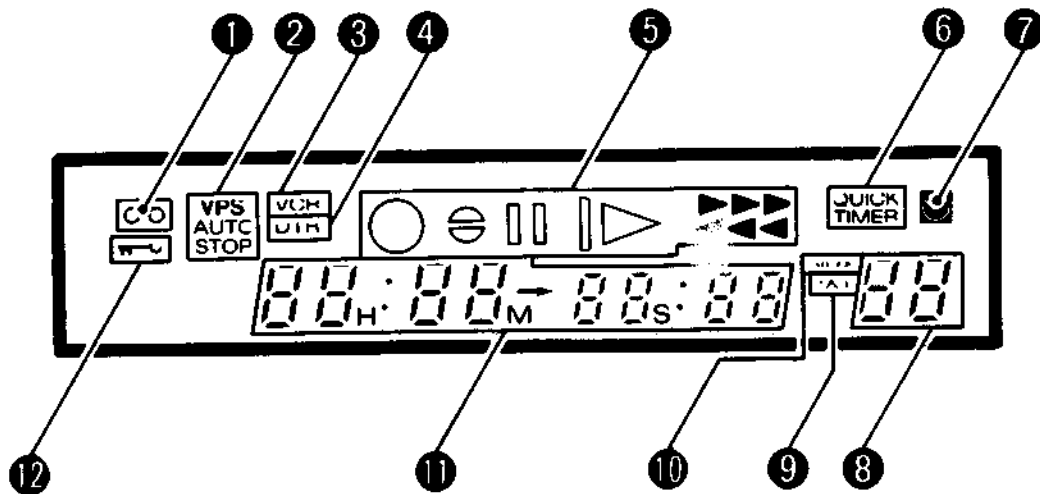
14 Rewind button

To rewind the video tape. Also to start quick finder reverse during playback.

15 Slow button

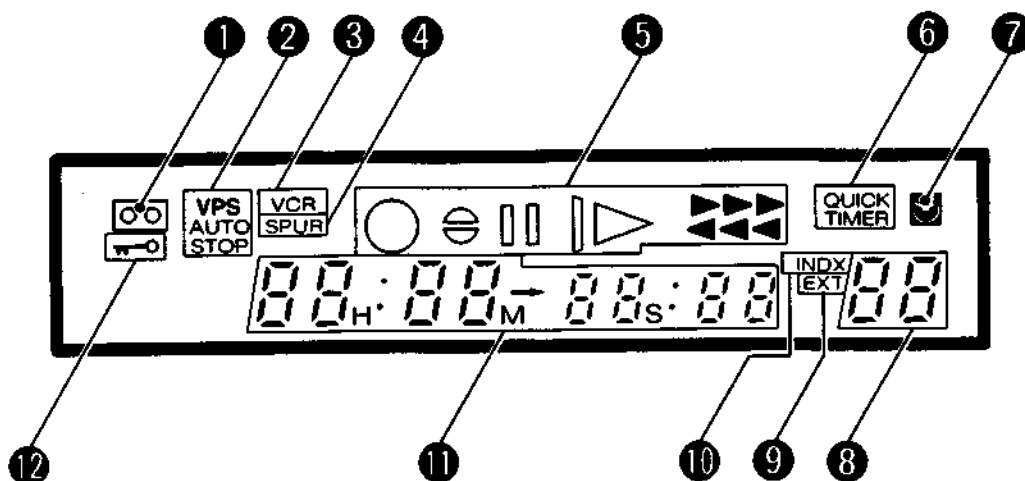
To start slow motion playback.

1-9. FL DISPLAY (VS-422EOH, 425EM, 425EOH)



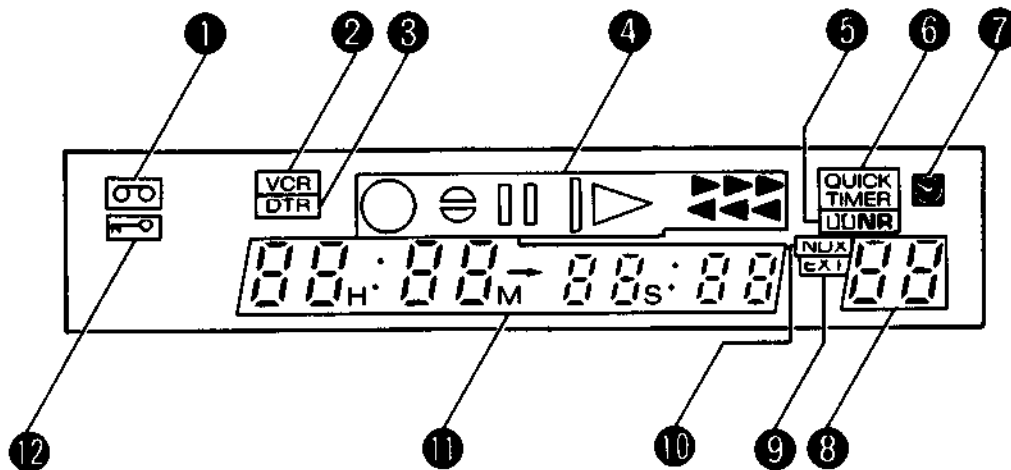
- 1 Tape load indicator**
Lights when the video tape has been loaded.
- 2 VPS AUTO STOP indicator (except VS-425EM)**
VPS lights when the VPS AUTO REC switch is ON and a VPS signal is received.
AUTO STOP lights during the VPS auto stop mode.
(This feature is optional and requires a VPS adapter available from your video dealer.)
- 3 VCR mode indicator**
Lights when the TV/VCR button is set to VCR.
- 4 DTR (Digital Tracking) Indicator**
Lights when digital auto tracking is operating.
- 5 Tape mode indicators**
Indicate what operation mode the video tape is in.
- 6 QUICK TIMER indicator**
Lights when the VCR is in the quick timer mode.
- 7 Timer indicator**
Lights when the VCR is in the timer recording mode.
- 8 Channel indicator**
Indicates the selected channel number. Also indicates the index number during index search, and programme number during intro scan.
- 9 EXT (External) indicator**
Indicates that the VCR is set for external input.
- 10 INDX (Index) indicator**
Lights during index search, intro scan and when index codes are added to the tape during recording.
- 11 Time/counter display**
Indicates the time and real time counter. Also indicates the tuning position during station tuning.
- 12 Safety lock indicator**
Lights when the VCR's play button has been locked.

1-10.FL DISPLAY (VS-425EOG)



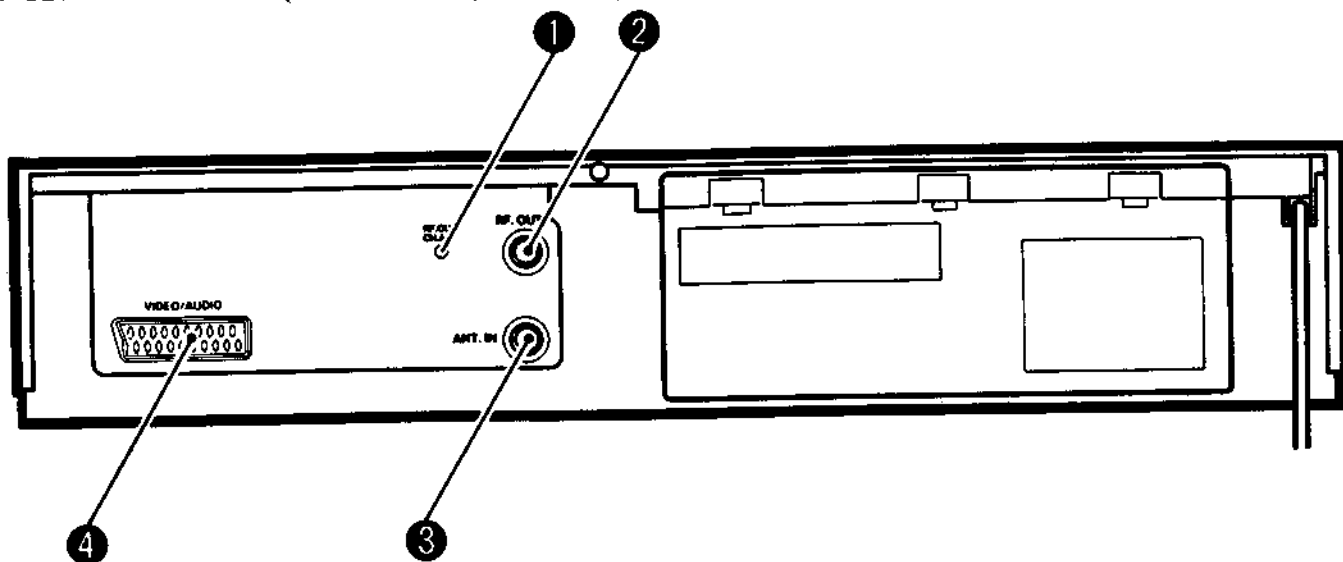
- 1 Tape load indicator**
Lights when the video tape has been loaded.
- 2 VPS AUTO STOP indicator**
VPS lights when the VPS AUTO REC switch is ON and a VPS signal is received.
AUTO STOP lights during the VPS auto stop mode.
(This feature is optional and requires a VPS adapter available from your video dealer.)
- 3 VCR mode indicator**
Lights when the TV/VCR button is set to VCR.
- 4 SPUR (Digital Tracking) indicator**
Lights when digital auto tracking is operating.
- 5 Tape mode indicators**
Indicate what operation mode the video tape is in.
- 6 QUICK TIMER indicator**
Lights when the VCR is in the quick timer mode.
- 7 Timer indicator**
Lights when the VCR is in the timer recording mode.
- 8 Channel indicator**
Indicates the selected channel number. Also indicates the index number during index search, and programme number during intro scan.
- 9 EXT (External) indicator**
Indicates that the VCR is set for external input.
- 10 INDX (Index) indicator**
Lights during index search, intro scan and when index codes are added to the tape during recording.
- 11 Time/counter display**
Indicates the time and real time counter. Also indicates the tuning position during station tuning.
- 12 Safety lock indicator**
Lights when the VCR's play button has been locked.

1-11. FL DISPLAY (VS-427EK, 467EK, 485EK)



- 1 Tape load indicator**
Lights when the video tape has been loaded.
- 2 VCR mode indicator**
Lights when the TV/VCR button is set to VCR.
- 3 DTR (Digital Tracking) indicator**
Flashes when digital auto tracking is operating.
- 4 Tape mode indicators**
Indicate what operation mode the video tape is in.
- 5 Dolby NR indicator**
Lights when the Dolby NR button is set to on.
- 6 QUICK TIMER indicator**
Lights when the VCR is in the quick timer mode.
- 7 Timer indicator**
Lights when the VCR is in the timer recording mode.
- 8 Channel indicator**
Indicates the selected channel number. Also indicates the index number during index search, and programme number during intro scan.
- 9 EXT (External) indicator**
Indicates that the VCR is set for external input.
- 10 INDX (Index) indicator**
Lights during index search, intro scan and when index codes are added to the tape during recording.
- 11 Time/counter display**
Indicates the time, real time counter. Also indicates the tuning position during station tuning.
- 12 Safety lock indicator**
Lights when the VCR's play button has been locked.

1-12. REAR PANEL (VS-422EOH, 425EOG, 425EOH)



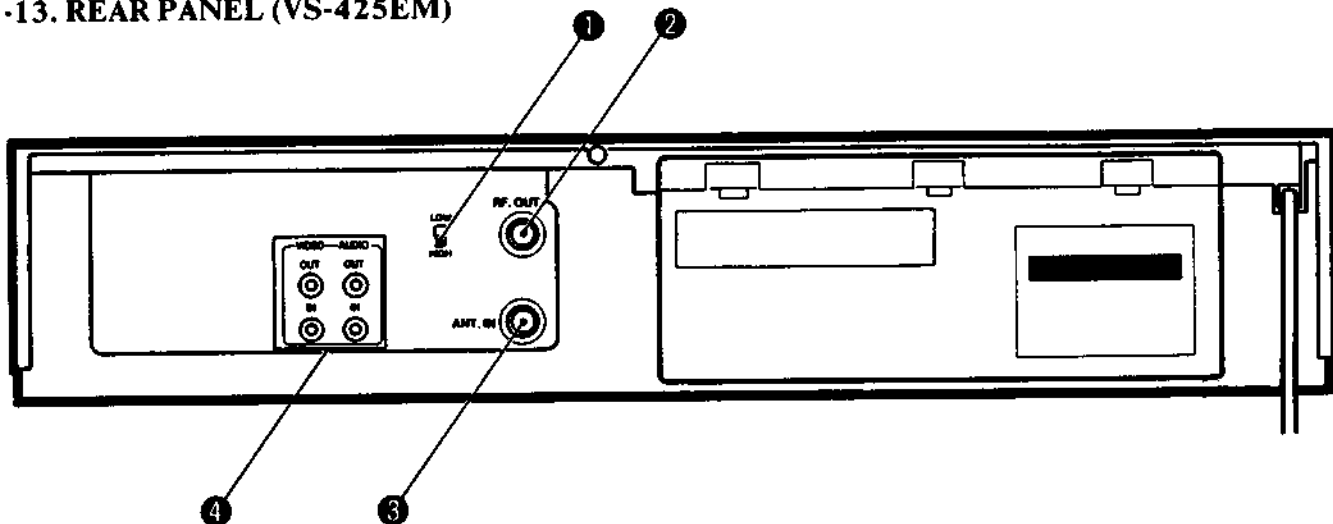
1 RF OUT CH. ADJ (Channel adjustment) screw
To select the output channel of the VCR.

2 RF. OUT terminal
To connect the VCR to the TV's ANTENNA IN terminal.

3 ANT. IN terminal
For TV antenna connection.

4 VIDEO/AUDIO connector
For connection of a TV or second VCR when using a video/audio connection cord.

1-13. REAR PANEL (VS-425EM)



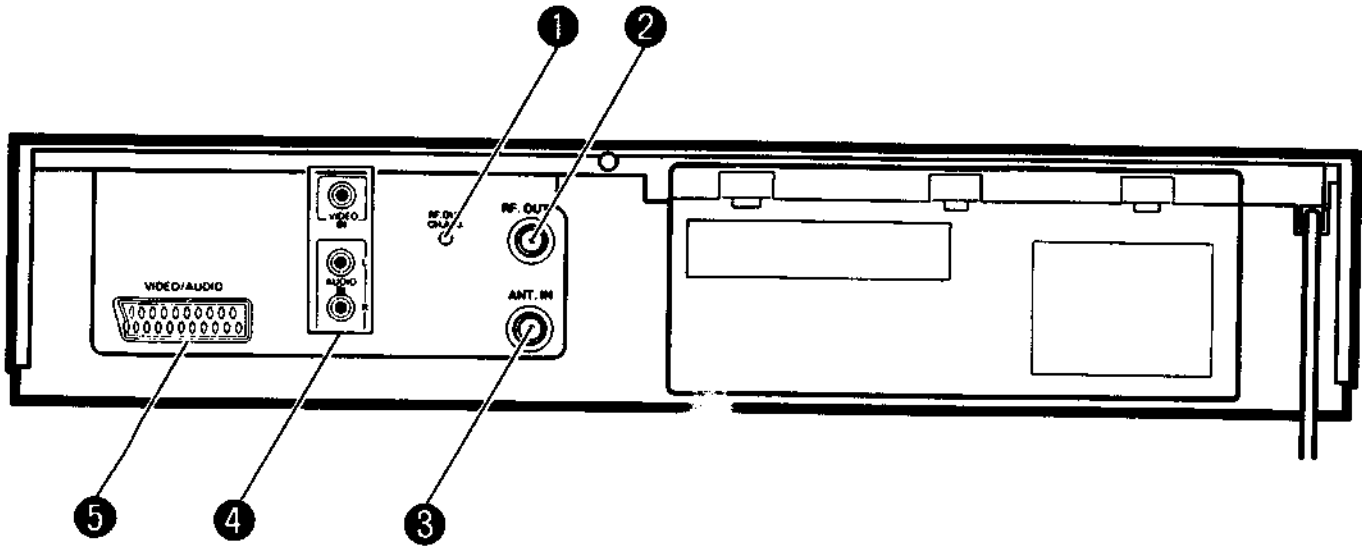
1 RF out switch
To select the output channel of the VCR.

2 RF. OUT terminal
To connect the VCR to the TV's ANTENNA IN terminal.

3 ANT. IN terminal
For TV antenna connection.

4 VIDEO/AUDIO IN/OUT terminals
For connection of a TV or second VCR.

1-14. REAR PANEL (VS-427EK, 467EK, 485EK)



1 RF OUT CH. ADJ (Channel adjustment) screw
To adjust the output channel of the VCR.

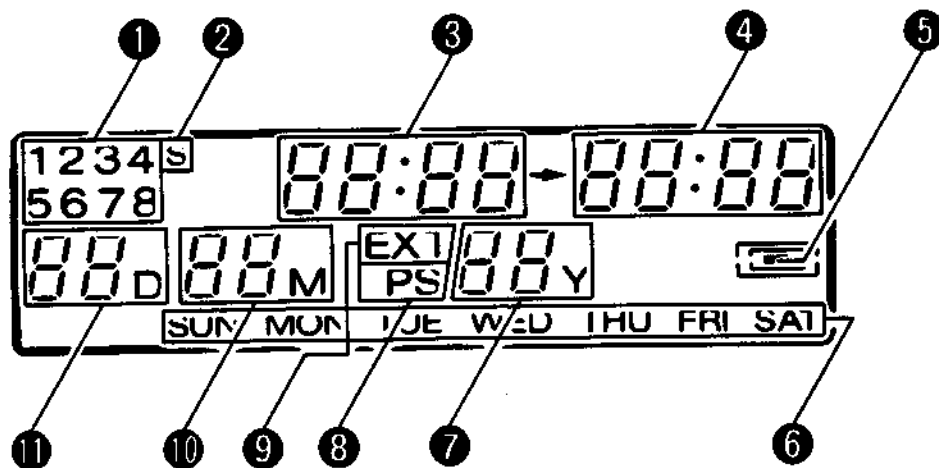
2 RF. OUT terminal
To connect the VCR to the TV's ANTENNA IN terminal.

3 ANT. IN terminal
For TV antenna connection.

4 External input (VIDEO IN, AUDIO IN) terminals
For connector of an external source such as a TV or TV tuner.


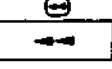
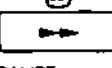




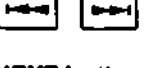

5 VIDEO/AUDIO connector
For connection of a TV or second VCR when using a video/audio connection cord.

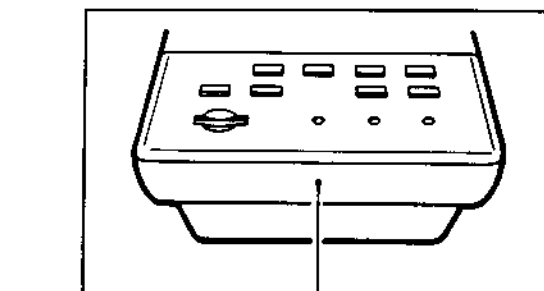
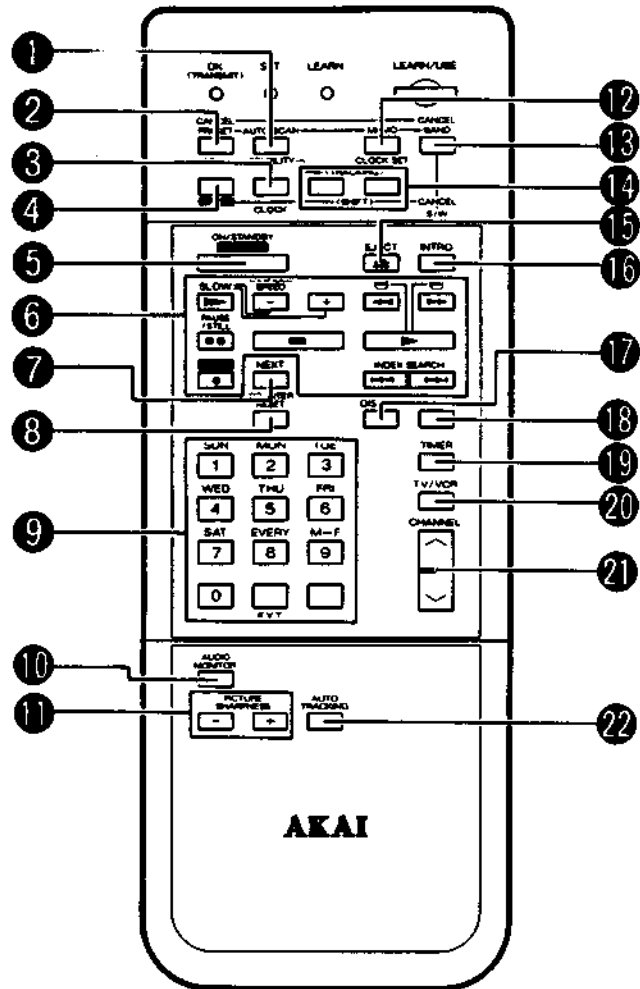
LC (Liquid Crystal) display



- 1 Programme number indicator**
Indicates the programme number.
- 2 S (Daylight saving time) indicator**
Indicates that the clock's time is set to the daylight saving time.
- 3 Clock, Start time indicator**
Indicates the present time or start time of a programme set for timer recording.
- 4 Stop time indicator**
Indicates the stop time of a programme set for timer recording.
- 5 Transmit indicator**
Lights when data in the remote control is transmitted to the VCR or ready to be transmitted.
- 6 Weekday indicator**
Indicates the weekday.
- 7 Year indicator**
Indicates the year.
Indicates the preset channel number.
- 8 PS (Preset) indicator**
- 9 EXT (External) indicator**
Indicates that the VCR is set to the external mode.
- 10 Month indicator**
Indicates the month.
- 11 Date indicator**
Indicates the date.

1-17. REMOTE CONTROL UNIT

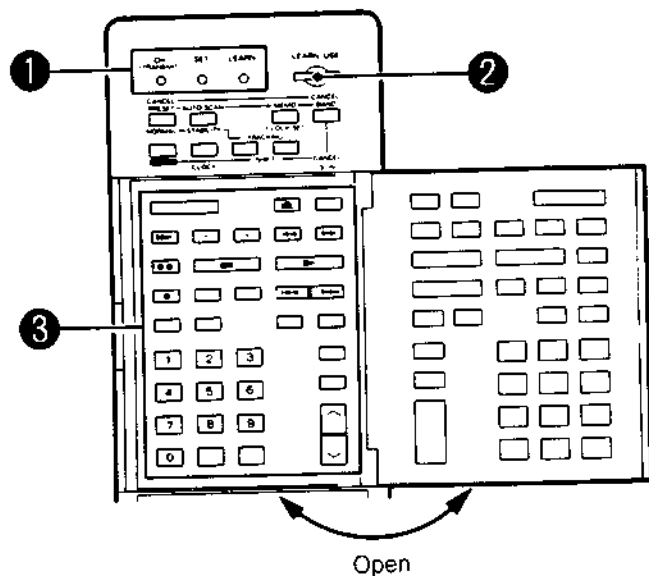
- 1 AUTO SCAN, STABILITY button**
To start automatic station scan when presetting TV stations. Also used to correct vertical picture shake.
- 2 CANCEL, PRESET, NORMAL button**
To set the VCR to the station presetting mode. Also used to set the cancel mode for preset stations.
- 3 CLOCK button**
To set the VCR to the clock setting mode.
- 4 PRGM (Programme) button**
To display the programme, clock screen on the TV screen.
- 5 POWER ON/STANDBY button**
To turn the VCR's power on or off (standby mode).
- 6 Tape transport buttons**
 -  Record button
 -  Rewind button
 -  Fast forward button
 -  PAUSE/STILL button
 -  Stop button
 -  Play button
 -  SLOW button
 -  VARIABLE SPEED buttons
 -  INDEX SEARCH reverse, forward buttons
- 7 NEXT button**
To display the next-mode patterns.
- 8 COUNTER RESET button**
To reset the tape counter.
- 9 Multi-function buttons**
Used for clock and programme setting. Also used to select channels
- 10 AUDIO MONITOR button**
To set the VCR for stereo, left channel or right channel audio output.
- 11 PICTURE SHARPNESS buttons**
To sharpen or soften the playback picture.
- 12 MEMO, CLOCK SET button**
To memorize clock data during clock setting. Also used to memorize stations during station presetting.
- 13 CANCEL, BAND button**
To cancel preset timer programmes or TV stations.
- 14 TRACKING, SHIFT buttons**
To correct preset data during clock or programme setting. Also used to adjust tracking manually during playback.



- 15 EJECT button**
To eject the video tape from the VCR.
- 16 INTRO button**
To set the VCR to the intro scan mode.
- 17 DISPLAY button**
To display the clock and tape counter on the TV screen
- 18 AUTO/C.F button**
To turn the language list screen on or off.
- 19 TIMER button**
To set or reset the timer recording mode.
- 20 TV/VCR button**
To watch a programme on a different TV channel than the one you are recording.
- 21 CHANNEL button**
To select channels.
- 22 AUTO TRACKING button**
To correct tracking automatically.

The universal buttons

Opening the remote control cover switches 36 of the regular control buttons to universal buttons that are capable of learning and reproducing up to 36 different function control signals from other remote control units.



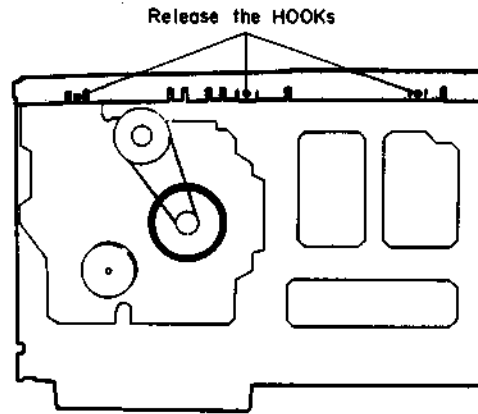
- 1 Universal function indicators**
Light when the remote control's universal function is being used. The OK (TRANSMIT) indicator also lights when the regular remote control buttons are used.
- 2 LEARN/USE button**
Used to set the remote control to the learn and use modes.
- 3 Universal buttons**
Used for control of other components after function control signals of other remote controls have been "learned" at these buttons.

II. DISASSEMBLY

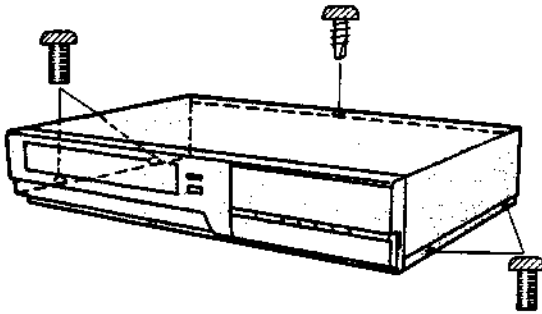
In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the illustrations. Reassemble in reverse order.

When re-attaching the FRONT PANEL, hold the cassette loading slot door in the upright (open) position.

3. Removal of FRONT PANEL

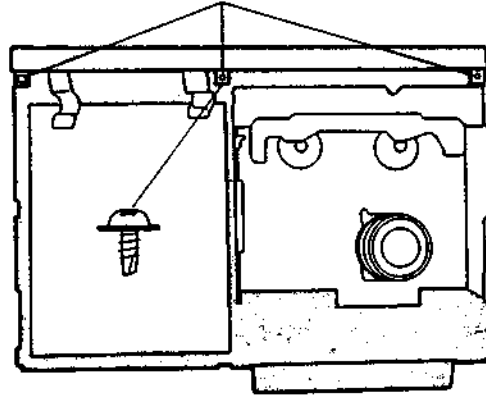


1. Removal of UPPER COVER

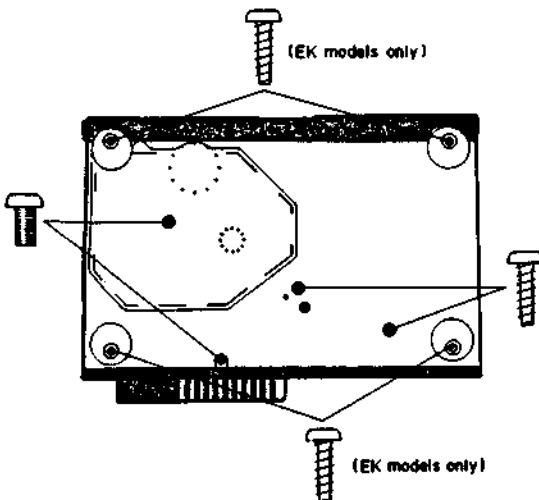


※ Illustration employed on this paragraph is of model VS-425EOH.

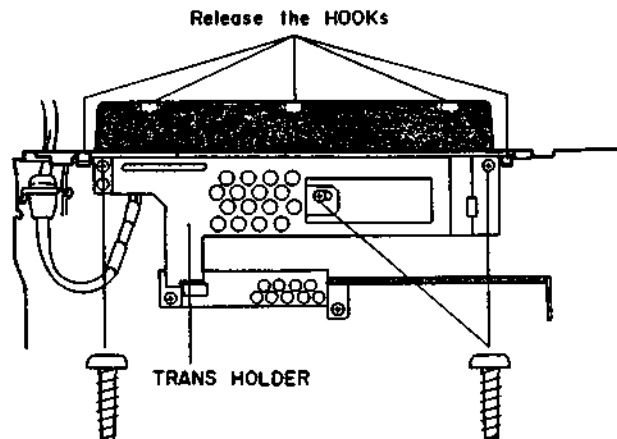
Release the HOOKs



2. Removal of BOTTOM COVER



4. Removal of TRANS COVER



III. PRINCIPAL PARTS LOCATION

※ Photograph employed on this page is of model VS-485EK.

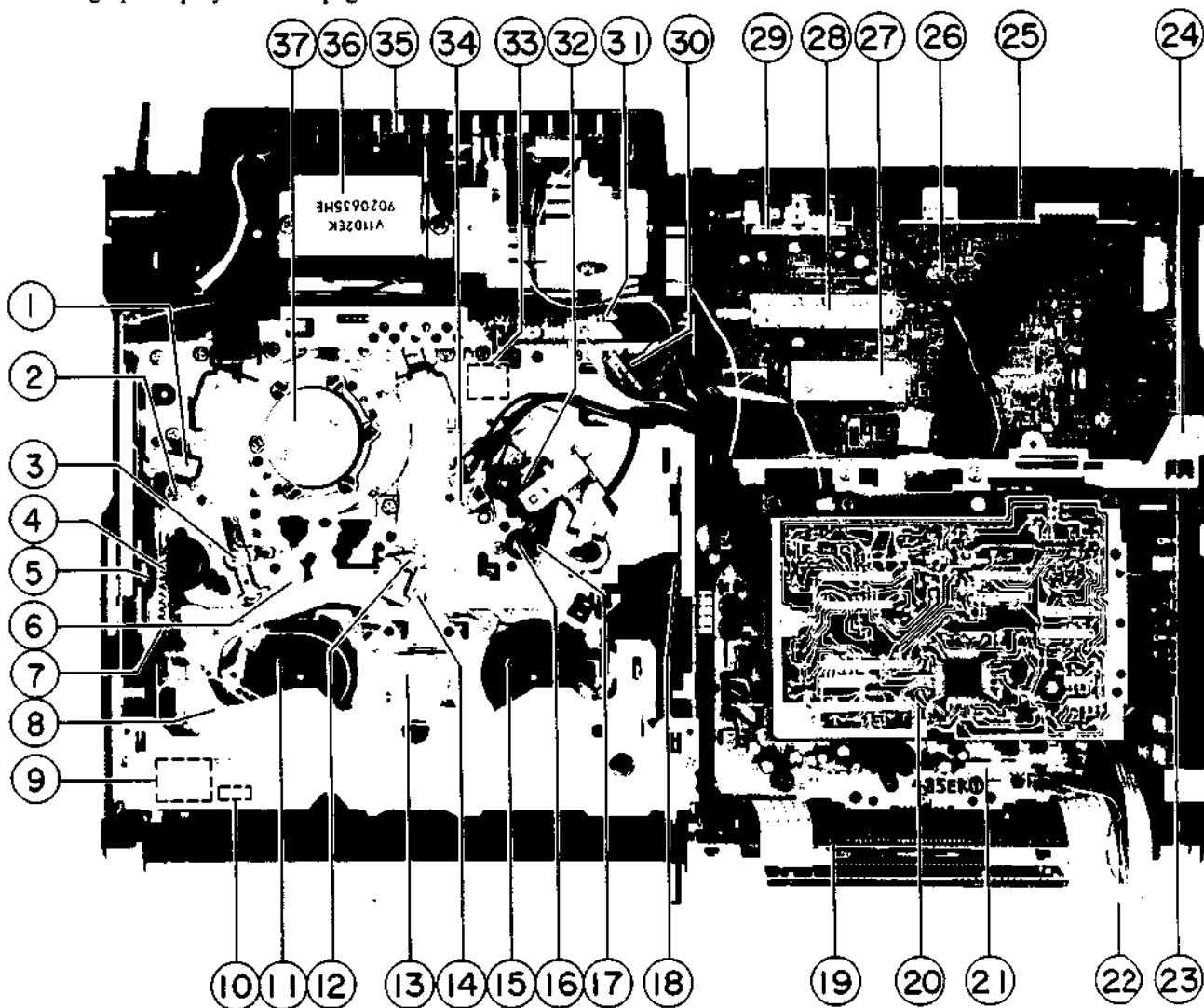


Fig.3-1 Top view

- | | |
|---|--------------------------------|
| 1. FULL TRACK ERASE HEAD | 20. NICAM PCB (VS-485EK only) |
| 2. SUPPLY TAPE GUIDE | 21. LINEAR STEREO(A) PCB |
| 3. SUPPLY LOADING LEADER | 22. LINEAR STEREO(B) PCB |
| 4. FRONT LOADING GEAR | 23. VIDEO PCB |
| 5. SENSOR(S) PCB (END SENSOR) | 24. PC ANGLE |
| 6. TENSION ARM | 25. REAR PIN JACK PCB |
| 7. FRONT LOADING SLIDER | 26. MAIN PCB |
| 8. CASSETTE LOAD BLK | 27. VIF UNIT |
| 9. LOADING MOTOR | 28. TUNER UNIT |
| 10. REC SAFETY SWITCH | 29. RF CONVERTOR UNIT |
| 11. SUPPLY REEL TABLE | 30. JUNCTION PCB |
| 12. TAKE UP LOADING LEADER | 31. PRE AMP PCB |
| 13. IDLER PART | 32. PINCH ROLLER |
| 14. SENSOR LED | 33. DIODE PCB |
| 15. TAKE UP REEL TABLE | 34. AUDIO/CONTROL/S.ERASE HEAD |
| 16. CAPSTAN MOTOR | 35. POWER PCB |
| 17. REVIEW ARM | 36. POWER TRANSFORMER |
| 18. SENSOR(T) (START SENSOR) | 37. VIDEO HEAD DRUM BLOCK |
| 19. OPERATION(A) PCB (VS-422EOH, 427EK, 467EK, 485EK) | |
| OPERATION(B) PCB (VS-425EM, 425EOG, 425EOH) | |



Fig.3-2 Bottom view

- 1. CAPSTAN MOTOR BLOCK
- 2. SENSOR PCB
- 3. CAPSTAN BELT
- 4. CLUTCH DISK PART
- 5. LOADING MOTOR
- 6. LOADING DRIVE BLOCK

- 7. CAM SLIDER GEAR
- 8. MODE SELECT SWITCH
- 9. FRONT LOADING GEAR
- 10. TOGGLE (S) GEAR BLOCK
- 11. TOGGLE (T) GEAR BLOCK
- 12. DRUM MOTOR BLOCK

IV. MAIN COMPONENTS REPLACEMENT

4-1. REMOVAL OF THE EJECTOR BLOCK

*Set the loading mechanism to the "EJECT" position by pressing the EJECT button. Then disconnect the AC power plug from the AC socket before proceeding.

4-1-1. Removal of the CASSETTE LOAD BLK

- 1) Remove the two (A) screws on the UPPER PLATE as shown in Fig.4-1 then remove the UPPER PLATE.
- 2) Lift up the FRONT GUIDE while pushing the CASSETTE LOAD BLK backward, then remove the FRONT GUIDE.
- 3) Lift up the front side of the CASSETTE LOAD BLK gently then remove it. To avoid damaging the pins of the CASSETTE LOAD BLK and the groove of the MECHA.FRAME, do not add excessive force to the CASSETTE LOAD BLK when removing it.

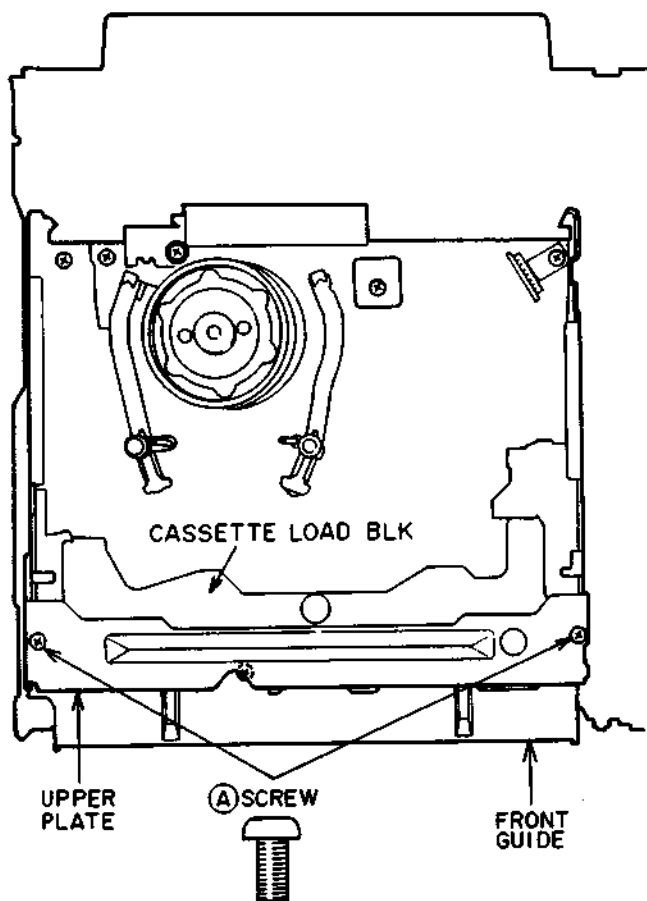


Fig. 4-1

4-1-2. Removal of the LOADING ARM BLK

- 1) Release the stopper on the right side end of the LOADING ARM BLK's shaft (Refer Fig.4-2) by pressing the stopper tab with a flat head (—) screwdriver. Then remove the shaft's right end from the bracket.

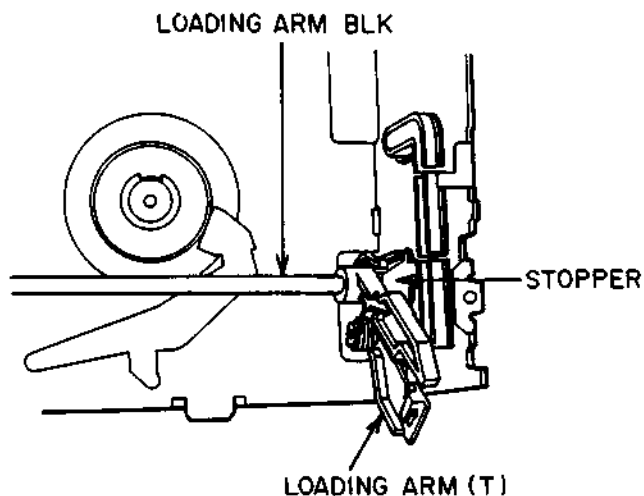


Fig. 4-2

- 2) Hold the LOADING ARM (T) and turn it 30 degrees clockwise, then pull out the shaft's left end from the bracket. To avoid damaging the JOINT GEAR and EJECT GEAR, take special care when removing. (Refer Fig.4-3)

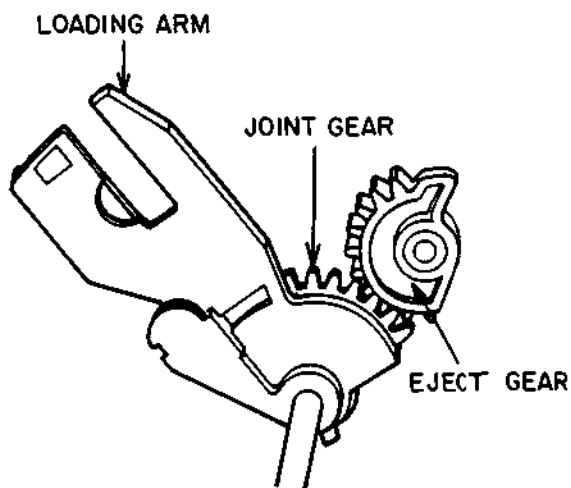


Fig. 4-3

4-2. REMOVAL OF THE SENSOR PC BOARD

*Before proceeding with removal of the SENSOR PCB the loading mechanism must be set to the "unloaded" position (the position where the CAM SLIDER GEAR's groove mark is visible through the hole of the MODE SELECT SW.) as shown in Fig.4-4.

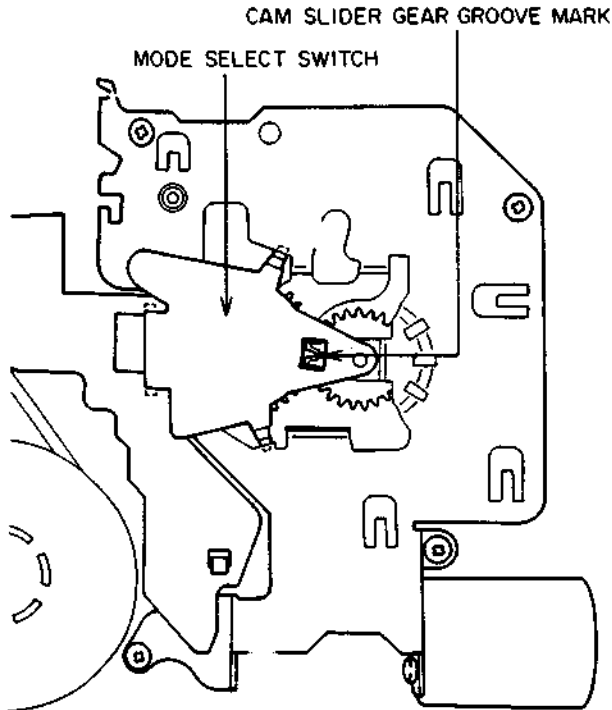


Fig. 4-4

To set the loading mechanism to the "unloaded" position, proceed with one of the following (1) or (2) procedures.

(1) Insert a video cassette tape which you no longer need. Once the tape has been loaded or entered "play" mode, press the POWER button to turn the power off. Disconnect the AC power plug from the AC socket after the cassette tape has been unloaded.

(2) Remove the UPPER PLATE, FRONT GUIDE and CASSETTE LOAD BLK. (Refer to 4-1-1. Removal of the CASSETTE LOAD BLK.)

Plug in the AC power cord. The LOADING ARM BLK will move backward (the cassette load BLK will be in the down position) and forward (the cassette load BLK will be in the eject position) continuously.

With your fingers, cover and hold both SENSOR (S) and SENSOR (T) at the same time when the LOADING ARM BLK is in the backward position. The unit will enter the "play" mode without the cassette tape. While covering both sensors, press the "POWER" button. The unit will now enter the "tape unloaded" position. Release your fingers from the sensors, and disconnect the AC power plug from the AC power socket.

4-2-1. Removal of the MODE SELECT SWITCH

1) Release the two (A) stoppers as shown in Fig.4-5.

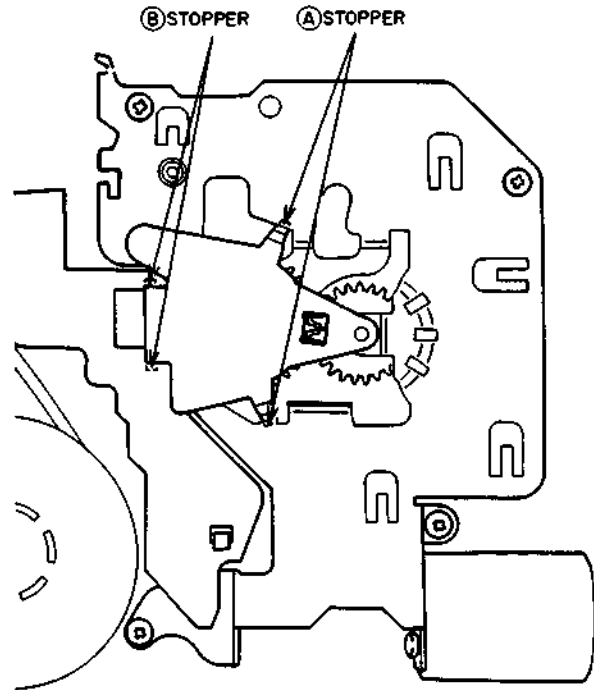


Fig. 4-5

2) Release the two (B) stoppers carefully while pulling up the MODE SELECT SWITCH. Then remove the MODE SELECT SWITCH. (Do not damage the pins of the MODE SELECT SWITCH or the connector P1 on the SENSOR PCB)

4-2-2. Removal of the SENSOR PC Board

1) Disconnect the connector P409 on the MAIN PCB.

2) Remove the capstan belt.

3) Release the (A), (B), and (C) stoppers as shown in Fig.4-6. Then remove the SENSOR PCB.

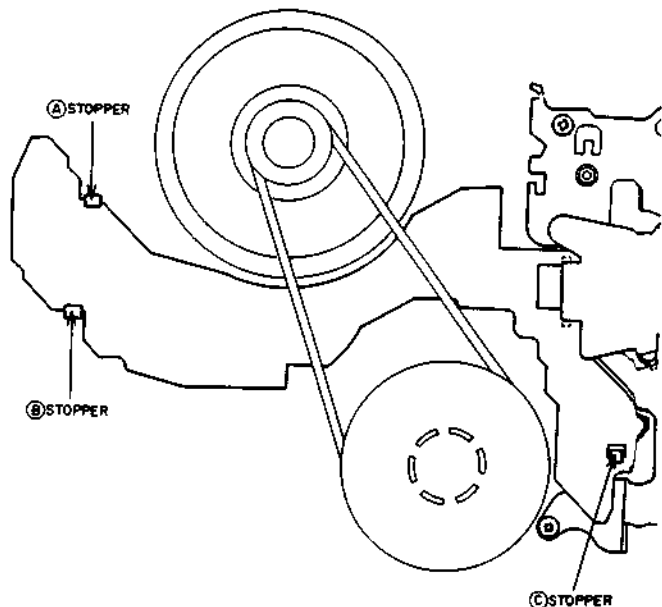


Fig. 4-6

4-3. REMOVAL OF THE LOADING DRIVE BLK

Set the loading mechanism at the "unloaded" position as well as 4-2 (REMOVAL OF THE SENSOR PC BOARD). However this time, to avoid damaging the tape and mechanical parts, refer to 4-2, *(2) only.

- 1) Remove the MODE SELECT SWITCH in the same manner as 4-2-1 (Removal of the MODE SELECT SWITCH).
- 2) Unhook the five wires from each tab. Two wires from the SENSOR(S), two wires from the LOADING MOTOR and one wire from the REC SAFETY SWITCH.
- 3) Remove the (A), (B), (C), and (D) screws, then remove the LOADING DRIVE BLK as shown in Fig.4-7.

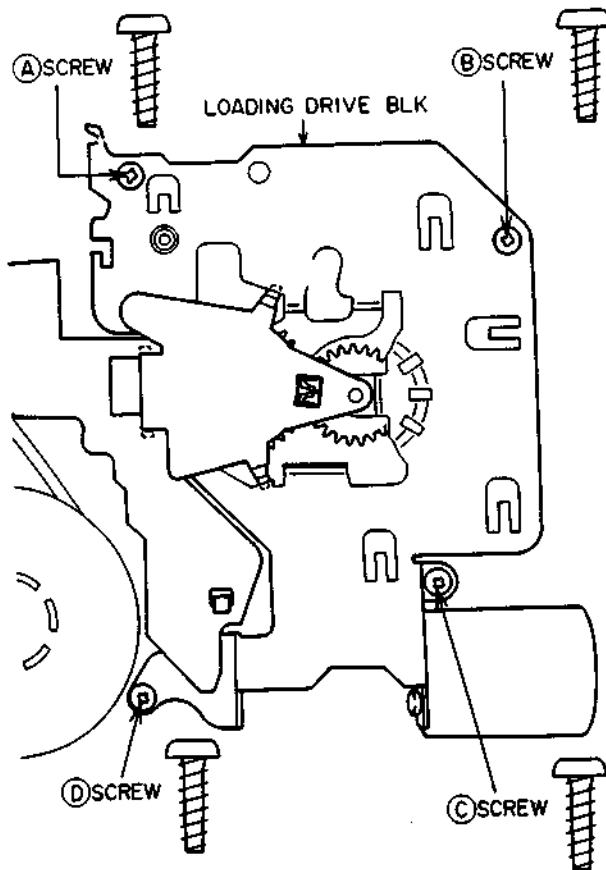


Fig. 4-7

4-4. REPLACEMENT OF THE PINCH HOLDER PART

- 1) Release the stopper of the PINCH ARM and remove the PINCH ARM BLK as shown in Fig 4-8.

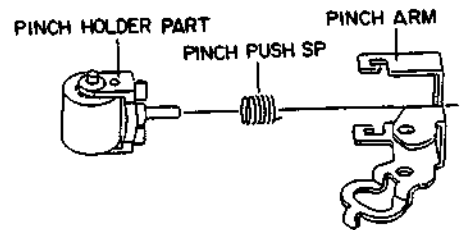
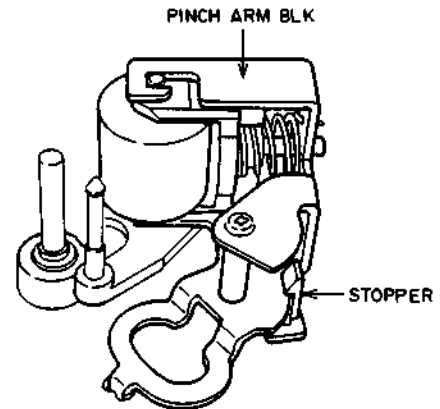


Fig 4-8

- 2) Turn the PINCH HOLDER PART 30 degrees clockwise while pushing it backward and remove the PINCH HOLDER PART from the PINCH ARM.
- 3) Reassemble the PINCH ROLLER ARM BLK in the reverse order of 1) to 2).

4-5. REPLACEMENT OF THE IDLER PART AND REVIEW BRAKE PART

- 1) Remove the CASSETTE LOAD BLK & ARM LOADING BLK. (Refer to 4-1, REMOVAL OF THE EJECTOR BLK.)
- 2) Release the stopper of the IDLER PART as shown in Fig.4-9, then remove it.

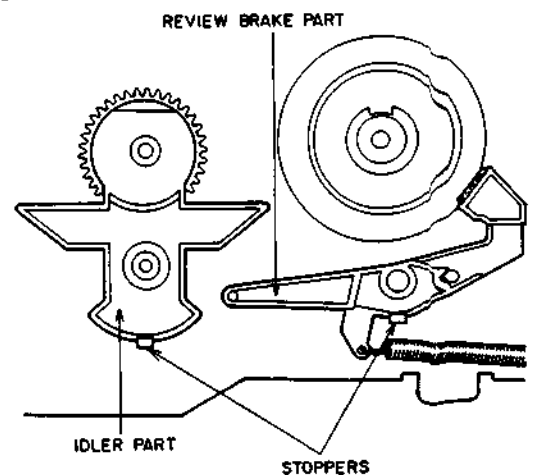


Fig. 4-9

- 3) Take off the review brake part spring, then release the stopper of the REVIEW BRAKE PART and remove it.
- 4) Reassemble these parts in the reverse order of 1) to 3).

4-6. REASSEMBLY OF THE LOADING MECHANISM BLK

4-6-1. Position of the TOGGLE GEARS (T) and (S)

- 1) Set the TOGGLE GEAR (T) and TOGGLE GEAR (S) to the unloaded position with your fingers. Align the (A) mark on the TOGGLE GEAR (S) with the (A) hole of the TOGGLE GEAR (T) as shown in Fig.4-10.

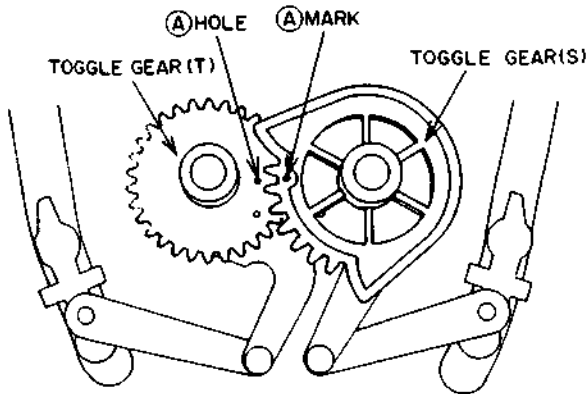


Fig. 4-10

4-6-2. Installation of the CAM SLIDER GEAR & FRONT LOADING GEAR

- 1) Attach the WORM WHEEL GEAR as shown in Fig.4-11.

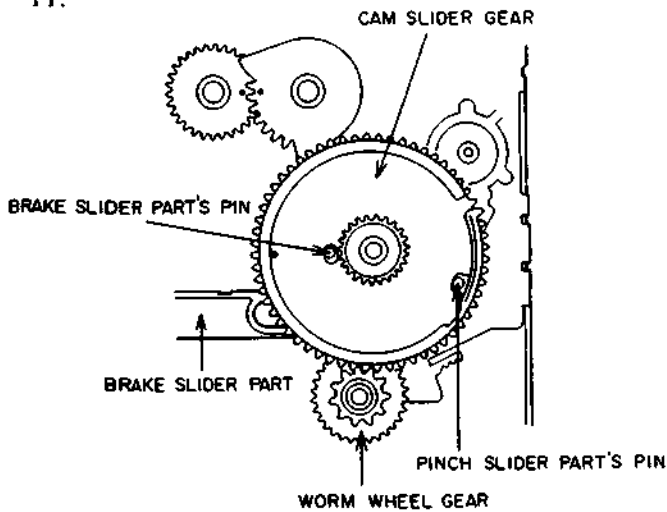


Fig 4-11

- 2) Set the CAM SLIDER GEAR. At this time, adjust the position of the BRAKE SLIDER PART and PINCH SLIDER PART so that both pins appear through the holes on the CAM SLIDER GEAR as shown in Fig.4-11.

- 3) Attach the FRONT LOADING GEAR as shown in Fig.4-12. At this time, align the (B) mark on the FRONT LOADING GEAR with the (B) hole of the FRONT LOADING SLIDER as shown in Fig.4-13.

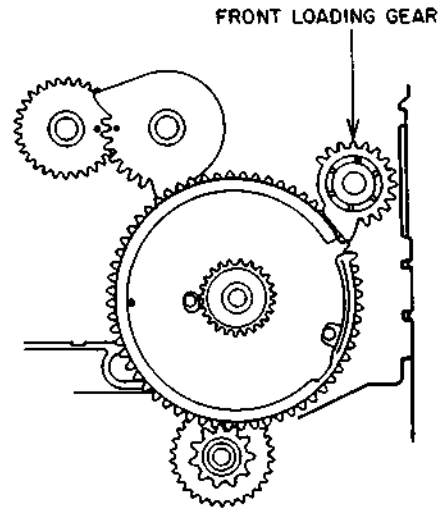


Fig. 4-12

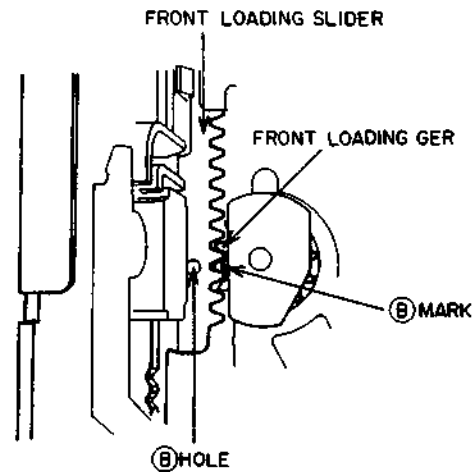


Fig. 4-13

4-6-3. Confirmation of the position of the EJECT GEAR

- 1) Confirm that the EJECT GEAR is in the correct position as shown in Fig.4-14.

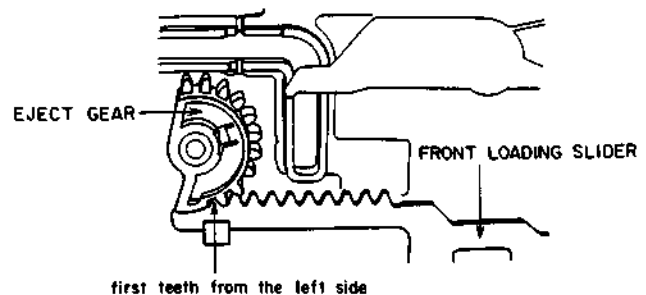


Fig. 4-14

- 2) Install the **LOADING DRIVE BLK** as shown in Fig.4-15.

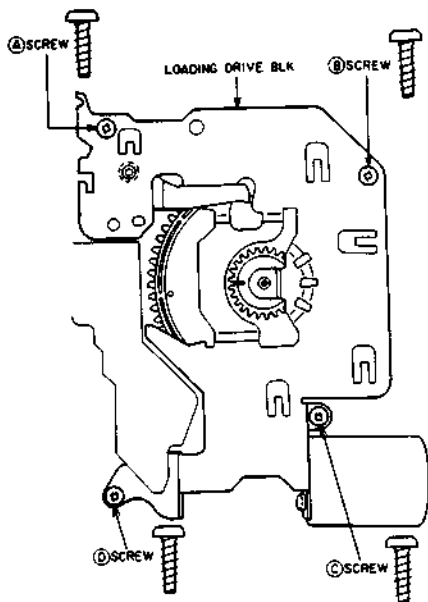


Fig. 4-15

4-6-4. Installation of the **MODE SELECT SWITCH**

- 1) Set the **MODE SELECT SWITCH**'s gear so that the © mark is in the center of the © hole as shown in Fig.4-16.

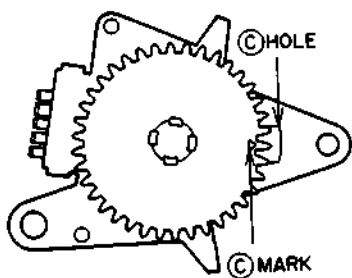


Fig. 4-16

- 2) Attach the **MODE SELECT SWITCH** to the **LOADING DRIVE BLK**. At this time, align the hollow of the gear's tooth (reverse side of the © mark) with the © groove of the **CAM SLIDER GEAR** as shown in Fig.4-17.

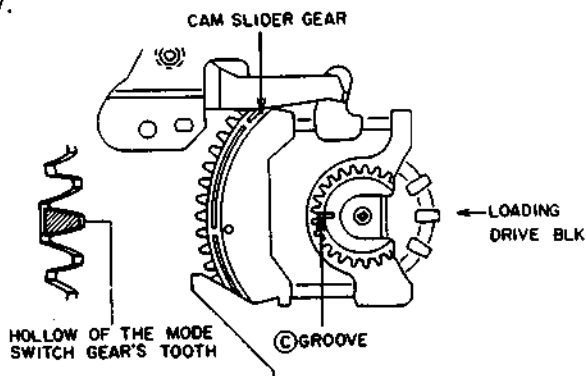


Fig. 4-17

4-6-5. Installation of the **LOADING ARM BLK**

- 1) While covering the **SENSOR (S)** with your fingers, connect the **AC power plug** to the **AC socket**. The **FRONT LOADING SLIDER** will reach the "EJECT" position. Then disconnect the **AC power plug** from the **AC socket** before you release your fingers from the **SENSOR (S)**.
- 2) Install the **LOADING ARM BLK** in the reverse order of 4-1-2 (Removal of the **LOADING ARM BLK**). Set the position between both the **EJECT GEAR** and the **JOINT GEAR** as shown in Fig.4-18.

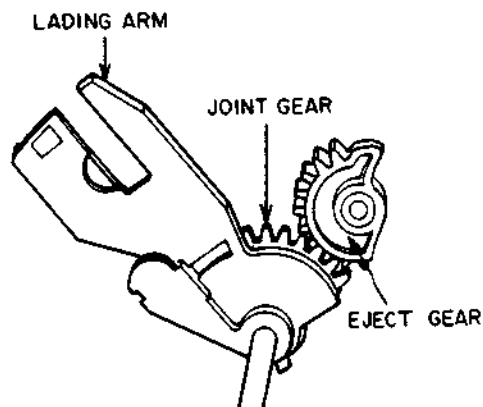


Fig. 4-18

4-6-6. Installation of the **CASSETTE LOAD BLK, FRONT GUIDE** and **UPPER PLATE**

- 1) Attach the **CASSETTE LOAD BLK, FRONT GUIDE** and **UPPER PLATE** in the reverse order of 4-1-1 (Removal of the **CASSETTE LOAD BLK**).
- 2) Insert a video cassette tape and confirm that the loading mechanism will operate properly.

4-7. REPLACEMENT OF THE **UPPER DRUM**

4-7-1. Removal of the **UPPER DRUM**

- 1) Unsolder the four or six (**VS-467EK only**) relay leads and remove the two upper drum fixing screws as shown in Fig.4-19.
- 2) Gently lift and remove the **UPPER DRUM**.

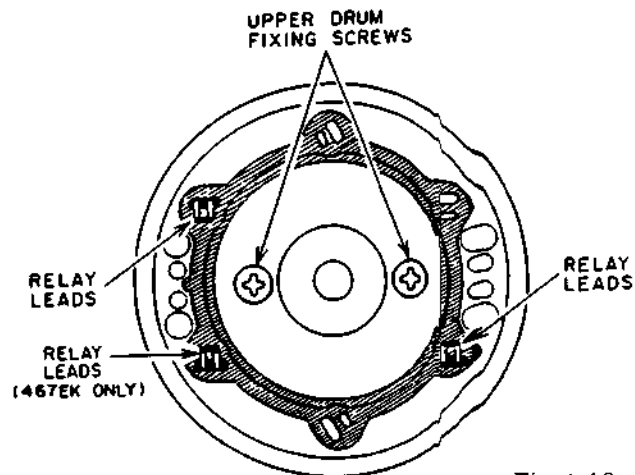


Fig. 4-19

4-7-2. Installation of the UPPER DRUM

1) Except VS-467EK model

Attach the UPPER DRUM to the LOWER DRUM ROTOR so that the upper drum convex (A) and lower drum rotor's white PCB side are in the same direction as shown in Fig. 4-20.

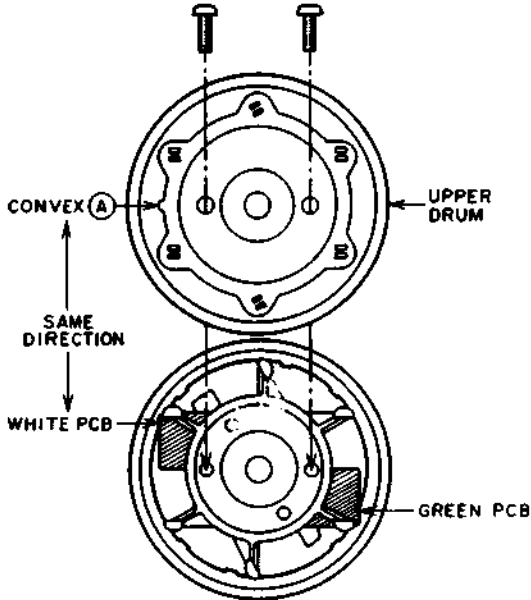


Fig. 4-20

2) VS-467EK model

Attach the UPPER DRUM to the LOWER DRUM ROTOR so that upper drum convex (A) and lower drum rotor's white mark are in the same direction as shown in Fig. 4-21.

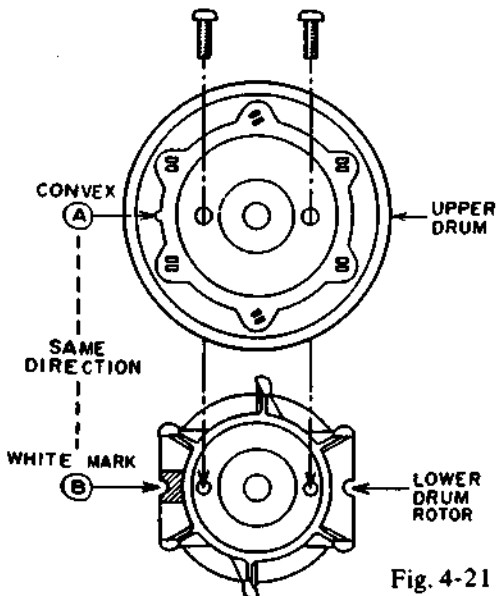


Fig. 4-21

NOTE: Because height precision is required for proper performance, and because head tips are fragile, the following points should be noted when replacing the UPPER DRUM BLOCK.

- Do not loosen the set screw on the collar preload.
- Before fixing, use alcohol to clean both surfaces where the upper drum and the rotary transformer meet.
- If the UPPER DRUM can not be inserted on to the shaft easily during installation, clean the hole in the UPPER DRUM with alcohol and put a little oil on the shaft.
- 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.
- Tighten the two upper drum fixing screws alternately and gradually.

4-7-3. After replacement

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

- Control head phase adjustment. (Tape transport adj. 5-3-3)
- PB switching point adjustment. (Electrical adj.6-1-1)
- Video head REC current adjustment. (Electrical adj.6-1-7)

4-8. DRUM MOTOR PC BOARD REPLACEMENT

- Remove the two (A) screws then remove the ROTARY PLATE.

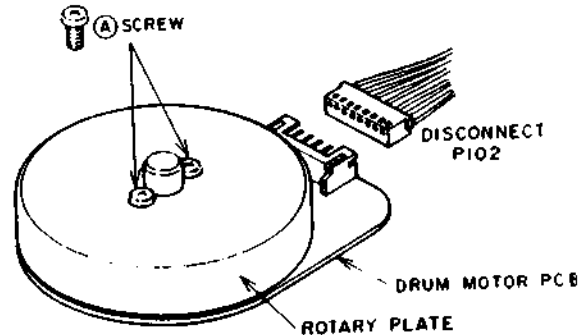


Fig. 4-22

- Remove the three (B) screws and disconnect the connector P102 from the DRUM MOTOR PCB. Then replace the DRUM MOTOR PCB.

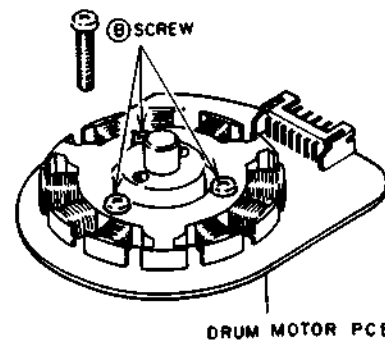


Fig. 4-23

- 3) Attach the ROTARY PLATE to the collar preload so that the rotary plate (A) hole and collar preload (B) hole are in the same direction.

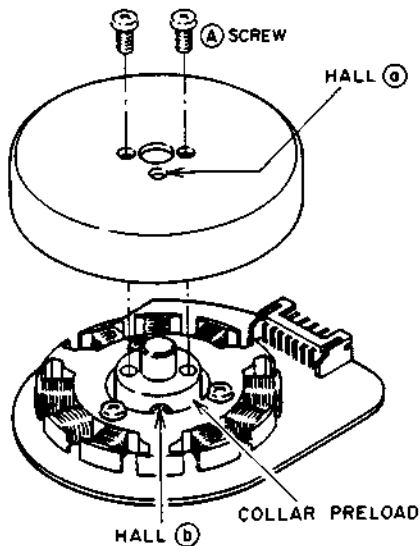


Fig. 4-24

4-9. REMOVAL OF THE MECHANISM BLOCK

4-9-1. Removal of the PRE AMP PC Board

- 1) Remove the two (A) screws then pull up the PRE AMP PCB as shown in Fig. 4-25

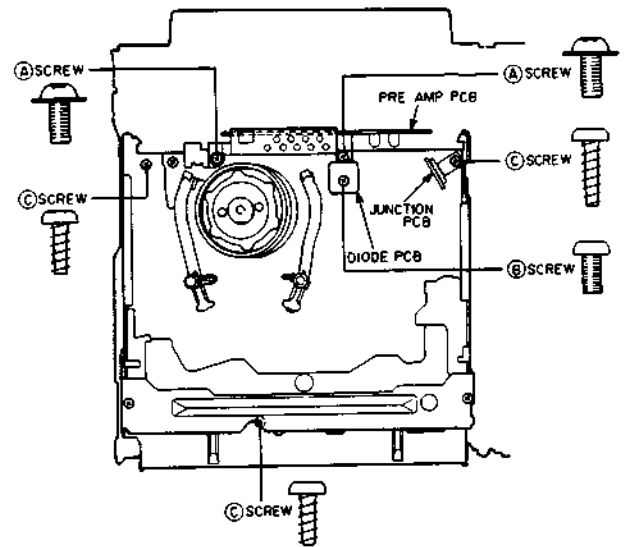


Fig. 4-25.

4-9-2. Removal of the MECHANISM BLK (MECHA.FRAME)

- 1) Disconnect the connectors P302, P401, P408, P409 on the MAIN PCB and P1, P2 on the A/C HEAD(2) PCB.
- 2) Remove the (B) screw on the DIODE PCB and remove the DIODE PCB. (Except VS-425EM and 485EK models)
- 3) Remove the three (C) screws from the MECHA. FRAME as shown in Fig. 4-25.
- 4) Hold the rear side of the MECHA. FRAME then remove by pulling up backward.
- 5) Reassemble in the reverse order for installation.

V. MECHANICAL ADJUSTMENT

5-1. BACK TENSION ADJUSTMENT

- 1) Set the color bar on tape TF-532CBS (AT-751360) in the VCR and play it back.
- 2) Observe the TV screen and adjust the V-HOLD for TV so that the switching point appears on the TV screen in Fig. 5-1.

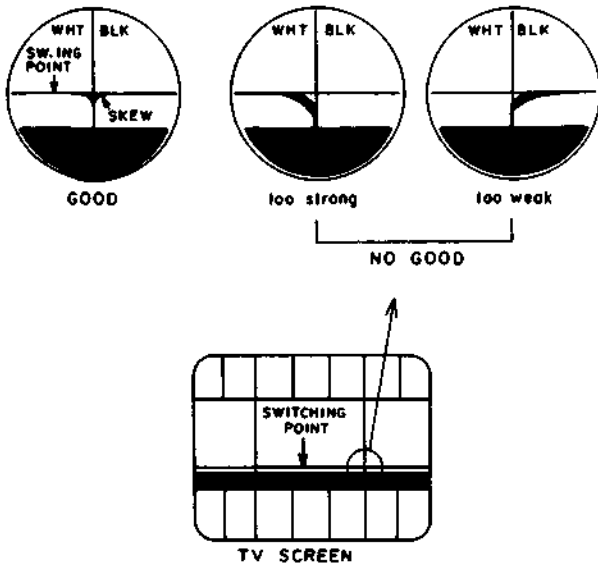


Fig. 5-1

- 3) Check the skew near the switching point on the TV screen and if the back tension is too much or too weak, eject the tape and select the hook position of the TENSION SPRING where the smallest skew should be obtained.

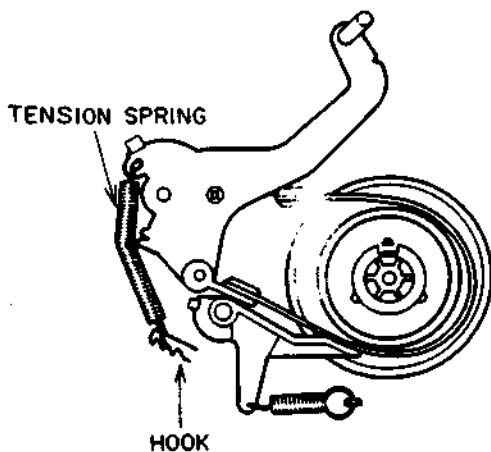


Fig. 5-2

5-2. TAPE TRANSPORT ADJUSTMENTS

NOTE: The following adjustments are required only when an irregularity is found since these adjustment are performed precisely at the factory.

5-2-1. Tape curl adjustment at the TAKE-UP TAPE GUIDE

- 1) Play back a recorded tape which is no longer need.
- 2) Turn the (a) screw on the A/C HEAD BLK until the edge of the tape barely touches the lower part of TAKE UP TAPE GUIDE without any curl or wrinkle.
- 3) Once the (a) screw is adjusted, A/C HEAD height and azimuth adjustment is required. (Refer to 5-3. A/C HEAD POSITION ADJUSTMENT)

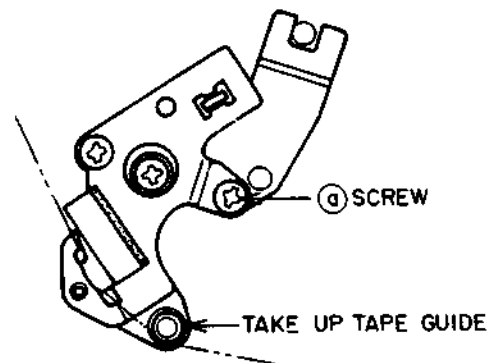


Fig. 5-3

(TAKE - UP TAPE GUIDE)

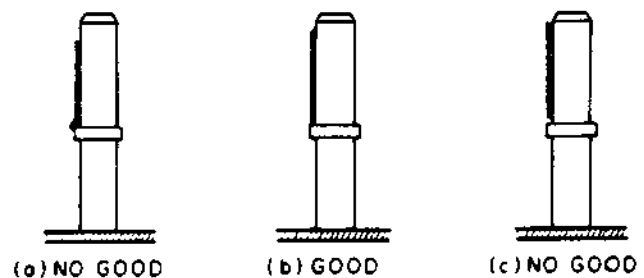


Fig. 5-4

5-2-2. Confirmation of tape curl at the SUPPLY TAPE GUIDE

Confirm that the edge of the tape barely touches the lower part of the SUPPLY TAPE GUIDE without any curl or wrinkle as shown in Fig.5-5.

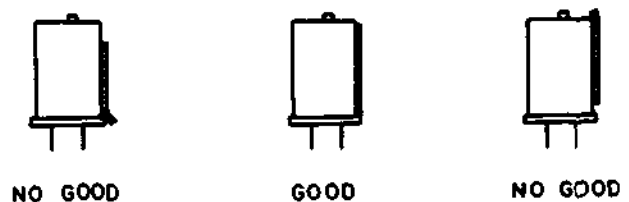
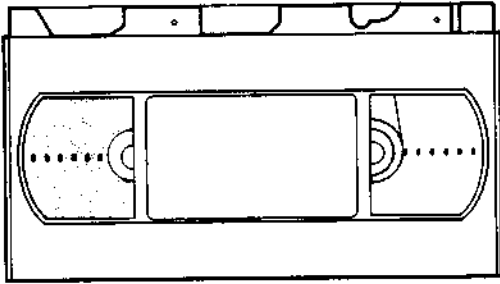


Fig. 5-5

5-2-3. REVIEW ARM height adjustment

- 1) Play back the beginning part of an E-240 (T-160) tape and set the unit in the REVIEW mode by pressing the REW button.
(Remove the tape protection cover to make the adjustment easy.)



- 2) Turn the REVIEW ARM height nut (a) so that the edge of the tape barely touches the lower part of the TAKE-UP TAPE GUIDE without any curl or wrinkle between the TAKE-UP TAPE GUIDE and the CAPSTAN SHAFT as shown in Fig.5-6 to Fig.5-8.

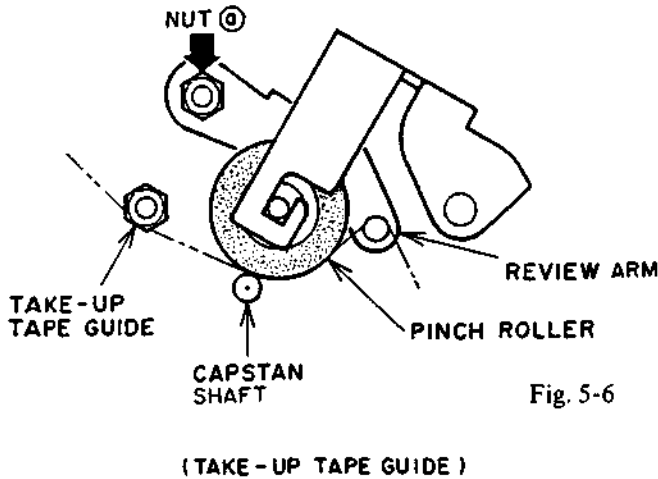


Fig. 5-6

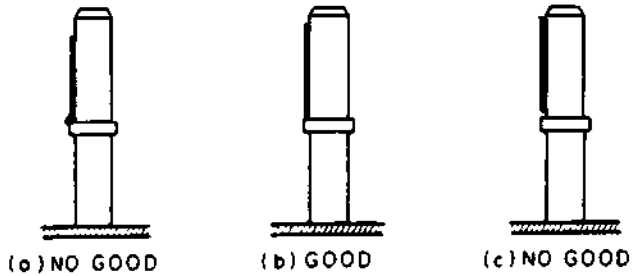


Fig. 5-7

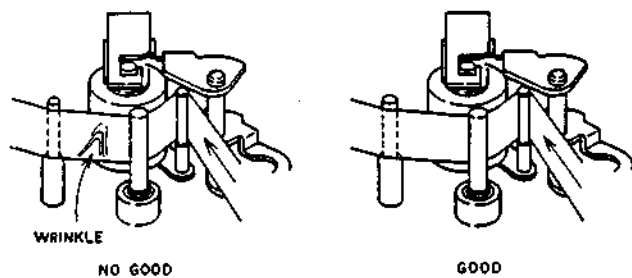


Fig. 5-8

- 3) Play back the beginning part of an E-240 (T-160) tape and this time set the unit in the CUE mode by pressing the F.FWD button.
- 4) Confirm that there is no curl or wrinkle at REVIEW ARM's guide.
If a curl or wrinkle of the tape has occurred, slightly turn the (a) nut (shown in Fig.5-6) until it disappears.

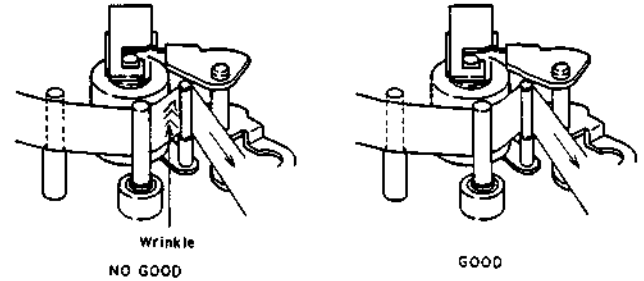


Fig. 5-9

- 5) Set the unit in REVIEW mode again. Then confirm that there is no curl or wrinkle at the TAKE-UP TAPE GUIDE.
(A small gap may appear after this adjustment, but it is allowable.)

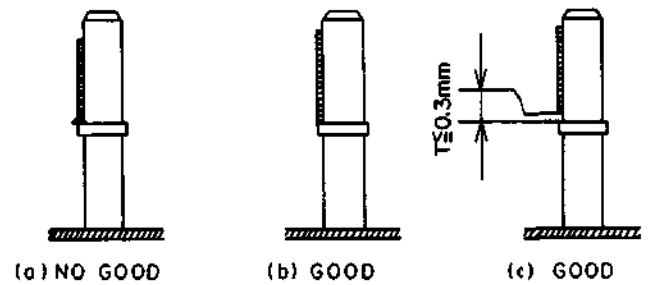


Fig. 5-10

Note

1. If the result is not satisfactory, repeat steps 2) to 5).
2. Always play an undamaged tape to obtain satisfactory adjustment.
3. Since E-240 (T-160) tape can easily be damaged because of its thinness, a pre-adjustment with E-180 (T-120) tape is recommended.

5-2-4. LOADING LEADER height adjustments

- 1) Slightly loosen the set screw at the lower part of the LOADING LEADERS (L), (R) so that the LOADING LEADER can be adjusted with reasonable tightness. (Refer Fig.5-11)
- 2) Play back the reference tape TF-530RFS (AT-751775).
- 3) Connect an oscilloscope to TP606 (ENVE) on the VIDEO PCB.
- 4) Turn the LOADING LEADER heads with a flat head (—) screw driver to obtain flat RF envelope as ideal envelope as shown in Fig.5-12.
- 5) After the adjustment is completed, tighten the loading leader set screws.

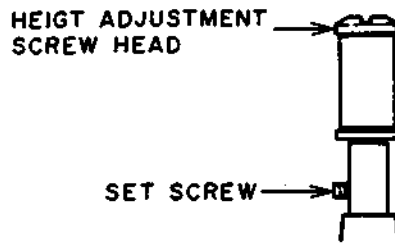


Fig. 5-11

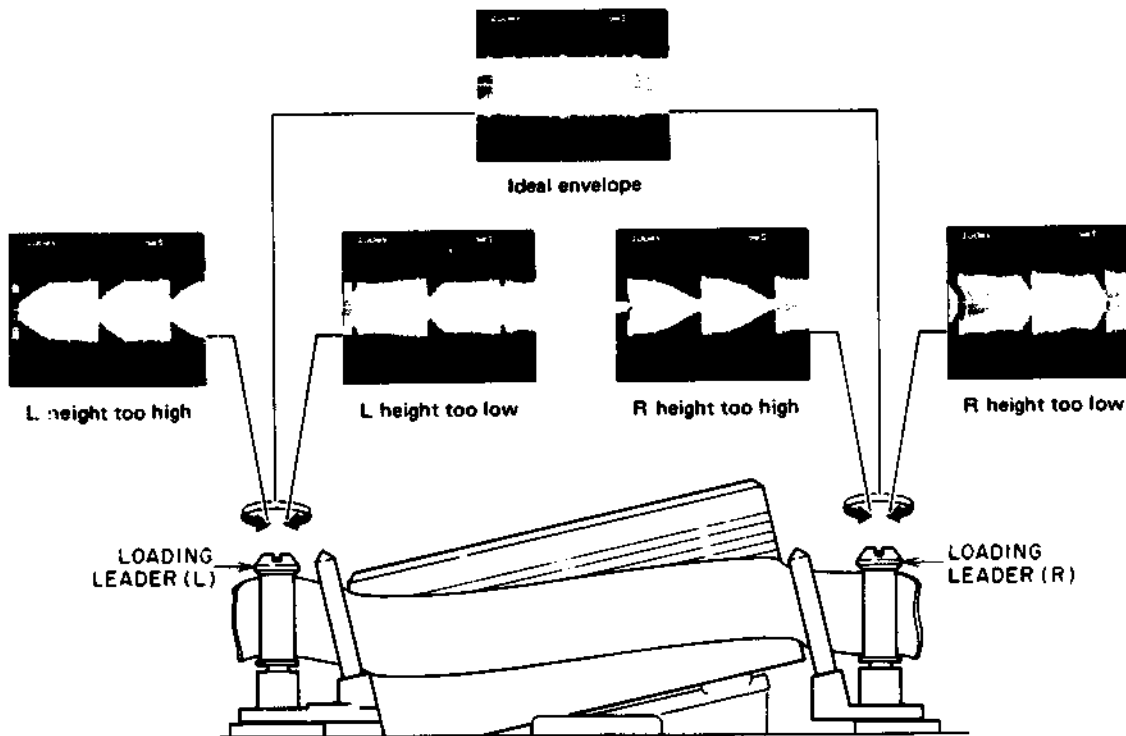
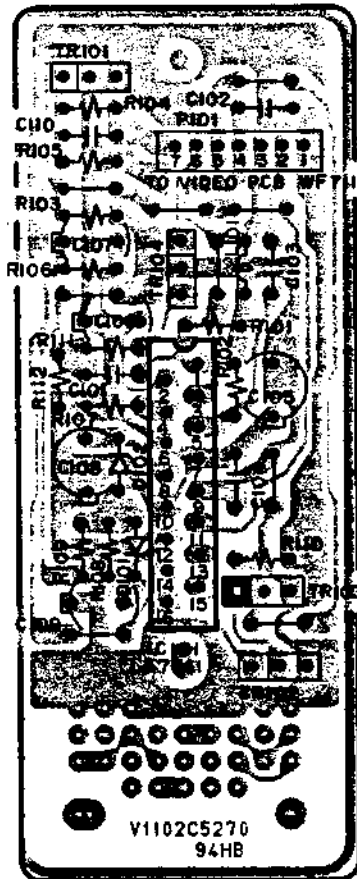


Fig. 5-12



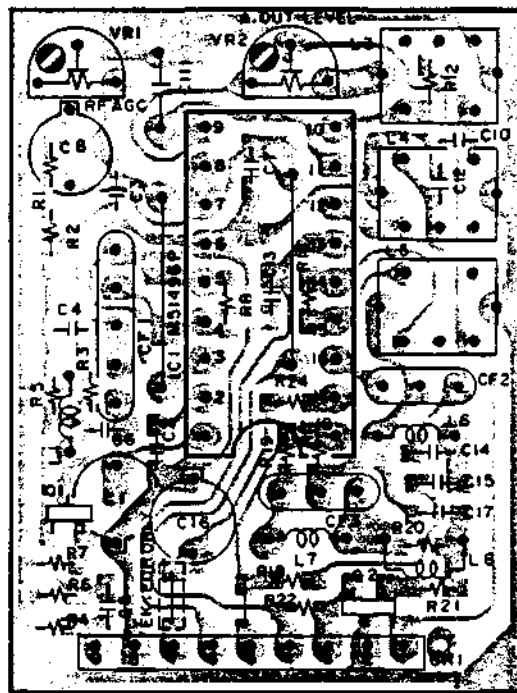
P/S AUTO PCB
V1102C5270



DTA114ES
DTC114ES
2SC3330

B C E
 = PNP TRANSISTOR

B C E
 = NPN TRANSISTOR



VIF UNIT 6B00663A1

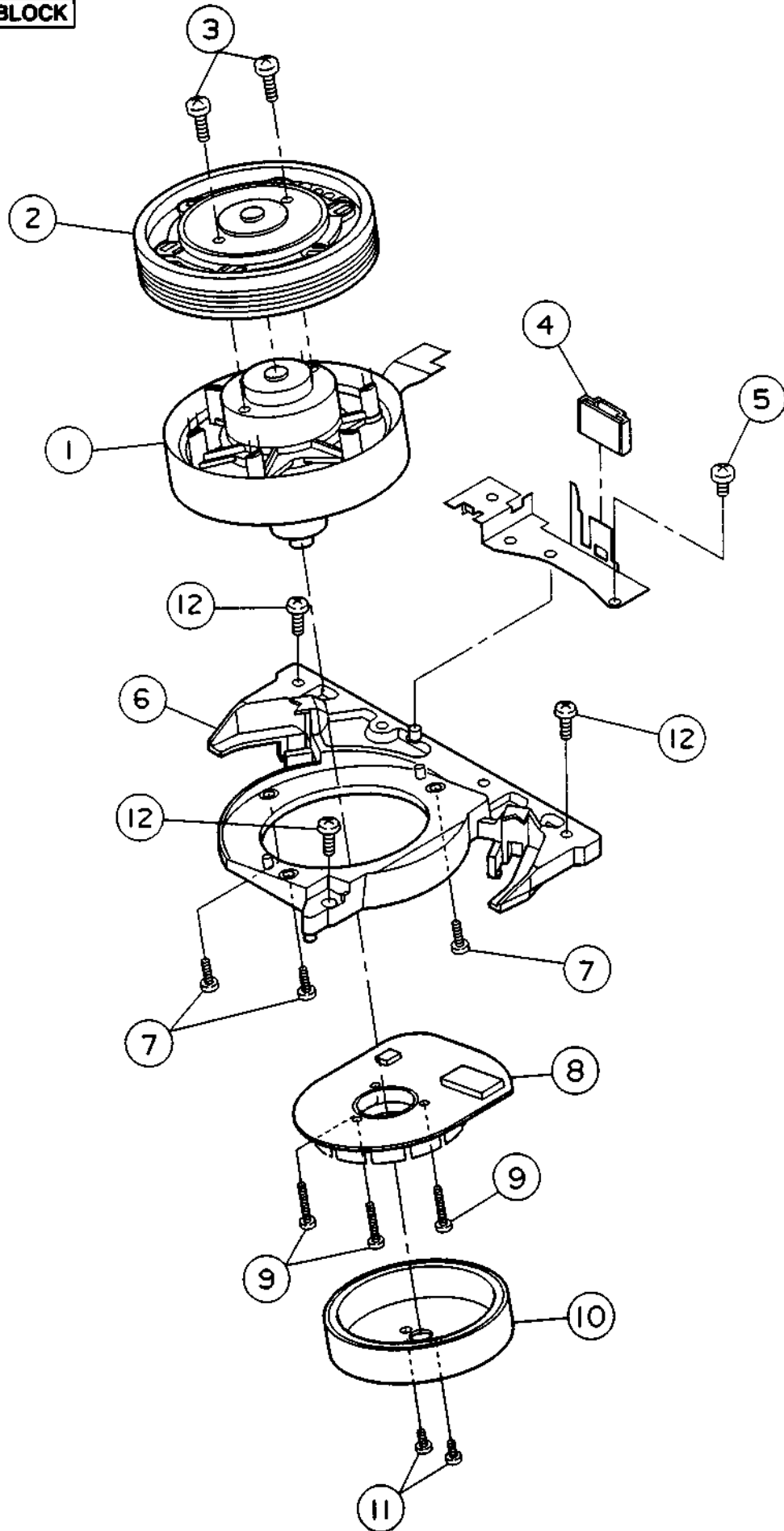
2. HEAD DRUM BLOCK

Ref. No.	Part No.	Description
1A	BV-V1102A410A	LOWER DRUM BLK 425EA [422/425/427/485]
1B	BV-V1102A410B	LOWER DRUM BLK 465EA [467]
2A	BV-V1102A420A	UPPER DRUM BLK [422/425/427/485]
2B	BV-V1102A420C	UPPER DRUM BLK [467]
3	ZS-321298	BID30X08STL CMT
4	SZ-387388J	HOLDER FPC
5	ZS-379405	BID30X06STL CMT
6	MA-387474J	BASE DRUM
7	ZS-563444	BID26X08STL CMT
8A	BM-M3225A020A	PC MOTOR BLK SM-250
8B	BM-M3227A020A	PC MOTOR BLK SM-270
9	ZS-467796	PAN26X12STL CMT
10	BV-837384B	YOKE MAGNET PART
11	ZS-479474	PAN26X05STL CMT
12	ZS-370047	DT BID30X12STL CMT

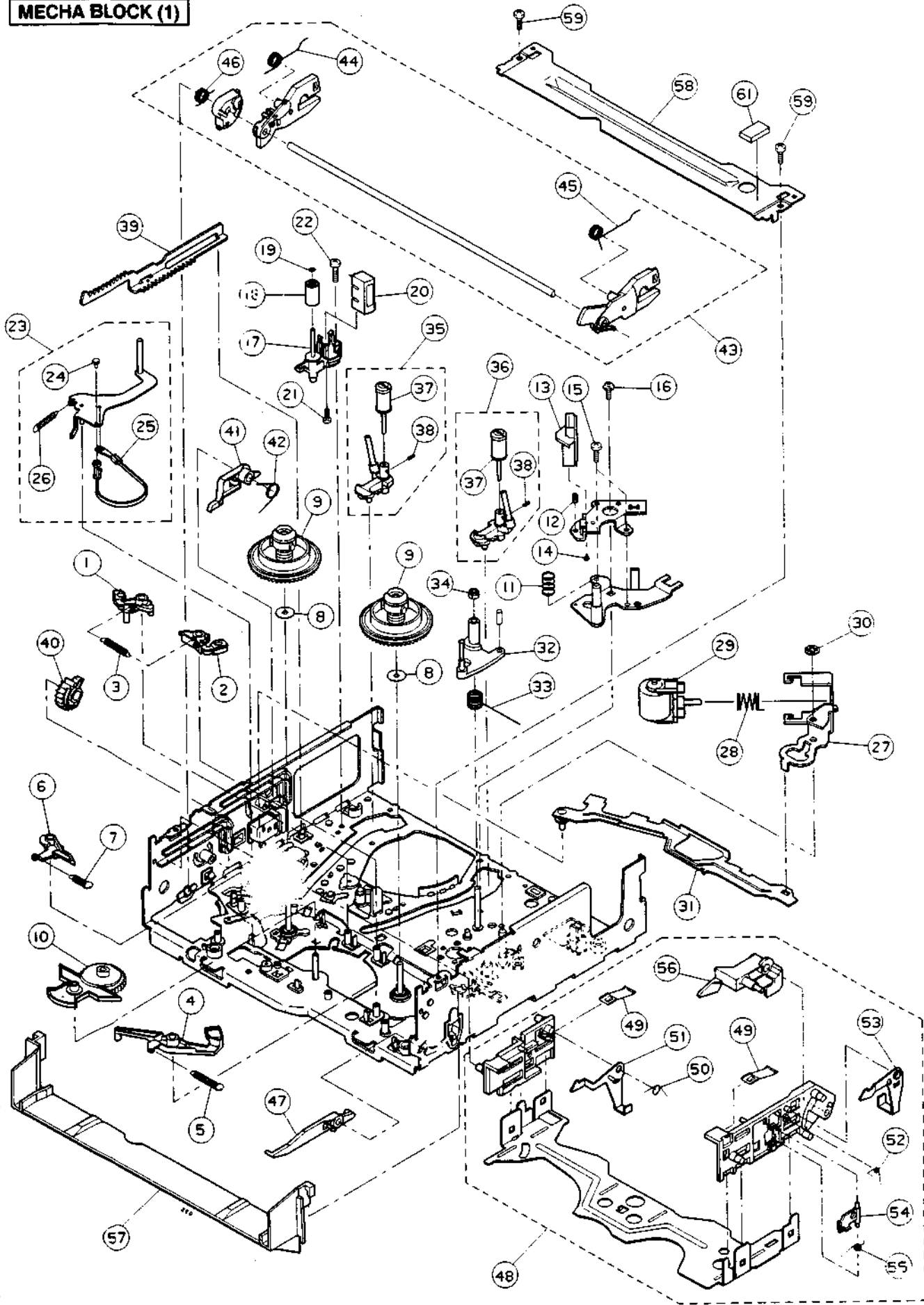
NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

HEAD DRUM BLOCK



MECHA BLOCK (1)



3. MECHA BLOCK (1)

Ref. No.	Part No.	Description
1	ML-387316J	MAIN BRAKE(S) PART
2	ML-387318J	MAIN BRAKE(T) PART
3	ZG-387320J	SP PULL MAIN BRAKE
4	ML-387321J	REVIEW BRAKE PART
5	ZG-387323J	SP PULL REVIEW BRAKE
6	ML-387423J	ARM LOADING BRAKE
7	ZG-387467J	SP PULL LOADING BRAKE
8	ZW-389814J	PW31X110X050PSL
9	MT-390954J1	DISK (2)PART
10	MI-387294J	IDLLER PART
11	ZG-387438J	SP PUSH A/C
12	ZG-373900	6SET30X080SCM PKR CP
13A	HR-390015J	HEAD COMBO HVMZA1045C [EOH-E,EOG,EM-E]
13B	HR-389866J	HEAD COMBO HVSMC1017A [EK-B]
14	ZS-373899	PAN20X2.5STL BDY PS1
15	ZS-321298	BID30X08STL CMT
16	ZS-389853J	DT BID30X08STL CMT C080
17	MZ-387495J	HOLDER FE HEAD PART
18	MR-387286J	ROLLER IMPEDANCE
19	ZW-374445	SLIT W17X032X025PSL
20	HE-361456	HEAD E HVFMD0015B
21	ZS-477876	PAN20X03STL CMT
22	ZS-370047	DT BID30X12STL CMT
23	BL-V1102A050A	TENSION ARM BLK 425EA
24	SZ-387263J	HOLDER LEVER TENSION
25	ML-390768J	TENSION BAND PART
26	ZG-387272J	SP PULL TENSION
27	ML-387433J2	ARM PINCH
28	ZG-387276J	SP PUSH PINCH
29	BL-387501J	HOLDER PINCH PART
30	ZW-332843	RETAINING RING GRIP 380STL ACP
31	ML-387431J	SLIDER PINCH PART
32	ML-387277J	ARM REVIEW PART
33	ZG-387282J	SP TORSION REVIEW
34	ZW-350839	N30 NYLON
35	BV-V1102A070A	LEADER S BLK 425EA
36	BV-V1102A080A	LEADER T BLK 425EA
37	VT-387394J	GUIDE ROLLER D8 PART
38	ZS-374458	6SET20X030SCM PKR FP
39	ML-387428J	SLIDER FRONT LOADING
40	MZ-387335J	GEAR EJECT
41	ML-391745J1	ARM DAMPER
42	ZG-391744J	SP TORSION ARM DAMPER
43	BL-V1102A140A	ARM LOADING BLK 425EA
44	ZG-387417J	SP TORSION LOAD(S)
45	ZG-387418J	SP TORSION LOAD(T)
46	ZG-392831J	SP TORSION JOINT(2)
47	ML-387350J1	ARM LID OPENER
48	BV-V1102A150A	CASSETTE LOAD BLK 425EA
49	ZG-387348J	SP PLATE HOLDER
50	ZG-387421J	SP TORSION DAMPER(S)
51	ML-387345J	LEVER DAMPER(S)
52	ZG-388290J	SP TORSION DAMPER(T)
53	ML-387346J	LEVER DAMPER(T)
54	ML-387344J	LEVER LOCK RELEASE
55	ZG-387420J	SP TORSION RELEASE
56	ML-387349J	ARM SHUTTER
57	SE-387343J	GUIDE FRONT
58	MZ-387351J	PLATE UPPER
59	ZS-364543	DT BID30X08STL CMT
60A	BB-V1102A020A	MECHA DECK BLK 425EA [EOH-E,EOG,EM-E]
60B	BB-V1102A020C	MECHA DECK BLK 427EK [EK-B]
61	SZ-391866J1	CUSHION COVER

NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

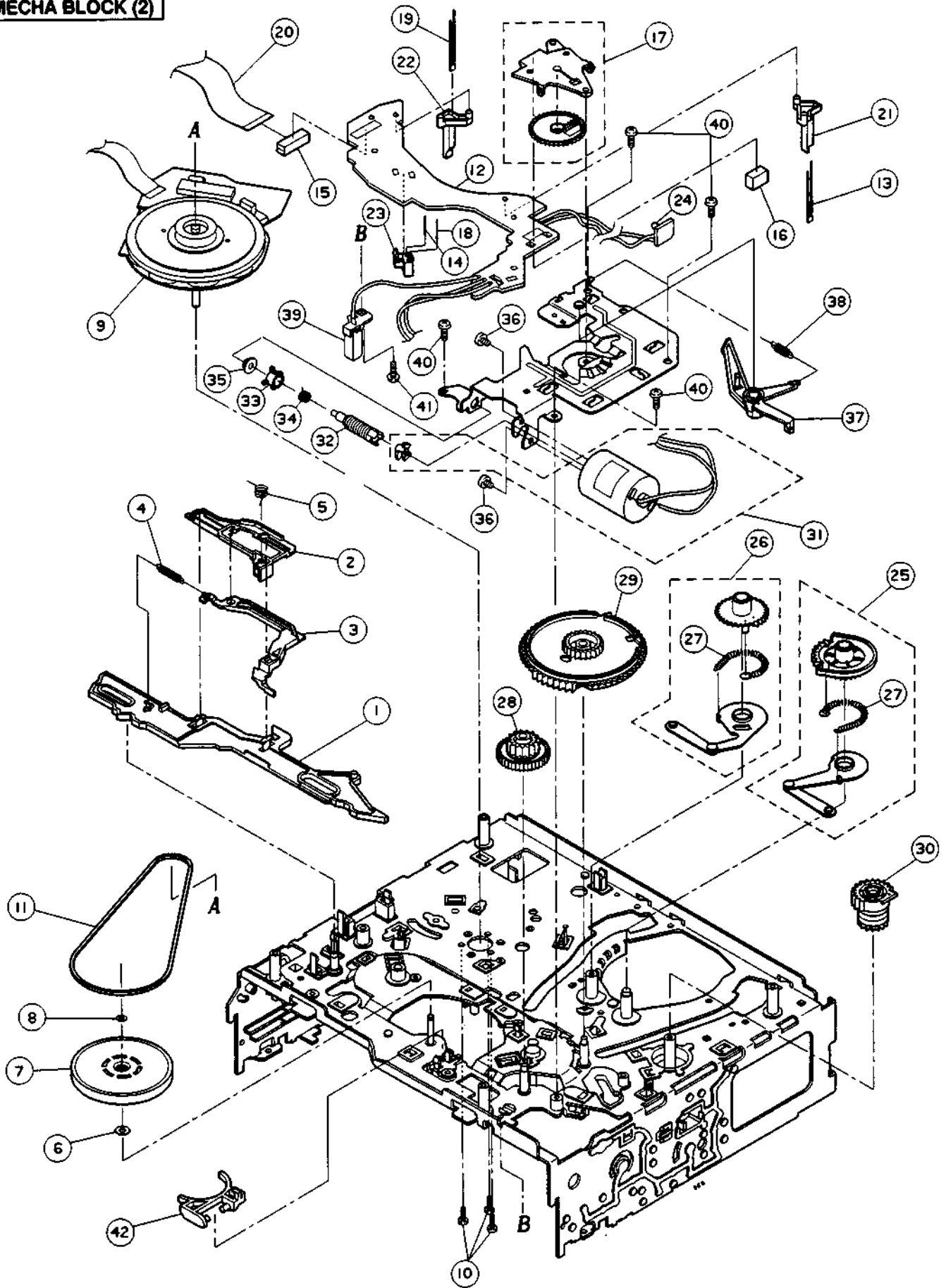
4. MECHA BLOCK (2)

Ref. No.	Part No.	Description
1	ML-387324J	SLIDER BRAKE PART
2	ML-387327J	SLIDER TRIGGER
3	ML-387402J	LEVER TRIGGER
4	ZG-387468J	SP PULL SLIDER
5	ZG-387403J	SP TORSION COUPLING
6	ZW-389923J	PW26X060X050PSL
7	MZ-387298J1	DISK CLUTCH PART
8	ZW-387492J	SLIT W21X040X050PSL
9	9M-386236J	MOTOR DFX-67B3VWA1
10	ZS-365149	PT BID26X06STL CMT
11	MB-387289J	BELT CAPSTAN
12	EA-387496J	PC(#)SENSOR
13	ED-390011J	D LED GL451 INFRARED [D1]
14	ED-390012J	D LED GL4800 INFRARED [D2]
15	EJ-387497J	SOCKET HOUSING 5062-30-10-13
16	EJ-381837J	SOCKET 174074-5 5P
17	ES-387486J	SW MODE SELECT MMS00070ZLBO
18	ET-390010J	TR PHOTO PT4800 [PTR2]
19	ET-390009J	TR PHOTO PT493F [PTR4]
20	EW-389313J	CORD FFC P1.25 L=120 13P
21	MZ-387430J	HOLDER D-LED
22	MZ-387445J	HOLDER S SENSOR
23	MZ-387446J	HOLDER PHOTO SENSOR
24	ET-361490	TR PHOTO PN268 R,S [PTR1]
25	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
26	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
27	ZG-387413J	SP PULL TOGGLE
28	MZ-387332J	GEAR WORM WHEEL
29	MZ-387331J	GEAR CAM SLIDER
30	MZ-387333J	GEAR FRONT LOADING
31	BM-387503J	MOTOR PART
32	MZ-387330J	GEAR WORM PART
33	MR-391968J	PULLEY TRIGGER(2)
34	ZG-387443J	SP TRIGGER
35	MR-387406J	HOLDER THRUST WORM
36	ZS-432674	PAN30X03STL CMT
37	BL-387458J1	CAPSTAN BRAKE PART
38	ZG-387502J	SP PULL CAPSTAN BRAKE
39	ES-373099	SW LEAF MTS10110MFC1
40	ZS-389950J	PT BID26X10STL CMT
41	ZS-364543	DT BID30X06STL CMT
42	ML-387311J1	ARM COUPLING

NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

MECHA BLOCK (2)



5. P.C BOARD BLOCK

Ref. No.	Part No.	Description
1A	BA-V1102D605A	PC(#) MAIN(PAL) BLK 422EOH(E) [EOH-E] [422]
1B	BA-V1102A605E	PC(#) MAIN(PAL) BLK 425EOG [EOG]
1C	BA-V1102D605B	PC(#) MAIN(PAL) BLK 425EOH(E) [EOH-E] [425]
1D	BA-V1102A600G	PC(#) MAIN(PAL) BLK 425EM [EM-E]
1E	BA-V1102D600C	PC(#) MAIN(PAL) BLK 427EK [EK-B] [427]
1F	BA-V1102A600M	PC(#) MAIN(PAL) BLK 467EK [EK-B] [467]
1G	BA-V1102D600D	PC(#) MAIN(PAL) BLK 485EK [EK-B] [485]
2A	BA-V1102D500C	PC(#) POWER BLK 425EOH [EOH-E]
2B	BA-V1102A500G	PC(#) POWER BLK 425EOG [EOG]
2C	BA-V1102A510A	PC(#) POWER EM BLK 425EM [EM-E]
2D	BA-V1102D500F	PC(#) POWER BLK 467EK [EK-B]
3A	BA-V1110D630F	PC OPERATION(A) BLK 422EOH [EOH-E] [422]
3B	BA-V1102A630E	PC OPERATION(B) BLK 425EOG [EOG]
3C	BA-V1102D630D	PC OPERATION(B) BLK 425EOH [EOH-E] [425]
3D	BA-V1102A630B	PC OPERATION(B) BLK 425EM [EM-E]
3E	BA-V1110D630B	PC OPERATION(A) BLK 427EK [EK-B] [427]
3F	BA-V1110A630D	PC OPERATION(A) BLK 467EK [EK-B] [467]
3G	BA-V1110D630C	PC OPERATION(A) BLK 485EK [EK-B] [485]
4A	BA-V1102A610A	PC PRE AMP(1) BLK 425EA [EXCEPT 467EK]
4B	BA-V1102A620A	PC PRE AMP(2) BLK 467EK [EK-B] [467]
5	BA-V1102A670A	PC VPT BLK VPS [EOG]
6A	BA-V1110D680A	PC(#) LINEAR STEREO BLK 427EK [EK-B] [427/467]
6B	BA-V1110D680B	PC(#) LINEAR STEREO BLK 485EK [EK-B] [485]
7	BA-389398J	NICAM UNIT [EK-B] [485]
8	BA-N4009A020C	PC REMOCON BLK RC-V766A-EB [EOH-E,EOG] [425]

PC(#) MAIN BLK CONSISTS OF FOLLOWING P.C BOARD

- MAIN P.C BOARD
- VIDEO P.C BOARD

PC (#) POWER BLK CONSISTS OF FOLLOWING P.C BOARD (EXCEPT EM)

- POWER SUPPLY P.C BOARD
- DIODE P.C BOARD

PC (#) POWER BLK CONSISTS OF FOLLOWING P.C BOARD (EM ONLY)

- POWER SUPPLY (1) P.C BOARD
- POWER SUPPLY (2) P.C BOARD
- TR P.C BOARD

PC(#) LINEAR STEREO BLK CONSISTS OF FOLLOWING P.C BOARD

- LINEAR STEREO (A) P.C BOARD
- LINEAR STEREO (B) P.C BOARD

6. MAIN P.C BOARD

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
C480	EC-391843J	C DOUBLE FYDOH 223Z 5.5DC	IC102	EI-388996J	IC M50455-142SP
D1	ED-387766J	D ZENER H HZS12A2L F05 [EOH-E,EOG,EK-B]	IC201	EI-346071	IC M5218L-771
D3	ED-307572	D SILICON H 1SS131 [EOH-E,EOG]	IC301	EI-388360J	IC BA7785AS [EOH-E,EOG,EM-E]
D4	ED-307572	D SILICON H 1SS131 [EOH-E,EOG]	IC401	EI-388380J1	IC SX2777AS
D10	ED-307572	D SILICON H 1SS131	IC402	EI-373980	IC BA15218N
D11	ED-307572	D SILICON H 1SS131	IC403	EI-385956J	IC UPD75108CW-A54 SXSYP2
D21	ED-307572	D SILICON H 1SS131 [EOG]	IC404	EI-373981J1	IC BA10393N
D22	ED-307572	D SILICON H 1SS131 [EOG]	IC405	EI-353421	IC BA6229
D40	ED-307572	D SILICON H 1SS131 [EOH-E,EOG,EK-B]	L70A	EO-390998J	COIL FIX 1 LAP02 F05 R68K [EOH,EK][422/425/427/467]
D41	ED-388368J	D ZENER H HZS9B3L F05 [EOH-E,EOG,EK-B]	L70B	EO-388803J	COIL FIX 1 LAP02 F05 R47K [EK-B] [485]
D90	ED-367502	D ZENER H HZS9A1L F05 [EOH-E]	L71	EO-373260	COIL FIX 1 LAP02 F05 1R0K [EM-E]
D91	ED-307572	D SILICON H 1SS131 [EOH-E]	L101	EO-351869	COIL FIX 1 LAP02 F05 820K [EOH-E,EOG,EM-E]
D101	ED-307572	D SILICON H 1SS131	L102	EO-376179	COIL FIX 1 ALF-7.5F F05 101M
D102	ED-307572	D SILICON H 1SS131 [EOH-E,EOG,EM-E]	L103	EO-376179	COIL FIX 1 ALF-7.5F F05 101
D103	ED-307572	D SILICON H 1SS131 [EOH-E]	L104	EO-387782J	COIL FIX 1 EL0405SKI 2R2K
D106	ED-307572	D SILICON H 1SS131	L105	EO-387782J	COIL FIX 1 EL0405SKI 2R2K
D107	ED-307572	D SILICON H 1SS131	L106	EO-351866	COIL FIX 1 LAP02 F05 330K [EOH-E,EOG,EM-E]
D203	ED-389418J	D ZENER H HZS5.1B3S T26	L301	EO-390717J	COIL FIX 1 LHL06TB T05 103J [EOH-E,EOG,EM-E]
D204	ED-624903	D SILICON H 1S2473	L302	EO-390716J	COIL FIX 1 LHL06TB T05 272J [EOH-E,EOG,EM-E]
D206	ED-389840J	D SILICON 1SR139-100HS F10	L401	EO-354600	COIL FIX 1 LAP02 F05 101K
D207	ED-388359J	D ZENER H HZS4B2	L402	EO-354600	COIL FIX 1 LAP02 F05 101K
D211	ED-307572	D SILICON H 1SS131	L403	EO-351862	COIL FIX 1 LAP02 F05 100K
D212	ED-307572	D SILICON H 1SS131	L404	EO-375471	COIL OSC 1 S033344
D301	ED-624903	D SILICON H 1S2473	L405A	EO-391267J	COIL FIX 1 LHL06TB T05 182J [EOH-E,EOG,EM-E]
D302	ED-307572	D SILICON H 1SS131	L405B	EO-392829J	COIL FIX 1 TL-8 182J [EK-B]
D306	ED-307572	D SILICON H 1SS131 [EOH-E,EOG,EM-E]	L407	EO-354600	COIL FIX 1 LAP02 F05 101K
D402	ED-307572	D SILICON H 1SS131	L482	EO-354600	COIL FIX 1 LAP02 F05 101K
D403	ED-307572	D SILICON H 1SS131	L483	EO-345927	COIL FIX 1 LAL03KH 101K
D404	ED-307572	D SILICON H 1SS131	PJ101	EJ-387614J	PIN J T6353-ABCB YL BK 4P [EM-E]
D405	ED-624903	D SILICON H 1S2473	PJ103	EJ-387613J	SOCKET M1812 21P [EOH-E,EOG]
D406	ED-624903	D SILICON H 1S2473	R452A	ER-336756	R OMF H FS 1W R47J [EXCEPT 425EM/485EK]
D407	ED-346417	D ZENER H HZ2C3FA F10	R452B	ER-391043J	R FUSE H S10 RF25SC 1/6W R47K [EM-E,EK-B] [425/485]
D408	ED-307572	D SILICON H 1SS131	TR1	ET-353899	TR 2SA1317 S.T.U [EOH-E,EOG,EM-E]
D409	ED-387763J	D ZENER H HZS7B3L F05	TR2	ET-354415	TR DTA144ES [EOH-E,EOG,EK-B]
D410	ED-388368J	D ZENER H HZS9B3L F05	TR3	ET-354414	TR DTC144ES
D411	ED-307572	D SILICON H 1SS131	TR10	ET-375777	TR 2SC2926S P.O
D412	ED-307572	D SILICON H 1SS131	TR11	ET-353899	TR 2SA1317 S.T.U
D413	ED-307572	D SILICON H 1SS131	TR30	ET-353899	TR 2SA1317 S.T.U
D414	ED-307572	D SILICON H 1SS131	TR31	ET-360137	TR 2SC3330 U.V F05
D416	ED-366684	D SILICON H 1SS136 F05	TR32A	ET-360137	TR 2SC3330 U.V F05 [EOH-E]
D417	ED-366684	D SILICON H 1SS136 F05	TR32B	ET-353899	TR 2SA1317 S.T.U [EOG,EM-E,EK-B]
D418	ED-389688J	D ZENER H HZS5B2	TR33	ET-353897	TR DTC114ES
D419	ED-307572	D SILICON H 1SS131	TR40A	ET-355669	TR 2SC3246 G.H.J F05 [EOH-E,EOG]
D420	ED-307572	D SILICON H 1SS131	TR40B	ET-385916J	TR 2SD2159 U.V F05 [EK-B]
D421	ED-307572	D SILICON H 1SS131	TR90	ET-356236	TR FET 2SK363 GR,BL [EOH-E]
D422	ED-388387J	D ZENER H HZS30-2L T26	TR101	ET-360137	TR 2SC3330 U.V F05
D423	ED-307572	D SILICON H 1SS131	TR102	ET-360137	TR 2SC3330 U.V F05 [EOH-E,EOG,EM-E]
D424	ED-387919J	D ZENER H HZS6A1L F05	TR103	ET-353899	TR 2SA1317 S.T.U
D425	ED-307572	D SILICON H 1SS131	TR104	ET-356336	TR DTA114ES [EOH-E,EOG,EM-E]
D481	ED-307572	D SILICON H 1SS131	TR105	ET-354414	TR DTC144ES [EOH-E,EOG,EM-E]
FL301	EO-388362J	COIL OSC 1 V1102 [EOH-E,EOG,EM-E]	TR106	ET-354364	TR DTC143TS
FR498	*ER-393219J	R FUSE H S10 RF25S 1/4W 4R7J [EXCEPT 427EK/467EK]	TR107	ET-360137	TR 2SC3330 U.V F05 [EOH-E,EOG,EM-E]
FR523A	*ER-393220J	R FUSE H S10 RF25S 1/4W 220J [EM-E,EK-B] [425/485]			
FR523B	*ER-393222J	R FUSE H S10 RF25S 1/4W 100J [EOH-E,EOG] [422/425]			
IC10	EI-337530	IC UPC574J			
IC20	EI-390053J	IC LA7910 [EOH-E,EOG,EM-E]			
IC101	EI-310036	IC TC40668P [EOH-E,EOG,EM-E]			

Ref. No.	Part No.	Description
TR109	ET-353897	TR DTC114ES
TR110	ET-360137	TR 2SC3330 U,V F05
TR111	ET-354414	TR DTC144ES
TR112	ET-356336	TR DTA114ES
TR113	ET-353899	TR 2SA1317 S,T,U
TR114	ET-354414	TR DTC144ES
TR203	ET-388338J	TR 2SB1425 S,E
TR204	ET-354414	TR DTC144ES
TR205	ET-366168	TR 2SD1292 Q,R
TR206	ET-353899	TR 2SA1317 S,T,U
TR207	ET-360137	TR 2SC3330 U,V F05
TR301	ET-360137	TR 2SC3330 U,V F05 [EOH-E,EOG,EM-E]
TR303	ET-388338J	TR 2SB1425 S,E
TR304	ET-388338J	TR 2SB1425 S,E
TR305	ET-354414	TR DTC144ES [EXCEPT 467EK]
TR306	ET-353899	TR 2SA1317 S,T,U
TR401	ET-354414	TR DTC144ES
TR402	ET-354414	TR DTC144ES
TR403	ET-354414	TR DTC144ES
TR404	ET-363953	TR DTA114TS
TR405	ET-354414	TR DTC144ES
TR406	ET-354414	TR DTC144ES
TR408	ET-366168	TR 2SD1292 Q,R
TR409	ET-360137	TR 2SC3330 U,V F05
TR410	ET-360137	TR 2SC3330 U,V F05
TR411	ET-360137	TR 2SC3330 U,V F05
TR412	ET-353899	TR 2SA1317 S,T,U
VR101	EV-390141J	R S-FIX H T05 RH0634C 0.1W 332
VR301	EV-390869J	R S-FIX H T05 RH0634C 0.1W 103 [EOH-E,EOG,EM-E]
VR302	EV-390874J	R S-FIX H T05 RH0634C 0.1W 473 [EOH-E,EOG,EM-E]
VR401	EV-390872J	R S-FIX H T05 RH0634C 0.1W 223
X101	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ
X401	EI-385940J	OSC CE CST4.19MGWTF 4.194MHZ
1A	EE-390143J	TV TUNER TERE3-001A HYP.EO [EOH-E]
1B	EE-387604J	TV TUNER TERE1-007A EOG [EOG]
1C	EE-387602J	TV TUNER VTSB6CZ EV [EM-E]
1D	EE-387607J	TV TUNER TERB1-008A EK [EK-B]
2A	BV-390052J	RF CONVERTER ENC-87975 EO [EOH-E,EOG]
2B	BV-387635J	RF CONVERTER MDLK6B063A EK [EK-B]
2C	BV-387611J	RF CONVERTER YAA21-0454 EV [EM-E]
3A	SP-387357J	PANEL REAR JACK EK [EOH-E]
3B	SP-388305J	PANEL REAR JACK EOG [EOG]
3C	SP-388307J	PANEL REAR JACK EA [EM-E]
3D	SP-389825J	PANEL REAR JACK EK(S) [EK-B]

7. VIDEO P.C BOARD

Ref. No.	Part No.	Description
D601	ED-307572	D SILICON H 1SS131
D604	ED-392779J	D SCHOTTKY 1SS198 T26
D605	ED-307572	D SILICON H 1SS131
D675	ED-307572	D SILICON H 1SS131
D701	ED-307572	D SILICON H 1SS131
D702	ED-307572	D SILICON H 1SS131
DL701	EH-390730J	DL EFD-JF124A13J
FL601	EH-368821	FILTER LC LP MYV-23R
FL602	EH-392816J	FILTER LC LP SEL-4801
FL701	EH-364045	FILTER LC FF-78P
IC601	EI-373966	IC MSM6965-3RS
IC602	EI-388347J	IC AN3247K
IC701	EI-381630J	IC LA7330
L601	EO-354600	COIL FIX 1 LAP02 F05 101K
L602	EO-387782J	COIL FIX 1 EL0405SKI 2R2K
L603	EO-387782J	COIL FIX 1 EL0405SKI 2R2K
L604	EO-357508	COIL FIX 1 LAP02 F05 151K
L605	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L606	EO-351862	COIL FIX 1 LAP02 F05 100K
L607	EO-360555	COIL FIX 1 LAP02 F05 180K
L608	EO-351868	COIL FIX 1 LAP02 F05 470K
L609	EO-354600	COIL FIX 1 LAP02 F05 101K
L701	EO-388087J	COIL FIX 1 LF-5.0S F05 331K
L702	EO-388353J	COIL FIX 1 LF-5.0S F05 471K
L703	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L704	EO-351867	COIL FIX 1 LAP02 F05 390K
L705	EO-353900	COIL FIX 1 LAP02 F05 150K
L706	EO-345871	COIL FIX 1 EL0606SKI 180J
L707	EO-368619	COIL FIX 1 LAP02 F05 3R3K
L708	EO-351868	COIL FIX 1 LAP02 F05 470K
L709	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L710	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L771	EO-364966	COIL FIX 1 LAP02 F05 120K [EOH-E,EOG,EM-E]
TR601	ET-353899	TR 2SA1317 S,T,U
TR602	ET-353899	TR 2SA1317 S,T,U
TR603	ET-360137	TR 2SC3330 U,V F05
TR671	ET-360137	TR 2SC3330 U,V F05 [EOH-E,EOG,EK-B]
TR701	ET-353897	TR DTC114ES
TR702	ET-354414	TR DTC144ES
TR703	ET-353899	TR 2SA1317 S,T,U
TR704	ET-360137	TR 2SC3330 U,V F05
TR705	ET-360137	TR 2SC3330 U,V F05
TR707	ET-360137	TR 2SC3330 U,V F05
TR708	ET-360137	TR 2SC3330 U,V F05
TR710	ET-360137	TR 2SC3330 U,V F05
TR711	ET-360137	TR 2SC3330 U,V F05
TR712	ET-353899	TR 2SA1317 S,T,U
TR771A	ET-353897	TR DTC114ES [EOH-E]
TR771B	ET-364060	TR DTC143ES [EOG,EM-E]
TR772A	ET-356336	TR DTA114ES [EOH-E]
TR772B	ET-354370	TR DTA124ES [EOG,EM-E]
VR601	EV-390869J	R S-FIX H T05 RH0634C 01W 103
VR602	EV-390873J	R S-FIX H T05 RH0634C 01W 472
VR603	EV-389868J	R S-FIX H T05 RH0634C 01W 682
VR604	EV-390141J	R S-FIX H T05 RH0634C 01W 332
VR605	EV-390871J	R S-FIX H T05 RH0634C 01W 153
VR606	EV-390871J	R S-FIX H T05 RH0634C 01W 153
X701	EI-381632J	OSC X'TAL(86686) 4.43369M HZ

8. PRE-AMP P.C BOARD (EXCEPT 467EK)

Ref. No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
IC1	EI-387586J	IC BA7252S
L1	EO-376857	COIL FIX 1 LF-5.0S F05 5R6K
L3	EO-376858	COIL FIX 1 LF-5.0S F05 560K
L4	EO-376606	COIL FIX 1 LF-5.0S F05 180K
L5	EO-381193J	COIL FIX 1 EL0405SKI 271K
L6	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L8	EO-376859	COIL FIX 1 LF-5.0S F05 8R2K
L9	EO-376603	COIL FIX 1 LF-5.0S F05 150K
L11	EO-376612	COIL FIX 1 LF-5.0S F05 680K
L12	EO-381191J	COIL FIX 1 EL0405SKI 181K
L13	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L14	EO-376610	COIL FIX 1 LF-5.0S F05 330K
L15	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
P2	EJ-387587J	SOCKET 8370-67-800 6P
PS3	EJ-389318J	SOCKET HOUSING 5062-30-10-09
TR1	ET-353899	TR 2SA1317 S.T,U
TR2	ET-360137	TR 2SC3330 U,V F05
TR4	ET-360137	TR 2SC3330 U,V F05
TR6	ET-360137	TR 2SC3330 U,V F05
TR7	ET-360137	TR 2SC3330 U,V F05
VR1	EV-390157J	R S-FIX V KV5F639A 0.10W 102
VR2	EV-391042J	R S-FIX V KV5F639A 0.10W 501
WP3	EW-389312J	CORD FFC P1.25 L=180 9P

9. PRE-AMP P.C BOARD (467EK ONLY)

Ref. No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131
D5	ED-307572	D SILICON H 1SS131
D8	ED-307572	D SILICON H 1SS131
D10	ED-307572	D SILICON H 1SS131
IC1	EI-387586J	IC BA7244BS
L1	EO-376858	COIL FIX 1 LF-5.0S F05 560K
L2	EO-376603	COIL FIX 1 LF-5.0S F05 150K
L3	EO-381193J	COIL FIX 1 EL0405SKI 271K
L4	EO-376614	COIL FIX 1 LF-5.0S F05 220K
L5	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L6	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L7	EO-376607	COIL FIX 1 LF-5.0S F05 181K
L8	EO-376612	COIL FIX 1 LF-5.0S F05 680K
L10	EO-380734J	COIL FIX 1 LF-5.0S F05 6R8K
L11	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L12	EO-376610	COIL FIX 1 LF-5.0S F05 330K
L14	EO-376857	COIL FIX 1 LF-5.0S F05 5R6K
L15	EO-376859	COIL FIX 1 LF-5.0S F05 8R2K
P1	EJ-387587J	SOCKET 8370-67-800 6P
PS1	EJ-389815J	SOCKET HOUSING 5062-30-10-15
TR1	ET-360137	TR 2SC3330 U,V F05
TR2	ET-360137	TR 2SC3330 U,V F05
TR4	ET-360137	TR 2SC3330 U,V F05
TR10	ET-354414	TR DTC144ES
TR11	ET-353899	TR 2SA1317 S.T,U
TR12	ET-360137	TR 2SC3330 U,V F05
VR1	EV-391042J	R S-FIX V KV5F639A 0.10W 501
VR2	EV-390157J	R S-FIX V KV5F639A 0.10W 102
WP1	EW-389317J	CORD FFC P1.25 L=180 15P

10. OPERATION P.C BOARD

Ref. No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D2	ED-387765J	D ZENER H HZS9C1L F05
D3	ED-307572	D SILICON H 1SS131
D4	ED-382620J	D LED PG5562X GREEN
D5	ED-307572	D SILICON H 1SS131
		[EOH-E,EOG]
	ED-307572	D SILICON H 1SS131
	ED-307572	D SILICON H 1SS131
D8	ED-307572	D SILICON H 1SS131
D9	ED-307572	D SILICON H 1SS131
D10	ED-307572	D SILICON H 1SS131
D11	ED-307572	D SILICON H 1SS131
D12	ED-307572	D SILICON H 1SS131
D13	ED-307572	D SILICON H 1SS131
D14	ED-307572	D SILICON H 1SS131
D15	ED-307572	D SILICON H 1SS131
D16	ED-307572	D SILICON H 1SS131
		[EK-B]
D18	ED-307572	D SILICON H 1SS131
		[EK-B] [467]
D21	ED-307572	D SILICON H 1SS131
		[EK-B]
D24	ED-307572	D SILICON H 1SS131
		[EOH-E]
D25	ED-307572	D SILICON H 1SS131
		[EK-B]
D26	ED-307572	D SILICON H 1SS131
		[EK-B] [485]
D27	ED-307572	D SILICON H 1SS131
		[EK-B] [485]
D28	ED-307572	D SILICON H 1SS131
		[EOH,EOG,EK][422/425/485]
D30	ED-307572	D SILICON H 1SS131
		[EOG]
FL1A	EM-387624J	IND FL FV345G CHARACTER
		[EOH-E,EM-E]
FL1B	EM-387625J	IND FL FV374G CHARACTER
		[EOG]
FL1C	EM-389833J	IND FL FV392G CHARACTER
		[EK-B]
IB1	EH-387619J	COMP R RGLE14X 103J
IB2	EH-383083J	COMP R RGLE3X 103J
IB4	EH-378541J	COMP R RGLE3X 473J
IC1	EI-385955J	IC UPD75216A-268 SXOPP2
IC2	EI-387620J	IC BR93C46
IC3	EI-373955	IC S-8053ALR
PH1	ET-381637J1	DETECTOR GP1U521X
PS1	EJ-389815J	SOCKET HOUSING 5062-30-10-15
PS2	EJ-387497J	SOCKET HOUSING 5062-30-10-13
SW1	ES-349474	SW TACT SKHHAM004A
SW2	ES-349474	SW TACT SKHHAM004A
SW3	ES-349474	SW TACT SKHHAM004A
SW4	ES-349474	SW TACT SKHHAM004A
SW5	ES-349474	SW TACT SKHHAM004A
SW7	ES-349474	SW TACT SKHHAM004A
SW8	ES-349474	SW TACT SKHHAM004A
SW9	ES-349474	SW TACT SKHHAM004A
SW10	ES-349474	SW TACT SKHHAM004A
SW11	ES-349474	SW TACT SKHHAM004A
SW12	ES-349474	SW TACT SKHHAM004A
SW13	ES-349474	SW TACT SKHHAM004A
SW14	ES-349474	SW TACT SKHHAM004A
		[EK-B]
SW15	ES-349474	SW TACT SKHHAM004A
SW16	ES-349474	SW TACT SKHHAM004A
SW17	ES-349474	SW TACT SKHHAM004A
SW18	ES-349474	SW TACT SKHHAM004A
SW19	ES-349474	SW TACT SKHHAM004A
SW20	ES-390156J	SW SLIDE SSSS91690A 1-01-02N
		[EOH,EOG,EK][422/425/485]
SW21	ES-390156J	SW SLIDE SSSS91690A 1-01-02N
		[EOH-E,EK-B]
TR1	ET-354414	TR DTC144ES
TR2	ET-360137	TR 2SC3330 U,V F05
TR3	ET-354414	TR DTC144ES

Ref. No.	Part No.	Description
TR4	ET-360137	TR 2SC3330 U,V F05
TR5	ET-360137	TR 2SC3330 U,V F05
TR6	ET-373985	TR DTA144TS [EK-B] [485]
TR7	ET-373985	TR DTA144TS [EK-B] [485]
TR8	ET-373985	TR DTA144TS [EOH,EOG,EK][422/425/485]
WP1	EW-389315J	CORD FFC P1.25 L=120 15P
WP2	EW-389314J	CORD FFC P1.25 L=170 13P
X1	EI-388110J	OSC CE CST4.19MG 4.194MHZ
X2	EI-368825	OSC X'TAL MX-38T 32.768KHZ

11. VIF UNIT

Ref. No.	Part No.	Description
CF1A	EH-373914	FILTER CE SAF38.9MZ70Z [EOH-E,EM-E]
CF1B	EH-373917	FILTER CE SAF39.5MZ70Z [EK-B] [427/467]
CF1C	EH-725826J	FILTER CE SAF38.9MZY71Z [EOG]
CF1D	EH-714628	FILTER SAW SAF39.5MZ70Z [EK-B] [485]
CF2A	ER-373620	R CB H F10 HQ RDS 1/4W 330J [EOH-E,EM-E,EOG]
CF2B	EH-373921	FILTER CE SFE6.0MB [EK-B] [427/467]
CF2C	EH-725829J	FILTER CE SFT6.0MA [EK-B] [485]
CF3A	EH-368948	FILTER CE TPS5.5MW 5.5000MHZ [EOH-E,EOG]
CF3B	EH-373918	FILTER CE TPS5.5MB [EM-E]
CF3C	EH-373919	FILTER CE TPS6.0MB [EK-B]
CF4	EH-725827J	FILTER CE SAF32.9MDE70Z [EK-B] [485]
IC1	EI-368809	IC M51496P
IC2	EI-730158J	IC TA8703S [EK-B] [485]
L1A	EO-387800J	COIL FIX 1 EL0405SKI 2R7K [EXCEPT 485EK]
L1B	EO-381188J	COIL FIX 1 EL0405SKI 1R0K [EK-B] [485]
L2	EO-717495	COIL RF 7KL 6F16151B1 [EK-B] [485]
L3A	EO-725953J	COIL SIF DET 6F16263A2 [EOH-E,EM-E,EOG]
L3B	EO-725954J	COIL SIF DET 6F16263A3 [EK-B]
L4A	EO-725956J	COIL AFT 6F16262A1 [EOH-E,EM-E,EOG]
L4B	EO-725958J	COIL AFT 6F16262A3 [EK-B] [427/467]
L4C	EO-714614	COIL RF 6F16115B1 [EK-B] [485]
L5A	EO-725960J	COIL TANK 6F16259A1 [EOH-E,EM-E,EOG]
L5B	EO-725962J	COIL TANK 6F16259A3 [EK-B] [427/467]
L5C	EO-714610	COIL RF 6F16113B1 [EK-B] [485]
L6A	EO-387799J	COIL FIX 1 EL0405SKI 180K [EXCEPT 427/467EK]
L6B	EO-387798J	COIL FIX 1 EL0405SKI 150K [EK-B] [427/467]

Ref. No.	Part No.	Description
L7A	EO-387799J	COIL FIX 1 EL0405SKI 180K [EOH-E,EOG,EM-E]
L7B	EO-387798J	COIL FIX 1 EL0405SKI 150K [EK-B] [427/467]
L7C	EO-387781J	COIL FIX 1 EL0405SKI 120K [EK-B] [485]
L8	EO-387802J	COIL FIX 1 EL0405SKI 330K [EXCEPT 485EK]
L9	EO-714610	COIL RF 6F16113B1 [EK-B] [485]
L10	EO-387781J	COIL FIX 1 EL0405SKI 120K [EK-B] [485]
L51	EO-725964J	COIL TRAP 6F16222A1 [EOG]
L52	EO-725965J	COIL TRAP 6F16223A1 [EOG]
L53	EO-391141J	COIL FIX 1 EL0405SKI R47M [EOG]
Q1	ET-725820J	TR CHIP 2SC2735J
Q2	ET-713614	TR CHIP 2SA1235 E,F [EXCEPT 485EK]
Q4	ET-713614	TR CHIP 2SA1235 E,F [EK-B] [485]
Q5	ET-713615	TR CHIP 2SC3052 E,F [EK-B] [485]
Q7	ET-713614	TR CHIP 2SA1235 E,F [EK-B] [485]
Q51	ET-724885J	TR CHIP RT1N141C [EOG]
Q52	ET-724885J	TR CHIP RT1N141C [EOG]
VR1	EV-725966J	R S-FIX V RVF6W01 203K [EOH-E,EM-E,EK-B]
VR2	EV-388163J	R S-FIX V RVF6W01 0.10W 202 [EXCEPT 485EK]
VR3	EV-388163J	R S-FIX V RVF6W01 0.10W 202 [EK-B] [485]
VR51	EV-725966J	R S-FIX V RVF6W01 203K [EOG]
VR52	EV-725966J	R S-FIX V RVF6W01 203K [EOG]

12. POWER SUPPLY P.C BOARD (EXCEPT EM)

Ref. No.	Part No.	Description
C1	*EC-389414J	C CE V DE7 B102K 400AC
C2	EC-363490	C EC V CUT SME 222M 16.00C
C3	EC-364958	C EC V CUT SME 222M 35.00C
D1	*ED-511907	D SILICON 1N4002 100/1.0A
D2	*ED-511907	D SILICON 1N4002 100/1.0A
D3	*ED-511907	D SILICON 1N4002 100/1.0A
D4	*ED-511907	D SILICON 1N4002 100/1.0A
D5	ED-624903	D SILICON H 1S2473
D8	ED-322046	D ZENER H HZ18 1
D10	ED-343996	D ZENER H HZ12 B1
FR1	*ER-392819J	R FUSE H S10 RF25SC 1/4WR 10K
FR3	*ER-391044J	R FUSE H S10 RF25SC 1/6WR 8K
FR4	*ER-392807J	R FUSE H S10 RF25SC 1/6WR 12K
L1	EO-389410J	COIL LF RR03R212A10 10.0UH [EOG]
L2	EO-389410J	COIL LF RR03R212A10 10.0UH [EOG]
R6	ER-389875J	R OMF H S10 FS 1/2W R68J
TR1	ET-373025	TR 2SD1944 J1,J2,K
TR2	ET-360137	TR 2SC3330 U,V F05
TR3	ET-391025J	TR 2SD2012
TR4	ET-391025J	TR 2SD2012
TR5	ET-380685J	TR 2SD1761 E,F,G
T1A	*BT-391109J	TRANS POW V1105 EO [EOH-E,EOG]
T1B	*BT-389239J	TRANS POW V1102 EK [EK-B]

13. DIODE P.C BOARD (EXCEPT EM)

Ref. No.	Part No.	Description
D9	*ED-389296J	D SILICON BR31-B-D-80 100/3.0A

14. POWER SUPPLY (1) P.C BOARD(EM ONLY)

Ref. No.	Part No.	Description
C1	EC-363491	C EC V CUT SME 222M 25.0DC
C2	EC-364958	C EC V CUT SME 222M 35.0DC
C104	*EC-378327	C EC V SM 2R2M 450DC
D1	*ED-511907	D SILICON 1N4002 100/1.0A
D2	*ED-511907	D SILICON 1N4002 100/1.0A
D3	*ED-511907	D SILICON 1N4002 100/1.0A
D4	*ED-511907	D SILICON 1N4002 100/1.0A
D5	*ED-511907	D SILICON 1N4002 100/1.0A
D6	*ED-511907	D SILICON 1N4002 100/1.0A
D7	*ED-511907	D SILICON 1N4002 100/1.0A
D8	*ED-511907	D SILICON 1N4002 100/1.0A
D9	ED-346618	D ZENER H HZ15 1
D10	ED-380089J	D SILICON DFC15TC-FD1 200/1.5A
D11	ED-307572	D SILICON H 1SS131
D12	ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D13	ED-346541	D ZENER H HZ9B2L
D14	ED-346541	D ZENER H HZ9B2L
D103	ED-346526	D ZENER H HZ6B1L
D104	ED-624903	D SILICON H 1S2473
D105	ED-346526	D ZENER H HZ6B1L
FR2	*ER-391043J	R FUSE H S10 RF25SC 1/6W R47K
FR3	*ER-391043J	R FUSE H S10 RF25SC 1/6W R47K
FR4	*ER-391043J	R FUSE H S10 RF25SC 1/6W R47K
FR6	*ER-392807J	R FUSE H S10 RF25SC 1/6W R12K
FR7	*ER-392819J	R FUSE H S10 RF25SC 1/4W R10K
IC1	EI-380090J	IC NJM2352D
IC102	*EI-368152	IC BA707
L1	EO-392805J	COIL FIX 2 C-5327-01 240K
L2	EO-3928	COIL FIX 2 C-5327-01 240K
L3	EO-382	COIL FIX 2 EF1950 560K
L4	EO-3926	COIL FIX 2 C-5328-01 560K
L5	EO-392806	COIL FIX 2 C-5328-01 560K
L6	EO-382264T	COIL FIX 2 EF1950 560K
R16	ER-389675J	R OMF H S10 FS 1/2W R68J
R106	ER-376864	R OMF H S12 SPR1 1W 274J
TR1	ET-380685J	TR 2SD1761 E,F,G
TR2	ET-366365	TR 2SB1185 E,F
TR3	ET-391025J	TR 2SD2012
TR4	ET-353899	TR 2SA1317 S,T,U
TR6	ET-360646	TR DTA143ES
TR7	ET-356817	TR 2SB891 Q,R
TR8	ET-354364	TR DTC143TS
TR9	ET-391025J	TR 2SD2012
TR11	ET-360137	TR 2SC3330 U,V F05
TR101	*ET-389415J	TR 2SC3169
TR102	ET-360137	TR 2SC3330 U,V F05
TR103	*ET-389415J	TR 2SC3169
T1	*BT-389240J	TRANS POW V1105-EM

15. POWER SUPPLY (2) P.C BOARD(EM ONLY)

Ref. No.	Part No.	Description
C101	*EC-389414J	C CE V DE7 B102K 400AC
D101	*ED-385935J	D SILICON ERA22-04V3 T26 400/5
D102	ED-624903	D SILICON H 1S2473
D106	ED-385935J	D SILICON ERA22-04V3 T26 400/5
D107	*ED-378455	D SILICON DSA12TG 600/1.2A
D108	*ED-385935J	D SILICON ERA22-04V3 T26 400/5
F101	*EF-601942	FUSE SEMKO T 250V 630MA
IC101	*EI-376794J1	IC BA10393
RL101	*EQ-389298J	RELAY POW AJV12442 1NO 100V

16. TR P.C BOARD (EM ONLY)

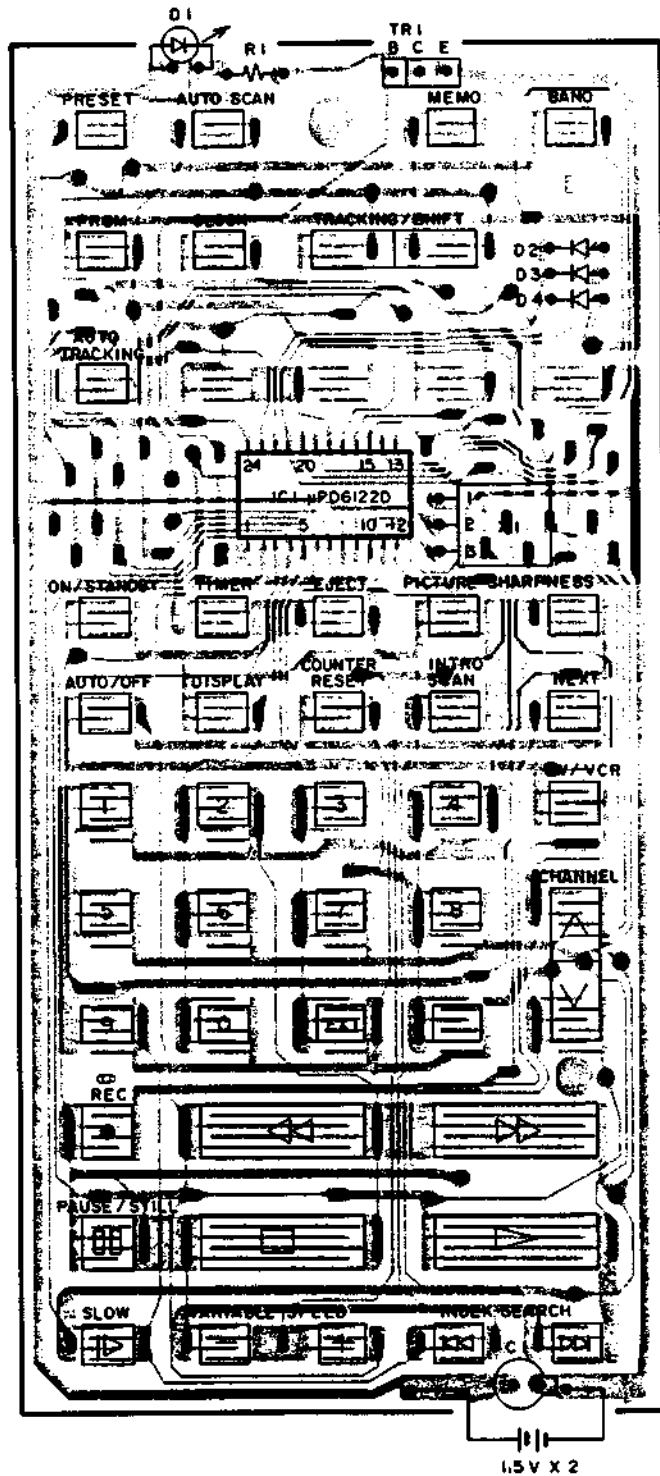
Ref. No.	Part No.	Description
TR10	ET-373025	TR 2SD1944 J1,J2,K

17. JUNCTION P.C BOARD

Ref. No.	Part No.	Description
D1	ED-391103J	D ZENER H HZS12B2
TR1	ET-380685J	TR 2SD1761 E,F,G

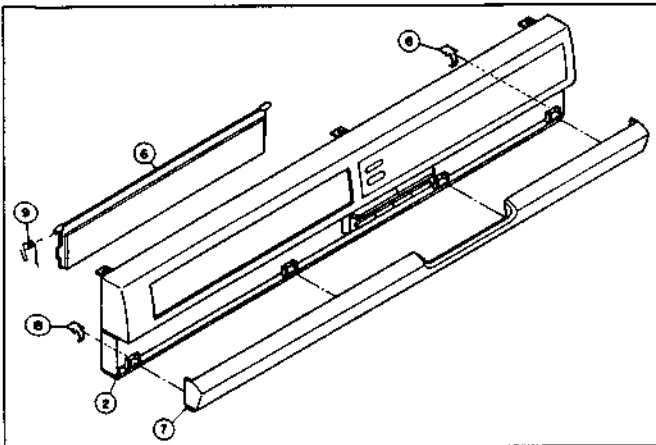
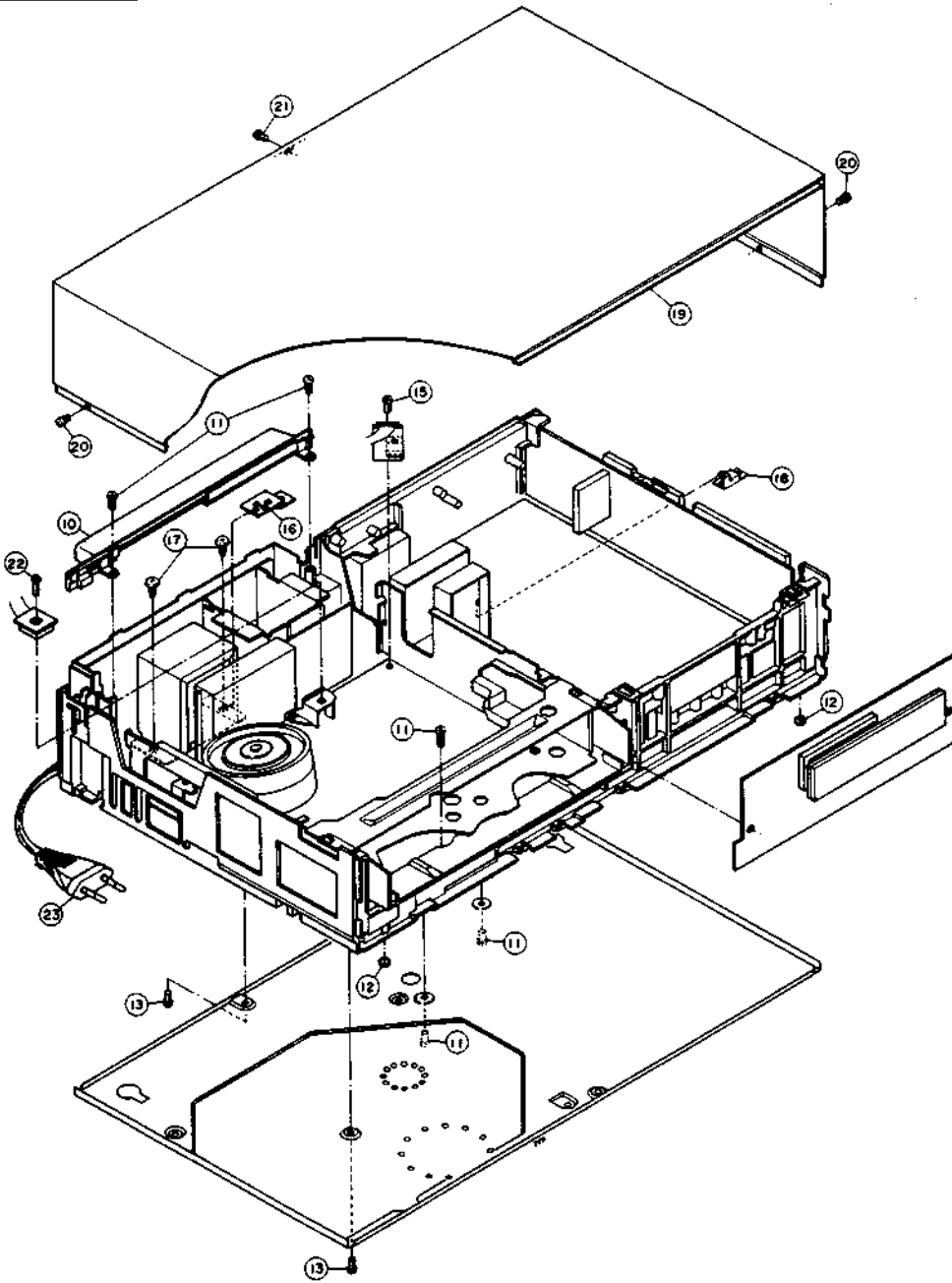
18. P/S AUTO P.C BOARD (EM/EOG ONLY)

Ref. No.	Part No.	Description
D101	ED-307572	D SILICON H 1SS131
D102	ED-307572	D SILICON H 1SS131
IC101	EI-388342J	IC LA7311
L101	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
TR101	ET-360137	TR 2SC3330 U,V F05
TR102	ET-353897	TR DTC114ES
TR103	ET-356336	TR DTA114ES
TR104	ET-360137	TR 2SC3330 U,V F05

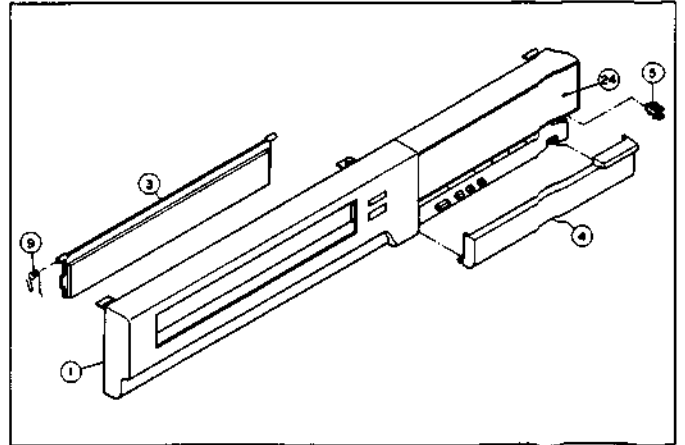


REMO-CON PCB N4008C5010

FINAL ASSEMBLY BLOCK

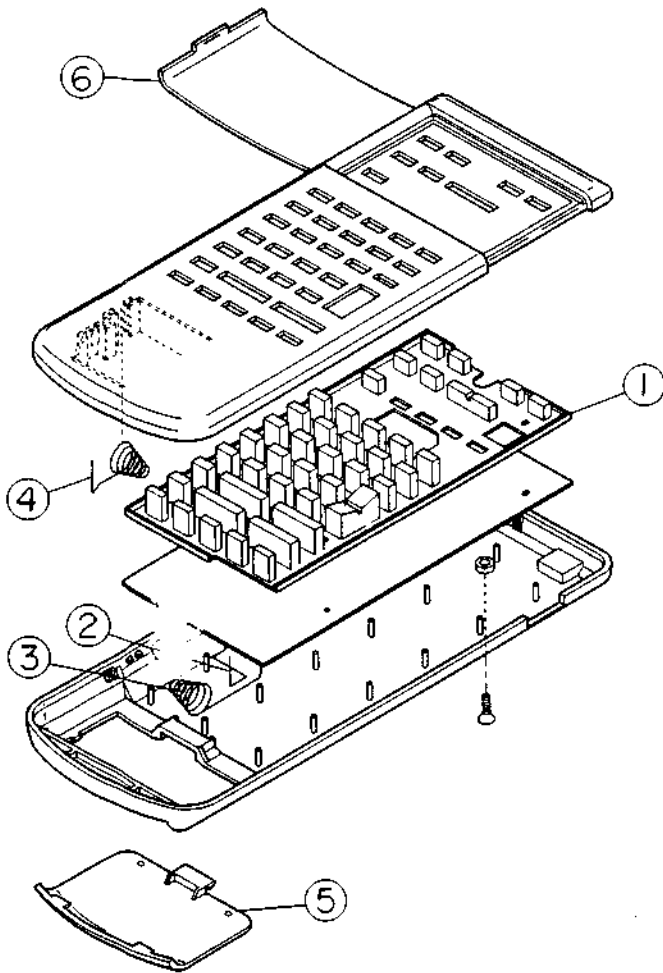


VS-422E0H, VS-427EK, 467EK, 485EK



VS-425E0H, E0G, EM

REMOCON UNIT RC-V425A-EB/V426A-EB



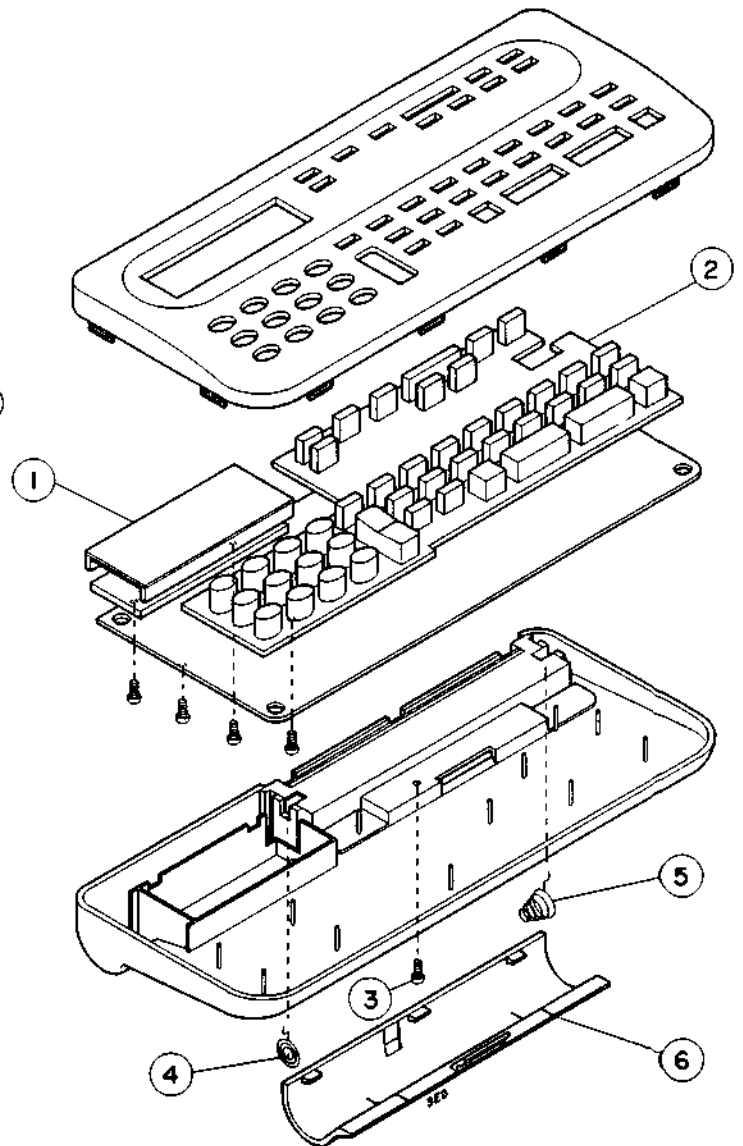
25. ACCESSORY

Ref. No.	Part No.	Description
1	EW-348414	CORD PAL
2A	AV-N4008B010A	REMOCON BLK RC-V425A-EB [EOH-E] [422]
2B	AV-N4008B010C	REMOCON BLK RC-V426A-EB [EM-E]
2C	AV-N4009B010C	REMOCON BLK RC-V466A-EB [EOH-E.EOG] [425]
2D	AV-N4011B010B	REMOCON BLK RC-V468A-EB [EK-B]

26. REMOCON UNIT RC-V425A-EB/V426A-EB

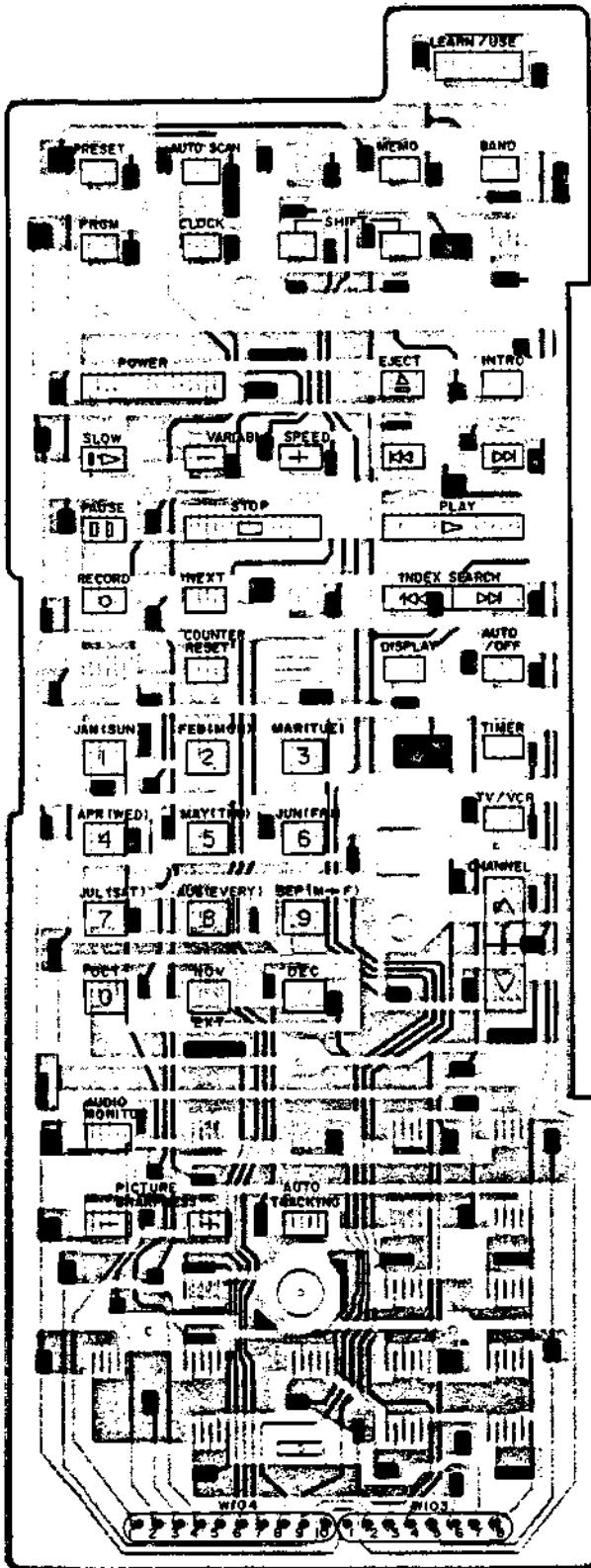
Ref. No.	Part No.	Description
D1	ED-390686J	D LED TLN105B INFRARED
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131
D4	ED-307572	D SILICON H 1SS131
IC1	EI-376112	IC UPD6122G
TR1	ET-302502	TR 2SC2001 K
X1	EI-390687J	OSC CE CSU455PL 455KHZ
1	MB-390673J	KEY RUBBER(N)
2	ZG-390683J	TERMINAL BATTERY(A)
3	ZG-390684J	TERMINAL BATTERY(B)
4	ZG-390676J	TERMINAL BATTERY(C)
5	SC-390678J	COVER BATTERY(N)
6	SP-390681J	DOOR PANEL(N)

REMOCON UNIT RC-V466A-EB

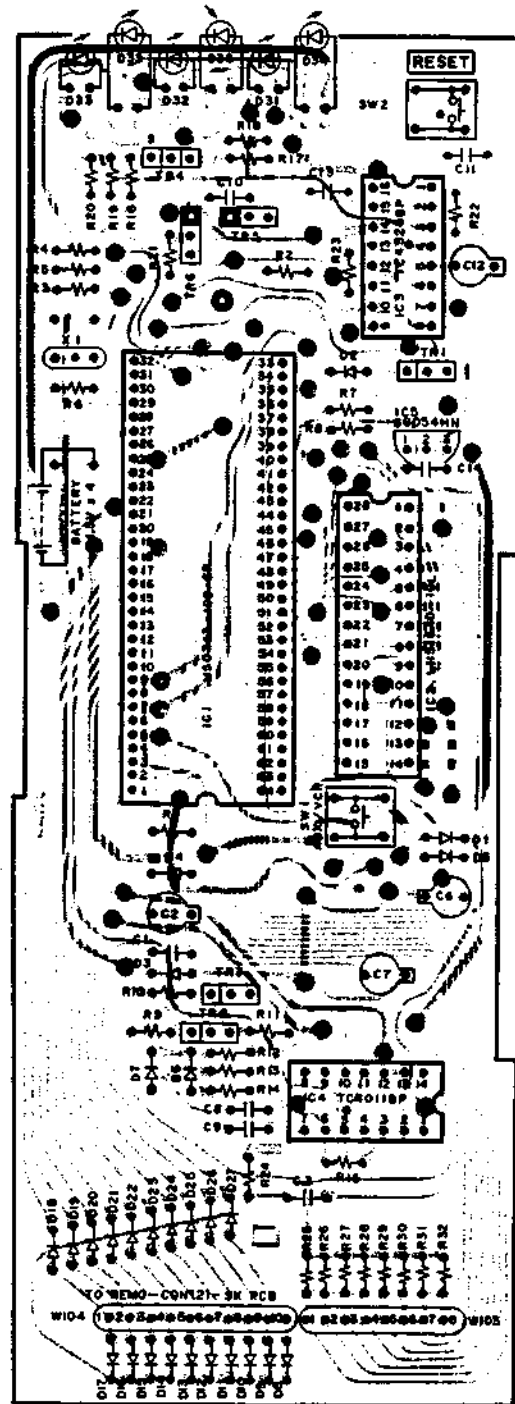


27. REMOCON UNIT RC-V466A-EB

Ref. No.	Part No.	Description
D1	ED-390686J	D LED TLN105B INFRARED
IC1	EI-390622J	IC UPD75304G-057-3B9 SXREMA1
IC2	EI-390825J	IC S-9052ANB-NE T1
TR1	ET-390826J	TR.CHIP 2SD1619 T.U TC T08
X1	EI-389972J	OSC CE W/C FOR2.2MC3 2.2MHZ
X2	EI-368825	OSC XTAL MX-38T 32.768KHZ
1	EM-390786J	IND LCD LF5293G ENGLISH
2	MB-391417J	KEY RUBBER(A)
3	ZS-374389	PT BID20X06STL BNI
4	ZG-385136J	TERMINAL BATTERY B
5	ZG-391411J	TERMINAL BATTERY(I)
6	SC-391422J	COVER BATTERY



REMO-CON(2)-SX PCB N4011B5020



REMO-CON(1) PCB
N4004B5010 (J2)

- S D FET
- B PNP TRANSISTOR
- B NPN TRANSISTOR

19. LINEAR STEREO(A) P.C BOARD(EK ONLY)

Ref. No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131 [485]
D4	ED-307572	D SILICON H 1SS131 [485]
D5	ED-307572	D SILICON H 1SS131 [485]
D6	ED-307572	D SILICON H 1SS131 [485]
D7	ED-307572	D SILICON H 1SS131 [485]
D8	ED-307572	D SILICON H 1SS131
D9	ED-307572	D SILICON H 1SS131
D11	ED-307572	D SILICON H 1SS131
D12	ED-307572	D SILICON H 1SS131
D13	ED-307572	D SILICON H 1SS131
D14	ED-307572	D SILICON H 1SS131
D17	ED-307572	D SILICON H 1SS131
D18	ED-307572	D SILICON H 1SS131
D19	ED-307572	D SILICON H 1SS131
D20	ED-307572	D SILICON H 1SS131
D22	ED-307572	D SILICON H 1SS131
D23	ED-307572	D SILICON H 1SS131
D24	ED-307572	D SILICON H 1SS131
FL1	EO-389983J	COIL TUN1 79-5297-12 15.625KHZ
FL2	EO-389982J	COIL TUN 1 79-5298-12 70.00KHZ
FL3	EO-389983J	COIL TUN1 79-5297-12 15.625KHZ
FL4	EO-389982J	COIL TUN 1 79-5298-12 70.00KHZ
IC1	EI-310036	IC TC4066BP
IC2	EI-310036	IC TC4066BP
IC3	EI-388360J	IC BA7765AS
IC4	EI-388360J	IC BA7765AS
IC5	EI-389322J	IC CXA1101P
IC6	EI-332259	IC TC4052BP
IC7	EI-200573	IC TC4053BP
L1	EO-390717J	COIL FIX 1 LHL06TB T05 103J
L2	EO-390717J	COIL FIX 1 LHL06TB T05 103J
L4	EO-393202J	COIL FIX 1 LHL06NB F05 472J
L5	EO-393202J	COIL FIX 1 LHL06NB F05 472J
L6	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L7	EO-354600	COIL FIX 1 LAP02 F05 101K
OSC1	EO-391143J	COIL OSC 1 V1110-N 70.0KHZ
TR1	ET-360137	TR 2SC3330 U,V F05 [485]
TR2	ET-388338J	TR 2SB1425 S,E
TR3	ET-360137	TR 2SC3330 U,V F05 [485]
TR4	ET-354414	TR DTC144ES
TR5	ET-356336	TR DTA114ES
TR6	ET-357162	TR FET 2SJ74 GR,BL,V
TR7	ET-357162	TR FET 2SJ74 GR,BL,V
TR8	ET-354415	TR DTA114ES [485]
TR9	ET-354415	TR DTA114ES
TR10	ET-354415	TR DTA114ES
TR11	ET-360137	TR 2SC3330 U,V F05
TR12	ET-353899	TR 2SA1317 S,T,U
TR13	ET-353899	TR 2SA1317 S,T,U [485]
TR14	ET-353899	TR 2SA1317 S,T,U
TR15	ET-353899	TR 2SA1317 S,T,U
TR16	ET-360137	TR 2SC3330 U,V F05
TR17	ET-360137	TR 2SC3330 U,V F05
TR18	ET-360137	TR 2SC3330 U,V F05
TR19	ET-360137	TR 2SC3330 U,V F05
TR20	ET-360137	TR 2SC3330 U,V F05 [485]
TR21	ET-353899	TR 2SA1317 S,T,U
TR22	ET-353899	TR 2SA1317 S,T,U
TR23	ET-360137	TR 2SC3330 U,V F05
TR24	ET-370310	TR DTC144TS
TR25	ET-370310	TR DTC144TS
TR26	ET-356336	TR DTA114ES
VR2	EV-362128	R S-FIX H RH0615C 0.10W 152
VR3	EV-356582	R S-FIX H RH0615C 0.10W 473

Ref. No.	Part No.	Description
VR4	EV-358860	R S-FIX H RH0615C 0.10W 101
VR5	EV-362128	R S-FIX H RH0615C 0.10W 152
VR6	EV-356582	R S-FIX H RH0615C 0.10W 473

20. LINEAR STEREO(B) P.C BOARD(EK ONLY)

Ref. No.	Part No.	Description
D60	ED-389422J	D LED PG3432SY [485]
D70	ED-389422J	D LED PG3432SY
D80	ED-389422J	D LED PG3432SY

21. REAR PINJUCK P.C BOARD (EK ONLY)

Ref. No.	Part No.	Description
J1	EJ-389914J	PIN J YKB11-0177 YELLOW 1P
J2	EJ-389979J	PIN J YKB11-0175 RED 1P
J3	EJ-389980J	PIN J YKB11-0176 WHITE 1P
J4	EJ-389864J	SOCKET M1817 21P

22. NICAM UNIT (485EK ONLY)

Ref. No.	Part No.	Description
C16	EV-729779J	C S-FIX H TZ03T200FR
C46	EV-729779J	C S-FIX H TZ03T200FR
D2	ED-730114J	D VARACTOR 1SV111A
D3	ED-730115J	D SILICON CHIP MC2836
D4	ED-724694J	D SILICON CHIP MC2838
D5	ED-730115J	D SILICON CHIP MC2836
IC2	EI-382827J	IC TA8662N
IC3	EI-730116J	IC CF7D123C
IC4	EI-730117J	IC SAA7320GP
IC5	EI-349719	IC MS218P
IC6	EI-356049	IC TC74HC139P
IC7	EI-332259	IC TC4052BP
IC8	EI-365957	IC MS278L05
L1	EO-714055	COIL RF EL0606RA-101K
L2	EO-351184	COIL FIX 1 EL0606SKI 821J
L3	EO-351184	COIL FIX 1 EL0606SKI 821J
L4	EO-714055	COIL RF EL0606RA-101K
L5	EO-714055	COIL RF EL0606RA-101K
L6	EO-714055	COIL RF EL0606RA-101K
L7	EO-714055	COIL RF EL0606RA-101K
L8	EO-714055	COIL RF EL0606RA-101K
L11	EH-382829J	FILTER LC BP TH316BQM-2110QDAF
Q5	ET-713615	TR CHIP 2SC3052 E,F
Q6	ET-713615	TR CHIP 2SC3052 E,F
Q7	ET-713615	TR CHIP 2SC3052 E,F
Q8	ET-713615	TR CHIP 2SC3052 E,F
Q9	ET-730111J	TR CHIP DTC124EK
Q10	ET-730111J	TR CHIP DTC124EK
Q11	ET-716958	TR CHIP DTC144EK
Q12	ET-713615	TR CHIP 2SC3052 E,F
Q13	ET-713615	TR CHIP 2SC3052 E,F
X1	EI-382831J	OSC XTAL NR-18 6.552MHZ
X2	EI-382833J	OSC XTAL NR-18 5.824MHZ
X3	EI-730420J	OSC X,TAL NR-18 16.384MHZ

23. VPS P.C BOARD (EOG ONLY)

Ref. No.	Part No.	Description
D101	EO-307572	D SILICON H 1SS131
IØ101	EM-383056J	COMP R RGL4X 103J
IC1	EI-390147J	IC MØØØ505H-1097M SXVPS1
IC101	EI-385958J	IC SAA4700
L101	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
TR101	ET-360137	TR 2SC3330 U,V F05
X1	EI-388110J	OSC CE CST4.19MG 4.194MHZ

24. FINAL ASSEMBLY BLOCK

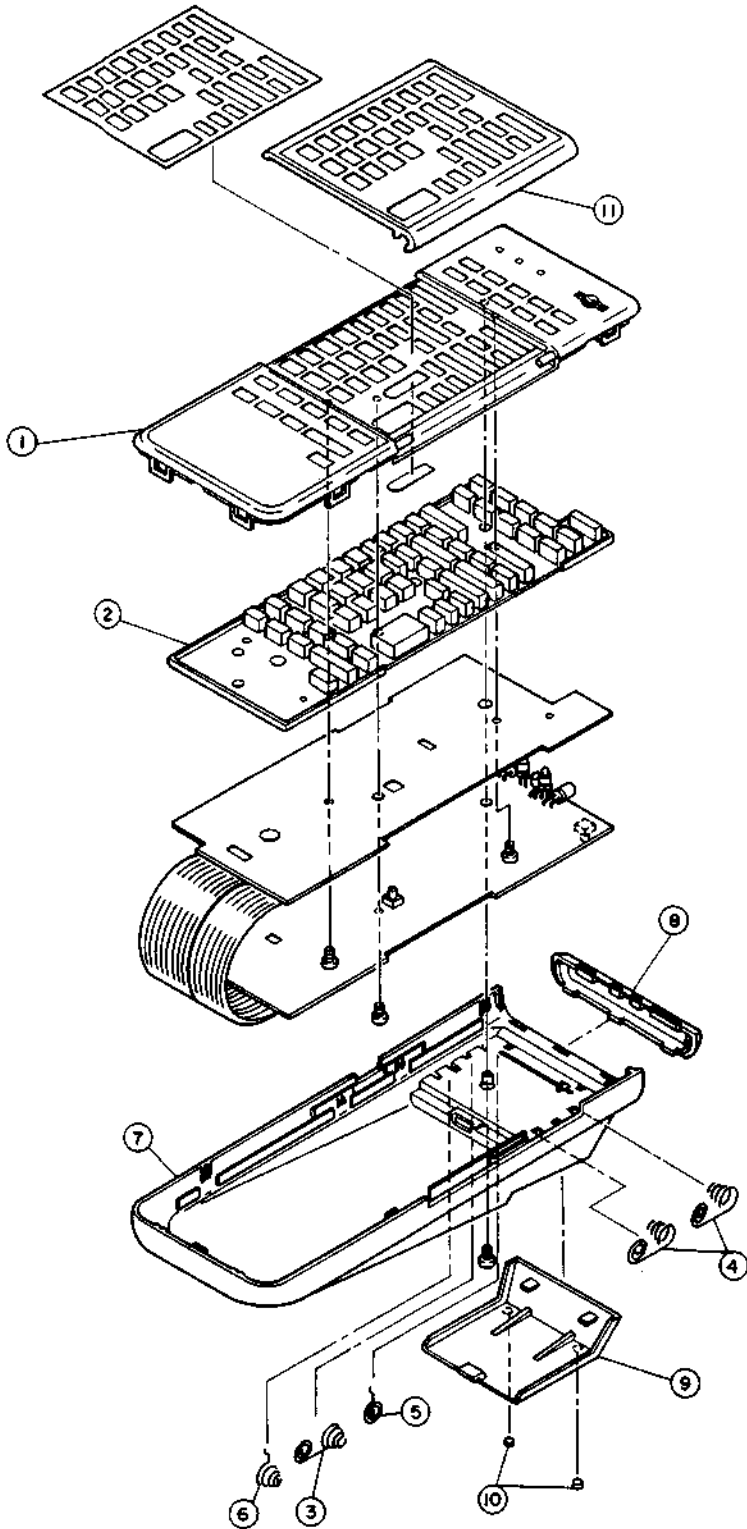
Ref. No.	Part No.	Description
1A	BD-389782J	PANEL FRONT-425EOH-B PART [EOH-E] [425]
1B	BD-389390J	PANEL FRONT-425EOG-B PART [EOG]
1C	BD-389781J	PANEL FRONT-425EM-B PART [EM-E]
2A	BD-391016J	PANEL FRONT-422EOH PART [EOH-E] [422]
2B	BD-391019J	PANEL FRONT-427EK PART [EK-B] [427]
2C	BD-391020J	PANEL FRONT-467EK PART [EK-B] [467]
2D	BD-391021J	PANEL FRONT-485EK PART [EK-B] [485]
3A	SE-389741J	MASK CASSETTE(D)-E2 [EOH-E] [425]
3B	SE-389841J	MASK CASSETTE(D)-G3 [EOG]
3C	SE-387368J	MASK CASSETTE(D)-E1 [EM-E]
4A	SP-389743J	DOOR FRONT(D)-E2 [EOH-E,EM-E] [425]
4B	SP-389342J	DOOR FRONT(D) G1 [EOG]
5	SZ-390032J	LATCH DOOR 3550-1 [EOH-E,EOG,EM-E] [425]
6A	SE-391793J	MASK CASSETTE(A)E2 [EOH-E] [422]
6B	SE-391795J	MASK CASSETTE(A)E4 [EK-B] [427]
6C	SE-392574J	MASK CASSETTE(A)E10 [EK-B] [467]
6D	SE-392575J	MASK CASSETTE(A)E11 [EK-B] [485]
7A	SP-387384J	DOOR(B)E1-B [EOH-E] [422]
7B	SP-391560J	DOOR(B)E2-B [EK-B]
8	ZG-386833J1	SP PLATE DOOR(D) [EOH,EK][422/427/467/485]
9	ZG-387370J	SP MASK
10	SC-387353J	COVER TRANS
11	ZS-362378	PLX BID30X10STL CMT
12	SA-387507J	FOOT SX
13	ZS-364543	DT BID30X06STL CMT
15	ZS-378341	PLX BID30X12STL CMT
16	ZG-387505J	PLATE EARTH
17	ZS-373962	PLX BID40X10STL CMT
18	ZG-387354J	PLATE EARTH(2)
19	SP-387386J1	COVER UPPER B
20	ZS-385611J	DT BID26X06STL BNI
21	ZS-389965J	PLX BID26X08STL BNI
22	ZS-357946	PLX PAN30X10STL CMT CØØØ
23A	EW-385900M	AC CORD 200 SE-1H03VV B130 A E [EOH-E,EOG,EM-E]
23B	EW-389300J	AC CORD200 NRASBS LC2 B140 A B [EK-B]
24	SE-389723J	WINDOW FLD(D)-425EM [EM-E]

NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

REMOCON UNIT RC-V468A-EB

28. REMOCON UNIT RC-V468A-EB



Ref. No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131
D4	ED-307572	D SILICON H 1SS131
D5	ED-307572	D SILICON H 1SS131
D6	ED-307572	D SILICON H 1SS131
D7	ED-307572	D SILICON H 1SS131
D8	ED-307572	D SILICON H 1SS131
D9	ED-307572	D SILICON H 1SS131
D10	ED-307572	D SILICON H 1SS131
D11	ED-307572	D SILICON H 1SS131
D12	ED-307572	D SILICON H 1SS131
D13	ED-307572	D SILICON H 1SS131
D14	ED-307572	D SILICON H 1SS131
D15	ED-307572	D SILICON H 1SS131
D16	ED-307572	D SILICON H 1SS131
D17	ED-307572	D SILICON H 1SS131
D18	ED-307572	D SILICON H 1SS131
D19	ED-307572	D SILICON H 1SS131
D20	ED-307572	D SILICON H 1SS131
D21	ED-307572	D SILICON H 1SS131
D22	ED-307572	D SILICON H 1SS131
D23	ED-307572	D SILICON H 1SS131
D24	ED-307572	D SILICON H 1SS131
D25	ED-307572	D SILICON H 1SS131
D26	ED-307572	D SILICON H 1SS131
D27	ED-307572	D SILICON H 1SS131
D31	ED-384424J	D LED PR2533D RED
D32	ED-384424J	D LED PR2533D RED
D33	ED-384424J	D LED PR2533D RED
D34	ED-376111	D LED SE303AC INFRARED
D35	ED-376111	D LED SE303AC INFRARED
D36	ED-360409	D PHOTO PN323B
IC1	EI-391695J	IC M50743-109SP SXUNI1
IC2	EI-389184J	IC LH5164D-10L
IC3	EI-332203	IC TC4528BP
IC4	EI-304657	IC TC4011BP
IC5	EI-360396	IC S-8054HN
SW1	ES-385174J	SW TACT SKHHBV
SW2	ES-385174J	SW TACT SKHHBV
TR1	ET-354414	TR DTC144ES
TR2	ET-308141	TR 2SC2603 G F05
TR3	ET-302502	TR 2SC2001 K
TR4	ET-337759	TR FET 2SK246 GR
TR5	ET-308472	TR 2SA1115 E,F,G F05
TR6	ET-356336	TR DTA114ES
X1	EI-372031	OSC CE W/C FCR0.0MC 8.0MHZ
1	SC-391675J	CASE UPPER(U)-E
2	MB-391678J	KEY RUBBER(B)
3	ZG-384485J	TERMINAL BATTERY A(R)
4	ZG-385135J	TERMINAL BATTERY A(L)
5	ZG-385136J	TERMINAL BATTERY B
6	ZG-385138J	TERMINAL BATTERY C
7	SC-384435J	CASE BOTTOM
8	SE-384446J	FILTER
9	SC-384444J	COVER BATTERY
10	SA-384484J	FOOT RUBBER
11	SP-384447J1	DOOR PANEL

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Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
AV-N4008B010A	25-2A	EC-363491	14-C1	ED-307572	19-D5	ED-387763J	6-D409
AV-N4008B010C	25-2B	EC-364958	12-C3	ED-307572	19-D6	ED-387765J	10-D2
AV-N4009B010C	25-2C	EC-364958	14-C2	ED-307572	19-D7	ED-387766J	6-D1
AV-N4011B010B	25-2D	EC-378327	14-C104	ED-307572	19-D8	ED-387919J	6-D424
BA-389398J	5-7	EC-389414J	12-C1	ED-307572	19-D9	ED-388359J	6-D207
BA-N4009A020C	5-8	EC-389414J	15-C101	ED-307572	19-D11	ED-388368J	6-D41
BA-V1102A500G	5-2B	EC-391843J	6-C480	ED-307572	19-D12	ED-388368J	6-D410
BA-V1102A510A	5-2C	ED-307572	1-28	ED-307572	19-D13	ED-388387J	6-D422
BA-V1102A600G	5-1D	ED-307572	6-D3	ED-307572	19-D14	ED-389296J	1-24
BA-V1102A600M	5-1F	ED-307572	6-D4	ED-307572	19-D17	ED-389296J	13-D9
BA-V1102A605E	5-1B	ED-307572	6-D10	ED-307572	19-D18	ED-389418J	6-D203
BA-V1102A610A	5-4A	ED-307572	6-D11	ED-307572	19-D19	ED-389422J	20-D60
BA-V1102A620A	5-4B	ED-307572	6-D21	ED-307572	19-D20	ED-389422J	20-D70
BA-V1102A630B	5-3D	ED-307572	6-D22	ED-307572	19-D22	ED-389422J	20-D80
BA-V1102A630E	5-3B	ED-307572	6-D40	ED-307572	19-D23	ED-389688J	6-D418
BA-V1102A670A	5-5	ED-307572	6-D91	ED-307572	26-D24	ED-389840J	6-D206
BA-V1102D500C	5-2A	ED-307572	6-D101	ED-307572	26-D101	ED-390011J	1-20
BA-V1102D500F	5-2D	ED-307572	6-D102	ED-307572	26-D2	ED-390011J	4-13
BA-V1102D600C	5-1E	ED-307572	6-D103	ED-307572	26-D3	ED-390012J	1-21
BA-V1102D600D	5-1G	ED-307572	6-D106	ED-307572	26-D4	ED-390012J	4-14
BA-V1102D605A	5-1A	ED-307572	6-D107	ED-307572	28-D1	ED-390686J	1-22
BA-V1102D605B	5-1C	ED-307572	6-D211	ED-307572	28-D2	ED-390686J	26-D1
BA-V1102D630D	5-3C	ED-307572	6-D212	ED-307572	28-D3	ED-390686J	27-D1
BA-V1110A630D	5-3F	ED-307572	6-D302	ED-307572	28-D4	ED-391103J	1-31
BA-V1110D630B	5-3E	ED-307572	6-D306	ED-307572	28-D5	ED-391103J	17-D1
BA-V1110D630C	5-3G	ED-307572	6-D402	ED-307572	28-D6	ED-392779J	7-D604
BA-V1110D630F	5-3A	ED-307572	6-D403	ED-307572	28-D7	ED-511907	1-30
BA-V1110D680A	5-6A	ED-307572	6-D404	ED-307572	28-D8	ED-511907	12-D1
BA-V1110D680B	5-6B	ED-307572	6-D408	ED-307572	28-D9	ED-511907	12-D2
BB-V1102A020A	1-1	ED-307572	6-D411	ED-307572	28-D10	ED-511907	12-D3
BB-V1102A020A	3-60A	ED-307572	6-D412	ED-307572	28-D11	ED-511907	12-D4
BB-V1102A020C	1-2	ED-307572	6-D413	ED-307572	28-D12	ED-511907	14-D1
BB-V1102A020C	3-60B	ED-307572	6-D414	ED-307572	28-D13	ED-511907	14-D2
BD-389390J	24-1B	ED-307572	6-D419	ED-307572	28-D14	ED-511907	14-D3
BD-389781J	24-1C	ED-307572	6-D420	ED-307572	28-D15	ED-511907	14-D4
BD-389782J	24-1A	ED-307572	6-D421	ED-307572	28-D16	ED-511907	14-D5
BD-391016J	24-2A	ED-307572	6-D423	ED-307572	28-D17	ED-511907	14-D6
BD-391019J	24-2B	ED-307572	6-D425	ED-307572	28-D18	ED-511907	14-D7
BD-391020J	24-2C	ED-307572	6-D481	ED-307572	28-D19	ED-511907	14-D8
BD-391021J	24-2D	ED-307572	7-D601	ED-307572	28-D20	ED-624903	1-29
BL-387458J1	1-4	ED-307572	7-D605	ED-307572	28-D21	ED-624903	6-D204
BL-387458J1	4-37	ED-307572	7-D675	ED-307572	28-D22	ED-624903	6-D301
BL-387501J	1-5	ED-307572	7-D701	ED-307572	28-D23	ED-624903	6-D405
BL-387501J	3-29	ED-307572	7-D702	ED-307572	28-D24	ED-624903	6-D406
BL-V1102A050A	1-6	ED-307572	8-D1	ED-307572	28-D25	ED-624903	12-D5
BL-V1102A050A	3-29	ED-307572	9-D1	ED-307572	28-D26	ED-624903	14-D104
BL-V1102A140A	1-3	ED-307572	9-D2	ED-307572	28-D27	ED-624903	15-D102
BL-V1102A140A	3-43	ED-307572	9-D3	ED-322046	1-34	ED-724694J	22-D4
BM-386236J	1-7	ED-307572	9-D5	ED-322046	12-D8	ED-730114J	22-D2
BM-386236J	4-9	ED-307572	9-D8	ED-343996	1-32	ED-730115J	22-D3
BM-387503J	1-8	ED-307572	9-D10	ED-343996	12-D10	ED-730115J	22-D5
BM-387503J	4-31	ED-307572	10-D1	ED-346417	6-D407	EE-387602J	6-1C
BM-M3225A020A	1-9	ED-307572	10-D3	ED-346526	1-35	EE-387604J	6-1B
BM-M3225A020A	2-8	ED-307572	10-D5	ED-346526	14-D103	EE-387607J	6-1D
BT-389239J	1-10	ED-307572	10-D6	ED-346526	14-D105	EE-390143J	6-1A
BT-389239J	12-T1B	ED-307572	10-D7	ED-346541	1-36	EF-601942	1-37
BT-389240J	1-12	ED-307572	10-D8	ED-346541	14-D13	EF-601942	15-F101
BT-389240J	14-T1	ED-307572	10-D9	ED-346541	14-D14	EH-364045	7-FL701
BT-391109J	1-11	ED-307572	10-D10	ED-346618	1-33	EH-368821	7-FL601
BT-391109J	12-T1A	ED-307572	10-D11	ED-346618	14-D9	EH-368948	11-CF3A
BV-387611J	6-2C	ED-307572	10-D12	ED-360409	28-D36	EH-373914	11-CF1A
BV-387635J	6-2B	ED-307572	10-D13	ED-366684	6-D416	EH-373917	11-CF1B
BV-390052J	6-2A	ED-307572	10-D14	ED-366684	6-D417	EH-373918	11-CF3B
BV-B373848	2-10	ED-307572	10-D15	ED-367502	6-D90	EH-373919	11-CF3C
BV-V1102A070A	1-14	ED-307572	10-D16	ED-376111	28-D34	EH-373921	11-CF2B
BV-V1102A070A	3-35	ED-307572	10-D18	ED-376111	28-D35	EH-378541J	10-IB4
BV-V1102A080A	1-15	ED-307572	10-D21	ED-378455	1-26	EH-382829J	22-L11
BV-V1102A080A	3-36	ED-307572	10-D24	ED-378455	15-D107	EH-383056J	23-IB101
BV-V1102A150A	1-13	ED-307572	10-D25	ED-380089J	1-25	EH-383083J	10-IB2
BV-V1102A150A	3-48	ED-307572	10-D26	ED-380089J	14-D10	EH-387619J	10-IB1
BV-V1102A410A	1-16	ED-307572	10-D27	ED-382620J	10-D4	EH-390730J	7-DL701
BV-V1102A410A	2-1A	ED-307572	10-D28	ED-384424J	28-D31	EH-392816J	7-FL602
BV-V1102A410B	1-17	ED-307572	10-D30	ED-384424J	28-D32	EH-714628	11-CF1D
BV-V1102A410B	2-1B	ED-307572	14-D11	ED-384424J	28-D33	EH-725826J	11-CF1C
BV-V1102A420A	1-18	ED-307572	18-D101	ED-385935J	1-27	EH-725827J	11-CF4
BV-V1102A420A	2-2A	ED-307572	18-D102	ED-385935J	15-D101	EH-725829J	11-CF2C
BV-V1102A420C	1-19	ED-307572	19-D1	ED-385935J	15-D106	EI-200573	19-IC7
BV-V1102A420C	2-2B	ED-307572	19-D2	ED-385935J	15-D108	EI-304657	28-IC4
EA-387496J	4-12	ED-307572	19-D3	ED-386226J	1-23	EI-310036	6-IC101
EC-363490	12-C2	ED-307572	19-D4	ED-386226J	14-D12	EI-310036	19-IC1

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
EI-310036	19-IC2	EJ-389914J	21-J1	EO-387802J	11-L8	ES-349474	10-SW14
EI-332203	28-IC3	EJ-389979J	21-J2	EO-388087J	7-L701	ES-349474	10-SW15
EI-332259	19-IC6	EJ-389980J	21-J3	EO-388353J	7-L702	ES-349474	10-SW16
EI-332259	22-IC7	EM-387624J	10-FL1A	EO-388362J	6-FL301	ES-349474	10-SW17
EI-337530	6-IC10	EM-387625J	10-FL1B	EO-388803J	6-L70B	ES-349474	10-SW18
EI-346071	6-IC201	EM-389833J	10-FL1C	EO-389410J	12-L1	ES-349474	10-SW19
EI-349719	22-IC5	EM-390786J	27-1	EO-389410J	12-L2	ES-373099	1-55
EI-353421	6-IC405	EO-345871	7-L706	EO-389982J	19-FL2	ES-373099	4-39
EI-356049	22-IC6	EO-345927	6-L483	EO-389982J	19-FL4	ES-385174J	28-SW1
EI-360396	28-IC5	EO-351184	22-L2	EO-389983J	19-FL1	ES-385174J	28-SW2
EI-365957	22-IC8	EO-351184	22-L3	EO-389983J	19-FL3	ES-387465J	1-66
EI-369152	1-39	EO-351862	6-L403	EO-390716J	6-L302	ES-387465J	4-17
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EI-372031	28-X1	EO-351869	6-L101	EO-391143J	19-OSC1	ET-308141	28-TR2
EI-373955	10-IC3	EO-353900	7-L705	EO-391267J	6-L405A	ET-308472	28-TR5
EI-373966	7-IC601	EO-354600	6-L401	EO-392805J	14-L1	ET-337759	28-TR4
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EI-381632J	7-X701	EO-368619	7-L707	EO-714055	22-L6	ET-353899	6-TR32B
EI-382827J	22-IC2	EO-373260	6-L71	EO-714055	22-L7	ET-353899	6-TR103
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EI-387598J	8-IC1	EO-376179	8-L15	EO-725960J	11-L5A	ET-353899	9-TR11
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EI-390053J	6-IC20	EO-376857	8-L1	ER-391043J	14-FR4	ET-354414	6-TR114
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