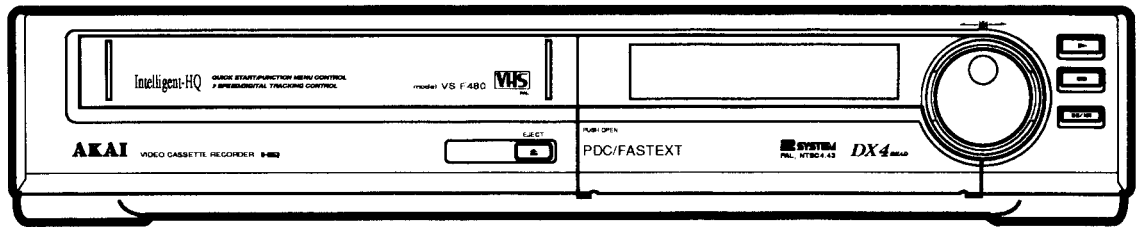


VS-F440,441
VS-F450,455
VS-F480,490,497

AKAI SERVICE MANUAL



MODEL VS-F480EK-V



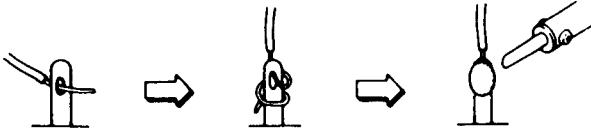
VIDEO CASSETTE RECORDER

- MODEL **VS-F440**^{EA/EDG/EDI/EK/EM}_{EO/EOG-V/EOH}
- MODEL **VS-F441**^{EA}
- MODEL **VS-F450**^{EOH}
- MODEL **VS-F455**^{EOH}
- MODEL **VS-F480**^{EK-V/EOG-V}
- MODEL **VS-F490**^{EM/EO/EOH/ES}
- MODEL **VS-F497**^{EOH}

★ SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the Δ (*) symbol are critical for safety. Replace them only with the 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 the 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 micro switches
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap the ends of the wires securely around the terminals before soldering.



6. Make sure that wires do not contact heat producing parts (heat sinks, 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. Make sure 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 M ohms.

MAKE YOUR CONTRIBUTION TO PROTECT THE ENVIRONMENT

Used batteries with the ISO symbol for recycling as well as small accumulators (rechargeable batteries), mini-batteries (cells) and starter batteries should not be thrown into the garbage can.



Please leave them at an appropriate depot. All other household batteries can be thrown out with the household waste.

TO PROTECT THE POWER SUPPLY CIRCUIT

Do not turn on the power while the flat cable in the power BLK is disconnected, as this will damage the power circuit.

Make sure that the flat cable is connected before turning on the power.

★ SPECIFICATIONS

Format		Video	
EA/EDI/EK/EK-V/ES	VHS standard	Line input level	0.5 - 2.0 Vp-p/75 ohms, unbalanced
EDG/EM/EO/EOH/EOG-V..	VHS standard (PAL, MESECAM)	Line output level	1.0 Vp-p/75 ohms, unbalanced
Video recording system	Rotary, slant azimuth two-head heli- cal scan system	S/N ratio	More than 45dB
Rotary heads	4 video heads	Horizontal resolution	More than 250 lines
RF input		Audio	
EA	System B, G VHF ch 0 - 5, 5a, 6 - 11 UHF ch 21 - 69	Line input level	-6 dBs/50 k ohms, unbalanced
EDG	System D, K VHF ch 1 - 12, UHF ch 21 - 69 System B, G VHF ch 2 -12, UHF ch 21 - 69	Line output level	-6 dBs/1 k ohms, unbalanced
EDI	System D,K,I VHF ch 1 -12 (China) UHF ch 21 - 69 (Hong Kong) ch 13 - 56 (China)	S/N ratio	More than 40 dB
EK/EK-V	System I UHF ch 21 - 69	Frequency response.....	70 - 10,000 Hz
EM	System B, G (PAL, SECAM) VHF ch 2 -12, UHF ch 21 - 69	Recording/playback time	
EO/EOG-V	System B, G (PAL, SECAM) VHF ch 2 - 4, 5 - 12, UHF ch 21 - 69 Cable ch S1' -S3', S1 - S20	SP mode	240 min. with E-240 cassette
EOH	System B, G (PAL, SECAM) VHF ch 2 - 4, 5 - 12, UHF ch 21 - 69 Cable ch S1' - S3', S1 - S41	LP mode	480 min. with E-240 cassette
ES	System I VHF ch A - J (Ireland) ch 4 - 13 (South Africa) UHF ch 21 - 69	NTSC playback only (EK-V/EM/ES/F497EOH)	
RF output		SP mode	160 min. with T-160 cassette
EA	System B type modulation VHF ch 0, 1 switchable (preset ch 1)	EP mode	480 min. with T-160 cassette
EDG	System K / G type modulation UHF ch 30 - 39 adjustable (preset ch 36)	Tape speed	
EDI	System I / K type modulation UHF ch 30 - 39 adjustable (preset ch 36)	SP mode	23.39 mm/sec.
EM	System B type modulation VHF ch 3,4 switchable (preset ch 4)	LP mode	11.695 mm/sec.
EK/EK-V/ES	System I type modulation UHF ch 30 - 39 adjustable (preset ch 36)	NTSC playback only (EK-V/EM/ES/F497EOH)	
EO/EOG-V/EOH	System G type modulation UHF ch 30 - 39 adjustable (preset ch 36)	SP mode	33.35 mm/sec.
Recording (line input)		EP mode	11.12 mm/sec.
EA/EK/ES	PAL	Quick finder	
EDG/EDI/EK-V/EM/ EO/EOG-V/EOH	PAL, SECAM (recorded as MESE- CAM)	SP mode (JFX-L type)	Approx. 9 times normal speed
Playback (line output)		LP mode (JFX-L type)	Approx. 5 times normal speed
EA/EK	PAL	SP mode (JFX type)	Approx. 5 or 13 times normal speed
EDG/EDI/EO/ EOG-V/EOH	PAL, SECAM (MESECAM Tape)	LP mode (JFX type)	Approx. 3 or 7 times normal speed
EM/F497EOH	PAL, SECAM (MESECAM tape) NTSC 4.43 (NTSC tape) Simulated PAL (NTSC tape playback only)	NTSC playback only	
ES/EK-V	PAL NTSC 4.43 (NTSC tape) Simulated PAL (NTSC tape playback only)	F440EM	
		SP mode	Approx. 7 times normal speed
		EP mode	Approx. 9 times normal speed
		F480EK-V/ES, F490EM/EOH	
		SP mode	Approx. 5 or 9 times normal speed
		EP mode	Approx. 5 or 13 times normal speed
		FF, REW time	Approx. 5 min. with E-180 cassette
		Timer	
		Program (JFX-L)	8 programmes / 1 year
		Program (JFX)	8 Programmes / year and QUICK TIMER
		Clock reference	Quartz crystal
		Display	TV screen & FL (Tape counter, Timer etc.)
		Power requirements	
		EA/EK/EK-V	240 V AC, 50 Hz
		EDG/EDI/ES	220 V AC, 50 Hz
		EO/EOG-V/EOH	220-230 V AC, 50 Hz
		EM	110-127/220-240 V AC, 50/60 Hz
		Power consumption	
		EA/EDG/EDI/EK/ EK-V//EM/ES	36 W
		EO/F440EOG-V/EOH	37 W
		F480EOG-V	38 W
		Operating temperature	5°C - 40°C
		Dimensions	
		JFX-L	426(W) x 82(H) x 314(D) mm
		F441EA	425(W) x 82(H) x 313(D) mm
		JFX	426(W) x 82(H) x 323(D) mm
		Weight	5.0 kg
		Standard accessories	
		Antenna cable	1
		Remote control unit	1
		Batteries for remote control	2 (JFX-L)
		Batteries for remote control	3 (JFX)
		Operator's manual	1

0 dBs = 0.775 V

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

★ INFORMATION

SYMBOLS OF MODEL NAMES FOR PRIMARY DESTINATION

The symbols below indicate the destination of each unit.

Symbol	Power Classification	Principal Destination	TV 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	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

CATEGORY CODES USED IN THIS MANUAL

CATEGORY CODE	TYPE	MODEL NUMBER
JFX-L	4 VIDEO HEAD L-TYPE	VS-F440EA/EDG/EDI/EK/EM/EO /EOG-V/EOH VS-F441EA VS-F450EOH VS-F455EOH
JFX	4 VIDEO HEAD	VS-F480EK-V/EOG-V VS-F490EM/EO/EOH/ES VS-F497EOH

SAFETY LOCK SYSTEM

The play button on the VCR and remote control can be locked to prevent access by young children (this feature does not effect other functions of the VCR).

This feature can only be operated by the remote control.

To lock : Press and hold the remote control's stop button for approx. 8 seconds. As long as the play button is locked, safety lock indicator "L" will light on the FL display and "⏹" will flash on the TV screen any time the play button is pressed.

To unlock : Press and hold the remote control's play button for approx. 8 seconds. If a tape is loaded, the safety lock indicator will disappear from the FL display and TV screen, and playback will begin automatically.

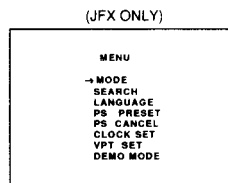
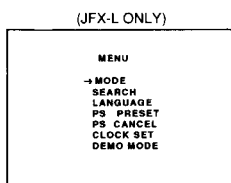
MULTI-FUNCTION MENU MODE

This is an on-screen display of the various modes you can programme via the TV screen.

- MODE** : To select the AV MUTE and OSD modes and tape speed. (SP/LP SELECT)
- SEARCH** : To select the BLANK SEARCH and INTRO SCAN modes.
- LANGUAGE** : To select a language for the on-screen displays.
- PS PRESET** : To preset TV stations.
- PS CANCEL** : To cancel preset TV stations.
- CLOCK SET** : To set the clock.
- VPT SET** : To set the VPT (JFX only)
- DEMO MODE** : To demonstrate some of the modes available on this VCR.

If necessary, refer to the respective sections in the operator's manual for detailed information.

1. Press the "MENU" button on the remote control unit. The menu list screen will be displayed on the TV screen. The arrow indicator is automatically set to the "MODE" position.



2. Select the desired mode by setting the arrow indicator to the appropriate position with cursor "∨" button. The arrow indicator moves downwards each time the button is pressed. Pressing the cursor "∧" button will move the arrow indicator upwards.
3. Press the "OK" button. The selected function screen will be displayed on the TV screen.

* Press the "MENU" button again to return to the normal screen.

MANUAL TRACKING/PICTURE/STABILITY ADJUSTMENT

The VCR can be adjusted for tracking and picture sharpness anytime it is in the playback mode with the remote control unit.

• Manual tracking control

Press the "<" or ">" cursor button repeatedly until the picture is clear. During manual tracking adjustment, the tracking position is shown on the TV screen, this will disappear automatically after adjustment has been completed. Use this function when performing the A/C HEAD phase adjustment.

• Picture sharpness control

Press the "∧" button repeatedly to sharpen the picture or press the "∨" button to soften the picture.

• Stability adjustment

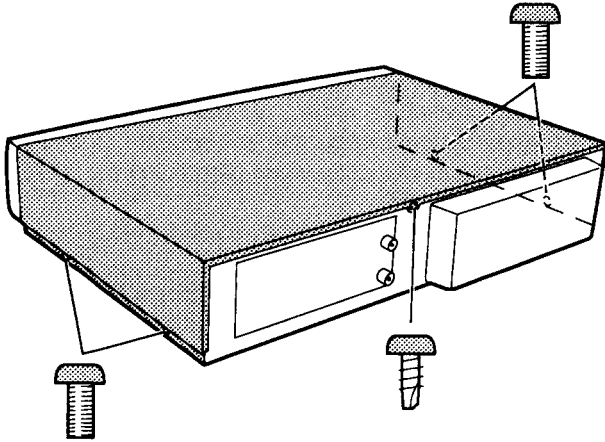
- 1) To correct picture shake during the slow motion or still mode:
Press "∧" or "∨" cursor button until the picture shake is corrected.
- 2) To correct tracking during the still mode:
Press the "<" or ">" cursor button repeatedly until the picture is clear.

I. DISASSEMBLY

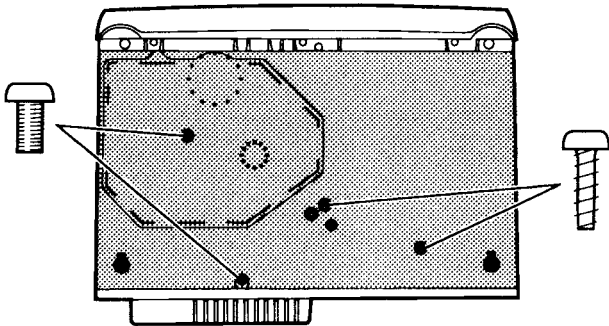
In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the illustrations. Reassemble in the reverse order.

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

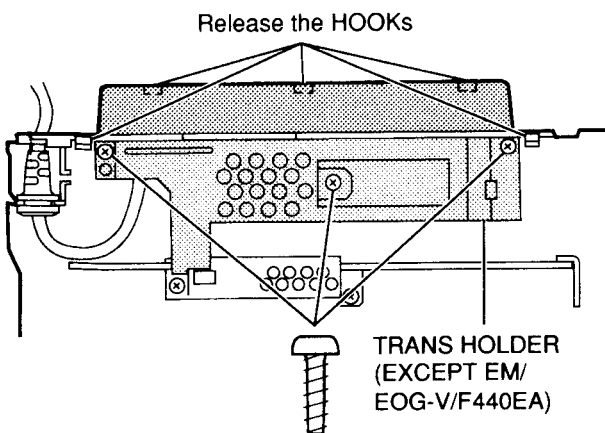
1. Removal of UPPER COVER



2. Removal of BOTTOM COVER

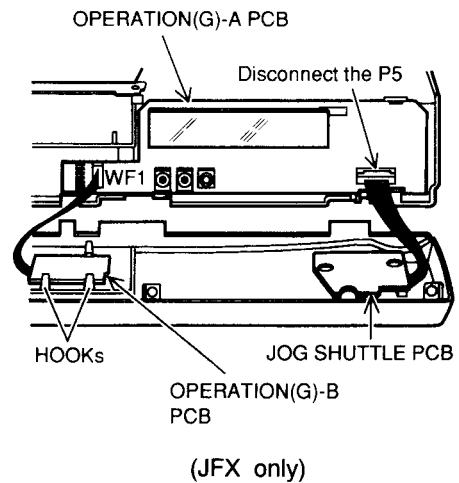
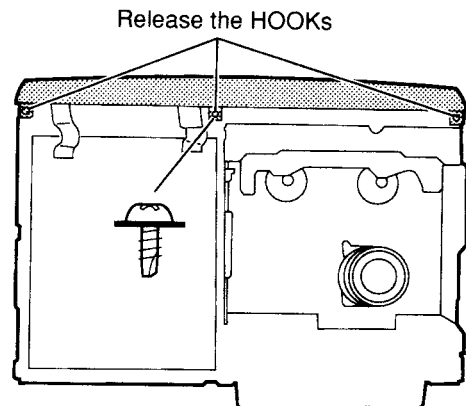
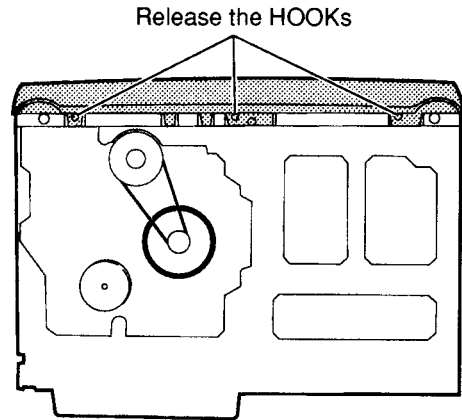


4. Removal of TRANS COVER



(JFX-L only)

3. Removal of FRONT PANEL



While pressing the hooks outward, pull the operation (G)- B PCB upward to remove it.

II. PRINCIPAL PARTS LOCATION

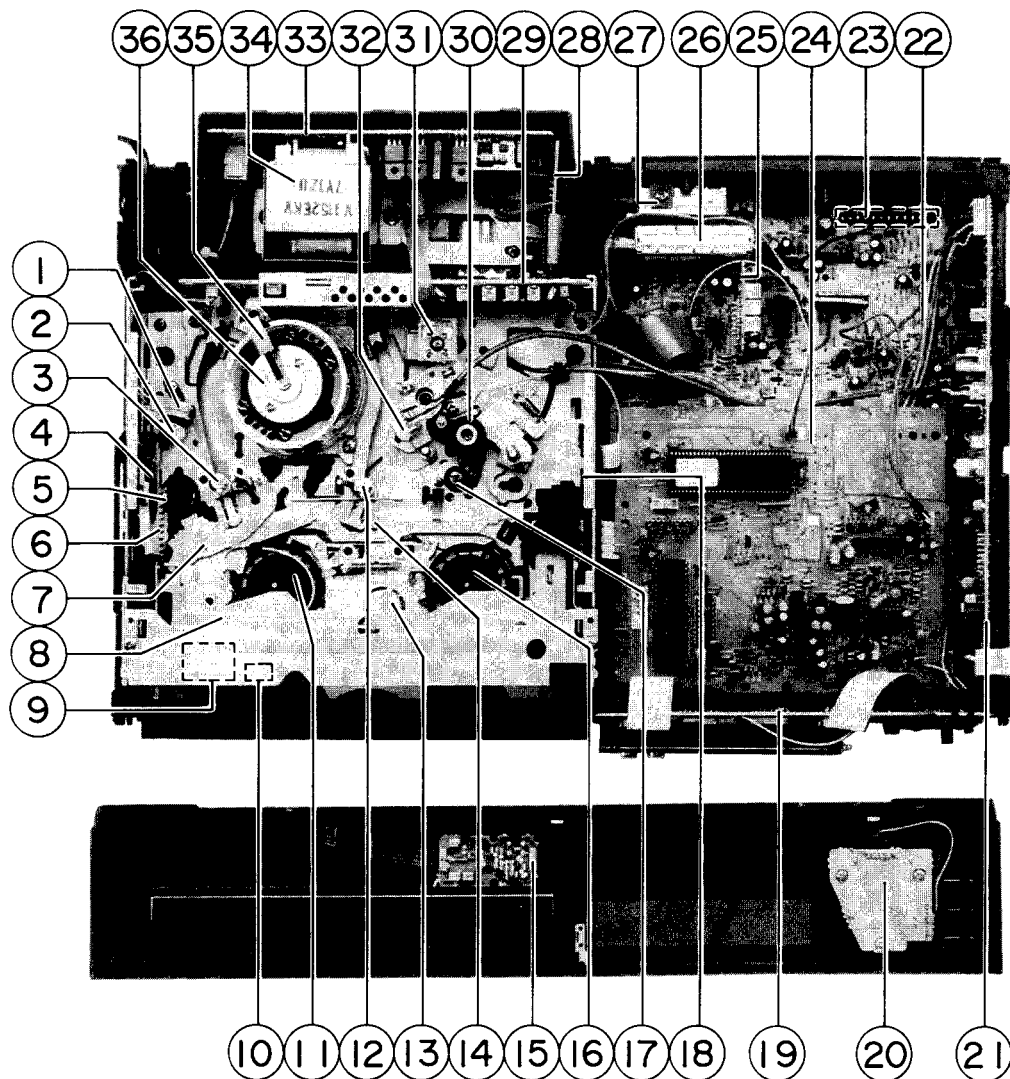


Fig. 2-1 Top view

- | | |
|------------------------------------|-------------------------------------------|
| 1. FULL TRACK ERASE HEAD | 20. JOG SHUTTLE PCB (JFX only) |
| 2. SUPPLY TAPE GUIDE | 21. MAIN (B) PCB |
| 3. SUPPLY LOADING LEADER | 22. MAIN (A) PCB |
| 4. SENSOR (S) PCB (END SENSOR) | 23. SUB PCB (EM only) |
| 5. FRONT LOADING GEAR | 24. VPST/PDC PCB (EK-V/EOG-V only) |
| 6. FRONT LOADING SLIDER | PDC PCB (F440/F450/F490/F497EOH: OPTION) |
| 7. TENSION ARM | 25. VIF UNIT |
| 8. CASSETTE LOAD BLK | 26. TUNER UNIT |
| 9. LOADING MOTOR | 27. RF CONVERTOR UNIT |
| 10. REC SAFETY SWITCH | 28. POWER SUPPLY (2) PCB (EM, EOG-V only) |
| 11. SUPPLY REEL TABLE | 29. PRE AMP PCB |
| 12. TAKE UP LOADING LEADER | 30. PINCH ROLLER |
| 13. IDLER PART | 31. DIODE PCB (EM, EO, EOG-V, EOH only) |
| 14. SENSOR LED | 32. AUDIO / CONTROL / S. ERASE HEAD |
| 15. OPERATION (G)-B PCB (JFX ONLY) | 33. POWER SUPPLY (1) PCB (EM, EOG-V only) |
| 16. TAKE UP REEL TABLE | POWER SUPPLY PCB (except EM, EOG-V) |
| 17. CAPSTAN MOTOR | 34. POWER TRANSFORMER |
| 18. SENSOR (T) (START SENSOR) | 35. EARTH BRUSH |
| 19. OPERATION (G)-A PCB (JFX ONLY) | 36. VIDEO HEAD DRUM BLOCK |
| OPERATION (A) PCB (JFX-L ONLY) | |

*Photograph employed on this page is of model VS-F480EK-V

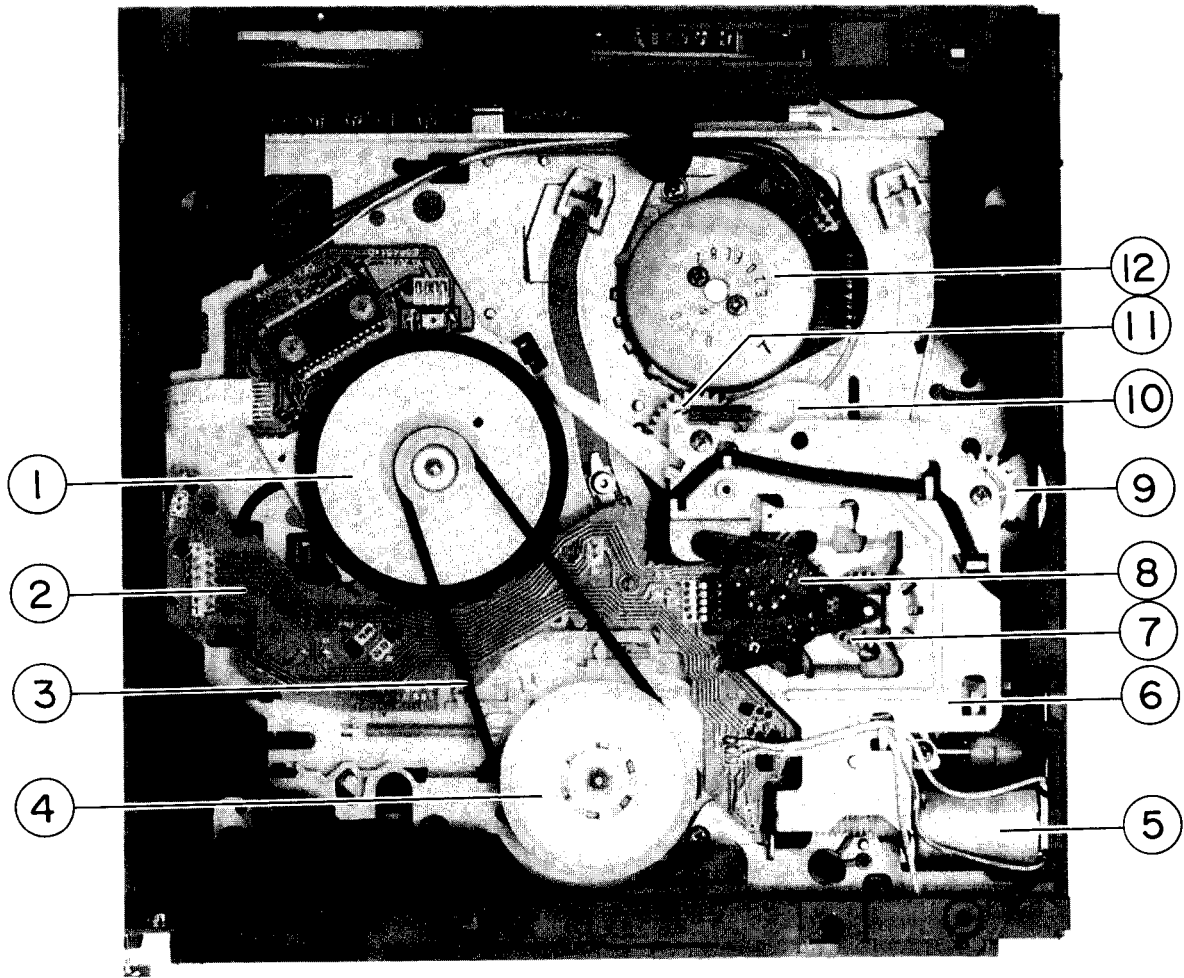


Fig. 2-2 Bottom view

- | | |
|------------------------|---------------------------|
| 1. CAPSTAN MOTOR BLOCK | 7. CAM SLIDER GEAR |
| 2. SENSOR PCB | 8. MODE SELECT SWITCH |
| 3. CAPSTAN BELT | 9. FRONT LOADING GEAR |
| 4. CLUTCH DISK PART | 10. TOGGLE (S) GEAR BLOCK |
| 5. LOADING MOTOR | 11. TOGGLE (T) GEAR BLOCK |
| 6. LOADING DRIVE BLOCK | 12. DRUM MOTOR BLOCK |

III. MAIN COMPONENTS REPLACEMENT

3-1. 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.

3-1-1. Removal of the CASSETTE LOAD BLK

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

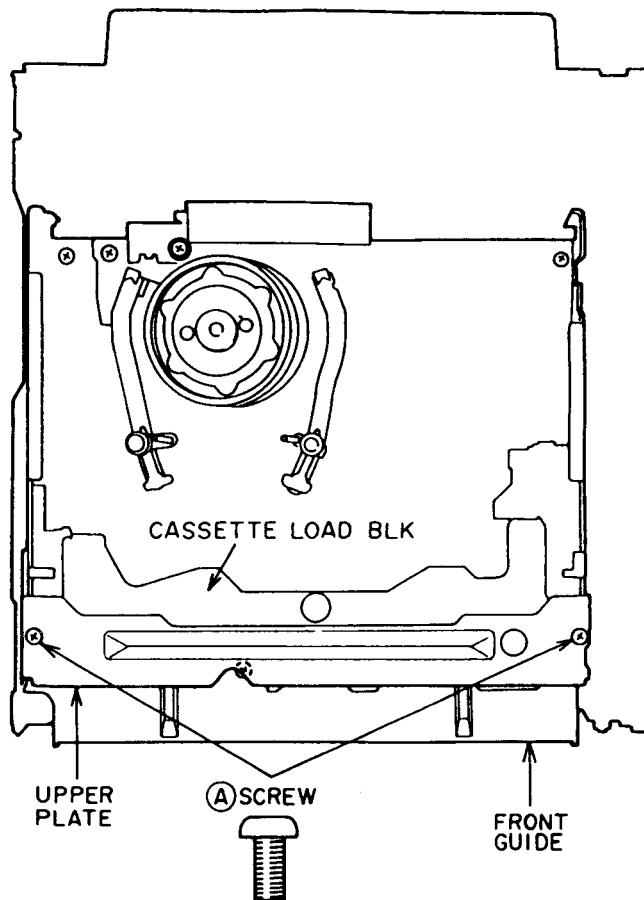
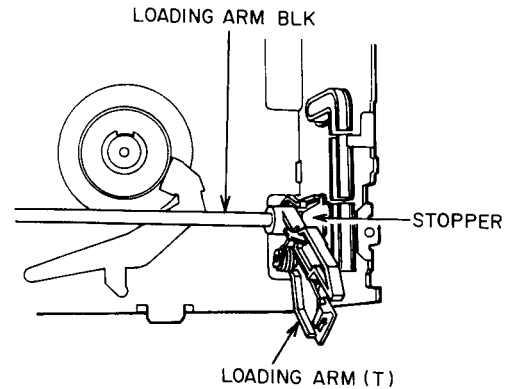


Fig. 3-1

3-1-2. Removal of the LOADING ARM BLK

- 1) Release the stopper on the right side end of the LOADING ARM BLK's shaft (Refer to Fig. 3-2) by pressing the stopper tab with a flat head (—) screwdriver. Then remove the shaft's right end from the bracket.

(JFX-L ONLY)



(JFX ONLY)

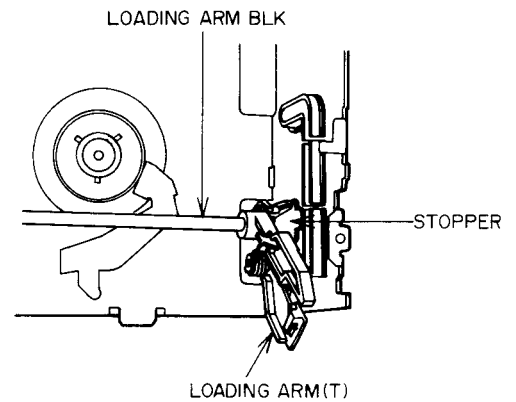


Fig. 3-2

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

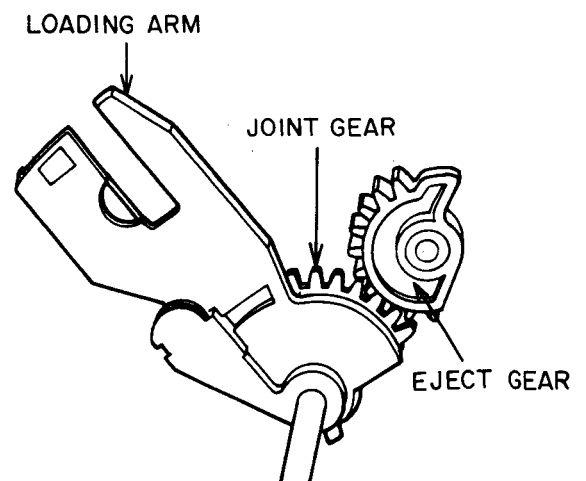


Fig. 3-3

3-2.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. 3-4.

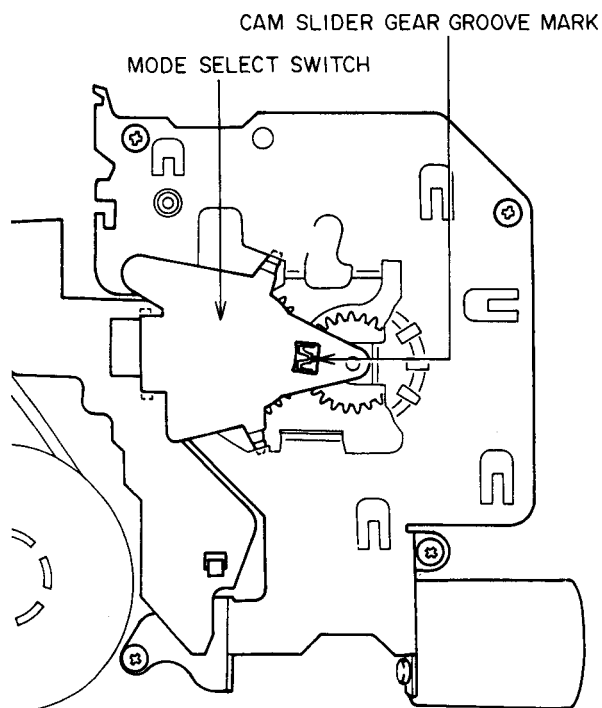


Fig. 3-4

To set the loading mechanism to the "unloaded" position, proceed with one of the following procedures.

- 1) Insert a video cassette tape which you no longer need. Once the tape has been loaded or has entered the "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 3-1-1. Removal of the CASSETTE LOAD BLK.)
- Plug in the AC power cord. The LOADING ARM BLK will move backward and forward continuously. With your fingers, cover and hold both the 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 a cassette tape. Then release your fingers from both the sensors at the same time. After about 10 seconds (when the PINCH ROLLER is disengaged from the CAPSTAN and the SUPPLY REEL stops rotating, and the mechanism is set to "standby"), press the POWER button on the OPERATION (A) or (G)-A PCB.

The mechanism will now be set to the "tape unloaded" position.

Disconnect the AC power plug from the AC power socket.

3-2-1. Removal of the MODE SELECT SWITCH

- 1) Release the two (A) stoppers as shown in Fig. 3-5.

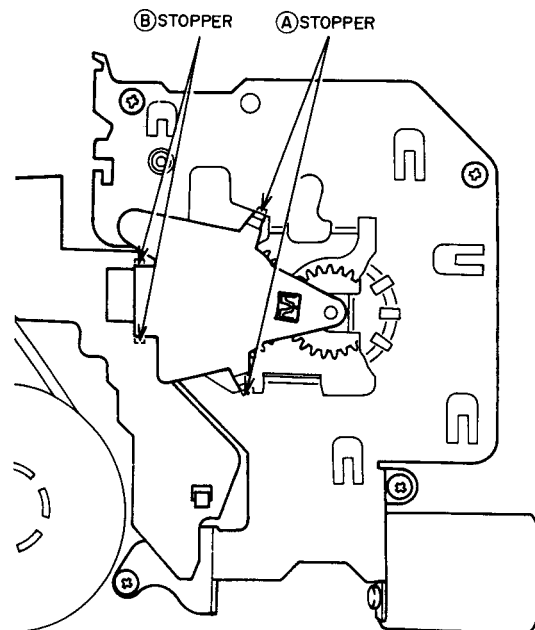


Fig. 3-5

- 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 P1 connector on the SENSOR PCB).

3-2-2. Removal of the SENSOR PC Board

- 1) Disconnect the connector P303 on the MAIN (A) PCB.
- 2) Remove the capstan belt.
- 3) Release the (A), (B) and (C) stoppers as shown in Fig. 3-6. Then remove the SENSOR PCB.

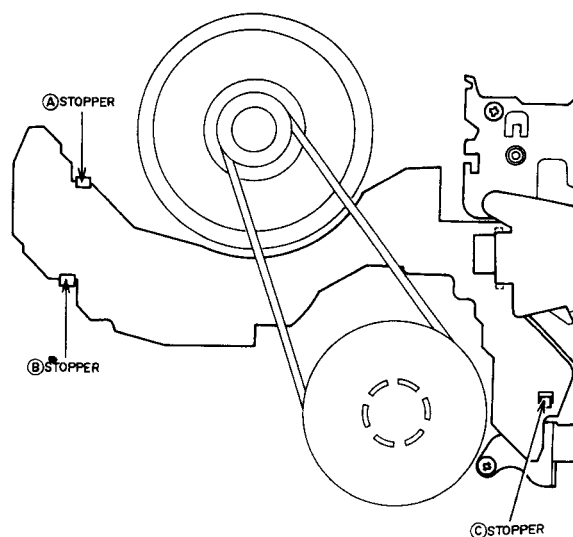


Fig. 3-6

3-3.REMOVAL OF THE LOADING DRIVE BLK

Set the loading mechanism to the "unloaded" position as well as 3-2 (REMOVAL OF THE SENSOR PC BOARD). However, this time, to avoid damaging the tape and mechanical parts, refer to 3-2, * 2) only.

- 1) Remove the MODE SELECT SWITCH (refer to 3-2-1 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. 3-7.

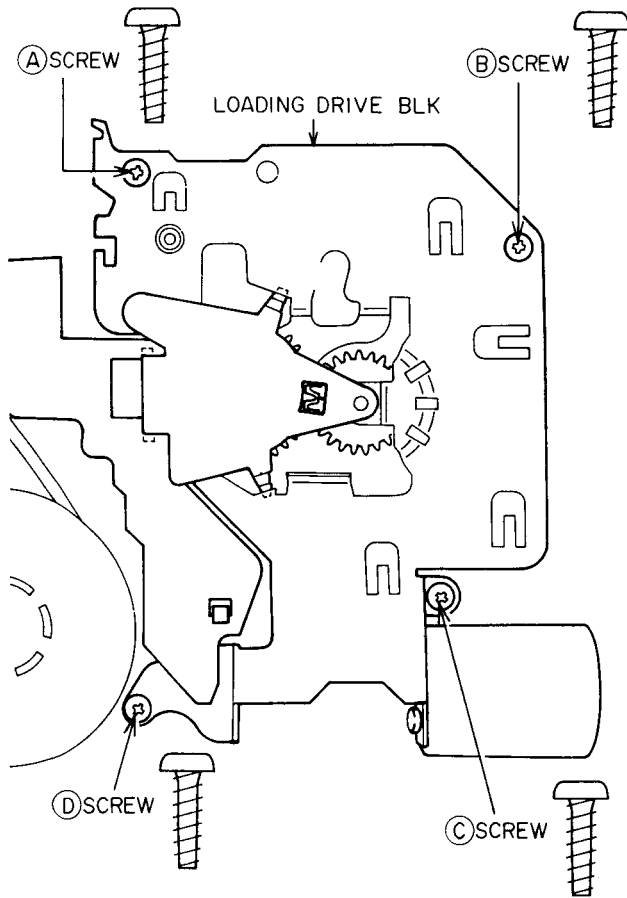


Fig. 3-7

3-4.REASSEMBLY OF THE LOADING MECHANISM BLK

3-4-1. Position of the TOGGLE GEARS (T) and (S)

- 1) Set the TOGGLE GEARS (T) and (S) to the unloaded position with your fingers. Align the (A) mark on TOGGLE GEAR (S) with the (A) hole of TOGGLE GEAR (T) as shown in Fig. 3-8.

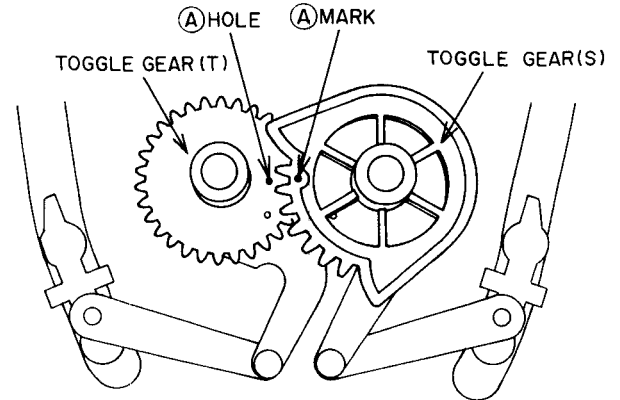


Fig. 3-8

3-4-2. Installation of the CAM SLIDER GEAR & FRONT LOADING GEAR

- 1) Attach the WORM WHEEL GEAR as shown in Fig. 3-9.

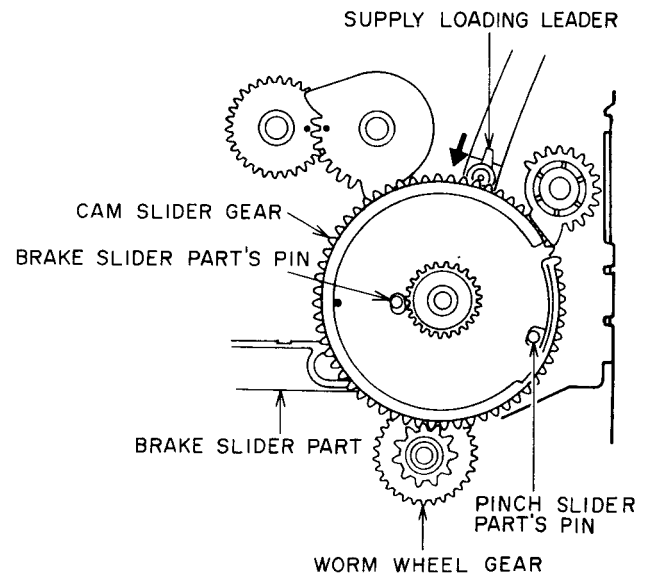


Fig. 3-9

- 2) Set the CAM SLIDER GEAR and 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. 3-9. When inserting the CAM SLIDER GEAR onto its shaft, press the SUPPLY LOADING LEADER slightly in the direction of the arrow to make installation easy.

- 3) Attach the FRONT LOADING GEAR as shown in Fig. 3-10 and align the (B) mark on the FRONT LOADING GEAR with the (B) hole of the FRONT LOADING SLIDER as shown in Fig. 3-11.

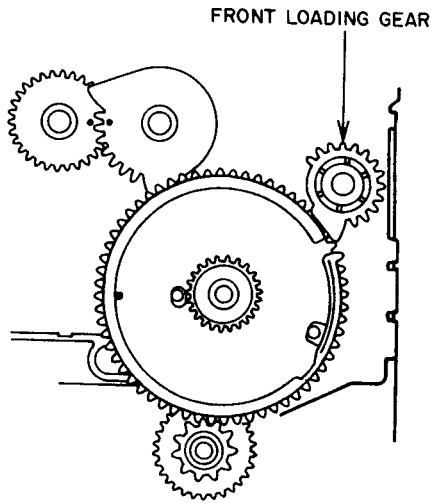


Fig. 3-10

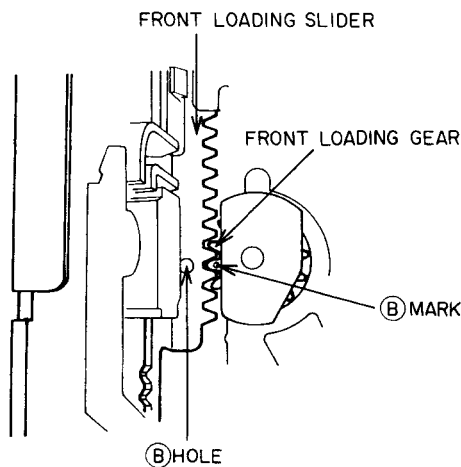


Fig. 3-11

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

- 1) Confirm that the EJECT GEAR is in the correct position as shown in Fig. 3-12.

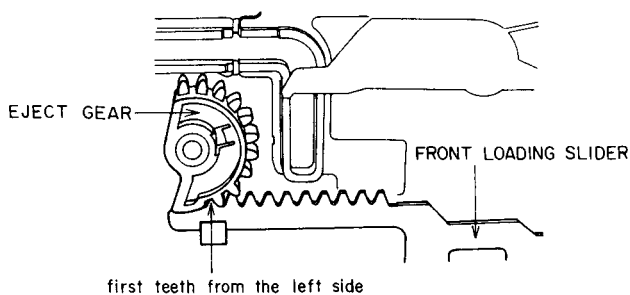


Fig. 3-12

- 2) Install the LOADING DRIVE BLK as shown in Fig. 3-13.

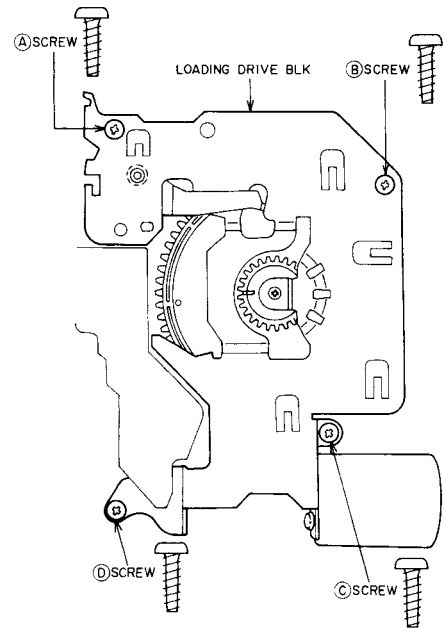


Fig. 3-13

3-4-4. Installation of the MODE SELECT SWITCH

- 1) Set the MODE SELECT SWITCH's gear, so that the (C) mark is in the center of the (C) hole as shown in Fig. 3-14.

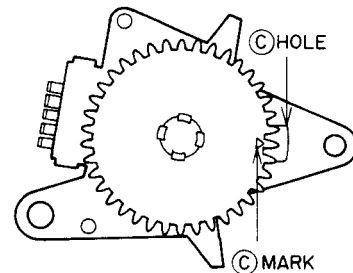


Fig. 3-14

- 2) Attach the MODE SELECT SWITCH to the LOADING DRIVE BLK and align the hollow of the gear's tooth (reverse side of the (C) mark) with the (C) groove of the CAM SLIDER GEAR as shown in Fig. 3-15.

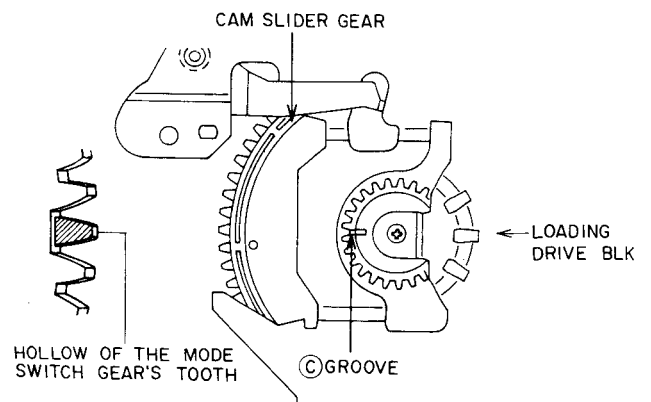


Fig. 3-15

3-4-5. Installation of the LOADING ARM BLK

- 1) While covering 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 SENSOR (S).
- 2) Install the LOADING ARM BLK in the reverse order of 3-1-2 (Removal of the LOADING ARM BLK). Position the EJECT GEAR and the JOINT GEAR as shown in Fig. 3-16.

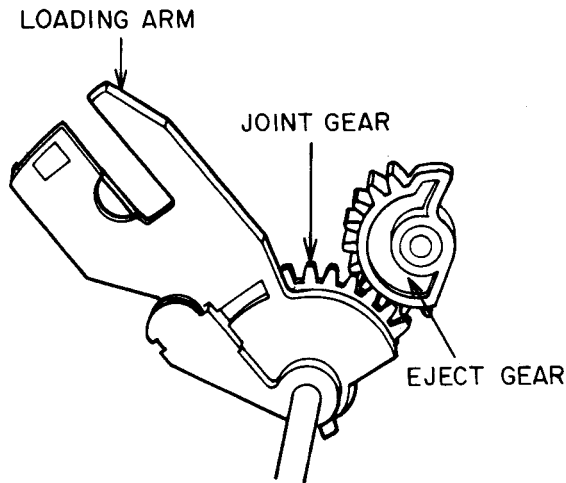


Fig. 3-16

3-4-6. 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 3-1-1 (Removal of the CASSETTE LOAD BLK).
- 2) Insert a video cassette tape and confirm that the loading mechanism operates properly.

3-5. REPLACEMENT OF THE PINCH ROLLER PART

- 1) Remove the (A) screw, then remove the PINCH ROLLER part, as shown in fig. 3-17
- 2) Set the pinch roller so that white plastic spacer side faces chassis when replacing. Then tighten the (A) screw.

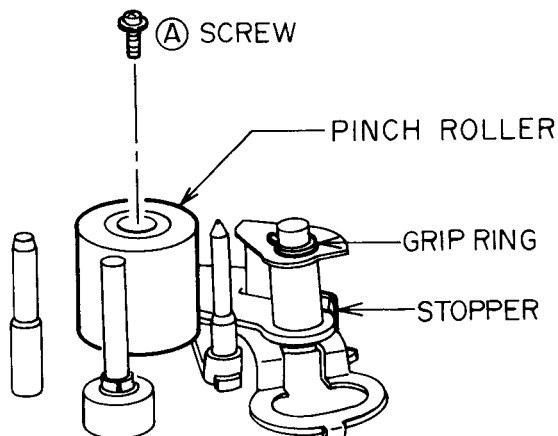


Fig. 3-17

3-6. REPLACEMENT OF THE IDLER PART AND REVIEW BRAKE PART (JFX-L only)

- 1) Remove the CASSETTE LOAD BLOCK & LOADING ARM BLK. (refer to 3-1, REMOVAL OF THE EJECTOR BLOCK).
- 2) Release the stopper of IDLER PART as shown in Fig. 3-18, then remove it.

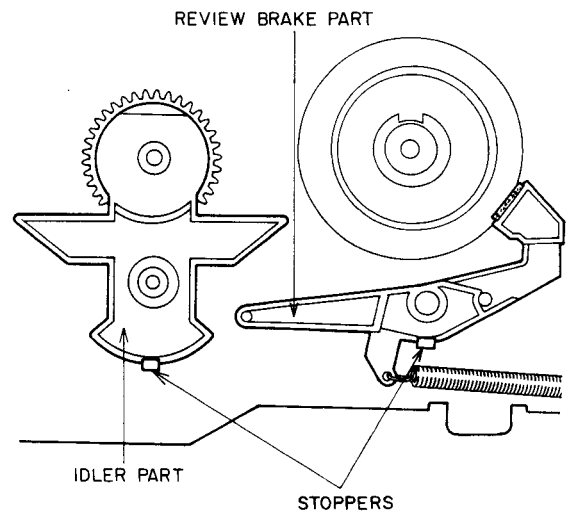


Fig. 3-18

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

3-7. REPLACEMENT OF THE IDLER PART (2) AND REVIEW BRAKE PART (JFX ONLY)

- 1) Remove the CASSETTE LOAD BLK & LOADING ARM BLK. (Refer to 3-1, REMOVAL OF THE EJECTOR BLK.)
- 2) Release the stopper of the IDLER PART (2) as shown in Fig. 3-19, then remove it.

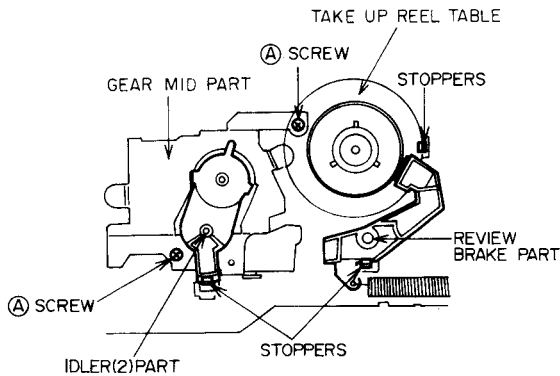


Fig. 3-19

- 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).

3-8. REPLACEMENT OF THE GEAR MID PART (JFX ONLY)

- 1) Remove the REVIEW BRAKE PART and IDLER (2) PART with referring to the step 3-7.
- 2) Release the stopper of the TAKE UP REEL TABLE as shown in Fig. 3-20, then remove it.
- 3) Remove the two (A) screws then replace the GEAR MID PART as shown in Fig. 3-20.
- 4) Reassemble in the reverse order.

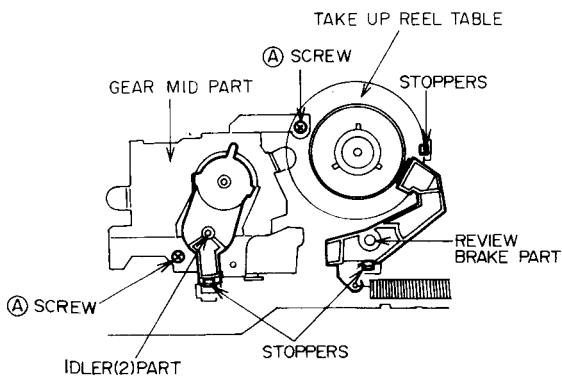


Fig. 3-20

3-9. REPLACEMENT OF THE UPPER DRUM

3-9-1. Removal of the UPPER DRUM

- 1) Remove one of the PRE AMP retaining screw and remove the EARTH BRUSH.
- 2) Unsolder the eight relay leads and remove the two upper drum fixing screws as shown in Fig. 3-21.
- 3) Gently lift and remove the UPPER DRUM.

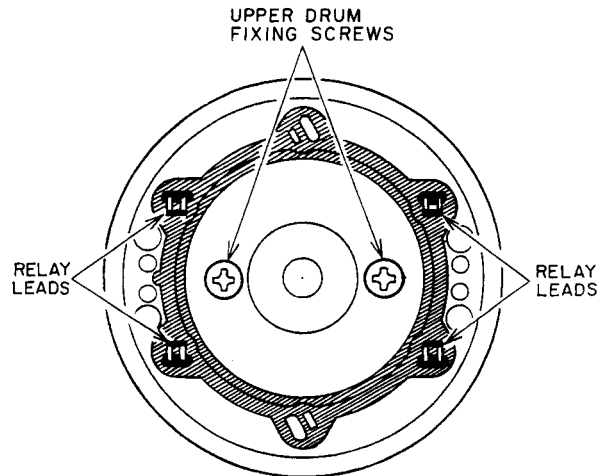


Fig. 3-21

3-9-2. Installation of the UPPER DRUM

- 1) Attach the UPPER DRUM to the LOWER DRUM ROTOR, so that the upper drum convex (A) and lower drum rotor's GREEN PCB side line up, as shown in Fig. 3-22.

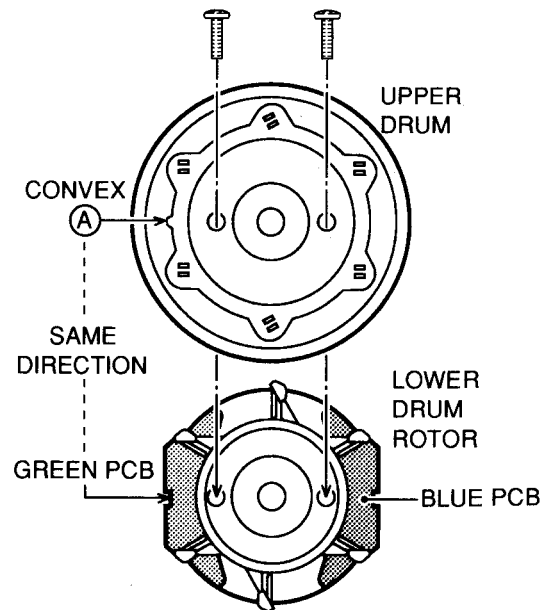


Fig. 3-22

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.

- (a) Do not loosen the set screw on the collar preload.
- (b) Before fixing, use alcohol to clean both surfaces where the upper drum and the rotary transformer meet.
- (c) 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.
- (d) 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.
- (e) Tighten the two upper drum fixing screws alternately and gradually.

3-9-3. After replacement

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

- 1) Control head Phase adjustment (IV. MECHANICAL ADJUSTMENT 4-3-3.)
- 2) PB switching point adjustment. (V. ELECTRICAL ADJUSTMENT Step 1)
- 3) Video head REC current adjustment. (V. ELECTRICAL ADJUSTMENT Step 7)
- 4) ENV.DET (I-HQ) adjustment. (V.ELECTRICAL ADJUSTMENT Step 10)

3-10. DRUM MOTOR PC BOARD REPLACEMENT

- 1) Remove the two (A) screws on the ROTARY PLATE and then remove it.
Then disconnect the connector on the DRUM MOTOR PCB as shown.

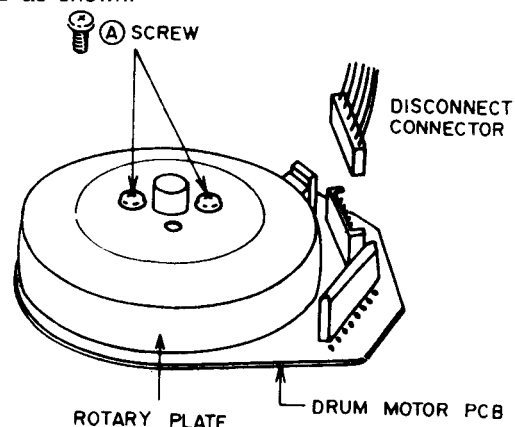


Fig. 3-23

- 2) Remove the three (B) screws which retain the DRUM MOTOR PCB and replace it.

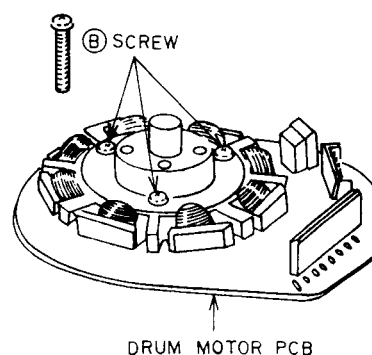


Fig. 3-24

- 3) Attach the ROTARY PLATE to the collar preload so that the rotary plate (C) hole and collar preload (D) hole line up.

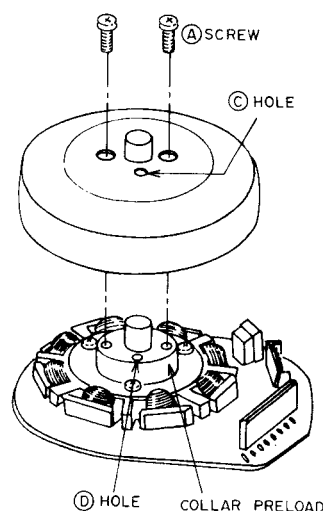


Fig. 3-25

3-11. REMOVAL OF THE MECHANISM BLOCK

3-11-1. Removal of the PRE AMP PC Board

- 1) Remove the (A) screw and remove the EARTH BRUSH as shown in Fig. 3-26.

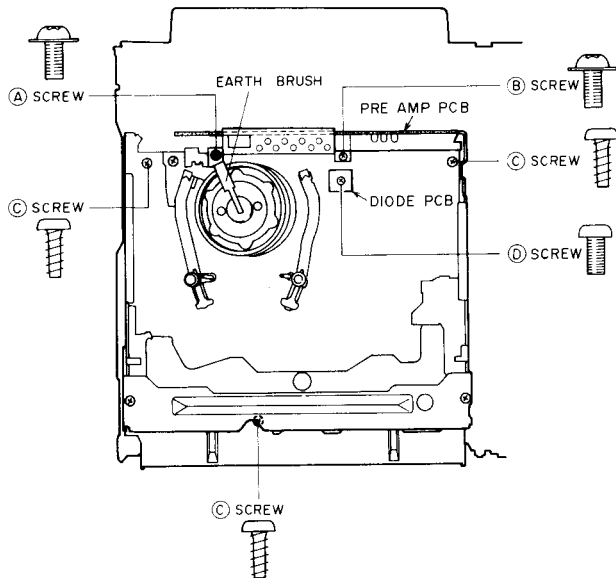


Fig. 3-26

- 2) Remove the (D) screw on the DIODE PCB and remove the DIODE PCB.
- 3) Remove the (B) screw then pull up the PRE AMP PCB carefully.

3-11-2. Removal of the MECHANISM BLK (MECHA. FRAME)

- 1) Disconnect the connectors P301, P302, P303 on the MAIN (A) PCB and P1 on the A/C HEAD PCB.
- 2) Disconnect the connector on the FULL TRACK ERASE HEAD.
- 3) Remove the three (C) screws from the MECHA. FRAME as shown in Fig. 3-26.
- 4) Hold the rear side of the MECHA. FRAME then remove it by pulling it up backwards.
- 5) Reassemble in the reverse order for installation.

IV. MECHANICAL ADJUSTMENT

4-1. BACK TENSION ADJUSTMENT

- 1) Prepare a video cassette tape which you no longer needed. Remove both tape reels and the tape protection cover from the cassette tape. Then cover the video cassette's left and right side detection holes with black adhesive tape.
- 2) Play back the tapeless cassette which you prepared.
- 3) Confirm the distance between (A) groove on the TENSION ARM and the (A) mark on the MECHA. CHASSIS so that the distance should be within the value shown in Fig. 4-1.
- 4) If the result is not satisfactory, eject the tape and adjust the TENSION ADJUST repeatedly until the result is satisfactory.

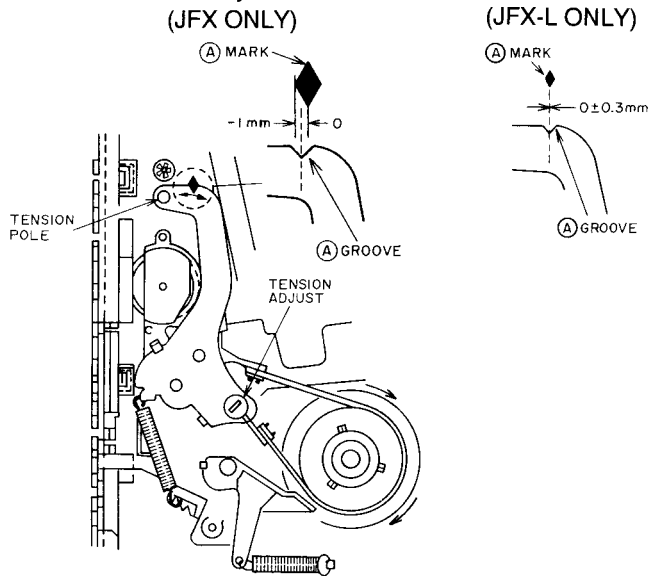


Fig. 4-1

4-2. TAPE TRANSPORT ADJUSTMENTS

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

4-2-1. Tape curl adjustment at the TAKE-UP TAPE GUIDE

- 1) Play back a recorded tape which is no longer needed.
- 2) Turn the (A) screw on the A/C HEAD BLK, until the edge of the tape barely touches the lower part of the 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 4-3. A/C HEAD POSITION ADJUSTMENT.)

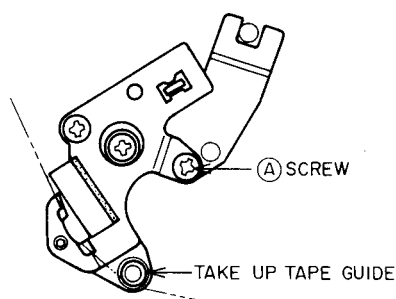


Fig. 4-2

(TAKE-UP TAPE GUIDE)

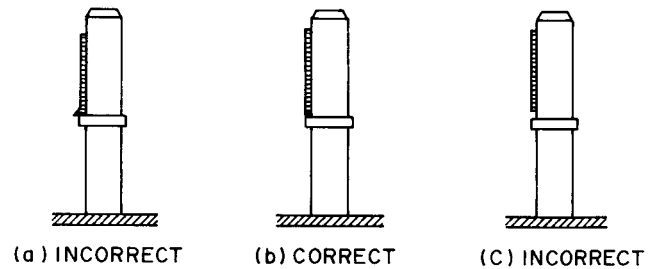


Fig. 4-3

4-2-2. Confirmation of tape curl on 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. 4-4.

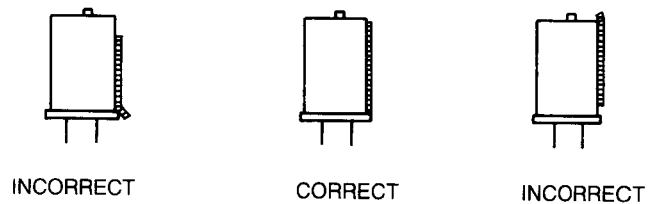


Fig. 4-4

4-2-3. REVIEW ARM height adjustment

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

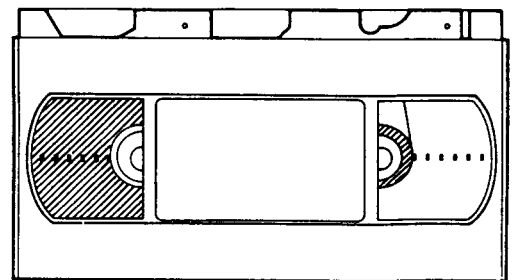


Fig. 4-5

- 2) Turn the REVIEW ARM height (A) nut 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. 4-6 to Fig. 4-8.

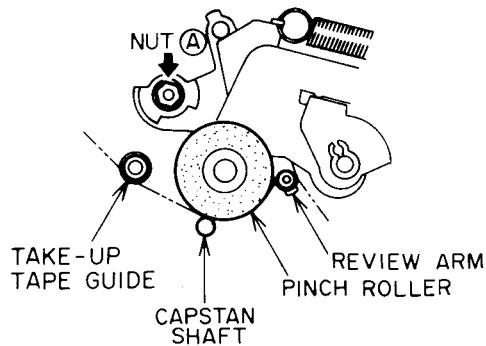


Fig. 4-6

(TAKE-UP TAPE GUIDE)

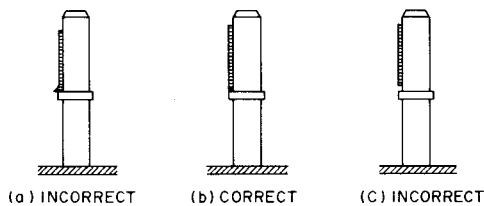


Fig. 4-7

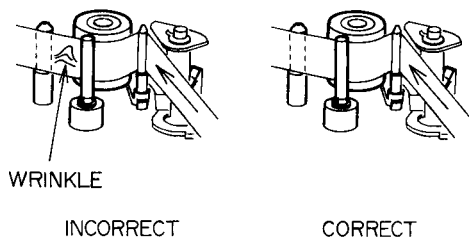


Fig. 4-8

- 3) Play back the beginning part of an E-240 tape and this time set the unit to the CUE mode by pressing the F.FWD button.
- 4) Confirm there is no curl or wrinkle near the REVIEW ARM's guide. If curl or wrinkle of the tape occurs, slightly turn the (A) nut (Shown in Fig. 4-6) until it disappears.

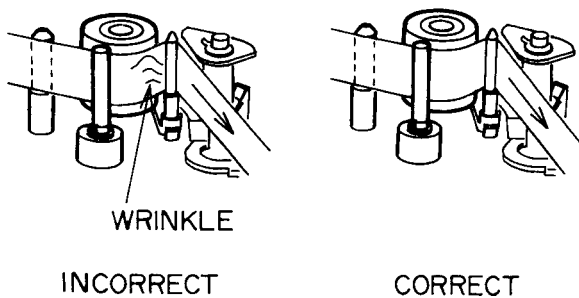


Fig. 4-9

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

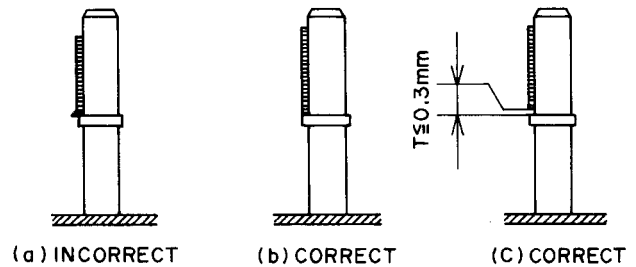


Fig. 4-10

NOTE:

1. If the results are not satisfactory, repeat steps 2) to 5).
2. Always play an undamaged tape to obtain satisfactory adjustment.
3. Because an E-240 tape can be damaged easily, due of its thinness, a pre-adjustment with an E-180 tape is recommended.

4-2-4. 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 to Fig. 4-11.)

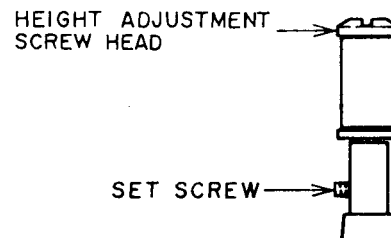


Fig. 4-11

- 2) Play back the reference tape TF-530RFS (AT-751775).
- 3) Connect an oscilloscope's CH-1 to TR510 emitter (ENVE) on the MAIN (A) PCB and CH-2 to TP2 (V-SWP) on the PRE AMP PCB for triggering.
- 4) Turn the LOADING LEADER heads with a flat head (→) screwdriver to obtain a flat RF envelope as the ideal envelope, as shown in Fig. 4-12.
- 5) After adjustment is completed, tighten the loading leader set screws.

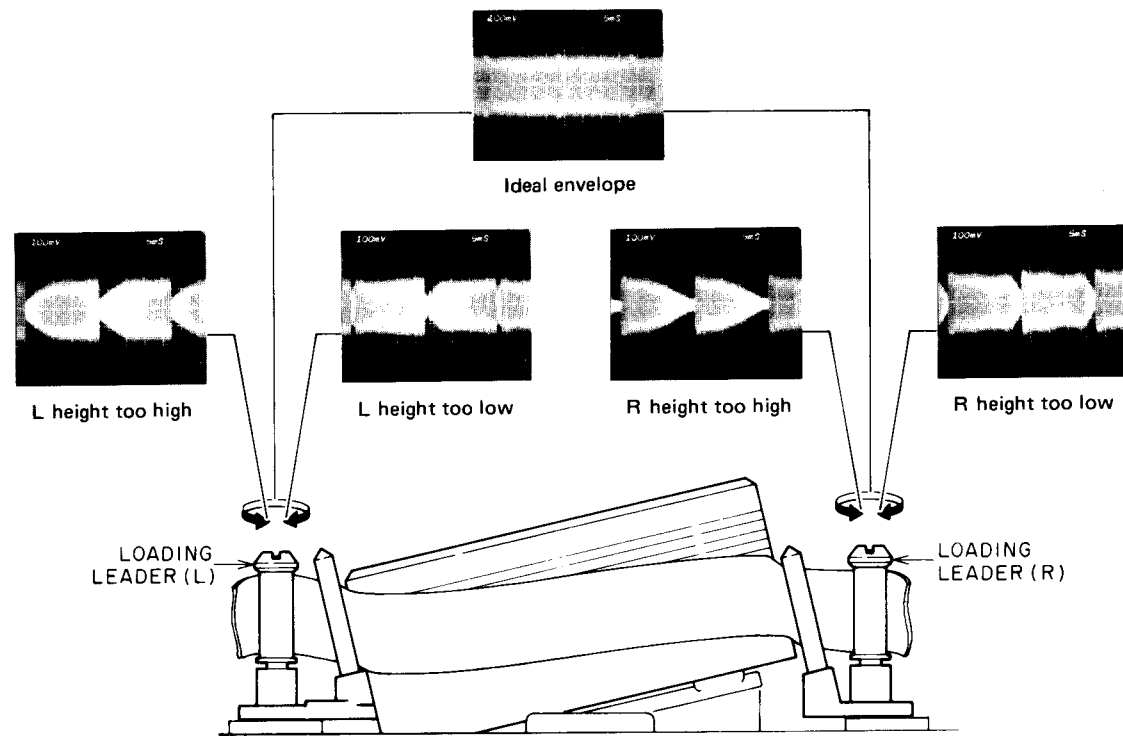


Fig. 4-12

4-3. A/C HEAD POSITION ADJUSTMENT

4-3-1. Azimuth adjustment

- 1) Connect an AC voltmeter 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 ⓑ screw to obtain the maximum audio output.

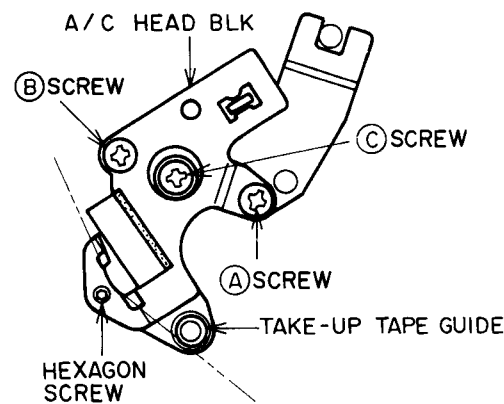


Fig. 4-13

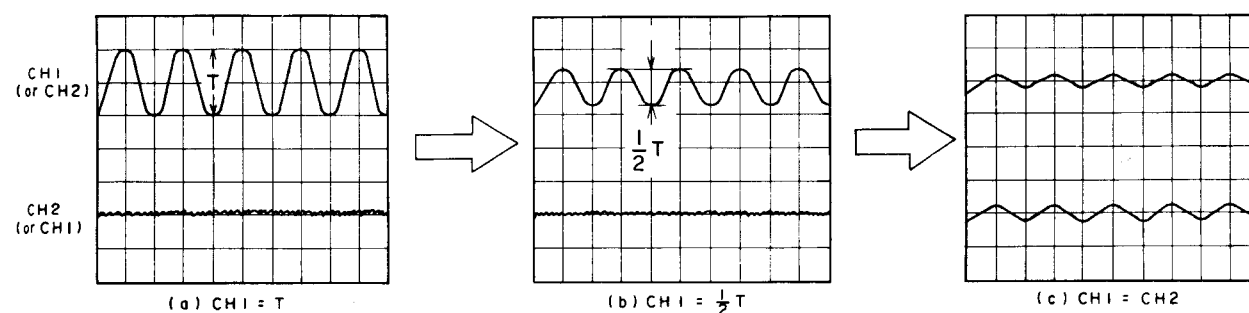


Fig. 4-14

4-3-2. Height adjustment

- 1) Play back test tape TF-526HH (AT-751788).
- 2) Connect an oscilloscope's CH-1 to the AUDIO OUT terminal on the rear panel and CH-2 to TP301 (CTL OUT) on the MAIN (A) 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. 4-14. Then set both of the oscilloscope's channels to 100 mV/div and finely adjust the hexagon screw until both signals of CH-1 and CH-2 are nearly the same level.
- 4) Slightly turn the ⓐ 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. 4-3.
- 5) Adjust the head azimuth again. (Turning the hexagon screw, or ⓐ screw, will cause head azimuth mis-alignment. Refer to 4-3-1. Azimuth adjustment.)
- 6) Confirm that both signals of CH-1 and CH-2 are nearly the same level (confirm that neither of the CH-1 or CH-2 output levels exceed 100 mVp-p). If the result is not satisfactory, repeat steps 3) to 5).

4-3-3. Phase adjustment

- 1) Connect an oscilloscope's CH-1 to the TR510 emitter (ENVE) on the MAIN (A) PCB and CH-2 to TP2 (V-SWP) on the PRE AMP PCB for triggering.
- 2) Play back the reference tape TF-530RFS (AT-751775).
- 3) Press the "<" or ">" cursor button 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. 4-15.
- 4) Loosen the ⓐ 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 ⓐ hole as shown in Fig. 4-17.
- 6) Move the A/C HEAD BASE by moving a screwdriver in the direction of the arrow as shown in Fig. 4-17 to obtain the maximum RF output, then tighten the ⓐ screw.

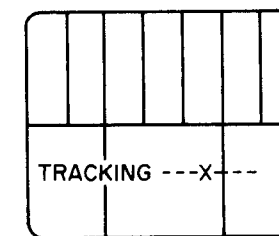


Fig. 4-15

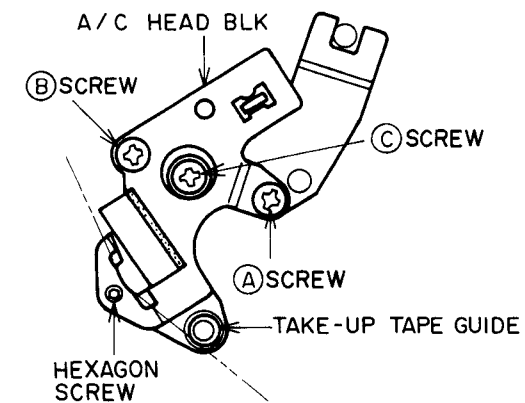


Fig. 4-16

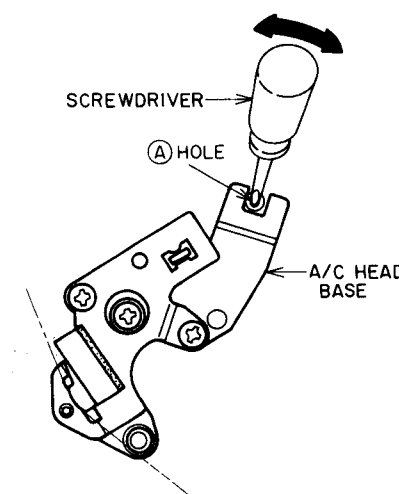


Fig. 4-17

V. ELECTRICAL ADJUSTMENT

Precautionary items prior to adjustments

1. The colour 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).

The following test tapes are required.

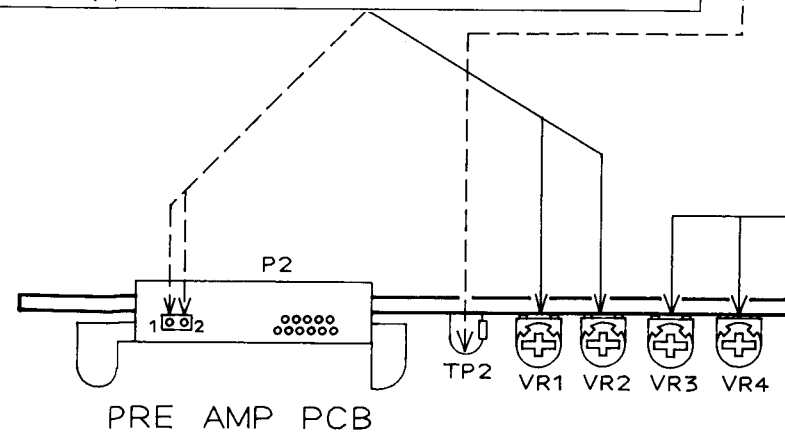
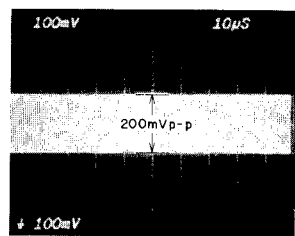
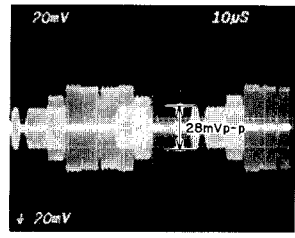
Test tape	Parts No.
TF-527BL	AT-711880
TF-530RFS	AT-751775
TF-532CBS	AT-751360
TF-553AT	AT-751785

STEP ADJUSTMENT ITEM

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

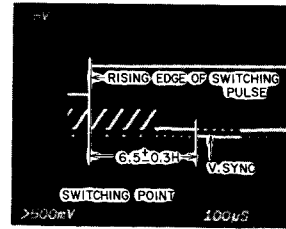
6 VIDEO REC CURRENT (LP MODE)

1. "REC" (LP MODE), PAL colour bar signal
2. P2 (REC.CURR) ① pin, ② pin & VR1 (REC-CHROMA), VR2 (REC-Y)
3. Connect an oscilloscope's CH-1 to P2 (REC.CURR) ① pin and CH-2 to ② pin.
 - Set the oscilloscope's display mode to "ADD" mode and CH-2 polarity to "INVERTED". (Make sure to set the oscilloscope's "volt / div" SW position where the waveform is not distorted and CH-2 position should be the same as CH-1.)
 - Turn the VR2 (REC-Y) fully, counterclockwise.
 - * Adjust VR1 (REC-CHROMA) so that the chroma REC current becomes 28 mVp-p at the burst signal area.
 - * Disconnect the input signal, then adjust VR2 (REC-Y) so that the Y REC current becomes 200 mVp-p.



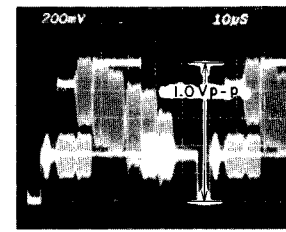
1 PB SWITCHING POINT

1. "PB", test tape TF-530RFS
2. TP2 (SWP), VIDEO OUT & VR301 (SW.POINT)
3. Connect an oscilloscope's CH-1 to TP2 (SWP) for triggering and CH-2 to VIDEO OUT.
 - Adjust VR301 so that the switching point is positioned 6.5 H from the V-SYNC left edge as shown.



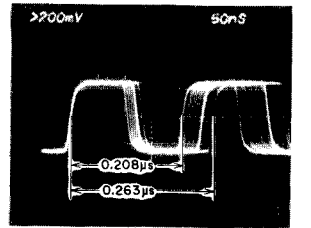
7 VIDEO PB LEVEL

1. "REC" → "PB", PAL colour bar signal
2. VIDEO OUT & VR404 (PB LEVEL)
3. Connect an oscilloscope to VIDEO OUT
 - Make a recording on the tape, then play it back
 - * Adjust VR404 so that the PB level becomes 1.0 Vp-p



5 CARRIER SET & DEVIATION

1. "REC", PAL colour bar signal
2. TP401 (REC.Y) & VR402 (CARRIER), VR403 (DEVIATION)
3. Connect an oscilloscope to TP401 (REC.Y)
 - * VR402 (CARRIER) : 0.263 µs (3.8 MHz)
 - * VR403 (DEVIATION): 0.208 µs (4.8 MHz)



3 AUDIO REC BIAS

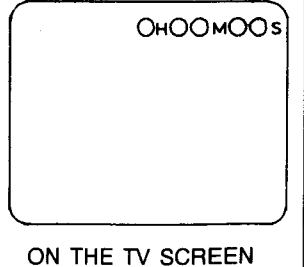
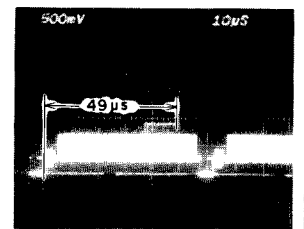
1. "REC", No signal input
2. P801 ① pin, ② pin & VR801
3. Connect an AC voltmeter to P806 ① pin (GND side) and ② pin. (Never connect the AC voltmeter's GND to the VCR's ground.)
 - * Adjust VR801 so that the reading on the AC voltmeter becomes 2.4 mV

2 AUDIO PB LEVEL

1. "PB", test tape TF-527BL
2. AUDIO OUT & VR802
3. Connect AC voltmeter to AUDIO OUT
 - * -5 dBs

8 CHARACTER POSITION

1. "E-E" (STOP mode), No signal input
2. VIDEO OUT, TV screen & VC601 (IMS)
3. Press the "DISPLAY" button once on the remote control to display the elapsed tape counter.
 - Connect an oscilloscope to VIDEO OUT
 - * Adjust VC601 (IMS) so that the right end of the IMS signal becomes 49 µs from the H-SYNC as shown.

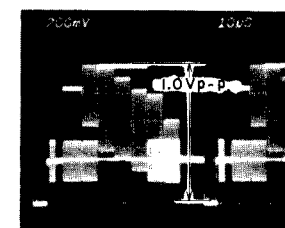


10 ENVELOPE DETECT (I-HQ)

- (This adjustment should be performed in the "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 be cancelled by disconnecting the AC power cord or simply by pressing the RESET button on the front panel.
1. "REC" → "PB", PAL colour bar signal
 2. FL display & VR3, VR4
 3. Record the PAL colour bar signal on the test tape TF-553AT and then play it back.
 - Observe the number which is displayed on the minute part of the FL display.
 - * Adjust the VR3 so that the number displayed on the FL display becomes "8D". (SP MODE)
 - * Adjust the VR4 so that the number displayed on the FL display becomes "8D". (LP MODE)

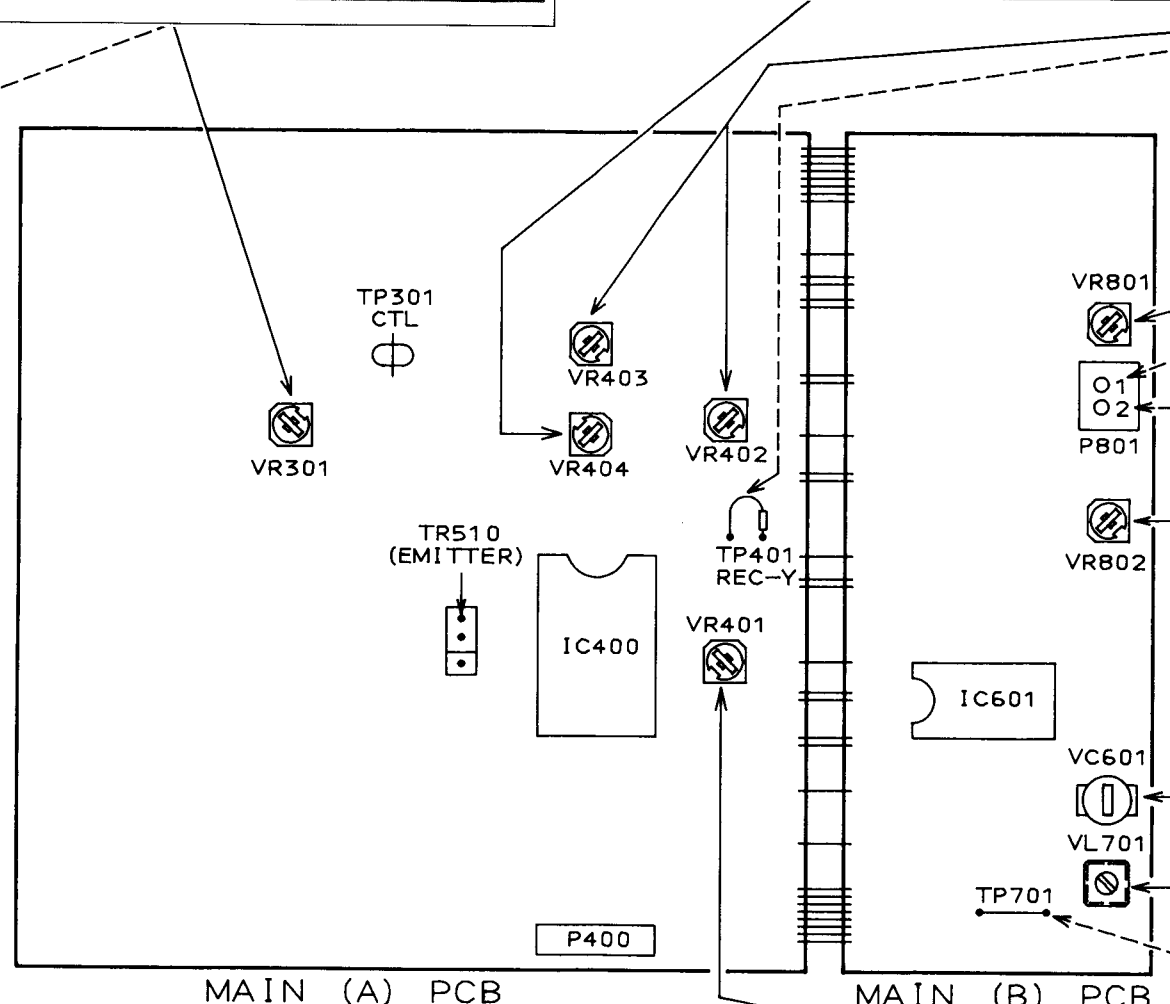
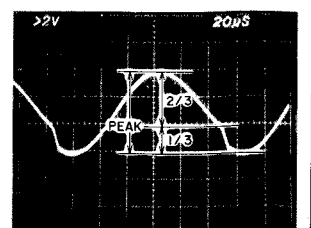
4 VIDEO E-E LEVEL

1. "E-E" (STOP mode), PAL colour bar signal
2. VIDEO OUT & VR401 (E-E LEVEL)
3. Connect an oscilloscope to VIDEO OUT.
 - * 1.0 Vp-p



9 P/S AUTO SENSITIVITY (EM/EDG/EOG-V ONLY)

1. "E-E" (STOP mode), SECAM colour bar signal
2. TP701 (P/S SENS), VL701 (P/S SENS)
3. Connect an oscilloscope to TP701 (P/S SENS)
 - * Adjust the VL701 so that the distorted point of the waveform becomes 1/3 from the bottom, as shown.



VI. 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	PAN20×03STL CMT
4	ZS-536488	BID20×08STL 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 (Universal Area)
 [C] : CSA (Canada)
 [E] : CEE (Europe) [V] : VDE (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.

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.

6-1. MODEL VS-F440EA/EDI/EM, F441EA, F490EM

1. RECOMMENDED SPARE PARTS

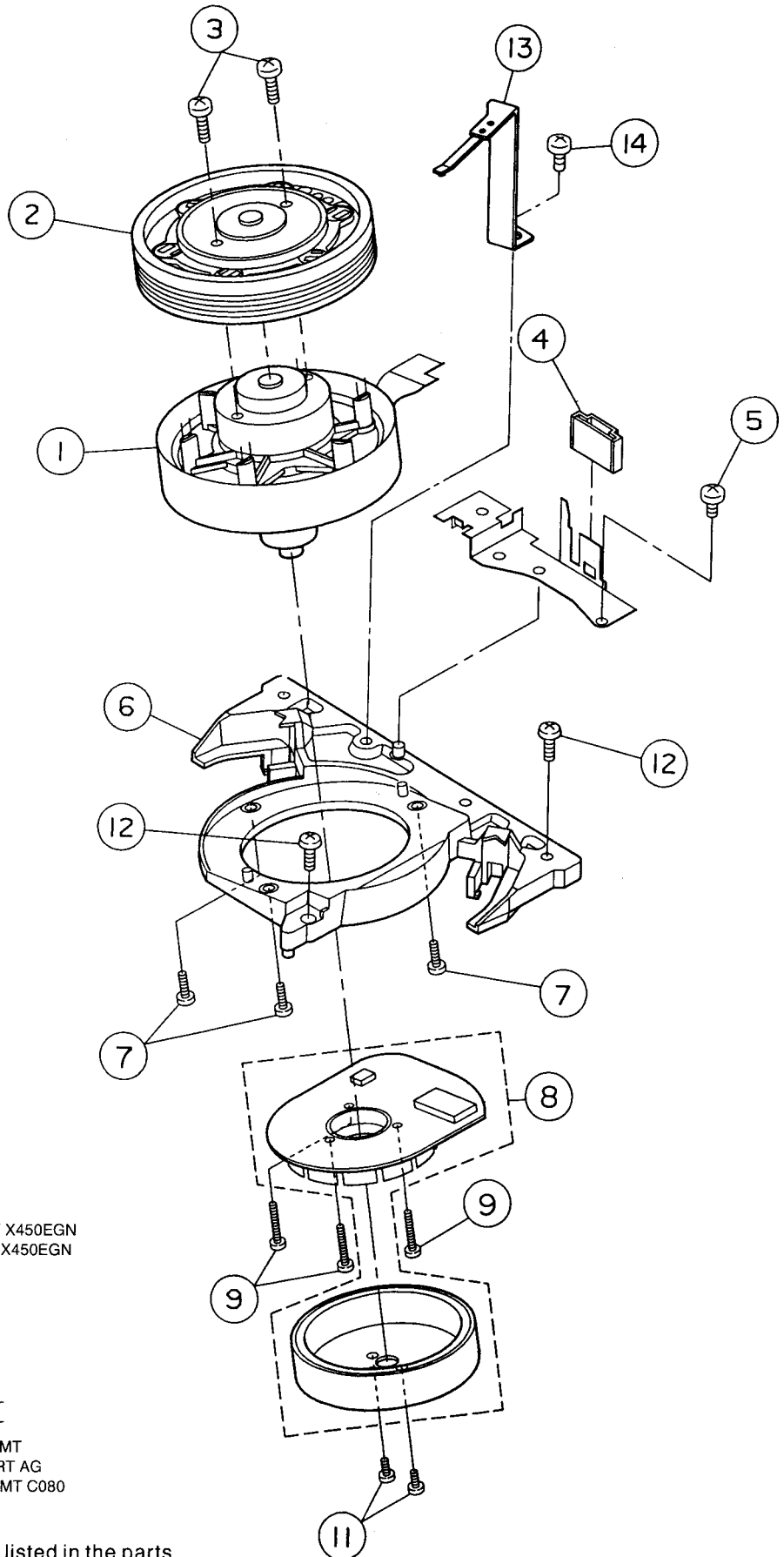
We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
1	AV-B1038A010A	REMOCON BLK RC-V250E [EXCEPT F490EM]	56	ED-403947J	D ZENER H UTZJ22C T26
2	AV-B1043A010E	REMOCON BLK RC-V452E [F490EM]	57	ED-405265J	D ZENER H UTZJ36C
3	BB-V1130A020H	MECHA DECK BLK F260EA	58	ED-404032J	D ZENER H UTZJ39A
4	BB-V1130A020C	MECHA DECK BLK F410EK	59	ED-403732J	D ZENER H UTZJ5.6A
5	BL-V1102A140A	ARM LOADING BLK 425EA	60	ED-403729J	D ZENER H UTZJ5.6C
6	BL-387458J2	CAPSTAN BRAKE PART	61	ED-403278J	D ZENER H UTZJ7.5B
7	BL-V1123A050A	TENSION ARM BLK F600EA	62	ED-404086J	D ZENER H UTZJ7.5C
8	BL-V1102A050A	TENSION ARM BLK 425EA	63	ED-403731J	D ZENER H UTZJ8.2C
9	BM-400682J1	MOTOR DFX-67B3VWB1 [CAPSTAN MOTOR]	64	ED-403279J	D ZENER H UTZJ9.1B
10	BM-401296J1	MOTOR E20EL89 [DRUM MOTOR]	65	EE-408471J	TV TUNER ENV-77890F2 SK [EDI]
11	BM-387503J	MOTOR PART [LOADING MOTOR]	66	EE-408417J	TV TUNER VTSS6AZV EA [EA]
12	*BT-410487J	TRANS POW V1130 EA [EM]	67	EE-405638J	TV TUNER VTSS6CZ EM [EM]
13	*BT-410488J	TRANS POW V1130 EM [EM]	68	EH-394838J	DL ADL-FN1344Q [EM]
14	*BT-410489J	TRANS POW V1130 ES [EDI]	69	EH-390730J	DL EFD-JF124A13J
15	BV-V1102A150A	CASSETTE LOAD BLK 425EA	70	EH-368816	FILTER CE SAF38.0MZA70Z [EDI]
16	BV-V1102A070A	LEADER S BLK 425EA	71	EH-730625J	FILTER CE SAF38.9MZW70Z [EM]
17	BV-V1102A080A	LEADER T BLK 425EA	72	EH-780128	FILTER CE SFE 6.5MB [EDI]
18	BV-V1123A410B	LOWER DRUM BLK X450EGN	73	EH-366894	FILTER CE SFE-4.16MB 4.16MHZ
19	BV-404007J	RF CONVERTER MDLK6E766A EDI [EDI]	74	EH-373920	FILTER CE SFE5.5MB
20	BV-387610J	RF CONVERTER YAA21-0453 EA [EA]	75	EH-381309J	FILTER CE SFS6.0MD 6.000MHZ [EDI]
21	BV-387611J	RF CONVERTER YAA21-0454 EV [EM]	76	EH-388287J	FILTER CE SFS6.5MX 6.500MHZ [EDI]
22	BV-V1123A420B	UPPER DRUM BLK X450EGN	77	EH-729986J	FILTER CE TPS5.5MB2 [EM]
23	BV-403236J1	VIF UNIT KX EA [EA]	78	EH-368948	FILTER CE TPS5.5MW 5.5000MHZ [EA]
24	BV-403963J	VIF UNIT KX EDI [EDI]	79	EH-373919	FILTER CE TPS6.0MB [EDI]
25	BV-403239J1	VIF UNIT KX EM [EM]	80	EH-376338	FILTER CE TPS6.5MB [EDI]
26	EA-387496J	PC (#) SENSOR	81	EH-714626	FILTER SAW SAF36.9MZ70Z [EA]
27	*EC-391843J	C DOUBLE FYD0H223Z 5.5DC	82	EI-373981J1	IC BA10393N
28	EC-408376J	C EC V CUT KMG 102M 50.0DC	83	EI-373980	IC BA15218N
29	EC-408377J	C EC V CUT KMG 222M 50.0DC	84	EI-386468J	IC BA3308 [F490EM]
30	EC-408426J	C EC V F05 LXF8 121M 50.0DC	85	*EI-381575J	IC BA6121
31	EC-403880J	C EC V T05 LXF8 221M 25.0DC	86	EI-353421	IC BA6229
32	EC-403878J	C EC V T05 LXF8 271M 16.0DC	87	EI-366892	IC BA7025L [EM]
33	EC-404197J	C EC V T05 SXE8 330M 80.0DC	88	EI-387586J	IC BA7244BS
34	ED-390011J	D LED GL451 INFRARED [D1]	89	EI-388360J	IC BA7765AS
35	ED-390012J	D LED GL4800 INFRARED [D2]	90	EI-356457	IC BU4013B
36	ED-401099J	D SCHOTTKY MA719 T26 40/0.5A	91	EI-360586	IC LA6358S [F490EM]
37	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1	92	EI-403234J1	IC LA7391A
38	*ED-379298	D SILICON DBA20B 100/2.0A	93	EI-394856J	IC LC8992
39	ED-366443	D SILICON H MA700FA5 F10	94	EI-389622J	IC L5631
40	ED-307572	D SILICON H 1SS131	95	EI-403469J	IC MM1068XS
41	ED-401046J	D SILICON RL104F-E T26 400/1A	96	EI-408850J	IC MN675201 XDJ JFXSYP1 [F490EM]
42	ED-511907	D SILICON 1N4002 100/1.0A	97	EI-408849J	IC MN675201 XDL JFLSYP1 [EXCEPT F490EM]
43	ED-391005J	D ZENER H HZS12B1	98	EI-368809	IC M51496P
44	ED-408807J	D ZENER H HZS12C3	99	EI-400756J	IC NJM4558L-B
45	ED-397233J	D ZENER H HZS5C3	100	EI-373955	IC S-8053ALR
46	ED-387919J	D ZENER H HZS6A1L	101	EI-408393J	IC ST24C01B1
47	ED-405373J	D ZENER H MTZJ16A T26	102	EI-200573	IC TC4053BP [EM]
48	ED-405247J	D ZENER H MTZJ2.7A T26 [F490EM]	103	EI-310036	IC TC4066BP
49	ED-403267J	D ZENER H MTZJ3.3B T26	104	EI-405722J	IC UPD6450CX-515
50	ED-405524J	D ZENER H MTZJ36A T26	105	EI-408391J1	IC UPD75217CW-146 JBXOPP2
51	ED-403724J	D ZENER H UTZJ10A	106	EI-408397J	IC UPD75217CW-147 JFXOPP1
52	*ED-404029J	D ZENER H UTZJ10B T26			
53	ED-405264J	D ZENER H UTZJ10C			
54	ED-404031J	D ZENER H UTZJ11B T26			
55	ED-403948J	D ZENER H UTZJ16C T26			

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
107	EI-394467J	IC X24C01P	178	ML-387402J1	LEVER TRIGGER
108	EI-403467J	OSC CE CSB500F40 15.680KHZ	179	ML-387316J	MAIN BRAKE (S) PART
109	EI-368829	OSC CE CSB512P	180	ML-387318J	MAIN BRAKE (T) PART
110	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ	181	ML-387321J	REVIEW BRAKE PART
111	EI-368825M	OSC X'TAL C-002RX 32.768KHZ	182	ML-407119J	REVIEW BRAKE (3) PART
112	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ	183	ML-387324J1	SLIDER BRAKE PART
113	EI-389640J	OSC X'TAL HC-49/U 8000KHZ	184	ML-404567J1	SLIDER BRAKE (3) PART
114	EI-381632J	OSC X'TAL 86686 4.433619MHZ	185	ML-404944J	SLIDER TRIGGER (2)
115	EM-401077J	IND FL FV496G CHARACTER	186	MP-404852J	PINCH ROLLER (2) PART
116	EM-403367J	IND FL FV506G CHARACTER	187	MR-387406J	HOLDER THRUST WORM
117	EO-408381J	COIL FIX 2 C-5344-40 560K	188	MR-391968J	PULLEY TRIGGER (2)
118	EO-388362J	COIL OSC 1 V1102 [EXCEPT F490EM]	189	MR-387286J1	ROLLER IMPEDANCE
119	EO-388363J	COIL OSC 1 V1105-1 [F490EM]	190	MT-390954J1	DISK (2) PART
120	EO-388349J	COIL OSC 1 V1105-2 [F490EM]	191	MT-404547J	DISK (3) PART
121	EO-366893	COIL VARI 1 21D6 8.20MH [EM]	192	MZ-387298J3	DISK CLUTCH PART
122	*EQ-400153J	RELAY POW AG2013 1TR 12V	193	MZ-404577J	DISK CLUTCH (2) PART
123	*ER-401039J	R FUSE V T05 ERD2FCV 1/4W 4R7J	194	MZ-387331J	GEAR CAM SLIDER
124	ER-400959J	R FUSE V T05 ERD2FCV 1/4W1200G	195	MZ-404538J	GEAR CAM SLIDER (3)
125	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G	196	MZ-387335J	GEAR EJECT
126	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K	197	MZ-387333J	GEAR FRONT LOADING
127	*ER-405441J	R FUSE V T05 RF25SCVTP1/4WR27K	198	MZ-404995J	GEAR MID PART
128	ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K	199	MZ-	
129	ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K	200	V1102A090A	GEAR TOGGLE (S) BLK 425EA
130	*ER-400689J	R FUSE V T05 RF25SCVTP1/4WR68K		MZ-	
131	*ER-408375J	R FUSE V T05RF25SCPVTP1/4WR12K		V1102A100A	GEAR TOGGLE (T) BLK 425EA
132	ER-393768J	R OMF H S15 FS 2W 270J	201	MZ-387332J	GEAR WORM WHEEL
133	ES-373099	SW LEAF MTS10110MPC1	202	MZ-401686J1	GEAR WORM (2)
134	ES-387465J	SW MODE SELECT MMS00070ZLBO [SW1]			
135	ES-403377J	SW ROTARY ENCODER SRGPHJ			
136	ES-408404J	SW TACT EVQ 235 07K T05 [EDI/EM,RESET]			
137	ES-408405J	SW TACT EVQ 235 09K T05 [F440EA,RESET]			
138	ES-349474	SW TACT SKHHAM004A			
139	ET-381637J2	DETECTOR GP1U521X			
140	ET-403420J	DETECTOR SG-105LF [PH1][PH2]			
141	ET-713614	TR CHIP 2SA1235 E,F			
142	ET-725820J	TR CHIP 2SC2735J			
143	ET-356336	TR DTA114ES			
144	ET-354415	TR DTA144ES			
145	ET-373985	TR DTA144TS			
146	ET-353897	TR DTC114ES			
147	ET-360399	TR DTC114TS			
148	ET-354364	TR DTC143TS			
149	ET-354414	TR DTC144ES			
150	ET-361490	TR PHOTO PN268 [TR1]			
151	ET-390010J	TR PHOTO PT4800 [TR2]			
152	ET-390009J	TR PHOTO PT493F [TR4]			
153	ET-364040	TR UN421D			
154	ET-353899	TR 2SA1317 S,T,U			
155	ET-389803J	TR 2SA933S R,S			
156	*ET-366365	TR 2SB1185 E,F			
157	ET-388338J	TR 2SB1425 S,E			
158	ET-356817	TR 2SB891 Q,R			
159	ET-400218J	TR 2SC1740S R,S			
160	ET-375777	TR 2SC2926S P,Q			
161	ET-397160J	TR 2SC3330 R,S,T,U,V			
162	*ET-404195J	TR 2SC4486 S,T T05			
163	ET-366168	TR 2SD1292 Q,R			
164	*ET-381175J	TR 2SD1856			
165	ET-405622J	TR 2SD2061 E,F			
166	ET-370819	TR.CHIP 2SC3052			
167	EX-405691J	THERMISTOR NTH5D332KA			
168	HE-390013J	HEAD E HVFME0020A			
169	HR-405340J	HEAD COMBO HVMZA1121A			
170	MB-387289J	BELT CAPSTAN			
171	MB-407117J	BELT CAPSTAN (3)			
172	MI-387294J	IDLER PART			
173	MI-404552J	IDLER (2) PART			
174	ML-391745J3	ARM DAMPER			
175	ML-387350J1	ARM LID OPENER			
176	ML-387423J	ARM LOADING BRAKE			
177	ML-387277J3	ARM REVIEW PART			

• ALL MODEL

HEAD DRUM BLOCK



2. HEAD DRUM BLOCK

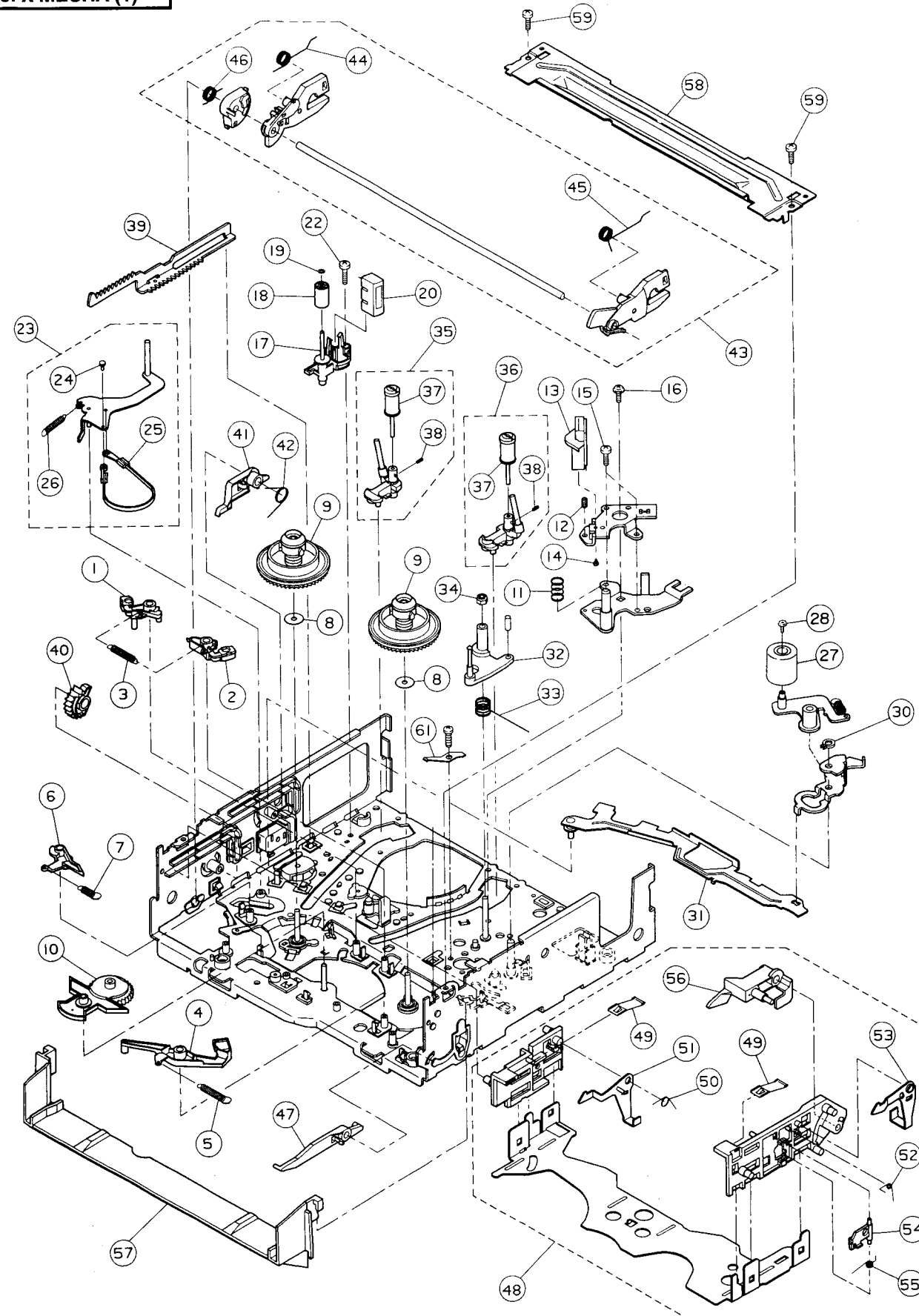
Ref.No.	Part No.	Description
1	BV-V1123A410B	LOWER DRUM BLK X450EGN
2	BV-V1123A420B	UPPER DRUM BLK X450EGN
3	ZS-321298	BID30X08STL CMT
4	SZ-387388J	HOLDER FPC
5	ZS-379405	BID30X06STL CMT
6	MA-387474J3	BASE DRUM
7	ZS-563444	BID26X08STL CMT
8	BM-401296J1	MOTOR E20EL89 [DRUM MOTOR]
9	ZS-467796	PAN26X12STL CMT
11	ZS-379350	PAN30X06STL CMT
12	ZS-336714	ST BID30X12STL CMT
13	VT-401282J	EARTH BRUSH PART AG
14	ZS-389853J	DT BID30X06STL CMT C080

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.

• MODEL VS-F440EA/EDG/EDI/EK/EM/EO/EOG-V/EOH, F441EA, F450EOH, F455EOH

JFX MECHA (1)



3. JFX 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	IDLER PART
11	ZG-387438J1	SP PUSH A/C
12	ZG-373900	6SET30X080SCM PKR CP
13	HR-405340J	HEAD COMBO HVMZA1121A
14	ZS-404844J	PAN20X02STL BZN PS1
15	ZS-321298	BID30X08STL CMT
16	ZS-344754	ST PAN30X06STL CMT C080
17	MZ-402760J2	HOLDER FE HEAD PART B
18	MR-387286J1	ROLLER IMPEDANCE
19	ZW-374445	SLIT W17X032X025PSL
20	HE-390013J	HEAD E HVMFE0020A
22	ZS-336714	ST BID30X12STL CMT
23	BL-V1102A050A	TENSION ARM BLK 425EA
24	SZ-407187J2	HOLDER LEVER TENSION (2)
25	ML-390768J4	TENSION BAND PART
26	ZG-387272J	SP PULL TENSION
27	MP-404852J	PINCH ROLLER (2) PART
28	ZS-464703	BID20X04STL CMT
30	ZW-332843	RETAINING RING GRIP 380STL ACP
31	ML-387431J1	SLIDER PINCH PART
32	ML-387277J3	ARM REVIEW PART
33	ZG-387282J	SP TORSION REVIEW
34	ZW-401776J	NUT REVIEW
35	BV-V1102A070A	LEADER S BLK 425EA
36	BV-V1102A080A	LEADER T BLK 425EA
37	VT-387394J1	GUIDE ROLLER D8 PART
38	ZS-374458	6SET20X030SCM PKR FP
39	ML-387428J	SLIDER FRONT LOADING
40	MZ-387335J	GEAR EJECT
41	ML-391745J3	ARM DAMPER
42	ZG-395567J	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-387348J1	SP PLATE HOLDER
50	ZG-387421J	SP TORSION DAMPER (S)
51	ML-387345J	LEVER DAMPER (S)
52	ZG-388290J1	SP TORSION DAMPER (T)
53	ML-387346J	LEVER DAMPER (T)
54	ML-387344J	LEVER LOCK RELEASE
55	ZG-387420J1	SP TORSION RELEASE
56	ML-387349J2	ARM SHUTTER
57	SE-395554J	GUIDE FRONT (2)
58	MZ-406134J	PLATE UPPER (2)
59	ZS-358936	ST BID30X06STL CMT
61	ZG-392294J	SP PLATE EARTH
64	BB-V1130A020H	MECHA DECK BLK F260EA

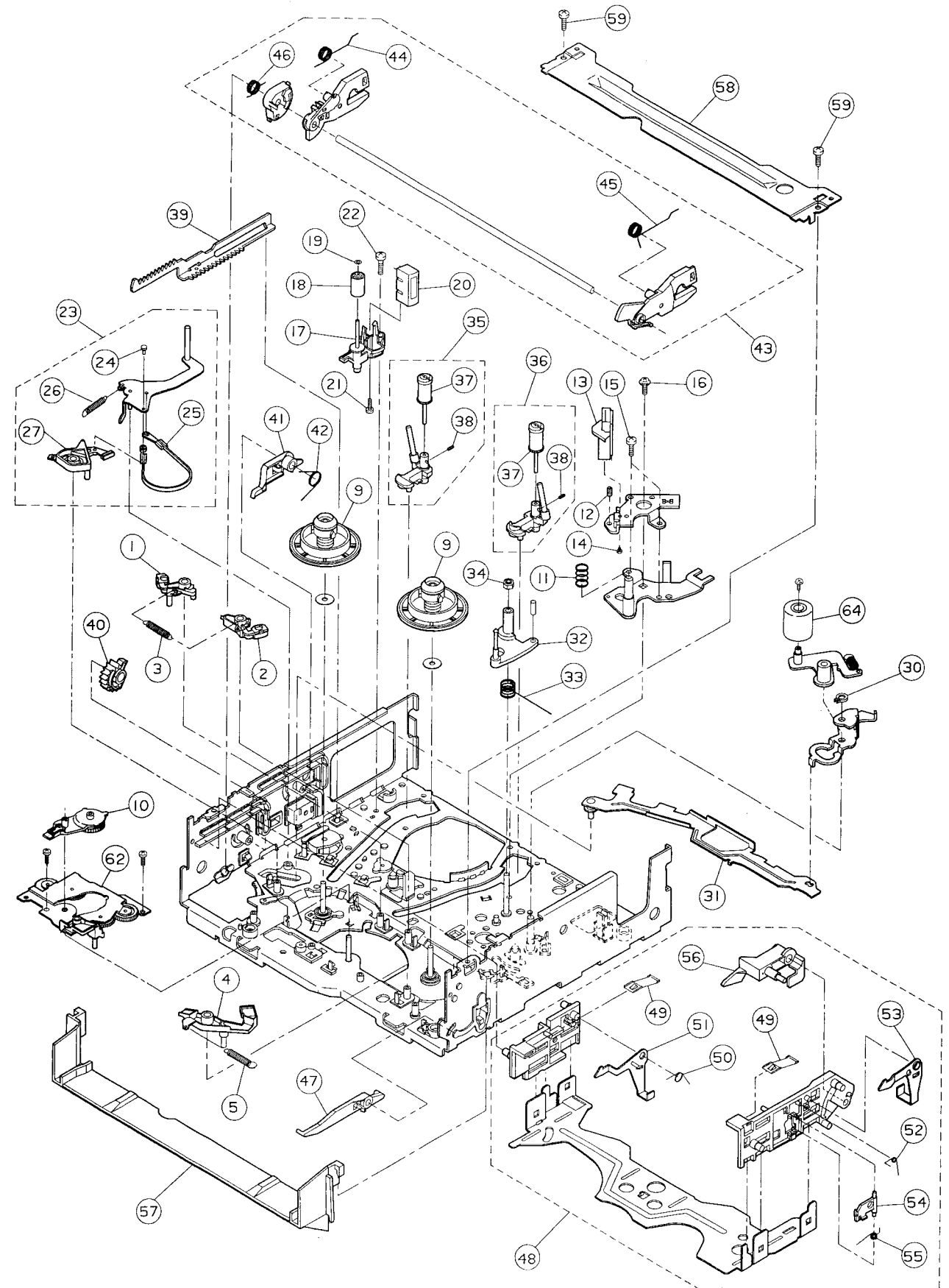
NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

4. JFX MECHA BLOCK (1)

• MODEL VS-F480EK-V/EOG-V, F490EM/EO/EOH/ES, F497EOH

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-407119J	REVIEW BRAKE (3) PART
5	ZG-387323J	SP PULL REVIEW BRAKE
8	ZW-389814J	PW31X110X050PSL
9	MT-404547J	DISK (3) PART
10	MI-404552J	IDLER (2) PART
11	ZG-387438J1	SP PUSH A/C
12	ZG-373900	6SET30X080SCM PKR CP
13	HR-405340J	HEAD COMBO HVMZA1121A
14	ZS-404844J	PAN20X02STL BZN PS1
15	ZS-321298	BID30X08STL CMT
16	ZS-389853J	DT BID30X06STL CMT C080
17	MZ-402760J2	HOLDER FE HEAD PART B
18	MR-387286J1	ROLLER IMPEDANCE
19	ZW-374445	SLIT W17X032X025PSL
20	HE-390013J	HEAD E HVMEO020A
22	ZS-336714	ST BID30X12STL CMT
23	BL-V1123A050A	TENSION ARM BLK F600EA
24	SZ-387263J4	HOLDER LEVER TENSION
25	ML-390768J4	TENSION BAND PART
26	ZG-395470J	SP PULL TENSION (2)
27	MZ-395471J3	TENSION BRAKE PART
30	ZW-332843	RETAINING RING GRIP 380STL ACP
31	ML-387431J1	SLIDER PINCH PART
32	ML-387277J3	ARM REVIEW PART
33	ZG-387282J	SP TORSION REVIEW
34	ZW-401776J	NUT REVIEW
35	BV-V1102A070A	LEADER S BLK 425EA
36	BV-V1102A080A	LEADER T BLK 425EA
37	VT-387394J1	GUIDE ROLLER D8 PART
38	ZS-374458	6SET20X030SCM PKR FP
39	ML-387428J	SLIDER FRONT LOADING
40	MZ-387335J	GEAR EJECT
41	ML-391745J3	ARM DAMPER
42	ZG-395567J	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-387348J1	SP PLATE HOLDER
50	ZG-387421J	SP TORSION DAMPER (S)
51	ML-387345J	LEVER DAMPER (S)
52	ZG-388290J1	SP TORSION DAMPER (T)
53	ML-387346J	LEVER DAMPER (T)
54	ML-387344J	LEVER LOCK RELEASE
55	ZG-387420J1	SP TORSION RELEASE
56	ML-387349J2	ARM SHUTTER
57	SE-395554J	GUIDE FRONT (2)
58	MZ-387351J2	PLATE UPPER
59	ZS-358936	ST BID30X06STL CMT
60	SZ-391866J1	CUSHION COVER
61	ZG-392294J	SP PLATE EARTH
62	MZ-404995J	GEAR MID PART
64	MP-404852J	PINCH ROLLER (2) PART
65	BL-V1130A160A	ARM PINCH ROLLER BLK F410EK
70	BB-V1130A020C	MECHA DECK BLK F410EK

JFX MECHA (1)

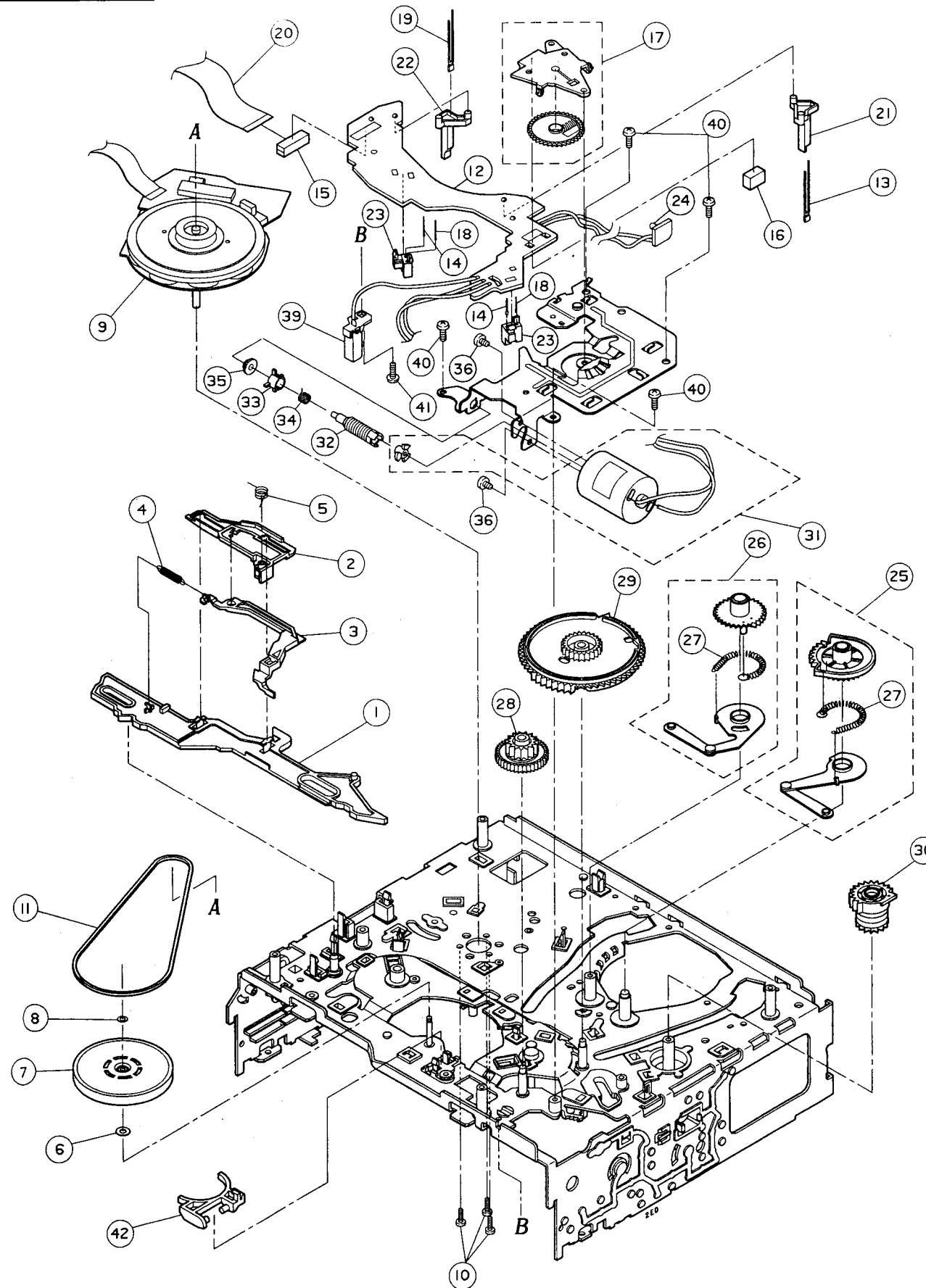


NOTE:

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.

• MODEL VS-F440EA/EDG/EDI/EK/EM/EO/EOG-V/EOH, F441EA, F450EOH, F455EOH

JFX MECHA (2)



5. JFX MECHA BLOCK (2)

Ref.No.	Part No.	Description
1	ML-387324J1	SLIDER BRAKE PART
2	ML-404944J	SLIDER TRIGGER (2)
3	ML-387402J1	LEVER TRIGGER
4	ZG-387468J	SP PULL SLIDER
5	ZG-387403J	SP TORSION COUPLING
6	ZW-389923J	PW26X060X050PSL
7	MZ-387298J3	DISK CLUTCH PART
8	ZW-387492J	SLIT W21X040X050PSL
9	BM-400682J1	MOTOR DFX-67B3VWB1 [CAPSTAN MOTOR]
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 [PS1]
16	EJ-381837J	SOCKET 174074-5 5P [P1]
17	ES-387465J	SW MODE SELECT MMS00070ZLBO [SW1]
18	ET-390010J	TR PHOTO PT4800 [TR2]
19	ET-390009J	TR PHOTO PT493F [TR4]
20	EW-389313J	CORD FFC P1.25 L=120 13P [WP1]
21	MZ-387430J	HOLDER D-LED
22	MZ-387445J	HOLDER S SENSOR
23	MZ-387446J	HOLDER PHOTO SENSOR
24	ET-361490	TR PHOTO PN268 [TR1]
25	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
26	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
27	ZG-387413J1	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 [LOADING MOTOR]
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-425981	BID30X03STL CMT
39	ES-373099	SW LEAF MTS10110MPC1
40	ZS-389950J	PT BID26X10STL CMT
41	ZS-358936	ST BID30X06STL CMT
42	ML-387311J2	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.

6. JFX MECHA BLOCK (2)

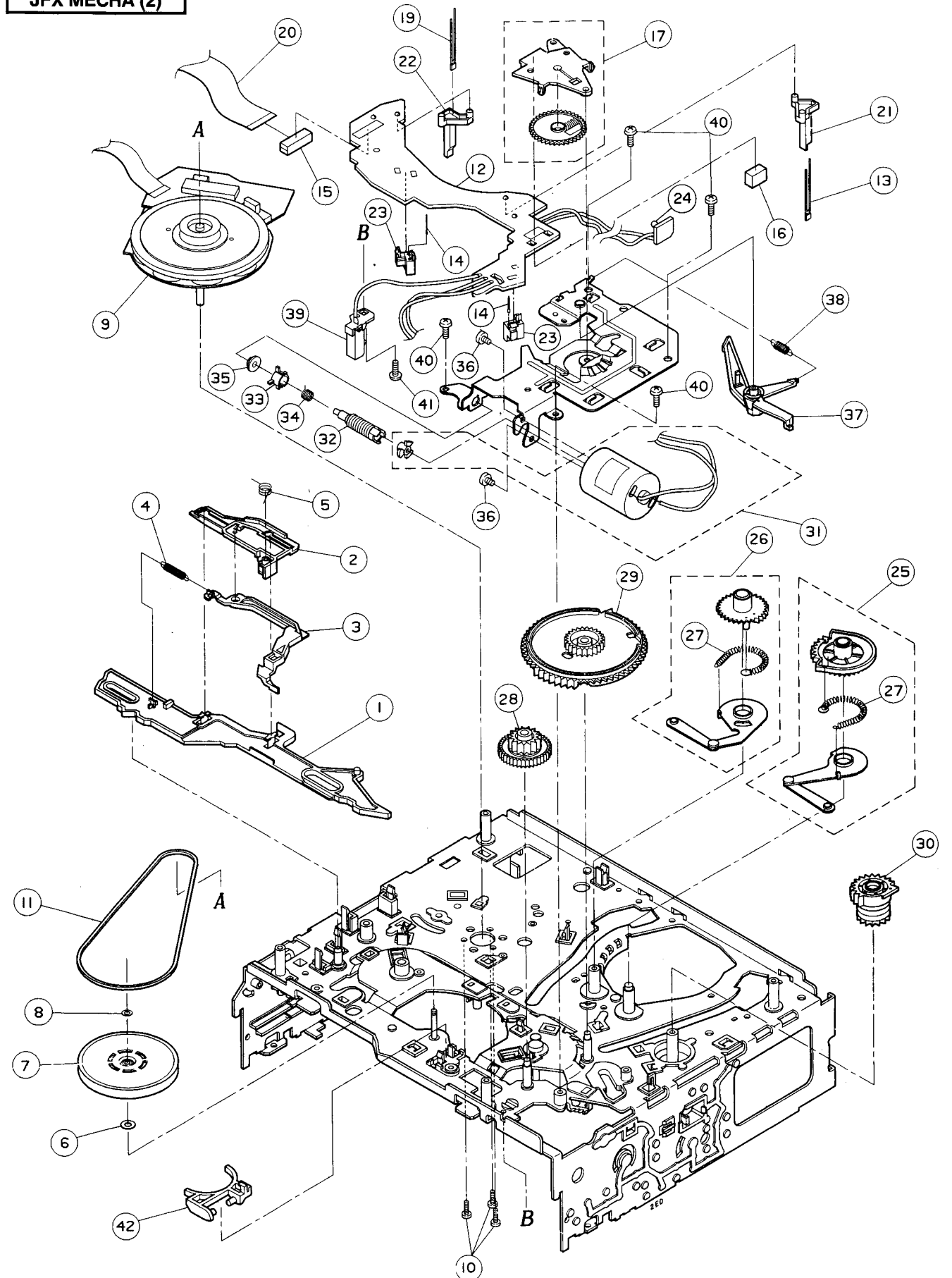
• MODEL VS-F480EK-V/EOG-V, F490EM/EO/EOH/ES, F497EOH

Ref.No.	Part No.	Description
1	ML-404567J1	SLIDER BRAKE (3) PART
2	ML-404944J	SLIDER TRIGGER (2)
3	ML-387402J1	LEVER TRIGGER
4	ZG-387468J	SP PULL SLIDER
5	ZG-387403J	SP TORSION COUPLING
6	ZW-389923J	PW26X060X050PSL
7	MZ-404577J	DISK CLUTCH (2) PART
8	ZW-387492J	SLIT W21X040X050PSL
9	BM-400682J1	MOTOR DFX-67B3VWB1 [CAPSTAN MOTOR]
10	ZS-365149	PT BID26X06STL CMT
11	MB-407117J	BELT CAPSTAN (3)
12	EA-404543J	PC (#) SENSOR (2) KFX
13	ED-390011J	D LED GL451 INFRARED [D1]
14	ET-403420J	DETECTOR SG-105LF [PH1][PH2]
15	EJ-387497J	SOCKET HOUSING 5062-30-10-13 [PS1]
16	EJ-381837J	SOCKET 174074-5 5P [P1]
17	ES-387465J	SW MODE SELECT MMS00070ZLBO [SW1]
19	ET-390009J	TR PHOTO PT493F [TR4]
20	EW-389313J	CORD FFC P1.25 L=120 13P [WP1]
21	MZ-387430J	HOLDER D-LED
22	MZ-387445J	HOLDER S SENSOR
23	MZ-404542J	HOLDER PHOTO SENSOR (2)
24	ET-361490	TR PHOTO PN268 [TR1]
25	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
26	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
27	ZG-387413J1	SP PULL TOGGLE
28	MZ-387332J	GEAR WORM WHEEL
29	MZ-404538J	GEAR CAM SLIDER (3)
30	MZ-387333J	GEAR FRONT LOADING
31	BM-387503J	MOTOR PART [LOADING MOTOR]
32	MZ-401686J1	GEAR WORM (2)
33	MR-391968J	PULLEY TRIGGER (2)
34	ZG-387443J	SP TRIGGER
35	MR-387406J	HOLDER THRUST WORM
36	ZS-425981	BID30X03STL CMT
37	BL-387458J2	CAPSTAN BRAKE PART
38	ZG-387502J	SP PULL CAPSTAN BRAKE
39	ES-373099	SW LEAF MTS10110MPC1
40	ZS-389950J	PT BID26X10STL CMT
41	ZS-358936	ST BID30X06STL CMT
42	ML-387311J2	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.

JFX MECHA (2)



7. P.C BOARD BLOCK

Ref.No.	Part No.	Description
1A	BA-V1150A600A	PC (#) MAIN (PAL) BLK F440EA
1B	BA-V1150A600D	PC (#) MAIN (PAL) BLK F440EDI
1C	BA-V1150A600E	PC (#) MAIN (PAL) BLK F440EM
1D	BA-V1152A600B	PC (#) MAIN (PAL) BLK F490EM
2A	BA-V1132A610F	PC PRE AMP BLK F400EA [EA]
2B	BA-V1132A615C	PC PRE AMP BLK F400EDI [EDI]
2C	BA-V1132A615G	PC PRE AMP BLK F440EM [F440EM]
2D	BA-V1132A610G	PC PRE AMP BLK F410EM [F490EM]
3A	BA-V1146A635K	PC OPERATION (A) BLK F440EA
3B	BA-V1146A635L	PC OPERATION (A) BLK F441EA
3C	BA-V1146A640A	PC OPERATION (A) BLK F440EDI
3D	BA-V1146A640C	PC OPERATION (A) BLK F440EM
3E	BA-V1152A630B	PC—OPERATION (G) BLK F490EM
4A	BA-V1130A500A	PC POWER BLK F220EDG [EA,EDI]
4B	BA-V1130A510A	PC (#) POWER EM BLK F220EM [EM]

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

- MAIN (A) P.C BOARD
- MAIN (B) P.C BOARD
- VIF UNIT

PC (#) OPERATION P.C BOARD CONSISTS OF FOLLOWING P.C BOARD.

- OPERATION-A P.C BOARD
- OPERATION-B P.C BOARD

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

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

8. MAIN (A) P.C BOARD

Ref.No.	Part No.	Description
C369	*EC-391843J	C DOUBLE FYD0H223Z 5.5DC
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
D8	ED-387919J	D ZENER H HZS6A1L
D201	ED-307572	D SILICON H 1SS131
D202	ED-307572	D SILICON H 1SS131
D203	ED-307572	D SILICON H 1SS131
D204	ED-397233J	D ZENER H HZS5C3
D205	ED-403267J	D ZENER H MTZJ3.3B T26
D208	ED-307572	D SILICON H 1SS131
D209	ED-307572	D SILICON H 1SS131
D212	ED-511907	D SILICON 1N4002 100/1.0A
D213	ED-511907	D SILICON 1N4002 100/1.0A
D301	ED-307572	D SILICON H 1SS131
D302	ED-307572	D SILICON H 1SS131
D303	ED-404086J	D ZENER H UTZJ7.5C
D304	ED-403724J	D ZENER H UTZJ10A
D305	ED-307572	D SILICON H 1SS131
D306	ED-307572	D SILICON H 1SS131
D307	ED-307572	D SILICON H 1SS131
D308	ED-307572	D SILICON H 1SS131
D309	ED-307572	D SILICON H 1SS131
D310	ED-307572	D SILICON H 1SS131 [F490EM]
D401	ED-307572	D SILICON H 1SS131
D402	ED-307572	D SILICON H 1SS131
D403	ED-307572	D SILICON H 1SS131 [EM]
D404	ED-307572	D SILICON H 1SS131
D405	ED-307572	D SILICON H 1SS131
D406	ED-366443	D SILICON H MA700FA5 F10
D408	ED-307572	D SILICON H 1SS131
D410	ED-307572	D SILICON H 1SS131
D411	ED-307572	D SILICON H 1SS131
D412	ED-403729J	D ZENER H UTZJ5.6C
D501	ED-307572	D SILICON H 1SS131 [EA,EDI]
D502	ED-307572	D SILICON H 1SS131
D503	ED-307572	D SILICON H 1SS131
D504	ED-307572	D SILICON H 1SS131
D505	ED-307572	D SILICON H 1SS131
D506	ED-307572	D SILICON H 1SS131
D507	ED-307572	D SILICON H 1SS131
D508	ED-307572	D SILICON H 1SS131 [EA,EDI]
D509	ED-307572	D SILICON H 1SS131
DL500	EH-390730J	DL EFD-JF124A13J
DL501	EH-394838J	DL ADL-FN1344Q [EM]
FR201	ER-400959J	R FUSE V T05 ERD2FCV 1/4W1200G
FR350	ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K
FR501	ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K
IC1	EI-389622J	IC L5631
IC101	EI-310036	IC TC4066BP
IC201	EI-400756J	IC NJM4558L-B
IC301A	EI-408849J	IC MN675201 XDL JFLSYP1 [EXCEPT F490EM]
IC301B	EI-408850J	IC MN675201 XDJ JFXSYP1 [F490EM]
IC302	EI-353421	IC BA6229
IC303	EI-373980	IC BA15218N
IC304	EI-360586	IC LA6358S [F490EM]
IC400	EI-403234J1	IC LA7391A
IC401	EI-394856J	IC LC8992
IC402	EI-373981J1	IC BA10393N
IC403	EI-356457	IC BU4013B
L1	EO-373260	COIL FIX 1 LAP02 F05 1R0K [EA]
L101	EO-345881	COIL FIX 1 EL0606SKI 101J
L103	EO-356722	COIL FIX 1 LAP02 F05 6R8K
L301	EO-381196J	COIL FIX 1 EL0405SKI 470K
L302	EO-345881	COIL FIX 1 EL0606SKI 101J
L303	EO-354600	COIL FIX 1 LAP02 F05 101K
L401	EO-354600	COIL FIX 1 LAP02 F05 101K
L402	EO-357508	COIL FIX 1 LAP02 F05 151K
L403	EO-381192J	COIL FIX 1 EL0405SKI 270K

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
L404	EO-345880	COIL FIX 1 EL0606SKI 820J	TR413	ET-354415	TR DTA144ES
L405	EO-354600	COIL FIX 1 LAP02 F05 101K	TR414	ET-388338J	TR 2SB1425 S,E
L406	EO-354600	COIL FIX 1 LAP02 F05 101K	TR415	ET-353899	TR 2SA1317 S,T,U
L410	EO-345874	COIL FIX 1 EL0606SKI 330J	TR417	ET-360399	TR DTC114TS
L470	EO-356722	COIL FIX 1 LAP02 F05 6R8K	TR420	ET-354414	TR DTC144ES
L472	EO-345880	COIL FIX 1 EL0606SKI 820J	TR421	ET-364040	TR UN421D
L474	EO-388161J	COIL FIX 1 EL0405SKI 560K	TR423	ET-356336	TR DTA114ES
L500	EO-345880	COIL FIX 1 EL0606SKI 820J	TR424	ET-388338J	TR 2SB1425 S,E
L501	EO-353900	COIL FIX 1 LAP02 F05 150K	TR425	ET-354414	TR DTC144ES
L502	EO-345880	COIL FIX 1 EL0606SKI 820J			[EM]
L503	EO-353900	COIL FIX 1 LAP02 F05 150K	TR470	ET-353899	TR 2SA1317 S,T,U
L504	EO-353900	COIL FIX 1 LAP02 F05 150K	TR471	ET-353899	TR 2SA1317 S,T,U
		[EM]	TR501	ET-353897	TR DTC114ES
L505	EO-345880	COIL FIX 1 EL0606SKI 820J	TR502	ET-360646	TR DTA143ES
L506	EO-345880	COIL FIX 1 EL0606SKI 820J			[EM]
L507	EO-392817J	COIL FIX 1 EL0405SKI 1R2K	TR503	ET-397160J	TR 2SC3330 R,S,T,U,V
L508	EO-403937J	COIL FIX 1 EL0405RA T05 4R7J	TR504	ET-397160J	TR 2SC3330 R,S,T,U,V
L509	EO-345880	COIL FIX 1 EL0606SKI 820J			[EM]
L510	EO-403270J	COIL FIX 1 EL0405RA T05 101J	TR505	ET-397160J	TR 2SC3330 R,S,T,U,V
L511	EO-381195J	COIL FIX 1 EL0405SKI 331K			[EM]
L512	EO-381197J	COIL FIX 1 EL0405SKI 471K	TR506	ET-397160J	TR 2SC3330 R,S,T,U,V
L570	EO-345880	COIL FIX 1 EL0606SKI 820J	TR507	ET-397160J	TR 2SC3330 R,S,T,U,V
L590	EO-387802J	COIL FIX 1 EL0405SKI 330K	TR508	ET-356336	TR DTA114ES
		[EM]	TR509	ET-397160J	TR 2SC3330 R,S,T,U,V
MD1A	BV-387610J	RF CONVERTER YAA21-0453 EA	TR510	ET-397160J	TR 2SC3330 R,S,T,U,V
		[EA]	TR511	ET-397160J	TR 2SC3330 R,S,T,U,V
MD1B	BV-404007J	RF CONVERTER MDLK6E766A EDI	TR512	ET-397160J	TR 2SC3330 R,S,T,U,V
		[EDI]	TR513	ET-356336	TR DTA114ES
MD1C	BV-387611J	RF CONVERTER YAA21-0454 EV			[EDI,EM]
		[EM]	TR514	ET-354414	TR DTC144ES
PJ101	EJ-387614J	PIN J T6353-ABCB YL BK 4P			[EDI,EM]
R214	ER-403405J	R OMF H S12 FS 1W R75J	TR515	ET-397160J	TR 2SC3330 R,S,T,U,V
TR1	ET-353899	TR 2SA1317 S,T,U	TR570	ET-397160J	TR 2SC3330 R,S,T,U,V
TR2	ET-375777	TR 2SC2926S P,Q	TR571	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-353899	TR 2SA1317 S,T,U	TR572	ET-354414	TR DTC144ES
TR4	ET-353899	TR 2SA1317 S,T,U	TR573	ET-354414	TR DTC144ES
TR5	ET-353899	TR 2SA1317 S,T,U	VR301	EV-405665J	R S-FIX H T05 KV5F637T 0.1W333
TR7	ET-353899	TR 2SA1317 S,T,U	VR401	EV-405657J	R S-FIX H T05 KV5F637T 0.1W103
TR8	ET-354414	TR DTC144ES	VR402	EV-404300J	R S-FIX H T05 KV5F637T 0.1W472
TR9	ET-354414	TR DTC144ES	VR403	EV-405659J	R S-FIX H T05 KV5F637T 0.1W682
TR11	ET-353899	TR 2SA1317 S,T,U	VR404	EV-405665J	R S-FIX H T05 KV5F637T 0.1W333
TR12	ET-397160J	TR 2SC3330 R,S,T,U,V	WF201	EW-404138J1	CORD KX MA-POW L=225 12P
TR13	ET-353899	TR 2SA1317 S,T,U	X301	EI-389640J	OSC X'TAL HC-49/U 8000KHZ
TR15	ET-353897	TR DTC114ES	X500	EI-381632J	OSC X'TAL 86686 4.433619MHZ
TR17	ET-397160J	TR 2SC3330 R,S,T,U,V	1A	BV-403236J1	VIF UNIT KX EA
TR18	ET-397160J	TR 2SC3330 R,S,T,U,V			[EA]
TR19	ET-354414	TR DTC144ES	1B	BV-403963J	VIF UNIT KX EDI
		[EA,EM]			[EDI]
TR101	ET-354414	TR DTC144ES	1C	BV-403239J1	VIF UNIT KX EM
TR102	ET-356336	TR DTA114ES			[EM]
TR103	ET-354414	TR DTC144ES	2A	EE-408417J	TV TUNER VTSS6AZV EA
TR104	ET-353899	TR 2SA1317 S,T,U			[EA]
TR105	ET-353899	TR 2SA1317 S,T,U	2B	EE-408471J	TV TUNER ENV-77890F2 SK
TR107	ET-397160J	TR 2SC3330 R,S,T,U,V			[EDI]
TR109	ET-397160J	TR 2SC3330 R,S,T,U,V	2C	EE-405638J	TV TUNER VTSS6CZ EM
TR202	ET-356336	TR DTA114ES			[EM]
TR203	ET-397160J	TR 2SC3330 R,S,T,U,V	3A	SP-388307J	PANEL REAR JACK EA
TR205	ET-388338J	TR 2SB1425 S,E			[EA,EM]
TR210	ET-405622J	TR 2SD2061 E,F	3B	SP-404013J	PANEL REAR JACK EDI (2)
TR301	ET-354414	TR DTC144ES			[EDI]
TR302	ET-400218J	TR 2SC1740S R,S			
TR303	ET-363953	TR DTA114TS			
		[EM]			
TR304	ET-354415	TR DTA144ES			
TR305	ET-354414	TR DTC144ES			
TR306	ET-354414	TR DTC144ES			
TR307	ET-373985	TR DTA144TS			
TR308	ET-373985	TR DTA144TS			
TR309	ET-373985	TR DTA144TS			
TR310	ET-354414	TR DTC144ES			
TR313	ET-354414	TR DTC144ES			
TR401	ET-356336	TR DTA114ES			
TR402	ET-354414	TR DTC144ES			
TR404	ET-354364	TR DTC143TS			
TR406	ET-397160J	TR 2SC3330 R,S,T,U,V			
TR407	ET-353899	TR 2SA1317 S,T,U			
TR408	ET-354414	TR DTC144ES			
TR409	ET-360399	TR DTC114TS			
TR410	ET-354414	TR DTC144ES			
TR411	ET-360399	TR DTC114TS			

9. MAIN (B) P.C BOARD

Ref.No.	Part No.	Description
D601	ED-307572	D SILICON H 1SS131
D603	ED-307572	D SILICON H 1SS131 [EDI,EM]
D801	ED-307572	D SILICON H 1SS131
D901	ED-307572	D SILICON H 1SS131 [F490EM]
D902	ED-307572	D SILICON H 1SS131 [F490EM]
FL701	EH-366894	FILTER CE SFE-4.16MB 4.16MHZ
FL801A	EO-388362J	COIL OSC 1 V1102 [EXCEPT F490EM]
FL801B	EO-388363J	COIL OSC 1 V1105-1 [F490EM]
L601	EO-345881	COIL FIX 1 EL0606SKI 101J
L602	EO-345876	COIL FIX 1 EL0606SKI 470J
L603	EO-351866	COIL FIX 1 LAP02 F05 330K [EDI,EM]
L604	EO-351866	COIL FIX 1 LAP02 F05 330K
L605	EO-345881	COIL FIX 1 EL0606SKI 101J
L701	EO-345881	COIL FIX 1 EL0606SKI 101J [EM]
L702	EO-345881	COIL FIX 1 EL0606SKI 101J [EM]
L801	EO-390717J	COIL FIX 1 LHL06TB T05 103J
L802	EO-390716J	COIL FIX 1 LHL06TB T05 272J
L901	EO-345881	COIL FIX 1 EL0606SKI 101J [F490EM]
IC601	EI-405722J	IC UPD6450CX-515
IC602	EI-403469J	IC MM1068XS
IC701	EI-366892	IC BA7025L [EM]
IC702	EI-200573	IC TC4053BP [EM]
IC801	EI-388360J	IC BA7765AS
IC901	EI-386468J	IC BA3308 [F490EM]
IC902	EI-310036	IC TC4066BP [F490EM]
TR601	ET-353899	TR 2SA1317 S,T,U
TR602	ET-354414	TR DTC144ES
TR603	ET-397160J	TR 2SC3330 R,S,T,U,V
TR604	ET-397160J	TR 2SC3330 R,S,T,U,V [EDI,EM]
TR605	ET-356336	TR DTA114ES [EDI,EM]
TR606	ET-356336	TR DTA114ES [EDI,EM]
TR607	ET-353899	TR 2SA1317 S,T,U
TR608	ET-389803J	TR 2SA933S R,S
TR609	ET-354414	TR DTC144ES [EDI,EM]
TR701	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR702	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR751	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR752	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR753	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR754	ET-397160J	TR 2SC3330 R,S,T,U,V [EM]
TR801	ET-397160J	TR 2SC3330 R,S,T,U,V
TR803	ET-354414	TR DTC144ES [F490EM]
TR901	ET-354414	TR DTC144ES [F490EM]
TR902	ET-354414	TR DTC144ES [F490EM]
TR903	ET-397160J	TR 2SC3330 R,S,T,U,V [F490EM]
TR904	ET-389803J	TR 2SA933S R,S [F490EM]
VC601	EC-394757J	C S-FIX H T05 VCT51F 5.5-30
VL701	EO-366893	COIL VARI 1 21D6 8.20MH [EM]
VR801	EV-403967J	R S-FIX V T05EVNDCAA03 0.1W332
VR802A	EV-403968J	R S-FIX V T05EVNDCAA03 0.1W473 [EXCEPT F490EM]

Ref.No.	Part No.	Description
VR802B	EV-405263J	R S-FIX V T05EVNDCAA03 0.1W104 [F490EM]
X601	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ
X602	EI-403467J	OSC CE CSB500F40 15.680KHZ

10. PRE AMP P.C BOARD

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
D101	ED-405247J	D ZENER H MTZJ2.7A T26 [F490EM]
FL101	EO-388349J	COIL OSC 1 V1105-2 [F490EM]
IC1	EI-387586J	IC BA7244BS
L1	EO-376600	COIL FIX 1 LF-5.0S F05 101K
L2	EO-376858	COIL FIX 1 LF-5.0S F05 560K
L3	EO-376857	COIL FIX 1 LF-5.0S F05 5R6K
L4	EO-376606	COIL FIX 1 LF-5.0S F05 180K
L5	EO-376603	COIL FIX 1 LF-5.0S F05 150K
L6	EO-381193J	COIL FIX 1 EL0405SKI 271K
L7	EO-376860	COIL FIX 1 LF-5.0S F05 820K
L8	EO-345880	COIL FIX 1 EL0606SKI 820J
L9	EO-376614	COIL FIX 1 LF-5.0S F05 220K
L10	EO-345880	COIL FIX 1 EL0606SKI 820J
L11	EO-345880	COIL FIX 1 EL0606SKI 820J
L12	EO-376859	COIL FIX 1 LF-5.0S F05 8R2K
L13	EO-381195J	COIL FIX 1 EL0405SKI 331K
L14A	EO-376607	COIL FIX 1 LF-5.0S F05 181K [EXCEPT F440EM]
L14B	EO-376605	COIL FIX 1 LF-5.0S F05 151K [F440EM]
L15	EO-376612	COIL FIX 1 LF-5.0S F05 680K
L16	EO-376600	COIL FIX 1 LF-5.0S F05 101K
L101	EO-390716J	COIL FIX 1 LHL06TB T05 272J [F490EM]
PS1	EJ-403389J	SOCKET HOUSING 5062-30-10-18
TH1	EX-405691J	THERMISTOR NTH5D332KA
TR1	ET-353899	TR 2SA1317 S,T,U
TR2	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-360399	TR DTC114TS [EM]
TR4	ET-360399	TR DTC114TS
TR5	ET-364040	TR UN421D
TR6	ET-354414	TR DTC144ES [EDI,EM]
TR7	ET-397160J	TR 2SC3330 R,S,T,U,V
TR8	ET-397160J	TR 2SC3330 R,S,T,U,V
TR9	ET-397160J	TR 2SC3330 R,S,T,U,V
TR10	ET-353897	TR DTC114ES
TR11	ET-353899	TR 2SA1317 S,T,U
TR12	ET-353899	TR 2SA1317 S,T,U
TR13	ET-364040	TR UN421D
TR14	ET-397160J	TR 2SC3330 R,S,T,U,V
TR15	ET-354364	TR DTC143TS [EDI,EM]
TR16	ET-354414	TR DTC144ES
TR17	ET-364040	TR UN421D
TR18	ET-353897	TR DTC114ES
TR19	ET-354414	TR DTC144ES
TR21	ET-397160J	TR 2SC3330 R,S,T,U,V
TR22	ET-360399	TR DTC114TS
TR23	ET-354414	TR DTC144ES
TR101	ET-397160J	TR 2SC3330 R,S,T,U,V [F490EM]
VR1	EV-390157J	R S-FIX V KVSF639A 0.10W 102
VR2	EV-390157J	R S-FIX V KVSF639A 0.10W 102
VR3	EV-405248J	R S-FIX V T05EVNDCAA03 0.1W471
VR4	EV-405248J	R S-FIX V T05EVNDCAA03 0.1W471
WP1	EW-403386J1	CORD FFC P1.25 L=230 18P

11. OPERATION (A) P.C BOARD (EXCEPT F490EM)

Ref.No.	Part No.	Description
D3	ED-307572	D SILICON H 1SS131 [EA]
D5	ED-307572	D SILICON H 1SS131 [EM]
D10	ED-403279J	D ZENER H UTZJ9.1B
D11	ED-403278J	D ZENER H UTZJ7.5B
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
D17	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-307572	D SILICON H 1SS131
D41	ED-307572	D SILICON H 1SS131 [EA,EM]
D42	ED-307572	D SILICON H 1SS131 [EM]
D43	ED-307572	D SILICON H 1SS131 [EA]
D44	ED-307572	D SILICON H 1SS131 [EDI]
FL1	EM-401077J	IND FL FV496G CHARACTER
IB1	EH-403945J	COMP R RGL9X 103J
IB2	EH-383083J	COMP R RGL3X 103J
IC1	EI-408391J1	IC UPD75217CW-146 JBXOPP2
IC2	EI-394467J	IC X24C01P
IC3	EI-373955	IC S-8053ALR
PH1	ET-381637J2	DETECTOR GP1U521X
PS1	EJ-389815J	SOCKET HOUSING 5062-30-10-15
PS2	EJ-387497J	SOCKET HOUSING 5062-30-10-13
SW1A	ES-408405J	SW TACT EVQ 235 09K T05 [F440EA,RESET]
SW1B	ES-408404J	SW TACT EVQ 235 07K T05 [EDI/EM,RESET]
SW2	ES-349474	SW TACT SKHHAM004A
SW3	ES-349474	SW TACT SKHHAM004A
SW4	ES-349474	SW TACT SKHHAM004A
SW5	ES-349474	SW TACT SKHHAM004A
SW6	ES-349474	SW TACT SKHHAM004A
SW7	ES-349474	SW TACT SKHHAM004A
SW8	ES-349474	SW TACT SKHHAM004A
SW9	ES-349474	SW TACT SKHHAM004A
SW12	ES-349474	SW TACT SKHHAM004A
TR1	ET-354414	TR DTC144ES
WP1	EW-394623J	CORD FFC P1.25 L=110 15P
WP2	EW-389313J	CORD FFC P1.25 L=120 13P
X1	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
X2	EI-368825M	OSC X'TAL C-002RX 32.768KHZ

12. OPERATION (G) -A P.C BOARD (F490EM)

Ref.No.	Part No.	Description
D5	ED-307572	D SILICON H 1SS131
D10	ED-403279J	D ZENER H UTZJ9.1B
D11	ED-403731J	D ZENER H UTZJ8.2C
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
D28	ED-307572	D SILICON H 1SS131
D41	ED-307572	D SILICON H 1SS131
D42	ED-307572	D SILICON H 1SS131

Ref.No.	Part No.	Description
D45	ED-307572	D SILICON H 1SS131
D46	ED-307572	D SILICON H 1SS131
D47	ED-307572	D SILICON H 1SS131
D48	ED-307572	D SILICON H 1SS131
FL1	EM-403367J	IND FL FV506G CHARACTER
IB1	EH-403945J	COMP R RGL9X 103J
IB2	EH-383083J	COMP R RGL3X 103J
IC1	EI-408397J	IC UPD75217CW-147 JFXOPP1
IC2	EI-408393J	IC ST24C01B1
IC3	EI-373955	IC S-8053ALR
PJ1	EJ-408399J	PHONE J 2P YKB21-5165 3.5
PJ2	EJ-387622J	PIN J JPJ5022-01-010 1P
PJ3	EJ-387623J	PIN J JPJ5022-01-040 1P
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
SW4	ES-349474	SW TACT SKHHAM004A
SW5	ES-349474	SW TACT SKHHAM004A
SW6	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
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
TR1	ET-354414	TR DTC144ES
WP1	EW-394623J	CORD FFC P1.25 L=110 15P
WP2	EW-389313J	CORD FFC P1.25 L=120 13P
X1	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
X2	EI-368825M	OSC X'TAL C-002RX 32.768KHZ

13. OPERATION (G) - B P.C BOARD (F490EM)

Ref.No.	Part No.	Description
PH1	ET-381637J2	DETECTOR GP1U521X
SW3	ES-349474	SW TACT SKHHAM004A

14. VIF UNIT (EA,EM)

Ref.No.	Part No.	Description
CF1A	EH-714626	FILTER SAW SAF36.9MZW70Z [EA]
CF1B	EH-730625J	FILTER CE SAF38.9MZW70Z [EM]
CF2	EH-373920	FILTER CE SFE5.5MB
CF3A	EH-368948	FILTER CE TPS5.5MW 5.5000MHZ [EA]
CF3B	EH-729986J	FILTER CE TPS5.5MB2 [EM]
IC1	EI-368809	IC M51496P
L1	EO-387800J	COIL FIX 1 EL0405SKI 2R7K
L3	EO-725953J	COIL SIF DET 6F16263A2
L4A	EO-714616	COIL RF 6F16115B3 [EA]
L4B	EO-714614	COIL RF 6F16115B1 [EM]
L5A	EO-714613	COIL RF 6R16113B3 [EA]
L5B	EO-714610	COIL RF 6F16113B1 [EM]
L6	EO-387799J	COIL FIX 1 EL0405SKI 180K
L7	EO-387799J	COIL FIX 1 EL0405SKI 180K
L8	EO-387802J	COIL FIX 1 EL0405SKI 330K
Q1	ET-725820J	TR CHIP 2SC2735J
Q2	ET-713614	TR CHIP 2SA1235 E,F
VR2	EV-404298J	R S-FIX H T05 KVVF637T 0.1W222
VR51	EV-405658J	R S-FIX H T05 KVVF637T 0.1W223

15. VIF UNIT (EDI)

Ref.No.	Part No.	Description
CF1	EH-368816	FILTER CE SAF38.0MZA70Z [EDI]
CF2	EH-376338	FILTER CE TPS6.5MB [EDI]
CF3	EH-373919	FILTER CE TPS6.0MB [EDI]
CF51	EH-388287J	FILTER CE SFS6.5MX 6.500MHZ [EDI]
CF52	EH-381309J	FILTER CE SFS6.0MD 6.000MHZ [EDI]
CF53	EH-780128	FILTER CE SFE 6.5MB [EDI]
IC1	EI-368809	IC M51496P
L1	EO-387782J	COIL FIX 1 EL0405SKI 2R2K
L2	EO-725954J	COIL SIF DET 6F16263A3
L3	EO-714614	COIL RF 6F16115B1
L4	EO-714610	COIL RF 6F16113B1
L5	EO-397238J	COIL FIX 1 EL0405SKI 6R8K
L6	EO-387798J	COIL FIX 1 EL0405SKI 150K
L51	EO-396361J	COIL FIX 1 EL0405SKI 8R2K
L52	EO-387803J	COIL FIX 1 EL0405SKI 221K
Q1	ET-725820J	TR CHIP 2SC2735J
Q2	ET-713614	TR CHIP 2SA1235 E,F
Q3	ET-370819	TR.CHIP 2SC3052
Q4	ET-713614	TR CHIP 2SA1235 E,F
Q51	ET-370819	TR.CHIP 2SC3052
Q52	ET-370819	TR.CHIP 2SC3052
VR1	EV-405658J	R S-FIX H T05 KVSF637T 0.1W223
VR2	EV-404298J	R S-FIX H T05 KVSF637T 0.1W222
X51	EI-368829	OSC CE CSB512P

16. POWER SUPPLY P.C BOARD (EA,EDI)

Ref.No.	Part No.	Description
C1	EC-406634J	C EC V SXE12 222M 25.0DC
C2	EC-363490	C EC V CUT SME 222M 16.0DC
C3	EC-406635J	C EC V SXE16 222M 35.0DC
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-511907	D SILICON 1N4002 100/1.0A
D10	*ED-511907	D SILICON 1N4002 100/1.0A
D11	*ED-511907	D SILICON 1N4002 100/1.0A
D12	*ED-511907	D SILICON 1N4002 100/1.0A
D13	ED-405373J	D ZENER H MTZJ16A T26
D14	ED-404032J	D ZENER H UTZJ39A
D15	ED-405524J	D ZENER H MTZJ36A T26
D16	*ED-404029J	D ZENER H UTZJ10B T26
D17	ED-511907	D SILICON 1N4002 100/1.0A
D18	ED-511907	D SILICON 1N4002 100/1.0A
FR1	*ER-408375J	R FUSE V T05RF25SCPVT1/4WR12K
FR2	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR3	*ER-408375J	R FUSE V T05RF25SCPVT1/4WR12K
FR4	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR5	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G
TR1	*ET-381175J	TR 2SD1856
TR2	*ET-366365	TR 2SB1185 E,F
TR3	*ET-405622J	TR 2SD2061 E,F
TR4	*ET-405622J	TR 2SD2061 E,F
TR5	*ET-405622J	TR 2SD2061 E,F
TR6	*ET-391025J	TR 2SD2012
TR7	*ET-366365	TR 2SB1185 E,F

17. POWER SUPPLY (1) P.C BOARD (EM)

Ref.No.	Part No.	Description
C1	EC-408376J	C EC V CUT KMG 102M 50.0DC
C2	EC-408377J	C EC V CUT KMG 222M 50.0DC
C3	EC-408426J	C EC V F05 LXF8 121M 50.0DC
C4	EC-403878J	C EC V T05 LXF8 271M 16.0DC
C14	EC-408426J	C EC V F05 LXF8 121M 50.0DC
C15	EC-403878J	C EC V T05 LXF8 271M 16.0DC
C20	EC-403880J	C EC V T05 LXF8 221M 25.0DC
C23	EC-404197J	C EC V T05 SXE8 330M 80.0DC
C24	EC-404197J	C EC V T05 SXE8 330M 80.0DC
C101	*EC-389414J	C CE V DE7 B102K 400AC
D3	*ED-511907	D SILICON 1N4002 100/1.0A
D4	*ED-511907	D SILICON 1N4002 100/1.0A
D6	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D8	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D11	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D16	ED-307572	D SILICON H 1SS131
D17	*ED-511907	D SILICON 1N4002 100/1.0A
D18	*ED-511907	D SILICON 1N4002 100/1.0A
D19	ED-404032J	D ZENER H UTZJ39A
D20	ED-405524J	D ZENER H MTZJ36A T26
D27	ED-408807J	D ZENER H HZS12C3
D28	ED-391005J	D ZENER H HZS12B1
D54	ED-307572	D SILICON H 1SS131
D55	ED-307572	D SILICON H 1SS131
D57	ED-405264J	D ZENER H UTZJ10C
D58	ED-405264J	D ZENER H UTZJ10C
D71	*ED-511907	D SILICON 1N4002 100/1.0A
D72	*ED-511907	D SILICON 1N4002 100/1.0A
D73	*ED-511907	D SILICON 1N4002 100/1.0A
D74	*ED-511907	D SILICON 1N4002 100/1.0A
D101	*ED-511907	D SILICON 1N4002 100/1.0A
D102	ED-403947J	D ZENER H UTZJ22C T26
D103	ED-307572	D SILICON H 1SS131
D104	ED-404031J	D ZENER H UTZJ11B T26
D106	ED-401046J	D SILICON RL104F-E T26 400/1A
D107	ED-403948J	D ZENER H UTZJ16C T26
D108	ED-405265J	D ZENER H UTZJ36C
D109	ED-405265J	D ZENER H UTZJ36C
FR1	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR2	*ER-408375J	R FUSE V T05RF25SCPVT1/4WR12K
FR3	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G
FR4	*ER-400689J	R FUSE V T05 RF25SCVTP1/4WR68K
FR5	*ER-405441J	R FUSE V T05 RF25SCVTP1/4WR27K
FR101	*ER-400689J	R FUSE V T05 RF25SCVTP1/4WR68K
FR102	*ER-401039J	R FUSE V T05 ERD2FCV 1/4W 4R7J
L1	EO-408381J	COIL FIX 2 C-5344-40 560K
L2	EO-408381J	COIL FIX 2 C-5344-40 560K
L3	EO-408381J	COIL FIX 2 C-5344-40 560K
L4	EO-408381J	COIL FIX 2 C-5344-40 560K
L6	EO-386541J	COIL FIX 1 ELF1010SKI 101K
L9	EO-393769J	COIL FIX 1 LHL06TB T05 471K
R14	ER-393768J	R OMF H S15 FS 2W 270J
RL101	*EQ-400153J	RELAY POW AG2013 1TR 12V
TR1	*ET-366365	TR 2SB1185 E,F
TR5	*ET-366365	TR 2SB1185 E,F
TR6	ET-356817	TR 2SB891 Q,R
TR9	*ET-366365	TR 2SB1185 E,F
TR12	*ET-405622J	TR 2SD2061 E,F
TR13	*ET-366365	TR 2SB1185 E,F
TR14	ET-360399	TR DTC114TS
TR15	ET-360399	TR DTC114TS
TR16	ET-397160J	TR 2SC3330 R,S,T,U,V
TR101	ET-389803J	TR 2SA933S R,S
TR102	ET-400218J	TR 2SC1740S R,S
TR103	ET-366168	TR 2SD1292 Q,R
TR104	ET-366365	TR 2SB1185 E,F
TR106	ET-389803J	TR 2SA933S R,S
TR107	*ET-404195J	TR 2SC4486 S,T T05

18. POWER SUPPLY (2) P.C BOARD (EM)

Ref.No.	Part No.	Description
D7	ED-405264J	D ZENER H UTZJ10C
D10	ED-307572	D SILICON H 1SS131
D50	ED-403732J	D ZENER H UTZJ5.6A
D56	ED-391005J	D ZENER H HZS12B1
IC1	*EI-381575J	IC BA6121
L10	EO-380091J1	COIL FIX 2 C-5293-01 560K
TR2	*ET-405622J	TR 2SD2061 E,F
TR3	ET-389803J	TR 2SA933S R,S
TR4	*ET-366168	TR 2SD1292 Q,R
TR7	*ET-405622J	TR 2SD2061 E,F
TR8	ET-389803J	TR 2SA933S R,S
TR50	ET-353897	TR DTC114ES

19. DIODE P.C BOARD (EM)

Ref.No.	Part No.	Description
D60	*ED-379298	D SILICON DBA20B 100/2.0A

20. SUB P.C BOARD (EM)

Ref.No.	Part No.	Description
D1	ED-401099J	D SCHOTTKY MA719 T26 40/0.5A
D2	ED-401099J	D SCHOTTKY MA719 T26 40/0.5A
D3	ED-403267J	D ZENER H MTZJ3.3B T26
TR1	ET-366365	TR 2SB1185 E,F
TR2	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-397160J	TR 2SC3330 R,S,T,U,V

21. JOG/SHUTTLE P.C BOARD (F490EM ONLY)

Ref.No.	Part No.	Description
SW1	ES-403377J	SW ROTARY ENCODER SRGPHJ

22. FINAL ASSEMBLY

Ref.No.	Part No.	Description
1A	BD-409284J	PANEL FRONT VS-F440EOH PART [F440EA,F440EDI]
1B	BD-409299J1	PANEL FRONT VS-F441EA PART [F441EA]
1C	BD-409298J	PANEL FRONT VS-F440EM PART [F440EM]
1D	BD-409126J1	PANEL FRONT VS-F490EM PART [F490EM]
2A	SE-409197J	MASK CASSETTE (J) VS-F440 (E2) [F400EA,F400EDI]
2B	SE-409265J	MASK CASSETTE VS-F441 (E) [F441EA]
2C	SE-409196J	MASK CASSETTE (J) VS-F440 (E1) [F440EM]
2D	SE-409104J1	MASK CASSETTE VS-F490 (E2) [F490EM]
3	ZG-387370J	SP MASK
4	SP-409113J	DOOR (E2) [F490EM]
5	SZ-404290J	MINI SIDE LOCK [F490EM]
6	SC-387353J	COVER TRANS
7	ZS-378341	PLX BID30X12STL CMT
8	SA-387507J	FOOT SX
9	ZS-358936	ST BID30X06STL CMT
11	ZG-387505J	PLATE EARTH
12	ZS-373962	PLX BID40X10STL CMT
13	ZG-387354J	PLATE EARTH (2)
14	SP-407479J	COVER UPPER JX
15	ZS-385611J	DT BID26X06STL BNI
16	ZS-391046J	PLX BID26X10STL BNI
17	ZS-659046	PAN26X10STL CMT
18	SK-407561J	KNOB SHUTTLE [F490EM]
19A	*BT-410487J	TRANS POW V1130 EA [EM]
19B	*BT-410489J	TRANS POW V1130 ES [EDI]
19C	*BT-410488J	TRANS POW V1130 EM [EM]
20A	*EW-404003M	AC CORD 200 SA-2 WITH TUBE S [EA]
20B	*EW-404002M	AC CORD 200 SE-1 WITH TUBE E [EDI,EM]
21A	SZ-401874J	STOPPER MASK [EXCEPT F490EM]
21B	SZ-407583J	STOPPER MASK (2) [F490EM]
22	SK-407562J	KNOB JOG [F490EM]
26A	SE-409191J	WINDOW FLD (3) [F440EM]
26B	SE-409119J	WINDOW FLD (2) [F490EM]

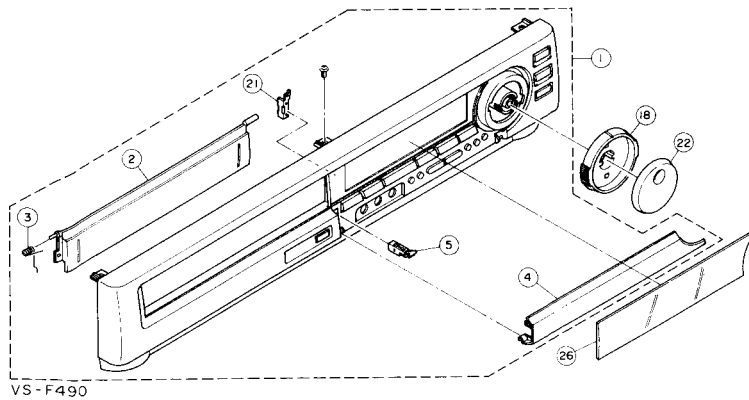
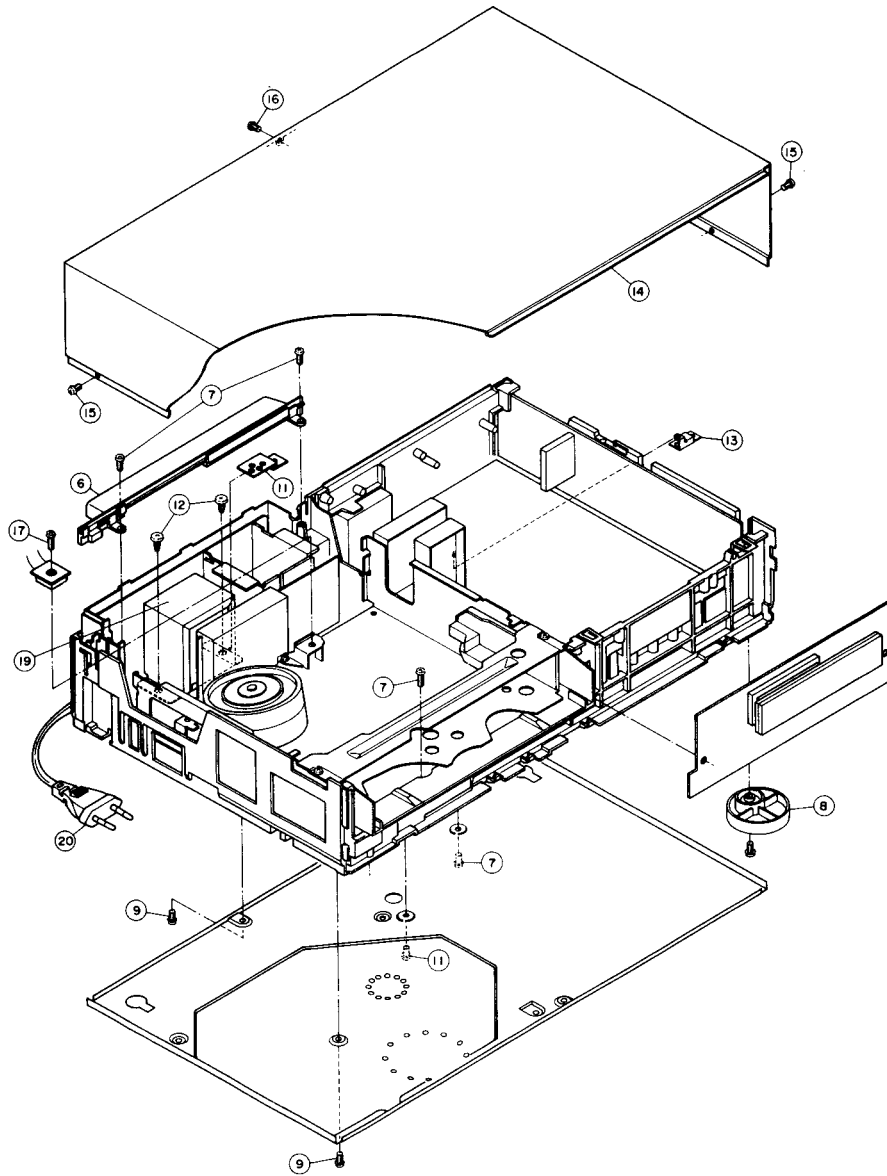
NOTE:

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.

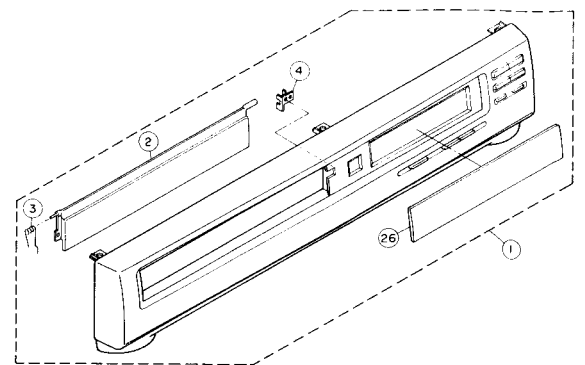
23. ACCESSARY

Ref.No.	Part No.	Description
1	EW-348414	CORD PAL
2A	AV-B1038A010A	REMOCON BLK RC-V250E [EXCEPT F490EM]
2B	AV-B1043A010E	REMOCON BLK RC-V452E [F490EM]

FINAL ASSEMBLY BLOCK



VS-F490



VS-F440/F441

6-2. MODEL VS-F440EK, F480EK-V, F490ES

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
1	AV-B1038A010A	REMOCON BLK RC-V250E [440EK]	55	ED-403278J	D ZENER H UTZJ7.5B
2	AV-B1040A010E	REMOCON BLK RC-V451E [480EK]	56	ED-404086J	D ZENER H UTZJ7.5C
3	AV-B1043A010E	REMOCON BLK RC-V452E [490ES]	57	ED-403731J	D ZENER H UTZJ8.2C
4	BB-V1130A020H	MECHA DECK BLK F260EA	58	ED-403279J	D ZENER H UTZJ9.1B
5	BB-V1130A020C	MECHA DECK BLK F410EK	59	EE-387607J1	TV TUNER TERB1-008B EK [EK]
6	BL-V1102A140A	ARM LOADING BLK 425EA	60	EE-387603J1	TV TUNER TERE1-019B EO [ES]
7	BL-387458J2	CAPSTAN BRAKE PART	61	EH-383083J	COMP R RGL3X 103J
8	BL-V1123A050A	TENSION ARM BLK F600EA	62	EH-403945J	COMP R RGL9X 103J
9	BL-V1102A050A	TENSION ARM BLK 425EA	63	EH-394838J	DL ADL-FN1344Q [480EK,490ES]
10	BM-400682J1	MOTOR DFX-67B3VWB1 [CAPSTAN MOTOR]	64	EH-390730J	DL EFD-JF124A13J
11	BM-401296J1	MOTOR E20EL89 [DRUM MOTOR]	65	EH-373921	FILTER CE SFE6.0MB
12	BM-387503J	MOTOR PART [LOADING MOTOR]	66	EH-373919	FILTER CE TPS6.0MB
13	*BT-403872J	TRANS POW V1130 EK [440EK]	67	EH-394684J	FILTER EMI ZBF503D-00TA T05
14	*BT-403883J	TRANS POW V1130 EOG-V [480EK]	68	EH-714627	FILTER SAW SAF38.9MW70Z [ES]
15	*BT-410489J	TRANS POW V1130 ES [490ES]	69	EH-714628	FILTER SAW SAF39.5MZ70Z [EK]
16	BV-V1102A150A	CASSETTE LOAD BLK 425EA	70	EI-394680J	IC AN3171K
17	BV-V1102A070A	LEADER S BLK 425EA	71	EI-373981J1	IC BA10393N
18	BV-V1102A080A	LEADER T BLK 425EA	72	EI-373980	IC BA15218N
19	BV-V1123A410B	LOWER DRUM BLK X450EGN	73	EI-386468J	IC BA3308 [480EK,490ES]
20	BV-403410J	RF CONVERTER MDLK6B733A EK [EK]	74	*EI-381575J	IC BA6121
21	BV-403411J	RF CONVERTER MDLK6B734A ES [ES]	75	EI-353421	IC BA6229
22	BV-V1123A420B	UPPER DRUM BLK X450EGN	76	EI-387586J	IC BA7244BS
23	BV-403238J1	VIF UNIT KX EK [EK]	77	EI-388360J	IC BA7765AS
24	BV-403242J1	VIF UNIT KX ES [ES]	78	EI-356457	IC BU4013B
25	EA-387496J	PC (#) SENSOR	79	EI-360586	IC LA6358S
26	*EC-391843J	C DOUBLE FYD0H223Z 5.5DC	80	EI-403234J1	IC LA7391A
27	EC-363490	C EC V CUT SME 222M 16.0DC	81	EI-394856J	IC LC8992
28	EC-406634J	C EC V SXE12 222M 25.0DC	82	EI-394861J	IC LVA521S-2 [EK]
29	EC-406635J	C EC V SXE16 222M 35.0DC	83	EI-401050J	IC LVA523SA2
30	EC-394757J	C S-FIX H T05 VCT51F 5.5-30	84	EI-389622J	IC L5631
31	ED-390011J	D LED GL451 INFRARED [D1]	85	EI-387019J	IC MC1377P
32	ED-390012J	D LED GL4800 INFRARED [D2]	86	EI-403469J	IC MM1068XS
33	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1	87	EI-408850J	IC MN675201 XDJ JFXSYP1 [480EK,490ES]
34	*ED-379298	D SILICON DBA20B 100/2.0A	88	EI-408849J	IC MN675201 XDL JFLSYP1 [440EK]
35	ED-366443	D SILICON H MA700FA5 F10	89	EI-408434J	IC MV1815-1BA
36	ED-307572	D SILICON H 1SS131	90	EI-368809	IC M51496P
37	ED-511907	D SILICON 1N4002 100/1.0A	91	EI-403964J	IC NJM2245L [EK]
38	ED-391005J	D ZENER H HZS12B1	92	EI-400756J	IC NJM4558L-B
39	ED-396057J	D ZENER H HZS16-2	93	EI-373955	IC S-8053ALR
40	ED-396060J	D ZENER H HZS18-2	94	EI-408393J	IC ST24C01B1
41	ED-397233J	D ZENER H HZS5C3	95	EI-405224J	IC ST24C02
42	ED-387919J	D ZENER H HZS6A1L	96	EI-310036	IC TC4066BP [EK]
43	ED-405373J	D ZENER H MTZJ16A T26	97	EI-405722J	IC UPD6450CX-515
44	ED-404170J	D ZENER H MTZJ2.0A T26 [480EK]	98	EI-408391J1	IC UPD75217CW-146 JBXOPP2
45	ED-405247J	D ZENER H MTZJ2.7A T26 [F490ES]	99	EI-408397J	IC UPD75217CW-147 JFXOPP1
46	ED-403267J	D ZENER H MTZJ3.3B T26	100	EI-410521J	IC UPD75218CW-014 JXPDC1
47	ED-405524J	D ZENER H MTZJ36A T26	101	EI-410125J	IC V53C464AP-80
48	ED-403724J	D ZENER H UTZJ10A	102	EI-403467J	OSC CE CSB500F40 15.680KHZ
49	*ED-404029J	D ZENER H UTZJ10B T26	103	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
50	ED-405264J	D ZENER H UTZJ10C	104	EI-368825M	OSC X'TAL C-002RX 32.768KHZ
51	ED-403725J	D ZENER H UTZJ12C [440EK]	105	EI-408433J	OSC X'TAL HC-43/U 27750KHZ
52	ED-404032J	D ZENER H UTZJ39A	106	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ
53	ED-403732J	D ZENER H UTZJ5.6A	107	EI-389640J	OSC X'TAL HC-49/U 8000KHZ
54	ED-403729J	D ZENER H UTZJ5.6C	108	EI-394673J	OSC X'TAL HC-49/U 8867.238KHZ
			109	EI-381632J	OSC X'TAL 86686 4.433619MHZ
			110	EM-401077J	IND FL FV496G CHARACTER
			111	EM-403367J	IND FL FV506G CHARACTER [ES]
			112	EM-408395J	IND FL FV562G CHARACTER [EK]

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
113	EO-388362J	COIL OSC 1 V1102 [440EK]	185	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
114	EO-388363J	COIL OSC 1 V1105-1 [480EK,490EK]	186	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
115	EO-388349J	COIL OSC 1 V1105-2 [F490ES]	187	MZ-387332J	GEAR WORM WHEEL
116	*ER-400959J	R FUSE V T05 ERD2FCV 1/4W1200G	188	MZ-401686J1	GEAR WORM (2)
117	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G	※ Parts list for HEAD DRUM, MECHA. (1) and MECHA. (2) BLOCK refer to 6-1. EA/EDI/EM list (P24 to P28).		
118	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K			
119	*ER-405441J	R FUSE V T05 RF25SCVTP1/4WR27K			
120	*ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K			
121	ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K [480EK]			
122	*ER-400689J	R FUSE V T05 RF25SCVTP1/4WR68K			
123	*ER-408375J	R FUSE V T05RF25SCPVTP1/4WR12K			
124	ER-403405J	R OMF H S12 FS 1W R75J			
125	ES-373099	SW LEAF MTS10110MPC1			
126	ES-387465J	SW MODE SELECT MMS00070ZLBO [SW1]			
127	ES-403377J	SW ROTARY ENCODER SRGPHJ			
128	ES-408404J	SW TACT EVQ 235 07K T05			
129	ES-349474	SW TACT SKHHAM004A			
130	ET-381637J2	DETECTOR GP1U521X			
131	ET-403420J	DETECTOR SG-105LF [PH1][PH2]			
132	ET-356336	TR DTA114ES			
133	ET-354415	TR DTA144ES			
134	ET-373985	TR DTA144TS			
135	ET-353897	TR DTC114ES			
136	ET-360399	TR DTC114TS			
137	ET-354364	TR DTC143TS			
138	ET-354414	TR DTC144ES [EK]			
139	ET-361490	TR PHOTO PN268 [TR1]			
140	ET-390010J	TR PHOTO PT4800 [TR2]			
141	ET-390009J	TR PHOTO PT493F [TR4]			
142	ET-364040	TR UN421D			
143	ET-353899	TR 2SA1317 S,T,U			
144	ET-389803J	TR 2SA933S R,S			
145	*ET-366365	TR 2SB1185 E,F			
146	ET-388338J	TR 2SB1425 S,E			
147	ET-356817	TR 2SB891 Q,R			
148	ET-375777	TR 2SC2926S P,Q			
149	ET-397160J	TR 2SC3330 R,S,T,U,V			
150	*ET-404195J	TR 2SC4486 S,T T05			
151	*ET-381175J	TR 2SD1856			
152	*ET-405622J	TR 2SD2061 E,F			
153	EX-405691J	THERMISTOR NTH5D332KA			
154	HE-390013J	HEAD E HVFME0020A			
155	HR-405340J	HEAD COMBO HVMZA1121A			
156	MB-387289J	BELT CAPSTAN			
157	MB-407117J	BELT CAPSTAN (3)			
158	MI-387294J	IDLER PART			
159	MI-404552J	IDLER (2) PART			
160	ML-391745J3	ARM DAMPER			
161	ML-387350J1	ARM LID OPENER			
162	ML-387423J	ARM LOADING BRAKE			
163	ML-387277J3	ARM REVIEW PART			
164	ML-387402J1	LEVER TRIGGER			
165	ML-387316J	MAIN BRAKE (S) PART			
166	ML-387318J	MAIN BRAKE (T) PART			
167	ML-387321J	REVIEW BRAKE PART			
168	ML-407119J	REVIEW BRAKE (3) PART			
169	ML-387324J1	SLIDER BRAKE PART			
170	ML-404567J1	SLIDER BRAKE (3) PART			
171	ML-404944J	SLIDER TRIGGER (2)			
172	MP-404852J	PINCH ROLLER (2) PART			
173	MR-387406J	HOLDER THRUST WORM			
174	MR-391968J	PULLEY TRIGGER (2)			
175	MR-387286J1	ROLLER IMPEDANCE			
176	MT-390954J1	DISK (2)PART			
177	MT-404547J	DISK (3) PART			
178	MZ-387298J3	DISK CLUTCH PART			
179	MZ-404577J	DISK CLUTCH (2) PART			
180	MZ-387331J	GEAR CAM SLIDER			
181	MZ-404538J	GEAR CAM SLIDER (3)			
182	MZ-387335J	GEAR EJECT			
183	MZ-387333J	GEAR FRONT LOADING			
184	MZ-404995J	GEAR MID PART			

7. P.C BOARD BLOCK

Ref.No.	Part No.	Description
1A	BA-V1150Q600C	FRPC (#) MAIN (PAL) BLKF440EK/FR
1B	BA-V1152Q600A	FRPC (#) MAIN (PAL) BLKF480EK-V/FR
1C	BA-V1152A600F	PC (#) MAIN (PAL) BLK F490ES
2A	BA-V1132A610F	PC PRE AMP BLK F400EA [F440EK]
2B	BA-V1132A610H	PC PRE AMP BLK F430ES [F480EK,F490ES]
3A	BA-V1146Q640B	FRPC OPERATION (A) BLK F440EK/FR
3B	BA-V1152Q630A	FRPC—OPERATION G BLK F480EK-V/ FR
3C	BA-V1152A630G	PC—OPERATION (G) BLK F490ES
4A	BA-V1130A500B	PC POWER BLK F200EK [F440EK]
4B	BA-V1135A500C	PC (#) POWER EOG BLK F480EK-V [F480EK]
4C	BA-V1130A500A	PC POWER BLK F220EDG [F490ES]

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

- MAIN (A) P.C BOARD
- MAIN (B) P.C BOARD
- VIF UNIT

PC (#) OPERATION P.C BOARD CONSISTS OF FOLLOWING P.C BOARD.

- OPERATION-A P.C BOARD
- OPERATION-B P.C BOARD
- POWER SUPPLY (1) P.C BOARD
- POWER SUPPLY (2) P.C BOARD
- DIODE P.C BOARD

8. MAIN (A) P.C BOARD

Ref.No.	Part No.	Description
C369	*EC-391843J	C DOUBLE FYD0H223Z 5.5DC
DL500	EH-390730J	DL EFD-JF124A13J
D501	EH-394838J	DL ADL-FN1344Q [480EK,490ES]
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131 [ES]
D4	ED-307572	D SILICON H 1SS131 [ES]
D8	ED-403732J	D ZENER H UTZJ5.6A
D12	ED-405603J	D ZENER H MTZJ10B T26 [480EK]
D13	ED-405604J	D ZENER H MTZJ4.3C T26 [480EK]
D101	ED-403725J	D ZENER H UTZJ12C [440EK]
D102	ED-404170J	D ZENER H MTZJ2.0A T26 [480EK]
D201	ED-307572	D SILICON H 1SS131
D202	ED-307572	D SILICON H 1SS131
D203	ED-307572	D SILICON H 1SS131
D204	ED-397233J	D ZENER H HZSS5C3
D205	ED-403267J	D ZENER H MTZJ3.3B T26
D208	ED-307572	D SILICON H 1SS131
D209	ED-307572	D SILICON H 1SS131
D212	ED-511907	D SILICON 1N4002 100/1.0A
D213	ED-511907	D SILICON 1N4002 100/1.0A
D301	ED-307572	D SILICON H 1SS131
D302	ED-307572	D SILICON H 1SS131
D303	ED-404086J	D ZENER H UTZJ7.5C
D304	ED-403724J	D ZENER H UTZJ10A
D305	ED-307572	D SILICON H 1SS131
D306	ED-307572	D SILICON H 1SS131
D307	ED-307572	D SILICON H 1SS131
D308	ED-307572	D SILICON H 1SS131
D309	ED-307572	D SILICON H 1SS131
D310	ED-307572	D SILICON H 1SS131 [480EK,490ES]
D401	ED-307572	D SILICON H 1SS131
D402	ED-307572	D SILICON H 1SS131
D403	ED-307572	D SILICON H 1SS131 [480EK/490ES]
D404	ED-307572	D SILICON H 1SS131
D405	ED-307572	D SILICON H 1SS131
D406	ED-366443	D SILICON H MA700FA5 F10
D408	ED-307572	D SILICON H 1SS131
D410	ED-307572	D SILICON H 1SS131
D411	ED-307572	D SILICON H 1SS131
D412	ED-403729J	D ZENER H UTZJ5.6C
D502	ED-307572	D SILICON H 1SS131
D503	ED-307572	D SILICON H 1SS131
D504	ED-307572	D SILICON H 1SS131
D505	ED-307572	D SILICON H 1SS131
D506	ED-307572	D SILICON H 1SS131
D507	ED-307572	D SILICON H 1SS131
D509	ED-307572	D SILICON H 1SS131
FR201	*ER-400959J	R FUSE V T05 ERD2FCV 1/4W1200G
FR202	ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K [480EK]
FR350	*ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K
FR501	*ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K
IC1	EI-389622J	IC L5631
IC101	EI-310036	IC TC4066BP [EK]
IC102	EI-394861J	IC LVA521S-2 [EK]
IC103	EI-403964J	IC NJM2245L [EK]
IC201	EI-400756J	IC NJM4558L-B
IC301A	EI-408849J	IC MN675201 XDL JFLSYP1 [440EK]
IC301B	EI-408850J	IC MN675201 XDJ JFXSYP1 [480EK,490ES]
IC302	EI-353421	IC BA6229
IC303	EI-373980	IC BA15218N
IC304	EI-360586	IC LA6358S
IC400	EI-403234J1	IC LA7391A
IC401	EI-394856J	IC LC8992

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
IC402	EI-373981J1	IC BA10393N	TR109	ET-397160J	TR 2SC3330 R,S,T,U,V
IC403	EI-356457	IC BU4013B	TR110	ET-353899	TR 2SA1317 S,T,U
L1	EO-390998J	COIL FIX 1 LAP02 F05 R68K [EK]	TR202	ET-356336	TR DTA114ES
L101	EO-345881	COIL FIX 1 EL0606SKI 101J	TR203	ET-397160J	TR 2SC3330 R,S,T,U,V
L103	EO-356722	COIL FIX 1 LAP02 F05 6R8K	TR205	ET-388338J	TR 2SB1425 S,E
L301	EO-381196J	COIL FIX 1 EL0405SKI 470K	TR210	*ET-405622J	TR 2SD2061 E,F
L302	EO-345881	COIL FIX 1 EL0606SKI 101J	TR301	ET-354414	TR DTC144ES
L303	EO-354600	COIL FIX 1 LAP02 F05 101K	TR302	ET-397160J	TR 2SC3330 R,S,T,U,V
L401	EO-354600	COIL FIX 1 LAP02 F05 101K	TR303	ET-363953	TR DTA114TS
L402	EO-357508	COIL FIX 1 LAP02 F05 151K			[ES]
L403	EO-381192J	COIL FIX 1 EL0405SKI 270K	TR304	ET-354415	TR DTA144ES
L404	EO-345880	COIL FIX 1 EL0606SKI 820J	TR305	ET-354414	TR DTC144ES
L405	EO-354600	COIL FIX 1 LAP02 F05 101K	TR306	ET-354414	TR DTC144ES
L406	EO-354600	COIL FIX 1 LAP02 F05 101K	TR307	ET-373985	TR DTA144TS
L410	EO-345874	COIL FIX 1 EL0606SKI 330J	TR308	ET-373985	TR DTA144TS
L470	EO-356722	COIL FIX 1 LAP02 F05 6R8K	TR309	ET-373985	TR DTA144TS
L472	EO-345880	COIL FIX 1 EL0606SKI 820J	TR310	ET-354414	TR DTC144ES
L474	EO-388161J	COIL FIX 1 EL0405SKI 560K	TR313	ET-354414	TR DTC144ES
L500	EO-345880	COIL FIX 1 EL0606SKI 820J	TR401	ET-356336	TR DTA114ES
L501	EO-353900	COIL FIX 1 LAP02 F05 150K	TR402	ET-354414	TR DTC144ES
L502	EO-345880	COIL FIX 1 EL0606SKI 820J [480EK,490ES]	TR404	ET-354364	TR DTC143TS
L503	EO-353900	COIL FIX 1 LAP02 F05 150K [480EK,490ES]	TR406	ET-397160J	TR 2SC3330 R,S,T,U,V
L504	EO-353900	COIL FIX 1 LAP02 F05 150K [480EK,490ES]	TR407	ET-353899	TR 2SA1317 S,T,U
L505	EO-345880	COIL FIX 1 EL0606SKI 820J	TR408	ET-354414	TR DTC144ES
L506	EO-345880	COIL FIX 1 EL0606SKI 820J	TR409	ET-360399	TR DTC114TS
L507	EO-392817J	COIL FIX 1 EL0405SKI 1R2K	TR410	ET-354414	TR DTC144ES
L508	EO-403937J	COIL FIX 1 EL0405RA T05 4R7J	TR411	ET-360399	TR DTC114TS
L509	EO-345880	COIL FIX 1 EL0606SKI 820J	TR413	ET-354415	TR DTA144ES
L510	EO-403270J	COIL FIX 1 EL0405RA T05 101J	TR414	ET-388338J	TR 2SB1425 S,E
L511	EO-381195J	COIL FIX 1 EL0405SKI 331K	TR415	ET-353899	TR 2SA1317 S,T,U
L512	EO-381197J	COIL FIX 1 EL0405SKI 471K	TR417	ET-360399	TR DTC114TS
L570	EO-345880	COIL FIX 1 EL0606SKI 820J	TR420	ET-354414	TR DTC144ES
L590	EO-387802J	COIL FIX 1 EL0405SKI 330K [480EK,490ES]	TR421	ET-364040	TR UN421D
MD1A	BV-403410J	RF CONVERTER MDLK6B733A EK [EK]	TR423	ET-356336	TR DTA114ES
MD1B	BV-403411J	RF CONVERTER MDLK6B734A ES [ES]	TR424	ET-388338J	TR 2SB1425 S,E
PJ101A	EJ-405226J	PIN JACK T6572-ABBB YLW.RED 2P [EK]	TR425	ET-354414	TR DTC144ES
PJ101B	EJ-387614J	PIN J T6353-ABCB YL BK 4P [ES]	TR470	ET-353899	TR 2SA1317 S,T,U
PJ102	EJ-387613J	SOCKET M1812 21P [EK]	TR471	ET-353899	TR 2SA1317 S,T,U
PJ103	EJ-405225J	PIN J JPJ1018-01-030 WHITE 1P [EK]	TR501	ET-353897	TR DTC114ES
R214	ER-403405J	R OMF H S12 FS 1W R75J	TR502	ET-360646	TR DTA143ES
TR1	ET-353899	TR 2SA1317 S,T,U	TR503	ET-397160J	[480EK,490ES]
TR2	ET-375777	TR 2SC2926S P,Q	TR504	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-353899	TR 2SA1317 S,T,U			[480EK,490ES]
TR4	ET-353899	TR 2SA1317 S,T,U [ES]	TR505	ET-397160J	TR 2SC3330 R,S,T,U,V
TR5	ET-353899	TR 2SA1317 S,T,U [ES]	TR506	ET-397160J	[480EK,490ES]
TR7	ET-353899	TR 2SA1317 S,T,U [ES]	TR507	ET-397160J	TR 2SC3330 R,S,T,U,V
TR8	ET-354414	TR DTC144ES [ES]	TR508	ET-356336	TR DTA114ES
TR9	ET-354414	TR DTC144ES [ES]	TR509	ET-397160J	TR 2SC3330 R,S,T,U,V
TR11	ET-353899	TR 2SA1317 S,T,U	TR510	ET-397160J	TR 2SC3330 R,S,T,U,V
TR12	ET-397160J	TR 2SC3330 R,S,T,U,V	TR511	ET-397160J	TR 2SC3330 R,S,T,U,V
TR13	ET-353899	TR 2SA1317 S,T,U	TR512	ET-397160J	TR 2SC3330 R,S,T,U,V
TR15	ET-353897	TR DTC114ES	TR515	ET-397160J	TR 2SC3330 R,S,T,U,V
TR17	ET-397160J	TR 2SC3330 R,S,T,U,V	TR570	ET-397160J	TR 2SC3330 R,S,T,U,V
TR18	ET-397160J	TR 2SC3330 R,S,T,U,V	TR571	ET-397160J	TR 2SC3330 R,S,T,U,V
TR19	ET-354414	TR DTC144ES [EK]	TR572	ET-354414	TR DTC144ES
TR20	ET-405622J	TR 2SD2061 E,F [480EK,490ES]	TR573	ET-354414	TR DTC144ES
TR101	ET-354414	TR DTA114ES	VR301	EV-405665J	R S-FIX H T05 KVFSF637T 0.1W333
TR102	ET-356336	TR DTA114ES	VR401	EV-405657J	R S-FIX H T05 KVFSF637T 0.1W103
TR103	ET-354414	TR DTC144ES	VR402	EV-404300J	R S-FIX H T05 KVFSF637T 0.1W472
TR104	ET-353899	TR 2SA1317 S,T,U	VR403	EV-405659J	R S-FIX H T05 KVFSF637T 0.1W682
TR105	ET-353899	TR 2SA1317 S,T,U	VR404A	EV-405665J	R S-FIX H T05 KVFSF637T 0.1W333
TR107	ET-397160J	TR 2SC3330 R,S,T,U,V			[EK]
TR108	ET-356336	TR DTA114ES [EK]	VR404B	EV-405658J	R S-FIX H T05 KVFSF637T 0.1W223
			WF201	EW-404138J1	[ES]
			X301	EI-389640J	CORD KX MA-POW L=225 12P
			X500	EI-381632J	OSC XTAL HC-49/U 8000KHZ
			1A	BV-403238J1	OSC XTAL 86686 4.433619MHZ
					VIF UNIT KX EK
			1B	BV-403242J1	[EK]
					VIF UNIT KX ES
			2A	EE-387607J1	[ES]
					TV TUNER TERB1-008B EK
			2B	EE-387603J1	[EK]
					TV TUNER TERE1-019B EO
			3A	SP-404784J	[ES]
					PANEL REAR JACK EK (B)
					[EK]
			3B	SP-388306J	PANEL REAR JACK ES
					[ES]

9. MAIN (B) P.C BOARD

Ref.No.	Part No.	Description
D601	ED-307572	D SILICON H 1SS131
D801	ED-307572	D SILICON H 1SS131
D901	ED-307572	D SILICON H 1SS131
D902	ED-307572	D SILICON H 1SS131 [480EK,490ES]
FL801A	EO-388362J	COIL OSC 1 V1102 [440EK]
FL801B	EO-388363J	COIL OSC 1 V1105-1 [480EK,490EK]
IC601	EI-405722J	IC UPD6450CX-515
IC602	EI-403469J	IC MM1068XS
IC702	EI-200573	IC TC4053BP [480EK,490ES]
IC801	EI-388360J	IC BA7765AS
IC901	EI-386468J	IC BA3308 [480EK,490ES]
IC902	EI-310036	IC TC4066BP [480EK,490ES]
L601	EO-345881	COIL FIX 1 EL0606SKI 101J
L602	EO-345876	COIL FIX 1 EL0606SKI 470J
L604	EO-351866	COIL FIX 1 LAP02 F05 330K
L605	EO-345881	COIL FIX 1 EL0606SKI 101J
L701	EO-345881	COIL FIX 1 EL0606SKI 101J [480EK,490ES]
L702	EO-345881	COIL FIX 1 EL0606SKI 101J [480EK,490ES]
L801	EO-390717J	COIL FIX 1 LHL06TB T05 103J
L802	EO-390716J	COIL FIX 1 LHL06TB T05 272J
L901	EO-345881	COIL FIX 1 EL0606SKI 101J [480EK,490ES]
TR601	ET-353899	TR 2SA1317 S,T,U
TR602	ET-354414	TR DTC144ES
TR603	ET-397160J	TR 2SC3330 R,S,T,U,V
TR607	ET-353899	TR 2SA1317 S,T,U
TR608	ET-389803J	TR 2SA933S R,S
TR701	ET-397160J	TR 2SC3330 R,S,T,U,V [480EK,490ES]
TR751	ET-397160J	TR 2SC3330 R,S,T,U,V [480EK,490ES]
TR752	ET-397160J	TR 2SC3330 R,S,T,U,V [480EK,490ES]
TR753	ET-397160J	TR 2SC3330 R,S,T,U,V [480EK,490ES]
TR754	ET-397160J	TR 2SC3330 R,S,T,U,V [480EK,490ES]
TR801	ET-397160J	TR 2SC3330 R,S,T,U,V
TR803	ET-354414	TR DTC144ES [490ES]
TR901	ET-354414	TR DTC144ES [480EK,490ES]
TR902	ET-354414	TR DTC144ES [480EK,490ES]
TR903	ET-397160J	TR 2SC3330 R,S,T,U,V [480EK,490ES]
TR904	ET-389803J	TR 2SA933S R,S [480EK,490ES]
VC601	EC-394757J	C S-FIX H T05 VCT51F 5.5-30
VR801	EV-403967J	R S-FIX V T05EVNDCAA03 0.1W332
VR802A	EV-403968J	R S-FIX V T05EVNDCAA03 0.1W473 [440EK]
VR802B	EV-405263J	R S-FIX V T05EVNDCAA03 0.1W104 [480EK,490ES]
X601	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ
X602	EI-403467J	OSC CE CSB500F40 15.680KHZ

10. PRE AMP P.C BOARD

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
D101	ED-405247J	D ZENER H MTZJ2.7A T26 [F490ES]
FL101	EO-388349J	COIL OSC 1 V1105-2 [F490ES]
IC1	EI-387586J	IC BA7244BS
L1	EO-376600	COIL FIX 1 LF-5.0S F05 101K
L2	EO-376858	COIL FIX 1 LF-5.0S F05 560K
L3	EO-376857	COIL FIX 1 LF-5.0S F05 5R6K
L4	EO-376606	COIL FIX 1 LF-5.0S F05 180K
L5	EO-376603	COIL FIX 1 LF-5.0S F05 150K
L6	EO-381193J	COIL FIX 1 EL0405SKI 271K
L7	EO-376860	COIL FIX 1 LF-5.0S F05 820K
L8	EO-345880	COIL FIX 1 EL0606SKI 820J
L9	EO-376614	COIL FIX 1 LF-5.0S F05 220K
L10	EO-345880	COIL FIX 1 EL0606SKI 820J
L11	EO-345880	COIL FIX 1 EL0606SKI 820J
L12	EO-376859	COIL FIX 1 LF-5.0S F05 8R2K
L13	EO-381195J	COIL FIX 1 EL0405SKI 331K
L14	EO-376607	COIL FIX 1 LF-5.0S F05 181K
L15	EO-376612	COIL FIX 1 LF-5.0S F05 680K
L16	EO-376600	COIL FIX 1 LF-5.0S F05 101K
L101	EO-390716J	COIL FIX 1 LHL06TB T05 272J [F490ES]
PS1	EJ-403389J	SOCKET HOUSING 5062-30-10-18
TH1	EX-405691J	THERMISTOR NTH5D332KA
TR1	ET-353899	TR 2SA1317 S,T,U
TR2	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-360399	TR DTC114TS
TR4	ET-360399	TR DTC114TS
TR5	ET-364040	TR UN421D
TR6	ET-354414	TR DTC144ES [EK]
TR7	ET-397160J	TR 2SC3330 R,S,T,U,V
TR8	ET-397160J	TR 2SC3330 R,S,T,U,V
TR9	ET-397160J	TR 2SC3330 R,S,T,U,V
TR10	ET-353897	TR DTC114ES
TR11	ET-353899	TR 2SA1317 S,T,U
TR12	ET-353899	TR 2SA1317 S,T,U
TR13	ET-364040	TR UN421D
TR14	ET-397160J	TR 2SC3330 R,S,T,U,V
TR15	ET-354364	TR DTC143TS [EK]
TR16	ET-354414	TR DTC144ES
TR17	ET-364040	TR UN421D
TR18	ET-353897	TR DTC114ES
TR19	ET-354414	TR DTC144ES
TR21	ET-397160J	TR 2SC3330 R,S,T,U,V
TR22	ET-360399	TR DTC114TS
TR23	ET-354414	TR DTC144ES
TR101	ET-397160J	TR 2SC3330 R,S,T,U,V [490ES]
VR1	EV-390157J	R S-FIX V KVSF639A 0.10W 102
VR2	EV-390157J	R S-FIX V KVSF639A 0.10W 102
VR3	EV-405248J	R S-FIX V T05EVNDCAA03 0.1W471
VR4	EV-405248J	R S-FIX V T05EVNDCAA03 0.1W471
WP1	EW-403386J1	CORD FFC P1.25 L=230 18P

11. OPERATION (A) P.C BOARD (F440EK)

Ref.No.	Part No.	Description
D10	ED-403279J	D ZENER H UTZJ9.1B
D11	ED-403278J	D ZENER H UTZJ7.5B
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
D17	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-307572	D SILICON H 1SS131
D42	ED-307572	D SILICON H 1SS131
FL1	EM-401077J	IND FL FV496G CHARACTER
IB1	EH-403945J	COMP R RGL9X 103J
IB2	EH-383083J	COMP R RGL3X 103J
IC1	EI-408391J1	IC UPD75217CW-146 JBXOPP2
IC2	EI-408393J	IC ST24C01B1
IC3	EI-373955	IC S-8053ALR
PH1	ET-381637J2	DETECTOR GP1U521X
PS1	EJ-389815J	SOCKET HOUSING 5062-30-10-15
PS2	EJ-387497J	SOCKET HOUSING 5062-30-10-13
SW1	ES-408404J	SW TACT EVQ 235 07K T05
SW2	ES-349474	SW TACT SKHHAM004A
SW3	ES-349474	SW TACT SKHHAM004A
SW4	ES-349474	SW TACT SKHHAM004A
SW5	ES-349474	SW TACT SKHHAM004A
SW6	ES-349474	SW TACT SKHHAM004A
SW7	ES-349474	SW TACT SKHHAM004A
SW8	ES-349474	SW TACT SKHHAM004A
SW9	ES-349474	SW TACT SKHHAM004A
SW12	ES-349474	SW TACT SKHHAM004A
TR1	ET-354414	TR DTC144ES
WP1	EW-394623J	CORD FFC P1.25 L=110 15P
WP2	EW-389313J	CORD FFC P1.25 L=120 13P
X1	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
X2	EI-368825M	OSC X'TAL C-002RX 32.768KHZ

12. OPERATION (G) - A P.C BOARD (480EK/490ES)

Ref.No.	Part No.	Description
D2	ED-307572	D SILICON H 1SS131 [EK]
D5	ED-307572	D SILICON H 1SS131
D10	ED-403279J	D ZENER H UTZJ9.1B
D11	ED-403731J	D ZENER H UTZJ8.2C
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
D28	ED-307572	D SILICON H 1SS131
D32	ED-307572	D SILICON H 1SS131 [EK]
D42	ED-307572	D SILICON H 1SS131
D43	ED-307572	D SILICON H 1SS131 [ES]
D45	ED-307572	D SILICON H 1SS131
D46	ED-307572	D SILICON H 1SS131
D47	ED-307572	D SILICON H 1SS131
D48	ED-307572	D SILICON H 1SS131
D49	ED-307572	D SILICON H 1SS131 [EK]
FL1A	EM-408395J	IND FL FV562G CHARACTER [EK]
FL1B	EM-403367J	IND FL FV506G CHARACTER [ES]
IB1	EH-403945J	COMP R RGL9X 103J
IB2	EH-383083J	COMP R RGL3X 103J
IC1	EI-408397J	IC UPD75217CW-147 JFXOPP1
IC2	EI-408393J	IC ST24C01B1
IC3	EI-373955	IC S-8053ALR
PJ1	EJ-408399J	PHONE J 2P YKB21-5165 3.5
PJ2	EJ-387622J	PIN J JPJ5022-01-010 1P
PJ3	EJ-387623J	PIN J JPJ5022-01-040 1P
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
SW4	ES-349474	SW TACT SKHHAM004A
SW5	ES-349474	SW TACT SKHHAM004A
SW6	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
SW15	ES-349474	SW TACT SKHHAM004A [EK]
SW16	ES-349474	SW TACT SKHHAM004A
SW17	ES-349474	SW TACT SKHHAM004A
SW18	ES-349474	SW TACT SKHHAM004A
SW19	ES-349474	SW TACT SKHHAM004A
TR1	ET-354414	TR DTC144ES
WP1	EW-394623J	CORD FFC P1.25 L=110 15P
WP2	EW-389313J	CORD FFC P1.25 L=120 13P
X1	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
X2	EI-368825M	OSC X'TAL C-002RX 32.768KHZ

13. OPERATION (G) - B P.C BOARD (490EK/ 490ES)

Ref.No.	Part No.	Description
PH1	ET-381637J2	DETECTOR GP1U521X
SW3	ES-349474	SW TACT SKHHAM004A

14. VIF UNIT (EK,ES)

Ref.No.	Part No.	Description
CF1A	EH-714628	FILTER SAW SAF39.5M270Z [EK]
CF1B	EH-714627	FILTER SAW SAF38.9MW70Z [ES]
CF2	EH-373921	FILTER CE SFE6.0MB
CF3	EH-373919	FILTER CE TPS6.0MB
IC1	EI-368809	IC M51496P
L1	EO-387800J	COIL FIX 1 EL0405SKI 2R7K
L3	EO-725954J	COIL SIF DET 6F16263A3
L4	EO-714614	COIL RF 6F16115B1
L5	EO-714610	COIL RF 6F16113B1
L6	EO-387798J	COIL FIX 1 EL0405SKI 150K
L7	EO-387798J	COIL FIX 1 EL0405SKI 150K
L8	EO-387802J	COIL FIX 1 EL0405SKI 330K
Q1	ET-725820J	TR CHIP 2SC2735J
Q2	ET-713614	TR CHIP 2SA1235 E,F
VR2	EV-404298J	R S-FIX H T05 KVSF637T 0.1W222
VR51	EV-405658J	R S-FIX H T05 KVSF637T 0.1W223

15. POWER P.C BOARD (F440EK,F490ES)

Ref.No.	Part No.	Description
C1	EC-406634J	C EC V SXE12 222M 25.0DC
C2	EC-363490	C EC V CUT SME 222M 16.0DC
C3	EC-406635J	C EC V SXE16 222M 35.0DC
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-511907	D SILICON 1N4002 100/1.0A
D10	*ED-511907	D SILICON 1N4002 100/1.0A
D11	*ED-511907	D SILICON 1N4002 100/1.0A
D12	*ED-511907	D SILICON 1N4002 100/1.0A
D13	ED-405373J	D ZENER H MTZJ16A T26
D14	ED-404032J	D ZENER H UTZJ39A
D15	ED-405524J	D ZENER H MTZJ36A T26
D16	*ED-404029J	D ZENER H UTZJ10B T26
D17	ED-511907	D SILICON 1N4002 100/1.0A
D18	ED-511907	D SILICON 1N4002 100/1.0A
FR1	*ER-408375J	R FUSE V T05RF25SCPVT1/4WR12K
FR2	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR3	*ER-408375J	R FUSE V T05RF25SCPVT1/4WR12K
FR4	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR5	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G
TR1	*ET-381175J	TR 2SD1856
TR2	*ET-366365	TR 2SB1185 E,F
TR3	*ET-405622J	TR 2SD2061 E,F
TR4	*ET-405622J	TR 2SD2061 E,F
TR5	*ET-405622J	TR 2SD2061 E,F
TR6	*ET-405622J	TR 2SD2061 E,F
TR7	*ET-366365	TR 2SB1185 E,F

16. POWER SUPPLY (1) P.C BOARD (F480EK)

Ref.No.	Part No.	Description
C1	EC-408376J	C EC V CUT KMG 102M 50.0DC
C2	EC-408377J	C EC V CUT KMG 222M 50.0DC
C3	EC-408426J	C EC V F05 LXF8 121M 50.0DC
C4	EC-403878J	C EC V T05 LXF8 271M 16.0DC
C14	EC-408426J	C EC V F05 LXF8 121M 50.0DC
C15	EC-403878J	C EC V T05 LXF8 271M 16.0DC
C20	EC-403880J	C EC V T05 LXF8 221M 25.0DC
C23	EC-406639J	C EC V T05 LXF6 330M 63.0DC
C24	EC-406639J	C EC V T05 LXF6 330M 63.0DC
D3	*ED-511907	D SILICON 1N4002 100/1.0A
D4	*ED-511907	D SILICON 1N4002 100/1.0A
D6	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D8	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D11	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D16	ED-307572	D SILICON H 1SS131
D17	*ED-511907	D SILICON 1N4002 100/1.0A
D18	*ED-511907	D SILICON 1N4002 100/1.0A
D19	ED-404032J	D ZENER H UTZJ39A
D20	ED-405524J	D ZENER H MTZJ36A T26
D27	ED-396060J	D ZENER H HZS18-2
D28	ED-391005J	D ZENER H HZS12B1
D54	ED-307572	D SILICON H 1SS131
D55	ED-307572	D SILICON H 1SS131
D57	ED-405264J	D ZENER H UTZJ10C
D58	ED-405264J	D ZENER H UTZJ10C
D71	*ED-511907	D SILICON 1N4002 100/1.0A
D72	*ED-511907	D SILICON 1N4002 100/1.0A
D73	*ED-511907	D SILICON 1N4002 100/1.0A
D74	*ED-511907	D SILICON 1N4002 100/1.0A
FR1	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR2	*ER-408375J	R FUSE V T05RF25SCPVT1/4WR12K
FR3	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G
FR4	*ER-400689J	R FUSE V T05 RF25SCVTP1/4WR68K
FR5	*ER-405441J	R FUSE V T05 RF25SCVTP1/4WR27K
L1	EO-408381J	COIL FIX 2 C-5344-40 560K
L2	EO-408381J	COIL FIX 2 C-5344-40 560K
L3	EO-408381J	COIL FIX 2 C-5344-40 560K
L4	EO-408381J	COIL FIX 2 C-5344-40 560K
L6	EO-386541J	COIL FIX 1 ELF1010SKI 101K
L9	EO-393769J	COIL FIX 1 LHL06TB T05 471K
R14	ER-333091	R OMF H S20 FS 2W 360J
TR1	*ET-366365	TR 2SB1185 E,F
TR5	*ET-366365	TR 2SB1185 E,F
TR6	ET-356817	TR 2SB891 Q,R
TR9	*ET-366365	TR 2SB1185 E,F
TR12	*ET-405622J	TR 2SD2061 E,F
TR13	*ET-366365	TR 2SB1185 E,F
TR14	ET-360399	TR DTC114TS
TR15	ET-360399	TR DTC114TS
TR16	ET-397160J	TR 2SC3330 R,S,T,U,V

17. POWER SUPPLY (2) P.C BOARD (F480EK)

Ref.No.	Part No.	Description
D7	ED-405264J	D ZENER H UTZJ10C
D10	ED-307572	D SILICON H 1SS131
D50	ED-387919J	D ZENER H HZS6A1L
D56	ED-396057J	D ZENER H HZS16-2
IC1	*EI-381575J	IC BA6121
L10	EO-380091J1	COIL FIX 2 C-5293-01 560K
TR2	*ET-405622J	TR 2SD2061 E,F
TR3	ET-353899	TR 2SA1317 S,T,U
TR4	*ET-404195J	TR 2SC4486 S,T T05
TR7	*ET-405622J	TR 2SD2061 E,F
TR8	ET-353899	TR 2SA1317 S,T,U
TR50	ET-353897	TR DTC114ES

18. DIODE P.C BOARD (F480EK)

Ref.No.	Part No.	Description
D14	*ED-379298	D SILICON DBA20B 100/2.0A

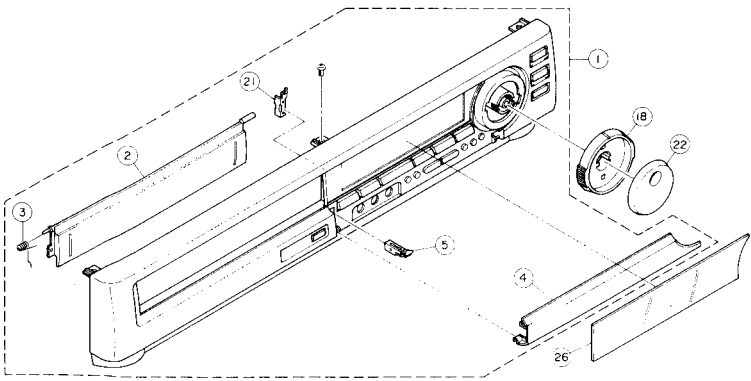
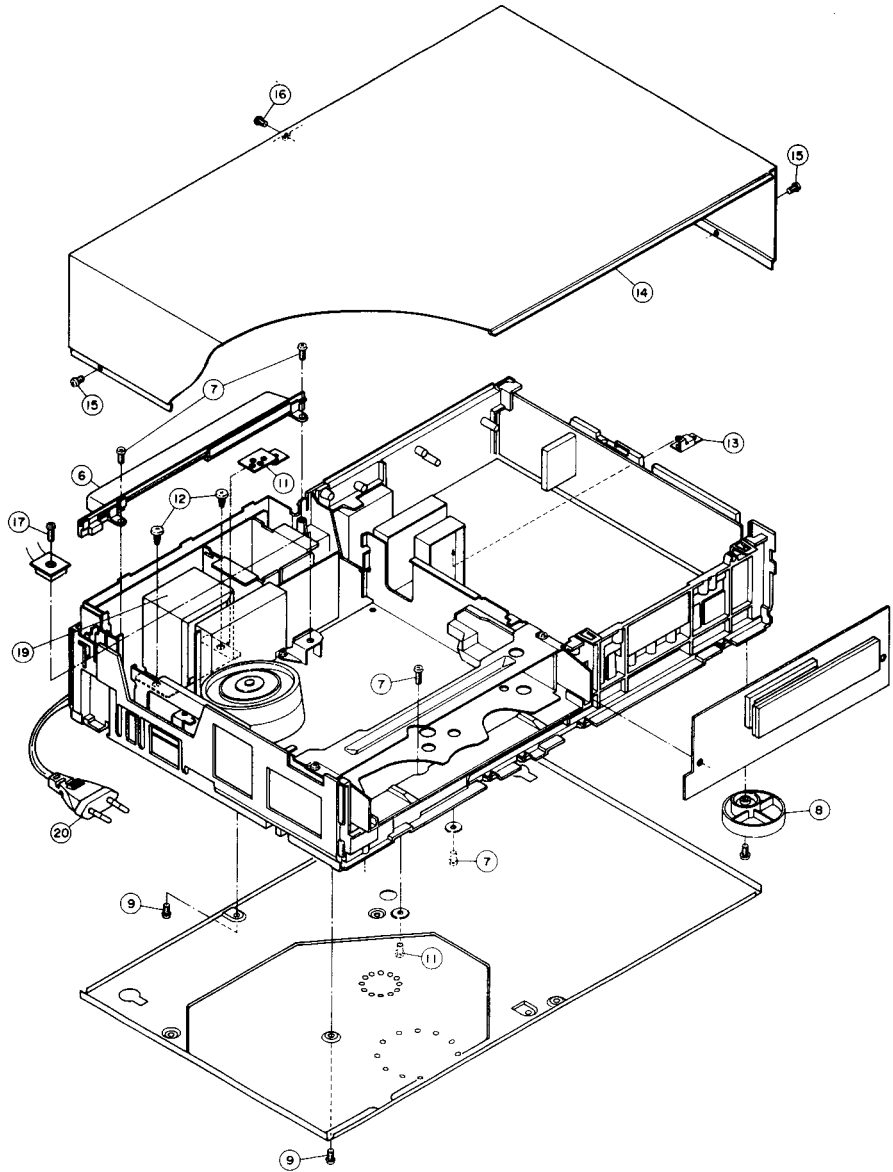
19. VPST PDC P.C BLOCK (F480EK ONLY)

Ref.No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D101	ED-307572	D SILICON H 1SS131
D201	ED-307572	D SILICON H 1SS131
FL101	EH-394684J	FILTER EMI ZBF503D-00TA T05
IB101	EH-383056J	COMP R RGL4X 103J
IB102	EH-386637J	COMP R RGL8X 103J
IC101	EI-410521J	IC UPD75218CW-014 JXPDC1
IC102	EI-405224J	IC ST24C02
IC103	EI-405224J	IC ST24C02
IC104	EI-408434J	IC MV1815-1BA
IC105	EI-410125J	IC V53C464AP-80
IC106	EI-401050J	IC LVA523SA2
IC107	EI-394680J	IC AN3171K
IC108	EI-387019J	IC MC1377P
L1	EO-345865	COIL FIX 1 EL0606SKI 100J
L101	EO-345865	COIL FIX 1 EL0606SKI 100J
L102	EO-345865	COIL FIX 1 EL0606SKI 100J
L121	EO-345865	COIL FIX 1 EL0606SKI 100J
L151	EO-410104J	COIL FIX 1 SPT0203SA T26 181J
L152	EO-410104J	COIL FIX 1 SPT0203SA T26 181J
L153	EO-345880	COIL FIX 1 EL0606SKI 820J
L154	EO-410099J	COIL FIX 1 SPT0203SA T26 470J
L155	EO-345865	COIL FIX 1 EL0606SKI 100J
L201	EO-345865	COIL FIX 1 EL0606SKI 100J
L202	EO-345865	COIL FIX 1 EL0606SKI 100J
L203	EO-345875	COIL FIX 1 EL0606SKI 390J
L204	EO-345873	COIL FIX 1 EL0606SKI 270J
L206	EO-345871	COIL FIX 1 EL0606SKI 180J
L207	EO-345874	COIL FIX 1 EL0606SKI 330J
L208	EO-345874	COIL FIX 1 EL0606SKI 330J
L251	EO-345865	COIL FIX 1 EL0606SKI 100J
TR1	ET-397160J	TR 2SC3330 R,S,T,U,V
TR101	ET-354415	TR DTA144ES
TR102	ET-397160J	TR 2SC3330 R,S,T,U,V
TR151	ET-397160J	TR 2SC3330 R,S,T,U,V
TR152	ET-353899	TR 2SA1317 S,T,U
TR153	ET-353899	TR 2SA1317 S,T,U
TR154	ET-397160J	TR 2SC3330 R,S,T,U,V
TR155	ET-397160J	TR 2SC3330 R,S,T,U,V
TR201	ET-397160J	TR 2SC3330 R,S,T,U,V
TR202	ET-397160J	TR 2SC3330 R,S,T,U,V
TR203	ET-397160J	TR 2SC3330 R,S,T,U,V
TR204	ET-353899	TR 2SA1317 S,T,U
TR208	ET-353899	TR 2SA1317 S,T,U
TR251	ET-397160J	TR 2SC3330 R,S,T,U,V
TR252	ET-353899	TR 2SA1317 S,T,U
TR253	ET-353899	TR 2SA1317 S,T,U
X101	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
X102	EI-408433J	OSC X'TAL HC-43/U 27750KHZ
X103	EI-394673J	OSC X'TAL HC-49/U 8867.238KHZ

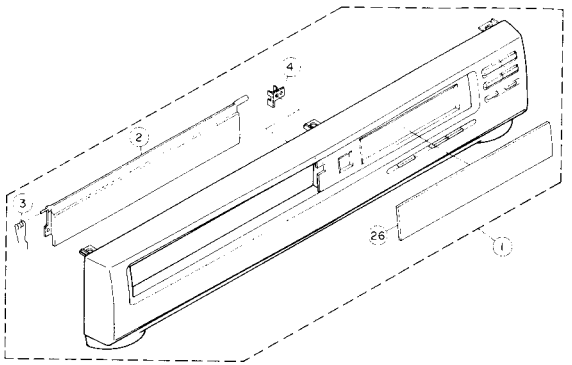
20. JOG/SHUTTLE P.C BOARD (480EK,490ES)

Ref.No.	Part No.	Description
SW1	ES-403377J	SW ROTARY ENCODER SRGPHJ

FINAL ASSEMBLY BLOCK



VS-F480/F490



VS-F440

21. FINAL ASSEMBLY

Ref.No.	Part No.	Description
1A	BD-409284J	PANEL FRONT VS-F440EOH PART [440EK]
1B	BD-409123J1	PANEL FRONT VS-F480EK-V PART [480EK]
1C	BD-409128J1	PANEL FRONT VS-F490ES PART [490ES]
2A	SE-409197J	MASK CASSETTE (J) VS-F440 (E2) [400EK]
2B	SE-409101J1	MASK CASSETTE VS-F480 (E) [480EK]
2C	SE-409104J1	MASK CASSETTE VS-F490 (E2) [490ES]
3	ZG-387370J	SP MASK
4A	SP-409166J	DOOR (E4) [480EK]
4B	SP-409133J	DOOR (E3) [490ES]
5	SZ-404290J	MINI SIDE LOCK [480EK,490ES]
6	SC-387353J	COVER TRANS
7	ZS-378341	PLX BID30X12STL CMT
8	SA-387507J	FOOT SX
9	ZS-358936	ST BID30X06STL CMT
11	ZG-387505J	PLATE EARTH
12	ZS-373962	PLX BID40X10STL CMT
13	ZG-387354J	PLATE EARTH (2)
14	SP-407479J	COVER UPPER JX
15	ZS-385611J	DT BID26X06STL BNI
16	ZS-391046J	PLX BID26X10STL BNI
17	ZS-659046	PAN26X10STL CMT
18	SK-407561J	KNOB SHUTTLE [480EK,490ES]
19A	*BT-403872J	TRANS POW V1130 EK [440EK]
19B	*BT-403883J	TRANS POW V1130 EOG-V [480EK]
19C	*BT-410489J	TRANS POW V1130 ES [490ES]
20A	*EW-404001M	AC CORD 200 VCTFK WITH TUBE B [EK]
20B	*EW-404002M	AC CORD 200 SE-1 WITH TUBE E [ES]
21A	SZ-401874J	STOPPER MASK [440EK]
21B	SZ-407583J	STOPPER MASK (2) [480EK,490ES]
22	SK-407562J	KNOB JOG [480EK,490ES]

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.

22. ACCESSARY

Ref.No.	Part No.	Description
1	EW-348414	CORD PAL
2A	AV-B1038A010A	REMOCON BLK RC-V250E [440EK]
2B	AV-B1040A010E	REMOCON BLK RC-V451E [480EK]
2C	AV-B1043A010E	REMOCON BLK RC-V452E [490ES]

6-3. VS-F440EDG/EO/EOG-V/EOH, F455EOH, F480EOG-V, F490EO/EOH, F497EOH

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
1	AV-B1038A010A	REMOCON BLK RC-V250E [440EDG/EO/EOH]	50	ED-405524J	D ZENER H MTZJ36A T26
2	AV-B1039A010A	REMOCON BLK RC-V251G [440EOG]	51	ED-405604J	D ZENER H MTZJ4.3C T26 [EO/EOG/EOH]
3	AV-B1042A010C	REMOCON BLK RC-V252E (G) [450/455EOH]	52	ED-403724J	D ZENER H UTZJ10A
4	AV-B1040A010F	REMOCON BLK RC-V451G [480EOG]	53	*ED-404029J	D ZENER H UTZJ10B T26
5	AV-B1043A010E	REMOCON BLK RC-V452E [490EO/EOH,497EOH]	54	ED-405264J	D ZENER H UTZJ10C
6	BB-V1130A020H	MECHA DECK BLK F260EA	55	ED-403726J	D ZENER H UTZJ30B [EOG]
7	BB-V1130A020C	MECHA DECK BLK F410EK	56	ED-404032J	D ZENER H UTZJ39A
8	BL-V1102A140A	ARM LOADING BLK 425EA	57	ED-405446J	D ZENER H UTZJ5.6B T26
9	BL-387458J2	CAPSTAN BRAKE PART	58	ED-403729J	D ZENER H UTZJ5.6C
10	BL-V1123A050A	TENSION ARM BLK F600EA	59	ED-403730J	D ZENER H UTZJ6.2A [EOG]
11	BL-V1102A050A	TENSION ARM BLK 425EA	60	ED-403278J	D ZENER H UTZJ7.5B
12	BM-400682J1	MOTOR DFX-67B3VWB1 [CAPSTAN MOTOR]	61	ED-404086J	D ZENER H UTZJ7.5C
13	BM-401296J1	MOTOR E20EL89 [DRUM MOTOR]	62	ED-403731J	D ZENER H UTZJ8.2C [EOH]
14	BM-387503J	MOTOR PART [LOADING MOTOR]	63	ED-403279J	D ZENER H UTZJ9.1B
15	*BT-410491J	TRANS POW V1130 EDG [EDG]	64	EE-408471J	TV TUNER ENV-77890F2 SK [EDG]
16	*BT-403873J	TRANS POW V1130 EO [EO,440-455EOH]	65	EE-387604J2	TV TUNER TERE1-007C EOG [EO/EOG]
17	*BT-403883J	TRANS POW V1130 EOG-V [EOG,490-497EOH]	66	EE-390143J2	TV TUNER TERE3-001C EOH [EOH]
18	BV-V1102A150A	CASSETTE LOAD BLK 425EA	67	EH-394838J	DL ADL-FN1344Q [490EOH]
19	BV-V1102A070A	LEADER S BLK 425EA	68	EH-390730J	DL EFD-JF124A13J
20	BV-V1102A080A	LEADER T BLK 425EA	69	EH-368816	FILTER CE SAF38.0MZA70Z
21	BV-V1123A410B	LOWER DRUM BLK X450EGN	70	EH-730625J	FILTER CE SAF38.9MZW70Z
22	BV-403409J	RF CONVERTER MDLK6D755A EO [EO/EOG/EOH]	71	EH-780128	FILTER CE SFE 6.5MB
23	BV-403408J	RF CONVERTER MDLK6E753A EDG [EDG]	72	EH-366894	FILTER CE SFE-4.16MB 4.16MHZ [EDG/EOG]
24	BV-V1123A420B	UPPER DRUM BLK X450EGN	73	EH-373920	FILTER CE SFE5.5MB
25	BV-403237J	VIF UNIT KX EDG [EDG]	74	EH-368827	FILTER CE SFS5.5MD 5.500MHZ
26	BV-403241J1	VIF UNIT KX EOG [EO/EOG]	75	EH-388287J	FILTER CE SFS6.5MX 6.500MHZ
27	BV-403240J1	VIF UNIT KX EOH [EOH]	76	EH-373918	FILTER CE TPS5.5MB
28	EA-387496J	PC (#) SENSOR	77	EH-368948	FILTER CE TPS5.5MW 5.500MHZ
29	*EC-391843J	C DOUBLE FYD0H223Z 5.5DC	78	EH-376338	FILTER CE TPS6.5MB
30	EC-363490	C EC V CUT SME 222M 16.0DC	79	EH-394684J	FILTER EMI ZBF503D-00TA T05
31	EC-406634J	C EC V SXE12 222M 25.0DC	80	EI-394680J	IC AN3171K
32	EC-406635J	C EC V SXE16 222M 35.0DC	81	EI-373981J1	IC BA10393N
33	ED-390011J	D LED GL451 INFRARED [D1]	82	EI-373980	IC BA15218N
34	ED-390012J	D LED GL4800 INFRARED [D2]	83	EI-386468J	IC BA3308
35	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1	84	*EI-381575J	IC BA6121
36	*ED-379298	D SILICON DBA20B 100/2.0A	85	EI-353421	IC BA6229
37	ED-366443	D SILICON H MA700FA5 F10	86	EI-366892	IC BA7025L [EDG/EOG]
38	ED-307572	D SILICON H 1SS131	87	EI-387586J	IC BA7244BS
39	ED-511907	D SILICON 1N4002 100/1.0A	88	EI-388360J	IC BA7765AS
40	ED-391005J	D ZENER H HZS12B1	89	EI-356457	IC BU4013B
41	ED-396057J	D ZENER H HZS16-2 [EOH]	90	EI-360586	IC LA6358S
42	ED-396060J	D ZENER H HZS18-2	91	EI-403234J1	IC LA7391A
43	ED-397233J	D ZENER H HZS5C3	92	EI-394856J	IC LC8992
44	ED-387919J	D ZENER H HZS6A1L	93	EI-394861J	IC LVA521S-2
45	ED-405603J	D ZENER H MTZJ10B T26 [EO/EOG/EOH]	94	EI-401050J	IC LVA523SA2
46	ED-405373J	D ZENER H MTZJ16A T26	95	EI-389622J	IC L5631
47	ED-404170J	D ZENER H MTZJ2.0A T26 [EOG/EOH]	96	EI-387019J	IC MC1377P
48	ED-405247J	D ZENER H MTZJ2.7A T26 [F480-F497]	97	EI-403469J	IC MM1068XS
49	ED-403267J	D ZENER H MTZJ3.3B T26	98	EI-408850J	IC MN675201 XDJ JFLSYP1
			99	EI-408849J	IC MN675201 XDL JFLSYP1
			100	EI-408434J	IC MV1815-1BA
			101	EI-368809	IC M51496P
			102	EI-403964J	IC NJM2245L [EOG/EOH]
			103	EI-400756J	IC NJM4558L-B
			104	EI-373955	IC S-8053ALR
			105	EI-385958J	IC SAA4700
			106	EI-408393J	IC ST24C01B1
			107	EI-405224J	IC ST24C02
			108	EI-310036	IC TC4066BP
			109	EI-405722J	IC UPD6450CX-515
			110	EI-408391J1	IC UPD75217CW-146 JBXOPP2

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
111	EI-408397J	IC UPD75217CW-147 JFXOPP1	180	ML-391745J3	ARM DAMPER
112	EI-410521J	IC UPD75218CW-014 JXPDC1	181	ML-387350J1	ARM LID OPENER
113	EI-410125J	IC V53C464AP-80	182	ML-387423J	ARM LOADING BRAKE
114	EI-403467J	OSC CE CSB500F40 15.680KHZ	183	ML-387277J3	ARM REVIEW PART
115	EI-368829	OSC CE CSB512P	184	ML-387402J1	LEVER TRIGGER
116	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ	185	ML-387316J	MAIN BRAKE (S) PART
117	EI-368825M	OSC X'TAL C-002RX 32.768KHZ	186	ML-387318J	MAIN BRAKE (T) PART
118	EI-408433J	OSC X'TAL HC-43/U 27750KHZ	187	ML-387321J	REVIEW BRAKE PART
119	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ	188	ML-407119J	REVIEW BRAKE (3) PART
120	EI-389640J	OSC X'TAL HC-49/U 8000KHZ	189	ML-387324J1	SLIDER BRAKE PART
121	EI-394673J	OSC X'TAL HC-49/U 8867.238KHZ	190	ML-404567J1	SLIDER BRAKE (3) PART
122	EI-381632J	OSC X'TAL 86686 4.433619MHZ	191	ML-404944J	SLIDER TRIGGER (2)
123	EM-401077J	IND FL FV496G CHARACTER	192	MP-404852J	PINCH ROLLER (2) PART
124	EM-403367J	IND FL FV506G CHARACTER	193	MR-387406J	HOLDER THRUST WORM
125	EO-388362J	COIL OSC 1 V1102	194	MR-391968J	PULLEY TRIGGER (2)
126	EO-388363J	COIL OSC 1 V1105-1	195	MR-387286J1	ROLLER IMPEDANCE
127	EO-388349J	COIL OSC 1 V1105-2 [F480-F497]	196	MT-390954J1	DISK (2) PART
128	ER-331188	R FUSE H S10 ERD2FC 1/4W 8R2J	197	MT-404547J	DISK (3) PART
129	*ER-400959J	R FUSE V T05 ERD2FCV 1/4W1200G	198	MZ-387298J3	DISK CLUTCH PART
130	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G	199	MZ-404577J	DISK CLUTCH (2) PART
131	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K	200	MZ-387331J	GEAR CAM SLIDER
132	*ER-405441J	R FUSE V T05 RF25SCVTP1/4WR27K	201	MZ-404538J	GEAR CAM SLIDER (3)
133	*ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K	202	MZ-387335J	GEAR EJECT
134	*ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K [EO/EOG/EOH]	203	MZ-387333J	GEAR FRONT LOADING
135	*ER-400689J	R FUSE V T05 RF25SCVTP1/4WR68K	204	MZ-404995J	GEAR MID PART
136	*ER-408375J	R FUSE V T05RF25SCPVT1/4WR12K	205	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
137	ER-403405J	R OMF H S12 FS 1W R75J	206	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
138	ES-373099	SW LEAF MTS10110MPC1	207	MZ-387332J	GEAR WORM WHEEL
139	ES-387465J	SW MODE SELECT MMS00070ZLBO [SW1]	208	MZ-401686J1	GEAR WORM (2)
140	ES-403377J	SW ROTARY ENCODER SRGPHJ	* Parts list for HEAD DRUM, MECHA. (1) and MECHA. (2) BLOCK refer to 6-1. EA/EDI/EM list (P24 to P28).		
141	ES-408404J	SW TACT EVQ 235 07K T05 [RESET]			
142	ES-349474	SW TACT SKHHAM004A			
143	ET-381637J2	DETECTOR GP1U521X			
144	ET-403420J	DETECTOR SG-105LF [PH1][PH2]			
145	ET-724885J	TR CHIP RT1N141C [EOG]			
146	ET-713614	TR CHIP 2SA1235 E,F			
147	ET-725820J	TR CHIP 2SC2735J			
148	ET-356336	TR DTA114ES			
149	ET-363953	TR DTA114TS [490EOH]			
150	ET-360646	TR DTA143ES [490EOH]			
151	ET-354415	TR DTA144ES			
152	ET-373985	TR DTA144TS			
153	ET-353897	TR DTC114ES			
154	ET-360399	TR DTC114TS			
155	ET-354364	TR DTC143TS			
156	ET-354414	TR DTC144ES			
157	ET-361490	TR PHOTO PN268 [TR1]			
158	ET-390010J	TR PHOTO PT4800 [TR2]			
159	ET-390009J	TR PHOTO PT493F [TR4]			
160	ET-364040	TR UN421D			
161	ET-353899	TR 2SA1317 S,T,U			
162	*ET-366365	TR 2SB1185 E,F			
163	ET-388338J	TR 2SB1425 S,E			
164	ET-356817	TR 2SB891 Q,R			
165	ET-375777	TR 2SC2926S P,Q			
166	ET-397160J	TR 2SC3330 R,S,T,U,V			
167	*ET-404195J	TR 2SC4486 S,T T05			
168	ET-354083	TR 2SD1189 Q,R			
169	ET-366168	TR 2SD1292 Q,R [EOG]			
170	*ET-381175J	TR 2SD1856			
171	ET-405622J	TR 2SD2061 E,F [EO/EOG/EOH]			
172	ET-370819	TR.CHIP 2SC3052			
173	EX-405691J	THERMISTOR NTH5D332KA			
174	HE-390013J	HEAD E HVFME0020A			
175	HR-405340J	HEAD COMBO HVMZA1121A			
176	MB-387289J	BELT CAPSTAN			
177	MB-407117J	BELT CAPSTAN (3)			
178	MI-387294J	IDLER PART			
179	MI-404552J	IDLER (2) PART			

7. P.C BOARD BLOCK

Ref.No.	Part No.	Description
1A	BA-V1150A600B	PC (#) MAIN (PAL) BLK F440EDG
1B	BA-V1150Q600F	FRPC (#) MAIN (PAL) BLKF440EO/FR
1C	BA-V1150Q600G	FRPC (#) MAIN (PAL) BLKF440EOG-V/FR
1D	BA-V1150A600H	PC (#) MAIN (PAL) BLK F440EOH [440/450EOH]
1E	BA-V1150A600J	PC (#) MAIN (PAL) BLK F455EOH
1F	BA-V1152Q600D	FRPC (#) MAIN (PAL) BLKF480EOG-V/FR
1G	BA-V1152Q600C	FRPC (#) MAIN (PAL) BLKF490EO/FR
1H	BA-V1152A600E	PC (#) MAIN (PAL) BLK F490EOH
1J	BA-V1152A600G	PC (#) MAIN (PAL) BLK F497EOH [497EOH]
2A	BA-V1132A615C	PC PRE AMP BLK F400EDI [440EDG/EO/EOG,440-455EOH]
2B	BA-V1132A610J	PC PRE AMP BLK F410EO [480EOG,490EO/EOH]
2C	BA-V1132A610G	PC PRE AMP BLK F410EM [497EOH]
3A	BA-V1146A635M	PC OPERATION (A) BLK F440EDG
3B	BA-V1146A640D	PC OPERATION (A) BLK F440EO
3C	BA-V1146A640E	PC OPERATION (A) BLK F440EOG-V
3D	BA-V1146A640F	PC OPERATION (A) BLK F440EOH
3E	BA-V1146A640M	PC OPERATION (A) BLK F455EOH
3F	BA-V1152Q630D	FRPC—OPERATION G BLK F480EOG-V/FR
3G	BA-V1152Q630C	FRPC—OPERATION G BLK F490EO/FR
3H	BA-V1152A630E	PC—OPERATION (G) BLK F490EOH
3J	BA-V1152A630F	PC—OPERATION (G) BLK F497EOH
4A	BA-V1130A500A	PC POWER BLK F220EDG [EDG]
4B	BA-V1132A500A	PC (#) POWER EO BLK F200EO [EO]
4C	BA-V1135A500E	PC (#) POWER EOG BLK F300EOG-V [EOG]
4D	BA-V1132A500C	PC (#) POWER EO BLK F200EOH [440/450/455EOH]
4E	BA-V1135A500C	PC (#) POWER EOG BLK F480EK-V [490/497EOH]

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

- MAIN (A) P.C BOARD
- MAIN (B) P.C BOARD
- VIF UNIT

PC (#) OPERATION P.C BOARD CONSISTS OF FOLLOWING P.C BOARD.

- OPERATION-A P.C BOARD
- OPERATION-B P.C BOARD

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

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

8. MAIN (A) P.C BOARD (F440-F455)

Ref.No.	Part No.	Description
C369	*EC-391843J	C DOUBLE FYD0H223Z 5.5DC
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 [EOH]
D6	ED-403731J	D ZENER H UTZJ8.2C [EOH]
D7	ED-307572	D SILICON H 1SS131 [EOH]
D8	ED-387919J	D ZENER H HZS6A1L
D9	ED-307572	D SILICON H 1SS131 [EO/EOG]
D10	ED-307572	D SILICON H 1SS131 [EO/EOG]
D12	ED-405603J	D ZENER H MTZJ10B T26 [EO/EOG/EOH]
D13	ED-405604J	D ZENER H MTZJ4.3C T26 [EO/EOG/EOH]
D201	ED-307572	D SILICON H 1SS131
D202	ED-307572	D SILICON H 1SS131
D203	ED-307572	D SILICON H 1SS131
D204	ED-397233J	D ZENER H HZS5C3
D205	ED-403267J	D ZENER H MTZJ3.3B T26
D206	ED-307572	D SILICON H 1SS131 [EOG]
D207	ED-307572	D SILICON H 1SS131 [EOG]
D208	ED-307572	D SILICON H 1SS131
D209	ED-307572	D SILICON H 1SS131
D210	ED-403726J	D ZENER H UTZJ30B [EOG]
D211	ED-403730J	D ZENER H UTZJ6.2A [EOG]
D212	ED-511907	D SILICON 1N4002 100/1.0A
D213	ED-511907	D SILICON 1N4002 100/1.0A
D301	ED-307572	D SILICON H 1SS131
D302	ED-307572	D SILICON H 1SS131
D303	ED-404086J	D ZENER H UTZJ7.5C
D304	ED-403724J	D ZENER H UTZJ10A
D305	ED-307572	D SILICON H 1SS131
D306	ED-307572	D SILICON H 1SS131
D307	ED-307572	D SILICON H 1SS131
D308	ED-307572	D SILICON H 1SS131
D309	ED-307572	D SILICON H 1SS131
D401	ED-307572	D SILICON H 1SS131
D402	ED-307572	D SILICON H 1SS131
D404	ED-307572	D SILICON H 1SS131 [EO/EOG]
D405	ED-307572	D SILICON H 1SS131
D406	ED-366443	D SILICON H MA700FA5 F10
D408	ED-307572	D SILICON H 1SS131
D410	ED-307572	D SILICON H 1SS131
D411	ED-307572	D SILICON H 1SS131
D412	ED-403729J	D ZENER H UTZJ5.6C
D501	ED-307572	D SILICON H 1SS131
D502	ED-307572	D SILICON H 1SS131
D503	ED-307572	D SILICON H 1SS131
D504	ED-307572	D SILICON H 1SS131 [EO/EOG]
D505	ED-307572	D SILICON H 1SS131
D506	ED-307572	D SILICON H 1SS131
D507	ED-307572	D SILICON H 1SS131
D508	ED-307572	D SILICON H 1SS131
D509	ED-307572	D SILICON H 1SS131
DL500	EH-390730J	DL EFD-JF124A13J
FR201	*ER-400959J	R FUSE V T05 ERD2FCV 1/4WR1200G
FR202	*ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K [EO/EOG/EOH]
FR350	*ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K
FR501	*ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K
IC1	EI-389622J	IC L5631
IC101	EI-310036	IC TC4066BP
IC201	EI-400756J	IC NJM4558L-B
IC301	EI-408849J	IC MN675201 XDL JFLSYP1
IC302	EI-353421	IC BA6229
IC303	EI-373980	IC BA15218N

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
IC400	EI-403234J1	IC LA7391A	TR210	ET-405622J	TR 2SD2061 E,F
IC401	EI-394856J	IC LC8992			[EOH]
IC402	EI-373981J1	IC BA10393N	TR211	ET-356336	TR DTA114ES
IC403	EI-356457	IC BU4013B			[EOG]
L1	EO-390999J	COIL FIX 1 LAP02 F05 R82K	TR301	ET-354414	TR DTC144ES
		[EOH]	TR302	ET-397160J	TR 2SC3330 R,S,T,U,V
L101	EO-345881	COIL FIX 1 EL0606SKI 101J	TR304	ET-354415	TR DTA144ES
L103	EO-356722	COIL FIX 1 LAP02 F05 6R8K	TR305	ET-354414	TR DTC144ES
L301	EO-381196J	COIL FIX 1 EL0405SKI 470K	TR306	ET-354414	TR DTC144ES
L302	EO-345881	COIL FIX 1 EL0606SKI 101J	TR307	ET-373985	TR DTA144TS
L303	EO-354600	COIL FIX 1 LAP02 F05 101K	TR308	ET-373985	TR DTA144TS
L401	EO-354600	COIL FIX 1 LAP02 F05 101K	TR309	ET-373985	TR DTA144TS
L402	EO-357508	COIL FIX 1 LAP02 F05 151K	TR310	ET-354414	TR DTC144ES
L403	EO-381192J	COIL FIX 1 EL0405SKI 270K	TR313	ET-354414	TR DTC144ES
L404	EO-345880	COIL FIX 1 EL0606SKI 820J			[EO/EOG]
L405	EO-354600	COIL FIX 1 LAP02 F05 101K	TR401	ET-356336	TR DTA114ES
L406	EO-354600	COIL FIX 1 LAP02 F05 101K	TR402	ET-354414	TR DTC144ES
L410	EO-345874	COIL FIX 1 EL0606SKI 330J	TR404	ET-354364	TR DTC143TS
L470	EO-356722	COIL FIX 1 LAP02 F05 6R8K	TR406	ET-397160J	TR 2SC3330 R,S,T,U,V
L472	EO-345880	COIL FIX 1 EL0606SKI 820J	TR407	ET-353899	TR 2SA1317 S,T,U
L474	EO-388161J	COIL FIX 1 EL0405SKI 560K	TR408	ET-354414	TR DTC144ES
L480	EO-403937J	COIL FIX 1 EL0405RA T05 4R7J	TR409	ET-360399	TR DTC114TS
		[EOG]	TR410	ET-354414	TR DTC144ES
L500	EO-345880	COIL FIX 1 EL0606SKI 820J	TR411	ET-360399	TR DTC114TS
L501	EO-353900	COIL FIX 1 LAP02 F05 150K	TR413	ET-354415	TR DTA144ES
L505	EO-345880	COIL FIX 1 EL0606SKI 820J	TR414	ET-388338J	TR 2SB1425 S,E
L506	EO-345880	COIL FIX 1 EL0606SKI 820J	TR415	ET-353899	TR 2SA1317 S,T,U
L507	EO-392817J	COIL FIX 1 EL0405SKI 1R2K	TR417	ET-360399	TR DTC114TS
L508	EO-403937J	COIL FIX 1 EL0405RA T05 4R7J	TR420	ET-354414	TR DTC144ES
L509	EO-345880	COIL FIX 1 EL0606SKI 820J	TR421	ET-364040	TR UN421D
L510	EO-403270J	COIL FIX 1 EL0405RA T05 101J	TR423	ET-356336	TR DTA114ES
L511	EO-381195J	COIL FIX 1 EL0405SKI 331K	TR424	ET-388338J	TR 2SB1425 S,E
L512	EO-381197J	COIL FIX 1 EL0405SKI 471K	TR470	ET-353899	TR 2SA1317 S,T,U
L570	EO-345880	COIL FIX 1 EL0606SKI 820J	TR471	ET-353899	TR 2SA1317 S,T,U
MD1A	BV-403408J	RF CONVERTER MDLK6E753A EDG	TR501	ET-353897	TR DTC114ES
		[EDG]	TR503	ET-397160J	TR 2SC3330 R,S,T,U,V
MD1B	BV-403409J	RF CONVERTER MDLK6D755A EO	TR506	ET-397160J	TR 2SC3330 R,S,T,U,V
		[EO/EOG/EOH]	TR507	ET-397160J	TR 2SC3330 R,S,T,U,V
PJ101	EJ-387614J	PIN J T6353-ABCB YL BK 4P	TR508	ET-356336	TR DTA114ES
		[EDG]	TR509	ET-397160J	TR 2SC3330 R,S,T,U,V
PJ102	EJ-387613J	SOCKET M1812 21P	TR510	ET-397160J	TR 2SC3330 R,S,T,U,V
		[EO/EOG/EOH]	TR511	ET-397160J	TR 2SC3330 R,S,T,U,V
R214	ER-403405J	R OMF H S12 FS 1W R75J	TR512	ET-397160J	TR 2SC3330 R,S,T,U,V
TR1	ET-353899	TR 2SA1317 S,T,U	TR513	ET-356336	TR DTA114ES
TR2	ET-375777	TR 2SC2926S P,Q			[EXCEPT ES]
TR3	ET-353899	TR 2SA1317 S,T,U	TR514	ET-354414	TR DTC144ES
TR4	ET-353899	TR 2SA1317 S,T,U			[EXCEPT ES]
TR5	ET-353899	TR 2SA1317 S,T,U	TR515	ET-397160J	TR 2SC3330 R,S,T,U,V
TR6	ET-353899	TR 2SA1317 S,T,U	TR570	ET-397160J	TR 2SC3330 R,S,T,U,V
		[EOH]	TR571	ET-397160J	TR 2SC3330 R,S,T,U,V
TR7	ET-353899	TR 2SA1317 S,T,U	TR572	ET-354414	TR DTC144ES
TR8	ET-354414	TR DTC144ES	TR573	ET-354414	TR DTC144ES
TR9	ET-354414	TR DTC144ES	VR301	EV-405665J	R S-FIX H T05 KV5F637T 0.1W333
TR10	ET-354414	TR DTC144ES	VR401	EV-405657J	R S-FIX H T05 KV5F637T 0.1W103
		[EOH]	VR402	EV-404300J	R S-FIX H T05 KV5F637T 0.1W472
TR11	ET-353899	TR 2SA1317 S,T,U	VR403	EV-405659J	R S-FIX H T05 KV5F637T 0.1W682
TR12	ET-397160J	TR 2SC3330 R,S,T,U,V	VR404	EV-405665J	R S-FIX H T05 KV5F637T 0.1W333
TR13	ET-353899	TR 2SA1317 S,T,U	WF201	EW-404138J1	CORD KX MA-POW L=225 12P
		[EXCEPT EOH]	X301	EI-389640J	OSC XTAL HC-49/U 8000KHZ
TR14	ET-397160J	TR 2SC3330 R,S,T,U,V	X500	EI-381632J	OSC XTAL 86686 4.433619MHZ
		[EOH]	1A	BV-403237J	VIF UNIT KX EDG
TR15	ET-353897	TR DTC114ES			[EDG]
TR16	ET-397160J	TR 2SC3330 R,S,T,U,V	1B	BV-403241J1	VIF UNIT KX EOG
		[EOH]			[EO/EOG]
TR17	ET-397160J	TR 2SC3330 R,S,T,U,V	1C	BV-403240J1	VIF UNIT KX EOH
TR18	ET-397160J	TR 2SC3330 R,S,T,U,V			[EOH]
TR19	ET-354414	TR DTC144ES	2A	EE-408471J	TV TUNER ENV-77890F2 SK
TR20	ET-405622J	TR 2SD2061 E,F			[EDG]
		[EO/EOG/EOH]	2B	EE-387604J2	TV TUNER TERE1-007C EOG
TR101	ET-354414	TR DTC144ES			[EO/EOG]
TR102	ET-356336	TR DTA114ES	2C	EE-390143J2	TV TUNER TERE3-001C EOH
TR103	ET-354414	TR DTC144ES			[EOH]
TR104	ET-353899	TR 2SA1317 S,T,U	3A	SP-395563J	PANEL REAR JACK EDG (2)
TR105	ET-353899	TR 2SA1317 S,T,U			[EDG]
TR107	ET-397160J	TR 2SC3330 R,S,T,U,V	3B	SP-387357J	PANEL REAR JACK EK
TR108	ET-356336	TR DTA114ES			[EO/EOH]
		[EO/EOG/EOH]	3C	SP-388305J	PANEL REAR JACK EOG
TR109	ET-397160J	TR 2SC3330 R,S,T,U,V			[EOG]
TR202	ET-356336	TR DTA114ES			
TR203	ET-397160J	TR 2SC3330 R,S,T,U,V			
TR205	ET-388338J	TR 2SB1425 S,E			
TR209	ET-354414	TR DTC144ES			
		[EOG]			

9. MAIN (A) P.C BOARD (F480-F497)

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
C369	*EC-391843J	C DOUBLE FYD0H223Z 5.5DC	IC303	EI-373980	IC BA15218N
D1	ED-307572	D SILICON H 1SS131	IC304	EI-360586	IC LA6358S
D2	ED-307572	D SILICON H 1SS131	IC400	EI-403234J1	IC LA7391A
D3	ED-307572	D SILICON H 1SS131	IC401	EI-394856J	IC LC8992
D4	ED-307572	D SILICON H 1SS131	IC402	EI-373981J1	IC BA10393N
D5	ED-307572	D SILICON H 1SS131	IC403	EI-356457	IC BU4013B
D6	ED-403731J	D ZENER H UTZJ8.2C [EOH]	L1	EO-390999J	COIL FIX 1 LAP02 F05 R82K [EOH]
D7	ED-307572	D SILICON H 1SS131 [EOH]	L101	EO-345881	COIL FIX 1 EL0606SKI 101J
D8	ED-387919J	D ZENER H HZS6A1L	L103	EO-356722	COIL FIX 1 LAP02 F05 6R8K
D9	ED-307572	D SILICON H 1SS131 [EO/EOG]	L301	EO-381196J	COIL FIX 1 EL0405SKI 470K
D10	ED-307572	D SILICON H 1SS131 [EO/EOG]	L302	EO-345881	COIL FIX 1 EL0606SKI 101J
D12	ED-405603J	D ZENER H MTZJ10B T26	L303	EO-354600	COIL FIX 1 LAP02 F05 101K
D13	ED-405604J	D ZENER H MTZJ4.3C T26	L401	EO-354600	COIL FIX 1 LAP02 F05 101K
D102	ED-404170J	D ZENER H MTZJ2.0A T26 [EOG/EOH]	L402	EO-357508	COIL FIX 1 LAP02 F05 151K
D201	ED-307572	D SILICON H 1SS131	L403	EO-381192J	COIL FIX 1 EL0405SKI 270K
D202	ED-307572	D SILICON H 1SS131	L404	EO-345880	COIL FIX 1 EL0606SKI 820J
D203	ED-307572	D SILICON H 1SS131	L405	EO-354600	COIL FIX 1 LAP02 F05 101K
D204	ED-397233J	D ZENER H HZSSC3	L406	EO-354600	COIL FIX 1 LAP02 F05 101K
D205	ED-403267J	D ZENER H MTZJ3.3B T26	L410	EO-345874	COIL FIX 1 EL0606SKI 330J
D206	ED-307572	D SILICON H 1SS131 [EOG]	L470	EO-356722	COIL FIX 1 LAP02 F05 6R8K
D207	ED-307572	D SILICON H 1SS131 [EOG]	L472	EO-345880	COIL FIX 1 EL0606SKI 820J
D208	ED-307572	D SILICON H 1SS131	L474	EO-388161J	COIL FIX 1 EL0405SKI 560K
D209	ED-307572	D SILICON H 1SS131	L480	EO-403937J	COIL FIX 1 EL0405RA T05 4R7J [EOG]
D210	ED-403726J	D ZENER H UTZJ30B [EOG]	L500	EO-345880	COIL FIX 1 EL0606SKI 820J
D211	ED-403730J	D ZENER H UTZJ6.2A [EOG]	L501	EO-353900	COIL FIX 1 LAP02 F05 150K
D212	ED-511907	D SILICON 1N4002 100/1.0A	L502	EO-345880	COIL FIX 1 EL0606SKI 820J [490EOH]
D213	ED-511907	D SILICON 1N4002 100/1.0A	L503	EO-353900	COIL FIX 1 LAP02 F05 150K [490EOH]
D301	ED-307572	D SILICON H 1SS131	L504	EO-353900	COIL FIX 1 LAP02 F05 150K [490EOH]
D302	ED-307572	D SILICON H 1SS131	L505	EO-345880	COIL FIX 1 EL0606SKI 820J
D303	ED-404086J	D ZENER H UTZJ7.5C	L506	EO-345880	COIL FIX 1 EL0606SKI 820J
D304	ED-403724J	D ZENER H UTZJ10A	L507	EO-392817J	COIL FIX 1 EL0405SKI 1R2K
D305	ED-307572	D SILICON H 1SS131	L508	EO-403937J	COIL FIX 1 EL0405RA T05 4R7J
D306	ED-307572	D SILICON H 1SS131	L509	EO-345880	COIL FIX 1 EL0606SKI 820J
D307	ED-307572	D SILICON H 1SS131	L510	EO-403270J	COIL FIX 1 EL0405RA T05 101J
D308	ED-307572	D SILICON H 1SS131	L511	EO-381195J	COIL FIX 1 EL0405SKI 331K
D309	ED-307572	D SILICON H 1SS131	L512	EO-381197J	COIL FIX 1 EL0405SKI 471K
D310	ED-307572	D SILICON H 1SS131	L570	EO-345880	COIL FIX 1 EL0606SKI 820J
D401	ED-307572	D SILICON H 1SS131	L590	EO-387802J	COIL FIX 1 EL0405SKI 330K [490EOH]
D402	ED-307572	D SILICON H 1SS131	MD1	BV-403409J	RF CONVERTER MDLK6D755A EO
D404	ED-307572	D SILICON H 1SS131	PJ101	EJ-405226J	PIN JACK T6572-ABBB YLW.RED 2P [EOG/EOH]
D405	ED-307572	D SILICON H 1SS131	PJ102	EJ-387613J	SOCKET M1812 21P
D406	ED-366443	D SILICON H MA700FA5 F10	PJ103	EJ-405225J	PIN J JPJ1018-01-030 WHITE 1P [EOG/EOH]
D408	ED-307572	D SILICON H 1SS131	R214	ER-403405J	R OMF H S12 FS 1W R75J
D410	ED-307572	D SILICON H 1SS131	TR1	ET-353899	TR 2SA1317 S,T,U
D411	ED-307572	D SILICON H 1SS131	TR2	ET-375777	TR 2SC2926S P,Q
D412	ED-403729J	D ZENER H UTZJ5.6C	TR3	ET-353899	TR 2SA1317 S,T,U
D501	ED-307572	D SILICON H 1SS131	TR4	ET-353899	TR 2SA1317 S,T,U
D502	ED-307572	D SILICON H 1SS131	TR5	ET-353899	TR 2SA1317 S,T,U
D503	ED-307572	D SILICON H 1SS131	TR6	ET-353899	TR 2SA1317 S,T,U [EOH]
D504	ED-307572	D SILICON H 1SS131	TR7	ET-353899	TR 2SA1317 S,T,U
D505	ED-307572	D SILICON H 1SS131	TR8	ET-354414	TR DTC144ES
D506	ED-307572	D SILICON H 1SS131	TR9	ET-354414	TR DTC144ES
D507	ED-307572	D SILICON H 1SS131	TR10	ET-354414	TR DTC144ES [EOH]
D508	ED-307572	D SILICON H 1SS131	TR11	ET-353899	TR 2SA1317 S,T,U
D509	ED-307572	D SILICON H 1SS131	TR12	ET-397160J	TR 2SC3330 R,S,T,U,V
DL500	EH-390730J	DL EFD-JF124A13J	TR13	ET-353899	TR 2SA1317 S,T,U [EO/EOG]
DL501	EH-394838J	DL ADL-FN1344Q [490EOH]	TR14	ET-397160J	TR 2SC3330 R,S,T,U,V [EOH]
FR201	*ER-400959J	R FUSE V T05 ERD2FCV 1/4W1200G	TR15	ET-353897	TR DTC114ES
FR202	*ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K	TR16	ET-397160J	TR 2SC3330 R,S,T,U,V [EOH]
FR350	*ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K	TR17	ET-397160J	TR 2SC3330 R,S,T,U,V
FR501	*ER-404093J	R FUSE V T05 RF25SCVTP1/4WR56K	TR18	ET-397160J	TR 2SC3330 R,S,T,U,V
IC1	EI-389622J	IC L5631	TR19	ET-354414	TR DTC144ES
IC101	EI-310036	IC TC4066BP	TR20	ET-405622J	TR 2SD2061 E,F
IC102	EI-394861J	IC LVA521S-2	TR101	ET-354414	TR DTC144ES
IC103	EI-403964J	IC NJM2245L [EOG/EOH]	TR102	ET-356336	TR DTA114ES
IC201	EI-400756J	IC NJM4558L-B	TR103	ET-354414	TR DTC144ES
IC301	EI-408850J	IC MN675201 XDJ JFXSYP1	TR104	ET-353899	TR 2SA1317 S,T,U
IC302	EI-353421	IC BA6229	TR105	ET-353899	TR 2SA1317 S,T,U
			TR107	ET-397160J	TR 2SC3330 R,S,T,U,V
			TR108	ET-356336	TR DTA114ES

PARTS LIST

Ref.No.	Part No.	Description
TR109	ET-397160J	TR 2SC3330 R,S,T,U,V
TR110	ET-353899	TR 2SA1317 S,T,U [EOG/EOH]
TR201	ET-366168	TR 2SD1292 Q,R [EOG]
TR202	ET-356336	TR DTA114ES
TR203	ET-397160J	TR 2SC3330 R,S,T,U,V
TR205	ET-388338J	TR 2SB1425 S,E
TR209	ET-354414	TR DTC144ES [EOG]
TR210	ET-405622J	TR 2SD2061 E,F
TR211	ET-356336	TR DTA114ES [EOG]
TR301	ET-354414	TR DTC144ES
TR302	ET-397160J	TR 2SC3330 R,S,T,U,V
TR303	ET-363953	TR DTA114TS [490EOH]
TR304	ET-354415	TR DTA144ES
TR305	ET-354414	TR DTC144ES
TR306	ET-354414	TR DTC144ES
TR307	ET-373985	TR DTA144TS
TR308	ET-373985	TR DTA144TS
TR309	ET-373985	TR DTA144TS
TR310	ET-354414	TR DTC144ES
TR313	ET-354414	TR DTC144ES
TR401	ET-356336	TR DTA114ES
TR402	ET-354414	TR DTC144ES
TR404	ET-354364	TR DTC143TS
TR406	ET-397160J	TR 2SC3330 R,S,T,U,V
TR407	ET-353899	TR 2SA1317 S,T,U
TR408	ET-354414	TR DTC144ES
TR409	ET-360399	TR DTC114TS
TR410	ET-354414	TR DTC144ES
TR411	ET-360399	TR DTC114TS
TR413	ET-354415	TR DTA144ES
TR414	ET-388338J	TR 2SB1425 S,E
TR415	ET-353899	TR 2SA1317 S,T,U
TR417	ET-360399	TR DTC114TS
TR420	ET-354414	TR DTC144ES
TR421	ET-364040	TR UN421D
TR423	ET-356336	TR DTA114ES
TR424	ET-388338J	TR 2SB1425 S,E
TR425	ET-354414	TR DTC144ES [490EOH]
TR470	ET-353899	TR 2SA1317 S,T,U
TR471	ET-353899	TR 2SA1317 S,T,U
TR501	ET-353897	TR DTC114ES
TR502	ET-360646	TR DTA143ES [490EOH]
TR503	ET-397160J	TR 2SC3330 R,S,T,U,V
TR504	ET-397160J	TR 2SC3330 R,S,T,U,V [490EOH]
TR505	ET-397160J	TR 2SC3330 R,S,T,U,V [490EOH]
TR506	ET-397160J	TR 2SC3330 R,S,T,U,V
TR507	ET-397160J	TR 2SC3330 R,S,T,U,V
TR508	ET-356336	TR DTA114ES
TR509	ET-397160J	TR 2SC3330 R,S,T,U,V
TR510	ET-397160J	TR 2SC3330 R,S,T,U,V
TR511	ET-397160J	TR 2SC3330 R,S,T,U,V
TR512	ET-397160J	TR 2SC3330 R,S,T,U,V
TR513	ET-356336	TR DTA114ES
TR514	ET-354414	TR DTC144ES
TR515	ET-397160J	TR 2SC3330 R,S,T,U,V
TR570	ET-397160J	TR 2SC3330 R,S,T,U,V
TR571	ET-397160J	TR 2SC3330 R,S,T,U,V
TR572	ET-354414	TR DTC144ES
TR573	ET-354414	TR DTC144ES
VR301	EV-405665J	R S-FIX H T05 KVSF637T 0.1W333
VR401	EV-405657J	R S-FIX H T05 KVSF637T 0.1W103
VR402	EV-404300J	R S-FIX H T05 KVSF637T 0.1W472
VR403	EV-405659J	R S-FIX H T05 KVSF637T 0.1W682
VR404A	EV-405665J	R S-FIX H T05 KVSF637T 0.1W333 [EO/EOG]
VR404B	EV-405658J	R S-FIX H T05 KVSF637T 0.1W223 [EOH]
WF201	EW-404138J1	CORD KX MA-POW L=225 12P
X301	EI-389640J	OSC X'TAL HC-49/U 8000KHZ
X500	EI-381632J	OSC X'TAL 86686 4.433619MHZ
1A	BV-403241J1	VIF UNIT KX EOG [EO/EOG]

Ref.No.	Part No.	Description
1B	BV-403240J1	VIF UNIT KX EOH [EOH]
2A	EE-387604J2	TV TUNER TERE1-007C EOG [EO/EOG]
2B	EE-390143J2	TV TUNER TERE3-001C EOH [EOH]
3A	SP-387357J	PANEL REAR JACK EK [EO]
3B	SP-404783J	PANEL REAR JACK EOG (B) [EOG]
3C	SP-404784J	PANEL REAR JACK EK (B) [EOH]

10. MAIN (B) P.C BOARD (F440-F455)

Ref.No.	Part No.	Description
D601	ED-307572	D SILICON H 1SS131
D603	ED-307572	D SILICON H 1SS131
D801	ED-307572	D SILICON H 1SS131
FL701	EH-366894	FILTER CE SFE-4.16MB 4.16MHZ [EDG/EOG]
FL801	EO-388362J	COIL OSC 1 V1102
IC601	EI-405722J	IC UPD6450CX-515
IC602	EI-403469J	IC MM1068XS
IC701	EI-366892	IC BA7025L [EDG/EOG]
IC801	EI-388360J	IC BA7765AS
L601	EO-345881	COIL FIX 1 EL0606SKI 101J
L602	EO-345876	COIL FIX 1 EL0606SKI 470J
L603	EO-351866	COIL FIX 1 LAP02 F05 330K
L604	EO-351866	COIL FIX 1 LAP02 F05 330K
L605	EO-345881	COIL FIX 1 EL0606SKI 101J
L701	EO-345881	COIL FIX 1 EL0606SKI 101J [EDG/EOG]
L801	EO-390717J	COIL FIX 1 LHL06TB T05 103J
L802	EO-390716J	COIL FIX 1 LHL06TB T05 272J
L850	EO-397389J	COIL FIX 1 EL0606SKI 4R7J [EOG]
TR601	ET-353899	TR 2SA1317 S,T,U
TR602	ET-354414	TR DTC144ES
TR603	ET-397160J	TR 2SC3330 R,S,T,U,V
TR604	ET-397160J	TR 2SC3330 R,S,T,U,V
TR605	ET-356336	TR DTA114ES
TR606	ET-356336	TR DTA114ES
TR607	ET-353899	TR 2SA1317 S,T,U
TR608	ET-353899	TR 2SA1317 S,T,U
TR609	ET-354414	TR DTC144ES
TR701	ET-397160J	TR 2SC3330 R,S,T,U,V [EDG/EOG]
TR702	ET-397160J	TR 2SC3330 R,S,T,U,V [EDG/EOG]
TR801	ET-397160J	TR 2SC3330 R,S,T,U,V
VC601	EC-394757J	C S-FIX H T05 VCT51F 5.5-30
VL701	EO-366893	COIL VARI 1 21D6 8.20MH [EDG/EOG]
VR801	EV-403967J	R S-FIX V T05EVNDCAA03 0.1W332
VR802	EV-403968J	R S-FIX V T05EVNDCAA03 0.1W473
X601	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ
X602	EI-403467J	OSC CE CSB500F40 15.680KHZ

11. MAIN (B) P.C BOARD (F480-F497)

Ref.No.	Part No.	Description
D601	ED-307572	D SILICON H 1SS131
D603	ED-307572	D SILICON H 1SS131
D801	ED-307572	D SILICON H 1SS131
D901	ED-307572	D SILICON H 1SS131
D902	ED-307572	D SILICON H 1SS131
FL701	EH-366894	FILTER CE SFE-4.16MB 4.16MHZ [EOG]
FL801	EO-388363J	COIL OSC 1 V1105-1
IC601	EI-405722J	IC UPD6450CX-515
IC602	EI-403469J	IC MM1068XS
IC701	EI-366892	IC BA7025L [EOG]
IC702	EI-200573	IC TC4053BP [490EOH]
IC801	EI-388360J	IC BA7765AS
IC901	EI-386468J	IC BA3308
IC902	EI-310036	IC TC4066BP
L601	EO-345881	COIL FIX 1 EL0606SKI 101J
L602	EO-345876	COIL FIX 1 EL0606SKI 470J
L603	EO-351866	COIL FIX 1 LAP02 F05 330K
L604	EO-351866	COIL FIX 1 LAP02 F05 330K
L605	EO-345881	COIL FIX 1 EL0606SKI 101J
L701	EO-345881	COIL FIX 1 EL0606SKI 101J [EOG]
L702	EO-345881	COIL FIX 1 EL0606SKI 101J [490EOH]
L801	EO-390717J	COIL FIX 1 LHL06TB T05 103J
L802	EO-390716J	COIL FIX 1 LHL06TB T05 272J
L901	EO-345881	COIL FIX 1 EL0606SKI 101J
TR601	ET-353899	TR 2SA1317 S,T,U
TR602	ET-354414	TR DTC144ES
TR603	ET-397160J	TR 2SC3330 R,S,T,U,V
TR604	ET-397160J	TR 2SC3330 R,S,T,U,V
TR605	ET-356336	TR DTA114ES
TR606	ET-356336	TR DTA114ES
TR607	ET-353899	TR 2SA1317 S,T,U
TR608	ET-353899	TR 2SA1317 S,T,U
TR609	ET-354414	TR DTC144ES
TR701	ET-397160J	TR 2SC3330 R,S,T,U,V [EOG]
TR702	ET-397160J	TR 2SC3330 R,S,T,U,V [EOG]
TR751	ET-397160J	TR 2SC3330 R,S,T,U,V [490EOH]
TR752	ET-397160J	TR 2SC3330 R,S,T,U,V [490EOH]
TR753	ET-397160J	TR 2SC3330 R,S,T,U,V [490EOH]
TR754	ET-397160J	TR 2SC3330 R,S,T,U,V [490EOH]
TR801	ET-397160J	TR 2SC3330 R,S,T,U,V
TR803	ET-354414	TR DTC144ES [490EOH]
TR901	ET-354414	TR DTC144ES
TR902	ET-354414	TR DTC144ES
TR903	ET-397160J	TR 2SC3330 R,S,T,U,V
TR904	ET-353899	TR 2SA1317 S,T,U
VC601	EC-394757J	C S-FIX H T05 VCT51F 5.5-30
VL701	EO-366893	COIL VARI 1 21D6 8.20MH [EOG]
VR801	EV-403967J	R S-FIX V T05EVNDCAA03 0.1W332
VR802	EV-405263J	R S-FIX V T05EVNDCAA03 0.1W104
X601	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ
X602	EI-403467J	OSC CE CSB500F40 15.680KHZ

12. PRE AMP P.C BOARD

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
D101	ED-405247J	D ZENER H MTZJ2.7A T26 [F480-F497]
FL101	EO-388349J	COIL OSC 1 V1105-2 [F480-F497]
IC1	EI-387586J	IC BA7244BS
L1	EO-376600	COIL FIX 1 LF-5.0S F05 101K
L2	EO-376858	COIL FIX 1 LF-5.0S F05 560K
L3	EO-376857	COIL FIX 1 LF-5.0S F05 5R6K
L4	EO-376606	COIL FIX 1 LF-5.0S F05 180K
L5	EO-376603	COIL FIX 1 LF-5.0S F05 150K
L6	EO-381193J	COIL FIX 1 EL0405SKI 271K
L7	EO-376860	COIL FIX 1 LF-5.0S F05 820K
L8	EO-345880	COIL FIX 1 EL0606SKI 820J
L9	EO-376614	COIL FIX 1 LF-5.0S F05 220K
L10	EO-345880	COIL FIX 1 EL0606SKI 820J
L11	EO-345880	COIL FIX 1 EL0606SKI 820J
L12	EO-376859	COIL FIX 1 LF-5.0S F05 8R2K
L13	EO-381195J	COIL FIX 1 EL0405SKI 331K
L14A	EO-376607	COIL FIX 1 LF-5.0S F05 181K [F440-F455]
L14B	EO-376605	COIL FIX 1 LF-5.0S F05 151K [F480-F497]
L15	EO-376612	COIL FIX 1 LF-5.0S F05 680K
L16	EO-376600	COIL FIX 1 LF-5.0S F05 101K
L101	EO-390716J	COIL FIX 1 LHL06TB T05 272J [F480-F497]
PS1	EJ-403389J	SOCKET HOUSING 5062-30-10-18
TH1	EX-405691J	THERMISTOR NTH5D332KA
TR1	ET-353899	TR 2SA1317 S,T,U
TR2	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-360399	TR DTC114TS [497EOH]
TR4	ET-360399	TR DTC114TS
TR5	ET-364040	TR UN421D
TR6	ET-354414	TR DTC144ES
TR7	ET-397160J	TR 2SC3330 R,S,T,U,V
TR8	ET-397160J	TR 2SC3330 R,S,T,U,V
TR9	ET-397160J	TR 2SC3330 R,S,T,U,V
TR10	ET-353897	TR DTC114ES
TR11	ET-353899	TR 2SA1317 S,T,U
TR12	ET-353899	TR 2SA1317 S,T,U
TR13	ET-364040	TR UN421D
TR14	ET-397160J	TR 2SC3330 R,S,T,U,V
TR15	ET-354364	TR DTC143TS
TR16	ET-354414	TR DTC144ES
TR17	ET-364040	TR UN421D
TR18	ET-353897	TR DTC114ES
TR19	ET-354414	TR DTC144ES
TR21	ET-397160J	TR 2SC3330 R,S,T,U,V
TR22	ET-360399	TR DTC114TS
TR23	ET-354414	TR DTC144ES
TR101	ET-397160J	TR 2SC3330 R,S,T,U,V [F480-F497]
VR1	EV-390157J	R S-FIX V KVVSF639A 0.10W 102
VR2	EV-390157J	R S-FIX V KVVSF639A 0.10W 102
VR3	EV-405248J	R S-FIX V T05EVNDCAA03 0.1W471
VR4	EV-405248J	R S-FIX V T05EVNDCAA03 0.1W471
WP1	EW-403386J1	CORD FFC P1.25 L=230 18P

13. OPERATION (A) P.C BOARD (F440-F455)

Ref.No.	Part No.	Description
D2	ED-307572	D SILICON H 1SS131 [EXCEPT 440EDG]
D10	ED-403279J	D ZENER H UTZJ9.1B
D11	ED-403278J	D ZENER H UTZJ7.5B
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
D17	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-307572	D SILICON H 1SS131
D32	ED-307572	D SILICON H 1SS131 [440EOG,440/450EOH]
D33	ED-307572	D SILICON H 1SS131 [440EOG]
D41	ED-307572	D SILICON H 1SS131 [440EDG/EOG]
D43	ED-307572	D SILICON H 1SS131 [440EDG]
D44	ED-307572	D SILICON H 1SS131 [440EO]
FL1	EM-401077J	IND FL FV496G CHARACTER
IB1	EH-403945J	COMP R RGL9X 103J
IB2	EH-383083J	COMP R RGL9X 103J
IC1	EI-408391J1	IC UPD75217CW-146 JBXOPP2
IC2	EI-408393J	IC ST24C01B1
IC3	EI-373955	IC S-8053ALR
PH1	ET-381637J2	DETECTOR GP1U521X
PS1	EJ-389815J	SOCKET HOUSING 5062-30-10-15
PS2	EJ-387497J	SOCKET HOUSING 5062-30-10-13
SW1	ES-408404J	SW TACT EVQ 235 07K T05 [RESET]
SW2	ES-349474	SW TACT SKHHAM004A
SW3	ES-349474	SW TACT SKHHAM004A
SW4	ES-349474	SW TACT SKHHAM004A
SW5	ES-349474	SW TACT SKHHAM004A
SW6	ES-349474	SW TACT SKHHAM004A
SW7	ES-349474	SW TACT SKHHAM004A
SW8	ES-349474	SW TACT SKHHAM004A
SW9	ES-349474	SW TACT SKHHAM004A
SW12	ES-349474	SW TACT SKHHAM004A
TR1	ET-354414	TR DTC144ES
WP1	EW-394623J	CORD FFC P1.25 L=110 15P
WP2	EW-389313J	CORD FFC P1.25 L=120 13P
X1	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
X2	EI-368825M	OSC X'TAL C-002RX 32.768KHZ

14. OPERATION (G) - A P.C BOARD (F480-F497)

Ref.No.	Part No.	Description
D2	ED-307572	D SILICON H 1SS131
D5	ED-307572	D SILICON H 1SS131 [497EOH]
D10	ED-403279J	D ZENER H UTZJ9.1B
D11	ED-403731J	D ZENER H UTZJ8.2C
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
D28	ED-307572	D SILICON H 1SS131
D32	ED-307572	D SILICON H 1SS131 [480EOG,490EOH]
D41	ED-307572	D SILICON H 1SS131 [480EOG]
D44	ED-307572	D SILICON H 1SS131 [490EO]
D45	ED-307572	D SILICON H 1SS131
D46	ED-307572	D SILICON H 1SS131
D47	ED-307572	D SILICON H 1SS131
D48	ED-307572	D SILICON H 1SS131
FL1	EM-403367J	IND FL FV506G CHARACTER
IB1	EH-403945J	COMP R RGL9X 103J
IB2	EH-383083J	COMP R RGL9X 103J
IC1	EI-408397J	IC UPD75217CW-147 JFXOPP1
IC2	EI-408393J	IC ST24C01B1
IC3	EI-373955	IC S-8053ALR
PJ1	EJ-408399J	PHONE J 2P YKB21-5165 3.5
PJ2	EJ-387622J	PIN J JPJ5022-01-010 1P
PJ3	EJ-387623J	PIN J JPJ5022-01-040 1P
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
SW4	ES-349474	SW TACT SKHHAM004A
SW5	ES-349474	SW TACT SKHHAM004A
SW6	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
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
TR1	ET-354414	TR DTC144ES
WP1	EW-394623J	CORD FFC P1.25 L=110 15P
WP2	EW-389313J	CORD FFC P1.25 L=120 13P
X1	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
X2	EI-368825M	OSC X'TAL C-002RX 32.768KHZ

15. OPERATION (G) - B P.C BOARD (F480-F497)

Ref.No.	Part No.	Description
D33	ED-307572	D SILICON H 1SS131 [480EOG]
PH1	ET-381637J2	DETECTOR GP1U521X
SW3	ES-349474	SW TACT SKHHAM004A

16. VIF UNIT (EDG)

Ref.No.	Part No.	Description
CF1	EH-368816	FILTER CE SAF38.0MZA70Z
CF2	EH-376338	FILTER CE TPS6.5MB
CF3	EH-368948	FILTER CE TPS5.5MW 5.5000MHZ
CF4	EH-373918	FILTER CE TPS5.5MB
CF51	EH-388287J	FILTER CE SFS6.5MX 6.500MHZ
CF52	EH-368827	FILTER CE SFS5.5MD 5.500MHZ
CF53	EH-780128	FILTER CE SFE 6.5MB
IC1	EI-368809	IC M51496P
L1	EO-387782J	COIL FIX 1 EL0405SKI 2R2K
L2	EO-725954J	COIL SIF DET 6F16263A3
L3	EO-714614	COIL RF 6F16115B1
L4	EO-714610	COIL RF 6F16113B1
L5	EO-397238J	COIL FIX 1 EL0405SKI 6R8K
L6	EO-387798J	COIL FIX 1 EL0405SKI 150K
L51	EO-396361J	COIL FIX 1 EL0405SKI 8R2K
L52	EO-387803J	COIL FIX 1 EL0405SKI 221K
Q1	ET-725820J	TR CHIP 2SC2735J
Q2	ET-713614	TR CHIP 2SA1235 E,F
Q3	ET-370819	TR.CHIP 2SC3052
Q4	ET-713614	TR CHIP 2SA1235 E,F
Q51	ET-370819	TR.CHIP 2SC3052
Q52	ET-370819	TR.CHIP 2SC3052
VR1	EV-405658J	R S-FIX H T05 KV5F637T 0.1W223
VR2	EV-404298J	R S-FIX H T05 KV5F637T 0.1W222
X51	EI-368829	OSC CE CSB512P

17. VIF UNIT (EOG/EOH)

Ref.No.	Part No.	Description
CF1	EH-730625J	FILTER CE SAF38.9MZW70Z
CF2	EH-373920	FILTER CE SFE5.5MB
CF3	EH-368948	FILTER CE TPS5.5MW 5.5000MHZ
IC1	EI-368809	IC M51496P
L1	EO-387800J	COIL FIX 1 EL0405SKI 2R7K
L3	EO-725953J	COIL SIF DET 6F16263A2
L4	EO-714614	COIL RF 6F16115B1
L5	EO-714610	COIL RF 6F16113B1
L6	EO-387799J	COIL FIX 1 EL0405SKI 180K
L7A	EO-387799J	COIL FIX 1 EL0405SKI 180K [EOG]
L7B	EO-387798J	COIL FIX 1 EL0405SKI 150K [EOH]
L8	EO-387802J	COIL FIX 1 EL0405SKI 330K
L51	EO-725964J	COIL TRAP 6F16222A1 [EOG]
L52	EO-725965J	COIL TRAP 6F16223A1 [EOG]
Q1	ET-725820J	TR CHIP 2SC2735J
Q2	ET-713614	TR CHIP 2SA1235 E,F
Q51	ET-724885J	TR CHIP RT1N141C [EOG]
Q52	ET-724885J	TR CHIP RT1N141C [EOG]
VR2	EV-404298J	R S-FIX H T05 KV5F637T 0.1W222
VR51	EV-405658J	R S-FIX H T05 KV5F637T 0.1W223
VR52	EV-405658J	R S-FIX H T05 KV5F637T 0.1W223 [EOG]

18. POWER P.C BOARD (EDG,EO,440-455EOH)

Ref.No.	Part No.	Description
C1	EC-406634J	C EC V SXE12 222M 25.0DC
C2	EC-363490	C EC V CUT SME 222M 16.0DC
C3	EC-406635J	C EC V SXE16 222M 35.0DC
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 [EDG]
D6	*ED-511907	D SILICON 1N4002 100/1.0A [EDG]
D7	*ED-511907	D SILICON 1N4002 100/1.0A [EDG]
D8	*ED-511907	D SILICON 1N4002 100/1.0A [EDG]
D9	*ED-511907	D SILICON 1N4002 100/1.0A
D10	*ED-511907	D SILICON 1N4002 100/1.0A [EDG]
D11	*ED-511907	D SILICON 1N4002 100/1.0A
D12	*ED-511907	D SILICON 1N4002 100/1.0A [EDG]
D13	ED-405373J	D ZENER H MTZJ16A T26
D14	ED-404032J	D ZENER H UTZJ39A
D15	ED-405524J	D ZENER H MTZJ36A T26
D16	*ED-404029J	D ZENER H UTZJ10B T26
D17	ED-511907	D SILICON 1N4002 100/1.0A [EDG]
D18	ED-511907	D SILICON 1N4002 100/1.0A [EDG]
FR1	*ER-408375J	R FUSE V T05RF25SCVP1/4WR12K
FR2	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR3	*ER-408375J	R FUSE V T05RF25SCVP1/4WR12K
FR4	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR5	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G
TR1	*ET-381175J	TR 2SD1856
TR2	*ET-366365	TR 2SB1185 E,F
TR3	*ET-405622J	TR 2SD2061 E,F
TR4	*ET-405622J	TR 2SD2061 E,F
TR5	*ET-405622J	TR 2SD2061 E,F
TR6	*ET-405622J	TR 2SD2061 E,F
TR7	*ET-366365	TR 2SB1185 E,F

19. POWER SUPPLY (1) P.C BOARD (EOG,490/497EOH)

Ref.No.	Part No.	Description
C1	EC-408376J	C EC V CUT KMG 102M 50.0DC
C2	EC-408377J	C EC V CUT KMG 222M 50.0DC
C3	EC-408426J	C EC V F05 LXF8 121M 50.0DC
C4	EC-403878J	C EC V T05 LXF8 271M 16.0DC
C14	EC-408426J	C EC V F05 LXF8 121M 50.0DC
C15	EC-403878J	C EC V T05 LXF8 271M 16.0DC
C20	EC-403880J	C EC V T05 LXF8 221M 25.0DC
C23	EC-406639J	C EC V T05 LXF6 330M 63.0DC
C24	EC-406639J	C EC V T05 LXF6 330M 63.0DC
D3	*ED-511907	D SILICON 1N4002 100/1.0A
D4	*ED-511907	D SILICON 1N4002 100/1.0A
D6	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D8	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D11	*ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
D16	ED-307572	D SILICON H 1SS131
D17	*ED-511907	D SILICON 1N4002 100/1.0A
D18	*ED-511907	D SILICON 1N4002 100/1.0A
D19	ED-404032J	D ZENER H UTZJ39A
D20	ED-405524J	D ZENER H MTZJ36A T26
D27	ED-396060J	D ZENER H HZS18-2
D28	ED-391005J	D ZENER H HZS12B1
D51	ED-403267J	D ZENER H MTZJ3.3B T26
		[EOG]
D52	ED-307572	D SILICON H 1SS131
		[EOH]
D54	ED-307572	D SILICON H 1SS131
D55	ED-307572	D SILICON H 1SS131
D56	ED-396057J	D ZENER H HZS16-2
		[EOH]
D57	ED-405264J	D ZENER H UTZJ10C
D58	ED-405264J	D ZENER H UTZJ10C
D71	*ED-511907	D SILICON 1N4002 100/1.0A
D72	*ED-511907	D SILICON 1N4002 100/1.0A
D73	*ED-511907	D SILICON 1N4002 100/1.0A
D74	*ED-511907	D SILICON 1N4002 100/1.0A
FL2	EF-339908	FUSE TLC A 250V 630MA
		[EOG]
FR1	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR2	*ER-408375J	R FUSE V T05RF25SCPVT1/4WR12K
FR3	*ER-400605J	R FUSE V T05 ERD2FCV 1/4W15R0G
FR4	*ER-400689J	R FUSE V T05 RF25SCVTP1/4WR68K
FR5	*ER-405441J	R FUSE V T05 RF25SCVTP1/4WR27K
L1	EO-408381J	COIL FIX 2 C-5344-40 560K
L2	EO-408381J	COIL FIX 2 C-5344-40 560K
L3	EO-408381J	COIL FIX 2 C-5344-40 560K
L4	EO-408381J	COIL FIX 2 C-5344-40 560K
L6	EO-386541J	COIL FIX 1 ELF1010SKI 101K
L9	EO-393769J	COIL FIX 1 LHL06TB T05 471K
R14	ER-333091	R OMF H S20 FS 2W 360J
TR1	*ET-366365	TR 2SB1185 E,F
TR5	*ET-366365	TR 2SB1185 E,F
TR6	ET-356817	TR 2SB891 Q,R
TR9	*ET-366365	TR 2SB1185 E,F
TR12	*ET-405622J	TR 2SD2061 E,F
TR13	*ET-366365	TR 2SB1185 E,F
TR14	ET-360399	TR DTC114TS
TR15	ET-360399	TR DTC114TS
TR16	ET-397160J	TR 2SC3330 R,S,T,U,V

20. POWER SUPPLY (2) P.C BOARD (EOG, 490/497EOH)

Ref.No.	Part No.	Description
D7	ED-405264J	D ZENER H UTZJ10C
D10	ED-307572	D SILICON H 1SS131
D50	ED-387919J	D ZENER H HZS6A1L
D52	ED-307572	D SILICON H 1SS131
IC1	*EI-381575J	IC BA6121
L10	EO-380091J1	COIL FIX 2 C-5293-01 560K
TR2	*ET-405622J	TR 2SD2061 E,F
TR3	ET-353899	TR 2SA1317 S,T,U
TR4	*ET-404195J	TR 2SC4486 S,T T05
TR7	*ET-405622J	TR 2SD2061 E,F
TR8	ET-353899	TR 2SA1317 S,T,U
TR50	ET-353899	TR DTC114ES
		[EOH]

21. DIODE P.C BOARD (EO/EOG/EOH)

Ref.No.	Part No.	Description
D1/D14	*ED-379298	D SILICON DBA20B 100/2.0A

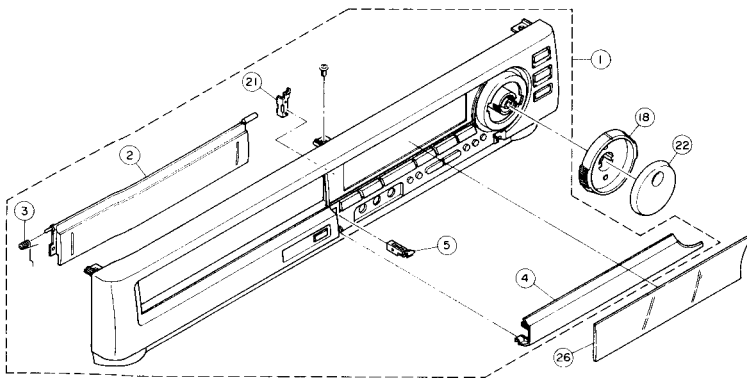
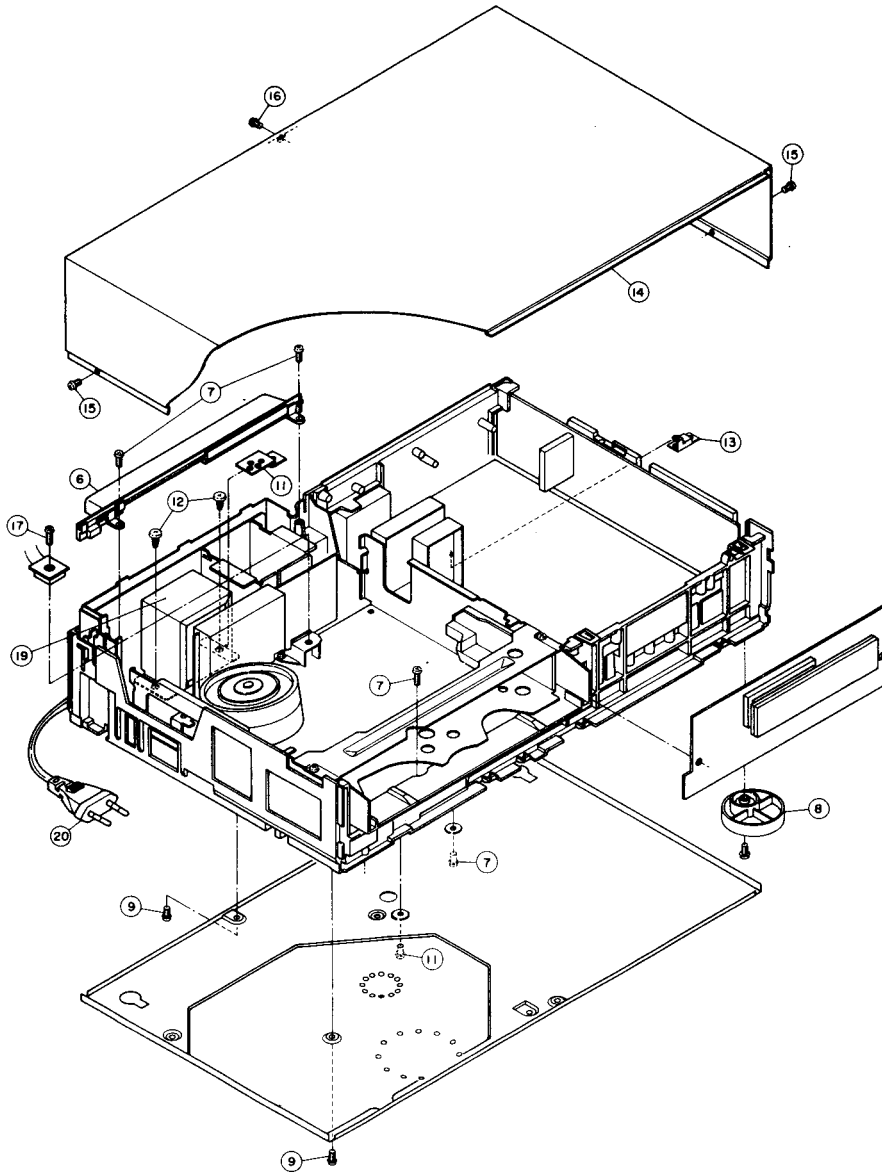
22. VPST PDC P.C BLOCK (EOG ONLY)

Ref.No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D101	ED-307572	D SILICON H 1SS131
D201	ED-307572	D SILICON H 1SS131
D601	ED-307572	D SILICON H 1SS131
D602	ED-405446J	D ZENER H UTZJ5.6B T26
FL101	EH-394684J	FILTER EMI ZBF503D-00TA T05
FR601	ER-331188	R FUSE H S10 ERD2FC 1/4W 8R2J
IB101	EH-383056J	COMP R RGL4X 103J
IB102	EH-386637J	COMP R RGL8X 103J
IC101	EI-410521J	IC UPD75218CW-014 JXPDC1
IC102	EI-405224J	IC ST24C02
IC103	EI-405224J	IC ST24C02
IC104	EI-408434J	IC MV1815-1BA
IC105	EI-410125J	IC V53C464AP-80
IC106	EI-401050J	IC LVA523SA2
IC107	EI-394680J	IC AN3171K
IC108	EI-387019J	IC MC1377P
IC301	EI-385958J	IC SAA4700
L1	EO-345865	COIL FIX 1 EL0606SKI 100J
L101	EO-345865	COIL FIX 1 EL0606SKI 100J
L102	EO-345865	COIL FIX 1 EL0606SKI 100J
L121	EO-345865	COIL FIX 1 EL0606SKI 100J
L151	EO-410104J	COIL FIX 1 SPT0203SA T26 181J
L152	EO-410104J	COIL FIX 1 SPT0203SA T26 181J
L153	EO-345880	COIL FIX 1 EL0606SKI 820J
L154	EO-410099J	COIL FIX 1 SPT0203SA T26 470J
L155	EO-345865	COIL FIX 1 EL0606SKI 100J
L201	EO-345865	COIL FIX 1 EL0606SKI 100J
L202	EO-345865	COIL FIX 1 EL0606SKI 100J
L203	EO-345875	COIL FIX 1 EL0606SKI 390J
L204	EO-345873	COIL FIX 1 EL0606SKI 270J
L206	EO-345871	COIL FIX 1 EL0606SKI 180J
L207	EO-345874	COIL FIX 1 EL0606SKI 330J
L208	EO-345874	COIL FIX 1 EL0606SKI 330J
L251	EO-345865	COIL FIX 1 EL0606SKI 100J
L301	EO-345865	COIL FIX 1 EL0606SKI 100J
TR1	ET-397160J	TR 2SC3330 R,S,T,U,V
TR101	ET-354415	TR DTA144ES
TR102	ET-397160J	TR 2SC3330 R,S,T,U,V
TR151	ET-397160J	TR 2SC3330 R,S,T,U,V
TR152	ET-353899	TR 2SA1317 S,T,U
TR153	ET-353899	TR 2SA1317 S,T,U
TR154	ET-397160J	TR 2SC3330 R,S,T,U,V
TR155	ET-397160J	TR 2SC3330 R,S,T,U,V
TR201	ET-397160J	TR 2SC3330 R,S,T,U,V
TR202	ET-397160J	TR 2SC3330 R,S,T,U,V
TR203	ET-397160J	TR 2SC3330 R,S,T,U,V
TR204	ET-353899	TR 2SA1317 S,T,U
TR208	ET-353899	TR 2SA1317 S,T,U
TR251	ET-397160J	TR 2SC3330 R,S,T,U,V
TR252	ET-353899	TR 2SA1317 S,T,U
TR253	ET-353899	TR 2SA1317 S,T,U
TR601	ET-354083	TR 2SD1189 Q,R
X101	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
X102	EI-408433J	OSC XTAL HC-43/U 27750KHZ
X103	EI-394673J	OSC XTAL HC-49/U 8867.238KHZ

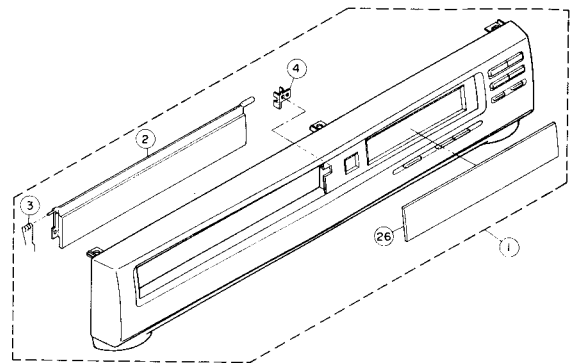
23. JOG/SHUTTLE P.C BOARD (480-497)

Ref.No.	Part No.	Description
SW1	ES-403377J	SW ROTARY ENCODER SRGPHJ

FINAL ASSEMBLY BLOCK



VS-F480/F490/F497



VS-F440/F450/F455

24. FINAL ASSEMBLY

Ref.No.	Part No.	Description
1A	BD-409297J	PANEL FRONT VS-F440EDG PART
1B	BD-409286J	PANEL FRONT VS-F440EOG-V PART
1C	BD-409284J	PANEL FRONT VS-F440EOH PART [440EO/EOH]
1D	BD-409287J	PANEL FRONT VS-F450EOH PART
1E	BD-409288J	PANEL FRONT VS-F455EOH PART
1F	BD-409124J1	PANEL FRONT VS-F480EOG-V PART
1G	BD-409125J1	PANEL FRONT VS-F490EO/EOH PART
1H	BD-409129J1	PANEL FRONT VS-F497EOH PART
2A	SE-409197J	MASK CASSETTE (J) VS-F440 (E2) [440EDG/EO/EOH]
2B	SE-409202J	MASK CASSETTE (J) VS-F440 (G) [440EOG]
2C	SE-409198J	MASK CASSETTE (J) VS-F450 (E) [450EOH]
2D	SE-409199J	MASK CASSETTE (J) VS-F455 (E) [455EOH]
2E	SE-409102J1	MASK CASSETTE VS-F480 (G) [480EOG]
2F	SE-409103J1	MASK CASSETTE VS-F490 (E) [490EO/EOH]
2G	SE-409107J1	MASK CASSETTE VS-F497 (E) [497EOH]
3	ZG-387370J	SP MASK
4A	SP-409112J	DOOR (G) [480EOG]
4B	SP-407593J	DOOR (E) [490EO/EOH]
4C	SP-409113J	DOOR (E2) [497EOH]
5	SZ-404290J	MINI SIDE LOCK [F480/F490/F497]
6	SC-387353J	COVER TRANS
7	ZS-378341	PLX BID30X12STL CMT
8	SA-387507J	FOOT SX
9	ZS-358936	ST BID30X06STL CMT
11	ZG-387505J	PLATE EARTH
12	ZS-373962	PLX BID40X10STL CMT
13	ZG-387354J	PLATE EARTH (2)
14	SP-407479J	COVER UPPER JX
15	ZS-385611J	DT BID26X06STL BNI
16	ZS-391046J	PLX BID26X10STL BNI
17	ZS-659046	PAN26X10STL CMT
18	SK-407561J	KNOB SHUTTLE [F480/F490/F497]
19A	*BT-410491J	TRANS POW V1130 EDG [EDG]
19B	*BT-403873J	TRANS POW V1130 EO [EO,440-455EOH]
19C	*BT-403883J	TRANS POW V1130 EOG-V [EOG,490-497EOH]
20	*EW-404002M	AC CORD 200 SE-1 WITH TUBE E
21A	SZ-401874J	STOPPER MASK [F440/F450/F455]
21B	SZ-407583J	STOPPER MASK (2) [F480/F490/F497]
22	SK-407562J	KNOB JOG [F480/F490/F497]
26	SE-409191J	WINDOW FLD (3) [440EDG]

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.

25. ACCESSORY

Ref.No.	Part No.	Description
1	EW-348414	CORD PAL
2A	AV-B1038A010A	REMOCON BLK RC-V250E [440EDG/EO/EOH]
2B	AV-B1039A010A	REMOCON BLK RC-V251G [440EOG]
2C	AV-B1042A010C	REMOCON BLK RC-V252E (G) [450/455EOH]
2D	AV-B1040A010F	REMOCON BLK RC-V451G [480EOG]
2E	AV-B1043A010E	REMOCON BLK RC-V452E [490EO/EOH,497EOH]

6-4. REMOTE CONTROL BLOCK

- ALL MODEL

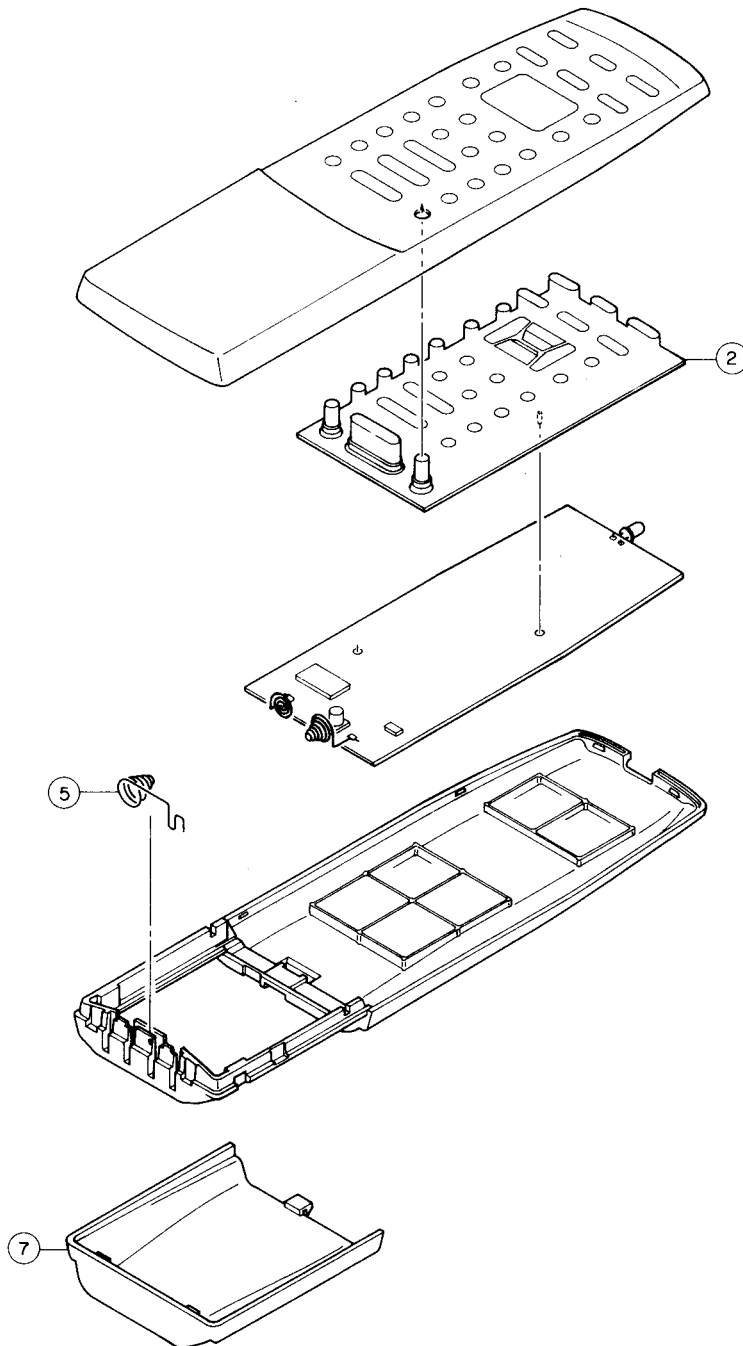
1.RECOMMENDED SPARE PARTS

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

Ref.No.	Part No.	Description
1	ED-397391J	D LED BR3668S RED
2	ED-403450J	D LED SE303ARF-C INFRARED
3	ED-386031J	D SILICON CHIP MA110-TW
4	EI-408408J1	IC M50933-128FP JXLCDR2
5	EI-400672J	IC S-8052ALB-LE
6	EI-376112	IC UPD6122G
7	EI-408449J	IC UPD75004GB-771 JXVPTR1 QF
8	EI-403451J	OSC CE CSB1200J 1.200MHZ
9	EI-408450J	OSC CE CST2.45MGW 2.450MHZ
10	EI-390687J	OSC CE CSU455PL 455KHZ
11	EI-368825M	OSC X'TAL C-002RX 32.768KHZ
12	EI-368825	OSC X'TAL MX-38T 32.768KHZ
13	EJ-408427J	CONNECTOR LCD (4) B1043
14	EJ-403095J	TERMINAL LCD (3) B1014
15	EM-408437J	IND LCD LD-B5444A ENGLISH
16	EM-403448J	IND LCD LF5381G ENGLISH
17	ES-408428J	SW ROTARY ENCODER SRGPPJ
18	ES-393431J	SW TACT CHIP SKHUAB T12E
19	ET-390826J	TR.CHIP 2SD1619 T,U TC T08
20	ET-405342J	TR.CHIP 2SD1620

• MODEL VS-F440EA/EDG/EDI/EK/EM/EO/EOH, F441EA

REMOCON RC-V250E



30. REMOCON RC-V250E

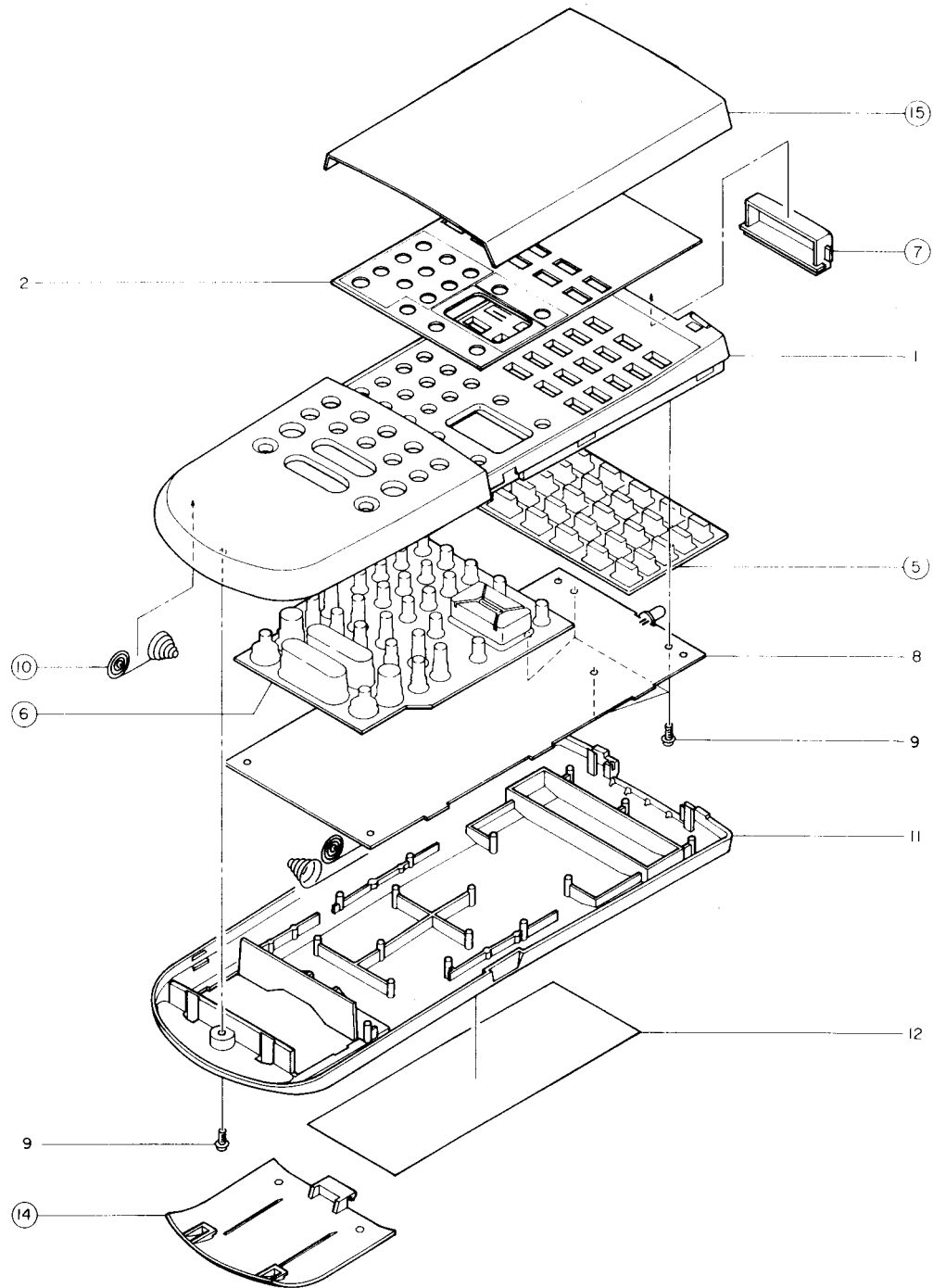
Ref.No.	Part No.	Description
2	MB-407424J	KEY RUBBER
5	ZG-406719J	TERMINAL BATTERY (A3)
7	SC-407425J	COVER BATTERY

31. REMOCON P.C BOARD RC-V250E

Ref.No.	Part No.	Description
D1	ED-403450J	D LED SE303ARF-C INFRARED
D2	ED-386031J	D SILICON CHIP MA110-TW
D3	ED-386031J	D SILICON CHIP MA110-TW
D4	ED-386031J	D SILICON CHIP MA110-TW
IC1	EI-376112	IC UPD6122G
TR1	ET-390826J	TR.CHIP 2SD1619 T,U TC T08
X1	EI-390687J	OSC CE CSU455PL 455KHZ
1	ZG-406720J	TERMINAL BATTERY (A1)
2	ZG-406722J	TERMINAL BATTERY (A2)

• MODEL VS-F440EOG-V

REMOCON RC-V251G



32. REMOCON RC-V251G

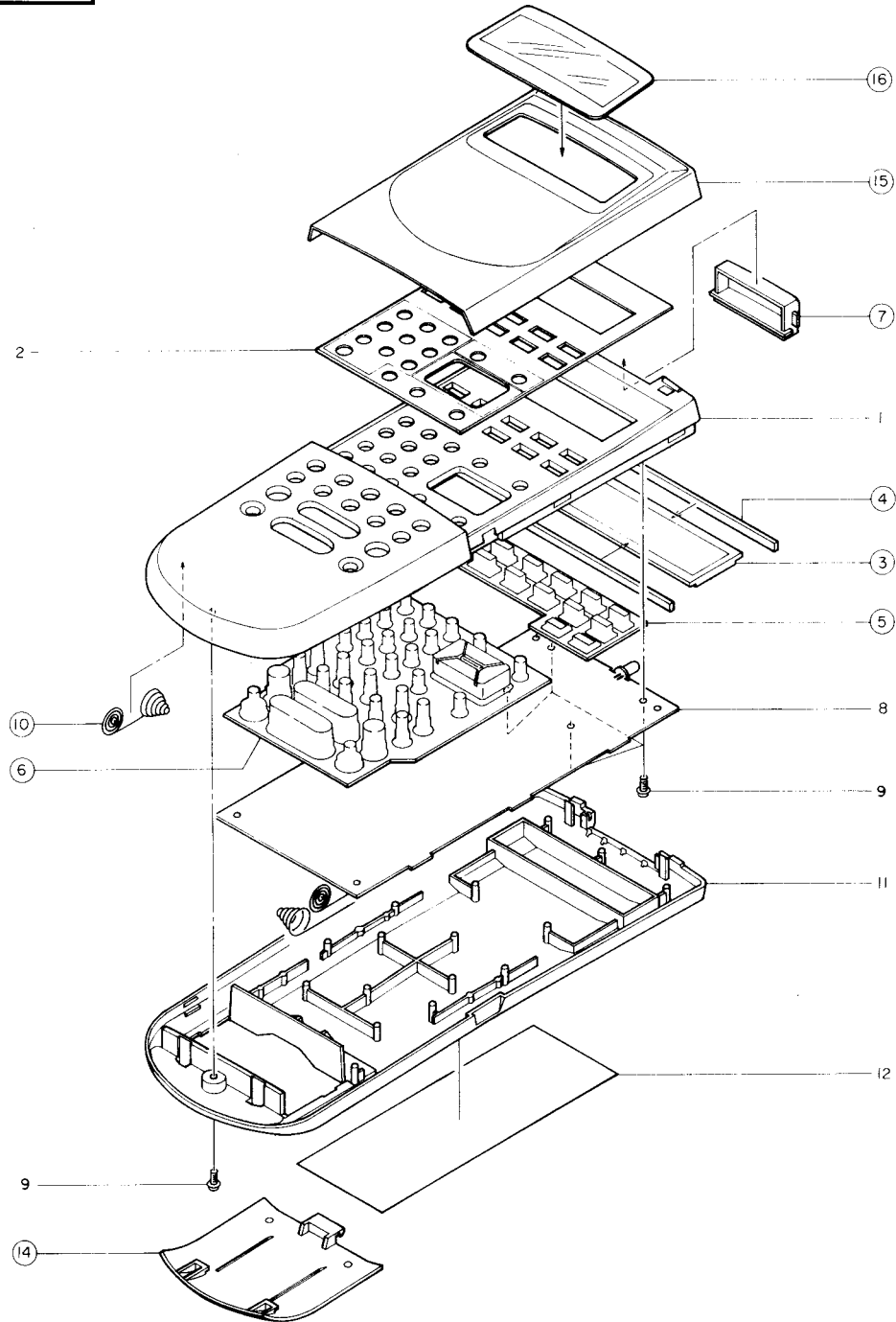
Ref.No.	Part No.	Description
5	MB-406737J	KEY RUBBER (M6)
6	MB-406738J	KEY RUBBER (L) -2
7	SE-403111J	FILTER
9	ZS-374389	PT BID20X06STL BNI
10	ZG-403100J2	TERMINAL BATTERY (+-)
14	SC-406730J	COVER BATTERY (2)
15	SP-406739J	DOOR PANEL (V) -G2

33. REMOCON P.C BOARD RC-V251G

Ref.No.	Part No.	Description
D1	ED-403450J	D LED SE303ARF-C INFRARED
D2	ED-386031J	D SILICON CHIP MA110-TW
D3	ED-386031J	D SILICON CHIP MA110-TW
D4	ED-386031J	D SILICON CHIP MA110-TW
IC1	EI-376112	IC UPD6122G
TR1	ET-390826J	TR.CHIP 2SD1619 T,U TC T08
X1	EI-390687J	OSC CE CSU455PL 455KHZ
1	ZG-403098J	TERMINAL BATTERY (+)
2	ZG-403099J	TERMINAL BATTERY (-)

• MODEL VS-F450EOH, F455EOH

REMOCON EC-V252E



34. REMOCON RC-V252E (G)

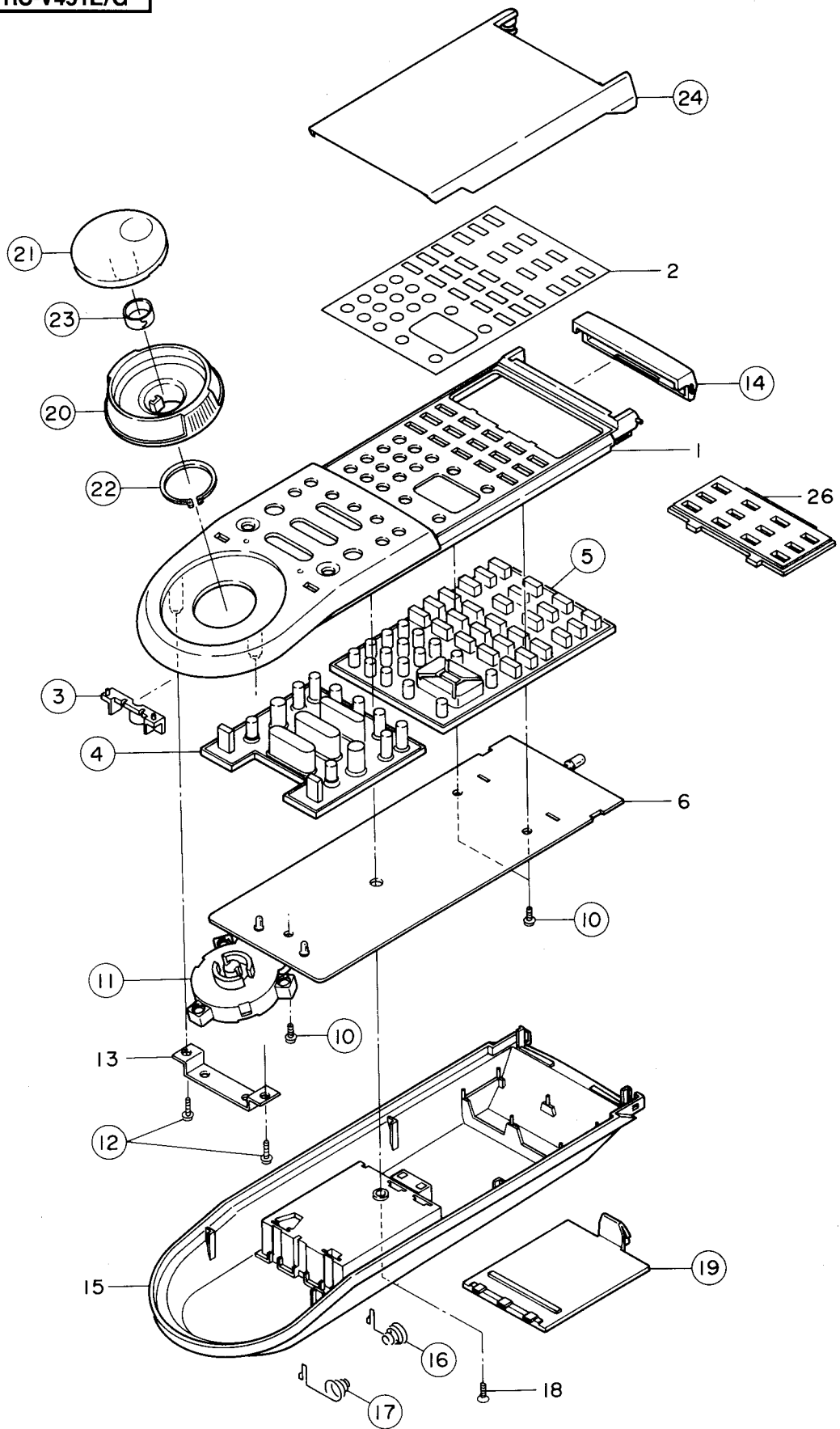
Ref.No.	Part No.	Description
3	EM-403448J	IND LCD LF5381G ENGLISH
4	EJ-403095J	TERMINAL LCD (3) B1014
5	MB-403107J	KEY RUBBER (S2)
6	MB-406738J	KEY RUBBER (L) -2
7	SE-403111J	FILTER
9	ZS-374389	PT BID20X06STL BNI
10	ZG-403100J2	TERMINAL BATTERY (+)
14	SC-406730J	COVER BATTERY (2)
15	SP-406731J	DOOR PANEL (L2)
16	SP-403096J1	WINDOW LCD

35. REMOCON P.C BOARD RC-V252E (G)

Ref.No.	Part No.	Description
D1	ED-403450J	D LED SE303ARF-C INFRARED
IC1	EI-408408J1	IC M50933-128FP JXLCDR2
IC2	EI-400672J	IC S-8052ALB-LE
TR1	ET-390826J	TR.CHIP 2SD1619 T,U TC T08
X1	EI-368825	OSC X'TAL MX-38T 32.768KHZ
X2	EI-403451J	OSC CE CSB1200J 1.200MHZ
1	ZG-403098J	TERMINAL BATTERY (+)
2	ZG-403099J	TERMINAL BATTERY (-)

• MODEL VS-F480EK-V/EOG-V

REMOCON RC-V451E/G



PARTS LIST

36. REMOCON RC-V451E/V451G

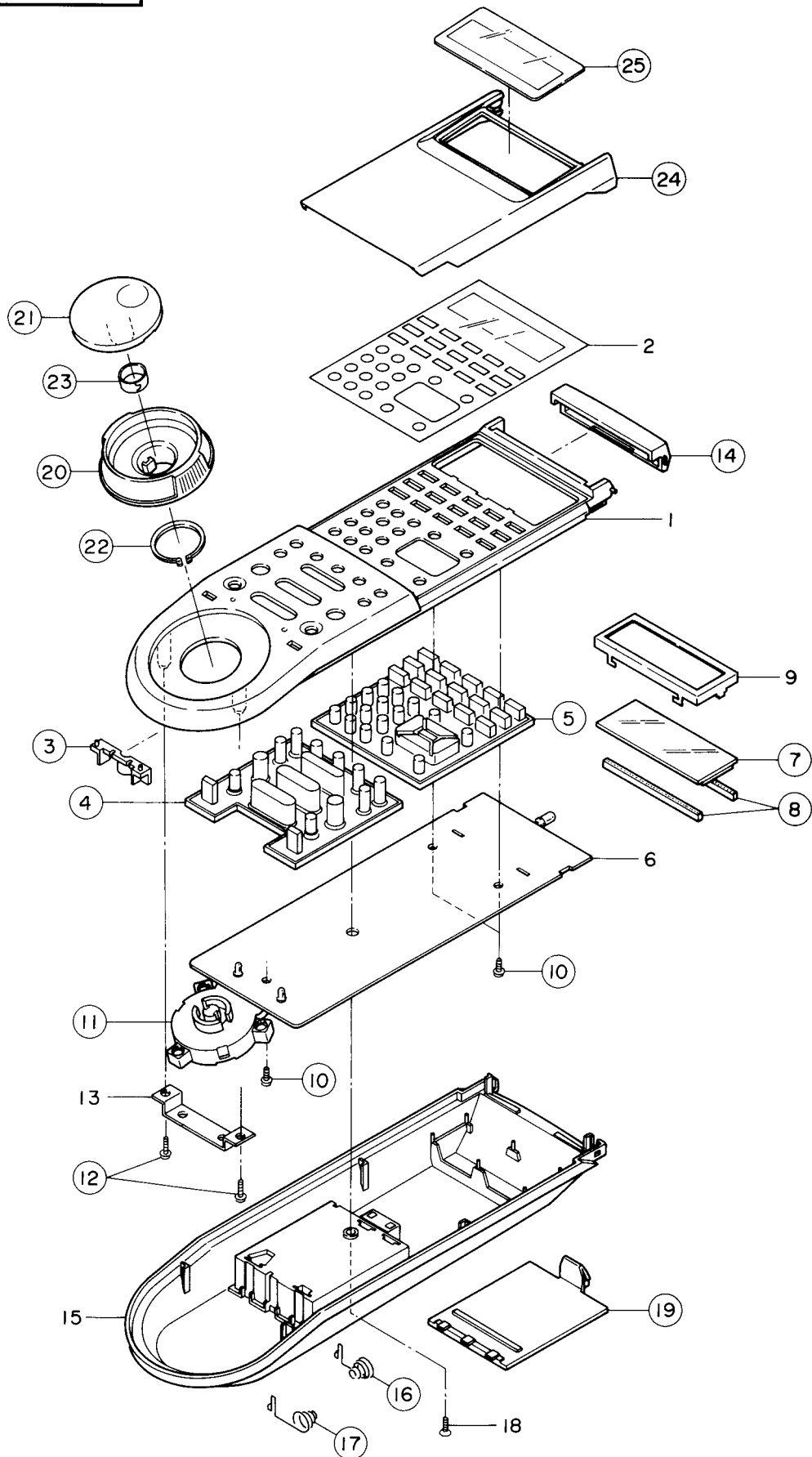
Ref.No.	Part No.	Description
3	SE-407612J	LENS (V)
4	MB-407645J	KEY RUBBER (V1)
5	MB-407624J	KEY RUBBER (V2) -C
10	ZS-374389	PT BID20X06STL BNI
11	ES-408428J	SW ROTARY ENCODER SRGPPJ
12	ZS-336614	PT PAN26X08STL CMT
14	SE-407625J	FILTER (V)
16	ZG-407614J	TERMINAL BATTERY (V3)
17	ZG-407615J	TERMINAL BATTERY (V4)
19	SC-407627J	COVER BATTERY (V)
20	SK-407713J	KNOB RING-R
21	SK-407708J	KNOB JOG
22	SZ-408436J	RING C S-19
23	SZ-408435J	COMPRESSION RING 10193
24A	SP-407633J	DOOR PANEL (V) -451E [RC-V451E]
24B	SP-407632J	DOOR PANEL (V) -451G [RC-V451G]

37. REMOCON P.C BOARD RC-V451E

Ref.No.	Part No.	Description
D1	ED-403450J	D LED SE303ARF-C INFRARED
D2	ED-397391J	D LED BR3668S RED
D3	ED-397391J	D LED BR3668S RED
IC1	EI-408449J	IC UPD75004GB-771 JXVPTR1 QF
IC2	EI-400672J	IC S-8052ALB-LE
TR1	ET-405342J	TR.CHIP 2SD1620
X1	EI-408450J	OSC CE CST2.45MGW 2.450MHZ
1	ZG-407616J	TERMINAL BATTERY (V1)
2	ZG-407617J	TERMINAL BATTERY (V2)

• MODEL VS-F490EM/EO/EOH/ES, F497EOH

REMOCON RC-V452E



38. REMOCON RC-V452E

Ref.No.	Part No.	Description
3	SE-407612J	LENS (V)
4	MB-407645J	KEY RUBBER (V1)
5	MB-407620J	KEY RUBBER (W) -C
7	EM-408437J	IND LCD LD-B5444A ENGLISH
8	EJ-408427J	CONNECTOR LCD (4) B1043
10	ZS-374389	PT BID20X06STL BNI
11	ES-408428J	SW ROTARY ENCODER SRGPPJ
12	ZS-336614	PT PAN26X08STL CMT
14	SE-407625J	FILTER (V)
16	ZG-407614J	TERMINAL BATTERY (V3)
17	ZG-407615J	TERMINAL BATTERY (V4)
19	SC-407627J	COVER BATTERY (V)
20	SK-407713J	KNOB RING-R
21	SK-407708J	KNOB JOG
22	SZ-408436J	RING C S-19
23	SZ-408435J	COMPRESSION RING 10193
24	SP-407640J	DOOR PANEL (W) -452E
25	SE-407613J	WINDOW DOOR (W)

39. REMOCON P.C BOARD RC-V452E

Ref.No.	Part No.	Description
D1	ED-403450J	D LED SE303ARF-C INFRARED
D2	ED-397391J	D LED BR3668S RED
D3	ED-397391J	D LED BR3668S RED
D4	ED-386031J	D SILICON CHIP MA110-TW
D5	ED-386031J	D SILICON CHIP MA110-TW
D6	ED-386031J	D SILICON CHIP MA110-TW
D7	ED-386031J	D SILICON CHIP MA110-TW
D8	ED-386031J	D SILICON CHIP MA110-TW
D9	ED-386031J	D SILICON CHIP MA110-TW
D10	ED-386031J	D SILICON CHIP MA110-TW
D11	ED-386031J	D SILICON CHIP MA110-TW
IC1	EI-408408J1	IC M50933-128FP JXLCDR2
IC2	EI-400672J	IC S-8052ALB-LE
SW1	ES-393431J	SW TACT CHIP SKHUAB T12E
TR1	ET-405342J	TR.CHIP 2SD1620
X1	EI-368825M	OSC X'TAL C-002RX 32.768KHZ
X2	EI-403451J	OSC CE CSB1200J 1.200MHZ

NOTE

INDEX

EA/EDI/EM

1. MODEL VS-F440EA/EDI/EM, F441EA, F490EM

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
AVB1038A010A	23-2A	ED307572	8-D3	ED307572	12-D25	ED511907	16-D17
AVB1043A010E	23-2B	ED307572	8-D4	ED307572	12-D26	ED511907	16-D18
BAV1130A500A	7-4A	ED307572	8-D201	ED307572	12-D27	ED511907	17-D3
BAV1130A510A	7-4B	ED307572	8-D202	ED307572	12-D28	ED511907	17-D4
BAV1132A610F	7-2A	ED307572	8-D203	ED307572	12-D41	ED511907	17-D17
BAV1132A610G	7-2D	ED307572	8-D208	ED307572	12-D42	ED511907	17-D18
BAV1132A615C	7-2B	ED307572	8-D209	ED307572	12-D45	ED511907	17-D71
BAV1132A615G	7-2C	ED307572	8-D301	ED307572	12-D46	ED511907	17-D72
BAV1146A635K	7-3A	ED307572	8-D302	ED307572	12-D47	ED511907	17-D73
BAV1146A635L	7-3B	ED307572	8-D305	ED307572	12-D48	ED511907	17-D74
BAV1146A640A	7-3C	ED307572	8-D306	ED307572	17-D16	ED511907	17-D101
BAV1146A640C	7-3D	ED307572	8-D307	ED307572	17-D54	EE405638J	8-2C
BAV1150A600A	7-1A	ED307572	8-D308	ED307572	17-D55	EE408417J	8-2A
BAV1150A600D	7-1B	ED307572	8-D309	ED307572	17-D103	EE408471J	8-2B
BAV1150A600E	7-1C	ED307572	8-D310	ED307572	18-D10	EH366894	9-FL701
BAV1152A600B	7-1D	ED307572	8-D401	ED366443	8-D406	EH368816	15-CF1
BAV1152A630B	7-3E	ED307572	8-D402	ED379298	19-D60	EH368948	14-CF3A
BBV1130A020C	4-70	ED307572	8-D403	ED386226J	17-D6	EH373919	15-CF3
BBV1130A020H	3-64	ED307572	8-D404	ED386226J	17-D8	EH373920	14-CF2
BD409126J1	22-1D	ED307572	8-D405	ED386226J	17-D11	EH376338	15-CF2
BD409284J	22-1A	ED307572	8-D408	ED387919J	8-D8	EH381309J	15-CF52
BD409298J	22-1C	ED307572	8-D410	ED390011J	5-13	EH383083J	11-IB2
BD409299J1	22-1B	ED307572	8-D411	ED390011J	6-13	EH383083J	12-IB2
BLV1102A050A	3-23	ED307572	8-D501	ED390012J	5-14	EH388287J	15-CF51
BLV1102A140A	3-43	ED307572	8-D502	ED391005J	17-D28	EH390730J	8-DL500
BLV1102A140A	4-43	ED307572	8-D503	ED391005J	18-D56	EH394838J	8-DL501
BLV1123A050A	4-23	ED307572	8-D504	ED397233J	8-D204	EH403945J	11-IB1
BLV1130A160A	4-65	ED307572	8-D505	ED401046J	17-D106	EH403945J	12-IB1
BL387458J2	6-37	ED307572	8-D506	ED401099J	20-D1	EH714626	14-CF1A
BM387503J	5-31	ED307572	8-D507	ED401099J	20-D2	EH729986J	14-CF3B
BM387503J	6-31	ED307572	8-D508	ED403267J	8-D205	EH730625J	14-CF1B
BM400682J1	5-9	ED307572	8-D509	ED403267J	20-D3	EH780128	15-CF53
BM400682J1	6-9	ED307572	9-D601	ED403278J	11-D11	EI200573	9-IC702
BM401296J1	2-8	ED307572	9-D603	ED403279J	11-D10	EI310036	8-IC101
BT410487J	22-19A	ED307572	9-D801	ED403279J	12-D10	EI310036	9-IC902
BT410488J	22-19C	ED307572	9-D901	ED403724J	8-D304	EI353421	8-IC302
BT410489J	22-19B	ED307572	9-D902	ED403729J	8-D412	EI356457	8-IC403
BVV1102A070A	3-35	ED307572	10-D1	ED403729J	8-D412	EI356457	8-IC403
BVV1102A070A	4-35	ED307572	10-D2	ED403731J	12-D11	EI360586	8-IC304
BVV1102A080A	3-36	ED307572	10-D3	ED403732J	18-D50	EI366892	9-IC701
				ED403947J	17-D102	EI368809	14-IC1
BVV1102A080A	4-36	ED307572	10-D4	ED403948J	17-D107	EI368809	15-IC1
BVV1102A150A	3-48	ED307572	11-D3	ED404029J	16-D16	EI368825M	11-X2
BVV1102A150A	4-48	ED307572	11-D5	ED404031J	17-D104	EI368825M	12-X2
BVV1123A410B	2-1	ED307572	11-D12	ED404032J	16-D14	EI368829	15-X51
BVV1123A420B	2-2	ED307572	11-D13	ED404032J	17-D19	EI373955	11-IC3
BV387610J	8-MD1A	ED307572	11-D14	ED404086J	8-D303	EI373955	12-IC3
BV387611J	8-MD1C	ED307572	11-D15	ED405247J	10-D101	EI373957J1	11-X1
BV403236J1	8-1A	ED307572	11-D17	ED405264J	17-D57	EI373957J1	12-X1
BV403239J1	8-1C	ED307572	11-D25	ED405264J	17-D58	EI373980	8-IC303
BV403963J	8-1B	ED307572	11-D26	ED405264J	18-D7	EI373981J1	8-IC402
BV404007J	8-MD1B	ED307572	11-D27	ED405265J	17-D108	EI381575J	18-IC1
EA387496J	5-12	ED307572	11-D31	ED405265J	17-D109	EI381632J	8-X500
EA404543J	6-12	ED307572	11-D41	ED405373J	16-D13	EI386468J	9-IC901
EC363490	16-C2	ED307572	11-D42	ED405524J	16-D15	EI387586J	10-IC1
EC389414J	17-C101	ED307572	11-D43	ED405524J	17-D20	EI388360J	9-IC801
EC391843J	8-C369	ED307572	11-D44	ED408807J	17-D27	EI389622J	8-IC1
EC394757J	9-VC601	ED307572	12-D5	ED511907	8-D212	EI389640J	8-X301
EC403878J	17-C4	ED307572	12-D12	ED511907	8-D213	EI389974J	9-X601
EC403878J	17-C15	ED307572	12-D13	ED511907	16-D1	EI394467J	11-IC2
EC403880J	17-C20	ED307572	12-D14	ED511907	16-D2	EI394856J	8-IC401
EC404197J	17-C23	ED307572	12-D15	ED511907	16-D3	EI400756J	8-IC201
EC404197J	17-C24	ED307572	12-D16	ED511907	16-D4	EI403234J1	8-IC400
EC406634J	16-C1	ED307572	12-D17	ED511907	16-D5	EI403467J	9-X602
EC406635J	16-C3	ED307572	12-D18	ED511907	16-D6	EI403469J	9-IC602
EC408376J	17-C1	ED307572	12-D19	ED511907	16-D7	EI405722J	9-IC601
EC408377J	17-C2	ED307572	12-D20	ED511907	16-D8	EI408391J1	11-IC1
EC408426J	17-C3	ED307572	12-D21	ED511907	16-D9	EI408393J	12-IC2
EC408426J	17-C14	ED307572	12-D22	ED511907	16-D10	EI408397J	12-IC1
ED307572	8-D1	ED307572	12-D23	ED511907	16-D11	EI408849J	8-IC301A
ED307572	8-D2	ED307572	12-D24	ED511907	16-D12	EI408850J	8-IC301B

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
EJ381837J	5-16	EO387798J	15-L6	ES349474	12-SW13	ET354415	8-TR413
EJ381837J	6-16	EO387799J	14-L6	ES349474	12-SW14	ET356336	8-TR102
EJ387497J	5-15	EO387799J	14-L7	ES349474	12-SW15	ET356336	8-TR202
EJ387497J	6-15	EO387800J	14-L1	ES349474	12-SW16	ET356336	8-TR401
EJ387497J	11-PS2	EO387802J	8-L590	ES349474	12-SW17	ET356336	8-TR423
EJ387497J	12-PS2	EO387802J	14-L8	ES349474	12-SW18	ET356336	8-TR508
EJ387614J	8-PJ101	EO387803J	15-L52	ES349474	12-SW19	ET356336	8-TR513
EJ387622J	12-PJ2	EO388161J	8-L474	ES349474	13-SW3	ET356336	9-TR605
EJ387623J	12-PJ3	EO388349J	10-FL101	ES373099	5-39	ET356336	9-TR606
EJ389815J	11-PS1	EO388362J	9-FL801A	ES373099	6-39	ET356817	17-TR6
EJ389815J	12-PS1	EO388363J	9-FL801B	ES387465J	5-17	ET360399	8-TR409
EJ403389J	10-PS1	EO390716J	9-L802	ES387465J	6-17	ET360399	8-TR411
EJ408399J	12-PJ1	EO390716J	10-L101	ES403377J	21-SW1	ET360399	8-TR417
EM401077J	11-FL1	EO390717J	9-L801	ES408404J	11-SW1B	ET360399	10-TR3
EM403367J	12-FL1	EO392817J	8-L507	ES408405J	11-SW1A	ET360399	10-TR4
EO345874	8-L410	EO393769J	17-L9	ET353897	8-TR15	ET360399	10-TR22
EO345876	9-L602	EO396361J	15-L51	ET353897	8-TR501	ET360399	17-TR14
EO345880	8-L404	EO397238J	15-L5	ET353897	10-TR10	ET360399	17-TR15
EO345880	8-L472	EO403270J	8-L510	ET353897	10-TR18	ET360646	8-TR502
EO345880	8-L500	EO403937J	8-L508	ET353897	18-TR50	ET361490	5-24
EO345880	8-L502	EO408381J	17-L1	ET353899	8-TR1	ET361490	6-24
EO345880	8-L505	EO408381J	17-L2	ET353899	8-TR3	ET363953	8-TR303
EO345880	8-L506	EO408381J	17-L3	ET353899	8-TR4	ET364040	8-TR421
EO345880	8-L509	EO408381J	17-L4	ET353899	8-TR5	ET364040	10-TR5
EO345880	8-L570	EO714610	14-L5B	ET353899	8-TR7	ET364040	10-TR13
EO345880	10-L8	EO714610	15-L4	ET353899	8-TR11	ET364040	10-TR17
EO345880	10-L10	EO714613	14-L5A	ET353899	8-TR13	ET366168	17-TR103
EO345880	10-L11	EO714614	14-L4B	ET353899	8-TR104	ET366168	18-TR4
EO345881	8-L101	EO714614	15-L3	ET353899	8-TR105	ET366365	16-TR2
EO345881	8-L302	EO714616	14-L4A	ET353899	8-TR407	ET366365	16-TR7
EO345881	9-L601	EO725953J	14-L3	ET353899	8-TR415	ET366365	17-TR1
EO345881	9-L605	EO725954J	15-L2	ET353899	8-TR470	ET366365	17-TR5
EO345881	9-L701	EQ400153J	17-RL101	ET353899	8-TR471	ET366365	17-TR9
EO345881	9-L702	ER393768J	17-R14	ET353899	9-TR601	ET366365	17-TR13
EO345881	9-L901	ER400605J	16-FR5	ET353899	9-TR607	ET366365	17-TR104
EO351866	9-L603	ER400605J	17-FR3	ET353899	10-TR1	ET366365	20-TR1
EO351866	9-L604	ER400689J	17-FR4	ET353899	10-TR11	ET370819	15-Q3
EO353900	8-L501	ER400689J	17-FR101	ET353899	10-TR12	ET370819	15-Q51
EO353900	8-L503	ER400728J	16-FR2	ET354364	8-TR404	ET370819	15-Q52
EO353900	8-L504	ER400728J	16-FR4	ET354364	10-TR15	ET373985	8-TR307
EO354600	8-L303	ER400728J	17-FR1	ET354414	8-TR8	ET373985	8-TR308
EO354600	8-L401	ER400729J	8-FR350	ET354414	8-TR9	ET373985	8-TR309
EO354600	8-L405	ER400959J	8-FR201	ET354414	8-TR19	ET375777	8-TR2
EO354600	8-L406	ER401039J	17-FR102	ET354414	8-TR101	ET381175J	16-TR1
EO356722	8-L103	ER403405J	8-R214	ET354414	8-TR103	ET381637J2	11-PH1
EO356722	8-L470	ER404093J	8-FR501	ET354414	8-TR301	ET381637J2	13-PH1
EO357508	8-L402	ER405441J	17-FR5	ET354414	8-TR305	ET388338J	8-TR205
EO366893	9-VL701	ER408375J	16-FR1	ET354414	8-TR306	ET388338J	8-TR414
EO373260	8-L1	ER408375J	16-FR3	ET354414	8-TR310	ET388338J	8-TR424
EO376600	10-L1	ER408375J	17-FR2	ET354414	8-TR313	ET389803J	9-TR608
EO376600	10-L16	ES349474	11-SW2	ET354414	8-TR402	ET389803J	9-TR904
EO376603	10-L5	ES349474	11-SW3	ET354414	8-TR408	ET389803J	17-TR101
EO376605	10-L14B	ES349474	11-SW4	ET354414	8-TR410	ET389803J	17-TR106
EO376606	10-L4	ES349474	11-SW5	ET354414	8-TR420	ET389803J	18-TR3
EO376607	10-L14A	ES349474	11-SW6	ET354414	8-TR425	ET389803J	18-TR8
EO376612	10-L15	ES349474	11-SW7	ET354414	8-TR514	ET390009J	5-19
EO376614	10-L9	ES349474	11-SW8	ET354414	8-TR572	ET390009J	6-19
EO376857	10-L3	ES349474	11-SW9	ET354414	8-TR573	ET390010J	5-18
EO376858	10-L2	ES349474	11-SW12	ET354414	9-TR602	ET391025J	16-TR6
EO376859	10-L12	ES349474	12-SW1	ET354414	9-TR609	ET397160J	8-TR12
EO376860	10-L7	ES349474	12-SW2	ET354414	9-TR803	ET397160J	8-TR17
EO380091J1	18-L10	ES349474	12-SW4	ET354414	9-TR901	ET397160J	8-TR18
EO381192J	8-L403	ES349474	12-SW5	ET354414	9-TR902	ET397160J	8-TR107
EO381193J	10-L6	ES349474	12-SW6	ET354414	10-TR6	ET397160J	8-TR109
EO381195J	8-L511	ES349474	12-SW7	ET354414	10-TR16	ET397160J	8-TR203
EO381195J	10-L13	ES349474	12-SW8	ET354414	10-TR19	ET397160J	8-TR406
EO381196J	8-L301	ES349474	12-SW9	ET354414	10-TR23	ET397160J	8-TR503
EO381197J	8-L512	ES349474	12-SW10	ET354414	11-TR1	ET397160J	8-TR504
EO386541J	17-L6	ES349474	12-SW11	ET354414	12-TR1	ET397160J	8-TR505
EO387782J	15-L1	ES349474	12-SW12	ET354415	8-TR304	ET397160J	8-TR506

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
ET397160J	8-TR507	EW404138J1	8-WF201	MZ387351J2	4-58	ZG387467J	3-7
ET397160J	8-TR509	EX405691J	10-TH1	MZ387430J	5-21	ZG387468J	5-4
ET397160J	8-TR510	HE390013J	3-20	MZ387430J	6-21	ZG387468J	6-4
ET397160J	8-TR511	HE390013J	4-20	MZ387445J	5-22	ZG387502J	6-38
ET397160J	8-TR512	HR405340J	3-13	MZ387445J	6-22	ZG387505J	22-11
ET397160J	8-TR515	HR405340J	4-13	MZ387446J	5-23	ZG388290J1	3-52
ET397160J	8-TR570	MA387474J3	2-6	MZ395471J3	4-27	ZG388290J1	4-52
ET397160J	8-TR571	MB387289J	5-11	MZ401686J1	6-32	ZG392294J	3-61
ET397160J	9-TR603	MB407117J	6-11	MZ402760J2	3-17	ZG392294J	4-61
ET397160J	9-TR604	MI387294J	3-10	MZ402760J2	4-17	ZG392831J	3-46
ET397160J	9-TR701	MI404552J	4-10	MZ404538J	6-29	ZG392831J	4-46
ET397160J	9-TR702	ML387277J3	3-32	MZ404542J	6-23	ZG395470J	4-26
ET397160J	9-TR751	ML387277J3	4-32	MZ404577J	6-7	ZG395567J	3-42
ET397160J	9-TR752	ML387311J2	5-42	MZ404995J	4-62	ZG395567J	4-42
ET397160J	9-TR753	ML387311J2	6-42	MZ406134J	3-58	ZS321298	2-3
ET397160J	9-TR754	ML387316J	3-1	SA387507J	22-8	ZS321298	3-15
ET397160J	9-TR801	ML387316J	4-1	SC387353J	22-6	ZS321298	4-15
ET397160J	9-TR903	ML387318J	3-2	SE395554J	3-57	ZS336714	2-12
ET397160J	10-TR2	ML387318J	4-2	SE395554J	4-57	ZS336714	3-22
ET397160J	10-TR7	ML387321J	3-4	SE409104J1	22-2D	ZS336714	4-22
ET397160J	10-TR8	ML387324J1	5-1	SE409119J	22-26B	ZS344754	3-16
ET397160J	10-TR9	ML387344J	3-54	SE409191J	22-26A	ZS358936	3-59
ET397160J	10-TR14	ML387344J	4-54	SE409196J	22-2C	ZS358936	4-59
ET397160J	10-TR21	ML387345J	3-51	SE409197J	22-2A	ZS358936	5-41
ET397160J	10-TR101	ML387345J	4-51	SE409265J	22-2B	ZS358936	6-41
ET397160J	17-TR16	ML387346J	3-53	SK407561J	22-18	ZS358936	22-9
ET397160J	20-TR2	ML387346J	4-53	SK407562J	22-22	ZS365149	5-10
ET397160J	20-TR3	ML387349J2	3-56	SP388307J	8-3A	ZS365149	6-10
ET400218J	8-TR302	ML387349J2	4-56	SP404013J	8-3B	ZS373962	22-12
ET400218J	17-TR102	ML387350J1	3-47	SP407479J	22-14	ZS374458	3-38
ET403420J	6-14	ML387350J1	4-47	SP409113J	22-4	ZS374458	4-38
ET404195J	17-TR107	ML387402J1	5-3	SZ387263J4	4-24	ZS378341	22-7
ET405622J	8-TR210	ML387402J1	6-3	SZ387388J	2-4	ZS379350	2-11
ET405622J	16-TR3	ML387423J	3-6	SZ391866J1	4-60	ZS379405	2-5
ET405622J	16-TR4	ML387428J	3-39	SZ401874J	22-21A	ZS385611J	22-15
ET405622J	16-TR5	ML387428J	4-39	SZ404290J	22-5	ZS389853J	2-14
ET405622J	17-TR12	ML387431J1	3-31	SZ407187J2	3-24	ZS389853J	4-16
ET405622J	18-TR2	ML387431J1	4-31	SZ407583J	22-21B	ZS389950J	5-40
ET405622J	18-TR7	ML390768J4	3-25	VT387394J1	3-37	ZS389950J	6-40
ET713614	14-Q2	ML390768J4	4-25	VT387394J1	4-37	ZS391046J	22-16
ET713614	15-Q2	ML391745J3	3-41	VT401282J	2-13	ZS404844J	3-14
ET713614	15-Q4	ML391745J3	4-41	ZG373900	3-12	ZS404844J	4-14
ET725820J	14-Q1	ML404567J1	6-1	ZG373900	4-12	ZS425981	5-36
ET725820J	15-Q1	ML404847J	4-66	ZG387272J	3-26	ZS425981	6-36
EV390157J	10-VR1	ML404944J	5-2	ZG387282J	3-33	ZS464703	3-28
EV390157J	10-VR2	ML404944J	6-2	ZG387282J	4-33	ZS467796	2-9
EV403967J	9-VR801	ML407119J	4-4	ZG387320J	3-3	ZS563444	2-7
EV403968J	9-VR802A	MP404852J	3-27	ZG387320J	4-3	ZS659046	22-17
EV404298J	14-VR2	MP404852J	4-64	ZG387323J	3-5	ZW332843	3-30
EV404298J	15-VR2	MR387286J1	3-18	ZG387323J	4-5	ZW332843	4-30
EV404300J	8-VR402	MR387286J1	4-18	ZG387348J1	3-49	ZW374445	3-19
EV405248J	10-VR3	MR387406J	5-35	ZG387348J1	4-49	ZW374445	4-19
EV405248J	10-VR4	MR387406J	6-35	ZG387354J	22-13	ZW387492J	5-8
EV405263J	9-VR802B	MR391968J	5-33	ZG387370J	22-3	ZW387492J	6-8
EV405657J	8-VR401	MR391968J	6-33	ZG387403J	5-5	ZW389814J	3-8
EV405658J	14-VR51	MT390954J1	3-9	ZG387403J	6-5	ZW389814J	4-8
EV405658J	15-VR1	MT404547J	4-9	ZG387413J1	5-27	ZW389923J	5-6
EV405659J	8-VR403	MZV1102A090A	5-25	ZG387413J1	6-27	ZW389923J	6-6
EV405665J	8-VR301	MZV1102A090A	6-25	ZG387417J	3-44	ZW401776J	3-34
EV405665J	8-VR404	MZV1102A100A	5-26	ZG387417J	4-44	ZW401776J	4-34
EW348414	23-1	MZV1102A100A	6-26	ZG387418J	3-45		
EW389313J	5-20	MZ387298J3	5-7	ZG387418J	4-45		
EW389313J	6-20	MZ387330J	5-32	ZG387420J1	3-55		
EW389313J	11-WP2	MZ387331J	5-29	ZG387420J1	4-55		
EW389313J	12-WP2	MZ387332J	5-28	ZG387421J	3-50		
EW394623J	11-WP1	MZ387332J	6-28	ZG387421J	4-50		
EW394623J	12-WP1	MZ387333J	5-30	ZG387438J1	3-11		
EW403386J1	10-WP1	MZ387333J	6-30	ZG387438J1	4-11		
EW404002M	22-20B	MZ387335J	3-40	ZG387443J	5-34		
EW404003M	22-20A	MZ387335J	4-40	ZG387443J	6-34		

2. MODEL VS-F440EK, F480EK-V, F490ES

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
AVB1038A010A	22-2A	ED307572	8-D301	ED307572	16-D55	EH383083J	11-IB2
AVB1040A010E	22-2B	ED307572	8-D302	ED307572	17-D10	EH383083J	12-IB2
AVB1043A010E	22-2C	ED307572	8-D305	ED307572	19-D1	EH386637J	19-IB102
BAV1130A500A	7-4C	ED307572	8-D306	ED307572	19-D101	EH390730J	8-DL500
BAV1130A500B	7-4A	ED307572	8-D307	ED307572	19-D201	EH394684J	19-FL101
BAV1132A610F	7-2A	ED307572	8-D308	ED366443	8-D406	EH394838J	8-D501
BAV1132A610H	7-2B	ED307572	8-D309	ED379298	18-D14	EH403945J	11-IB1
BAV1135A500C	7-4B	ED307572	8-D310	ED386226J	16-D6	EH403945J	12-IB1
BAV1146Q640B	7-3A	ED307572	8-D401	ED386226J	16-D8	EH714627	14-CF1B
BAV1150Q600C	7-1A	ED307572	8-D402	ED386226J	16-D11	EH714628	14-CF1A
BAV1152A600F	7-1C	ED307572	8-D403	ED387919J	17-D50	EI200573	9-IC702
BAV1152A630G	7-3C	ED307572	8-D404	ED390011J	5-13	EI310036	8-IC101
BAV1152Q600A	7-1B	ED307572	8-D405	ED390011J	6-13	EI310036	9-IC902
BAV1152Q630A	7-3B	ED307572	8-D408	ED390012J	5-14	EI353421	8-IC302
BBV1130A020C	4-70	ED307572	8-D410	ED391005J	16-D28	EI356457	8-IC403
BBV1130A020H	3-64	ED307572	8-D411	ED396057J	17-D56	EI360586	8-IC304
BD409123J1	21-1B	ED307572	8-D502	ED396060J	16-D27	EI368809	14-IC1
BD409128J1	21-1C	ED307572	8-D503	ED397233J	8-D204	EI368825M	11-X2
BD409284J	21-1A	ED307572	8-D504	ED403267J	8-D205	EI368825M	12-X2
BLV1102A050A	3-23	ED307572	8-D505	ED403278J	11-D11	EI373955	11-IC3
BLV1102A140A	3-43	ED307572	8-D506	ED403279J	11-D10	EI373955	12-IC3
BLV1102A140A	4-43	ED307572	8-D507	ED403279J	12-D10	EI373957J1	11-X1
BLV1123A050A	4-23	ED307572	8-D509	ED403724J	8-D304	EI373957J1	12-X1
BLV1130A160A	4-65	ED307572	9-D601	ED403725J	8-D101	EI373957J1	19-X101
BL387458J2	6-37	ED307572	9-D801	ED403729J	8-D412	EI373980	8-IC303
BM387503J	5-31	ED307572	9-D901	ED403731J	12-D11	EI373981J1	8-IC402
BM387503J	6-31	ED307572	9-D902	ED403732J	8-D8	EI381575J	17-IC1
BM400682J1	5-9	ED307572	10-D1	ED404029J	15-D16	EI381632J	8-X500
BM400682J1	6-9	ED307572	10-D2	ED404032J	15-D14	EI386468J	9-IC901
BM401296J1	2-8	ED307572	10-D3	ED404032J	16-D19	EI387019J	19-IC108
BT403872J	21-19A	ED307572	10-D4	ED404086J	8-D303	EI387586J	10-IC1
BT403883J	21-19B	ED307572	11-D12	ED404170J	8-D102	EI388360J	9-IC801
BT410489J	21-19C	ED307572	11-D13	ED405247J	10-D101	EI389622J	8-IC1
BVV1102A070A	3-35	ED307572	11-D14	ED405264J	16-D57	EI389640J	8-X301
BVV1102A070A	4-35	ED307572	11-D15	ED405264J	16-D58	EI389974J	9-X601
BVV1102A080A	3-36	ED307572	11-D17	ED405264J	17-D7	EI394673J	19-X103
BVV1102A080A	4-36	ED307572	11-D25	ED405373J	15-D13	EI394680J	19-IC107
BVV1102A150A	3-48	ED307572	11-D26	ED405524J	15-D15	EI394856J	8-IC401
BVV1102A150A	4-48	ED307572	11-D27	ED405524J	16-D20	EI394861J	8-IC102
BVV1123A410B	2-1	ED307572	11-D31	ED405603J	8-D12	EI400756J	8-IC201
BVV1123A420B	2-2	ED307572	11-D42	ED405604J	8-D13	EI401050J	19-IC106
BV403238J1	8-1A	ED307572	12-D2	ED511907	8-D212	EI403234J1	8-IC400
BV403242J1	8-1B	ED307572	12-D5	ED511907	8-D213	EI403467J	9-X602
BV403410J	8-MD1A	ED307572	12-D12	ED511907	15-D1	EI403469J	9-IC602
BV403411J	8-MD1B	ED307572	12-D13	ED511907	15-D2	EI403964J	8-IC103
EA387496J	5-12	ED307572	12-D14	ED511907	15-D3	EI405224J	19-IC102
EA404543J	6-12	ED307572	12-D15	ED511907	15-D4	EI405224J	19-IC103
EC363490	15-C2	ED307572	12-D16	ED511907	15-D5	EI405722J	9-IC601
EC391843J	8-C369	ED307572	12-D17	ED511907	15-D6	EI408391J1	11-IC1
EC394757J	9-VC601	ED307572	12-D18	ED511907	15-D7	EI408393J	11-IC2
EC403878J	16-C4	ED307572	12-D19	ED511907	15-D8	EI408393J	12-IC2
EC403878J	16-C15	ED307572	12-D20	ED511907	15-D9	EI408397J	12-IC1
EC403880J	16-C20	ED307572	12-D21	ED511907	15-D10	EI408432J	19-IC101
EC406634J	15-C1	ED307572	12-D22	ED511907	15-D11	EI408433J	19-X102
EC406635J	15-C3	ED307572	12-D23	ED511907	15-D12	EI408434J	19-IC104
EC406639J	16-C23	ED307572	12-D24	ED511907	15-D17	EI408849J	8-IC301A
EC406639J	16-C24	ED307572	12-D25	ED511907	15-D18	EI408850J	8-IC301B
EC408376J	16-C1	ED307572	12-D26	ED511907	16-D3	EI410125J	19-IC105
EC408377J	16-C2	ED307572	12-D27	ED511907	16-D4	EJ381837J	5-16
EC408426J	16-C3	ED307572	12-D28	ED511907	16-D17	EJ381837J	6-16
EC408426J	16-C14	ED307572	12-D32	ED511907	16-D18	EJ387497J	5-15
ED307572	8-D1	ED307572	12-D42	ED511907	16-D71	EJ387497J	6-15
ED307572	8-D2	ED307572	12-D43	ED511907	16-D72	EJ387497J	11-PS2
ED307572	8-D3	ED307572	12-D45	ED511907	16-D73	EJ387497J	12-PS2
ED307572	8-D4	ED307572	12-D46	ED511907	16-D74	EJ387613J	8-PJ102
ED307572	8-D201	ED307572	12-D47	EE387603J1	8-2B	EJ387614J	8-PJ101B
ED307572	8-D202	ED307572	12-D48	EE387607J1	8-2A	EJ387622J	12-PJ2
ED307572	8-D203	ED307572	12-D49	EH373919	14-CF3	EJ387623J	12-PJ3
ED307572	8-D208	ED307572	16-D16	EH373921	14-CF2	EJ389815J	11-PS1
ED307572	8-D209	ED307572	16-D54	EH383056J	19-IB101	EJ389815J	12-PS1

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
EJ403389J	10-PS1	EO386541J	16-L6	ES349474	12-SW19	ET354415	8-TR413
EJ405225J	8-PJ103	EO387798J	14-L6	ES349474	13-SW3	ET354415	19-TR101
EJ405226J	8-PJ101A	EO387798J	14-L7	ES373099	5-39	ET356336	8-TR102
EJ408399J	12-PJ1	EO387800J	14-L1	ES373099	6-39	ET356336	8-TR108
EM401077J	11-FL1	EO387802J	8-L590	ES387465J	5-17	ET356336	8-TR202
EM403367J	12-FL1B	EO387802J	14-L8	ES387465J	6-17	ET356336	8-TR401
EM408395J	12-FL1A	EO388161J	8-L474	ES403377J	20-SW1	ET356336	8-TR423
EO345865	19-L1	EO388349J	10-FL101	ES408404J	11-SW1	ET356336	8-TR508
EO345865	19-L101	EO388362J	9-FL801A	ET353897	8-TR15	ET356817	16-TR6
EO345865	19-L102	EO388363J	9-FL801B	ET353897	8-TR501	ET360399	8-TR409
EO345865	19-L121	EO390716J	9-L802	ET353897	10-TR10	ET360399	8-TR411
EO345865	19-L155	EO390716J	10-L101	ET353897	10-TR18	ET360399	8-TR417
EO345865	19-L201	EO390717J	9-L801	ET353897	17-TR50	ET360399	10-TR3
EO345865	19-L202	EO390998J	8-L1	ET353899	8-TR1	ET360399	10-TR4
EO345865	19-L251	EO392817J	8-L507	ET353899	8-TR3	ET360399	10-TR22
EO345871	19-L206	EO393769J	16-L9	ET353899	8-TR4	ET360399	16-TR14
EO345873	19-L204	EO403270J	8-L510	ET353899	8-TR5	ET360399	16-TR15
EO345874	8-L410	EO403937J	8-L508	ET353899	8-TR7	ET360646	8-TR502
EO345874	19-L207	EO408381J	16-L1	ET353899	8-TR11	ET361490	5-24
EO345874	19-L208	EO408381J	16-L2	ET353899	8-TR13	ET361490	6-24
EO345875	19-L203	EO408381J	16-L3	ET353899	8-TR104	ET363953	8-TR303
EO345876	9-L602	EO408381J	16-L4	ET353899	8-TR105	ET364040	8-TR421
EO345880	8-L404	EO410099J	19-L154	ET353899	8-TR110	ET364040	10-TR5
EO345880	8-L472	EO410104J	19-L151	ET353899	8-TR407	ET364040	10-TR13
EO345880	8-L500	EO410104J	19-L152	ET353899	8-TR415	ET364040	10-TR17
EO345880	8-L502	EO714610	14-L5	ET353899	8-TR470	ET366365	15-TR2
EO345880	8-L505	EO714614	14-L4	ET353899	8-TR471	ET366365	15-TR7
EO345880	8-L506	EO725954J	14-L3	ET353899	9-TR601	ET366365	16-TR1
EO345880	8-L509	ER333091	16-R14	ET353899	9-TR607	ET366365	16-TR5
EO345880	8-L570	ER400605J	15-FR5	ET353899	10-TR1	ET366365	16-TR9
EO345880	10-L8	ER400605J	16-FR3	ET353899	10-TR11	ET366365	16-TR13
EO345880	10-L10	ER400689J	16-FR4	ET353899	10-TR12	ET373985	8-TR307
EO345880	10-L11	ER400728J	15-FR2	ET353899	17-TR3	ET373985	8-TR308
EO345880	19-L153	ER400728J	15-FR4	ET353899	17-TR8	ET373985	8-TR309
EO345881	8-L101	ER400728J	16-FR1	ET353899	19-TR152	ET375777	8-TR2
EO345881	8-L302	ER400729J	8-FR350	ET353899	19-TR153	ET381175J	15-TR1
EO345881	9-L601	ER400959J	8-FR201	ET353899	19-TR204	ET381637J2	11-PH1
EO345881	9-L605	ER403405J	8-R214	ET353899	19-TR208	ET381637J2	13-PH1
EO345881	9-L701	ER404093J	8-FR202	ET353899	19-TR252	ET388338J	8-TR205
EO345881	9-L702	ER404093J	8-FR501	ET353899	19-TR253	ET388338J	8-TR414
EO345881	9-L901	ER405441J	16-FR5	ET354364	8-TR404	ET388338J	8-TR424
EO351866	9-L604	ER408375J	15-FR1	ET354364	10-TR15	ET389803J	9-TR608
EO353900	8-L501	ER408375J	15-FR3	ET354414	8-TR8	ET389803J	9-TR904
EO353900	8-L503	ER408375J	16-FR2	ET354414	8-TR9	ET390009J	5-19
EO353900	8-L504	ES349474	11-SW2	ET354414	8-TR19	ET390009J	6-19
EO354600	8-L303	ES349474	11-SW3	ET354414	8-TR101	ET390010J	5-18
EO354600	8-L401	ES349474	11-SW4	ET354414	8-TR103	ET397160J	8-TR12
EO354600	8-L405	ES349474	11-SW5	ET354414	8-TR301	ET397160J	8-TR17
EO354600	8-L406	ES349474	11-SW6	ET354414	8-TR305	ET397160J	8-TR18
EO356722	8-L103	ES349474	11-SW7	ET354414	8-TR306	ET397160J	8-TR107
EO356722	8-L470	ES349474	11-SW8	ET354414	8-TR310	ET397160J	8-TR109
EO357508	8-L402	ES349474	11-SW9	ET354414	8-TR313	ET397160J	8-TR203
EO376600	10-L1	ES349474	11-SW12	ET354414	8-TR402	ET397160J	8-TR302
EO376600	10-L16	ES349474	12-SW1	ET354414	8-TR408	ET397160J	8-TR406
EO376603	10-L5	ES349474	12-SW2	ET354414	8-TR410	ET397160J	8-TR503
EO376606	10-L4	ES349474	12-SW4	ET354414	8-TR420	ET397160J	8-TR504
EO376607	10-L14	ES349474	12-SW5	ET354414	8-TR425	ET397160J	8-TR505
EO376612	10-L15	ES349474	12-SW6	ET354414	8-TR572	ET397160J	8-TR506
EO376614	10-L9	ES349474	12-SW7	ET354414	8-TR573	ET397160J	8-TR507
EO376857	10-L3	ES349474	12-SW8	ET354414	9-TR602	ET397160J	8-TR509
EO376858	10-L2	ES349474	12-SW9	ET354414	9-TR803	ET397160J	8-TR510
EO376859	10-L12	ES349474	12-SW10	ET354414	9-TR901	ET397160J	8-TR511
EO376860	10-L7	ES349474	12-SW11	ET354414	9-TR902	ET397160J	8-TR512
EO380091J1	17-L10	ES349474	12-SW12	ET354414	10-TR6	ET397160J	8-TR515
EO381192J	8-L403	ES349474	12-SW13	ET354414	10-TR16	ET397160J	8-TR570
EO381193J	10-L6	ES349474	12-SW14	ET354414	10-TR19	ET397160J	8-TR571
EO381195J	8-L511	ES349474	12-SW15	ET354414	10-TR23	ET397160J	9-TR603
EO381195J	10-L13	ES349474	12-SW16	ET354414	11-TR1	ET397160J	9-TR701
EO381196J	8-L301	ES349474	12-SW17	ET354414	12-TR1	ET397160J	9-TR751
EO381197J	8-L512	ES349474	12-SW18	ET354415	8-TR304	ET397160J	9-TR752

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
ET397160J	9-TR753	ML387277J3	3-32	MZ404542J	6-23	ZG395567J	4-42
ET397160J	9-TR754	ML387277J3	4-32	MZ404577J	6-7	ZS321298	2-3
ET397160J	9-TR801	ML387311J2	5-42	MZ404995J	4-62	ZS321298	3-15
ET397160J	9-TR903	ML387311J2	6-42	MZ406134J	3-58	ZS321298	4-15
ET397160J	10-TR2	ML387316J	3-1	SA387507J	21-8	ZS336714	2-12
ET397160J	10-TR7	ML387316J	4-1	SC387353J	21-6	ZS336714	3-22
ET397160J	10-TR8	ML387318J	3-2	SE395554J	3-57	ZS336714	4-22
ET397160J	10-TR9	ML387318J	4-2	SE395554J	4-57	ZS344754	3-16
ET397160J	10-TR14	ML387321J	3-4	SE409101J1	21-2B	ZS358936	3-59
ET397160J	10-TR21	ML387324J1	5-1	SE409104J1	21-2C	ZS358936	4-59
ET397160J	10-TR101	ML387344J	3-54	SE409197J	21-2A	ZS358936	5-41
ET397160J	16-TR16	ML387344J	4-54	SK407561J	21-18	ZS358936	6-41
ET397160J	19-TR1	ML387345J	3-51	SK407562J	21-22	ZS358936	21-9
ET397160J	19-TR102	ML387345J	4-51	SP388306J	8-3B	ZS365149	5-10
ET397160J	19-TR151	ML387346J	3-53	SP404784J	8-3A	ZS365149	6-10
ET397160J	19-TR154	ML387346J	4-53	SP407479J	21-14	ZS373962	21-12
ET397160J	19-TR155	ML387349J2	3-56	SP409133J	21-4B	ZS374458	3-38
ET397160J	19-TR201	ML387349J2	4-56	SP409166J	21-4A	ZS374458	4-38
ET397160J	19-TR202	ML387350J1	3-47	SZ387263J4	4-24	ZS378341	21-7
ET397160J	19-TR203	ML387350J1	4-47	SZ387388J	2-4	ZS379350	2-11
ET397160J	19-TR251	ML387402J1	5-3	SZ391866J1	4-60	ZS379405	2-5
ET403420J	6-14	ML387402J1	6-3	SZ401874J	21-21A	ZS385611J	21-15
ET404195J	17-TR4	ML387423J	3-6	SZ404290J	21-5	ZS389853J	2-14
ET405622J	8-TR20	ML387428J	3-39	SZ407187J2	3-24	ZS389853J	4-16
ET405622J	8-TR210	ML387428J	4-39	SZ407583J	21-21B	ZS389950J	5-40
ET405622J	15-TR3	ML387431J1	3-31	VT387394J1	3-37	ZS389950J	6-40
ET405622J	15-TR4	ML387431J1	4-31	VT387394J1	4-37	ZS391046J	21-16
ET405622J	15-TR5	ML390768J4	3-25	VT401282J	2-13	ZS404844J	3-14
ET405622J	15-TR6	ML390768J4	4-25	ZG373900	3-12	ZS404844J	4-14
ET405622J	16-TR12	ML391745J3	3-41	ZG373900	4-12	ZS425981	5-36
ET405622J	17-TR2	ML391745J3	4-41	ZG387272J	3-26	ZS425981	6-36
ET405622J	17-TR7	ML404567J1	6-1	ZG387282J	3-33	ZS464703	3-28
ET713614	14-Q2	ML404847J	4-66	ZG387282J	4-33	ZS467796	2-9
ET725820J	14-Q1	ML404944J	5-2	ZG387320J	3-3	ZS563444	2-7
EV390157J	10-VR1	ML404944J	6-2	ZG387320J	4-3	ZS659046	21-17
EV390157J	10-VR2	ML407119J	4-4	ZG387323J	3-5	ZW332843	3-30
EV403967J	9-VR801	MP404852J	3-27	ZG387323J	4-5	ZW332843	4-30
EV403968J	9-VR802A	MP404852J	4-64	ZG387348J1	3-49	ZW374445	3-19
EV404298J	14-VR2	MR387286J1	3-18	ZG387348J1	4-49	ZW374445	4-19
EV404300J	8-VR402	MR387286J1	4-18	ZG387354J	21-13	ZW387492J	5-8
EV405248J	10-VR3	MR387406J	5-35	ZG387370J	21-3	ZW387492J	6-8
EV405248J	10-VR4	MR387406J	6-35	ZG387403J	5-5	ZW389814J	3-8
EV405263J	9-VR802B	MR391968J	5-33	ZG387403J	6-5	ZW389814J	4-8
EV405657J	8-VR401	MR391968J	6-33	ZG387413J1	5-27	ZW389923J	5-6
EV405658J	8-VR404B	MT390954J1	3-9	ZG387413J1	6-27	ZW389923J	6-6
EV405658J	14-VR51	MT404547J	4-9	ZG387417J	3-44	ZW401776J	3-34
EV405659J	8-VR403	MZV1102A090A	5-25	ZG387417J	4-44	ZW401776J	4-34
EV405665J	8-VR301	MZV1102A090A	6-25	ZG387418J	3-45		
EV405665J	8-VR404A	MZV1102A100A	5-26	ZG387418J	4-45		
EW348414	22-1	MZV1102A100A	6-26	ZG387420J1	3-55		
EW389313J	5-20	MZ387298J3	5-7	ZG387420J1	4-55		
EW389313J	6-20	MZ387330J	5-32	ZG387421J	3-50		
EW389313J	11-WP2	MZ387331J	5-29	ZG387421J	4-50		
EW389313J	12-WP2	MZ387332J	5-28	ZG387438J1	3-11		
EW394623J	11-WP1	MZ387332J	6-28	ZG387438J1	4-11		
EW394623J	12-WP1	MZ387333J	5-30	ZG387443J	5-34		
EW403386J1	10-WP1	MZ387333J	6-30	ZG387443J	6-34		
EW404001M	21-20A	MZ387335J	3-40	ZG387467J	3-7		
EW404002M	21-20B	MZ387335J	4-40	ZG387468J	5-4		
EW404138J1	8-WF201	MZ387351J2	4-58	ZG387468J	6-4		
EX405691J	10-TH1	MZ387430J	5-21	ZG387502J	6-38		
HE390013J	3-20	MZ387430J	6-21	ZG387505J	21-11		
HE390013J	4-20	MZ387445J	5-22	ZG388290J1	3-52		
HR405340J	3-13	MZ387445J	6-22	ZG388290J1	4-52		
HR405340J	4-13	MZ387446J	5-23	ZG392294J	3-61		
MA387474J3	2-6	MZ395471J3	4-27	ZG392294J	4-61		
MB387289J	5-11	MZ401686J1	6-32	ZG392831J	3-46		
MB407117J	6-11	MZ402760J2	3-17	ZG392831J	4-46		
MI387294J	3-10	MZ402760J2	4-17	ZG395470J	4-26		
MI404552J	4-10	MZ404538J	6-29	ZG395567J	3-42		

3. VS-F440EDG/EO/EOG-V/EOH, F450EOH, F455EOH, F480EOG-V, F490EO/EOH, F497EOH

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
AVB1038A010A	25-2A	BV403409J	9-MD1	ED307572	9-D208	ED307572	14-D27
AVB1039A010A	25-2B	EA387496J	5-12	ED307572	9-D209	ED307572	14-D28
AVB1040A010F	25-2D	EA404543J	6-12	ED307572	9-D301	ED307572	14-D32
AVB1042A010C	25-2C	EC363490	18-C2	ED307572	9-D302	ED307572	14-D41
AVB1043A010E	25-2E	EC391843J	8-C369	ED307572	9-D305	ED307572	14-D44
BAV1130A500A	7-4A	EC391843J	9-C369	ED307572	9-D306	ED307572	14-D45
BAV1132A500A	7-4B	EC394757J	10-VC601	ED307572	9-D307	ED307572	14-D46
BAV1132A500C	7-4D	EC394757J	11-VC601	ED307572	9-D308	ED307572	14-D47
BAV1132A610G	7-2C	EC403878J	19-C4	ED307572	9-D309	ED307572	14-D48
BAV1132A610J	7-2B	EC403878J	19-C15	ED307572	9-D310	ED307572	15-D33
BAV1132A615C	7-2A	EC403880J	19-C20	ED307572	9-D401	ED307572	19-D16
BAV1135A500C	7-4E	EC406634J	18-C1	ED307572	9-D402	ED307572	19-D52
BAV1135A500E	7-4C	EC406635J	18-C3	ED307572	9-D404	ED307572	19-D54
BAV1146A635M	7-3A	EC406639J	19-C23	ED307572	9-D405	ED307572	19-D55
BAV1146A640D	7-3B	EC406639J	19-C24	ED307572	9-D408	ED307572	20-D10
BAV1146A640E	7-3C	EC408376J	19-C1	ED307572	9-D410	ED307572	20-D52
BAV1146A640F	7-3D	EC408377J	19-C2	ED307572	9-D411	ED307572	22-D1
BAV1146A640M	7-3E	EC408426J	19-C3	ED307572	9-D501	ED307572	22-D101
BAV1150A600B	7-1A	EC408426J	19-C14	ED307572	9-D502	ED307572	22-D201
BAV1150A600H	7-1D	ED307572	8-D1	ED307572	9-D503	ED307572	22-D601
BAV1150A600J	7-1E	ED307572	8-D2	ED307572	9-D504	ED366443	8-D406
BAV1150Q600F	7-1B	ED307572	8-D3	ED307572	9-D505	ED366443	9-D406
BAV1150Q600G	7-1C	ED307572	8-D4	ED307572	9-D506	ED379298	21-D1/D14
BAV1152A600E	7-1H	ED307572	8-D5	ED307572	9-D507	ED386226J	19-D6
BAV1152A600G	7-1J	ED307572	8-D7	ED307572	9-D508	ED386226J	19-D8
BAV1152A630E	7-3H	ED307572	8-D9	ED307572	9-D509	ED386226J	19-D11
BAV1152A630F	7-3J	ED307572	8-D10	ED307572	10-D601	ED387919J	8-D8
BAV1152Q600C	7-1G	ED307572	8-D201	ED307572	10-D603	ED387919J	9-D8
BAV1152Q600D	7-1F	ED307572	8-D202	ED307572	10-D801	ED387919J	20-D50
BAV1152Q630C	7-3G	ED307572	8-D203	ED307572	11-D601	ED390011J	5-13
BAV1152Q630D	7-3F	ED307572	8-D206	ED307572	11-D603	ED390011J	6-13
BBV1130A020C	4-70	ED307572	8-D207	ED307572	11-D801	ED390012J	5-14
BBV1130A020H	3-64	ED307572	8-D208	ED307572	11-D901	ED391005J	19-D28
BD409124J1	24-1F	ED307572	8-D209	ED307572	11-D902	ED396057J	19-D56
BD409125J1	24-1G	ED307572	8-D301	ED307572	12-D1	ED396060J	19-D27
BD409129J1	24-1H	ED307572	8-D302	ED307572	12-D2	ED397233J	8-D204
BD409284J	24-1C	ED307572	8-D305	ED307572	12-D3	ED397233J	9-D204
BD409286J	24-1B	ED307572	8-D306	ED307572	12-D4	ED403267J	8-D205
BD409287J	24-1D	ED307572	8-D307	ED307572	13-D2	ED403267J	9-D205
BD409288J	24-1E	ED307572	8-D308	ED307572	13-D12	ED403267J	19-D51
BD409297J	24-1A	ED307572	8-D309	ED307572	13-D13	ED403278J	13-D11
BLV1102A050A	3-23	ED307572	8-D401	ED307572	13-D14	ED403279J	13-D10
BLV1102A140A	3-43	ED307572	8-D402	ED307572	13-D15	ED403279J	14-D10
BLV1102A140A	4-43	ED307572	8-D404	ED307572	13-D17	ED403724J	8-D304
BLV1123A050A	4-23	ED307572	8-D405	ED307572	13-D25	ED403724J	9-D304
BLV1130A160A	4-65	ED307572	8-D408	ED307572	13-D26	ED403726J	8-D210
BL387458J2	6-37	ED307572	8-D410	ED307572	13-D27	ED403726J	9-D210
BM387503J	5-31	ED307572	8-D411	ED307572	13-D31	ED403729J	8-D412
BM387503J	6-31	ED307572	8-D501	ED307572	13-D32	ED403729J	9-D412
BM400682J1	5-9	ED307572	8-D502	ED307572	13-D33	ED403730J	8-D211
BM400682J1	6-9	ED307572	8-D503	ED307572	13-D41	ED403730J	9-D211
BM401296J1	2-8	ED307572	8-D504	ED307572	13-D43	ED403731J	8-D6
BT403873J	24-19B	ED307572	8-D505	ED307572	13-D44	ED403731J	9-D6
BT403883J	24-19C	ED307572	8-D506	ED307572	14-D2	ED403731J	14-D11
BT410491J	24-19A	ED307572	8-D507	ED307572	14-D5	ED404029J	18-D16
BVV1102A070A	3-35	ED307572	8-D508	ED307572	14-D12	ED404032J	18-D14
BVV1102A070A	4-35	ED307572	8-D509	ED307572	14-D13	ED404032J	19-D19
BVV1102A080A	3-36	ED307572	9-D1	ED307572	14-D14	ED404086J	8-D303
BVV1102A080A	4-36	ED307572	9-D2	ED307572	14-D15	ED404086J	9-D303
BVV1102A150A	3-48	ED307572	9-D3	ED307572	14-D16	ED404170J	9-D102
BVV1102A150A	4-48	ED307572	9-D4	ED307572	14-D17	ED405247J	12-D101
BVV1123A410B	2-1	ED307572	9-D5	ED307572	14-D18	ED405264J	19-D57
BVV1123A420B	2-2	ED307572	9-D7	ED307572	14-D19	ED405264J	19-D58
BV403237J	8-1A	ED307572	9-D9	ED307572	14-D20	ED405264J	20-D7
BV403240J1	8-1C	ED307572	9-D10	ED307572	14-D21	ED405373J	18-D13
BV403240J1	9-1B	ED307572	9-D201	ED307572	14-D22	ED405446J	22-D602
BV403241J1	8-1B	ED307572	9-D202	ED307572	14-D23	ED405524J	18-D15
BV403241J1	9-1A	ED307572	9-D203	ED307572	14-D24	ED405524J	19-D20
BV403408J	8-MD1A	ED307572	9-D206	ED307572	14-D25	ED405603J	8-D12
BV403409J	8-MD1B	ED307572	9-D207	ED307572	14-D26	ED405603J	9-D12

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
ED405604J	8-D13	EI368825M	14-X2	EJ405226J	9-PJ101	EO356722	8-L470
ED405604J	9-D13	EI368829	16-X51	EJ408399J	14-PJ1	EO356722	9-L103
ED511907	8-D212	EI373955	13-IC3	EM401077J	13-FL1	EO356722	9-L470
ED511907	8-D213	EI373955	14-IC3	EM403367J	14-FL1	EO357508	8-L402
ED511907	9-D212	EI373957J1	13-X1	EO345865	22-L1	EO357508	9-L402
ED511907	9-D213	EI373957J1	14-X1	EO345865	22-L101	EO366893	10-VL701
ED511907	18-D1	EI373957J1	22-X101	EO345865	22-L102	EO366893	11-VL701
ED511907	18-D2	EI373980	8-IC303	EO345865	22-L121	EO376600	12-L1
ED511907	18-D3	EI373980	9-IC303	EO345865	22-L155	EO376600	12-L16
ED511907	18-D4	EI373981J1	8-IC402	EO345865	22-L201	EO376603	12-L5
ED511907	18-D5	EI373981J1	9-IC402	EO345865	22-L202	EO376605	12-L14B
ED511907	18-D6	EI381575J	20-IC1	EO345865	22-L251	EO376606	12-L4
ED511907	18-D7	EI381632J	8-X500	EO345865	22-L301	EO376607	12-L14A
ED511907	18-D8	EI381632J	9-X500	EO345871	22-L206	EO376612	12-L15
ED511907	18-D9	EI385958J	22-IC301	EO345873	22-L204	EO376614	12-L9
ED511907	18-D10	EI386468J	11-IC901	EO345874	8-L410	EO376857	12-L3
ED511907	18-D11	EI387019J	22-IC108	EO345874	9-L410	EO376858	12-L2
ED511907	18-D12	EI387586J	12-IC1	EO345874	22-L207	EO376859	12-L12
ED511907	18-D17	EI388360J	10-IC801	EO345874	22-L208	EO376860	12-L7
ED511907	18-D18	EI388360J	11-IC801	EO345875	22-L203	EO380091J1	20-L10
ED511907	19-D3	EI389622J	8-IC1	EO345876	10-L602	EO381192J	8-L403
ED511907	19-D4	EI389622J	9-IC1	EO345876	11-L602	EO381192J	9-L403
ED511907	19-D17	EI389640J	8-X301	EO345880	8-L404	EO381193J	12-L6
ED511907	19-D18	EI389640J	9-X301	EO345880	8-L472	EO381195J	8-L511
ED511907	19-D71	EI389974J	10-X601	EO345880	8-L500	EO381195J	9-L511
ED511907	19-D72	EI389974J	11-X601	EO345880	8-L505	EO381195J	12-L13
ED511907	19-D73	EI394673J	22-X103	EO345880	8-L506	EO381196J	8-L301
ED511907	19-D74	EI394680J	22-IC107	EO345880	8-L509	EO381196J	9-L301
EE387604J2	8-2B	EI394856J	8-IC401	EO345880	8-L570	EO381197J	8-L512
EE387604J2	9-2A	EI394856J	9-IC401	EO345880	9-L404	EO381197J	9-L512
EE390143J2	8-2C	EI394861J	9-IC102	EO345880	9-L472	EO386541J	19-L6
EE390143J2	9-2B	EI400756J	8-IC201	EO345880	9-L500	EO387782J	16-L1
EE408471J	8-2A	EI400756J	9-IC201	EO345880	9-L502	EO387798J	16-L6
EF339908	19-FL2	EI401050J	22-IC106	EO345880	9-L505	EO387798J	17-L7B
EH366894	10-FL701	EI403234J1	8-IC400	EO345880	9-L506	EO387799J	17-L6
EH366894	11-FL701	EI403234J1	9-IC400	EO345880	9-L509	EO387799J	17-L7A
EH368816	16-CF1	EI403467J	10-X602	EO345880	9-L570	EO387800J	17-L1
EH368827	16-CF52	EI403467J	11-X602	EO345880	12-L8	EO387802J	9-L590
EH368948	16-CF3	EI403469J	10-IC602	EO345880	12-L10	EO387802J	17-L8
EH368948	17-CF3	EI403469J	11-IC602	EO345880	12-L11	EO387803J	16-L52
EH373918	16-CF4	EI403964J	9-IC103	EO345880	22-L153	EO388161J	8-L474
EH373920	17-CF2	EI405224J	22-IC102	EO345881	8-L101	EO388161J	9-L474
EH376338	16-CF2	EI405224J	22-IC103	EO345881	8-L302	EO388349J	12-FL101
EH383056J	22-IB101	EI405722J	10-IC601	EO345881	9-L101	EO388362J	10-FL801
EH383083J	13-IB2	EI405722J	11-IC601	EO345881	9-L302	EO388363J	11-FL801
EH383083J	14-IB2	EI408391J1	13-IC1	EO345881	10-L601	EO390716J	10-L802
EH386637J	22-IB102	EI408393J	13-IC2	EO345881	10-L605	EO390716J	11-L802
EH388287J	16-CF51	EI408393J	14-IC2	EO345881	10-L701	EO390716J	12-L101
EH390730J	8-DL500	EI408397J	14-IC1	EO345881	11-L601	EO390717J	10-L801
EH390730J	9-DL500	EI408432J	22-IC101	EO345881	11-L605	EO390717J	11-L801
EH394684J	22-FL101	EI408433J	22-X102	EO345881	11-L701	EO390999J	8-L1
EH394838J	9-DL501	EI408434J	22-IC104	EO345881	11-L702	EO390999J	9-L1
EH403945J	13-IB1	EI408849J	8-IC301	EO345881	11-L901	EO392817J	8-L507
EH403945J	14-IB1	EI408850J	9-IC301	EO351866	10-L603	EO392817J	9-L507
EH730625J	17-CF1	EI410125J	22-IC105	EO351866	10-L604	EO393769J	19-L9
EH780128	16-CF53	EJ381837J	5-16	EO351866	11-L603	EO396361J	16-L51
EI200573	11-IC702	EJ381837J	6-16	EO351866	11-L604	EO397238J	16-L5
EI310036	8-IC101	EJ387497J	5-15	EO353900	8-L501	EO397389J	10-L850
EI310036	9-IC101	EJ387497J	6-15	EO353900	9-L501	EO403270J	8-L510
EI310036	11-IC902	EJ387497J	13-PS2	EO353900	9-L503	EO403270J	9-L510
EI353421	8-IC302	EJ387497J	14-PS2	EO353900	9-L504	EO403937J	8-L480
EI353421	9-IC302	EJ387613J	8-PJ102	EO354600	8-L303	EO403937J	8-L508
EI356457	8-IC403	EJ387613J	9-PJ102	EO354600	8-L401	EO403937J	9-L480
EI356457	9-IC403	EJ387614J	8-PJ101	EO354600	8-L405	EO403937J	9-L508
EI360586	9-IC304	EJ387622J	14-PJ2	EO354600	8-L406	EO408381J	19-L1
EI366892	10-IC701	EJ387623J	14-PJ3	EO354600	9-L303	EO408381J	19-L2
EI366892	11-IC701	EJ389815J	13-PS1	EO354600	9-L401	EO408381J	19-L3
EI368809	16-IC1	EJ389815J	14-PS1	EO354600	9-L405	EO408381J	19-L4
EI368809	17-IC1	EJ403389J	12-PS1	EO354600	9-L406	EO410099J	22-L154
EI368825M	13-X2	EJ405225J	9-PJ103	EO356722	8-L103	EO410104J	22-L151

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
EO410104J	22-L152	ET353897	12-TR18	ET354414	8-TR572	ET360399	19-TR14
EO714610	16-L4	ET353897	20-TR50	ET354414	8-TR573	ET360399	19-TR15
EO714610	17-L5	ET353899	8-TR1	ET354414	9-TR8	ET360646	9-TR502
EO714614	16-L3	ET353899	8-TR3	ET354414	9-TR9	ET361490	5-24
EO714614	17-L4	ET353899	8-TR4	ET354414	9-TR10	ET361490	6-24
EO725953J	17-L3	ET353899	8-TR5	ET354414	9-TR19	ET363953	9-TR303
EO725954J	16-L2	ET353899	8-TR6	ET354414	9-TR101	ET364040	8-TR421
EO725964J	17-L51	ET353899	8-TR7	ET354414	9-TR103	ET364040	9-TR421
EO725965J	17-L52	ET353899	8-TR11	ET354414	9-TR209	ET364040	12-TR5
ER331188	22-FR601	ET353899	8-TR13	ET354414	9-TR301	ET364040	12-TR13
ER333091	19-R14	ET353899	8-TR104	ET354414	9-TR305	ET364040	12-TR17
ER400605J	18-FR5	ET353899	8-TR105	ET354414	9-TR306	ET366168	9-TR201
ER400605J	19-FR3	ET353899	8-TR407	ET354414	9-TR310	ET366365	18-TR2
ER400689J	19-FR4	ET353899	8-TR415	ET354414	9-TR313	ET366365	18-TR7
ER400728J	18-FR2	ET353899	8-TR470	ET354414	9-TR402	ET366365	19-TR1
ER400728J	18-FR4	ET353899	8-TR471	ET354414	9-TR408	ET366365	19-TR5
ER400728J	19-FR1	ET353899	9-TR1	ET354414	9-TR410	ET366365	19-TR9
ER400729J	8-FR350	ET353899	9-TR3	ET354414	9-TR420	ET366365	19-TR13
ER400729J	9-FR350	ET353899	9-TR4	ET354414	9-TR425	ET370819	16-Q3
ER400959J	8-FR201	ET353899	9-TR5	ET354414	9-TR514	ET370819	16-Q51
ER400959J	9-FR201	ET353899	9-TR6	ET354414	9-TR572	ET370819	16-Q52
ER403405J	8-R214	ET353899	9-TR7	ET354414	9-TR573	ET373985	8-TR307
ER403405J	9-R214	ET353899	9-TR11	ET354414	10-TR602	ET373985	8-TR308
ER404093J	8-FR202	ET353899	9-TR13	ET354414	10-TR609	ET373985	8-TR309
ER404093J	8-FR501	ET353899	9-TR104	ET354414	11-TR602	ET373985	9-TR307
ER404093J	9-FR202	ET353899	9-TR105	ET354414	11-TR609	ET373985	9-TR308
ER404093J	9-FR501	ET353899	9-TR110	ET354414	11-TR803	ET373985	9-TR309
ER405441J	19-FR5	ET353899	9-TR407	ET354414	11-TR901	ET375777	8-TR2
ER408375J	18-FR1	ET353899	9-TR415	ET354414	11-TR902	ET375777	9-TR2
ER408375J	18-FR3	ET353899	9-TR470	ET354414	12-TR6	ET381175J	18-TR1
ER408375J	19-FR2	ET353899	9-TR471	ET354414	12-TR16	ET381637J2	13-PH1
ES349474	13-SW2	ET353899	10-TR601	ET354414	12-TR19	ET381637J2	15-PH1
ES349474	13-SW3	ET353899	10-TR607	ET354414	12-TR23	ET388338J	8-TR205
ES349474	13-SW4	ET353899	10-TR608	ET354414	13-TR1	ET388338J	8-TR414
ES349474	13-SW5	ET353899	11-TR601	ET354414	14-TR1	ET388338J	8-TR424
ES349474	13-SW6	ET353899	11-TR607	ET354415	8-TR304	ET388338J	9-TR205
ES349474	13-SW7	ET353899	11-TR608	ET354415	8-TR413	ET388338J	9-TR414
ES349474	13-SW8	ET353899	11-TR904	ET354415	9-TR304	ET388338J	9-TR424
ES349474	13-SW9	ET353899	12-TR1	ET354415	9-TR413	ET390009J	5-19
ES349474	13-SW12	ET353899	12-TR11	ET354415	22-TR101	ET390009J	6-19
ES349474	14-SW1	ET353899	12-TR12	ET356336	8-TR102	ET390010J	5-18
ES349474	14-SW2	ET353899	20-TR3	ET356336	8-TR108	ET397160J	8-TR12
ES349474	14-SW4	ET353899	20-TR8	ET356336	8-TR202	ET397160J	8-TR14
ES349474	14-SW5	ET353899	22-TR152	ET356336	8-TR211	ET397160J	8-TR16
ES349474	14-SW6	ET353899	22-TR153	ET356336	8-TR401	ET397160J	8-TR17
ES349474	14-SW7	ET353899	22-TR204	ET356336	8-TR423	ET397160J	8-TR18
ES349474	14-SW8	ET353899	22-TR208	ET356336	8-TR508	ET397160J	8-TR107
ES349474	14-SW9	ET353899	22-TR252	ET356336	8-TR513	ET397160J	8-TR109
ES349474	14-SW10	ET353899	22-TR253	ET356336	9-TR102	ET397160J	8-TR203
ES349474	14-SW11	ET354083	22-TR601	ET356336	9-TR108	ET397160J	8-TR302
ES349474	14-SW12	ET354364	8-TR404	ET356336	9-TR202	ET397160J	8-TR406
ES349474	14-SW13	ET354364	9-TR404	ET356336	9-TR211	ET397160J	8-TR503
ES349474	14-SW14	ET354364	12-TR15	ET356336	9-TR401	ET397160J	8-TR506
ES349474	14-SW15	ET354414	8-TR8	ET356336	9-TR423	ET397160J	8-TR507
ES349474	14-SW16	ET354414	8-TR9	ET356336	9-TR508	ET397160J	8-TR509
ES349474	14-SW17	ET354414	8-TR10	ET356336	9-TR513	ET397160J	8-TR510
ES349474	14-SW18	ET354414	8-TR19	ET356336	10-TR605	ET397160J	8-TR511
ES349474	14-SW19	ET354414	8-TR101	ET356336	10-TR606	ET397160J	8-TR512
ES349474	15-SW3	ET354414	8-TR103	ET356336	11-TR605	ET397160J	8-TR515
ES373099	5-39	ET354414	8-TR209	ET356336	11-TR606	ET397160J	8-TR570
ES373099	6-39	ET354414	8-TR301	ET356817	19-TR6	ET397160J	8-TR571
ES387465J	5-17	ET354414	8-TR305	ET360399	8-TR409	ET397160J	9-TR12
ES387465J	6-17	ET354414	8-TR306	ET360399	8-TR411	ET397160J	9-TR14
ES403377J	23-SW1	ET354414	8-TR310	ET360399	8-TR417	ET397160J	9-TR16
ES408404J	13-SW1	ET354414	8-TR313	ET360399	9-TR409	ET397160J	9-TR17
ET353897	8-TR15	ET354414	8-TR402	ET360399	9-TR411	ET397160J	9-TR18
ET353897	8-TR501	ET354414	8-TR408	ET360399	9-TR417	ET397160J	9-TR107
ET353897	9-TR15	ET354414	8-TR410	ET360399	12-TR3	ET397160J	9-TR109
ET353897	9-TR501	ET354414	8-TR420	ET360399	12-TR4	ET397160J	9-TR203
ET353897	12-TR10	ET354414	8-TR514	ET360399	12-TR22	ET397160J	9-TR302

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
ET397160J	9-TR406	EV404298J	16-VR2	ML391745J3	4-41	SZ391866J1	4-60
ET397160J	9-TR503	EV404298J	17-VR2	ML404567J1	6-1	SZ401874J	24-21A
ET397160J	9-TR504	EV404300J	8-VR402	ML404847J	4-66	SZ404290J	24-5
ET397160J	9-TR505	EV404300J	9-VR402	ML404944J	5-2	SZ407187J2	3-24
ET397160J	9-TR506	EV405248J	12-VR3	ML404944J	6-2	SZ407583J	24-21B
ET397160J	9-TR507	EV405248J	12-VR4	ML407119J	4-4	VT387394J1	3-37
ET397160J	9-TR509	EV405263J	11-VR802	MP404852J	3-27	VT387394J1	4-37
ET397160J	9-TR510	EV405657J	8-VR401	MP404852J	4-64	VT401282J	2-13
ET397160J	9-TR511	EV405657J	9-VR401	MR387286J1	3-18	ZG373900	3-12
ET397160J	9-TR512	EV405658J	9-VR404B	MR387286J1	4-18	ZG373900	4-12
ET397160J	9-TR515	EV405658J	16-VR1	MR387406J	5-35	ZG387272J	3-26
ET397160J	9-TR570	EV405658J	17-VR51	MR387406J	6-35	ZG387282J	3-33
ET397160J	9-TR571	EV405658J	17-VR52	MR391968J	5-33	ZG387282J	4-33
ET397160J	10-TR603	EV405659J	8-VR403	MR391968J	6-33	ZG387320J	3-3
ET397160J	10-TR604	EV405659J	9-VR403	MT390954J1	3-9	ZG387320J	4-3
ET397160J	10-TR701	EV405665J	8-VR301	MT404547J	4-9	ZG387323J	3-5
ET397160J	10-TR702	EV405665J	8-VR404	MZV1102A090A	5-25	ZG387323J	4-5
ET397160J	10-TR801	EV405665J	9-VR301	MZV1102A090A	6-25	ZG387348J1	3-49
ET397160J	11-TR603	EV405665J	9-VR404A	MZV1102A100A	5-26	ZG387348J1	4-49
ET397160J	11-TR604	EW348414	25-1	MZV1102A100A	6-26	ZG387354J	24-13
ET397160J	11-TR701	EW389313J	5-20	MZ387298J3	5-7	ZG387370J	24-3
ET397160J	11-TR702	EW389313J	6-20	MZ387330J	5-32	ZG387403J	5-5
ET397160J	11-TR751	EW389313J	13-WP2	MZ387331J	5-29	ZG387403J	6-5
ET397160J	11-TR752	EW389313J	14-WP2	MZ387332J	5-28	ZG387413J1	5-27
ET397160J	11-TR753	EW394623J	13-WP1	MZ387332J	6-28	ZG387413J1	6-27
ET397160J	11-TR754	EW394623J	14-WP1	MZ387333J	5-30	ZG387417J	3-44
ET397160J	11-TR801	EW403386J1	11-WP1	MZ387333J	6-30	ZG387417J	4-44
ET397160J	11-TR903	EW404002M	24-20	MZ387335J	3-40	ZG387418J	3-45
ET397160J	12-TR2	EW404138J1	8-WF201	MZ387335J	4-40	ZG387418J	4-45
ET397160J	12-TR7	EW404138J1	9-WF201	MZ387351J2	4-58	ZG387420J1	3-55
ET397160J	12-TR8	EX405691J	12-TH1	MZ387430J	5-21	ZG387420J1	4-55
ET397160J	12-TR9	HE390013J	3-20	MZ387430J	6-21	ZG387421J	3-50
ET397160J	12-TR14	HE390013J	4-20	MZ387445J	5-22	ZG387421J	4-50
ET397160J	12-TR21	HR405340J	3-13	MZ387445J	6-22	ZG387438J1	3-11
ET397160J	12-TR101	HR405340J	4-13	MZ387446J	5-23	ZG387438J1	4-11
ET397160J	19-TR16	MA387474J3	2-6	MZ395471J3	4-27	ZG387443J	5-34
ET397160J	22-TR1	MB387289J	5-11	MZ401686J1	6-32	ZG387443J	6-34
ET397160J	22-TR102	MB407117J	6-11	MZ402760J2	3-17	ZG387467J	3-7
ET397160J	22-TR151	MI387294J	3-10	MZ402760J2	4-17	ZG387468J	5-4
ET397160J	22-TR154	MI404552J	4-10	MZ404538J	6-29	ZG387468J	6-4
ET397160J	22-TR155	ML387277J3	3-32	MZ404542J	6-23	ZG387502J	6-38
ET397160J	22-TR201	ML387277J3	4-32	MZ404577J	6-7	ZG387505J	24-11
ET397160J	22-TR202	ML387311J2	5-42	MZ404995J	4-62	ZG388290J1	3-52
ET397160J	22-TR203	ML387311J2	6-42	MZ406134J	3-58	ZG388290J1	4-52
ET397160J	22-TR251	ML387316J	3-1	SA387507J	24-8	ZG392294J	3-61
ET403420J	6-14	ML387316J	4-1	SC387353J	24-6	ZG392294J	4-61
ET404195J	20-TR4	ML387318J	3-2	SE395554J	3-57	ZG392831J	3-46
ET405622J	8-TR20	ML387318J	4-2	SE395554J	4-57	ZG392831J	4-46
ET405622J	8-TR210	ML387321J	3-4	SE409102J1	24-2E	ZG395470J	4-26
ET405622J	9-TR20	ML387324J1	5-1	SE409103J1	24-2F	ZG395567J	3-42
ET405622J	9-TR210	ML387344J	3-54	SE409107J1	24-2G	ZG395567J	4-42
ET405622J	18-TR3	ML387344J	4-54	SE409191J	24-26	ZS321298	2-3
ET405622J	18-TR4	ML387345J	3-51	SE409197J	24-2A	ZS321298	3-15
ET405622J	18-TR5	ML387345J	4-51	SE409198J	24-2C	ZS321298	4-15
ET405622J	18-TR6	ML387346J	3-53	SE409199J	24-2D	ZS336714	2-12
ET405622J	19-TR12	ML387346J	4-53	SE409202J	24-2B	ZS336714	3-22
ET405622J	20-TR2	ML387349J2	3-56	SK407561J	24-18	ZS336714	4-22
ET405622J	20-TR7	ML387349J2	4-56	SK407562J	24-22	ZS344754	3-16
ET713614	16-Q2	ML387350J1	3-47	SP387357J	8-3B	ZS358936	3-59
ET713614	16-Q4	ML387350J1	4-47	SP387357J	9-3A	ZS358936	4-59
ET713614	17-Q2	ML387402J1	5-3	SP388305J	8-3C	ZS358936	5-41
ET724885J	17-Q51	ML387402J1	6-3	SP395563J	8-3A	ZS358936	6-41
ET724885J	17-Q52	ML387423J	3-6	SP404783J	9-3B	ZS358936	24-9
ET725820J	16-Q1	ML387428J	3-39	SP404784J	9-3C	ZS365149	5-10
ET725820J	17-Q1	ML387428J	4-39	SP407479J	24-14	ZS365149	6-10
EV390157J	12-VR1	ML387431J1	3-31	SP407593J	24-4B	ZS373962	24-12
EV390157J	12-VR2	ML387431J1	4-31	SP409112J	24-4A	ZS374458	3-38
EV403967J	10-VR801	ML390768J4	3-25	SP409113J	24-4C	ZS374458	4-38
EV403967J	11-VR801	ML390768J4	4-25	SZ387263J4	4-24	ZS378341	24-7
EV403968J	10-VR802	ML391745J3	3-41	SZ387388J	2-4	ZS379350	2-11

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
ZS379405	2-5						
ZS385611J	24-15						
ZS389853J	2-14						
ZS389853J	4-16						
ZS389950J	5-40						
ZS389950J	6-40						
ZS391046J	24-16						
ZS404844J	3-14						
ZS404844J	4-14						
ZS425981	5-36						
ZS425981	6-36						
ZS464703	3-28						
ZS467796	2-9						
ZS563444	2-7						
ZS659046	24-17						
ZW332843	3-30						
ZW332843	4-30						
ZW374445	3-19						
ZW374445	4-19						
ZW387492J	5-8						
ZW387492J	6-8						
ZW389814J	3-8						
ZW389814J	4-8						
ZW389923J	5-6						
ZW389923J	6-6						
ZW401776J	3-34						
ZW401776J	4-34						

4. REMOTE CONTROL (MODEL RC-V250E, V251G, V252E, V451E/G, V452E)

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
ED386031J	31-D2	SE407625J	38-14				
ED386031J	31-D3	SK407708J	36-21				
ED386031J	31-D4	SK407708J	38-21				
ED386031J	33-D2	SK407713J	36-20				
ED386031J	33-D3	SK407713J	38-20				
ED386031J	33-D4	SP403096J1	34-16				
ED386031J	39-D4	SP406731J	34-15				
ED386031J	39-D5	SP406739J	32-15				
ED386031J	39-D6	SP407632J	36-24B				
ED386031J	39-D7	SP407633J	36-24A				
ED386031J	39-D8	SP407640J	38-24				
ED386031J	39-D9	SZ408435J	36-23				
ED386031J	39-D10	SZ408435J	38-23				
ED386031J	39-D11	SZ408436J	36-22				
ED397391J	37-D2	SZ408436J	38-22				
ED397391J	37-D3	ZG403098J	33-1				
ED397391J	39-D2	ZG403098J	35-1				
ED397391J	39-D3	ZG403099J	33-2				
ED403450J	31-D1	ZG403099J	35-2				
ED403450J	33-D1	ZG403100J2	32-10				
ED403450J	35-D1	ZG403100J2	34-10				
ED403450J	37-D1	ZG406719J	30-5				
ED403450J	39-D1	ZG406720J	31-1				
EI368825	35-X1	ZG406722J	31-2				
EI368825M	39-X1	ZG407614J	36-16				
EI376112	31-IC1	ZG407614J	38-16				
EI376112	33-IC1	ZG407615J	36-17				
EI390687J	31-X1	ZG407615J	38-17				
EI390687J	33-X1	ZG407616J	37-1				
EI400672J	35-IC2	ZG407617J	37-2				
EI400672J	37-IC2	ZS336614	36-12				
EI400672J	39-IC2	ZS336614	38-12				
EI403451J	35-X2	ZS374389	32-9				
EI403451J	39-X2	ZS374389	34-9				
EI408408J1	35-IC1	ZS374389	36-10				
EI408408J1	39-IC1	ZS374389	38-10				
EI408449J	37-IC1						
EI408450J	37-X1						
EJ403095J	34-4						
EJ408427J	38-8						
EM403448J	34-3						
EM408437J	38-7						
ES393431J	39-SW1						
ES408428J	36-11						
ES408428J	38-11						
ET390826J	31-TR1						
ET390826J	33-TR1						
ET390826J	35-TR1						
ET405342J	37-TR1						
ET405342J	39-TR1						
MB403107J	34-5						
MB406737J	32-5						
MB406738J	32-6						
MB406738J	34-6						
MB407424J	30-2						
MB407620J	38-5						
MB407624J	36-5						
MB407645J	36-4						
MB407645J	38-4						
SC406730J	32-14						
SC406730J	34-14						
SC407425J	30-7						
SC407627J	36-19						
SC407627J	38-19						
SE403111J	32-7						
SE403111J	34-7						
SE407612J	36-3						
SE407612J	38-3						
SE407613J	38-25						
SE407625J	36-14						

ABBREVIATIONS (VIDEO)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
A	Audio or Analogue	MOD	MODulator
AC	Alternating Current	MRS	Motor ReverSe
ACC	Automatic Color Control	NG	Noise Gate
A/C	Audio and Control	NICAM	Near Instantaneous Comband Audio Multiplex
ADJ	ADJust (ment)	NON-LIN	NON-LINear
AFC	Automatic Frequency Control	N.T.S.C.	National Television System Committee
AFT	Automatic Fine Tuning	OSC	OSCillator
AGC	Automatic Gain Control	PAL	Phase Alternation by Line
AH	Audio Head	PB	Play Back
AL	ALways (voltage)	PCB (P.C.B)	Printed Circuit Board
ALC	Automatic Level Control	P-COM	Phase-COMparator
A-SW.P	Audio SWitching Pulse	P DOWN	Power DOWN
A-MUTE	Audio MUTE	PG	Pulse Generator
ANT	ANTenna	P.I.P	Picture In Picture
APC	Automatic Phase Control	PL, PLG	PLunger (PLunGer)
ASSY	ASSEMBLY	PRG (PGM)	PProGram (ProGraM)
BAL	BALance	PU	Pick UP (head, pulse)
B DOWN	Break DOWN	PWR	PoWeR
BGP	Burst Gate Pulse	Q	Quality factor
BLK	BLOCK or BLACK	R	Right
BPF	Band Pass Filter	RAM	Random Access Memory
BU	Back Up (voltage)	REC	RECORD
B/W	Black and White	REF	REFerence
C	Chroma or Color	REF-V	REFerence Vertical signal
CCD	Charge Coupled Device	REG	REGulator
CCIR	Comité Consultatif International des Radio communications	REV (REVW)	REVIEW (REVIEW)
CH (ch)	CHannel (channel)	REW	REWind
CLK	CLock	RF	Radio Frequency
CM	Capstan Motor	ROM	Read Only Memory
CN	CoNnector	R.S SW	Record-Safety SWitch
COMP	COMParator	RST (RES)	ReSet (RESet)
CSW	Cassette SWitch	RVS	ReVerSe
CSYNC	Composite SYNC	S	Sensor, Shield
CTL	ConTrol	SAW	Surface Acoustic Wave
CUE	CUE	SC	SimulCast
DAC	Digital to Analog Converter	S CLK	Serial CLock
DC	Direct Current	SECAM	SÉquentiel Couleur À Mémoire
DEMODO	DEMODulator	S & H	Sample and Hold
DET	DETECT (DETECTOR)	SLP	Super Long Play
DL	Delay Line	SP	Standard Play
DM	Drum Motor	SPD	SPEeD
DOC	Drop Out Compensator	SRP	Supply Reel Pulse
D.P.E	Drum Phase Error	SRV	SeRVo
D.PG	Drum Pulse Generator	SOW	Sync On Word
EE	Electronic to Electronic	STBY	STandBY
EF	Emitter Follower	S.VHS	Super VHS
EMPHA	EMPHAsis	SW	SWitch
ENV	ENVELOPE	SW'NG	SWitchING
EP	Extended Play	SWP	SWitching Pulse
EP ROM	Erasable Programmable ROM	SYNC	SYNChronize
EQ	EQUALizer	T-AUDIO	Tuner AUDIO
FE	Full track Erase	TPZ (TRAPE)	TraPeZoid (TRAPEzoid)
FF	Flip-Flop or Fast Forward	TRK	TRAcking
FG	Frequency Generator	TRP	Take up Reel Pulse
Fig	Figure	T/U	Take Up
FLD	FLUorescent Display	TV	TeLeVIsion
FM	Frequency Modulation	UHF	Ultra High Frequency
Fo	resonance Frequency	UNR	UNRegulated (voltage)
FREQ	FREQUENCY	V	Vertical or Video
GND	GrouND	VASS	Video Address Search System
H	Horizontal	VCO	Voltage Controlled Oscillator
HP	Horizontal (sync) pulse	VH	Video Head
HPF	High Pass Filter	VHF	Very High Frequency
HQ	High Quality System	VHS	Video Home System
IC	Integrated Circuit	VIF	Video Intermediate Frequency
ID	IDentification	VISS	Video Index Search System
IDL	IDLe (Voltage)	VJ	Video Judge
IMS	Interactive Monitor System	VM	Voltage for Memory
INS	INSert	VOB	Video On Blank
INV	INVerter	VOW	Video On Word
L	Left	VP	Vertical (sync) Pulse
LED	Light Emitting Diode	VPS	Video Program System
LIM	LIMitter	VPT	Video Programming by video Text
LM	Loading Motor	VT	Voltage for Tuning
LM STP	Loading Motor STop	WHT	WHITe
LP	Long Play	Y	Luminance
LPF	Low Pass Filter	2H	2 Hour (SP)
ME-SECAM	Middle East SECAM	4H	4 Hour (LP)
MI-COM	MICRO COMpuTer	6H	6 Hour (SLP/EP)
MM	Mono-stayble Multi		

AKAI

MODEL **VS-F440**^{EA/EDG/EDI/EK/}_{EM/EO/EOH/EOG-V}

MODEL **VS-F441**^{EA,} **F450**^{EOH,} **F455**^{EOH}

MODEL **VS-F480**^{EK-V/EOG-V}

MODEL **VS-F490**^{EM/EO/EOH/ES,} **F497**^{EOH}

SCHEMATIC DIAGRAMS AND PC BOARDS

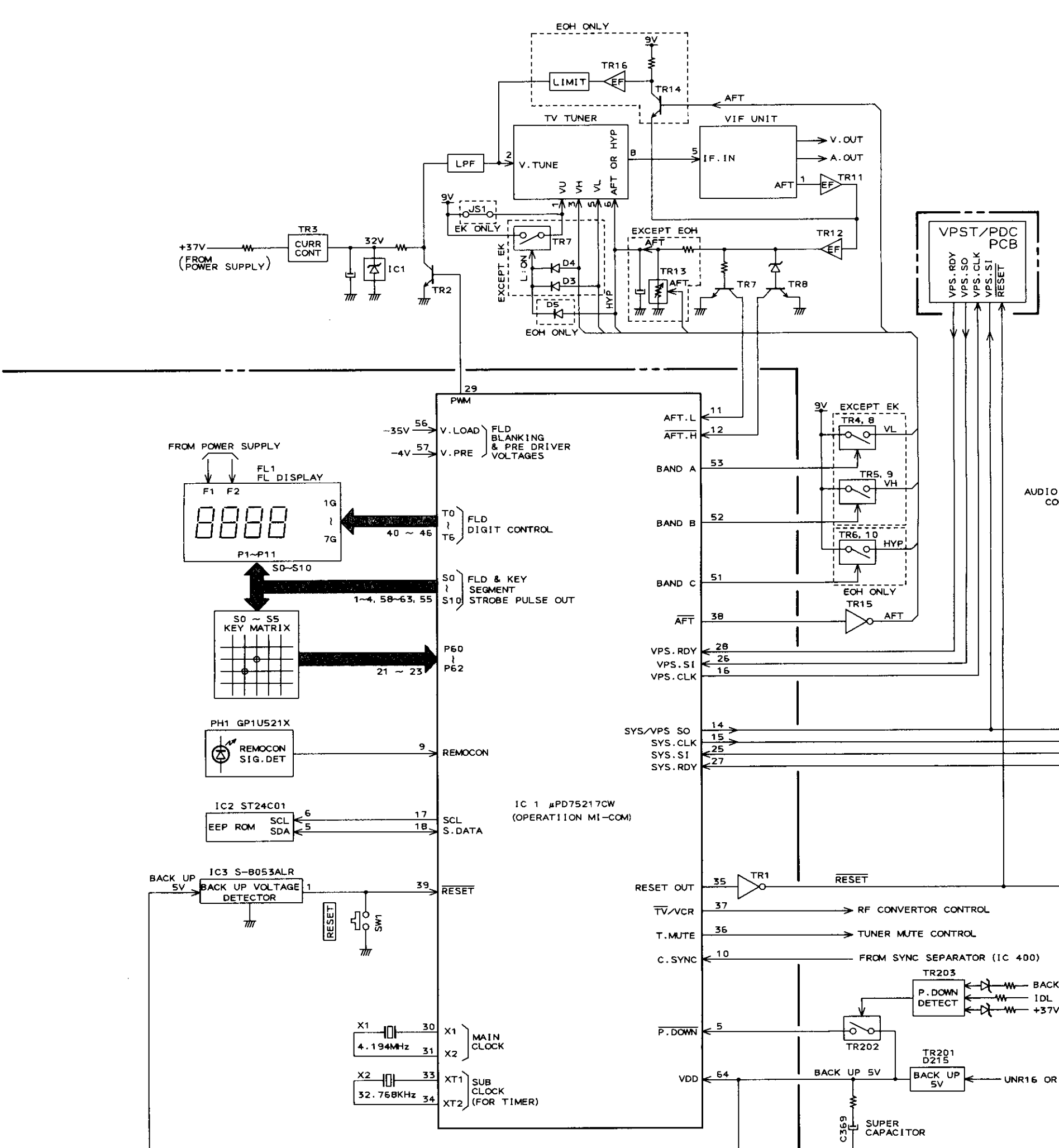
TABLE OF CONTENTS

I. CATEGORY CODES USED IN THIS MANUAL	2
II. BLOCK DIAGRAMS	
1. JFX-L OPERATION (A) & SYSCON	3
2. JFX OPERATION (G) & SYSCON	4
3. JFX/JFX-L VIDEO	5
4. JFX/JFX-L AUDIO	6
5. JFX/JFX-L PRE AMP	7
6. VS-F440EOG-V, F480EK-V/EOG-V VPST/PDC	8
7. JFX/JFX-L SERVO	9
III. SCHEMATIC DIAGRAMS AND PC BOARDS	
1. VS-F440EA/EDG/EDI/EK/EM/EO/EOG-V, F441EA, F450EOH, F455EOH CONNECTION DIAGRAM	10
2. VS-F480EK-V/EOG-V, F490EM/EO/EOH/ES, F497EOH CONNECTION DIAGRAM	13
3. VS-F440EOG-V, F480EOG-V/EK-V POWER SUPPLY (1), (2) & DIODE	14
4. VS-F440EM, F490EM POWER SUPPLY (1), (2) & DIODE	17
5. VS-F440EA/EDG/EDI/EK/EO/EOH, F441EA, F450EOH, F455EOH, F490EO/EOH/ES, F497EOH POWER SUPPLY & DIODE	18
6. JFX/JFX-L MAIN (A) 1/3	20
7. JFX/JFX-L MAIN (A) 2/3	21
8. JFX/JFX-L MAIN (A) 3/3	22
9. JFX/JFX-L MAIN (B)	24
10. JFX/JFX-L PRE AMP	27
11. JFX-L OPERATION (A)	28
12. JFX OPERATION (G)-A, B	31
13. VS-F440EOG-V, F480EK-V/EOG-V VPST/PDC	32
14. VS-F440EO0EOG-V, F480EOG-V, F490EO VIF UNIT	34
15. VS-F440EDG/EDI VIF UNIT	37
16. VS-F440EA/EK/EM/EOH, F441EA, F450EOH, F455EOH, F480EK-V, F490EM/ES/EOH, F497EOH VIF UNIT	38
17. RC-V250E REMOTE CONTROL UNIT	41
18. RC-V251G REMOTE CONTROL UNIT	42
19. RC-V252E REMOTE CONTROL UNIT	45
20. RC-V451E/G REMOTE CONTROL UNIT	46
21. RC-V452E REMOTE CONTROL UNIT	49
IV. INFORMATION OF ICs	50

Use these schematic diagrams and PC boards together with the provided service manual.

CATEGORY CODES USED IN THIS MANUAL

CATEGORY CODE	TYPE	MODEL NUMBER
JBX	2 VIDEO HEAD TYPE	
JLX	3 VIDEO HEAD TYPE	
JLX-L	3 VIDEO HEAD L-TYPE	
JFX-L	4 VIDEO HEAD L-TYPE	VS-F440EA/EDG/EDI/EK/EM/ EO/EOG-V/EOH VS-F441EA VS-F450EOH VS-F455EOH
JFX	4 VIDEO HEAD	VS-F480EK-V/EOG-V VS-F490EM/EO/EOH/ES VS-F497EOH
JTX	4 VIDEO HEAD & Hi-Fi STEREO TYPE	



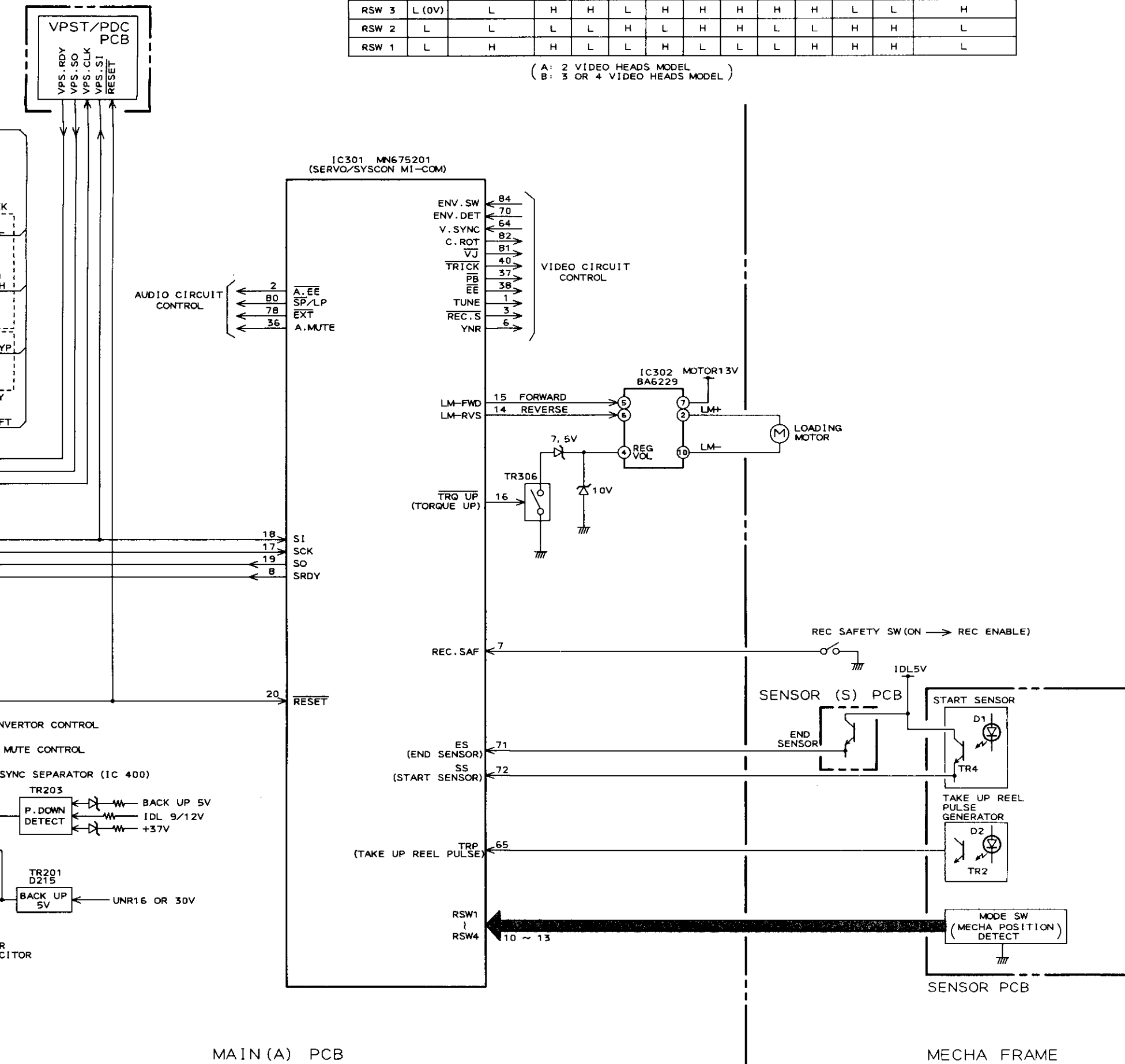
OPERATION (A) PCB

MA

MODE SWITCH TRUTH TABLE

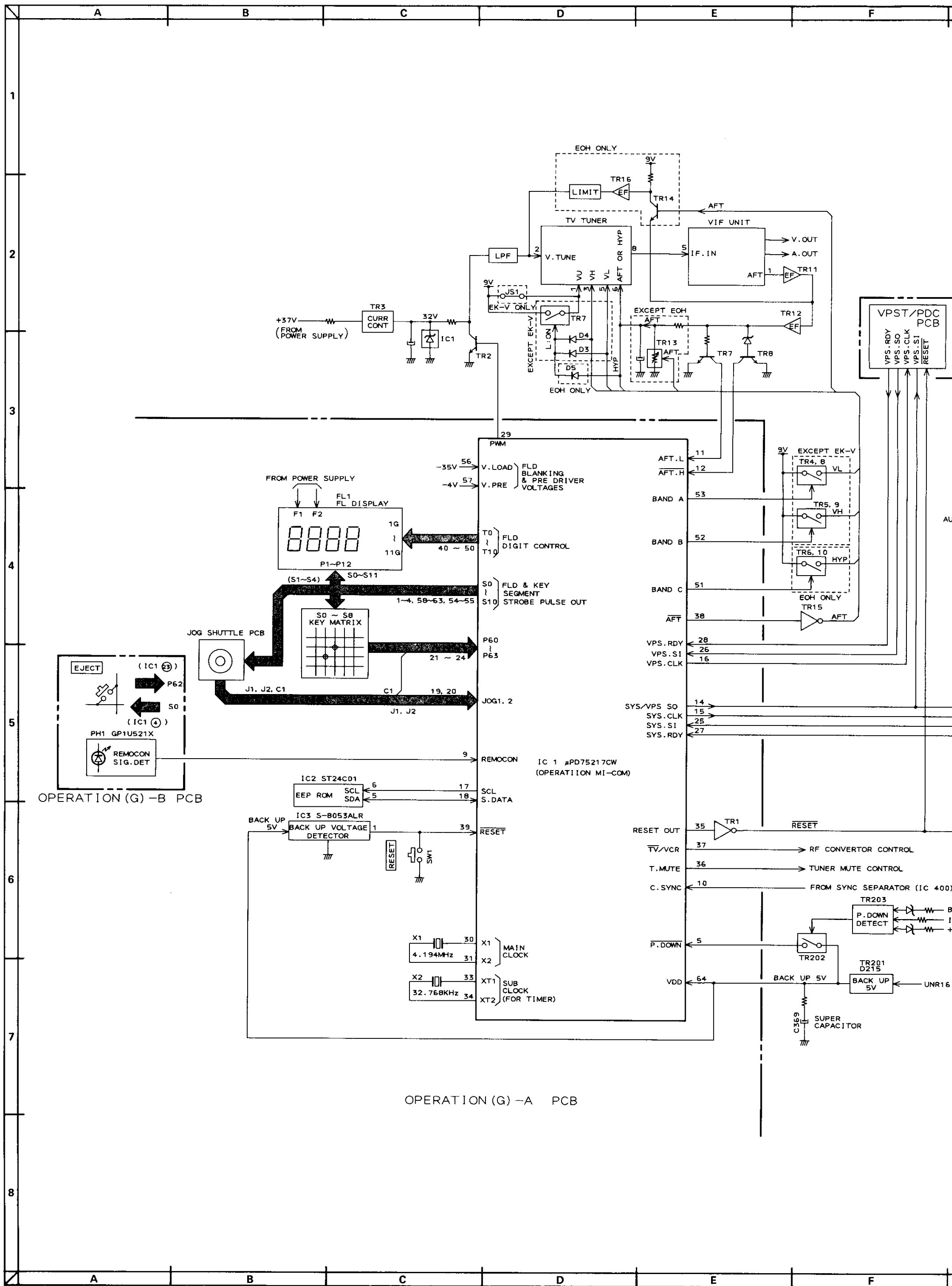
MODE OUTPUT	EJECT	STOP (TAPE LOADED)	PAUSE/PLAY		PLAY		REVIEW		CUE		FF	REW	POWER OFF (WITH CASSETTE)
			A	B	A	B	A	B	A	B			
RSW 4	H (5V)	L	L	L	L	L	L	H	L	L	L	L	H
RSW 3	L (0V)	L	H	H	L	H	H	H	H	H	L	L	H
RSW 2	L	L	L	L	H	L	H	H	L	L	H	H	L
RSW 1	L	H	H	L	L	H	L	L	L	H	H	H	L

(A: 2 VIDEO HEADS MODEL
B: 3 OR 4 VIDEO HEADS MODEL)



JFX-L
OPERATION (A) & SYSCON
BLOCK DIAGRAM

No. 7-1 V115251M
A2



OPERATION (G) - B PCB

OPERATION (G) - A PCB

1
2
3
4
5
6
7
8

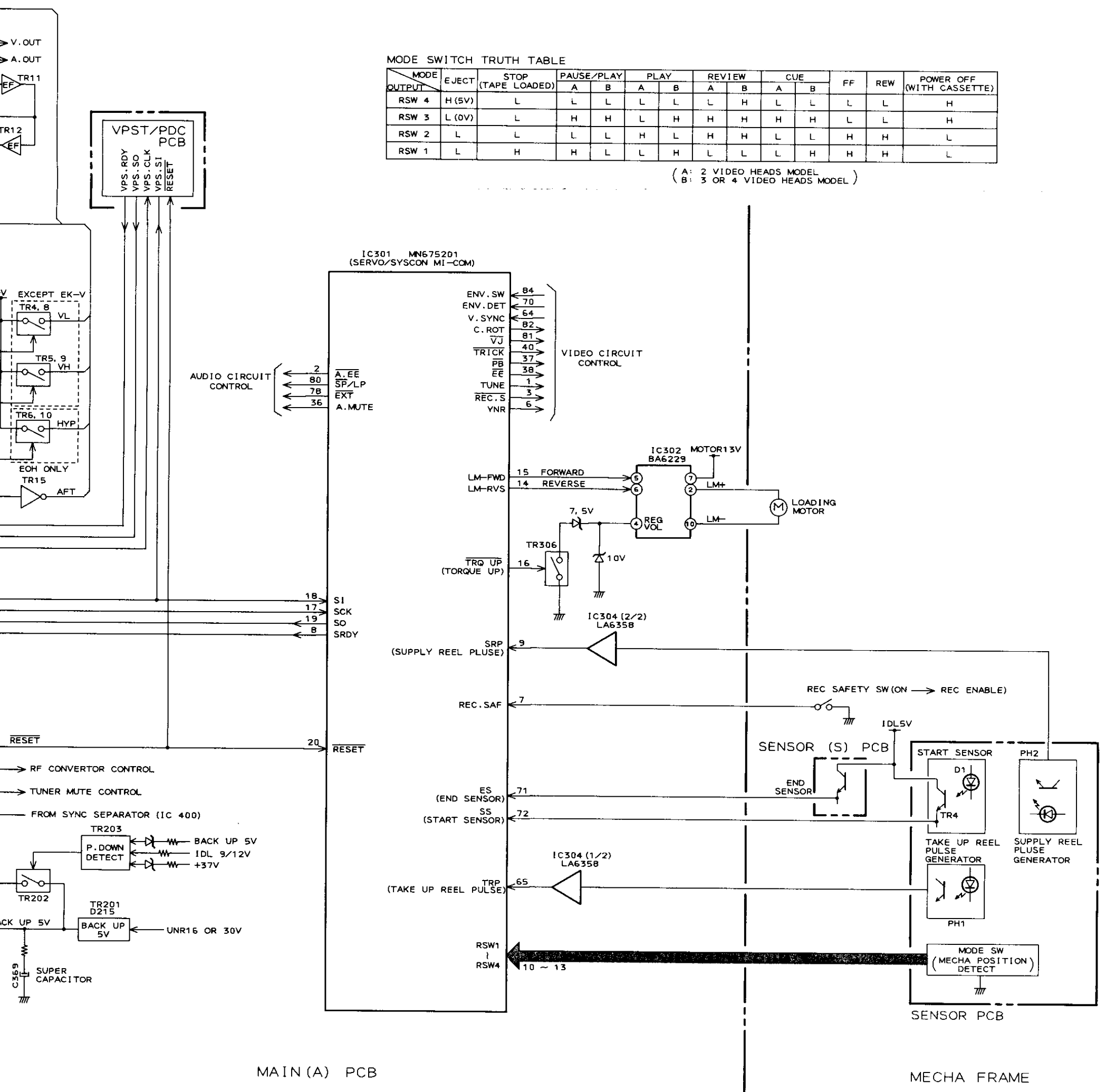
A B C D E F

A B C D E F

MODE SWITCH TRUTH TABLE

MODE OUTPUT	EJECT	STOP (TAPE LOADED)	PAUSE/PLAY		PLAY		REVIEW		CUE		FF	REW	POWER OFF (WITH CASSETTE)
			A	B	A	B	A	B	A	B			
RSW 4	H (5V)	L	L	L	L	L	L	H	L	L	L	L	H
RSW 3	L (0V)	L	H	H	L	H	H	H	H	H	L	L	H
RSW 2	L	L	L	L	H	L	H	H	L	L	H	H	L
RSW 1	L	H	H	L	L	H	L	L	L	H	H	H	L

(A: 2 VIDEO HEADS MODEL
B: 3 OR 4 VIDEO HEADS MODEL)

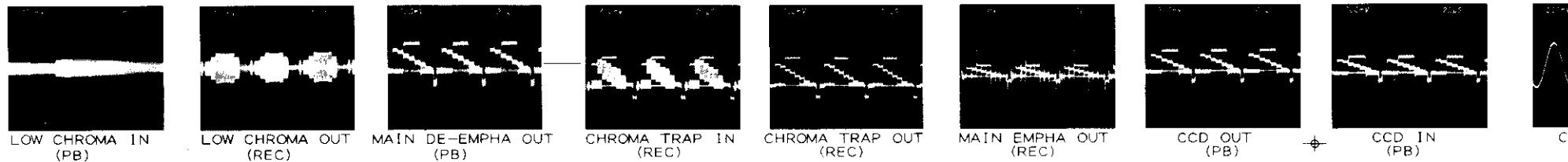
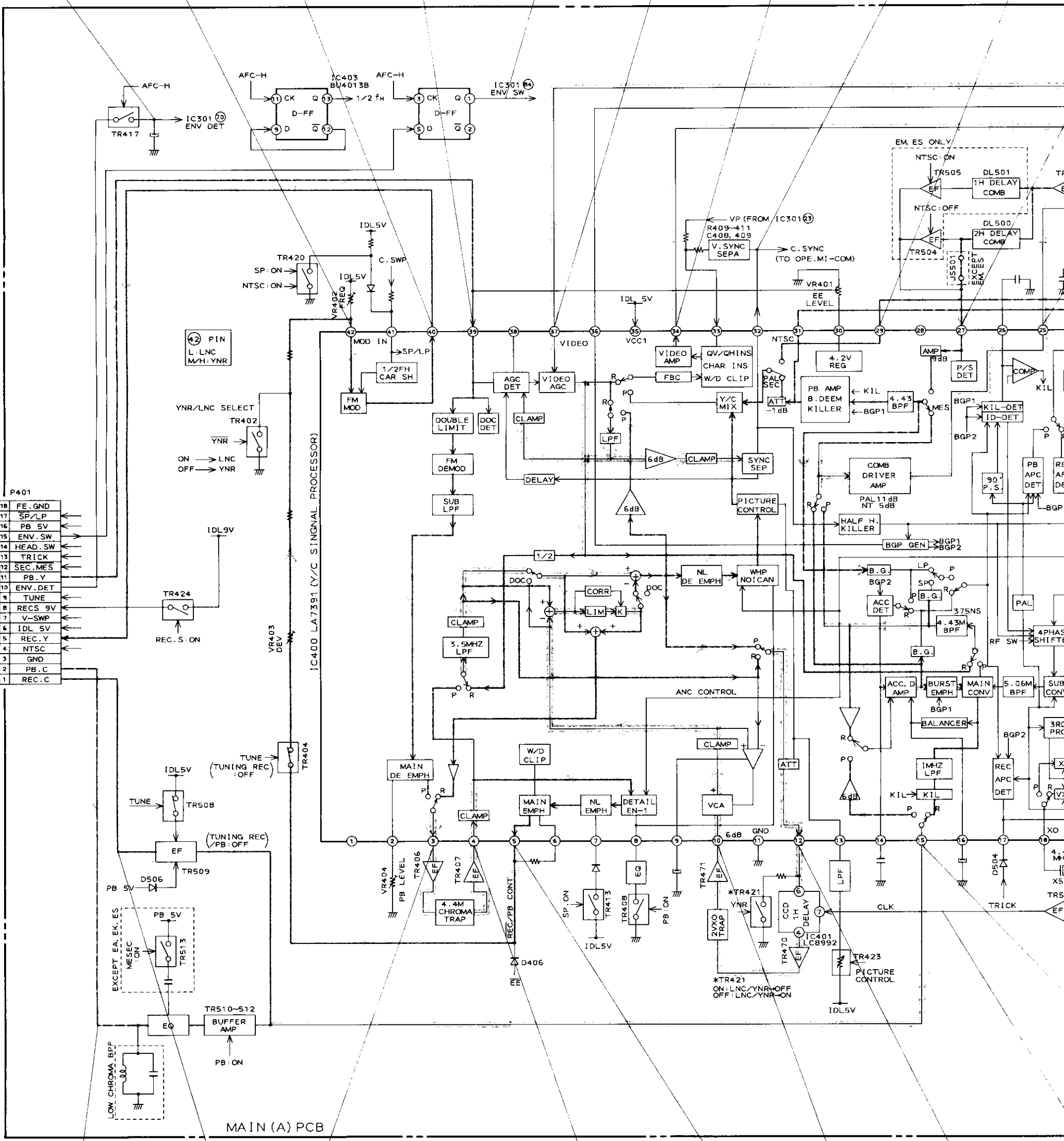


JFX
OPERATION (G) & SYSCON
BLOCK DIAGRAM
No. 7-2 V115252M
A2

A B C D E F

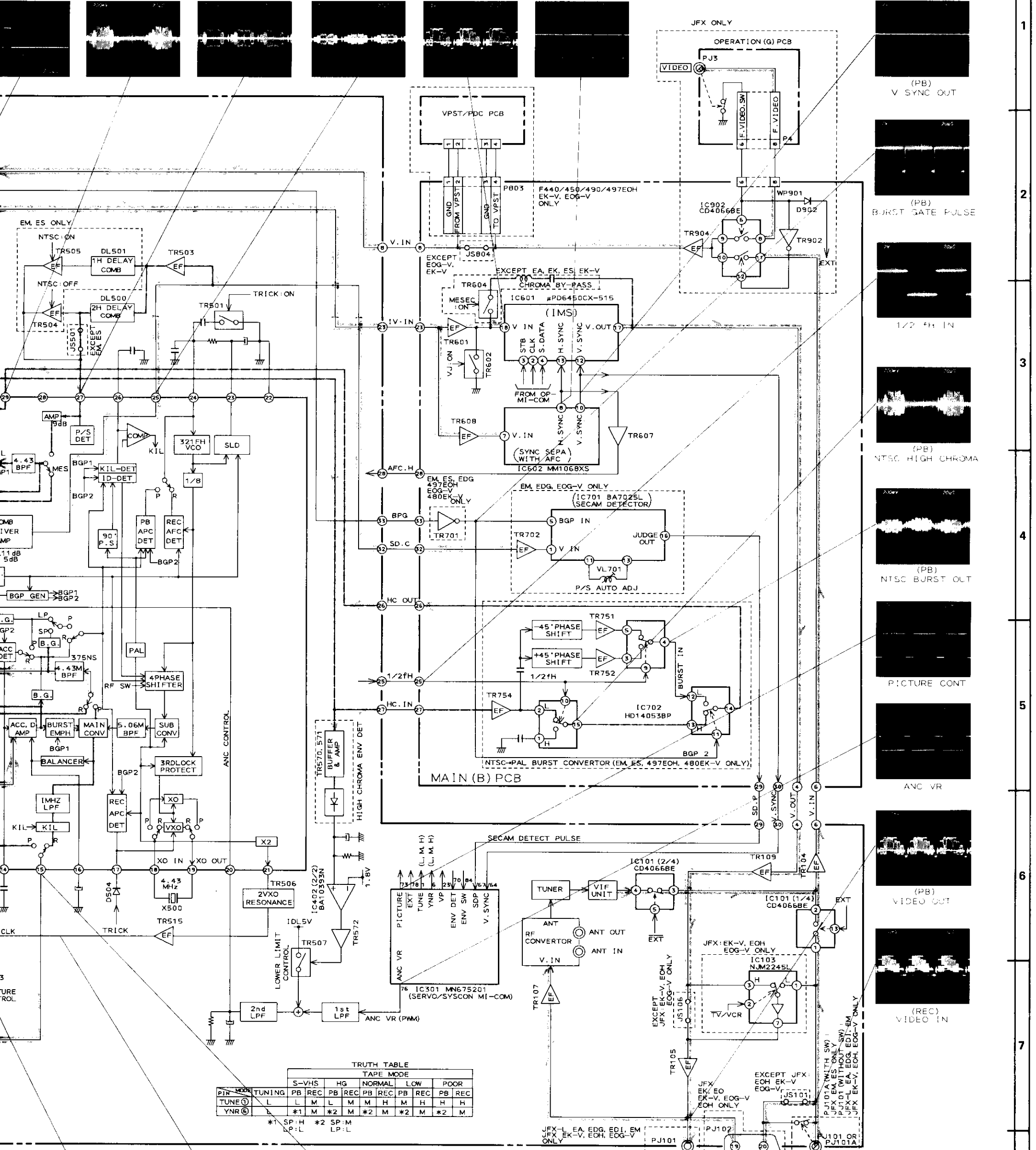
(PB) ENV DET (REC) MODULATOR IN (LOWER V OUT) REC Y OUT PB FM IN (PB) ENV SW (CUE MODE X5) (REC) VIDEO IN (PB) VIDEO OUT (REC) COMPOSITE SYNC (PB) NTSC H.C IN

1
2
3
4
5
6
7
8



A B C D E F

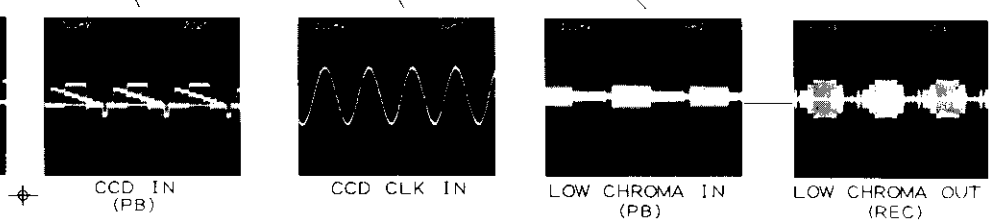
(REC) POSITIVE SYNC (PB) NTSC H.C IN (PB) COMB FILTER OUT (PB) COMB AMP OUT (PB) IMS IN (PB) AFC H-SYNC OUT



TRUTH TABLE
TAPE MODE

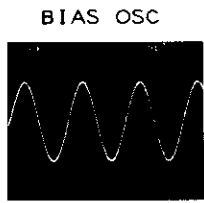
PIN	MODE	S-VHS		HG		NORMAL		LOW		POOR	
		PB	REC	PB	REC	PB	REC	PB	REC	PB	REC
TUNE	①	L	L	M	M	M	M	H	H	H	H
YNR	②	#1	M	#2	M	#2	M	#2	M	#2	M

* SP:H LP:L #2 SP:M LP:L

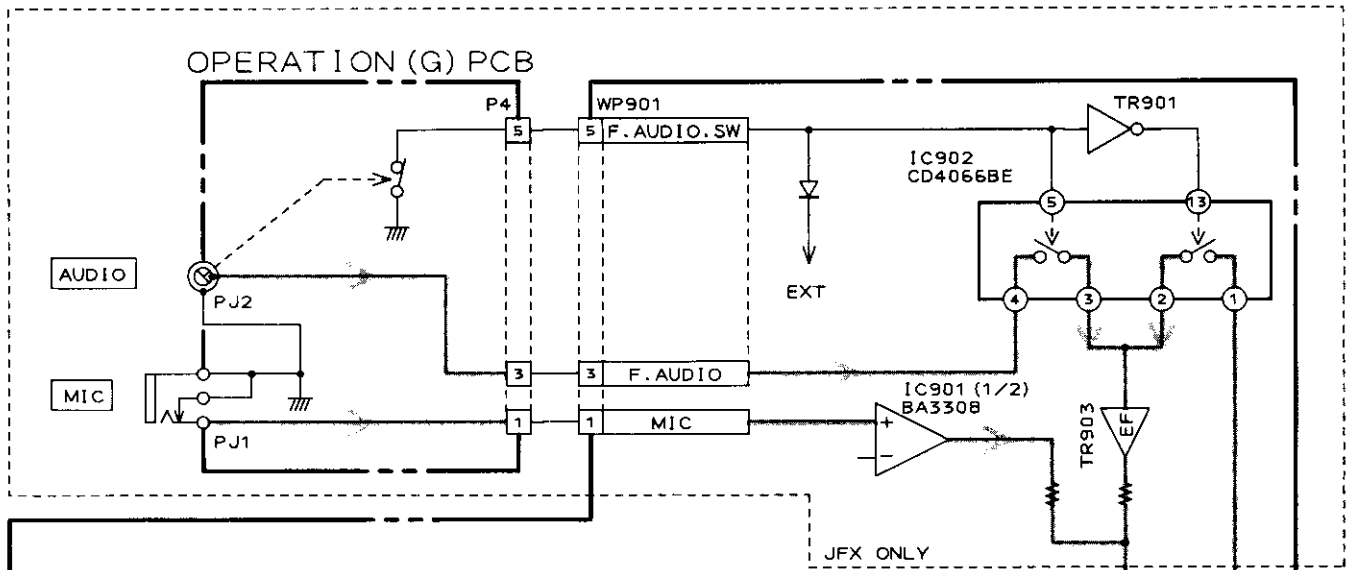


PB Y SIGNAL LINE
REC Y SIGNAL LINE
PB CHROMA SIGNAL LINE
REC CHROMA SIGNAL LINE

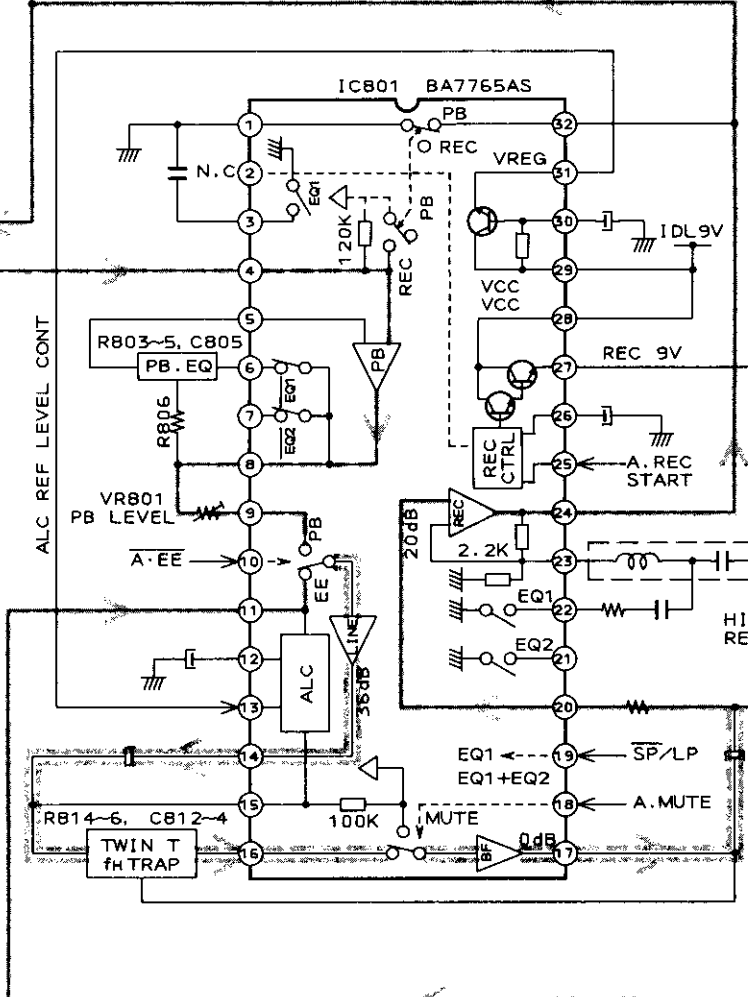
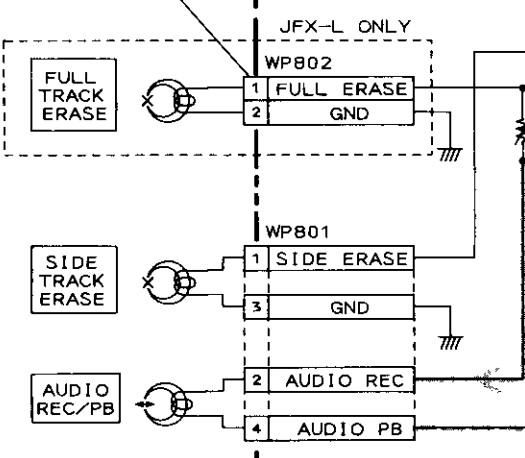
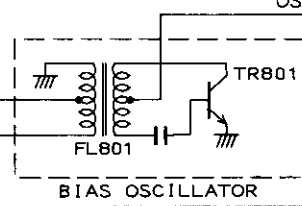
JFX/JFX-L
VIDEO
BLOCK DIAGRAM
No. 7-3 V115253M
A1



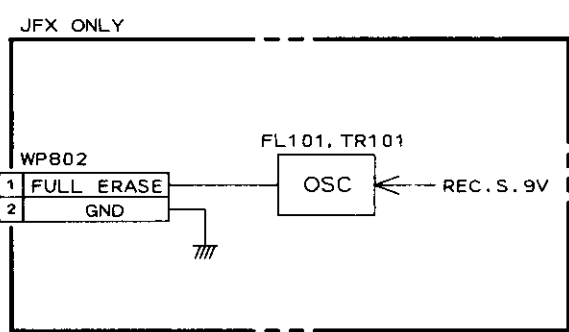
OPERATION (G) PCB



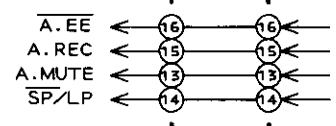
OSC POWER SUPPLY



MAIN (B) PCB

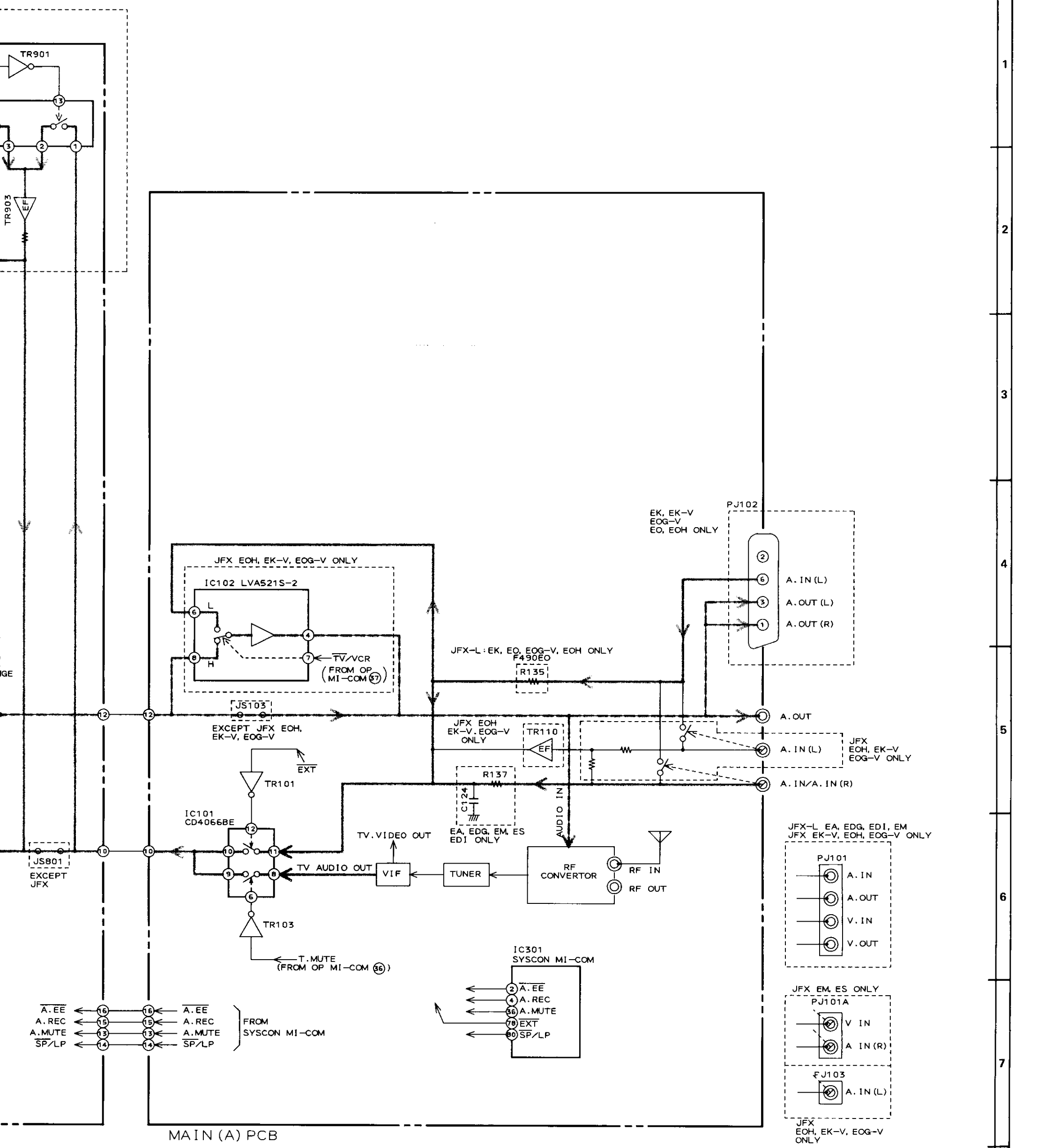


PRE AMP PCB



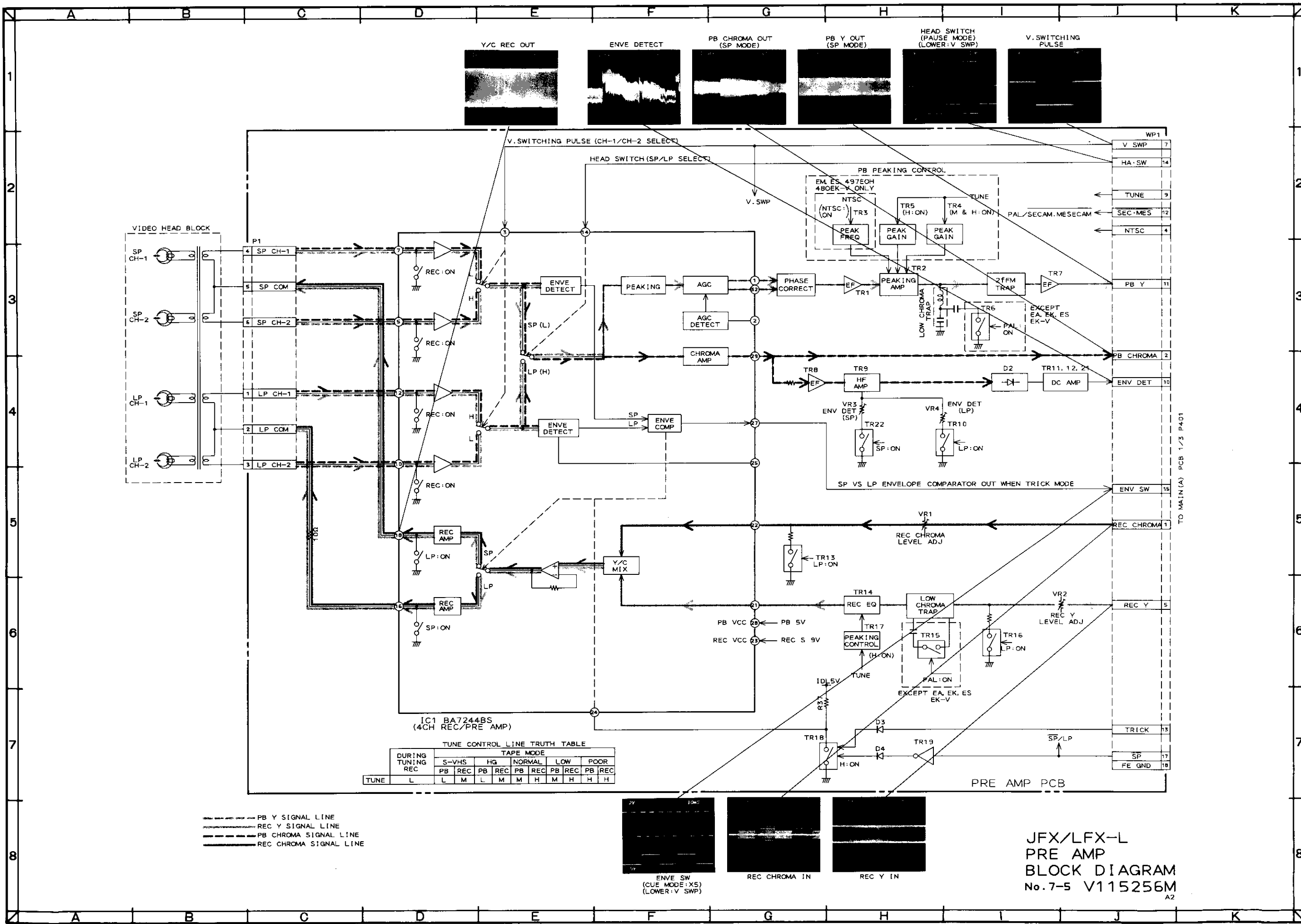
1
2
3
4
5
6
7
8

A B C D E F



MAIN (A) PCB

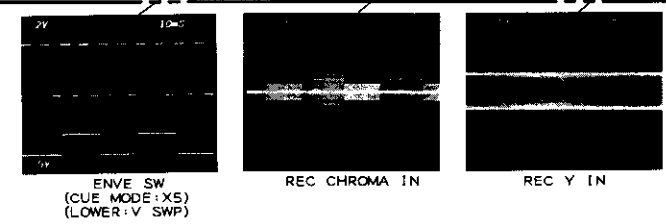
JFX/JFX-L
AUDIO
BLOCK DIAGRAM
No. 7-4 V115254M
A2



TUNE CONTROL LINE TRUTH TABLE

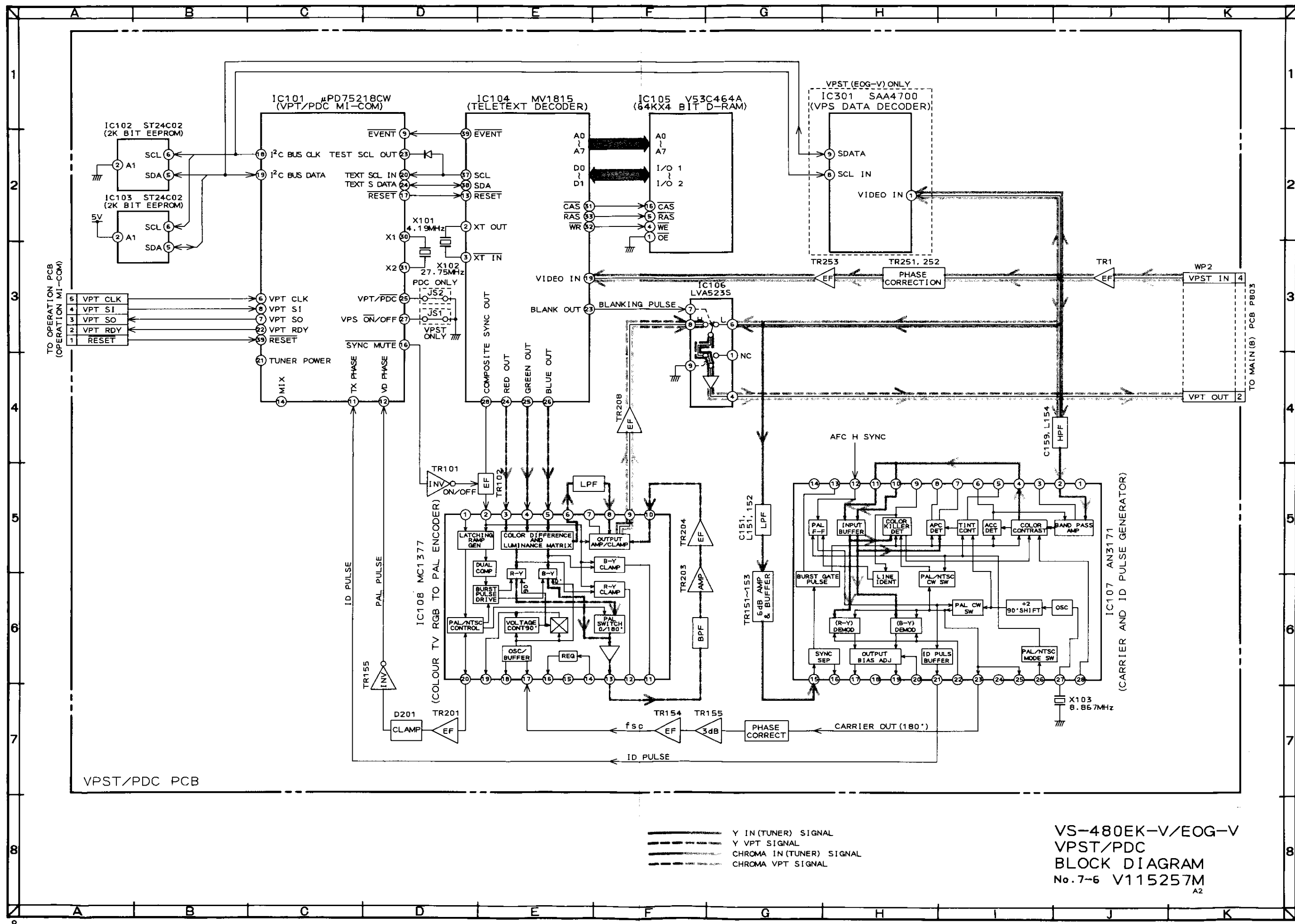
DURING TUNING REC	TAPE MODE									
	S-VHS		HG		NORMAL		LOW POOR			
	PB REC	PB REC	PB REC	PB REC	PB REC	PB REC	PB REC	PB REC		
TUNE	L	L	M	L	M	M	H	M	H	H

..... PB Y SIGNAL LINE
 - - - - - REC Y SIGNAL LINE
 - · - · - · PB CHROMA SIGNAL LINE
 _____ REC CHROMA SIGNAL LINE

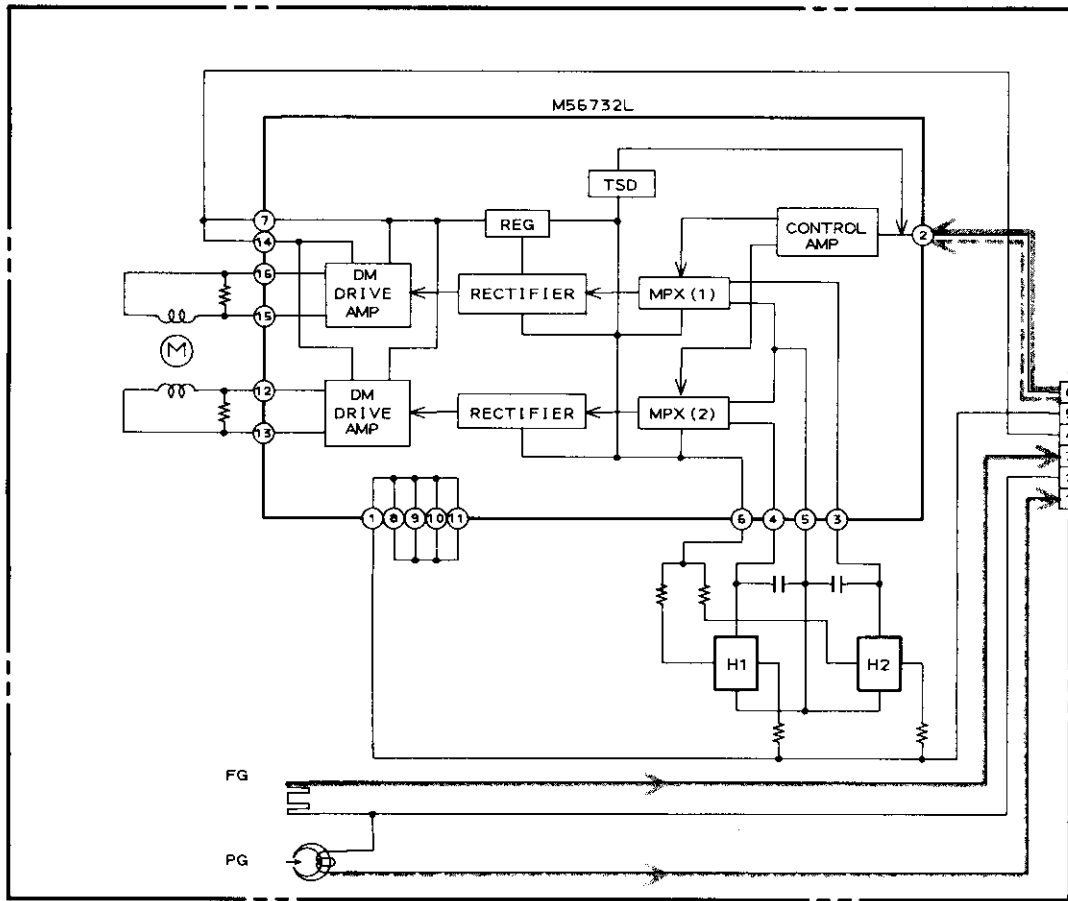


JFX/LFX-L
PRE AMP
BLOCK DIAGRAM
 No. 7-5 V115256M
 A2

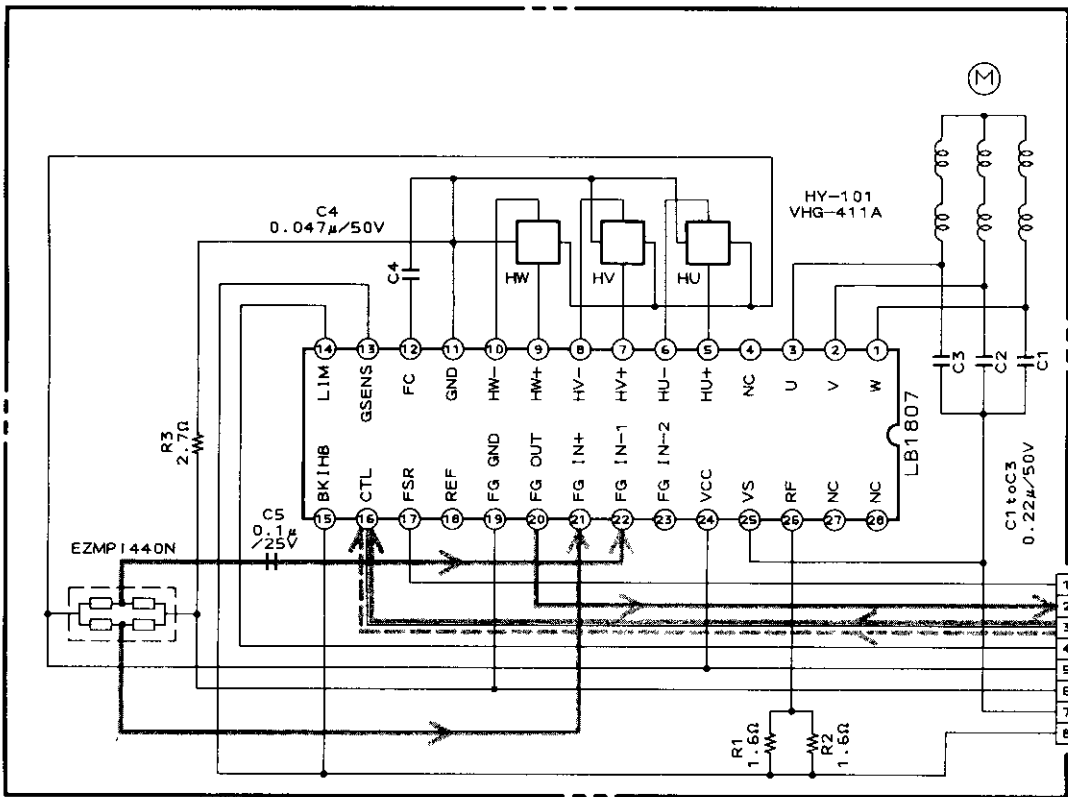
TO MAIN (A) PCB 1/3 P401



VS-480EK-V/EOG-V
 VPST/PDC
 BLOCK DIAGRAM
 No.7-6 V115257M
 A2

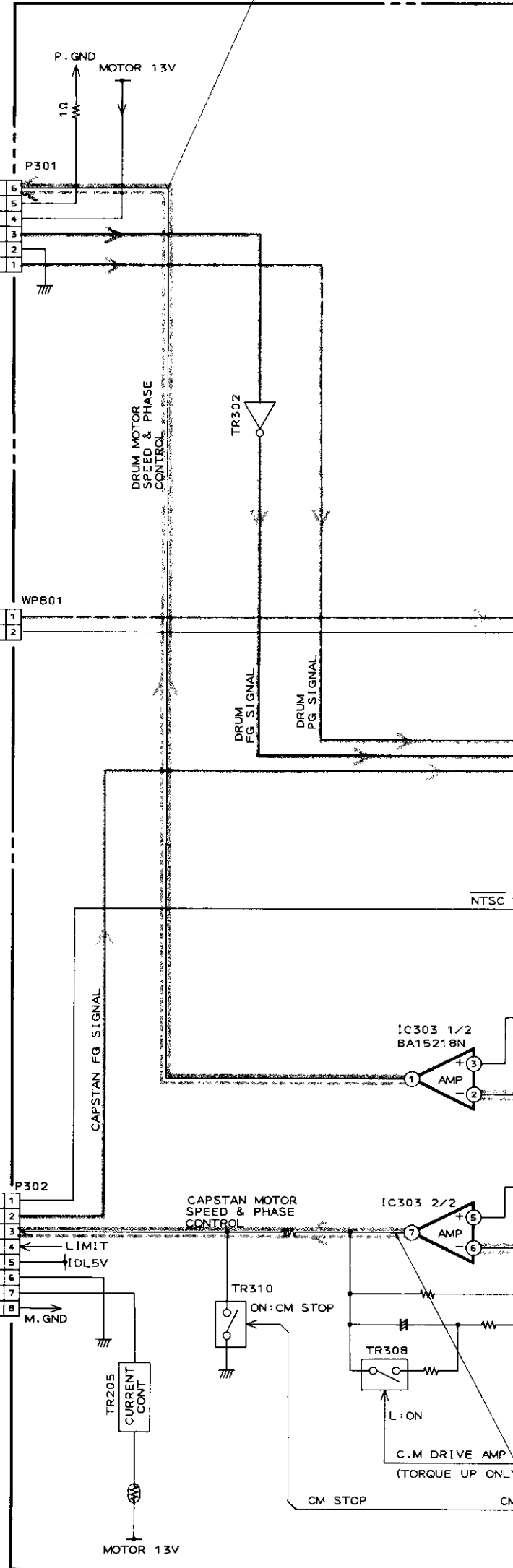


DRUM MOTOR

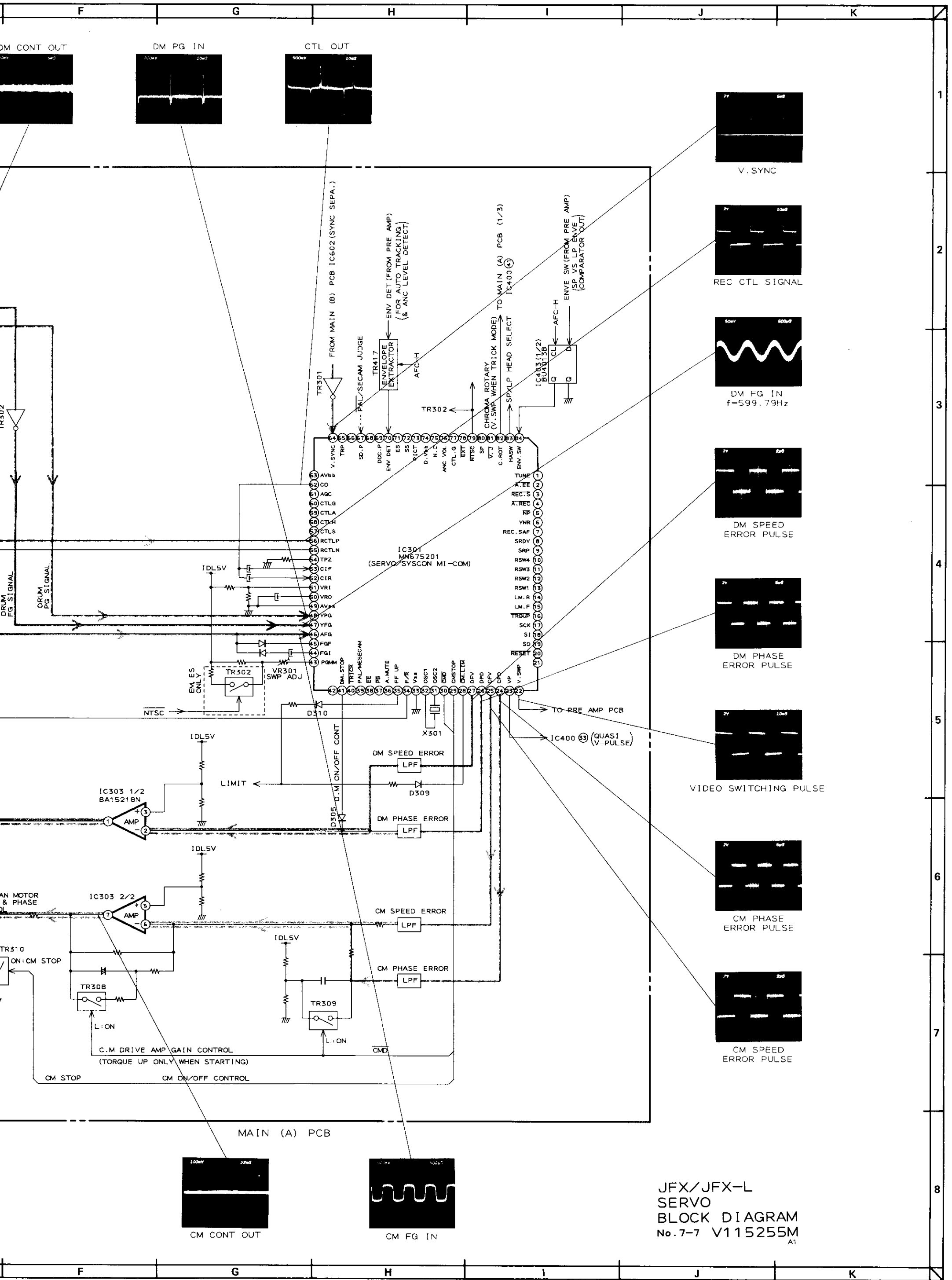


CAPSTAN MOTOR

- : CAPSTAN MOTOR SPEED CONTROL LINE
- : CAPSTAN MOTOR PHASE CONTROL LINE
- : DRUM MOTOR SPEED CONTROL LINE
- : DRUM MOTOR PHASE CONTROL LINE

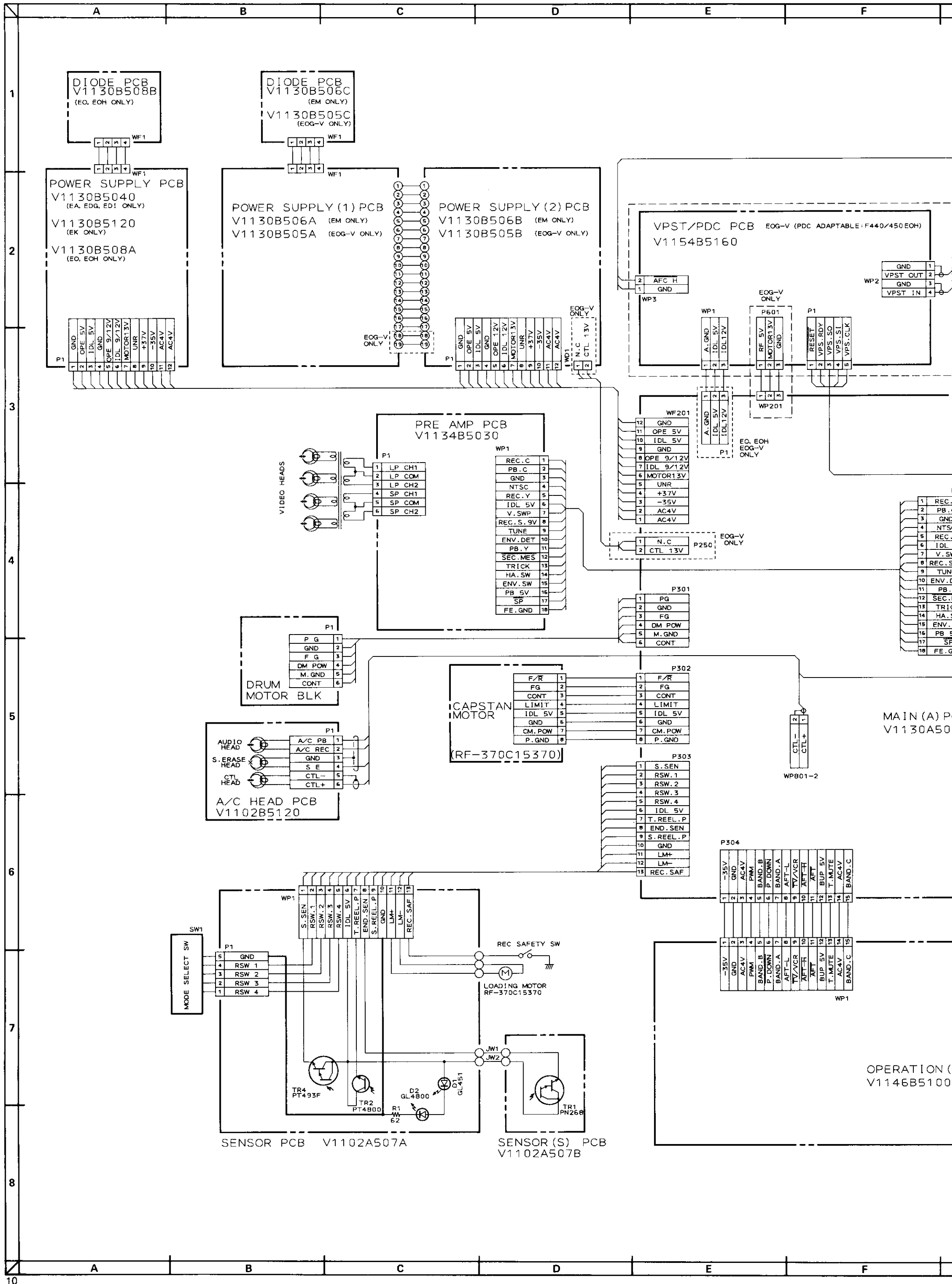


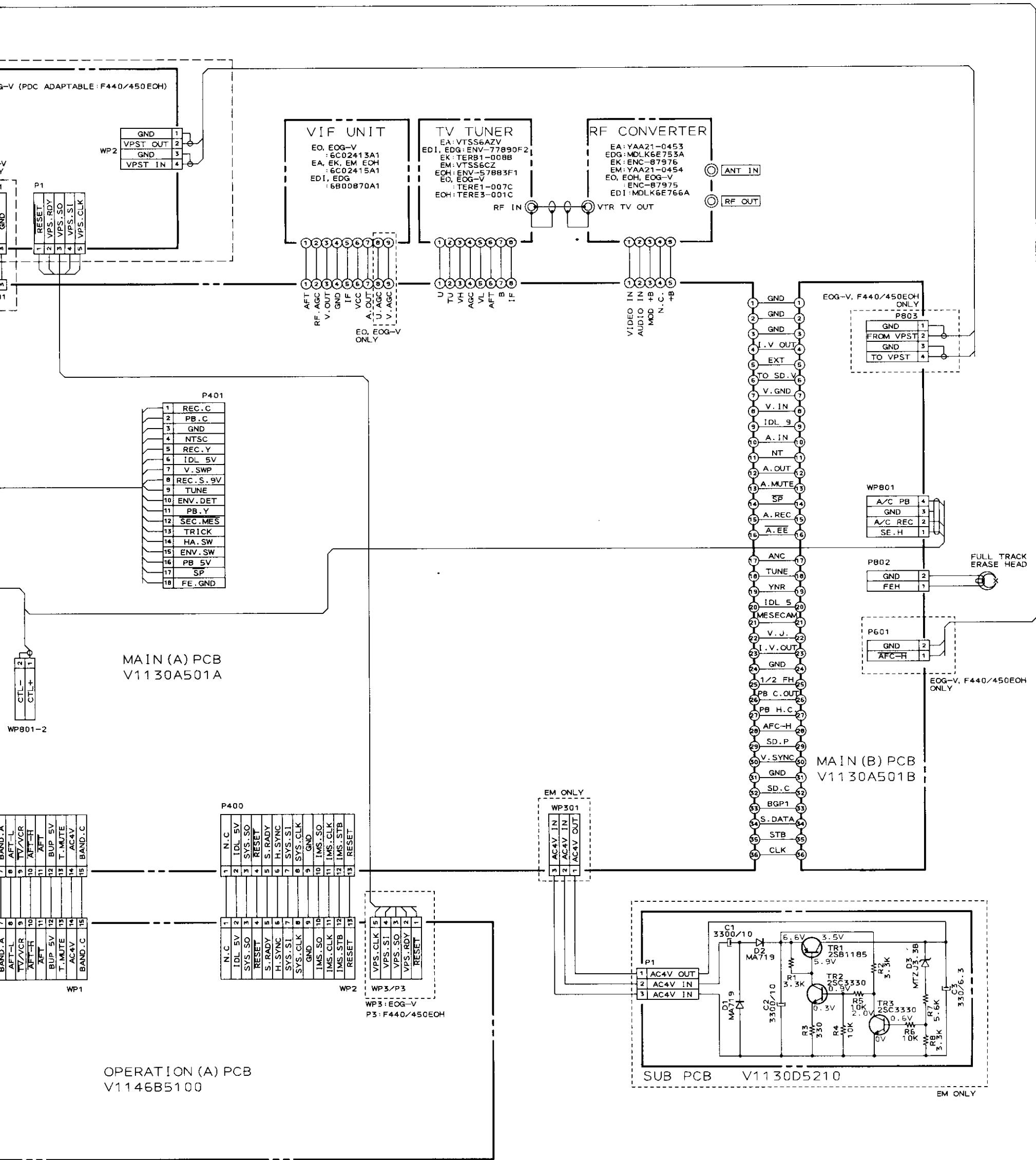
MOTOR 13V



JFX/JFX-L
SERVO
BLOCK DIAGRAM
No. 7-7 V115255M
A1

1
2
3
4
5
6
7
8
9



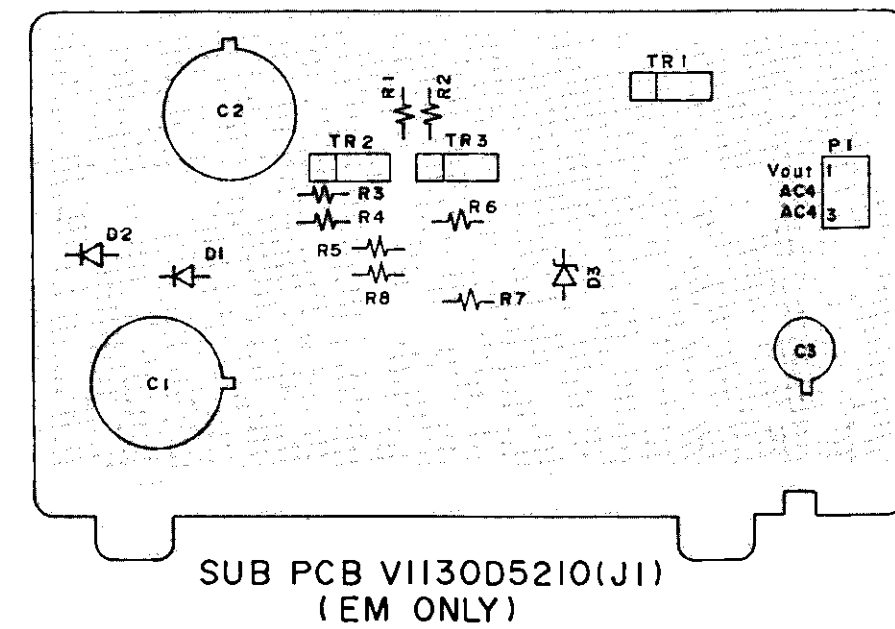
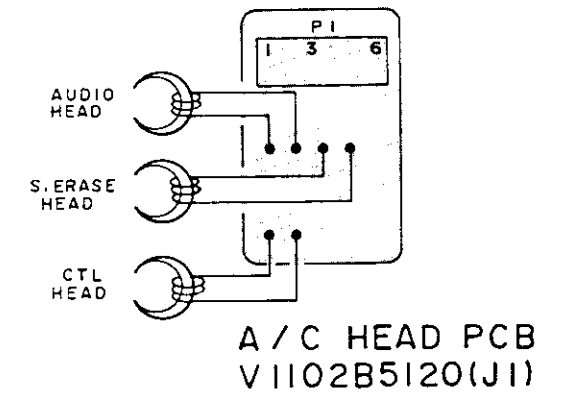
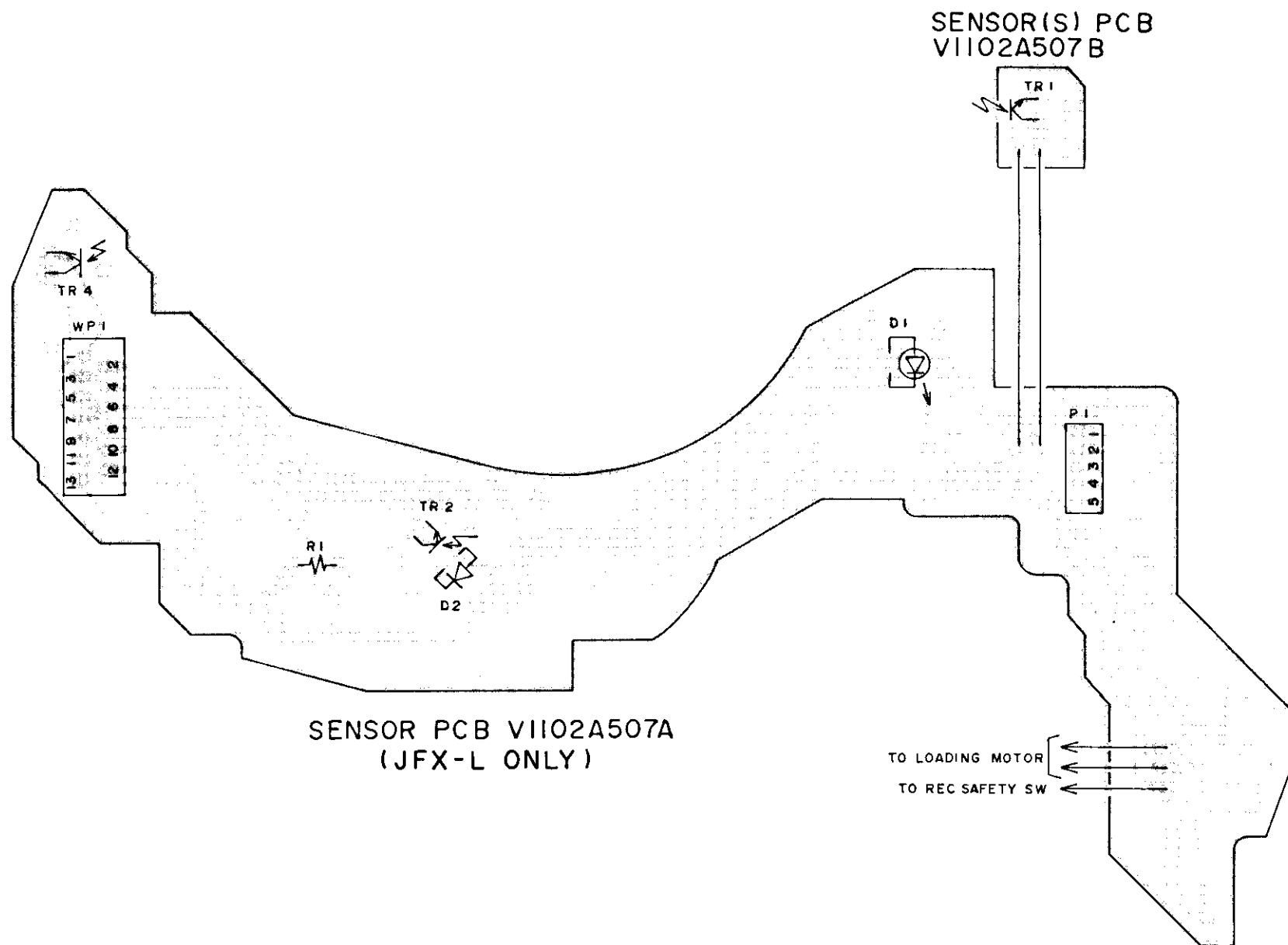


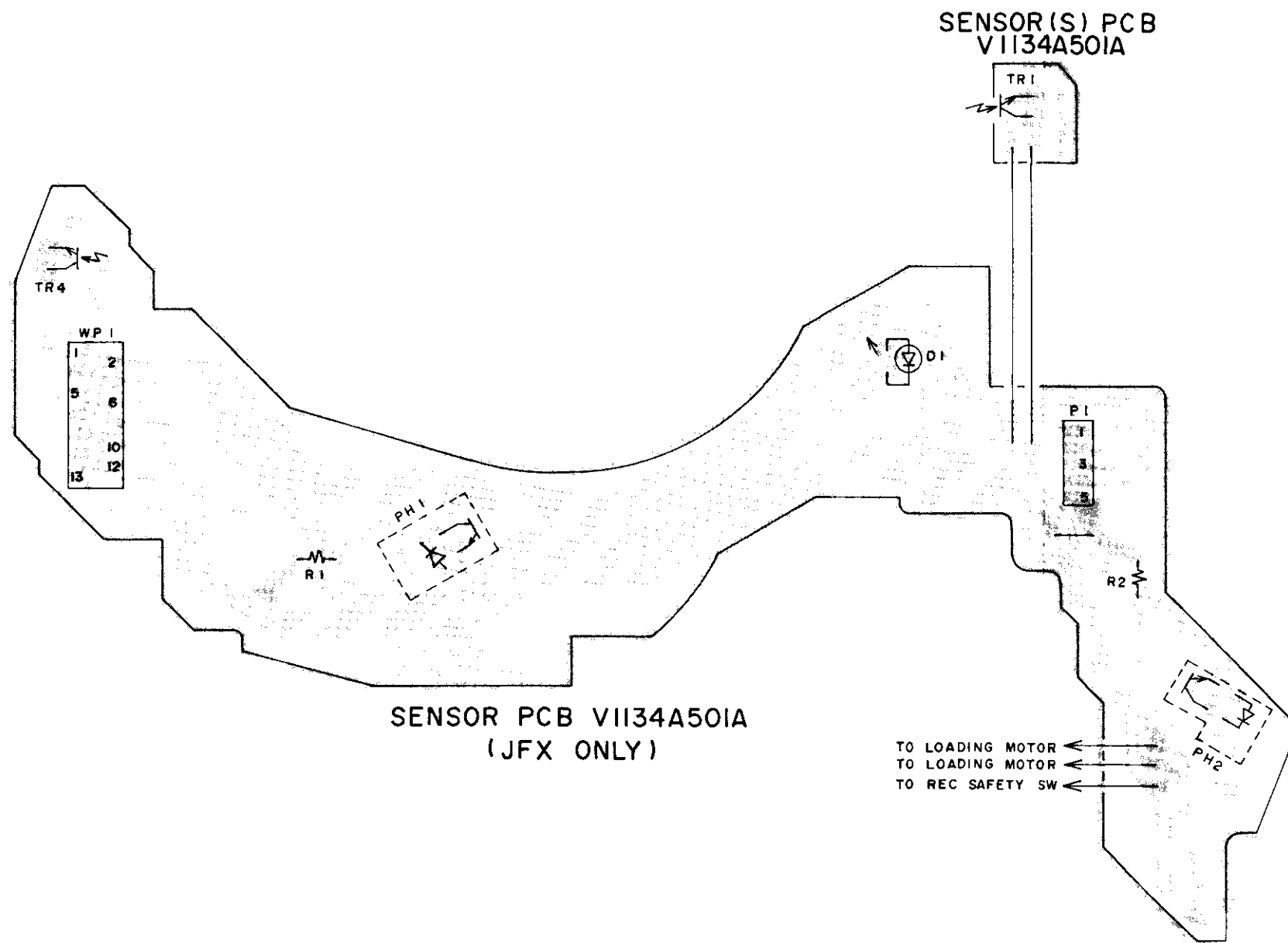
INDICATED VOLTAGES IN THE SUB PCB WERE MEASURED IN PB MODE.
 (CONNECTED DC VOLTMETER'S GROUND TO THE P1 (3) PIN WHEN MEASURED)

NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS 1/6W(J)
 ALL CAPACITORS IN PF (M)

VS-F440EA/EDG/EDI/EK/
 EM/EO/EOH/EOG-V
 VS-F441EA, F450EOH, F455EOH
 CONNECTION DIAGRAM

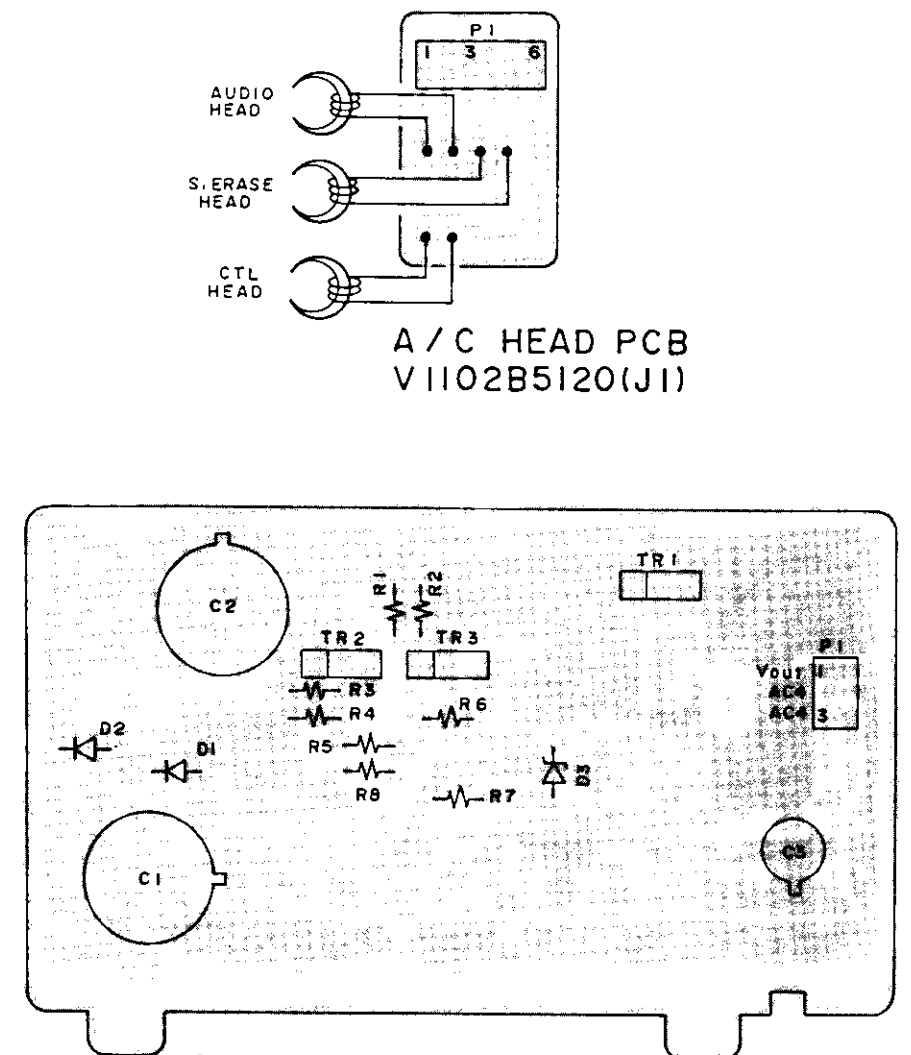
No. 21-1 V115201M





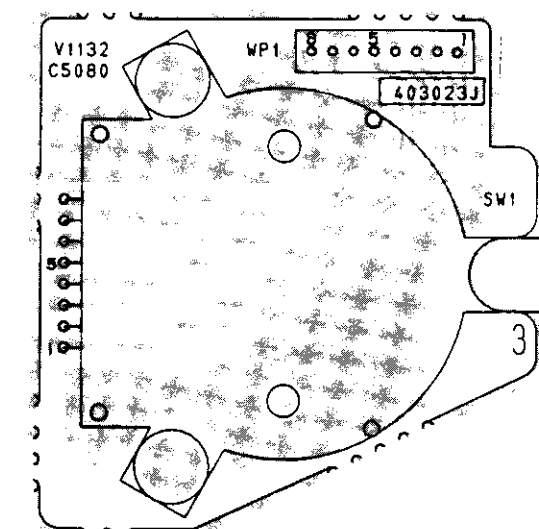
SENSOR PCB VII34A501A
(JFX ONLY)

SENSOR(S) PCB
VII34A501A

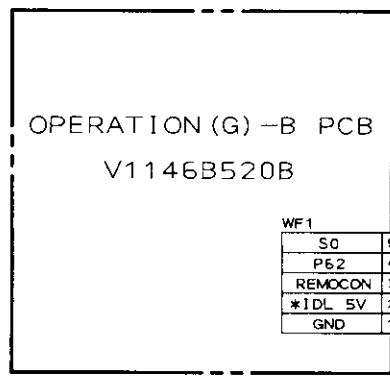
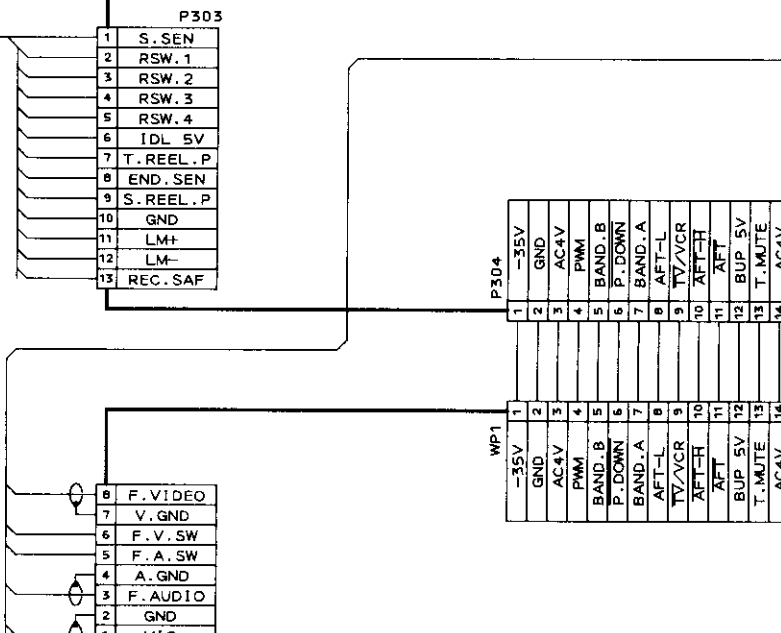
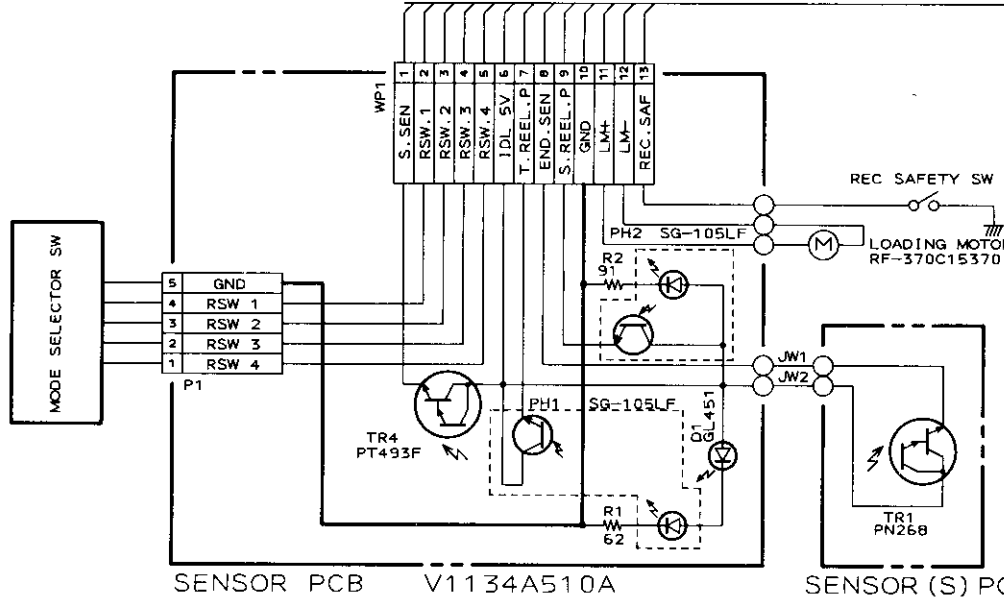
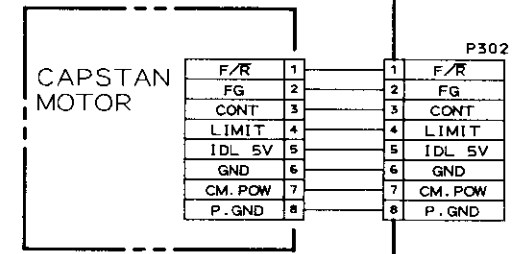
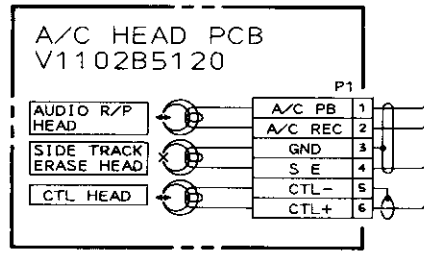
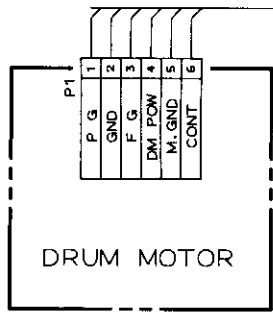
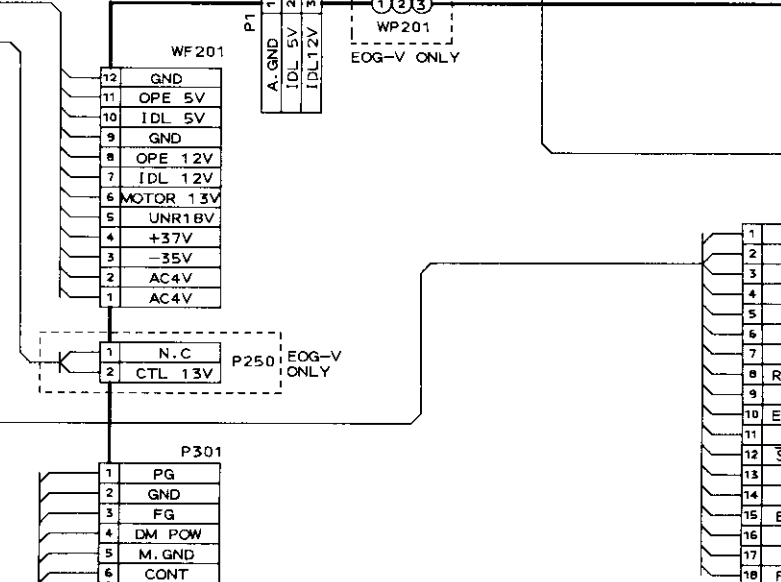
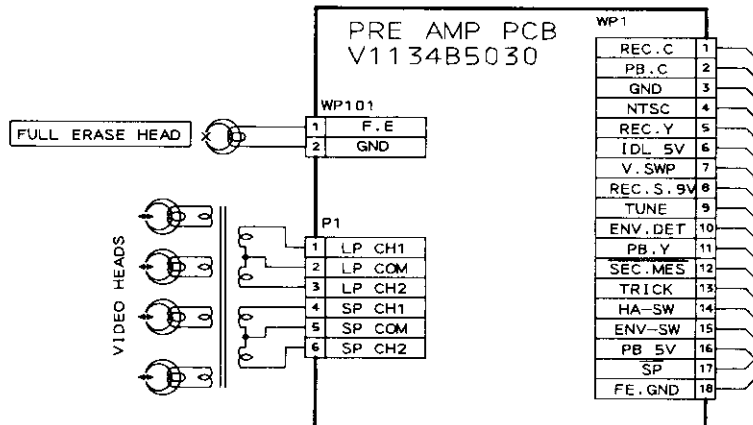
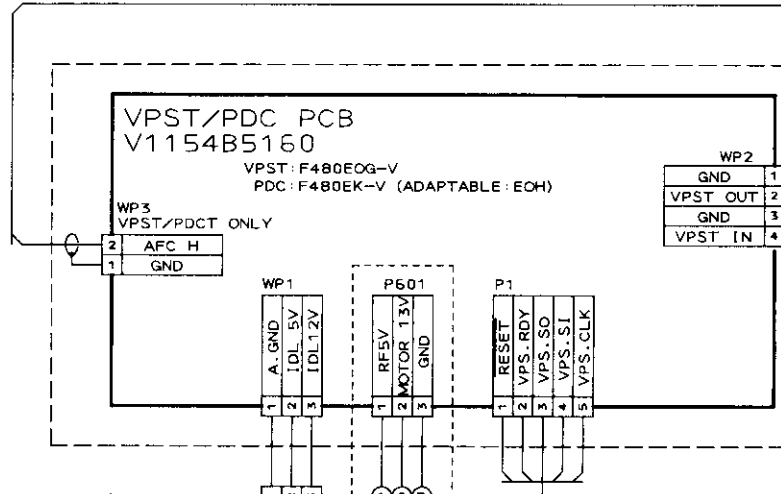
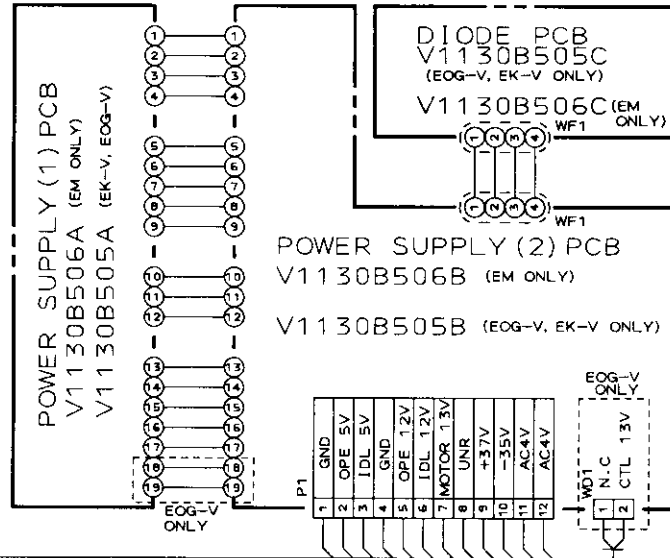
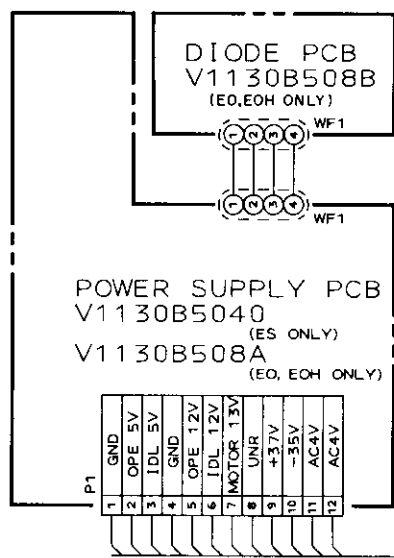


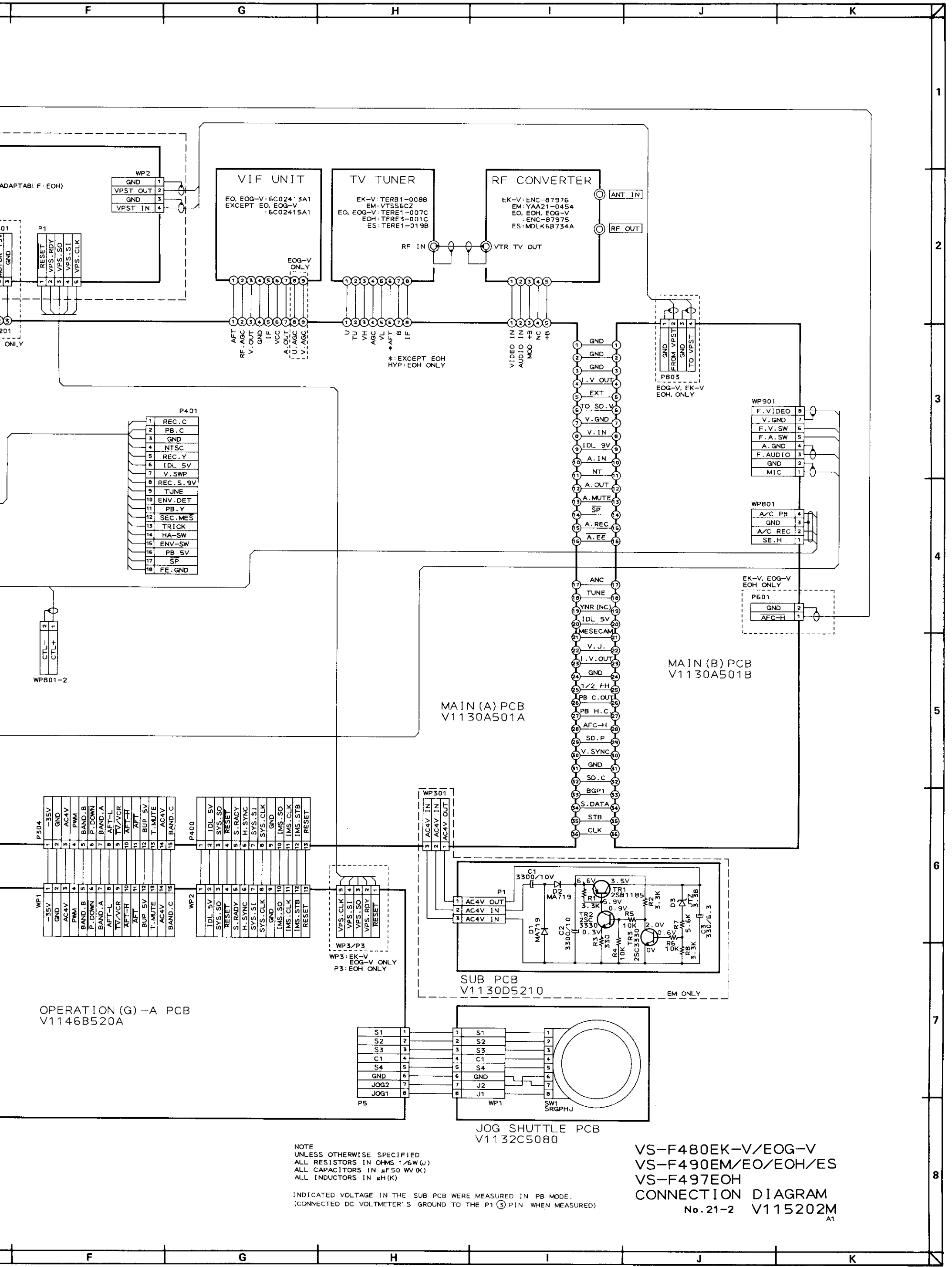
A/C HEAD PCB
VII02B5120(J1)

SUB PCB VII30D5210(J1)
(EM ONLY)



JOG SHUTTLE PCB VII32C5080



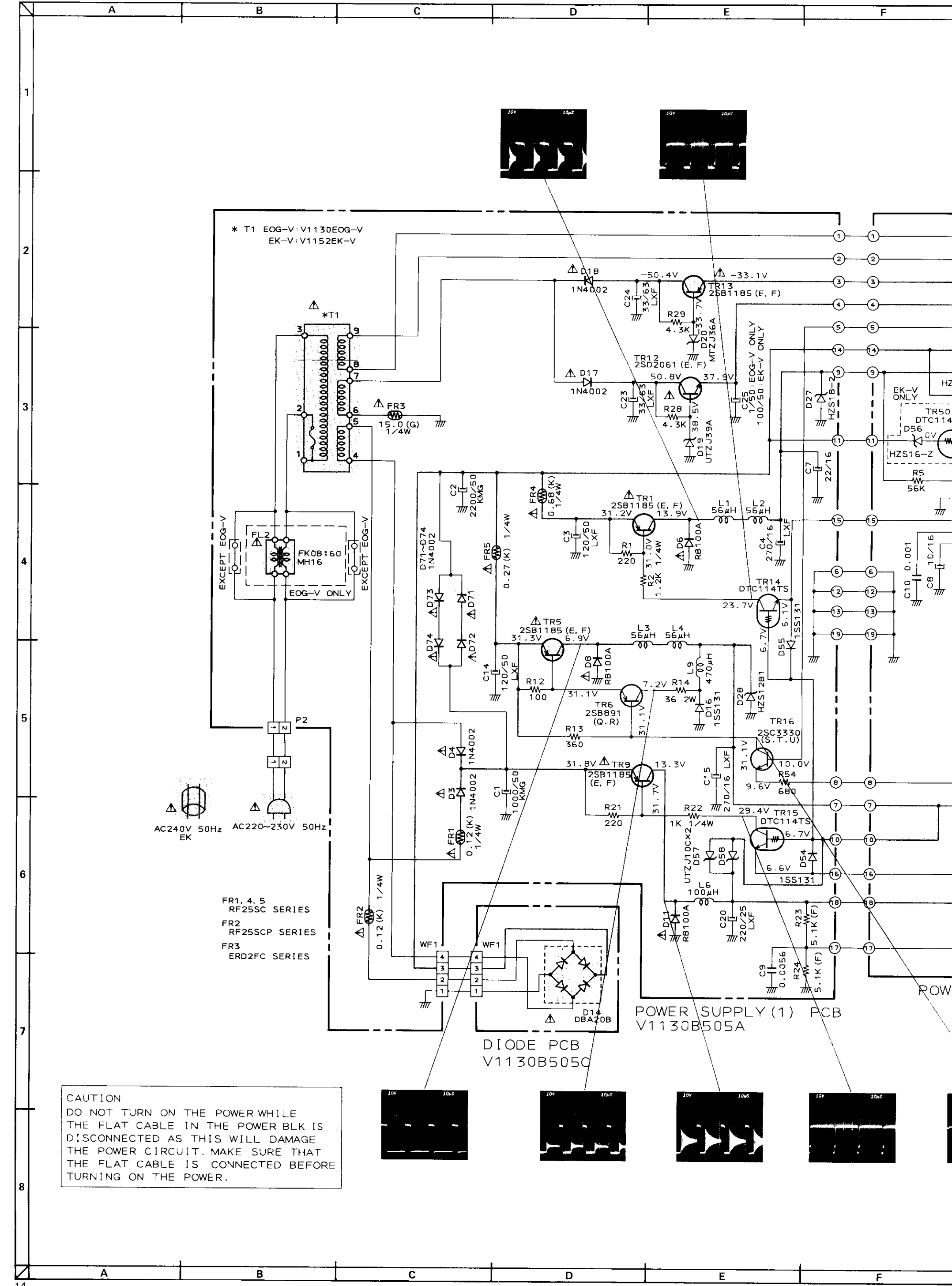


NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS 1/6W(J)
 ALL CAPACITORS IN μ F50 WV(K)
 ALL INDUCTORS IN μ H(K)

INDICATED VOLTAGE IN THE SUB PCB WERE MEASURED IN PB MODE.
 (CONNECTED DC VOLTMETER'S GROUND TO THE P1 (3) PIN WHEN MEASURED)

VS-F480EK-V/EOG-V
 VS-F490EM/EO/EOH/ES
 VS-F497EOH
 CONNECTION DIAGRAM
 No. 21-2 V115202M
 A1

1
 2
 3
 4
 5
 6
 7
 8
 13



* T1 EOG-V: V1130EOG-V
EK-V: V1152EK-V

EXCEPT EOG-V
EOG-V ONLY
EXCEPT EOG-V

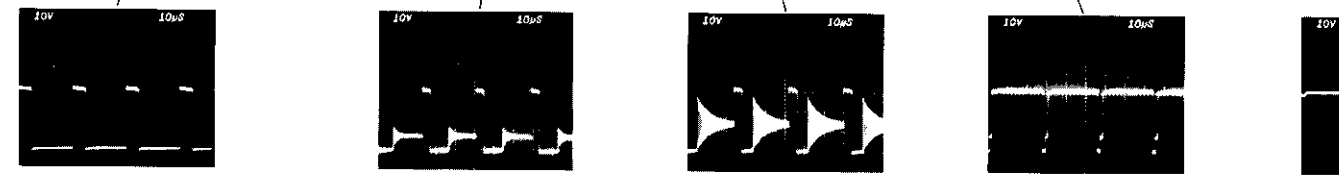
AC240V 50Hz EK
AC220~230V 50Hz

FR1, 4, 5
RF25SSC SERIES
FR2
RF25SCP SERIES
FR3
ERD2FC SERIES

DIODE PCB
V1130B505C

POWER SUPPLY (1) PCB
V1130B505A

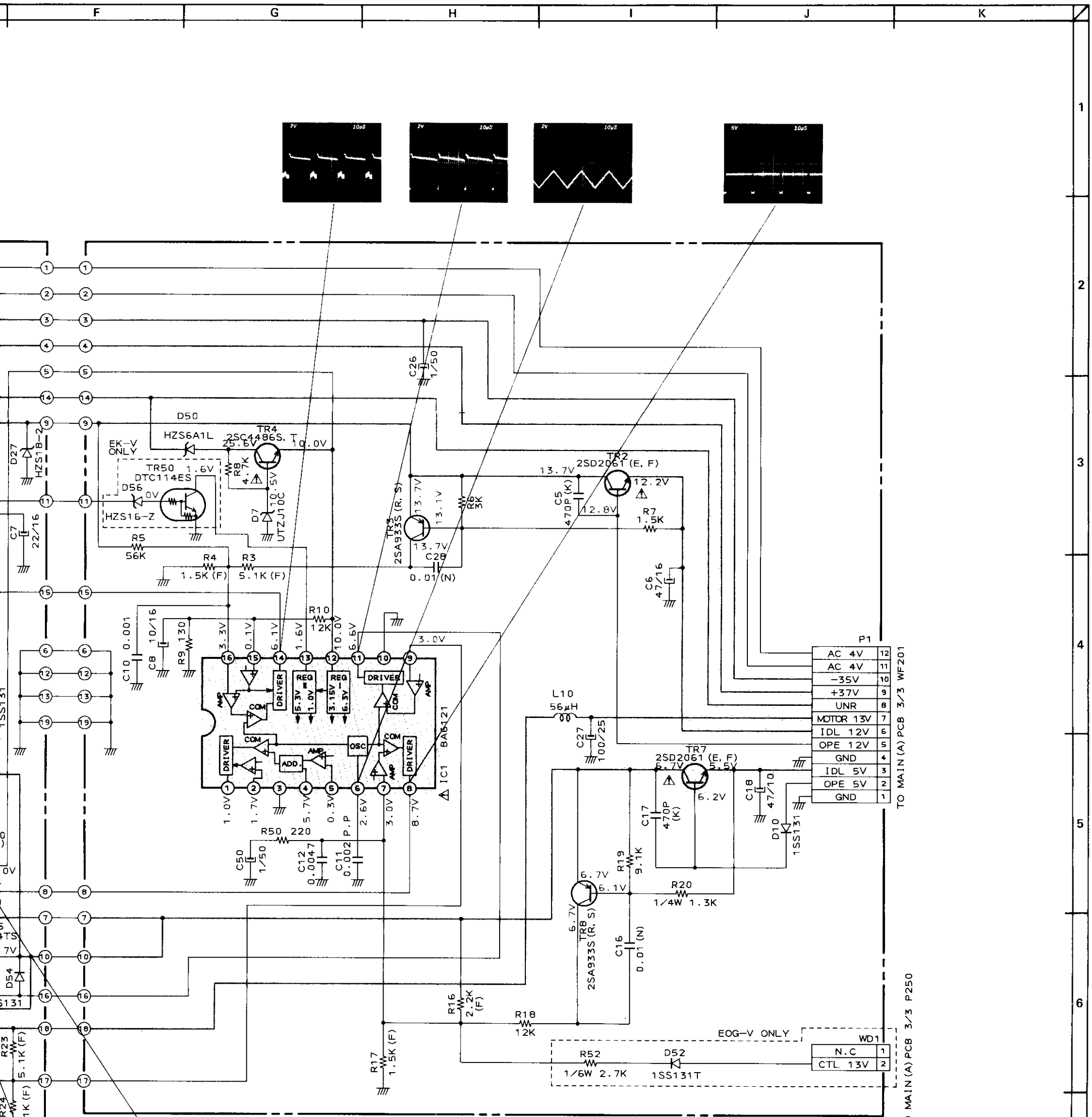
CAUTION
DO NOT TURN ON THE POWER WHILE THE FLAT CABLE IN THE POWER BLK IS DISCONNECTED AS THIS WILL DAMAGE THE POWER CIRCUIT. MAKE SURE THAT THE FLAT CABLE IS CONNECTED BEFORE TURNING ON THE POWER.



1
2
3
4
5
6
7
8

A B C D E F

A B C D E F



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

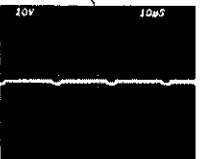
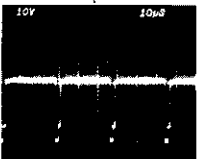
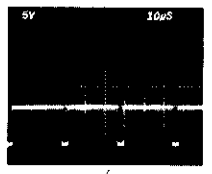
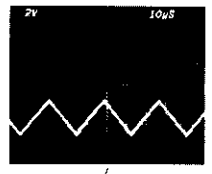
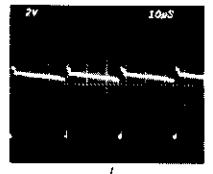
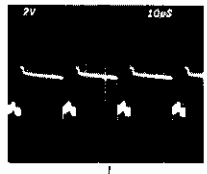
AVERTISSEMENT: Δ ET ∇ , ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L' APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

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

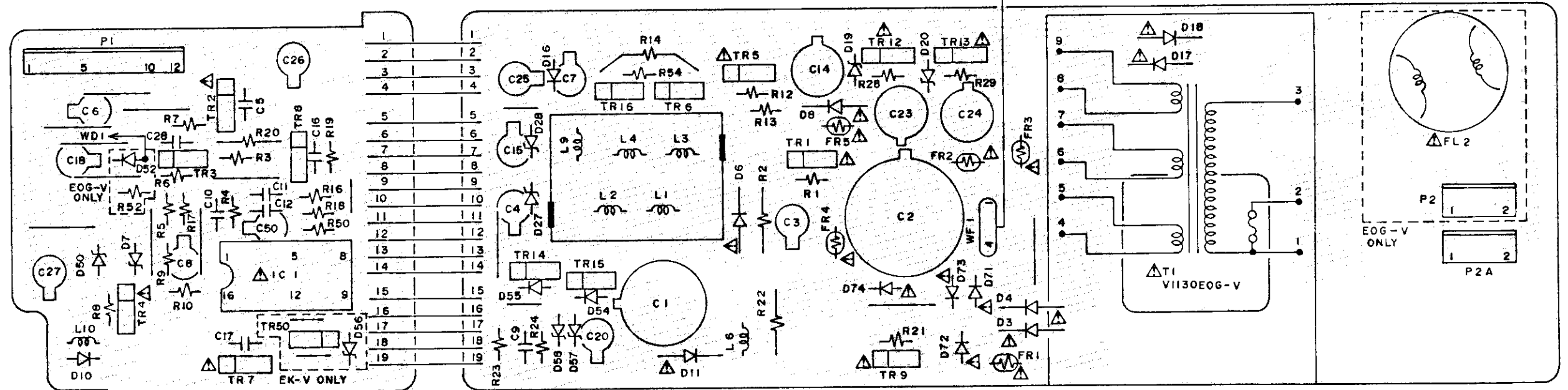
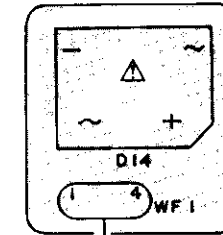
* INDICATED VOLTAGE WERE MEASURED DURING E-E MODE.
* PHOTOGRAPHS WERE TAKEN DURING E-E MODE. THE SCREEN'S FIRST LINE FROM THE BOTTOM IS DC 0V.

:B (POWER SUPPLY) LINE

VS-F440EOG-V
VS-F480EOG-V/EK-V
POWER SUPPLY(1), (2) & DIODE
SCHEMATIC DIAGRAM
No. 21-3 V115203M
A1



DIODE PCB
VII30B505C(J1)
(EOG-V, EK-V ONLY)



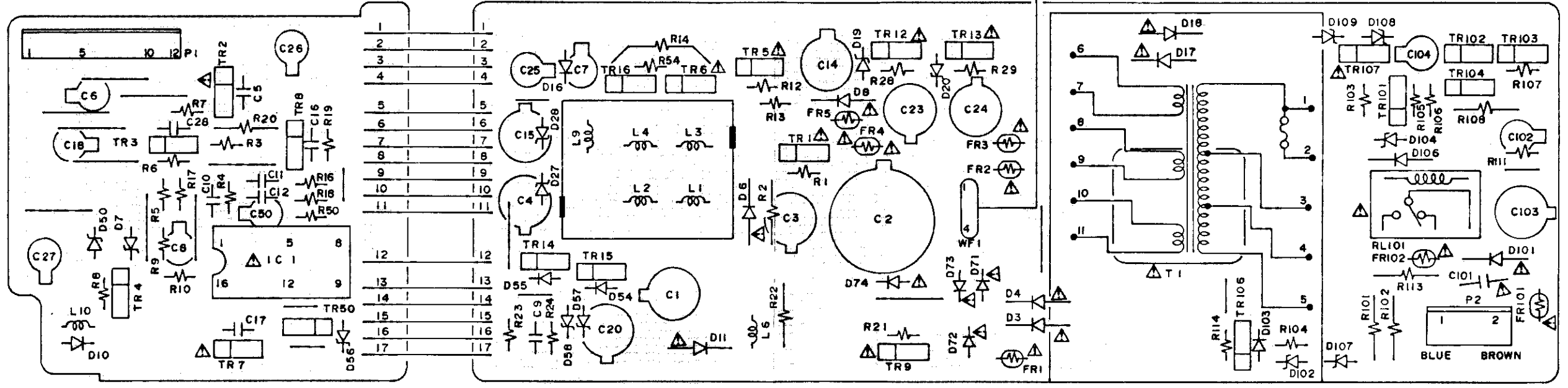
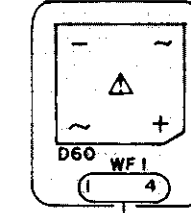
POWER SUPPLY (2) PCB
VII30B505B (J1)
(EOG-V, EK-V ONLY)

POWER SUPPLY (1) PCB VII30B505A (J1)
(EOG-V, EK-V ONLY)

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 DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

DIODE PCB
VII30B506C(J1)(EM ONLY)

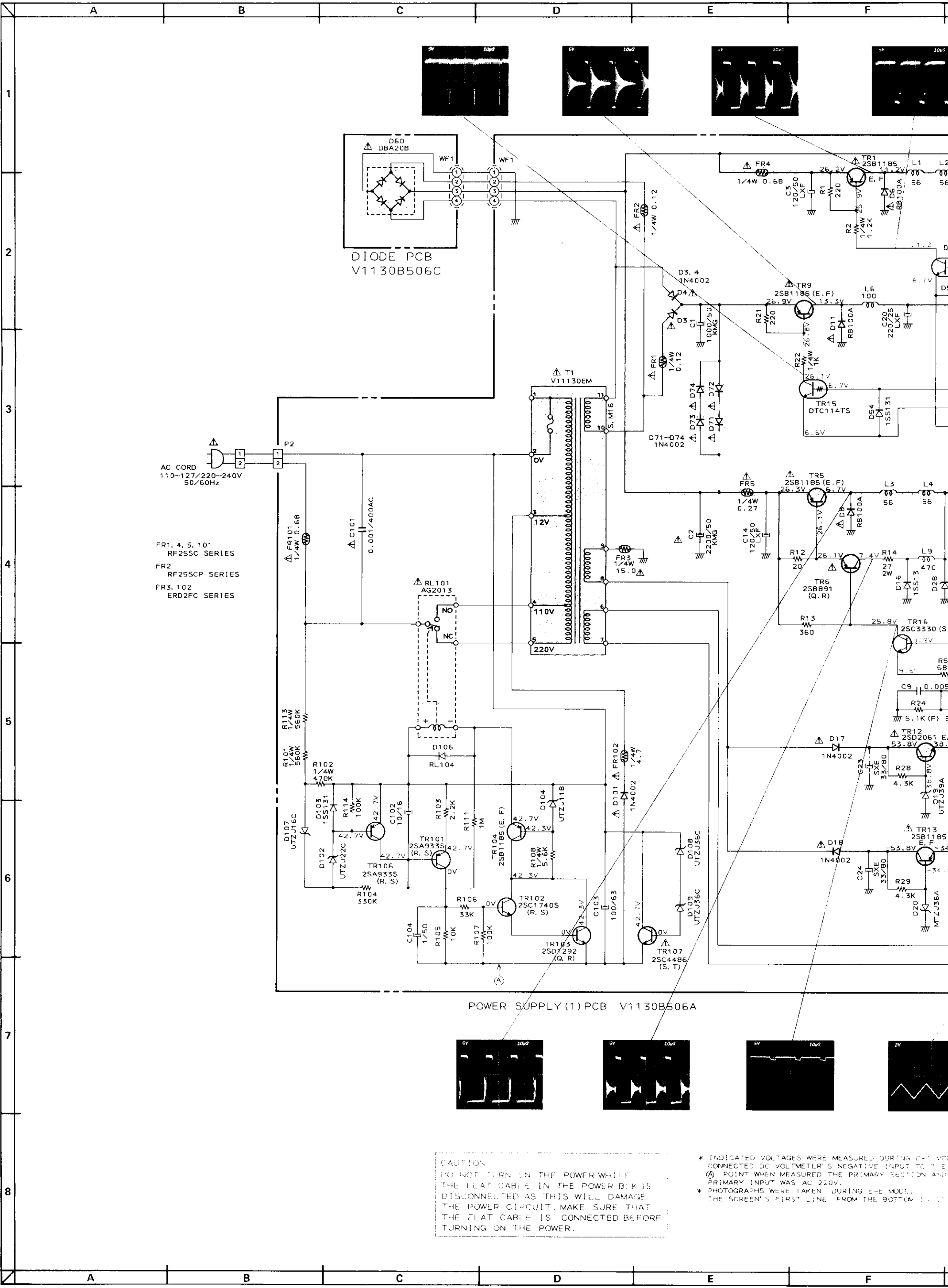


POWER SUPPLY (2) PCB
VII30B506B(J1)(EM ONLY)

POWER SUPPLY (1) PCB VII30B506A(J1)(EM ONLY)

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

AVERTISSEMENT: \triangle 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.



AC CORD
110-127/220-240V
50/60Hz

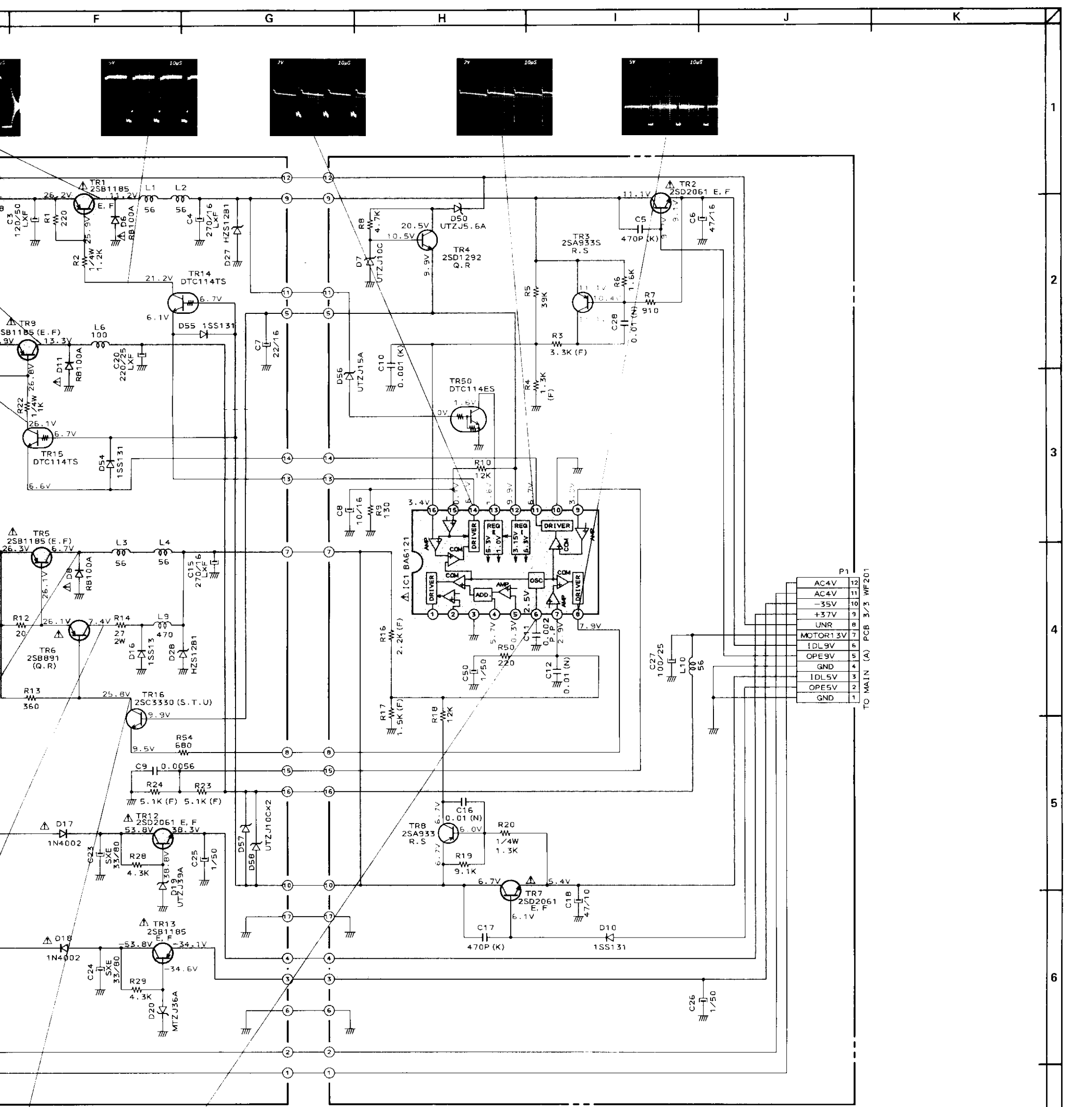
FR1, 4, 5, 101
RF25SC SERIES
FR2
RF25SCP SERIES
FR3, 102
ERD2FC SERIES

DIODE PCB
V1130B506C

POWER SUPPLY (1) PCB V1130B506A

CAUTION
DO NOT TURN ON THE POWER WHILE
THE FLAT CABLE IN THE POWER BLK IS
DISCONNECTED AS THIS WILL DAMAGE
THE POWER CIRCUIT. MAKE SURE THAT
THE FLAT CABLE IS CONNECTED BEFORE
TURNING ON THE POWER.

* INDICATED VOLTAGES WERE MEASURED DURING E-E MODE
CONNECTED DC VOLTMETER'S NEGATIVE INPUT TO THE
⊖ POINT WHEN MEASURED THE PRIMARY SECTION AND
PRIMARY INPUT WAS AC 220V.
* PHOTOGRAPHS WERE TAKEN DURING E-E MODE
THE SCREEN'S FIRST LINE FROM THE BOTTOM



POWER SUPPLY (2) PCB V1130B506B

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

AVERTISSEMENT: Δ 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

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

B (POWER SUPPLY LINE)

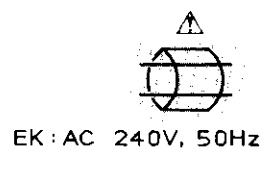
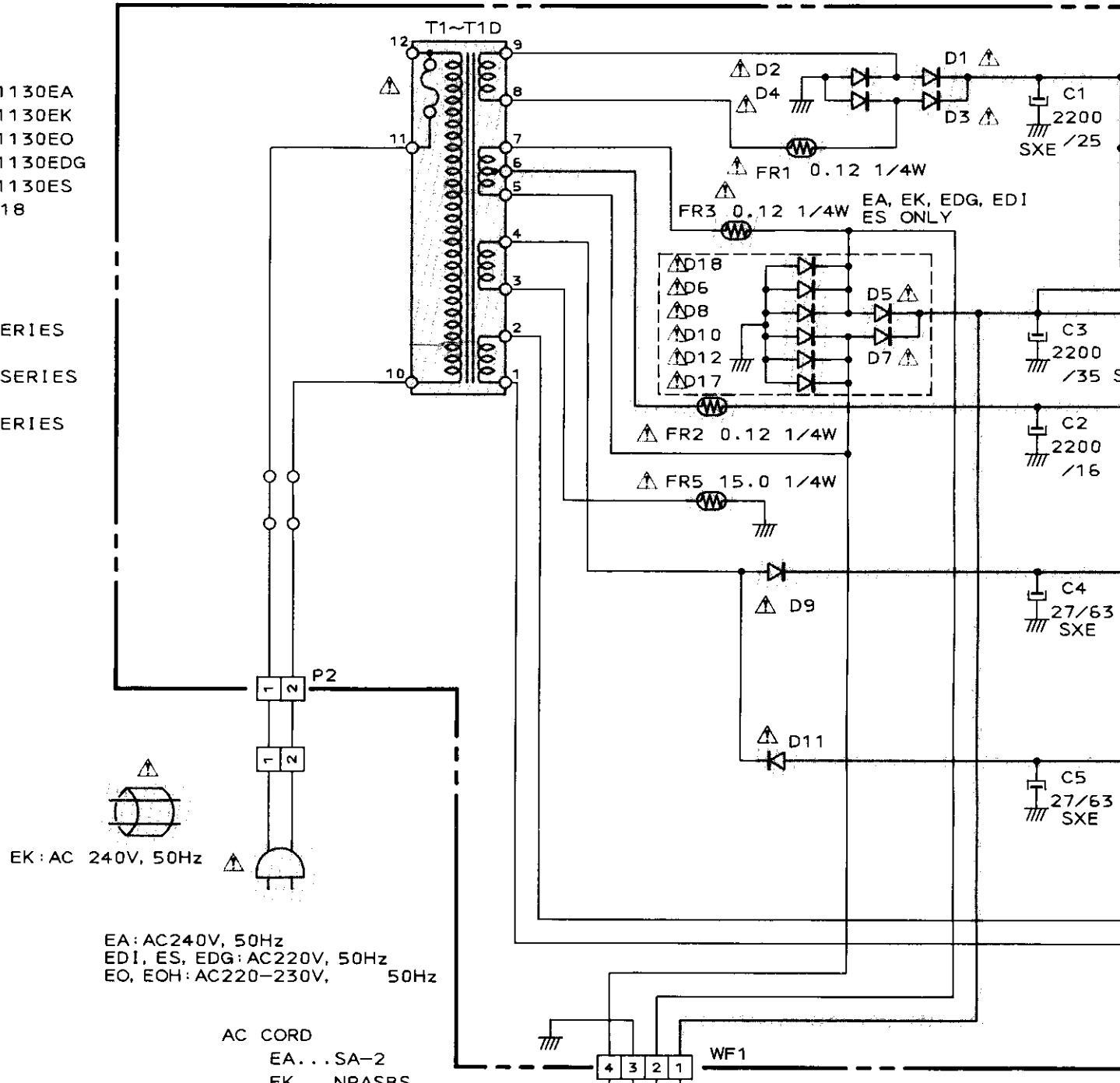
VOLTAGES WERE MEASURED DURING E-E MODE. VOLTMETER'S NEGATIVE INPUT TO THE MEASURED PRIMARY SECTION AND WAS AC 220V. WERE TAKEN DURING E-E MODE. FIRST LINE FROM THE BOTTOM IS DC 0V.

VS-F440EM, F490EM
POWER SUPPLY (1), (2) & DIODE
SCHEMATIC DIAGRAM

No. 21-4 V115204M
A1

T1~T1C
 T1...V1130EA
 T1A...V1130EK
 T1B...V1130EO
 T1C...V1130EDG
 T1D...V1130ES
 D1~D12, 17, 18
 1N4002

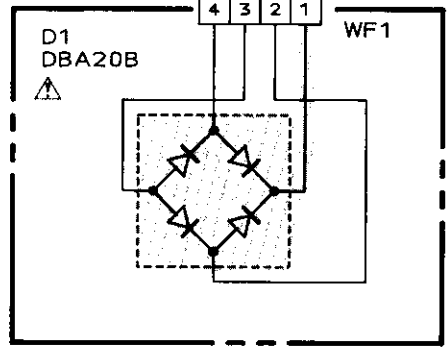
FR2, 4
 RF25SC SERIES
 FR1, 3
 RF25SCP SERIES
 FR5
 ERD2FC SERIES



EA: AC240V, 50Hz
 EDI, ES, EDG: AC220V, 50Hz
 EO, EOH: AC220-230V, 50Hz

AC CORD
 EA...SA-2
 EK...NRASBS
 EOH
 EDG
 EO
 ES
 EDI

SE-1



EO, EOH, ONLY

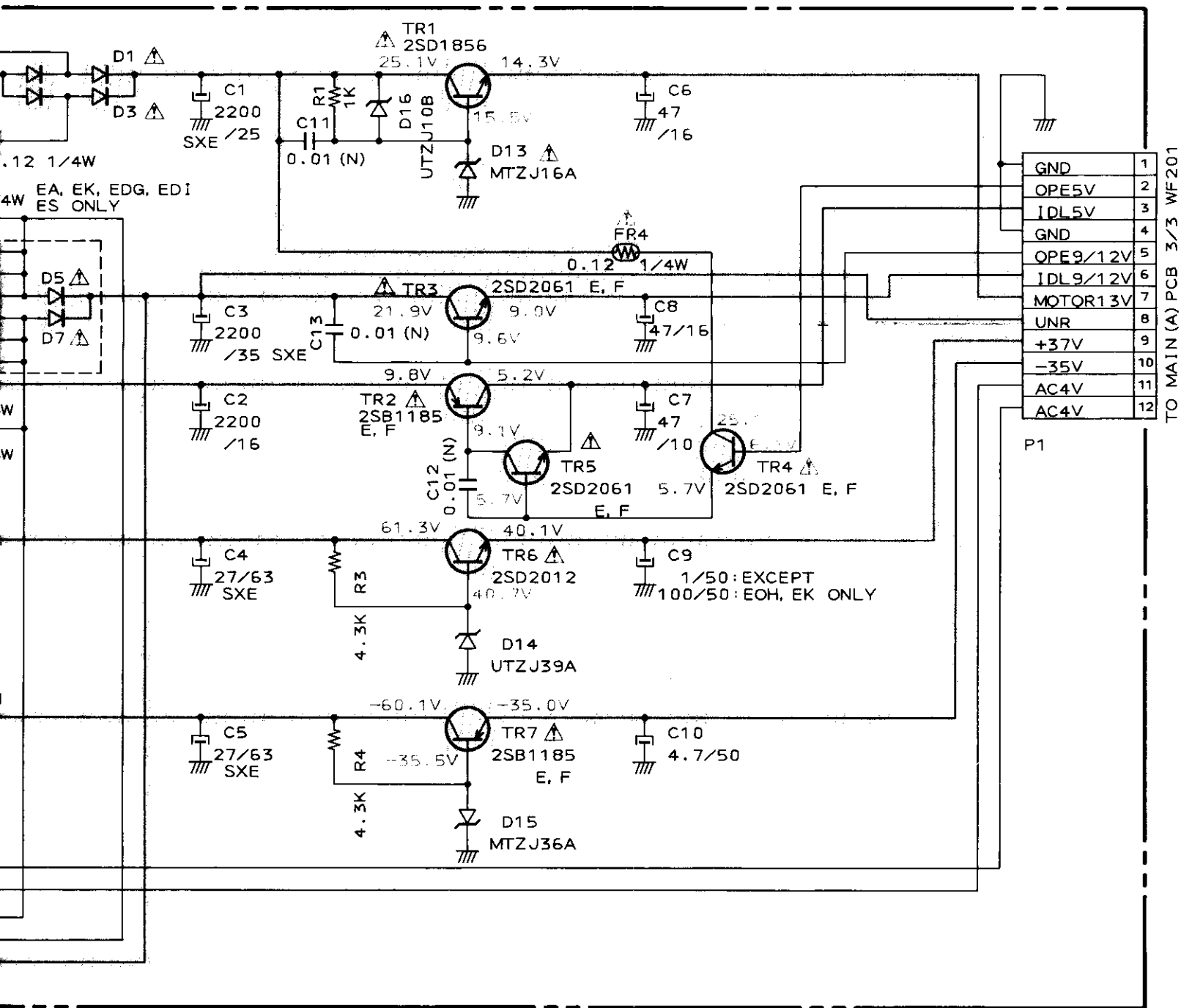
POWER

* END *
 WITH *

NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS ARE 1% TOLERANCE
 ALL CAPACITORS ARE 5% TOLERANCE

WARNING: ⚠ AND ⚡ IN THIS SYMBOL INDICATE HAZARDOUS VOLTAGE COMPONENTS. REPLACE SAFELY. ONLY WITH MANUFACTURER'S PARTS.

AVERTISSEMENT: ⚠ ET ⚡ EN CE SYMBOLE INDICENT UNE TENSION DANGEREUSE. REMPLACER EN SÉCURITÉ. SEULEMENT AVEC DES PIÈCES RECOMMANDÉES.



POWER SUPPLY PCB V1130B5040 (EA. EDI. EDG. ES ONLY)
 V1130B5120 (EK ONLY)
 V1130B508A (EO. EOH. ONLY)

*INDICATED VOLTAGES WERE MEASURED DURING S-F MODE WITH EDG MODEL.

B (POWER SUPPLY) LINE

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

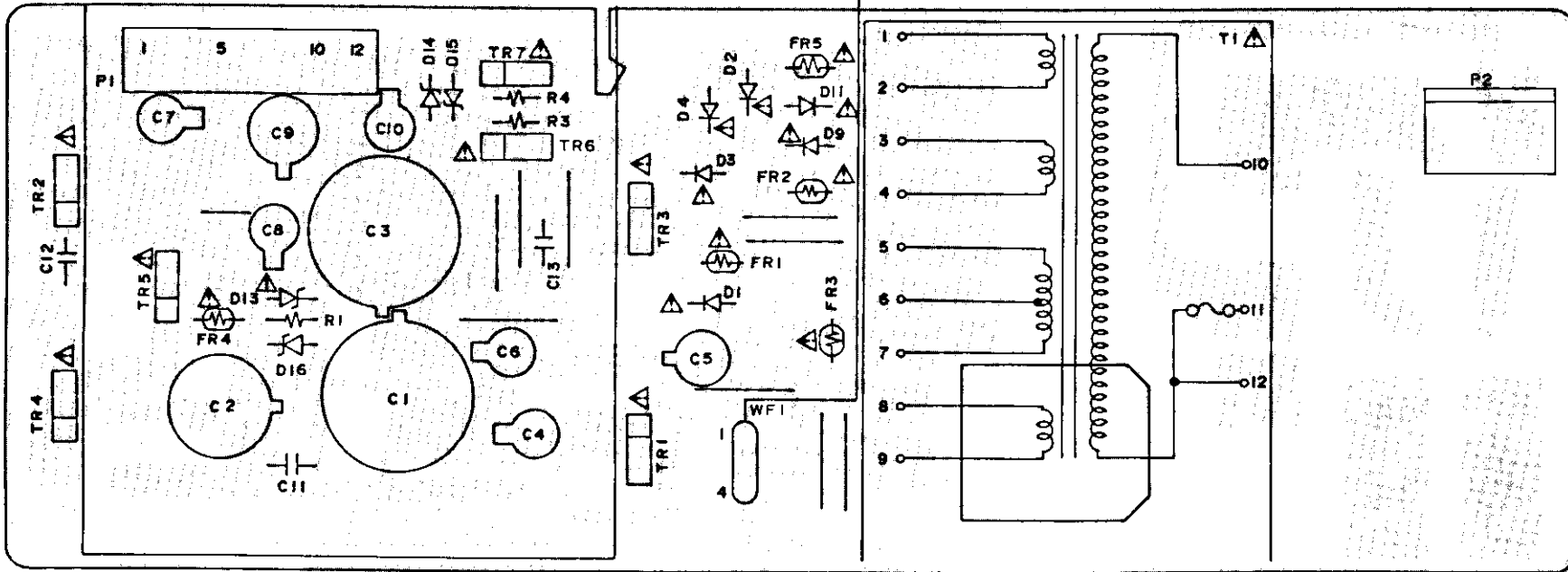
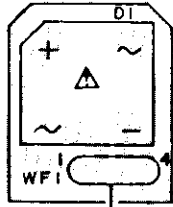
WARNING: Δ AND \square INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: Δ ET \square , ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

VS-F440EA/EDG/EK/EO/EOH
 VS-F441EA, F450EOH, F455EOH
 VS-F490EO/EOH/ES, F497EOH
 POWER SUPPLY & DIODE
 SCHEMATIC DIAGRAM

No. 21-5 V115205M
 A2

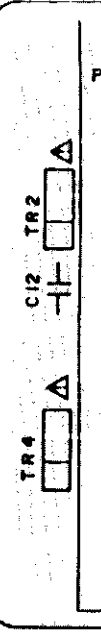
DIODE PCB
VII30B508B

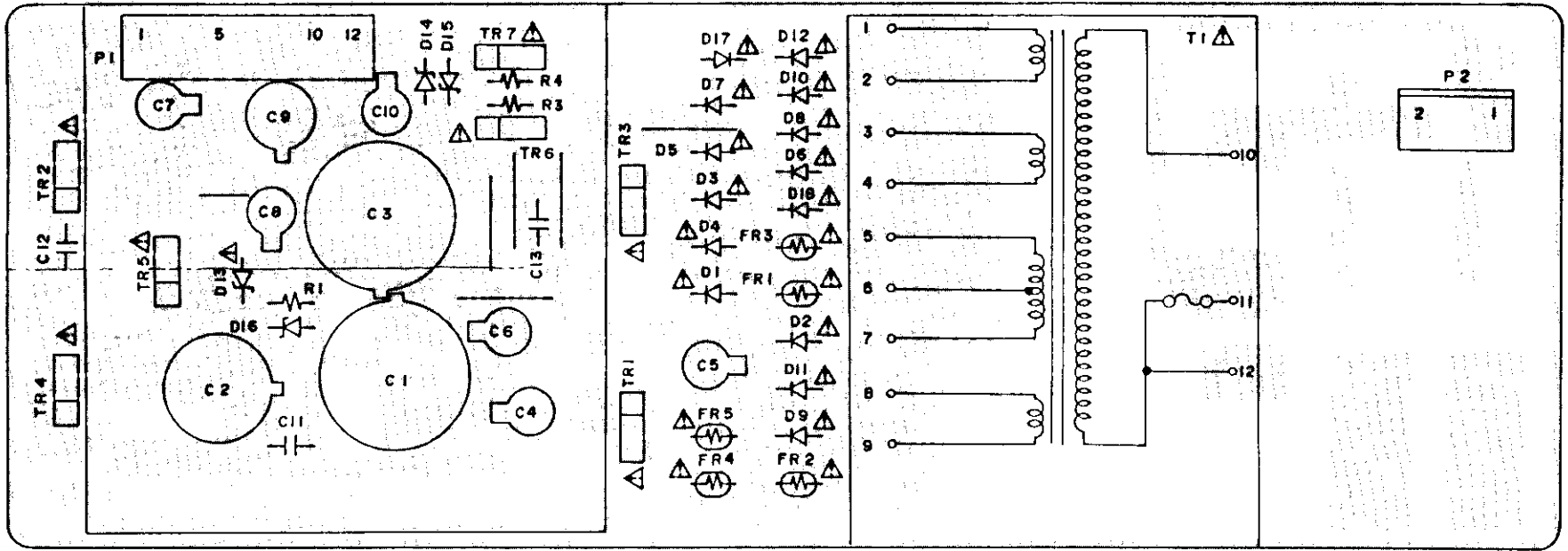


POWER SUPPLY PCB VII30B508A (J3) (EO, EOH, ONLY)

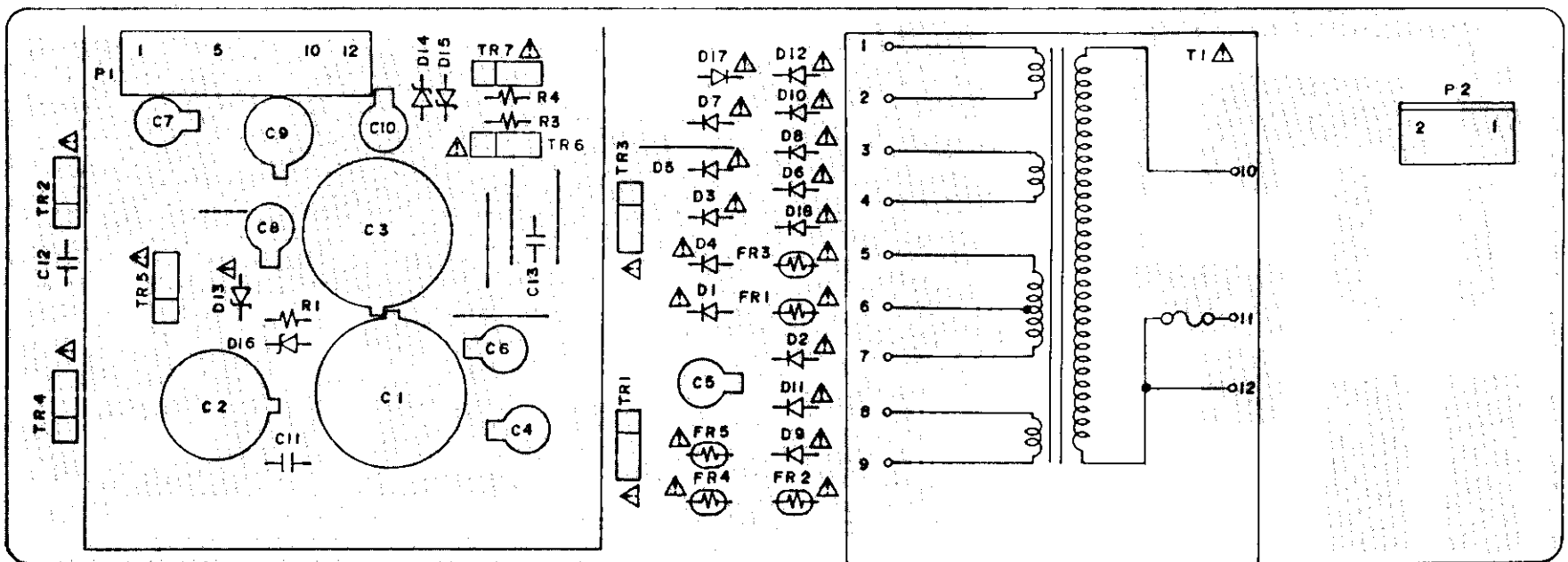
WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

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





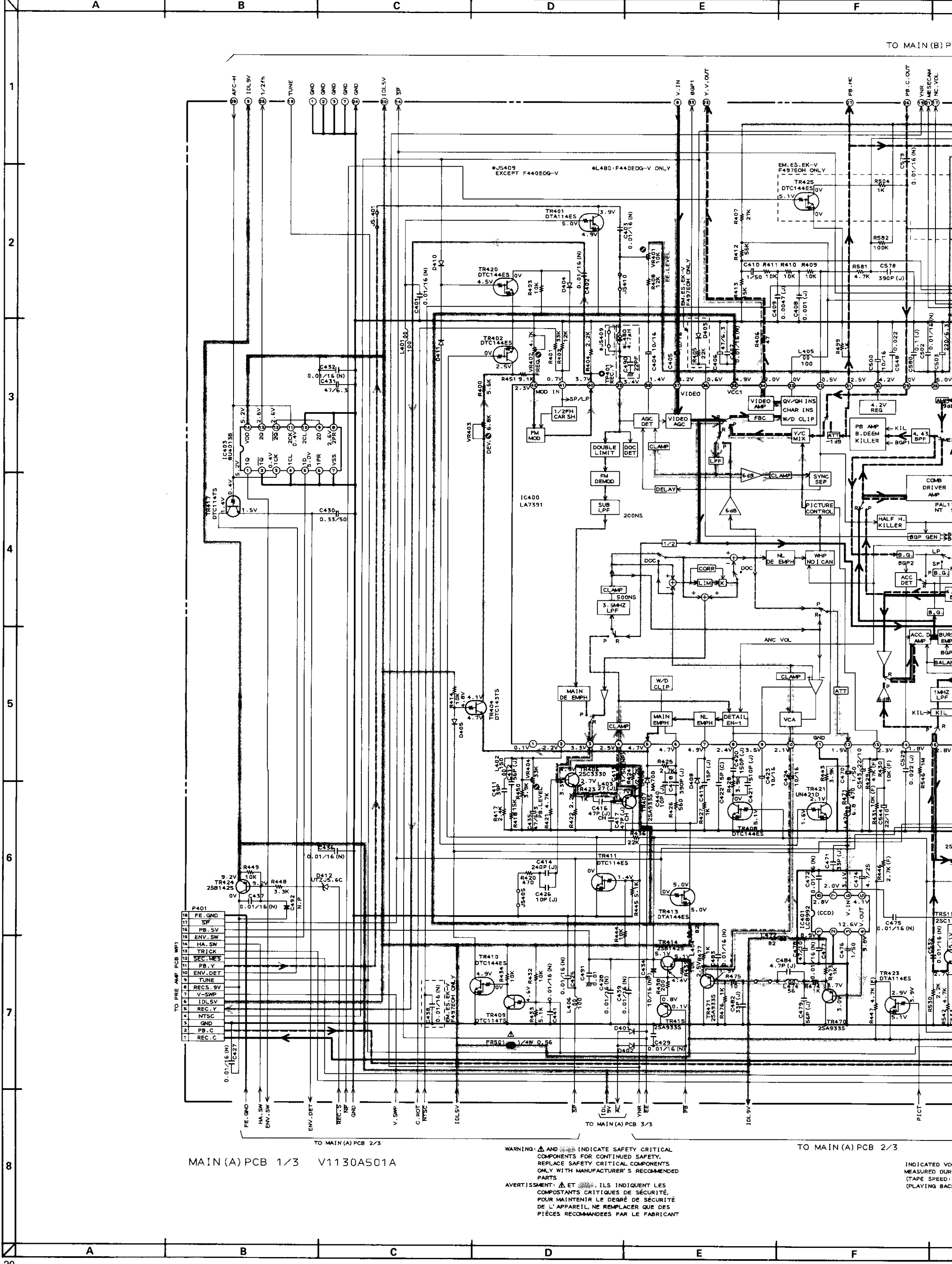
POWER SUPPLY PCB VII30B5040(J3) (EA,ES,EDG,EDI ONLY)



POWER SUPPLY PCB VII30B5120(J1) (EK ONLY)

CONTINUED SAFETY,
MANUFACTURER'S

SECURITÉ,
FABRICANT



MAIN (A) PCB 1/3 V1130A501A

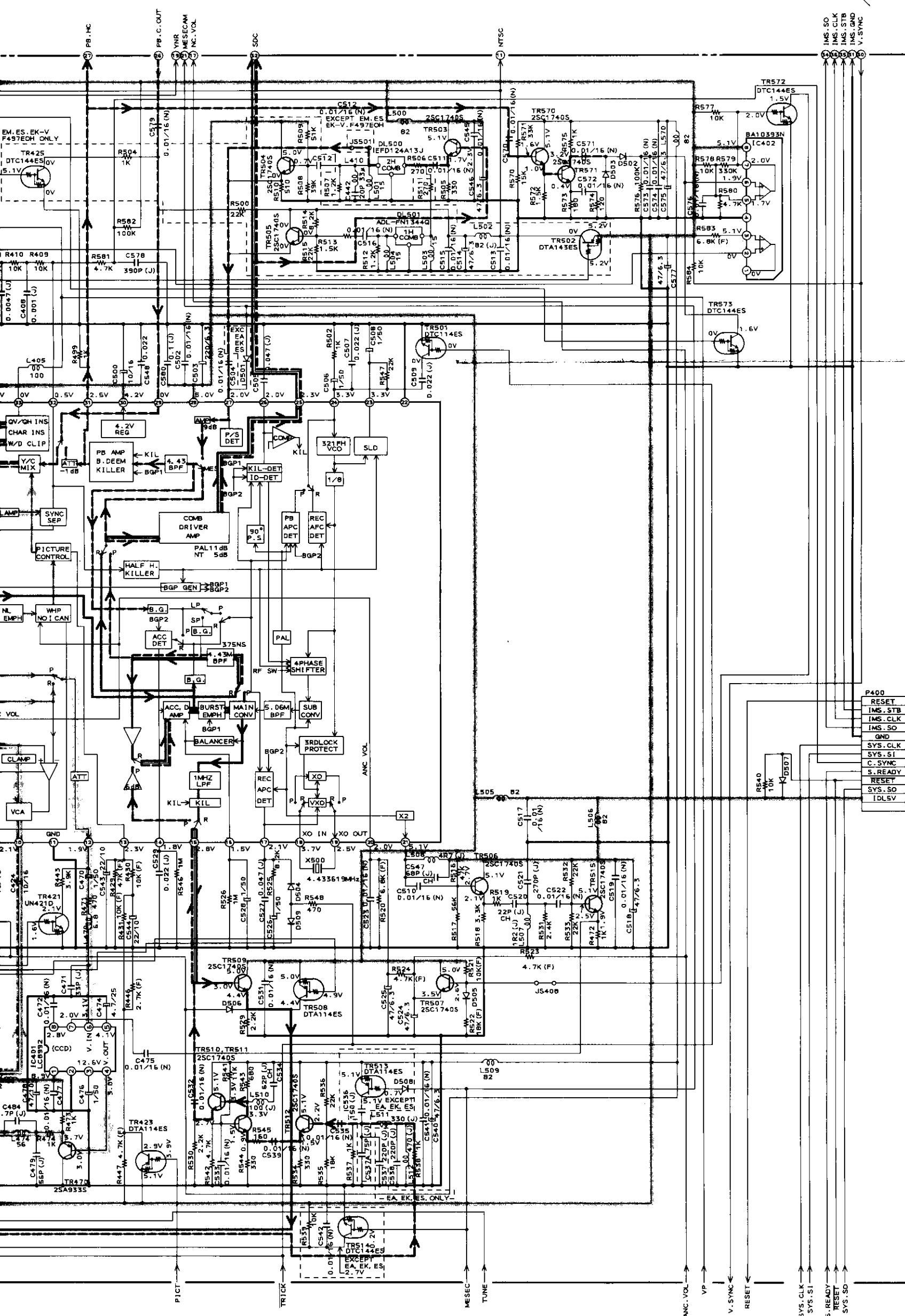
WARNING: Δ AND \square INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT: Δ ET \square ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

TO MAIN (A) PCB 2/3

INDICATED VOL MEASURED DURING TAPE SPEED PLAYING BACK

TO MAIN (B) PCB



TO OPERATION (A) OR (G) -A PCB WP 2

P400	RESET	11
	IMS STB	12
	IMS CLK	13
	IMS SO	14
	GND	15
	SYS CLK	16
	SYS SI	17
	C SYNC	18
	S READY	19
	RESET	20
	SYS SO	21
	IDLSV	22

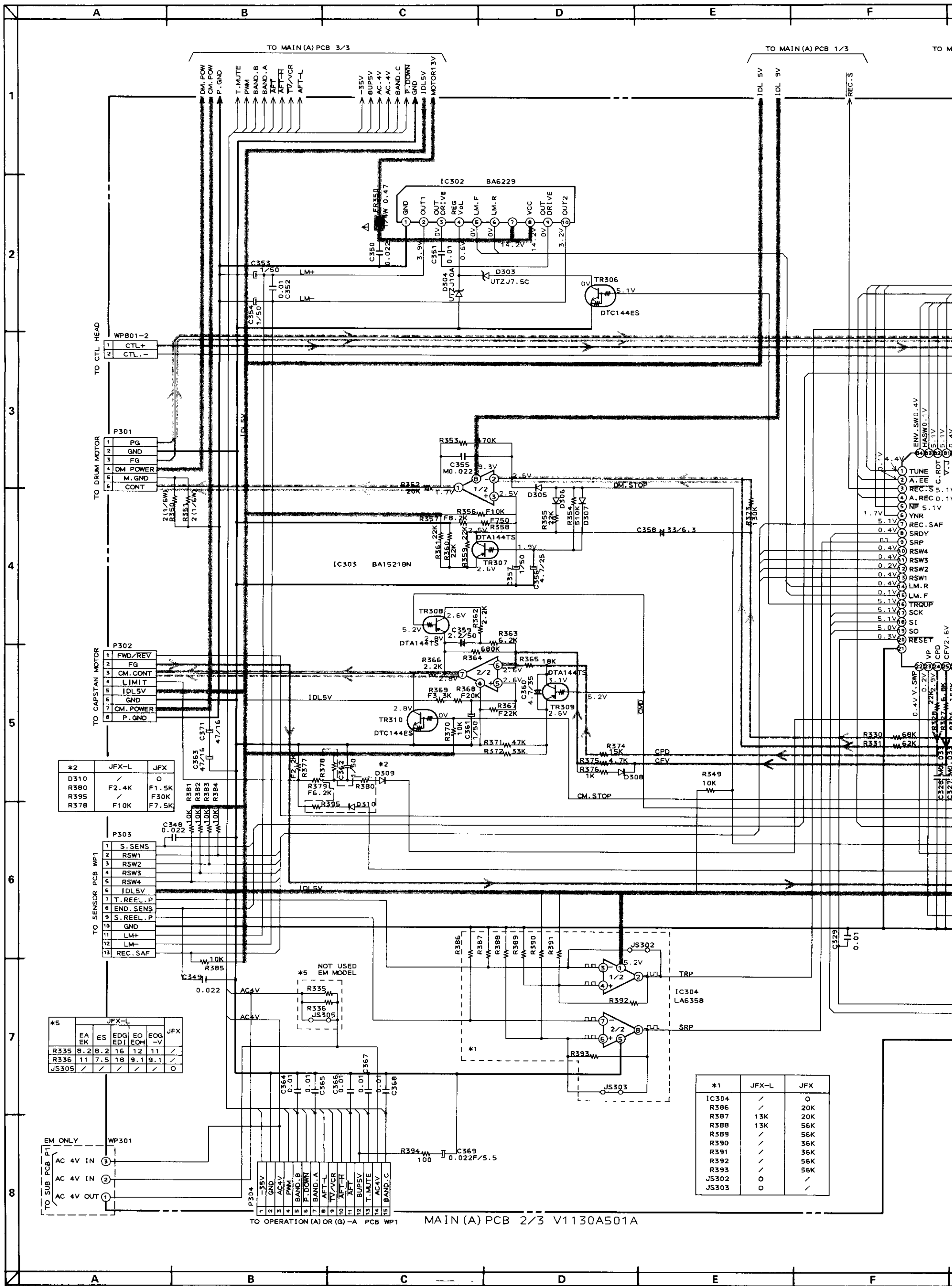
TO MAIN (A) PCB 2/3

INDICATED VOLTAGES WERE MEASURED DURING PB MODE. (TAPE SPEED: SP) (PLAYING BACK PAL RECORDED TAPE)

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

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN PF
ALL INDUCTORS IN MH(K)
ALL DIODES ARE 1S5131T
TRANSISTORS 2SA9335 AND 2SC1740 CAN BE SUBSTITUTED FOR 2SA1317 AND 2SC3330 RESPECTIVELY.

JFX/JFX-L
MAIN (A) 1/3
SCHEMATIC DIAGRAM
No. 21-6 V115206M
A0

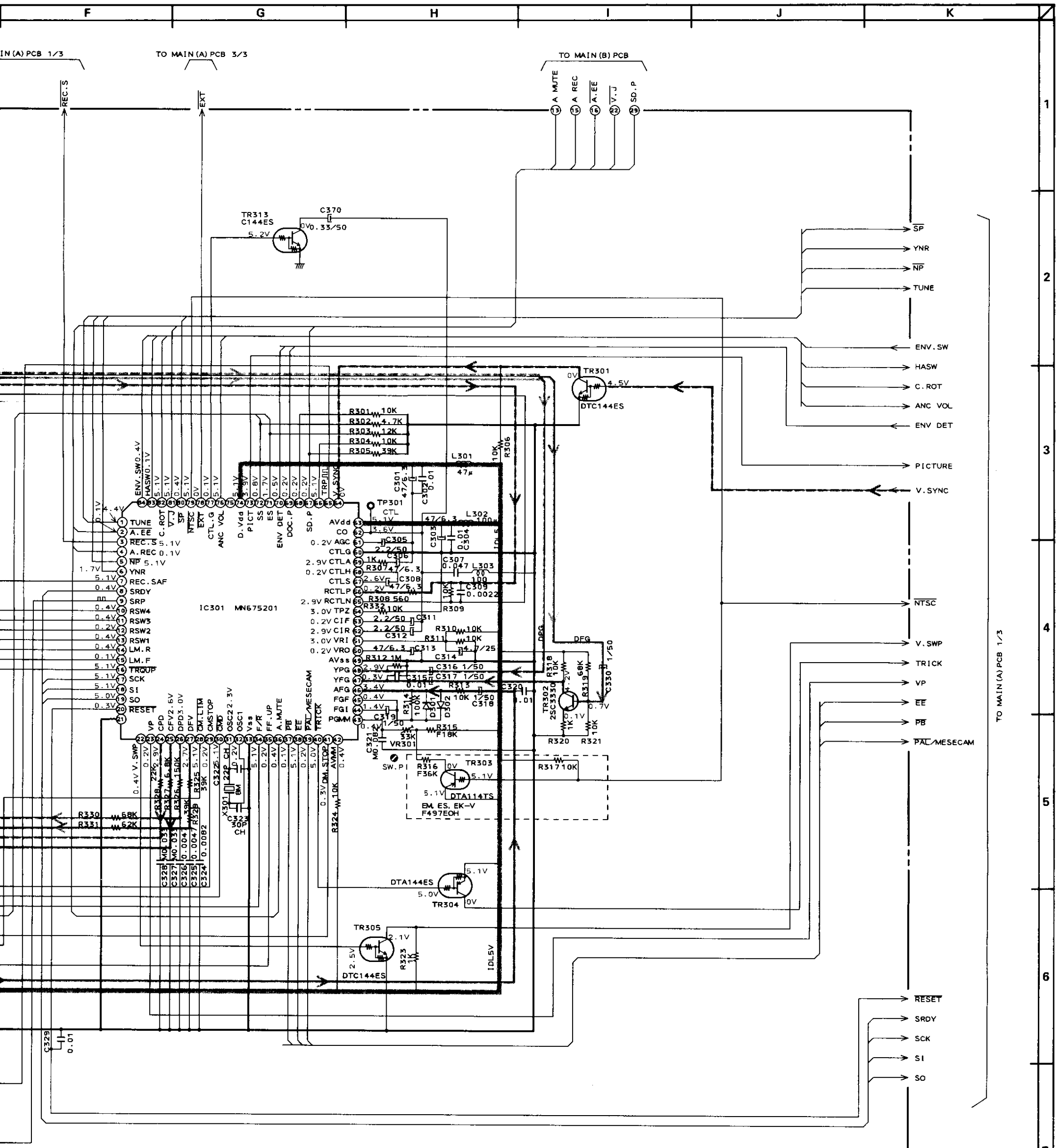


*2		JFX-L	JFX
D310		/	O
R380		F2.4K	F1.5K
R395		/	F30K
R378		F10K	F7.5K

*5		JFX-L					JFX
		EA	ES	EDG	EO	EOG	
		EK	ED	EDI	EOH	-V	
R335	8.2	8.2	16	12	11	/	/
R336	11	7.5	18	9.1	9.1	/	/
JS305	/	/	/	/	/	/	O

*1	JFX-L	JFX
IC304	/	O
R386	/	20K
R387	13K	20K
R388	13K	56K
R389	/	56K
R390	/	36K
R391	/	36K
R392	/	56K
R393	/	56K
JS302	O	/
JS303	O	/

MAIN (A) PCB 2/3 V1130A501A



NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS 1/6W
 ALL CAPACITORS IN μ F (P-PF)
 ALL ELECTROLYTIC CAPACITORS IN μ F/WV
 ALL DIODES ARE 1SS131T

INDICATED VOLTAGES WERE
 MEASURED DURING PB MODE.
 (TAPE SPEED:SP)

B (POWER SUPPLY) LINE
 CAPSTAN MOTOR SPEED CONTROL LINE
 CAPSTAN MOTOR PHASE CONTROL LINE
 DRUM MOTOR SPEED CONTROL LINE
 DRUM MOTOR PHASE CONTROL LINE

WARNING: \triangle AND \blacksquare INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

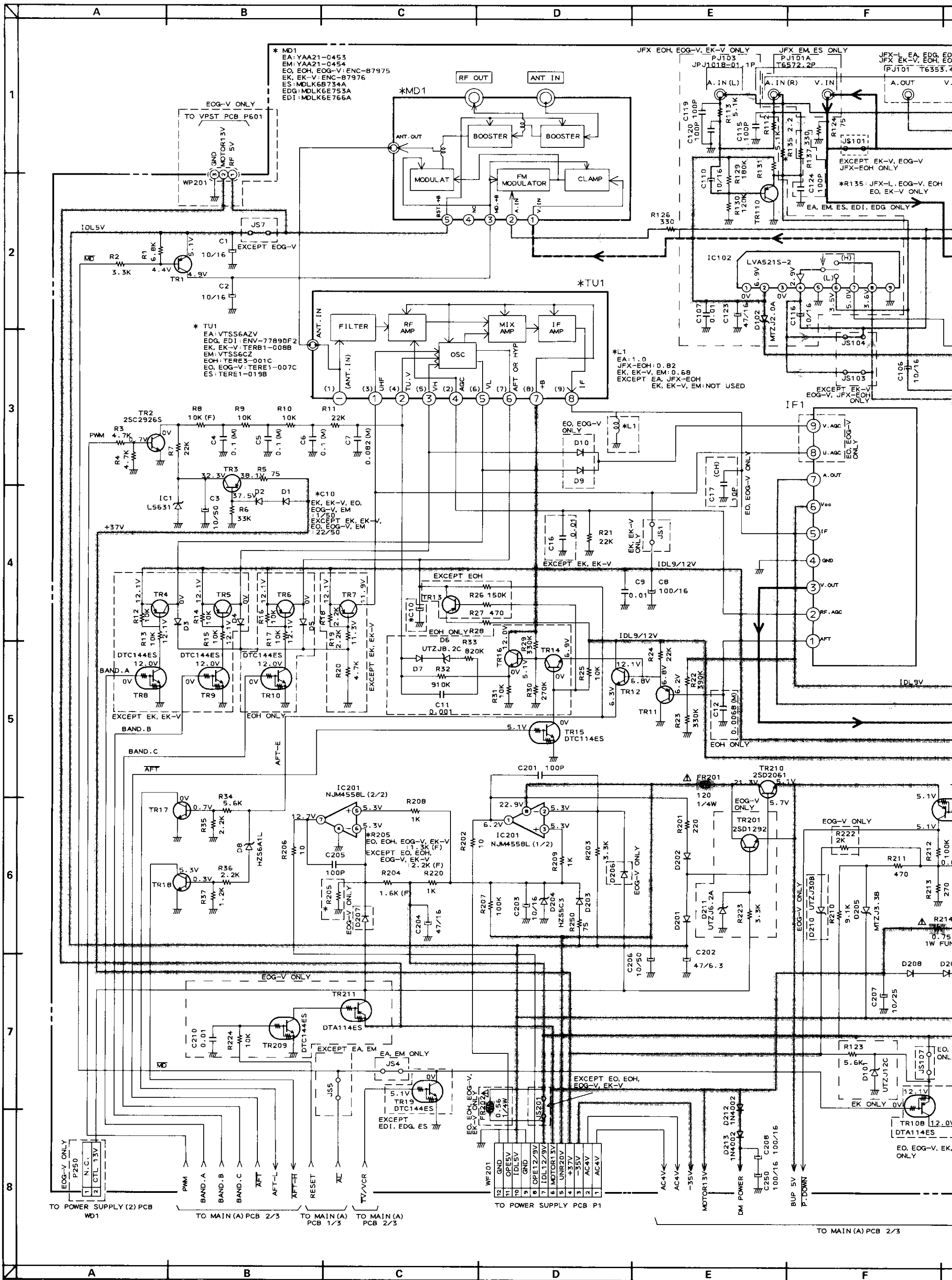
AVERTISSEMENT: \triangle ET \blacksquare ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

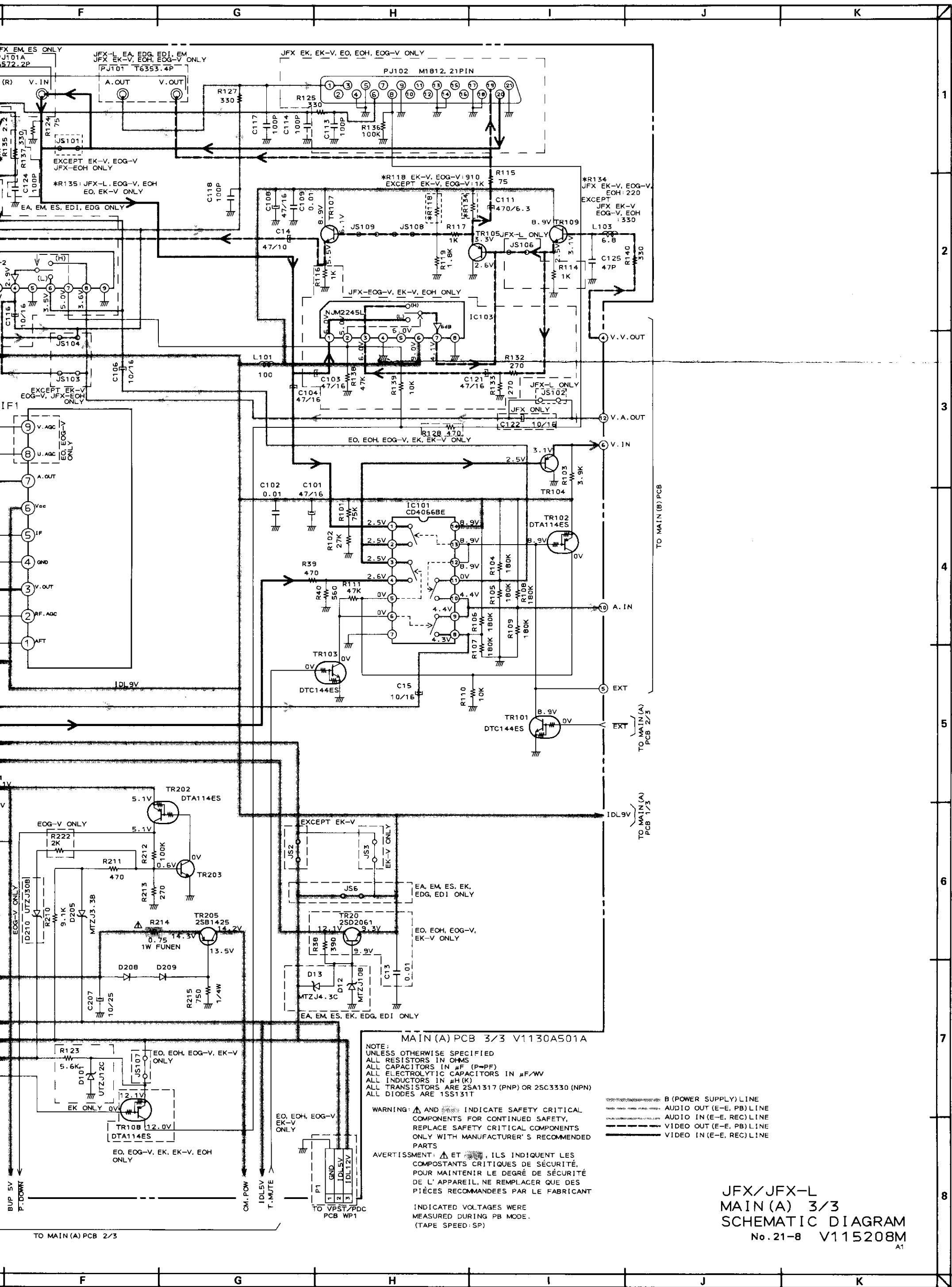
JFX
0
20K
20K
56K
36K
36K
56K
56K
/
/

JFX/JFX-L
 MAIN (A) 2/3
 SCHEMATIC DIAGRAM
 No. 21-7 V115207M
 A1

TO MAIN (A) PCB 1/3

1
2
3
4
5
6
7
8





NOTE:
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS
 ALL CAPACITORS IN μ F (P=PF)
 ALL ELECTROLYTIC CAPACITORS IN μ F/W
 ALL INDUCTORS IN μ H(K)
 ALL TRANSISTORS ARE 2SA1317 (PNP) OR 2SC3330 (NPN)
 ALL DIODES ARE 1SS131T

WARNING: Δ AND \square INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: Δ ET \square ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

INDICATED VOLTAGES WERE MEASURED DURING PB MODE.
 (TAPE SPEED: SP)

TO MAIN (B) PCB
 TO MAIN (A) PCB 2/3
 TO MAIN (A) PCB 1/3

B (POWER SUPPLY) LINE
 AUDIO OUT (E-E, PB) LINE
 AUDIO IN (E-E, REC) LINE
 VIDEO OUT (E-E, PB) LINE
 VIDEO IN (E-E, REC) LINE

JFX/JFX-L
 MAIN (A) 3/3
 SCHEMATIC DIAGRAM
 No. 21-8 V115208M
 A1

PRINCIPAL PARTS LOCATION

ICs

IC101	.....	D5	TR201	.....	F4
IC102	.....	D,E5	TR202	.....	E4
IC103	.....	D5	TR203	.....	E4
IC201	.....	F4,5	TR205	.....	E,F4
IC301	.....	E1,2	TR209	.....	F4
IC302	.....	F1,2	TR210	.....	E,F4
IC303	.....	E,F3	TR211	.....	F4
IC304	.....	F2	TR301	.....	D1
IC400	.....	C3	TR302	.....	E3
IC401	.....	C,D4	TR303	.....	D,E2
IC402	.....	C,D1	TR304	.....	D2
IC403	.....	C5	TR305	.....	E2

WF & WPs

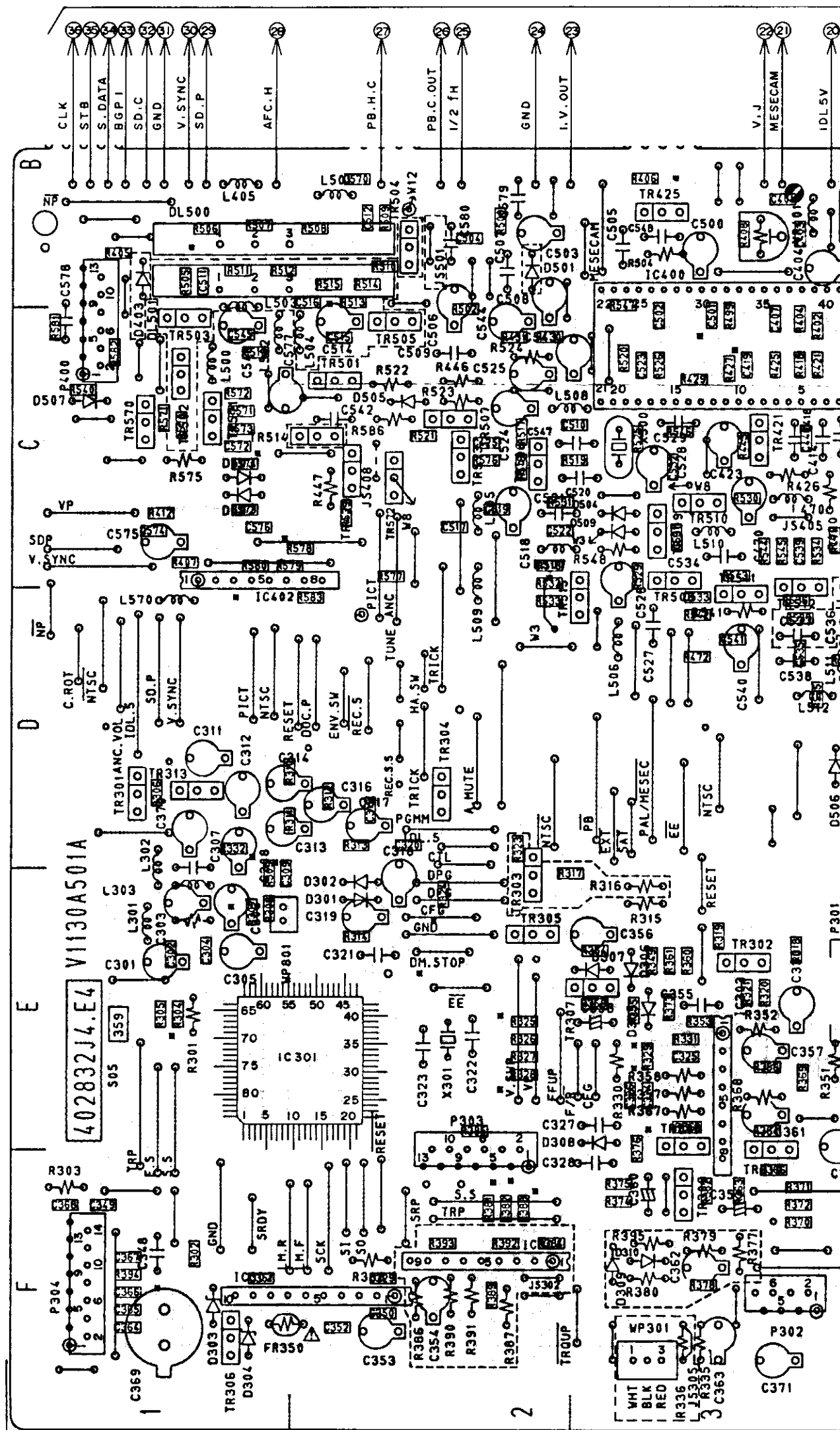
WF201	.....	F4,5	TR307	.....	E3
WP301	.....	F3	TR308	.....	E,F4
WP801	.....	E1,2	TR309	.....	F3
			TR310	.....	E,F3

CONNECTORS

P1	.....	E,F5	TR401	.....	B3
P250	.....	F4	TR402	.....	B4
P301	.....	E3	TR404	.....	C5
P302	.....	F4	TR406	.....	C4
P303	.....	E2	TR407	.....	C4
P304	.....	F1	TR408	.....	C4
P400	.....	B,C1	TR409	.....	C5
P401	.....	D5	TR410	.....	C5
			TR411	.....	C4
			TR413	.....	C4
			TR414	.....	D4
			TR415	.....	C4
			TR417	.....	C5
			TR419	.....	C2
			TR420	.....	C4
			TR421	.....	C3
			TR423	.....	C2
			TR424	.....	B5
			TR425	.....	B3
			TR470	.....	D4
			TR471	.....	C4
			TR501	.....	C2
			TR502	.....	C1
			TR503	.....	C1
			TR504	.....	C1
			TR505	.....	C2
			TR506	.....	C2
			TR507	.....	C2
			TR508	.....	C,D3
			TR509	.....	C3
			TR510	.....	C3
			TR511	.....	D3
			TR512	.....	C,D3
			TR513	.....	D4
			TR514	.....	C2
			TR515	.....	C2
			TR570	.....	C1
			TR571	.....	C1
			TR572	.....	C2
			TR573	.....	C2

TRANSISTORS

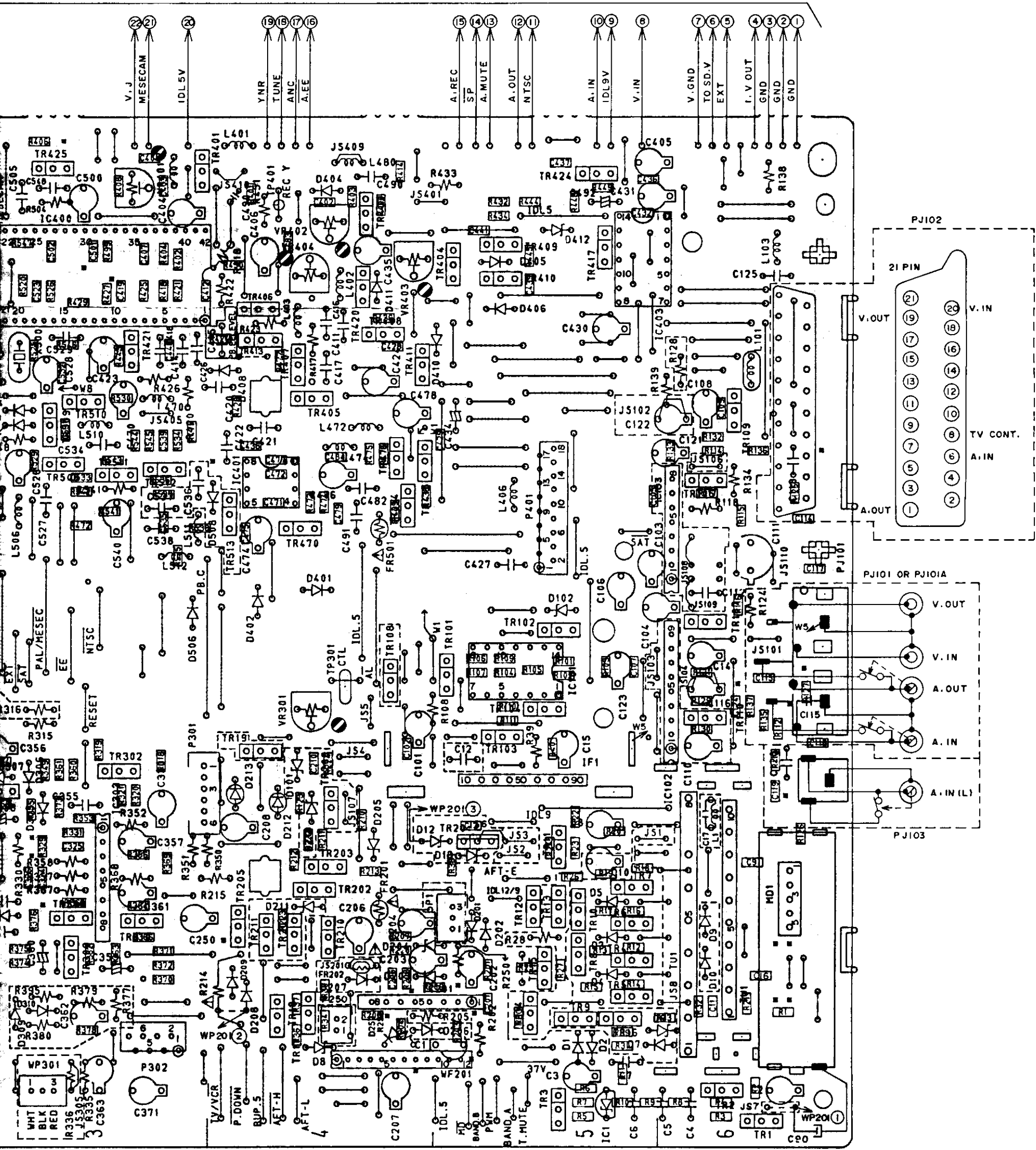
TR1	.....	F6
TR2	.....	F6
TR3	.....	F5
TR4	.....	F5
TR5	.....	F5
TR6	.....	F5
TR7	.....	E5
TR8	.....	F5
TR9	.....	F5
TR10	.....	E,F5
TR11	.....	E5
TR12	.....	E5
TR13	.....	E,F5
TR14	.....	F5
TR15	.....	F5
TR16	.....	F5
TR17	.....	F4
TR18	.....	F4
TR19	.....	E4
TR20	.....	E5
TR101	.....	D5
TR102	.....	D5
TR103	.....	E5
TR104	.....	E5
TR105	.....	D6
TR107	.....	D6
TR108	.....	D4
TR109	.....	C6
TR110	.....	E6



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

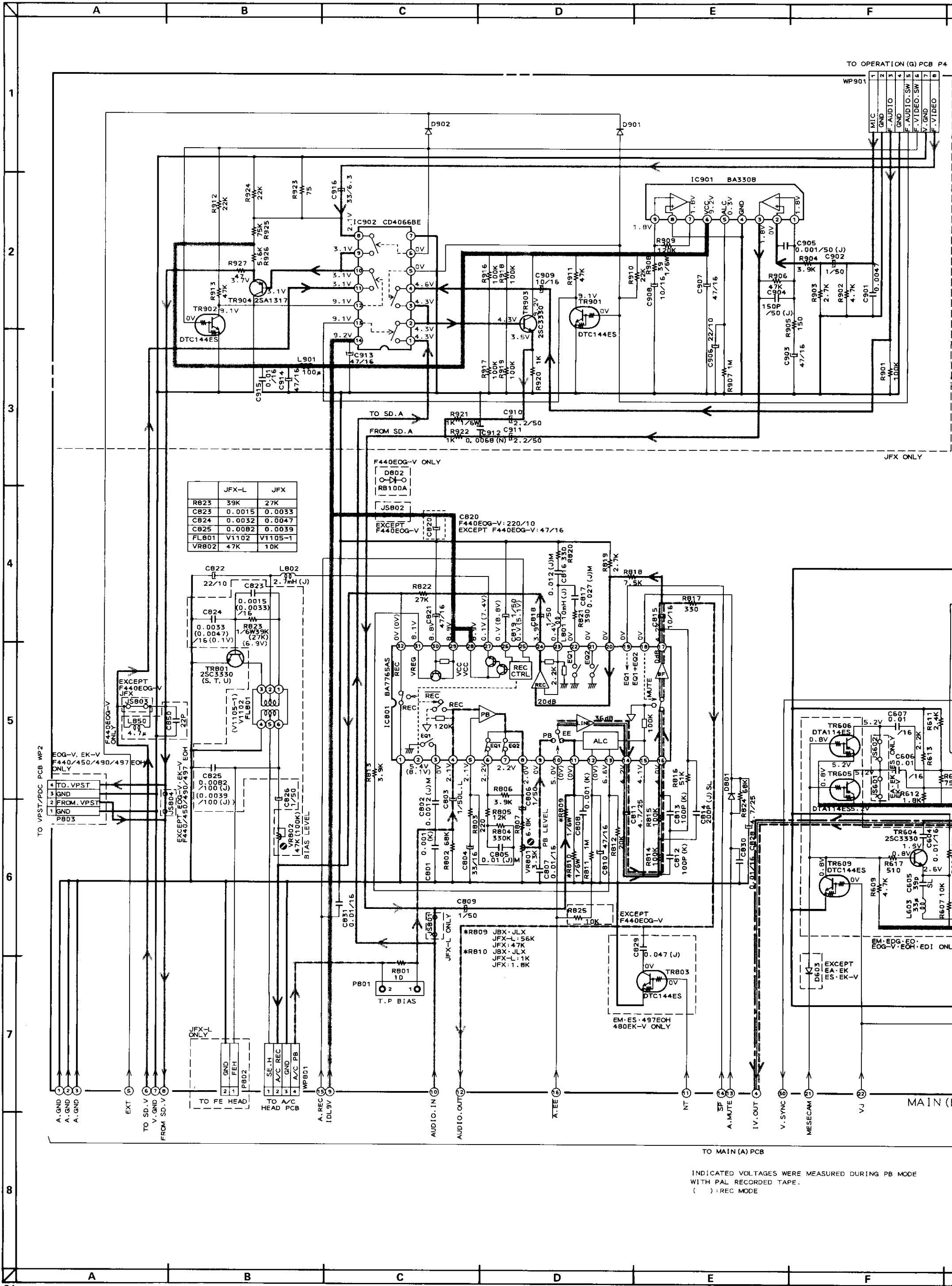
AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

TO MAIN (B) PCB



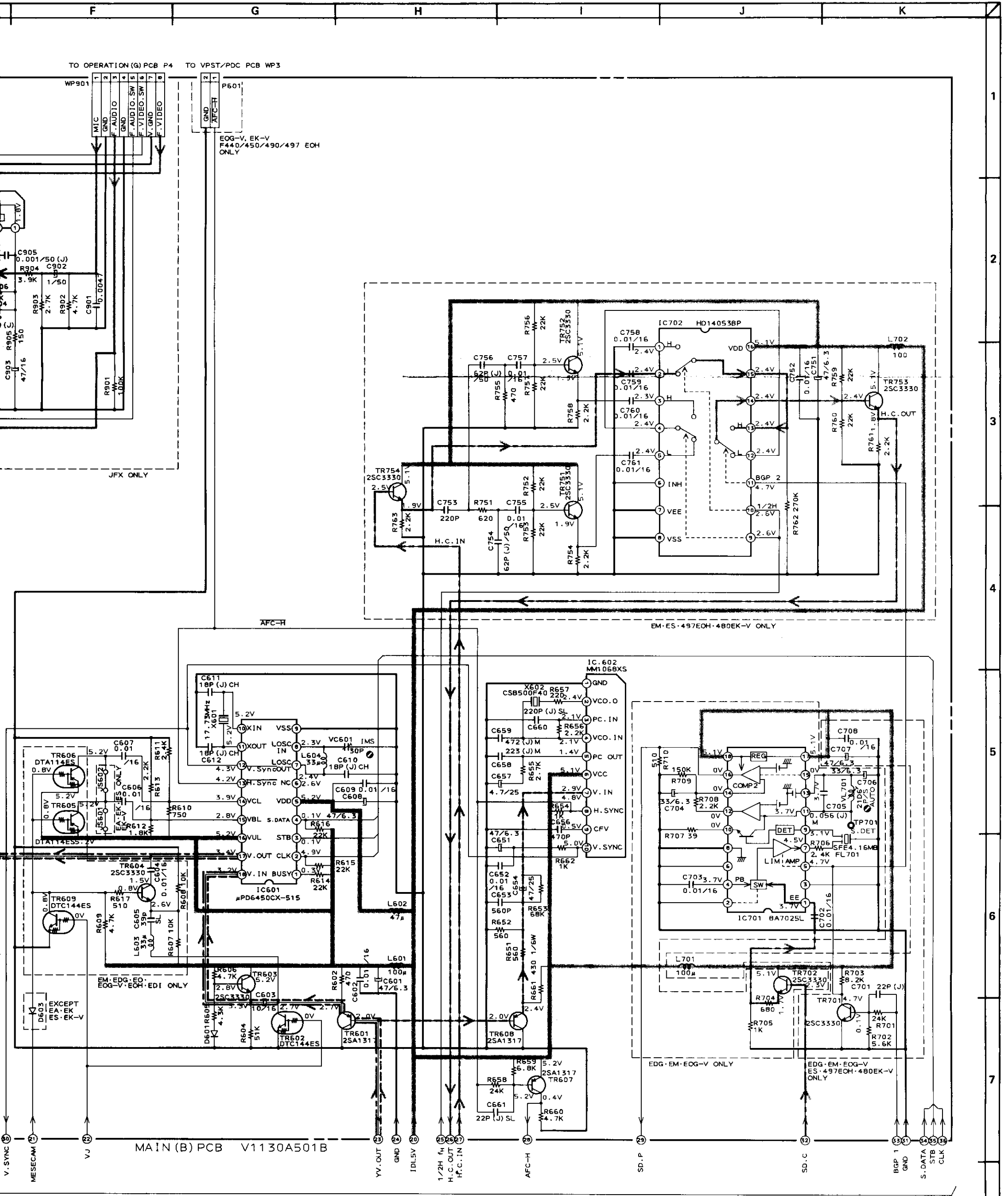
MAIN (A) PCB VII30A501A (J4)

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING
PARTS INFORMATION.



	JFX-L	JFX
R823	39K	27K
C823	0.0015	0.0033
C824	0.0032	0.0047
C825	0.0082	0.0039
FL801	V1102	V1105-1
VR802	47K	10K

INDICATED VOLTAGES WERE MEASURED DURING PB MODE WITH PAL RECORDED TAPE.
 () : REC MODE



WERE MEASURED DURING PB MODE TAPE.

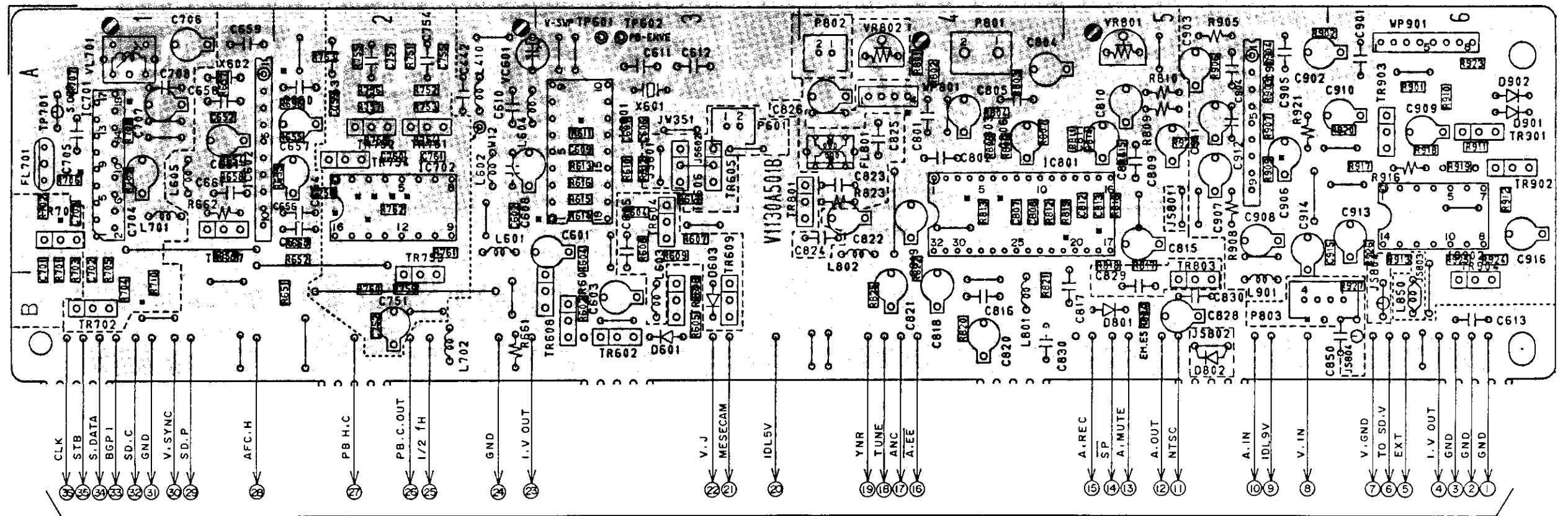
B (POWER SUPPLY) LINE
 PB AUDIO SIGNAL LINE
 REC AUDIO SIGNAL LINE
 PB Y SIGNAL LINE
 PB CHROMA SIGNAL LINE
 VIDEO (IN REC. E-E) SIGNAL LINE

NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS
 ALL CAPACITORS IN μF
 ALL DIODE ARE 1SS131T

JFX/JFX-L
 MAIN (B)
 SCHEMATIC DIAGRAM
 No. 21-9 V115209M
 A1

PRINCIPAL PARTS LOCATION

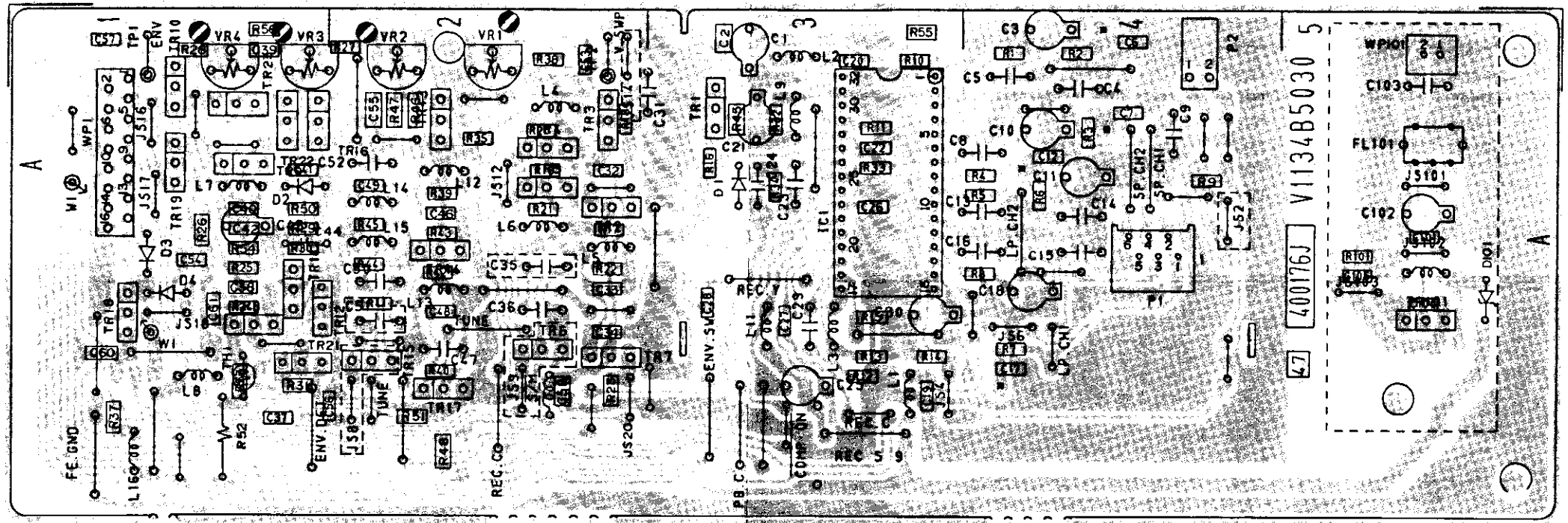
ICs		TRANSISTORS	
IC601	..... A3	TR601	..... A3
IC602	..... A1	TR602	..... A3
IC701	..... A1	TR603	..... A3
IC702	..... A2	TR604	..... A3
IC801	..... A4	TR605	..... A3
IC901	..... A5	TR606	..... A3
IC902	..... A6	TR607	..... A1
		TR608	..... A3
		TR609	..... A3
WPs		TR701	..... A1
WP801	..... A4	TR702	..... A1
WP901	..... A6	TR751	..... A2
CONNECTORS		TR752	..... A2
P601	..... A3	TR753	..... A2
P801	..... A4	TR754	..... A2
P802	..... A4	TR801	..... A4
P803	..... A5,6	TR803	..... B5
		TR901	..... A6
		TR902	..... A6
		TR903	..... A6
		TR904	..... B6



TO MAIN (A) PCB

MAIN(B) PCB VII30A501B(J4)

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING PARTS INFORMATION.



PRE AMP PCB V1134B5030(J2)

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING
PARTS INFORMATION.

1

2

3

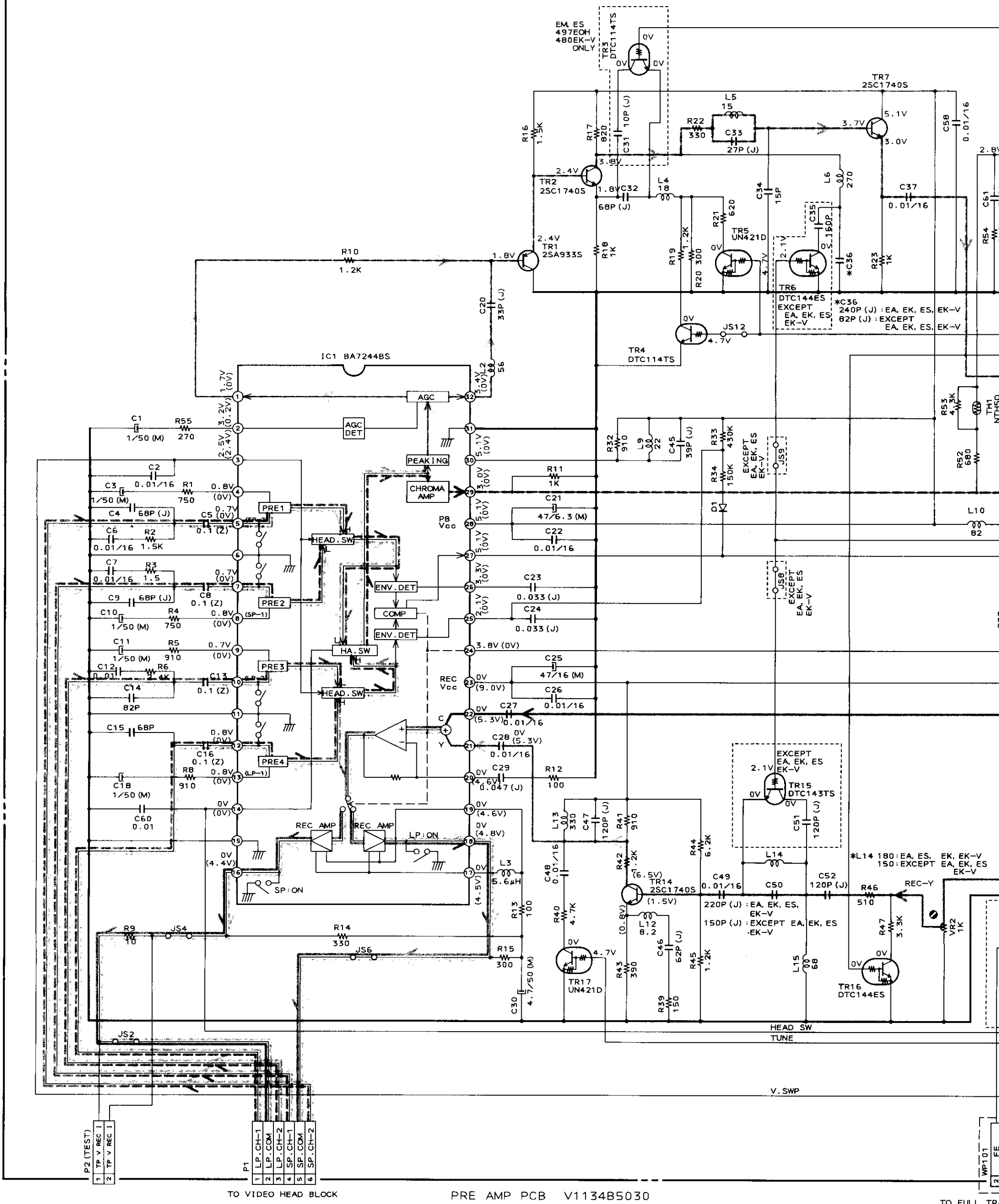
4

5

6

7

8



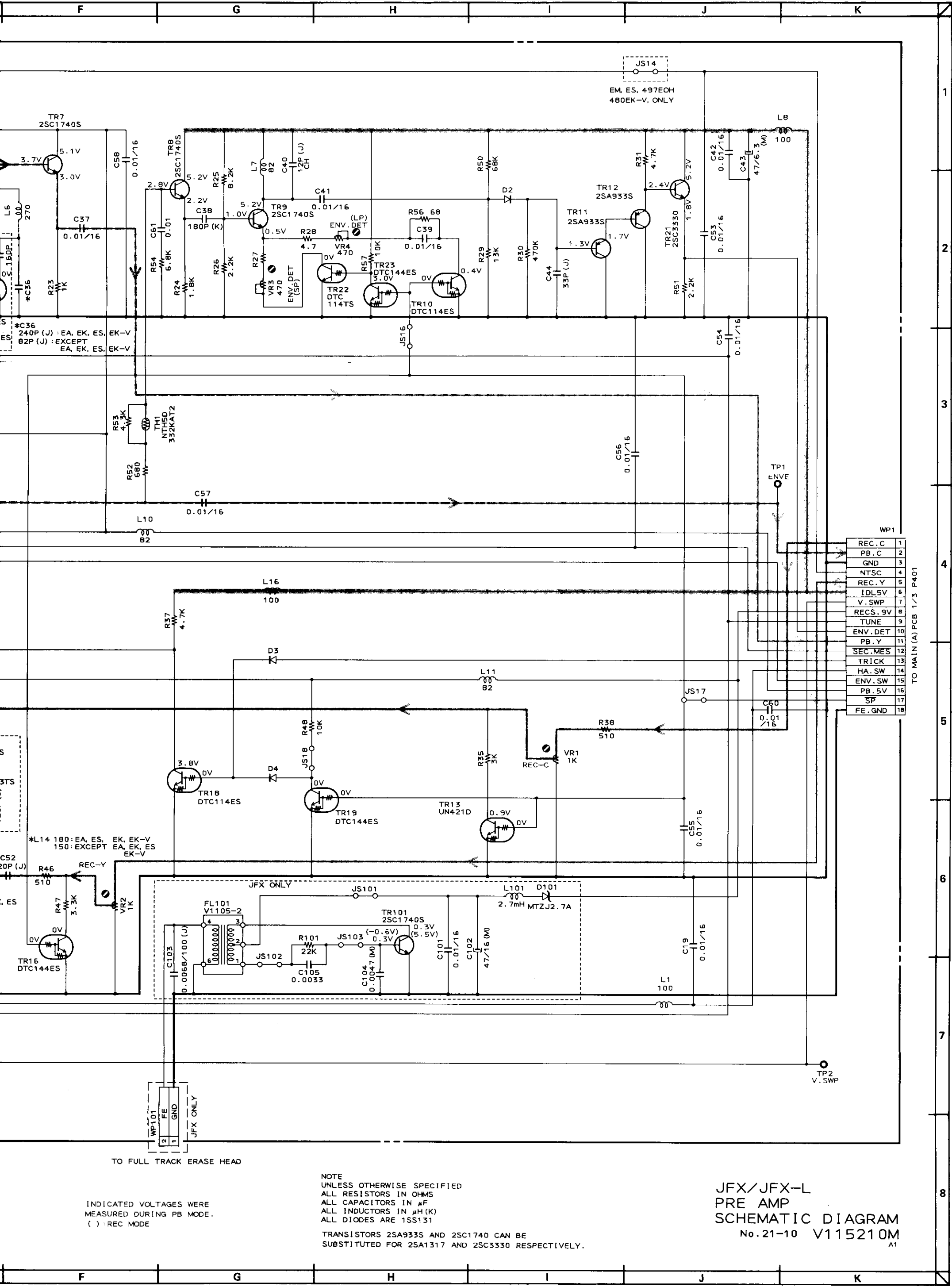
TO VIDEO HEAD BLOCK

PRE AMP PCB V1134B5030

TO FULL TRA

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

INDICATED VOLTAGE
 MEASURED DURING
 () : REC MODE



WP1

REC. C	1
PB. C	2
GND	3
NTSC	4
REC. Y	5
IDL5V	6
V. SWP	7
RECS. 9V	8
TUNE	9
ENV. DET	10
PB. Y	11
SEC. MES	12
TRICK	13
HA. SW	14
ENV. SW	15
PB. 5V	16
SF	17
FE. GND	18

TO MAIN (A) PCB 1/3 P401

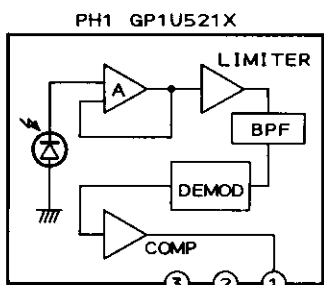
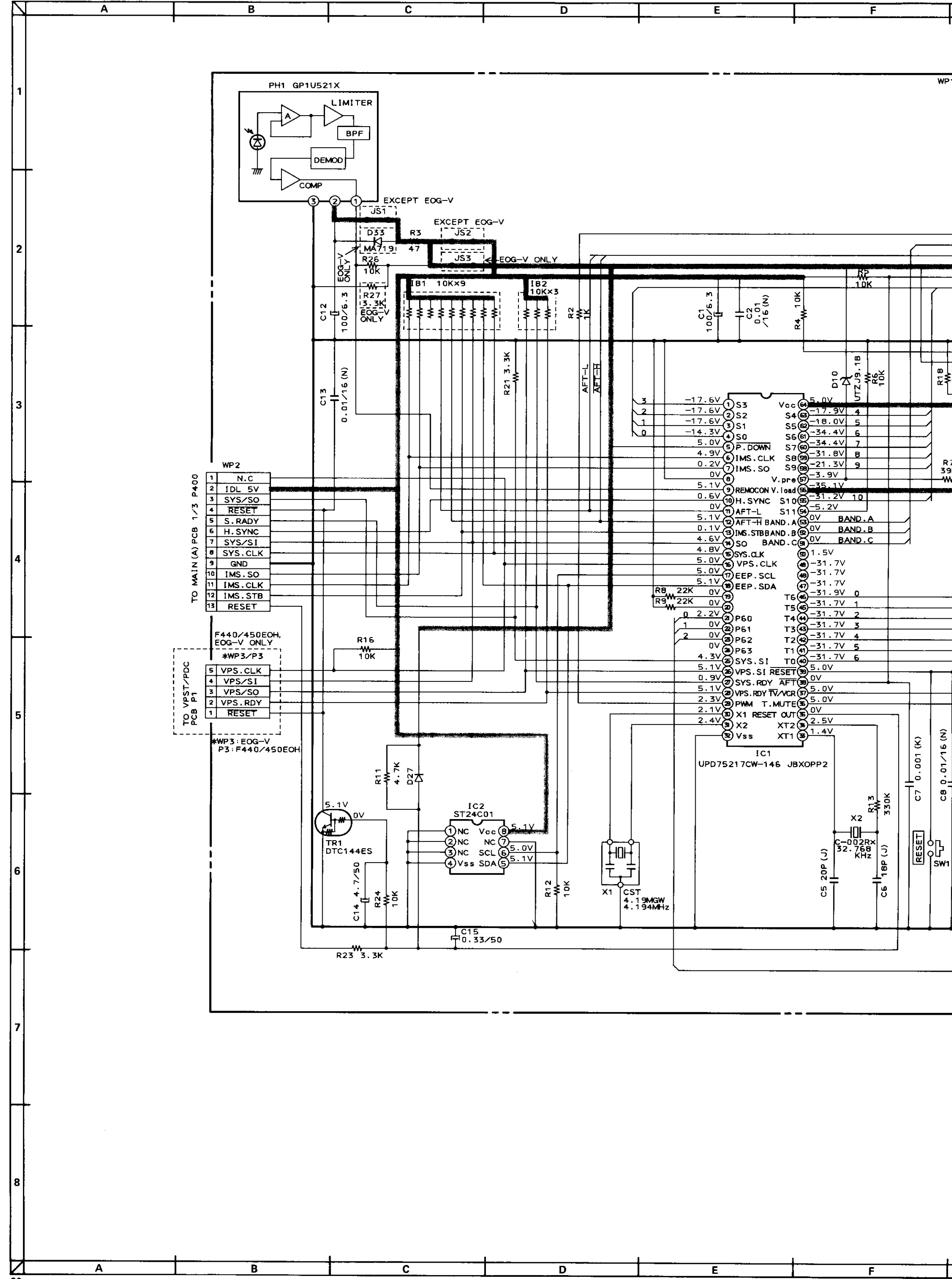
TO FULL TRACK ERASE HEAD

INDICATED VOLTAGES WERE MEASURED DURING PB MODE. () : REC MODE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μ F
ALL INDUCTORS IN μ H(K)
ALL DIODES ARE 1SS131

TRANSISTORS 2SA933S AND 2SC1740 CAN BE SUBSTITUTED FOR 2SA1317 AND 2SC3330 RESPECTIVELY.

JFX/JFX-L
PRE AMP
SCHEMATIC DIAGRAM
No. 21-10 V115210M
A1



WP2

1	N.C
2	IDL 5V
3	SYS/SO
4	RESET
5	S. RADY
6	H. SYNC
7	SYS/SI
8	SYS.CLK
9	GND
10	IMS. SO
11	IMS. CLK
12	IMS. STB
13	RESET

F440/450EOH, EOG-V ONLY

*WP3/P3

5	VPS. CLK
4	VPS/SI
3	VPS/SO
2	VPS. RDY
1	RESET

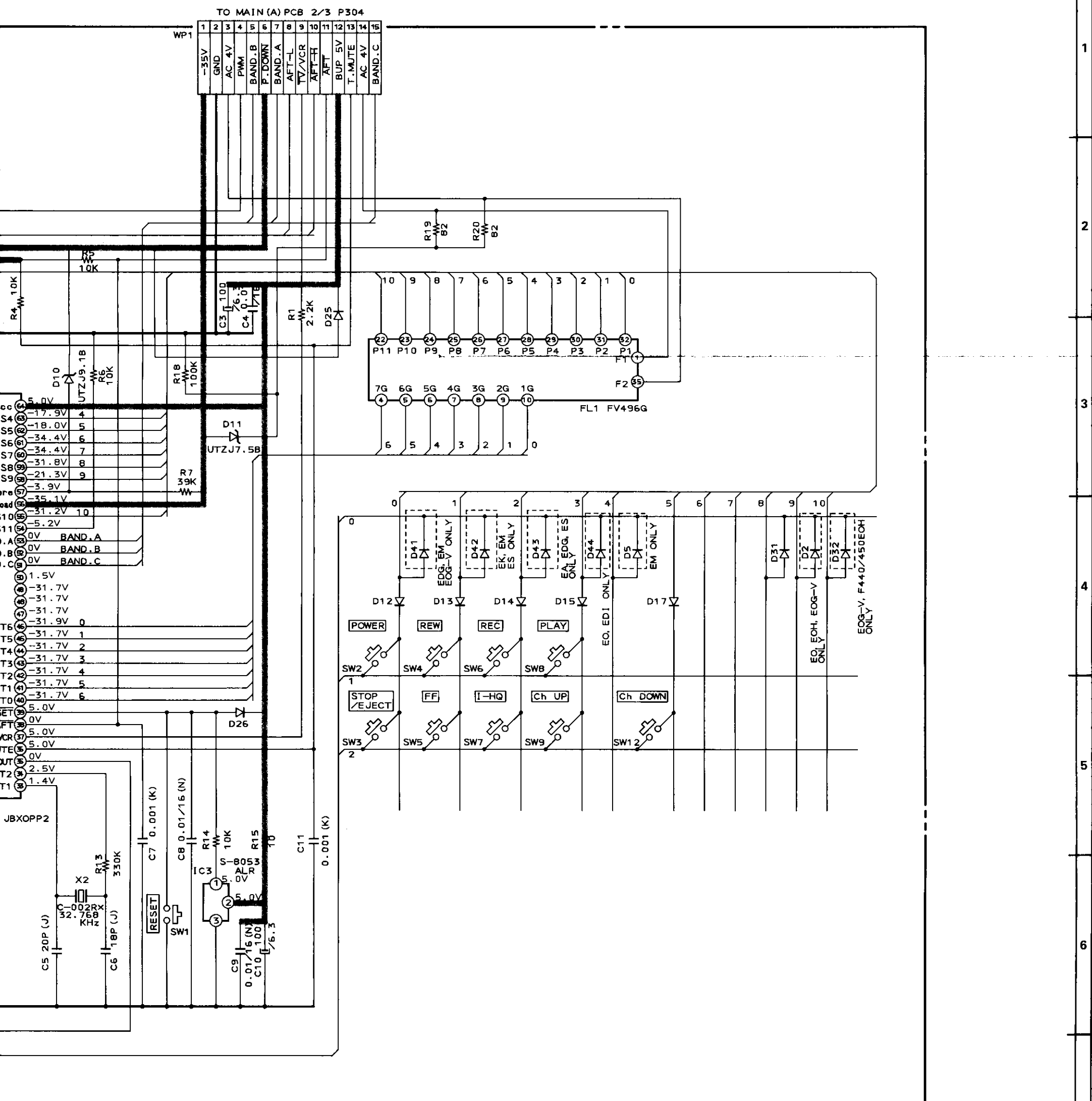
*WP3: EOG-V
P3: F440/450EOH

3	-17.6V	1	S3	Vcc	5.0V	64	
2	-17.6V	2	S2	S4	-17.9V	4	
1	-17.6V	3	S1	S5	-18.0V	5	
0	-14.3V	4	S0	S6	-34.4V	6	
	5.0V	5	P. DOWN	S7	-34.4V	7	
	4.9V	6	IMS. CLK	S8	-31.8V	8	
	0.2V	7	IMS. SO	S9	-21.3V	9	
	0V	8		V. pre	-3.9V		
	5.1V	9	REMOCON V. load	S10	-35.1V		
	0.6V	10	H. SYNC	S10	-31.2V	10	
	0V	11	AFT-L	S11	-5.2V		
	5.1V	12	AFT-H BAND. A		0V	BAND. A	
	0.1V	13	IMS. STB BAND. B		0V	BAND. B	
	4.6V	14	SO BAND. C		0V	BAND. C	
	4.8V	15	SYS. CLK		1.5V		
	5.0V	16	VPS. CLK		-31.7V		
	5.0V	17	EPP. SCL		-31.7V		
	5.1V	18	EPP. SDA		-31.7V		
	0V	19		T6	-31.9V	0	
	0V	20		T5	-31.7V	1	
	0.2V	21	P60	T4	-31.7V	2	
	0V	22	P61	T3	-31.7V	3	
	0V	23	P62	T2	-31.7V	4	
	0V	24	P63	T1	-31.7V	5	
	4.3V	25	SYS. SI	T0	-31.7V	6	
	5.1V	26	VPS. SI		5.0V		
	0.9V	27	SYS. SI RESET		0V		
	5.1V	28	SYS. RDY AFT		5.0V		
	2.3V	29	VPS. RDY TV/VCR		5.0V		
	2.1V	30	PWM T. MUTE		5.0V		
	2.4V	31	X1 RESET OUT		0V		
		32	X2		2.5V		
		33	Vss		1.4V		

1
2
3
4
5
6
7
8

A B C D E F

F G H I J K



1
2
3
4
5
6
7
8

OPERATION (A) PCB V1146B5100

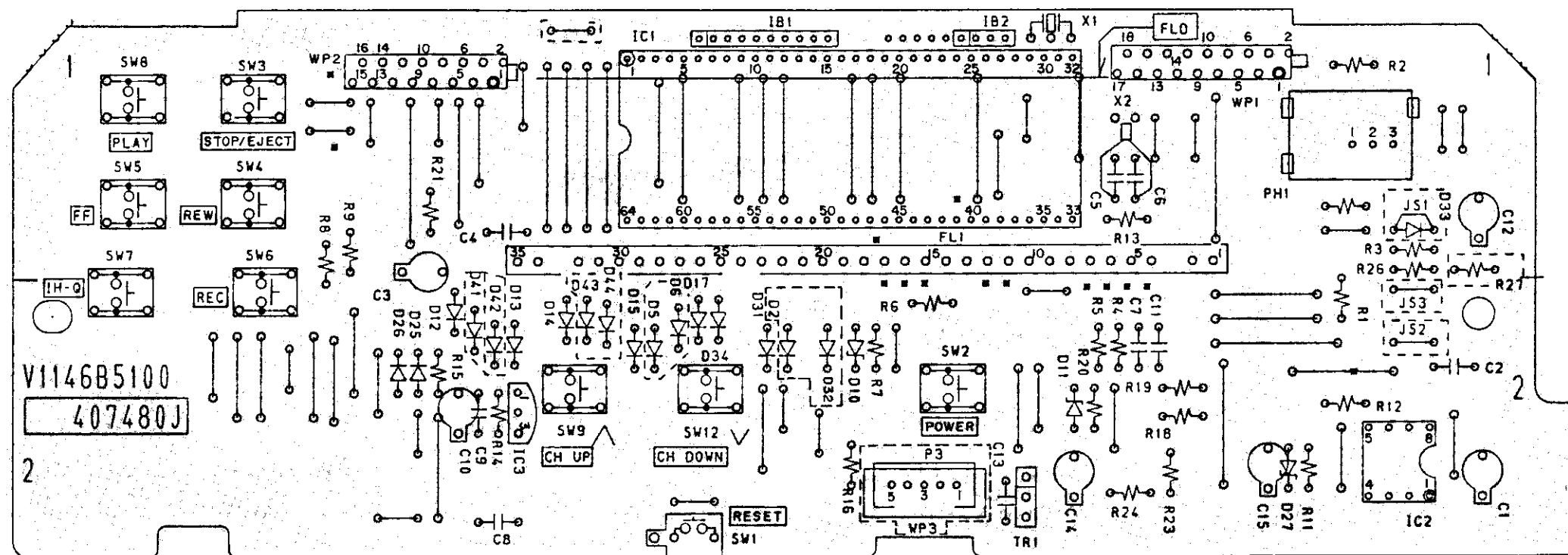
B (POWER SUPPLY) LINE

INDICATED VOLTAGES WERE MEASURED DURING PB MODE.

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

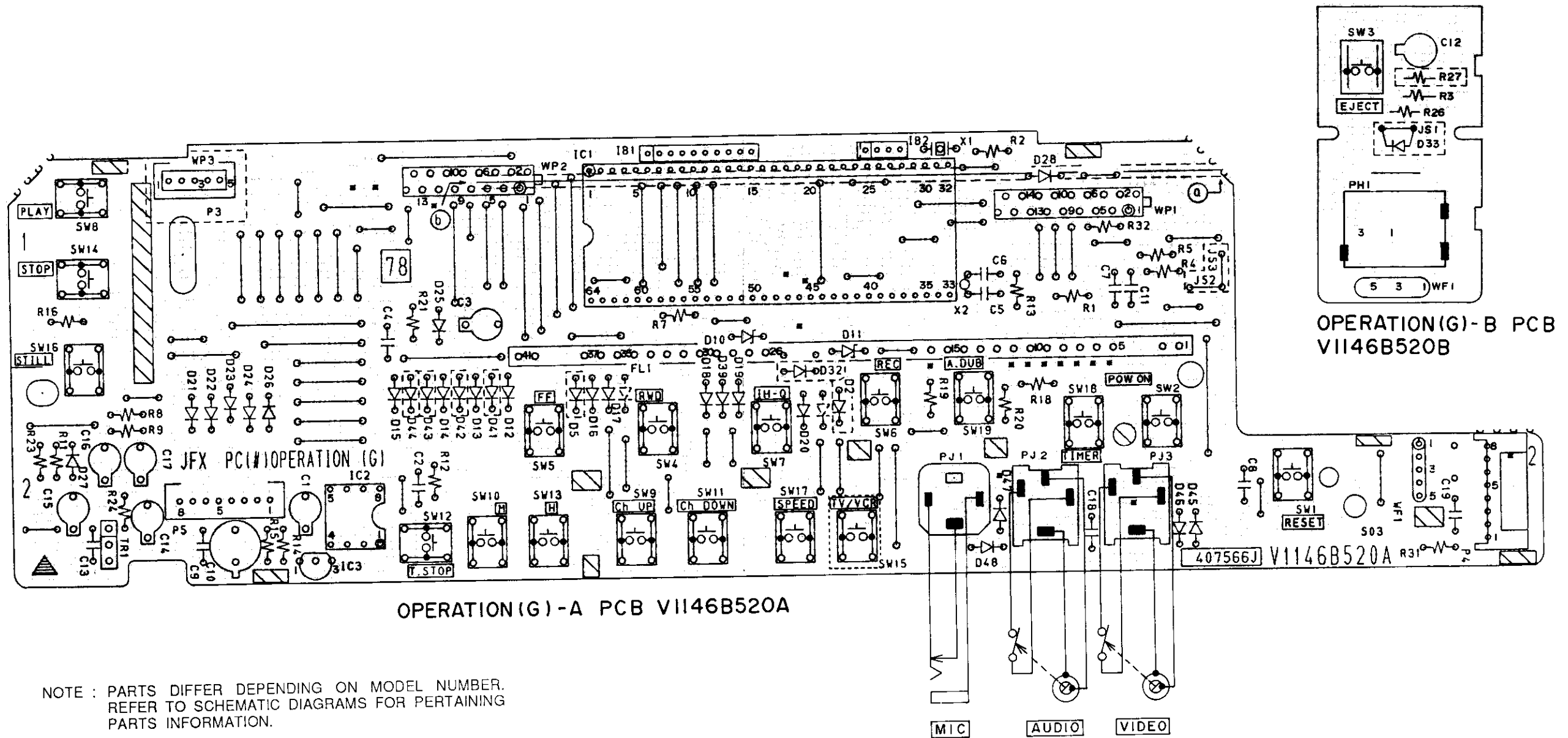
JFX-L
OPERATION (A)
SCHEMATIC DIAGRAM
No. 21-11 V115211M
A1

F G H I J K

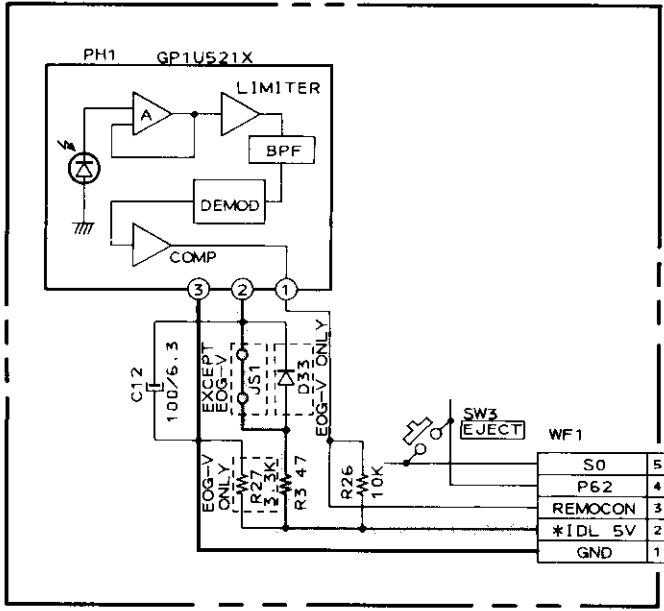


OPERATION(A) PCB VII46B5100(J1)

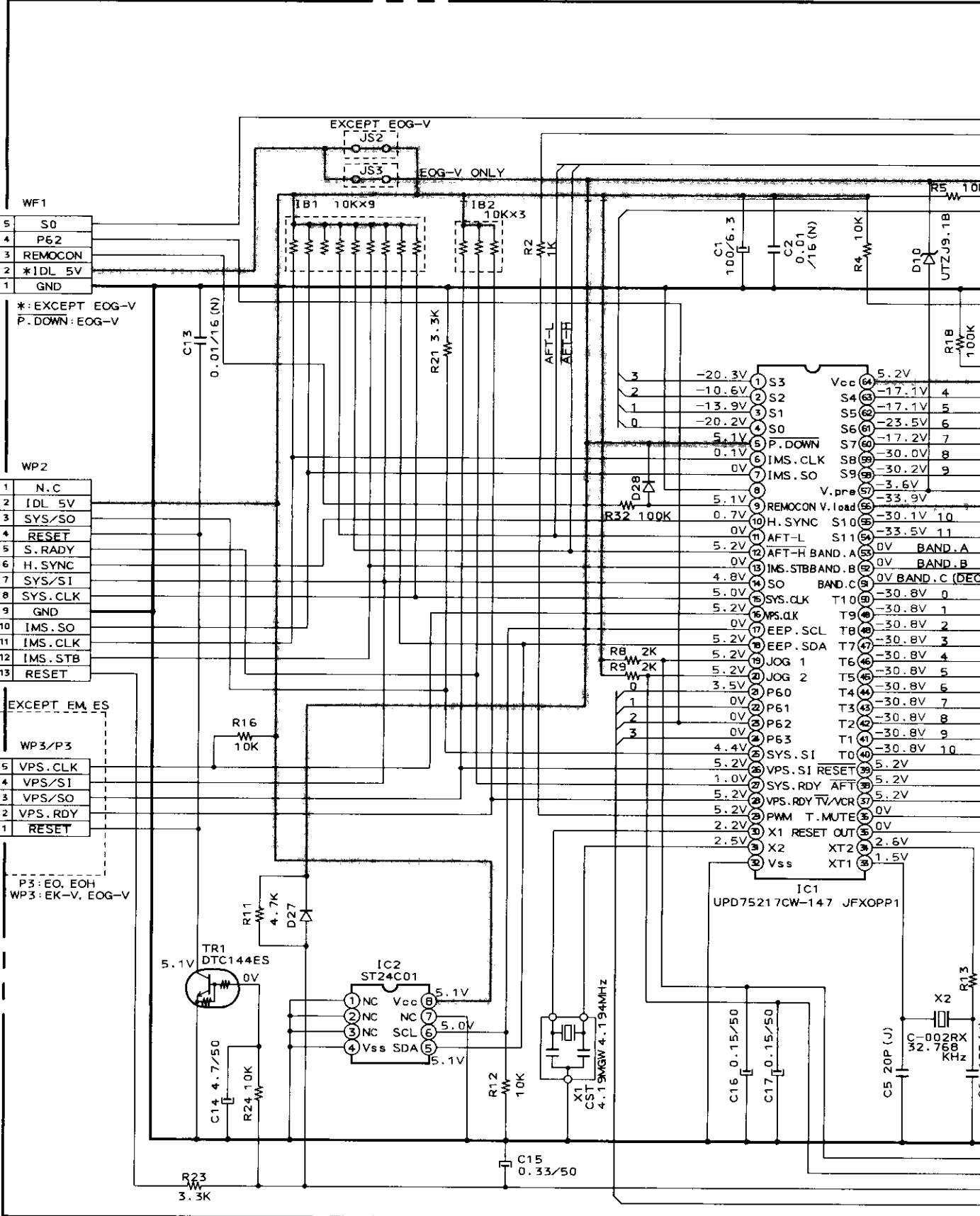
NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING
PARTS INFORMATION.



NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
 REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING
 PARTS INFORMATION.



OPERATION (G) -B PCB
V1146B520B



OPERATION (G) -A PCB V1146B520A

TO MAIN(A) PCB 1/3 P400

TO VPST/PDC PCB P11

- EXCEPT EM ES
- | | |
|---|----------|
| 5 | VPS. CLK |
| 4 | VPS/SI |
| 3 | VPS/SO |
| 2 | VPS. RDY |
| 1 | RESET |
- WP3/P3
- P3: EO, EOH
WP3: EK-V, EOG-V

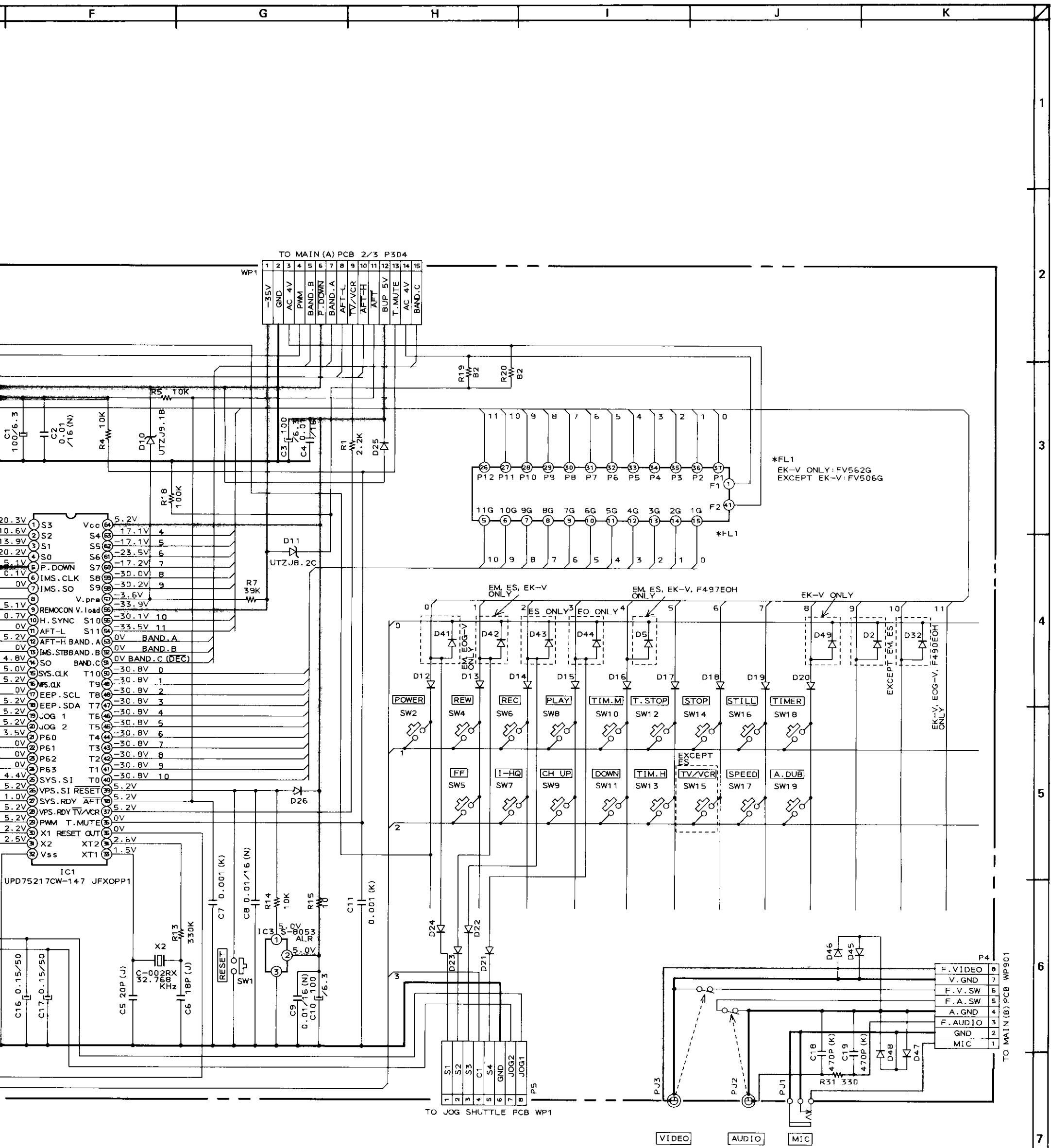
WF1

5	S0
4	P62
3	REMOCON
2	*IDL 5V
1	GND

*: EXCEPT EOG-V
P. DOWN: EOG-V

- | | |
|----|----------|
| 1 | N.C |
| 2 | IDL 5V |
| 3 | SYS/SO |
| 4 | RESET |
| 5 | S. RADY |
| 6 | H. SYNC |
| 7 | SYS/SI |
| 8 | SYS. CLK |
| 9 | GND |
| 10 | IMS. SO |
| 11 | IMS. CLK |
| 12 | IMS. STB |
| 13 | RESET |

- | | | | | | |
|------|--------|----|-----------------|-----|--------------|
| 3 | -20.3V | 1 | S3 | Vcc | 5.2V |
| 2 | -10.6V | 2 | S2 | S4 | -17.1V |
| 1 | -13.9V | 3 | S1 | S5 | -17.1V |
| 0 | -20.2V | 4 | S0 | S6 | -23.5V |
| 5 | 5.1V | 5 | P.DOWN | S7 | -17.2V |
| 0.1V | 0.1V | 6 | IMS. CLK | S8 | -30.0V |
| 0V | 0V | 7 | IMS. SO | S9 | -30.2V |
| 5.1V | 5.1V | 8 | REMOCON V. load | 10 | -33.9V |
| 0.7V | 0.7V | 9 | H. SYNC | 11 | -30.1V |
| 0V | 0V | 10 | AFT-L | 12 | -33.5V |
| 5.2V | 5.2V | 11 | IMS. STB | 13 | BAND.A |
| 0V | 0V | 12 | IMS. STB | 14 | BAND.B |
| 4.8V | 4.8V | 13 | IMS. STB | 15 | BAND.C |
| 5.0V | 5.0V | 14 | IMS. STB | 16 | BAND.C (DEC) |
| 5.2V | 5.2V | 15 | SYS. CLK | 17 | -30.8V |
| 0V | 0V | 16 | SYS. CLK | 18 | -30.8V |
| 5.2V | 5.2V | 17 | VPS. CLK | 19 | -30.8V |
| 0V | 0V | 18 | VPS. CLK | 20 | -30.8V |
| 5.2V | 5.2V | 19 | EOP. SCL | 21 | -30.8V |
| 5.2V | 5.2V | 20 | EOP. SDA | 22 | -30.8V |
| 3.5V | 3.5V | 21 | JOG 1 | 23 | -30.8V |
| 0V | 0V | 22 | JOG 2 | 24 | -30.8V |
| 0V | 0V | 23 | P60 | 25 | -30.8V |
| 0V | 0V | 24 | P61 | 26 | -30.8V |
| 0V | 0V | 25 | P62 | 27 | -30.8V |
| 0V | 0V | 26 | P63 | 28 | -30.8V |
| 4.4V | 4.4V | 27 | SYS. SI | 29 | -30.8V |
| 5.2V | 5.2V | 28 | VPS. SI | 30 | 5.2V |
| 1.0V | 1.0V | 29 | SYS. RDY | 31 | 5.2V |
| 5.2V | 5.2V | 30 | VPS. RDY | 32 | 5.2V |
| 0V | 0V | 31 | PWM T. MUTE | 33 | 0V |
| 2.2V | 2.2V | 32 | X1 RESET OUT | 34 | 0V |
| 2.5V | 2.5V | 33 | X2 | 35 | 2.6V |
| 0V | 0V | 34 | XT2 | 36 | 1.5V |
| 0V | 0V | 35 | XT1 | 37 | 1.5V |



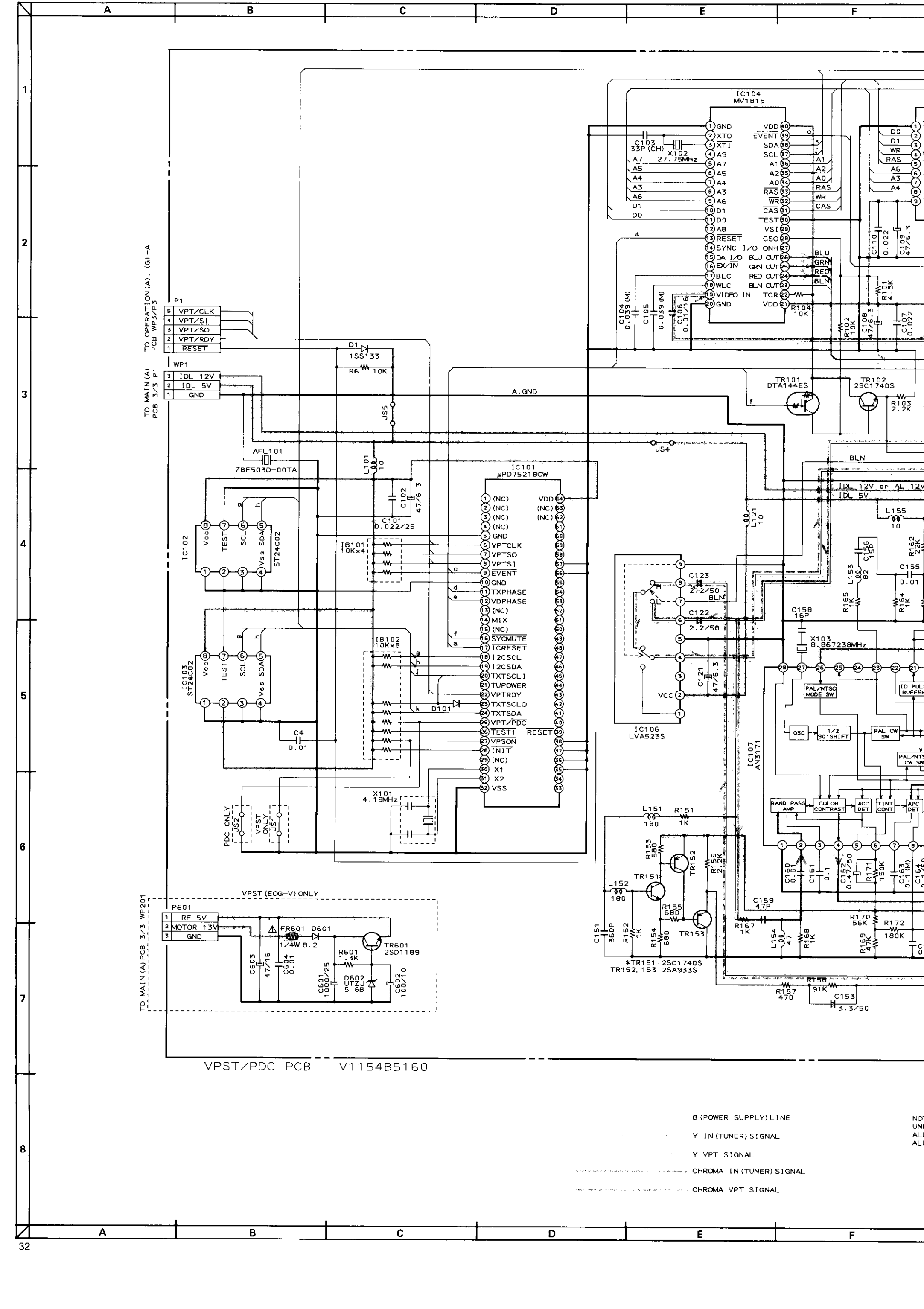
NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS 1/6W(J)
 ALL CAPACITORS IN μ F 50WV(M)
 ALL DIODES ARE 1SS131T

INDICATED VOLTAGES WERE
 MEASURED DURING PB MODE.
 (TAPE SPEED:SP)

B (POWER SUPPLY) LINE
 AUDIO SIGNAL LINE
 VIDEO IN (REC) SIGNAL LINE

JFX
 OPERATION (G) - A, B
 SCHEMATIC DIAGRAM
 No. 21-12 V115212M
 A1

1
 2
 3
 4
 5
 6
 7
 8
 31



TO OPERATION (A), (G)-A
PCB WP3/P3

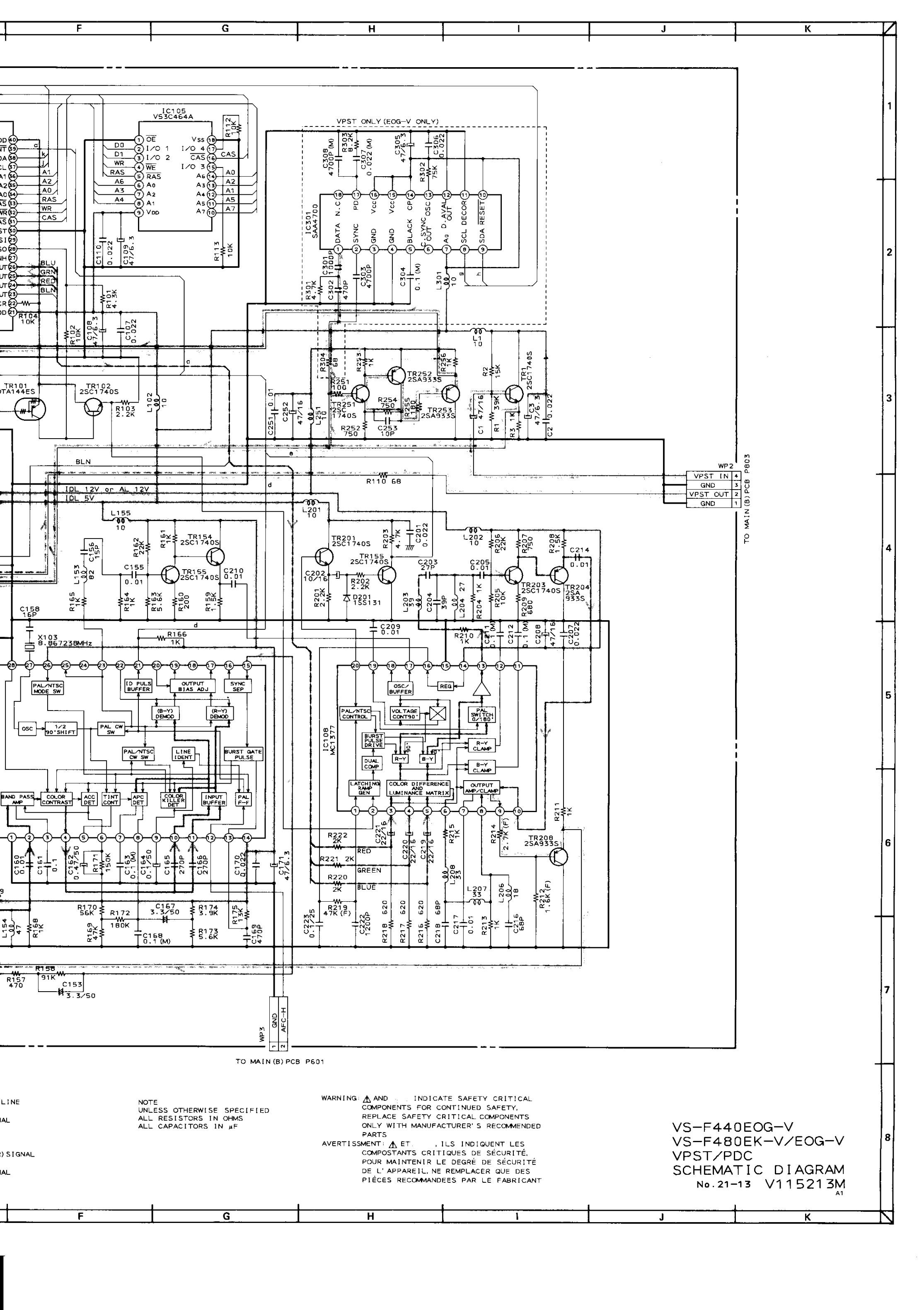
TO MAIN (A)
PCB 3/3 P1

TO MAIN (A) PCB 3/3 WP201

VPST/PDC PCB V1154B5160

B (POWER SUPPLY) LINE
Y IN (TUNER) SIGNAL
Y VPT SIGNAL
CHROMA IN (TUNER) SIGNAL
CHROMA VPT SIGNAL

NOTE
UNLESS
ALL R
ALL C



WP2

VPST IN	4
GND	3
VPST OUT	2
GND	1

TO MAIN (B) PCB P803

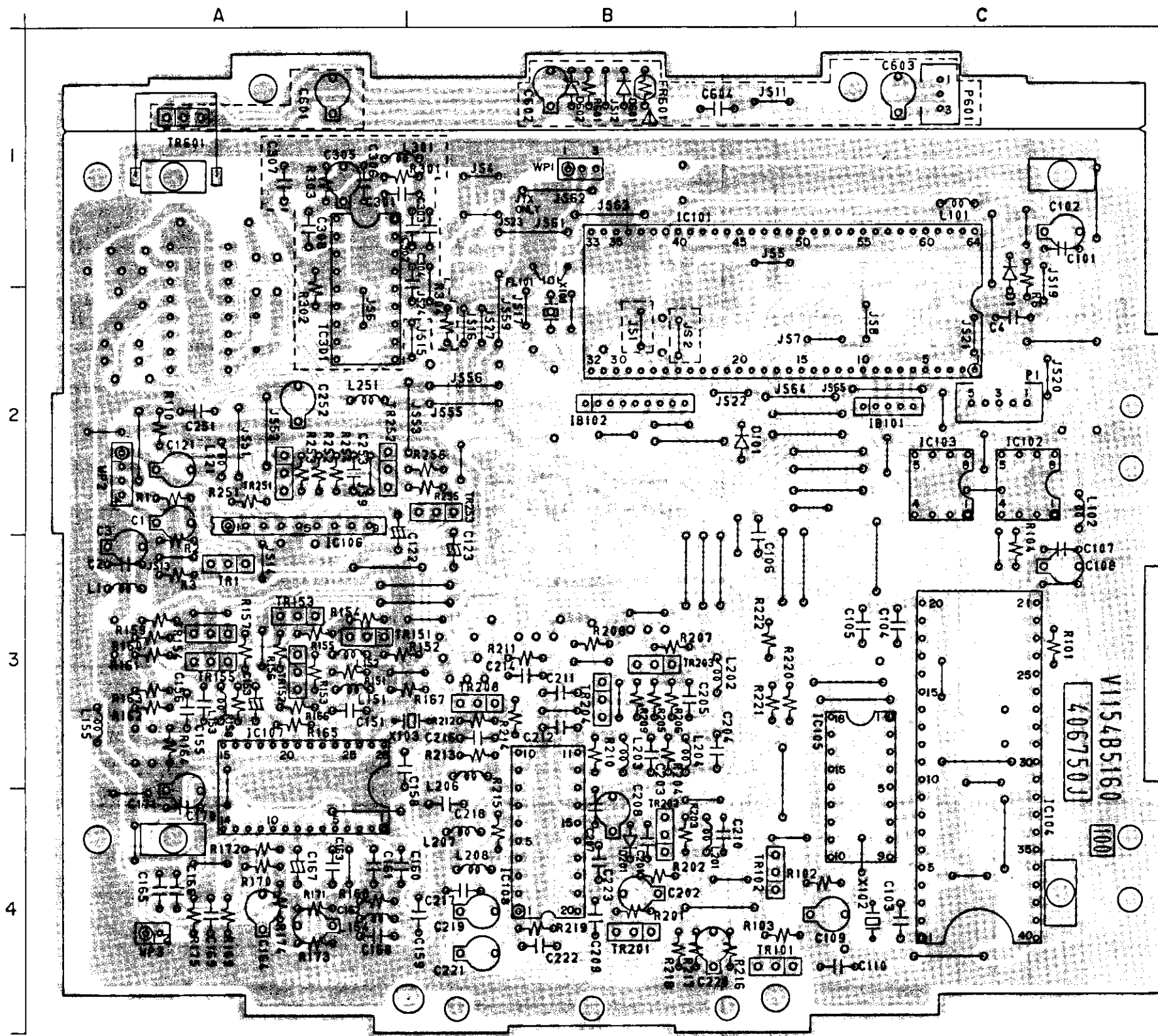
TO MAIN (B) PCB P601

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μ F

WARNING: Δ AND \square INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

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

VS-F440EOG-V
VS-F480EK-V/EOG-V
VPST/PDC
SCHEMATIC DIAGRAM
No. 21-13 V115213M
A1



VPST / PDC PCB VII54B5160

PRINCIPAL PARTS LOCATION

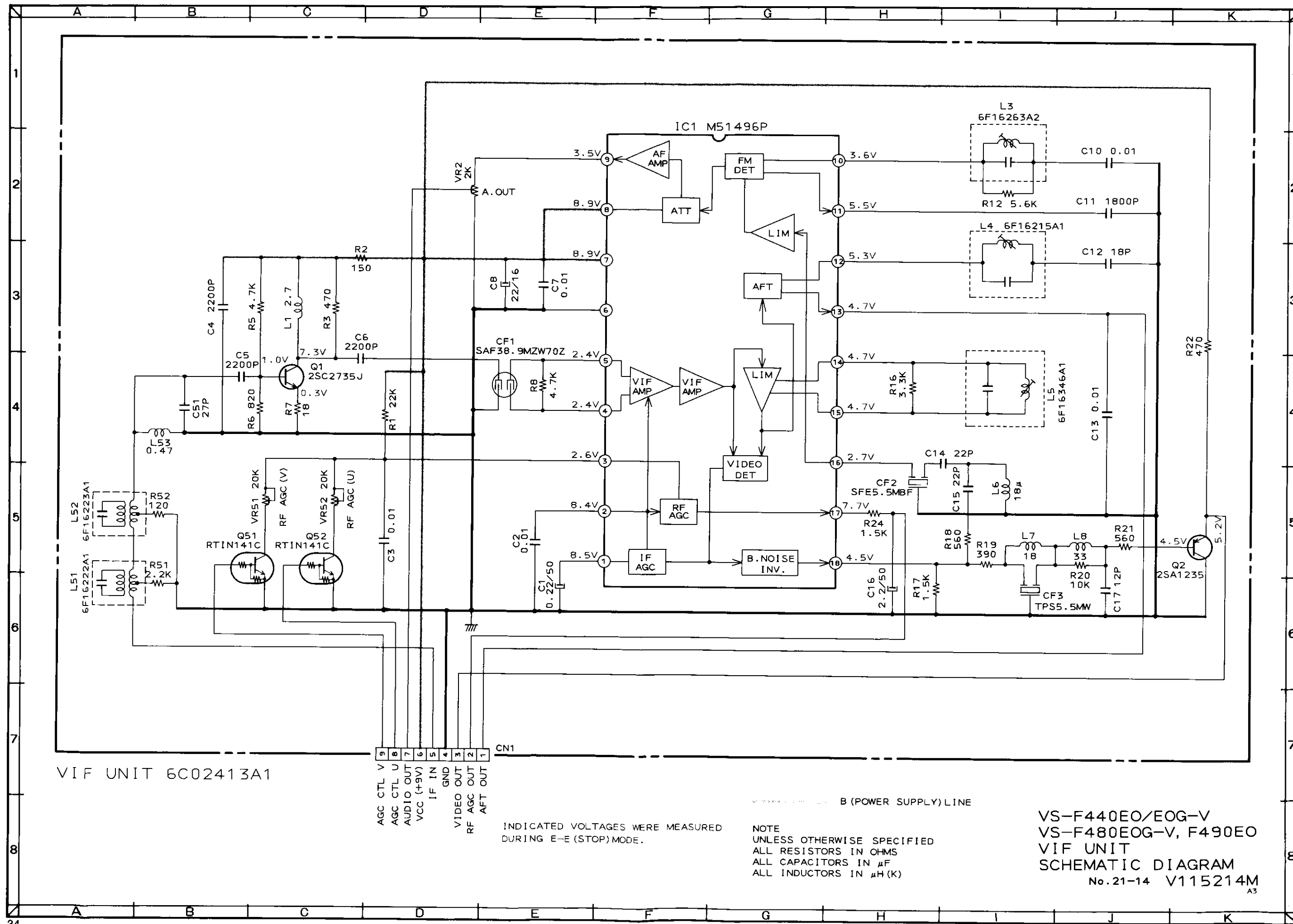
- ICs
 IC101 B,C1,2
 IC102 C2
 IC103 C2
 IC104 C3,4
 IC105 C3,4
 IC106 A2
 IC107 A3,4
 IC108 B3,4
 IC301 A1,2

- CONNECTORS & WIRES
 WP1 B1
 WP2 A2
 WP3 A4
 P1 C2
 P601 C1

- TRANSISTORS
 TR1 A1
 TR101 B4
 TR102 B4
 TR151 A3
 TR152 A3
 TR153 A3
 TR154 A3
 TR155 A3
 TR201 B4
 TR202 B4
 TR203 B3
 TR204 B3
 TR208 B3
 TR251 A2
 TR252 A2
 TR253 B2
 TR601 A1

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

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING PARTS INFORMATION.



VIF UNIT 6C02413A1

CN1
 9 AGC CTL V
 8 AGC CTL U
 7 AUDIO OUT
 6 VCC (+9V)
 5 IF IN
 4 GND
 3 VIDEO OUT
 2 RF AGC OUT
 1 AFT OUT

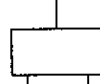
INDICATED VOLTAGES WERE MEASURED DURING E-E (STOP) MODE.

NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS
 ALL CAPACITORS IN μ F
 ALL INDUCTORS IN μ H (K)

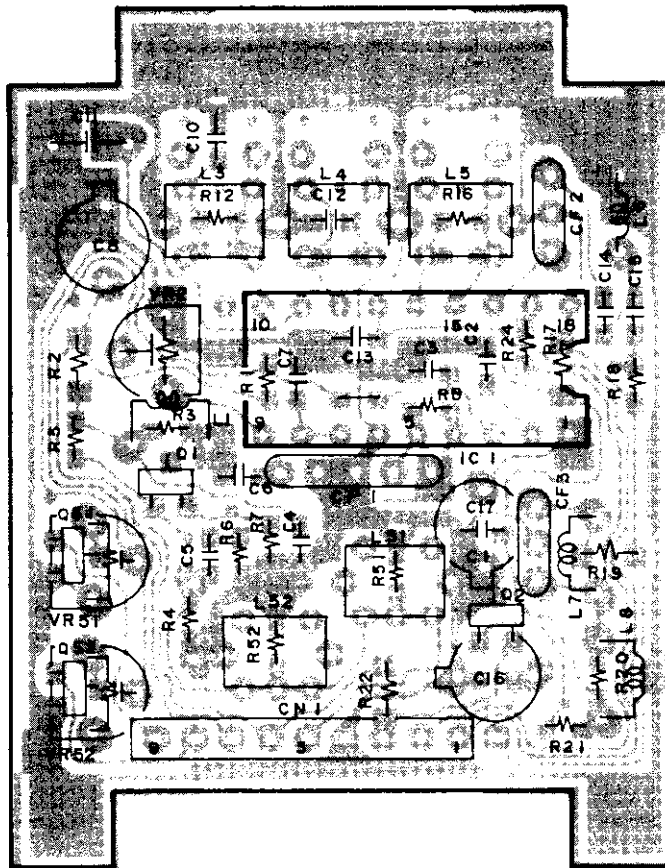
B (POWER SUPPLY) LINE

VS-F440EO/EOG-V
 VS-F480EOG-V, F490EO
 VIF UNIT
 SCHEMATIC DIAGRAM
 No. 21-14 V115214M
 A3

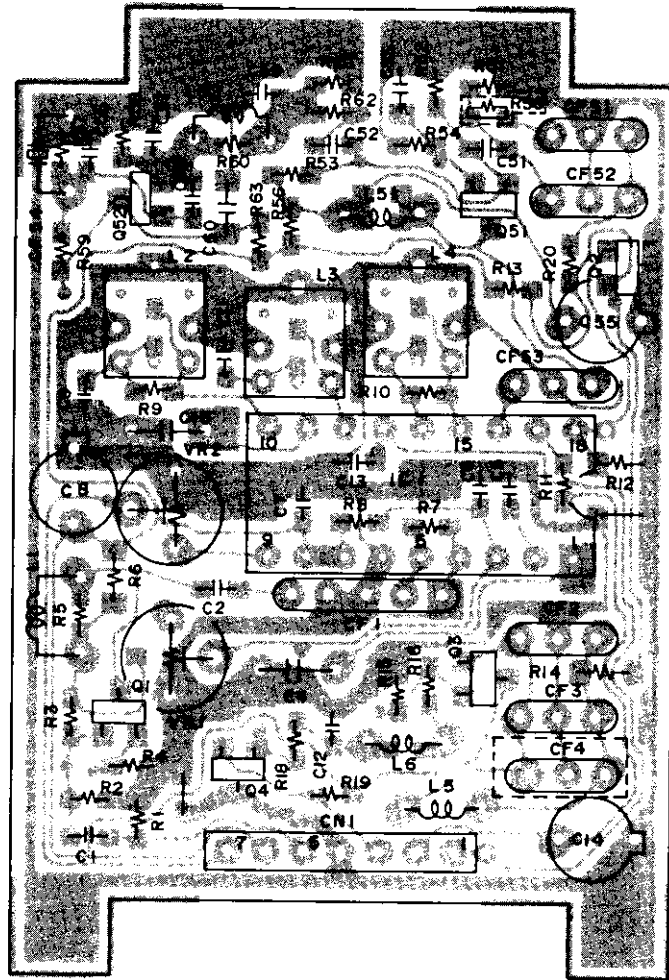
COLLECTOR



BASE EMITTER

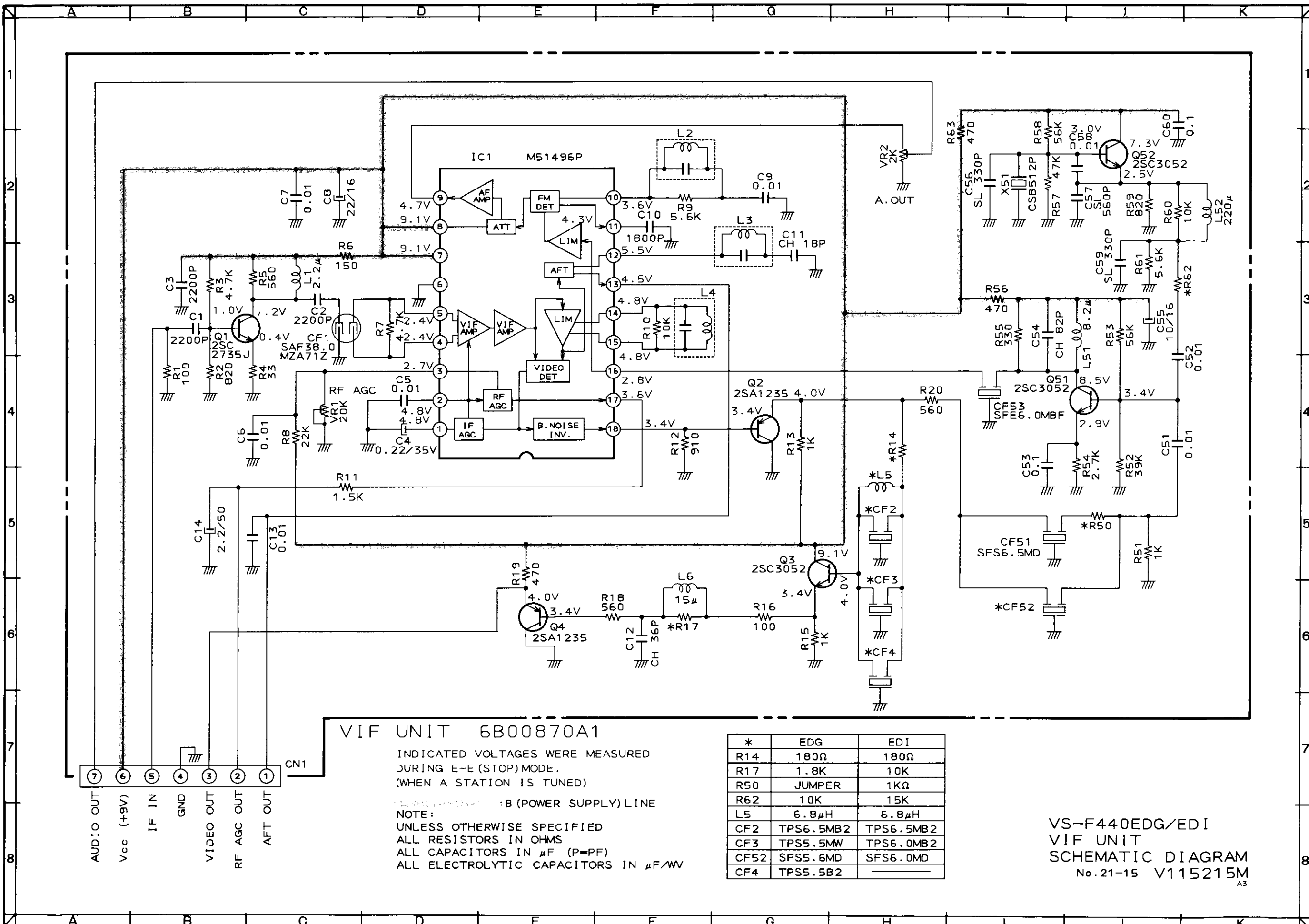


VIF UNIT 6C02413A1
(EO.EOG-V ONLY)



VIF UNIT 6B00870A1
(EDI.EDG ONLY)

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING
PARTS INFORMATION.



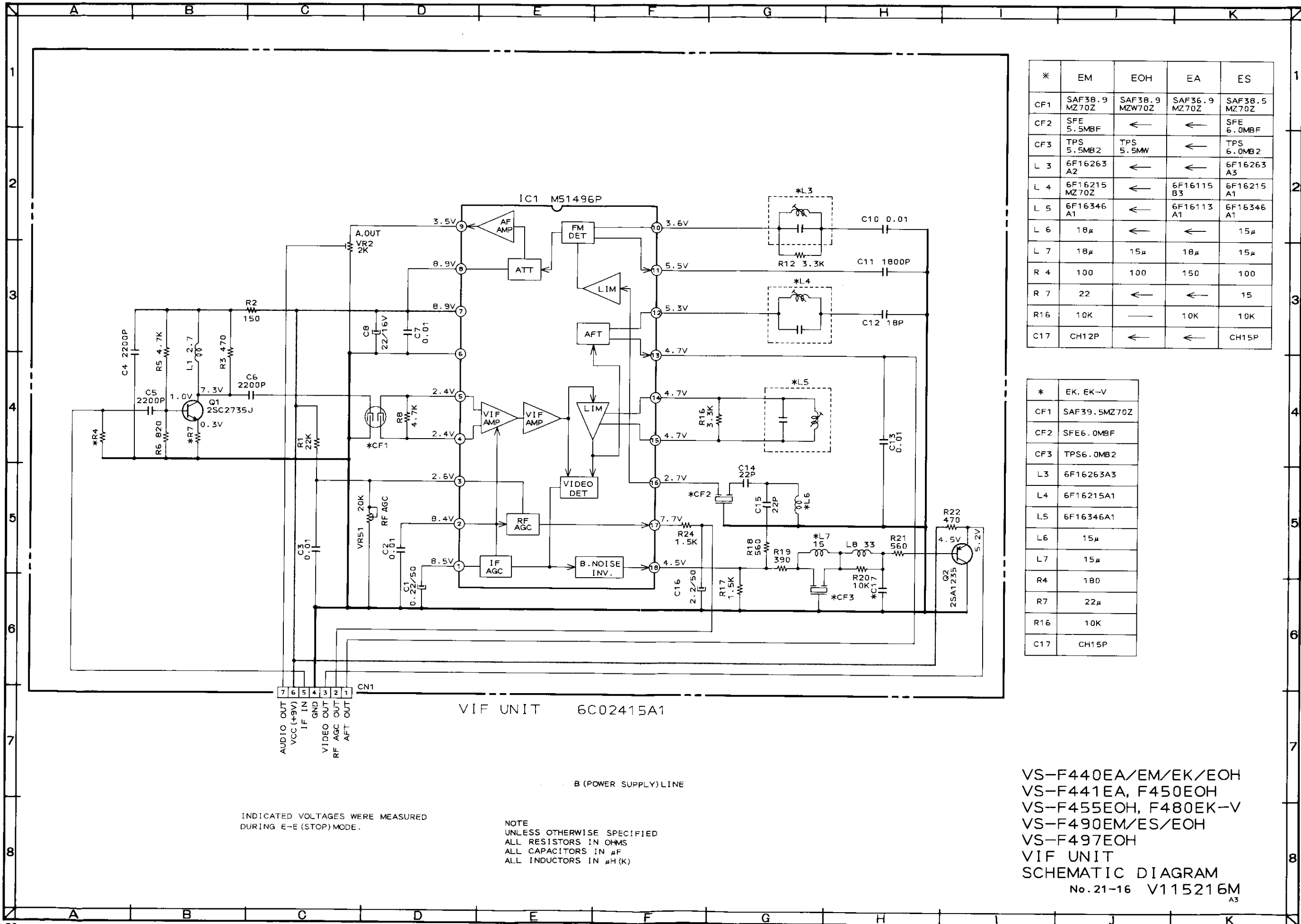
VIF UNIT 6B00870A1

INDICATED VOLTAGES WERE MEASURED DURING E-E (STOP) MODE. (WHEN A STATION IS TUNED)

NOTE: UNLESS OTHERWISE SPECIFIED ALL RESISTORS IN OHMS ALL CAPACITORS IN μ F (P=PF) ALL ELECTROLYTIC CAPACITORS IN μ F/W

*	EDG	EDI
R14	180 Ω	180 Ω
R17	1.8K	10K
R50	JUMPER	1K Ω
R62	10K	15K
L5	6.8 μ H	6.8 μ H
CF2	TPS6.5MB2	TPS6.5MB2
CF3	TPS5.5MW	TPS6.0MB2
CF52	SFS5.6MD	SFS6.0MD
CF4	TPS5.5B2	

VS-F440EDG/EDI
VIF UNIT
SCHEMATIC DIAGRAM
No.21-15 V115215M
A3



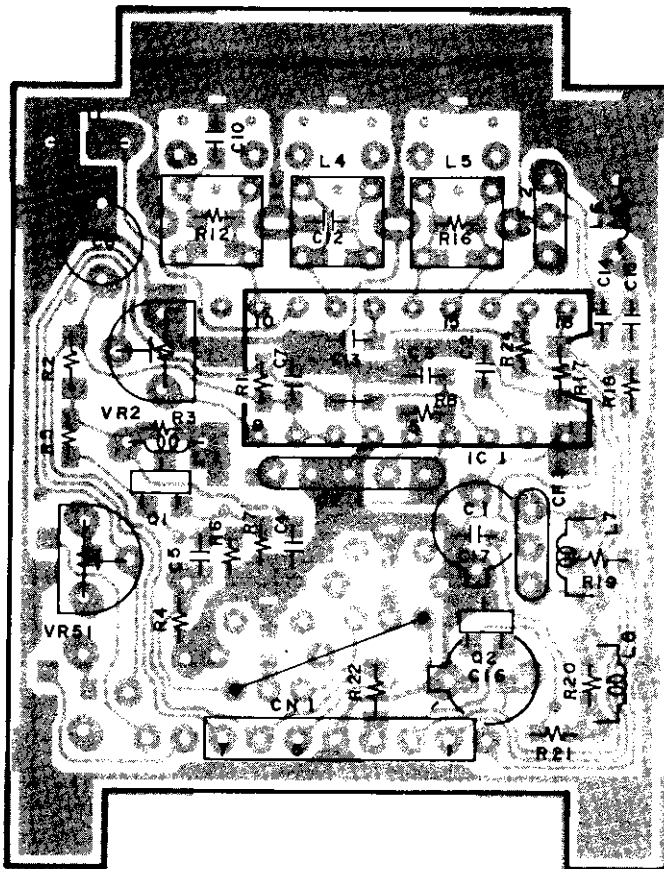
INDICATED VOLTAGES WERE MEASURED DURING E-E (STOP) MODE.

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μ F
ALL INDUCTORS IN μ H(K)

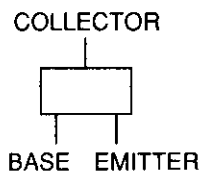
*	EM	EOH	EA	ES
CF1	SAF38.9 MZ70Z	SAF38.9 MZ70Z	SAF36.9 MZ70Z	SAF38.5 MZ70Z
CF2	SFE 5.5MBF	←	←	SFE 6.0MBF
CF3	TPS 5.5MB2	TPS 5.5MW	←	TPS 6.0MB2
L 3	6F16263 A2	←	←	6F16263 A3
L 4	6F16215 MZ70Z	←	6F16115 B3	6F16215 A1
L 5	6F16346 A1	←	6F16113 A1	6F16346 A1
L 6	18 μ	←	←	15 μ
L 7	18 μ	15 μ	18 μ	15 μ
R 4	100	100	150	100
R 7	22	←	←	15
R16	10K	←	10K	10K
C17	CH12P	←	←	CH15P

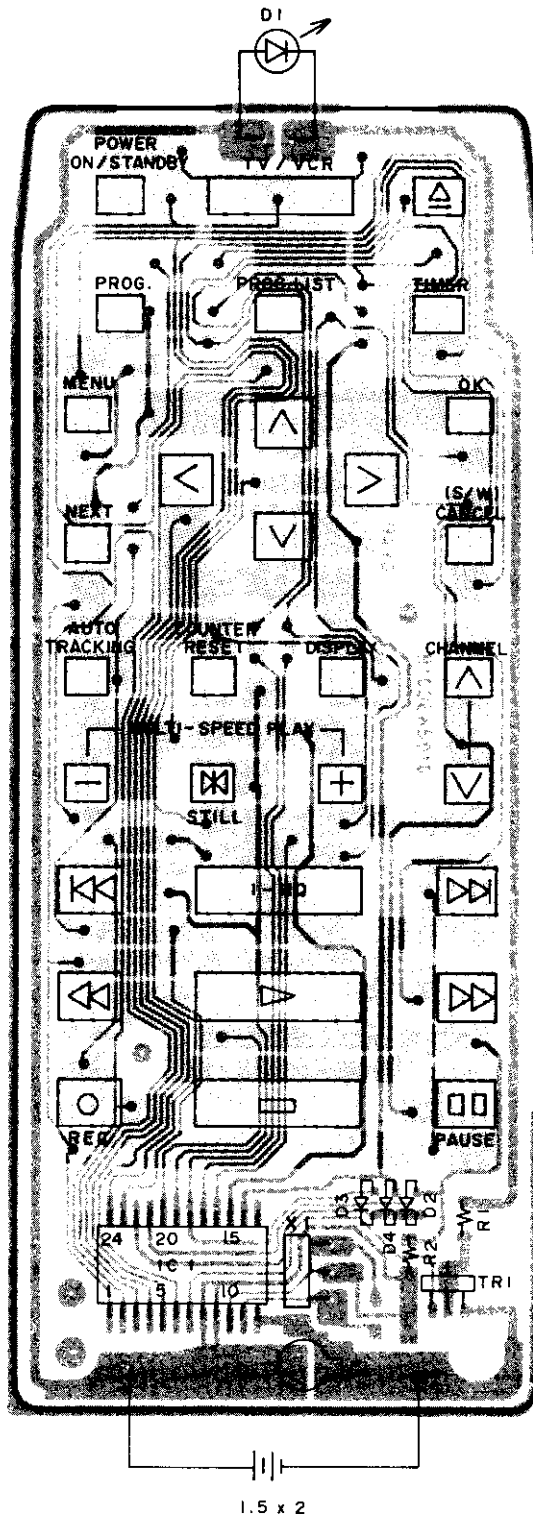
*	EK, EK-V
CF1	SAF39.5MZ70Z
CF2	SFE6.0MBF
CF3	TPS6.0MB2
L3	6F16263A3
L4	6F16215A1
L5	6F16346A1
L6	15 μ
L7	15 μ
R4	180
R7	22 μ
R16	10K
C17	CH15P

VS-F440EA/EM/EK/EOH
VS-F441EA, F450EOH
VS-F455EOH, F480EK-V
VS-F490EM/ES/EOH
VS-F497EOH
VIF UNIT
SCHEMATIC DIAGRAM
No.21-16 V115216M
A3

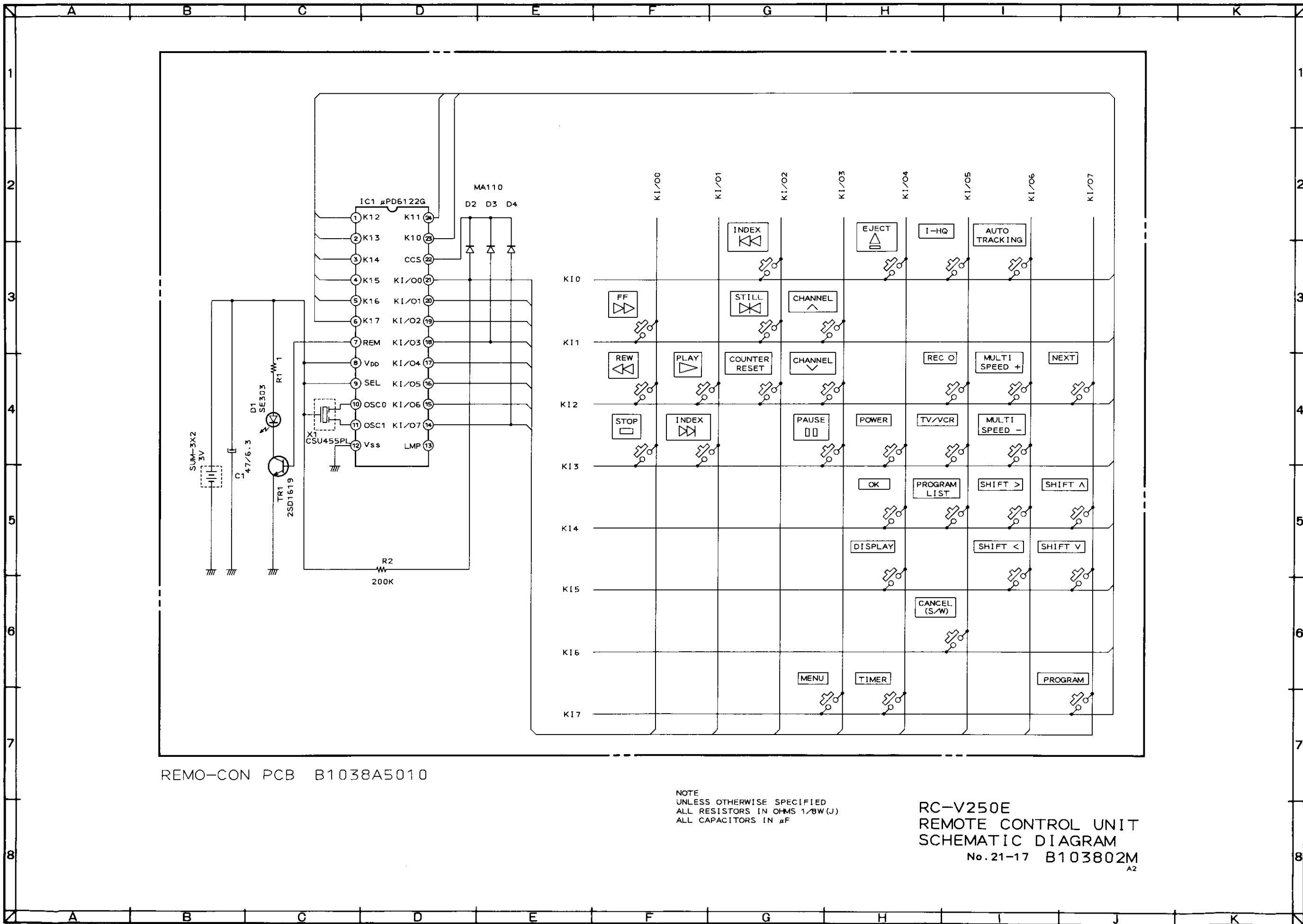


VIF UNIT 6C02415A1
(EA.EK.EM.EOH.ES ONLY)





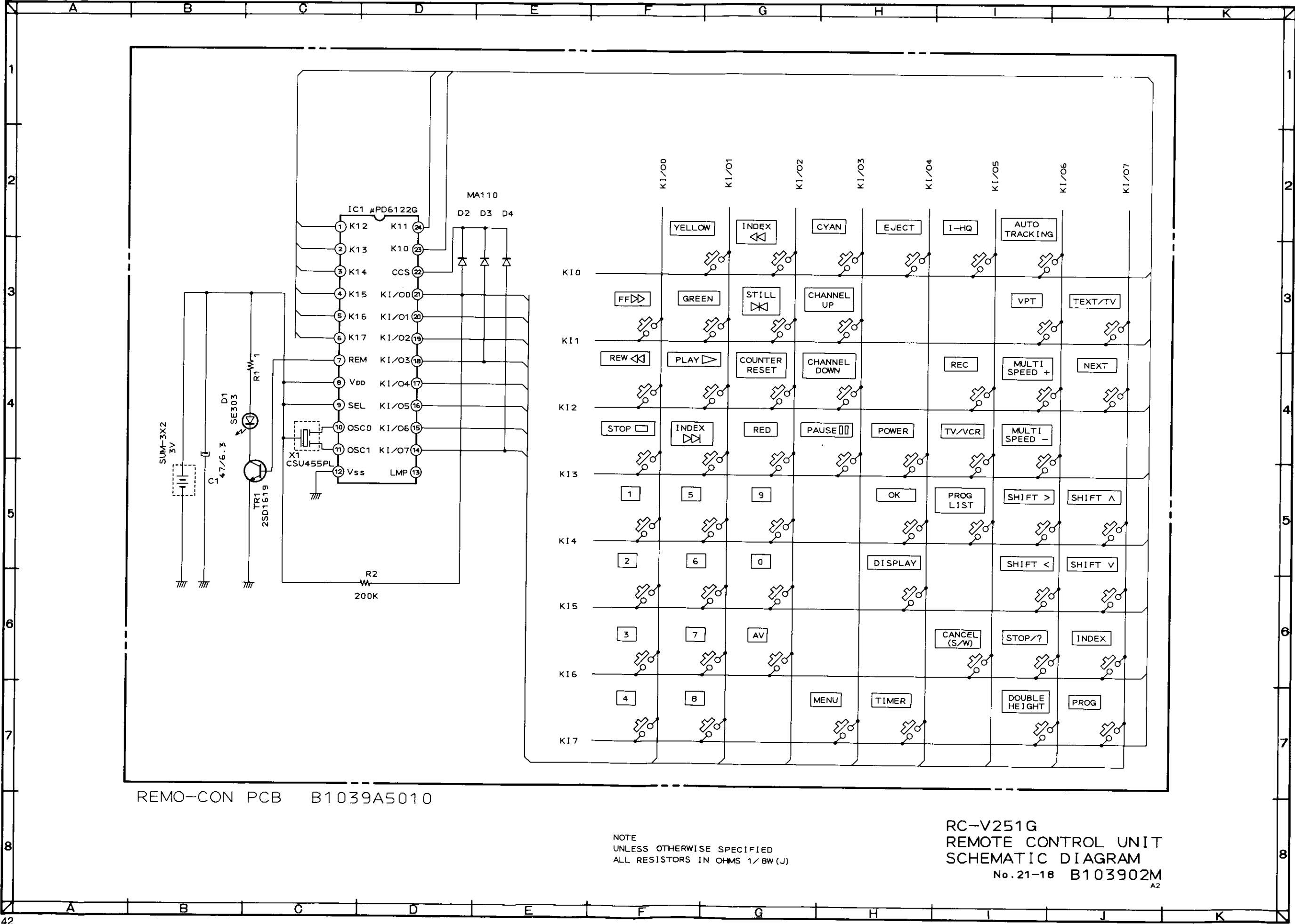
REMO-CON PCB BI038A5010



REMO-CON PCB B1038A5010

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

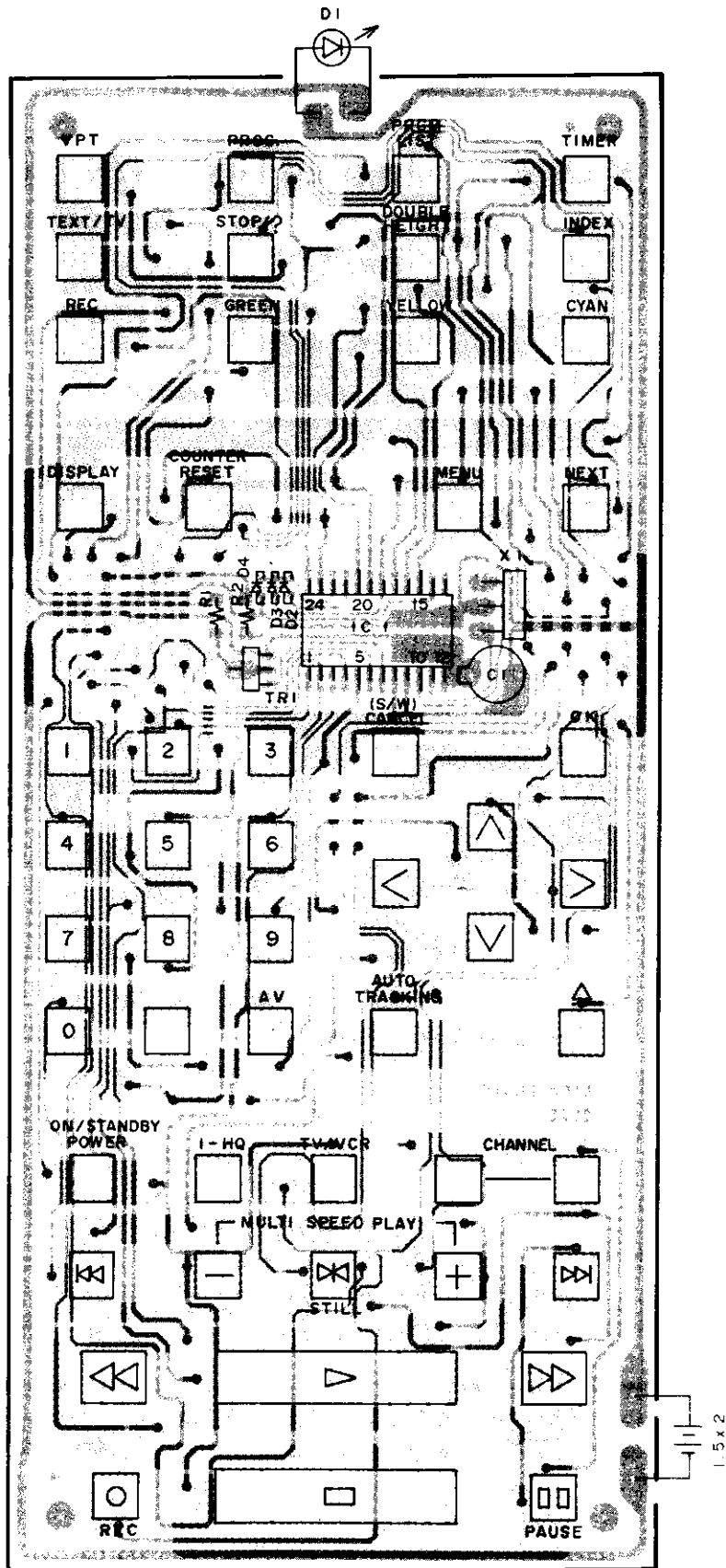
RC-V250E
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM
No. 21-17 B103802M
A2



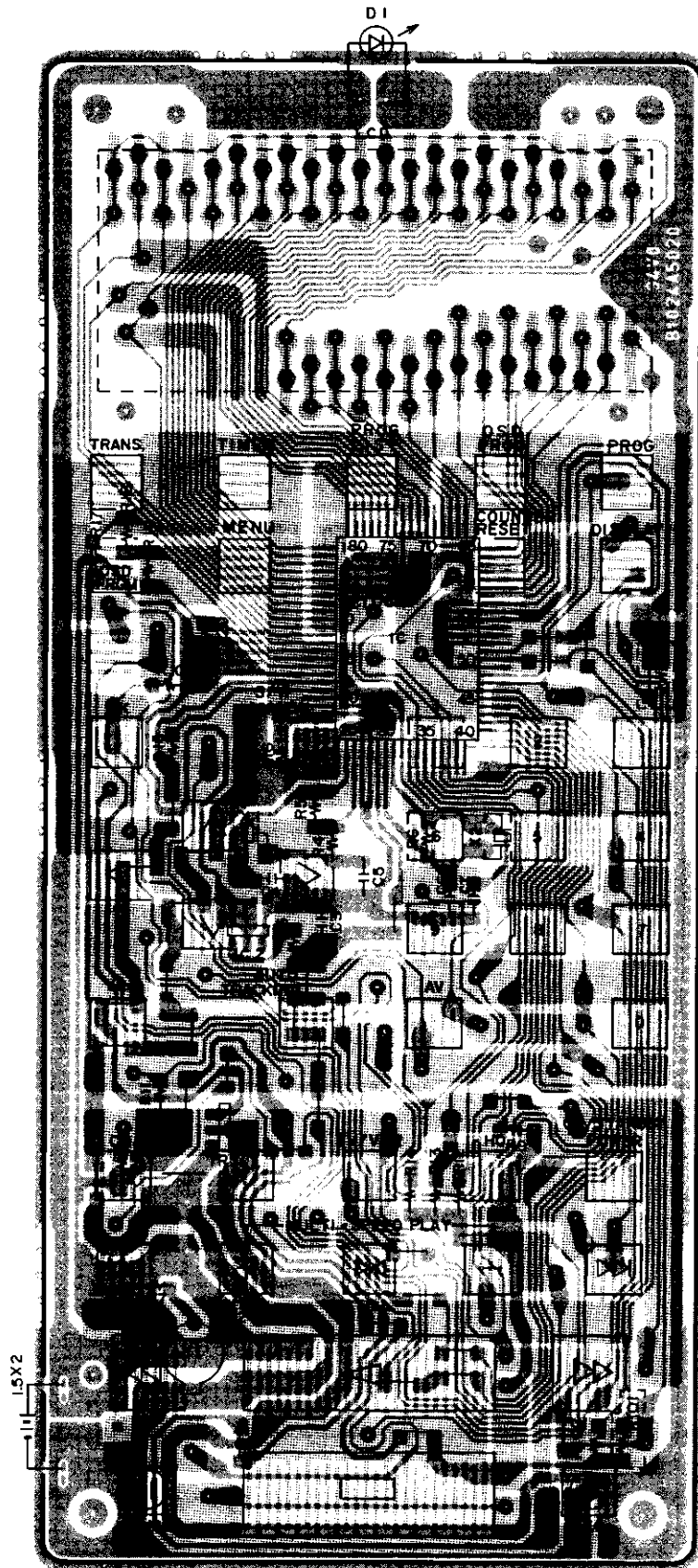
REMO-CON PCB B1039A5010

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

RC-V251G
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM
No. 21-18 B103902M
A2

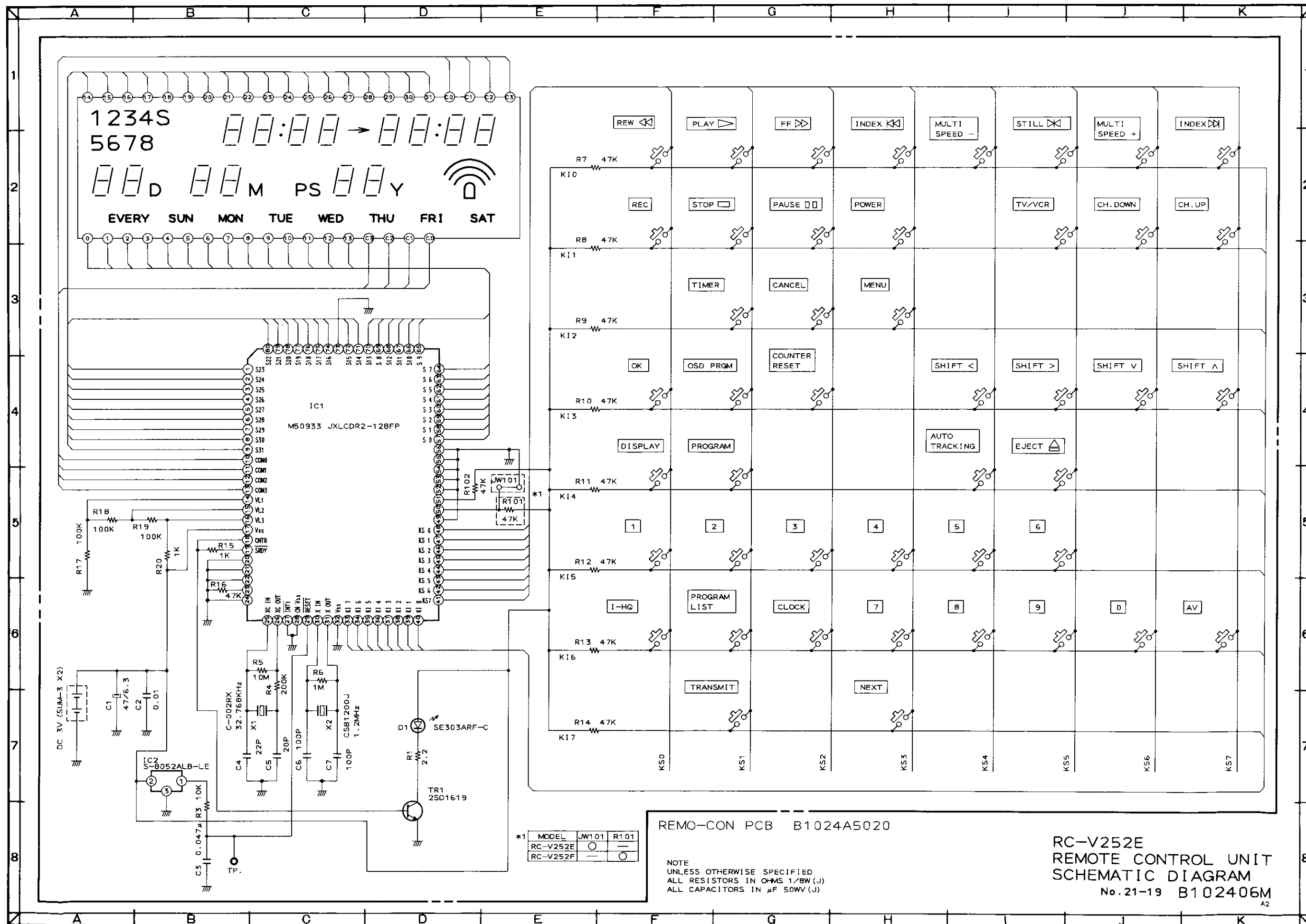


REMO - CON PCB BI039A5010



REMO - CON PCB B1024A5020J2

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTAINING
PARTS INFORMATION.



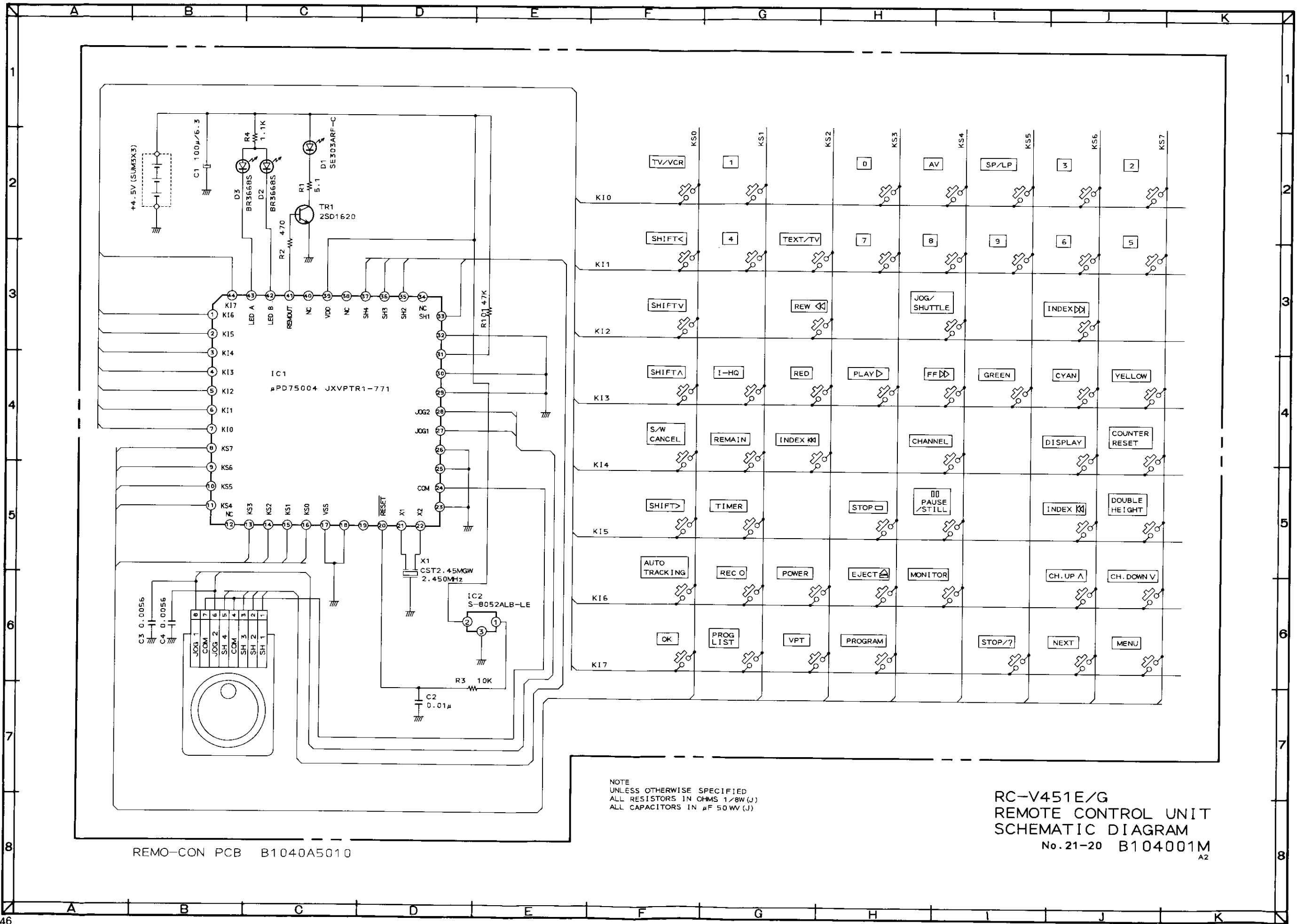
*1

MODEL	JW101	R101
RC-V252E	○	—
RC-V252F	—	○

REMO-CON PCB B1024A5020

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

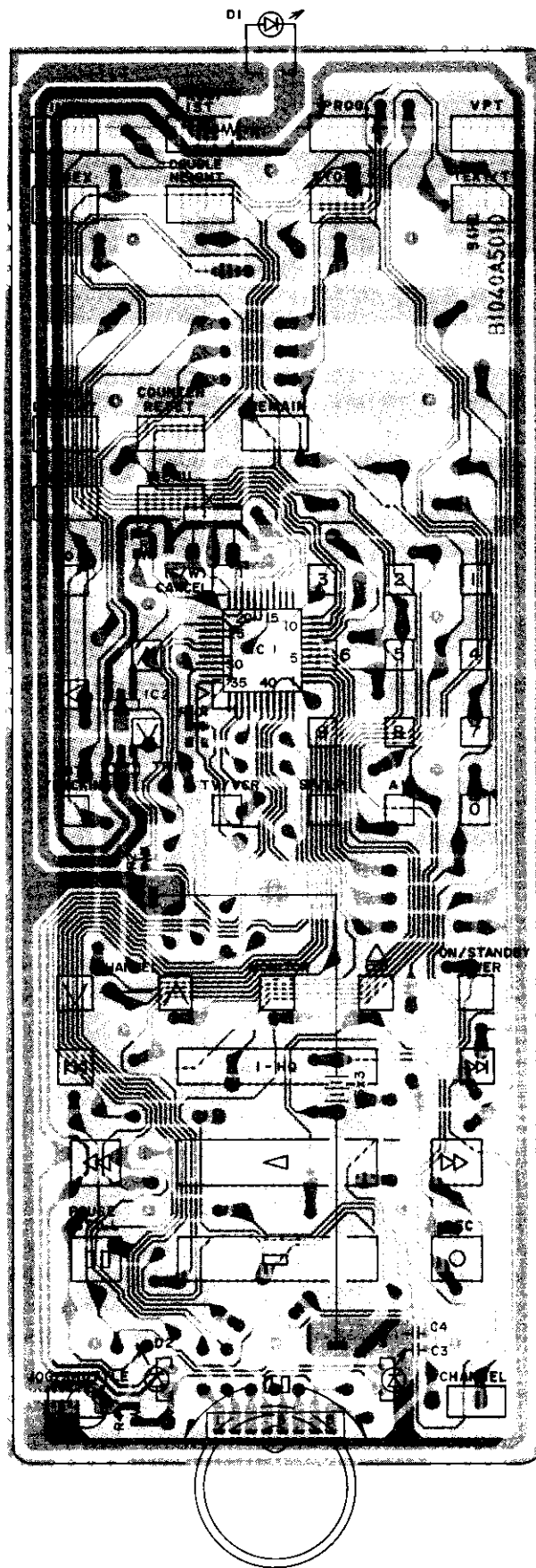
RC-V252E
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM
No. 21-19 B102406M
A2



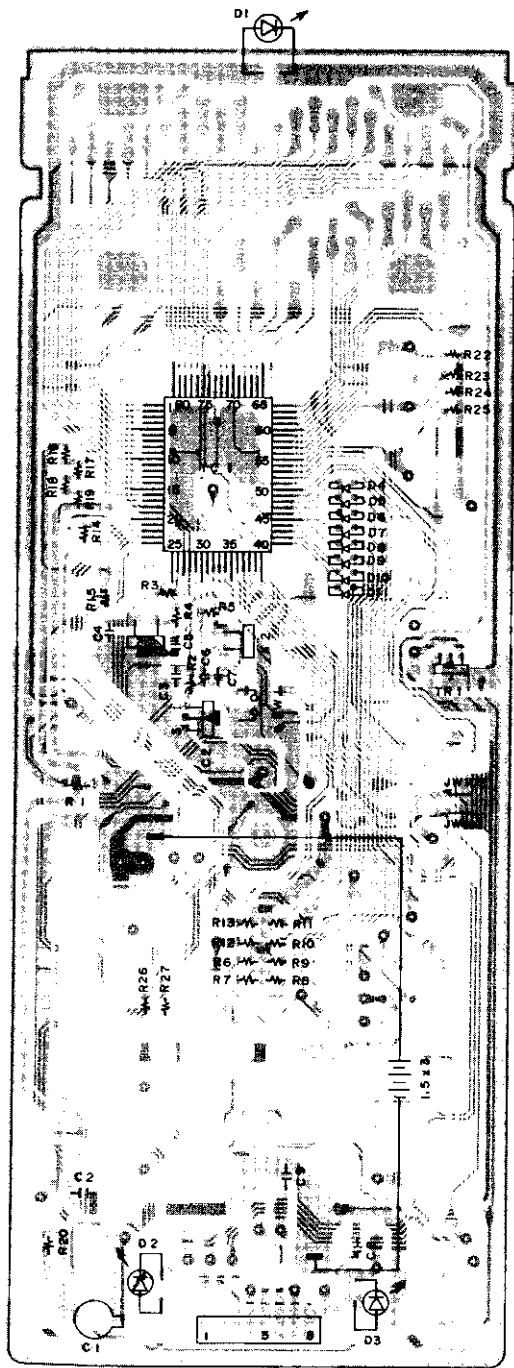
REMO-CON PCB B1040A5010

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

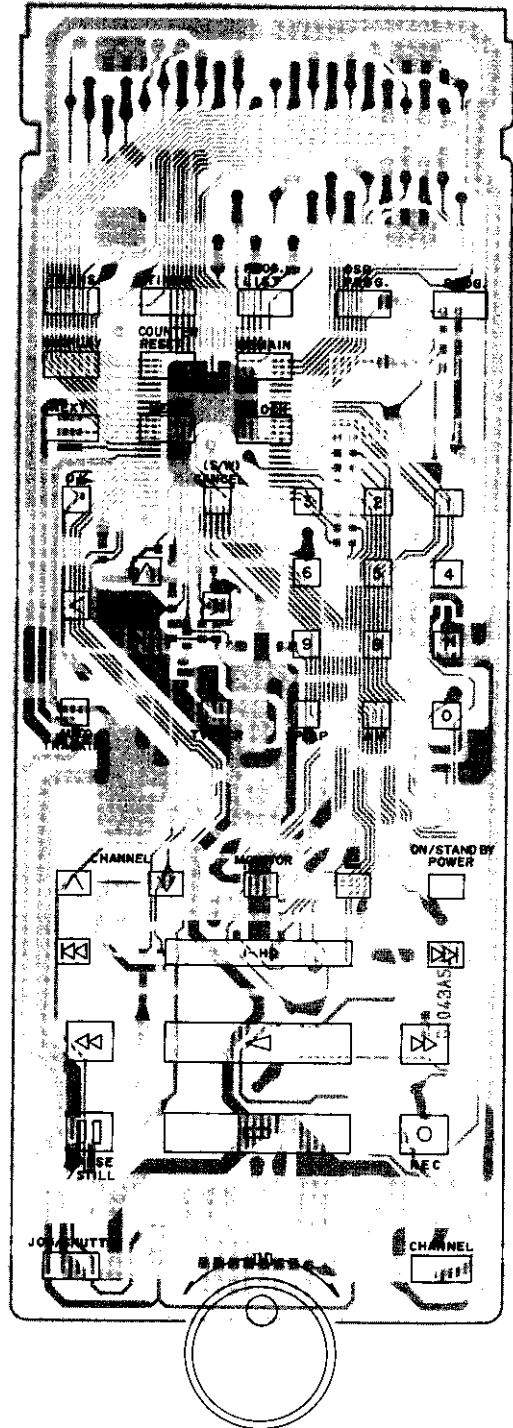
RC-V451E/G
 REMOTE CONTROL UNIT
 SCHEMATIC DIAGRAM
 No. 21-20 B104001M
 A2



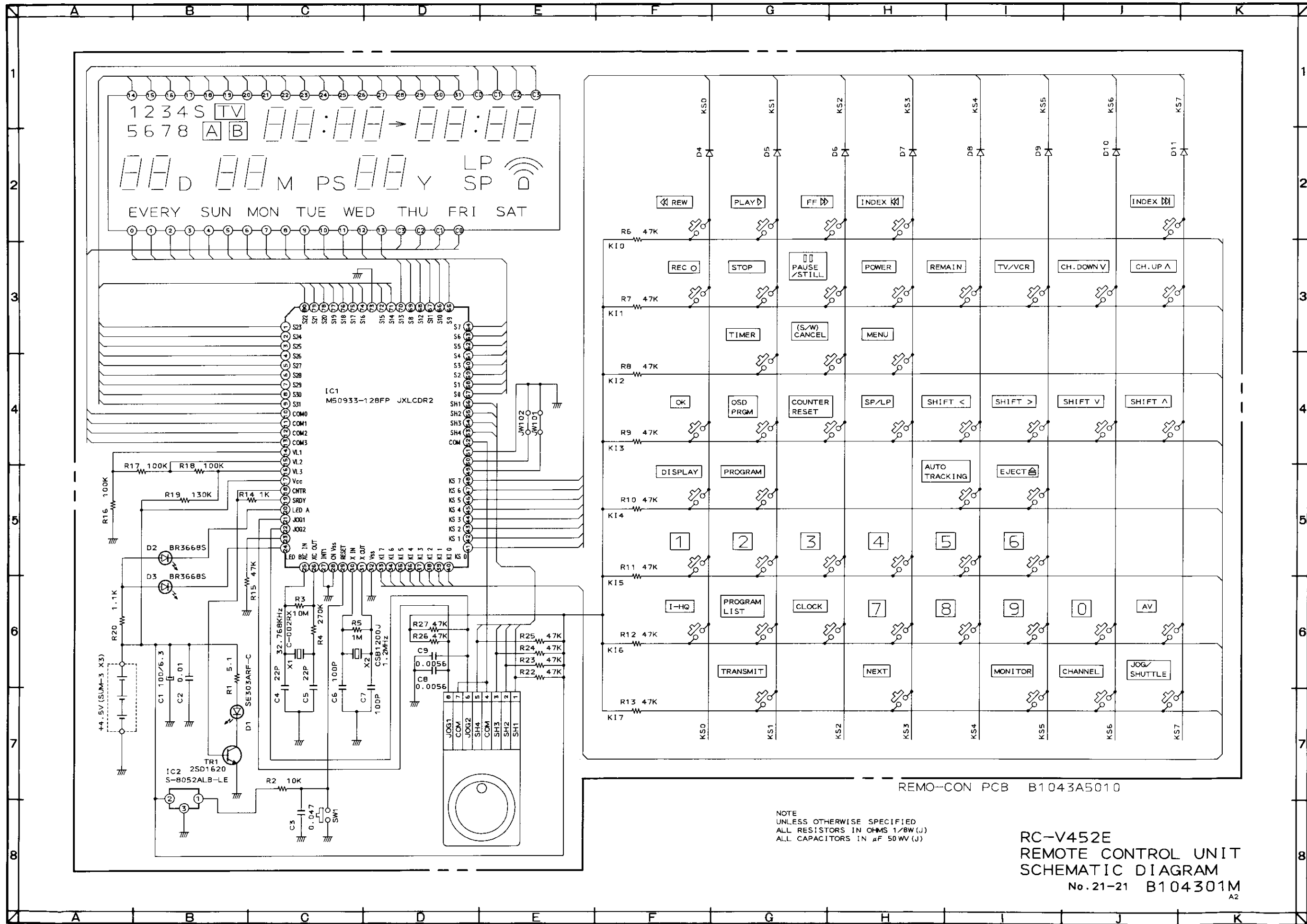
REMO-CON PCB B1040A5010



REMO-CON PCB BI043A5010 (PARTS LOCATION)



REMO-CON PCB BI043A5010 (SWITCH LOCATION)

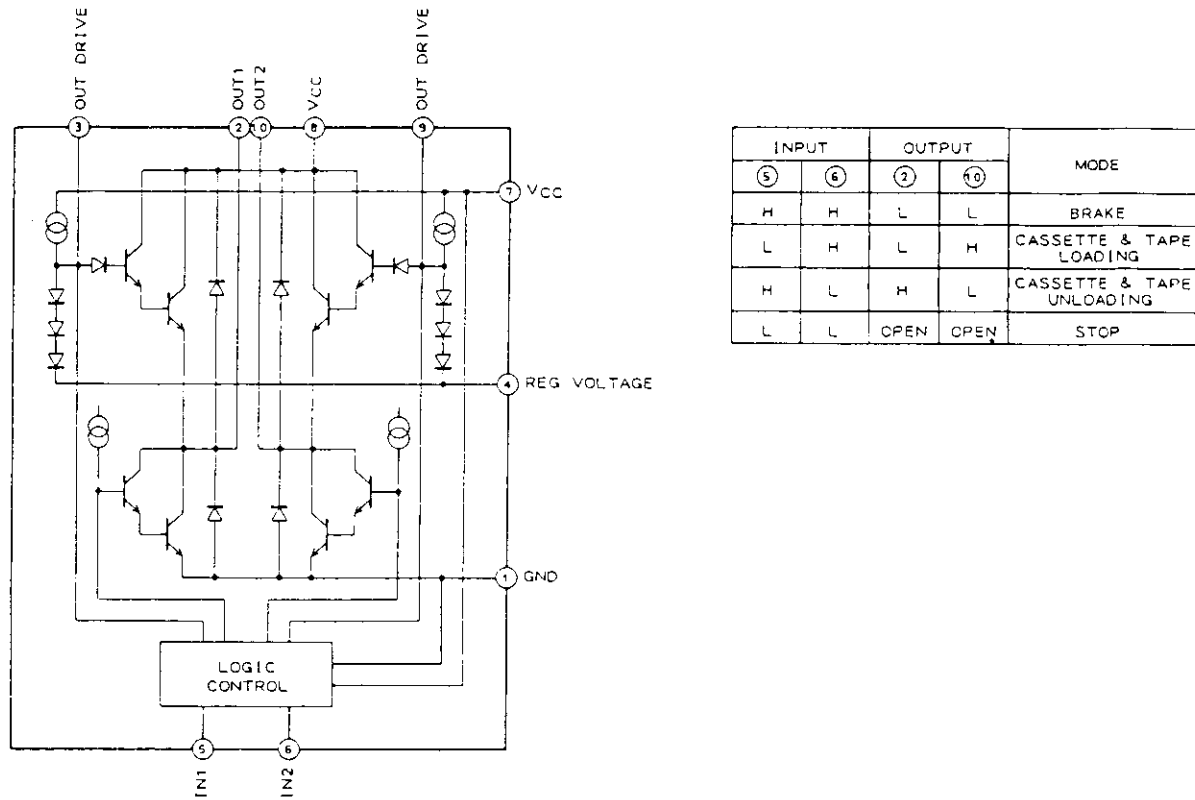


REMO-CON PCB B1043A5010

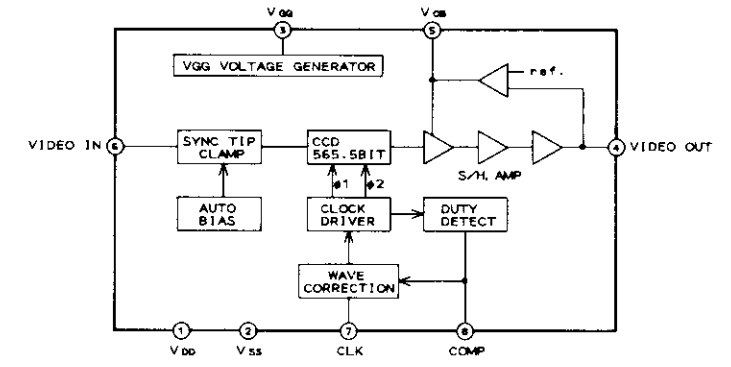
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W(J)
ALL CAPACITORS IN μ F 50WV(J)

RC-V452E
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM
No. 21-21 B104301M
A2

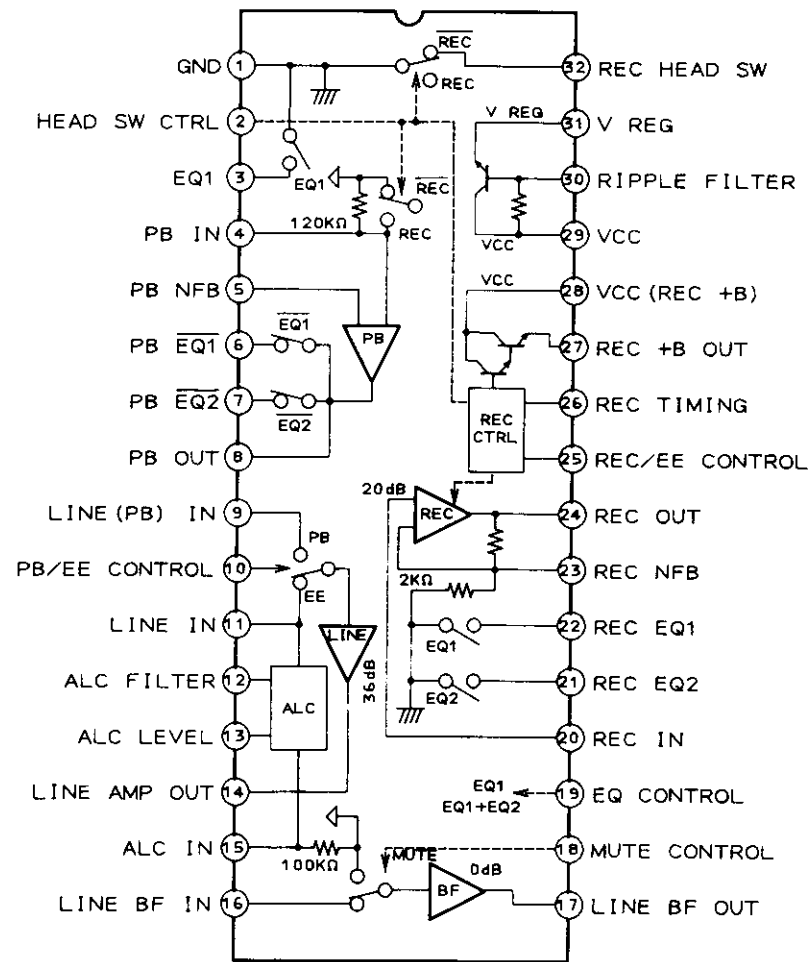
BA6229 (BI-DIRECTIONAL MOTOR DRIVE)



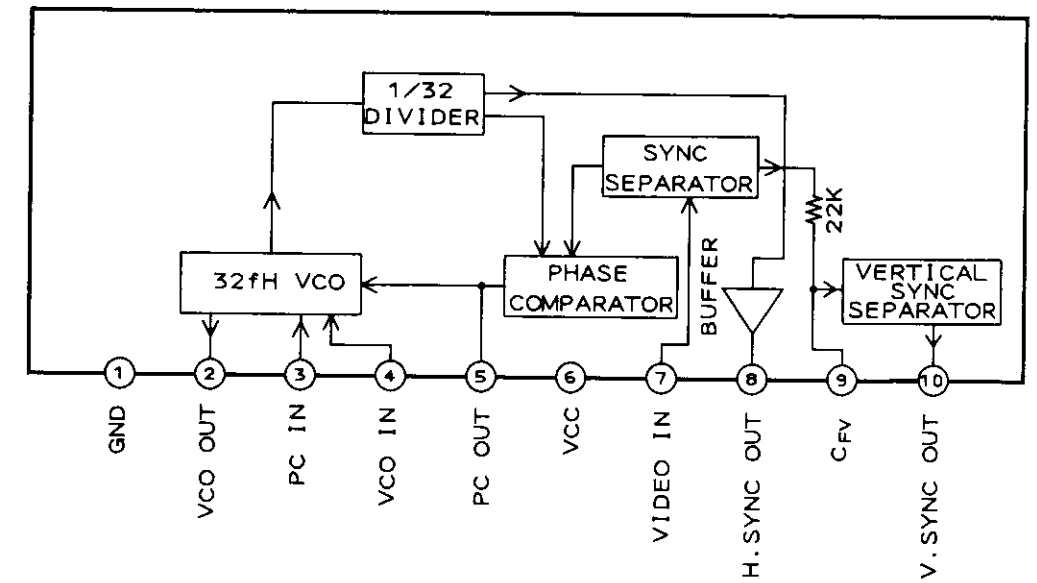
LC8992 (CCD 1H DELAY LINE)

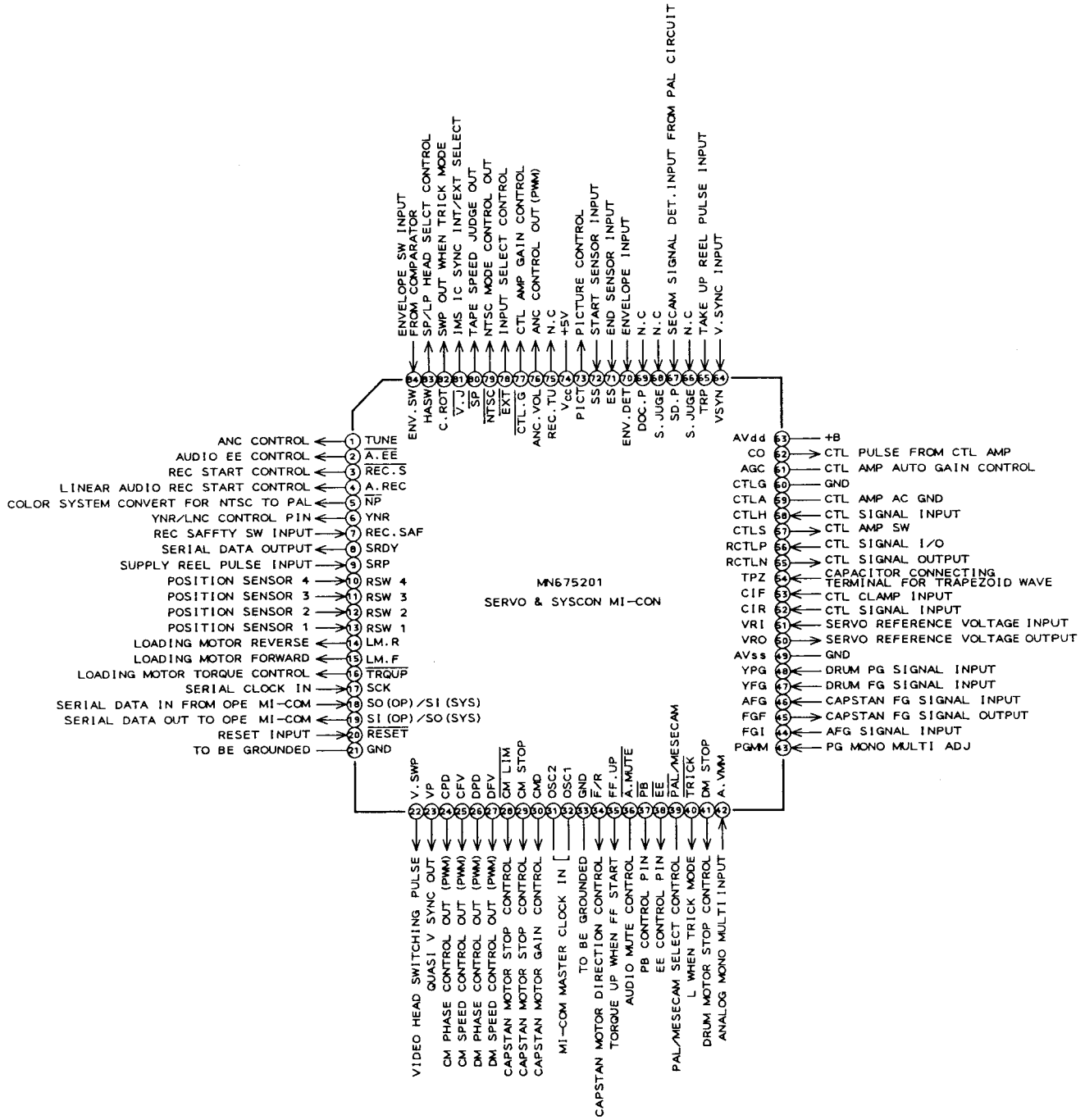


BA7765AS (AUDIO SIGNAL REC/PB AMPLIFIER)

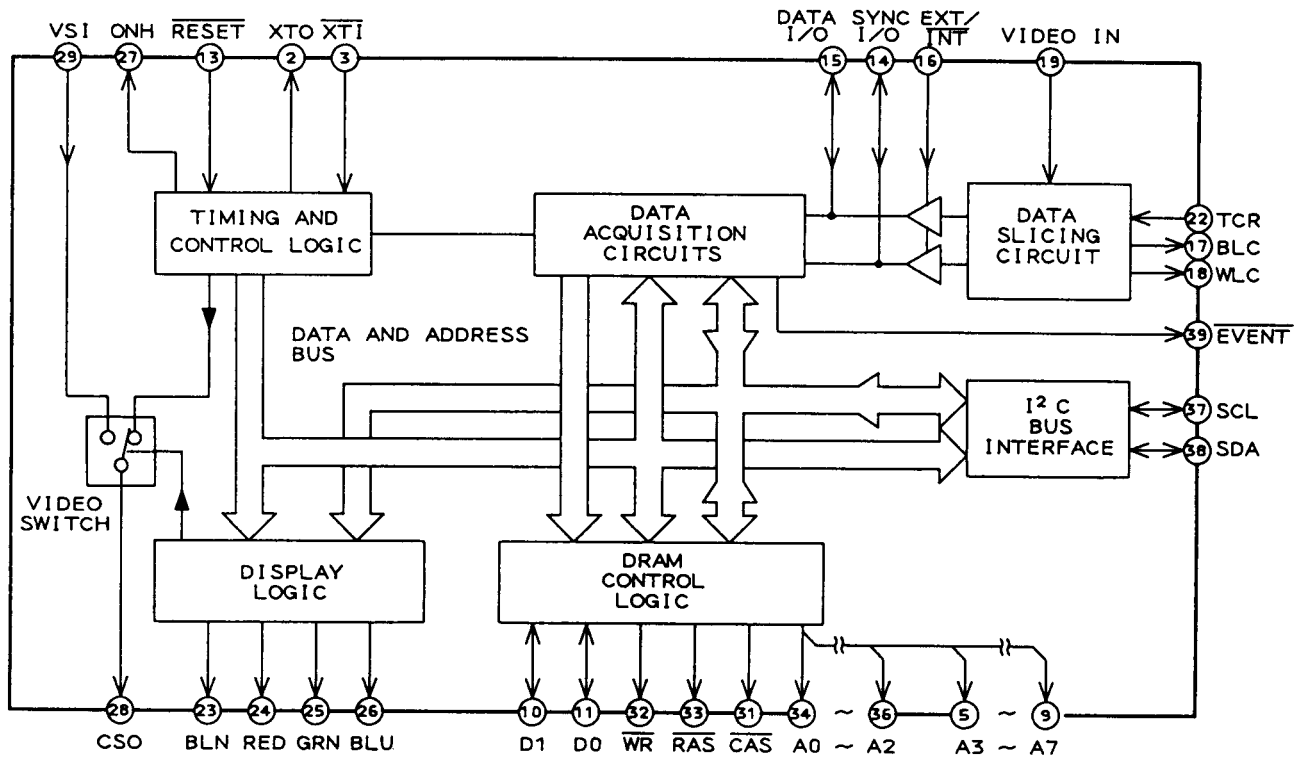


MM1068XS (SYNC SEPARATOR)

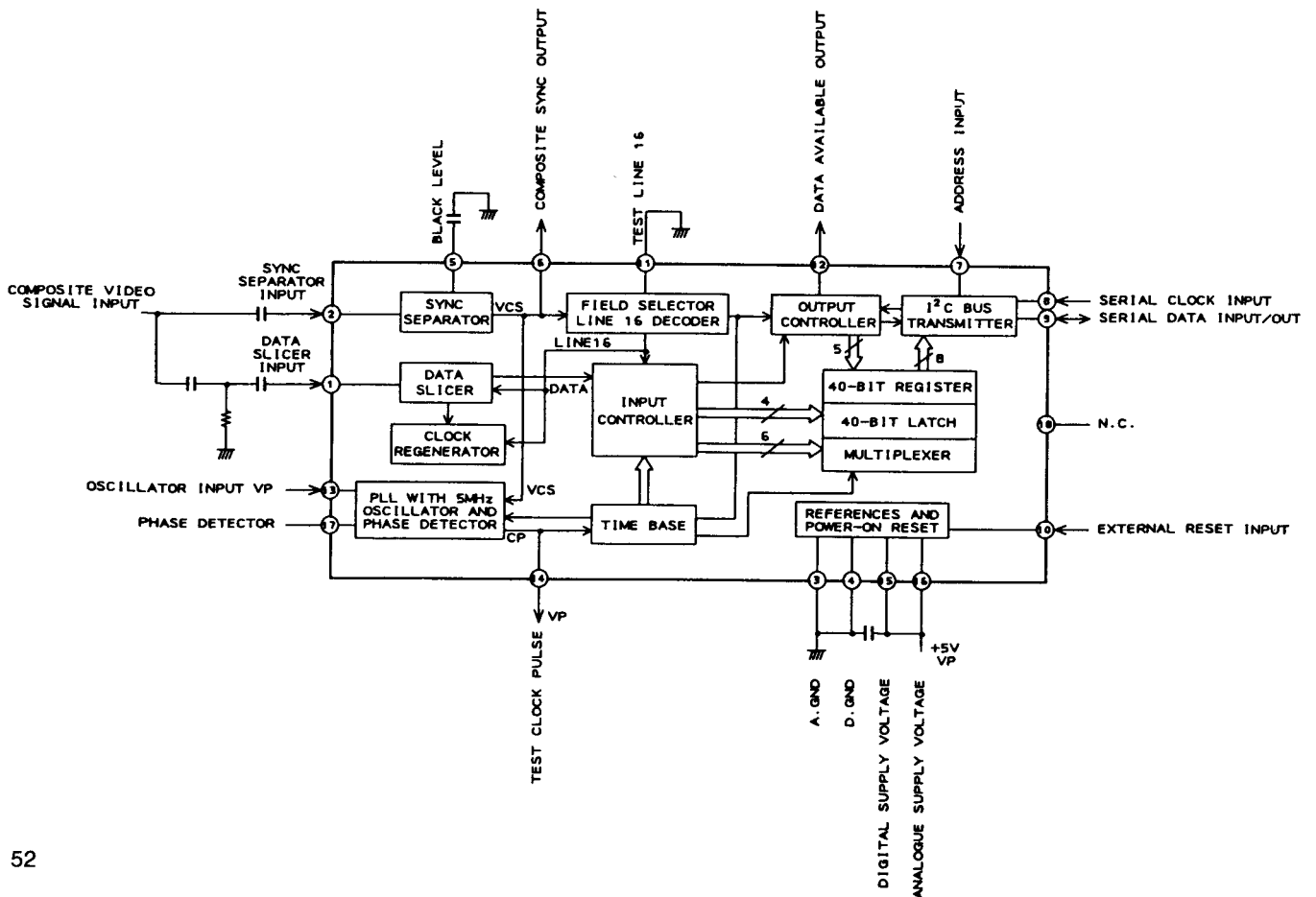




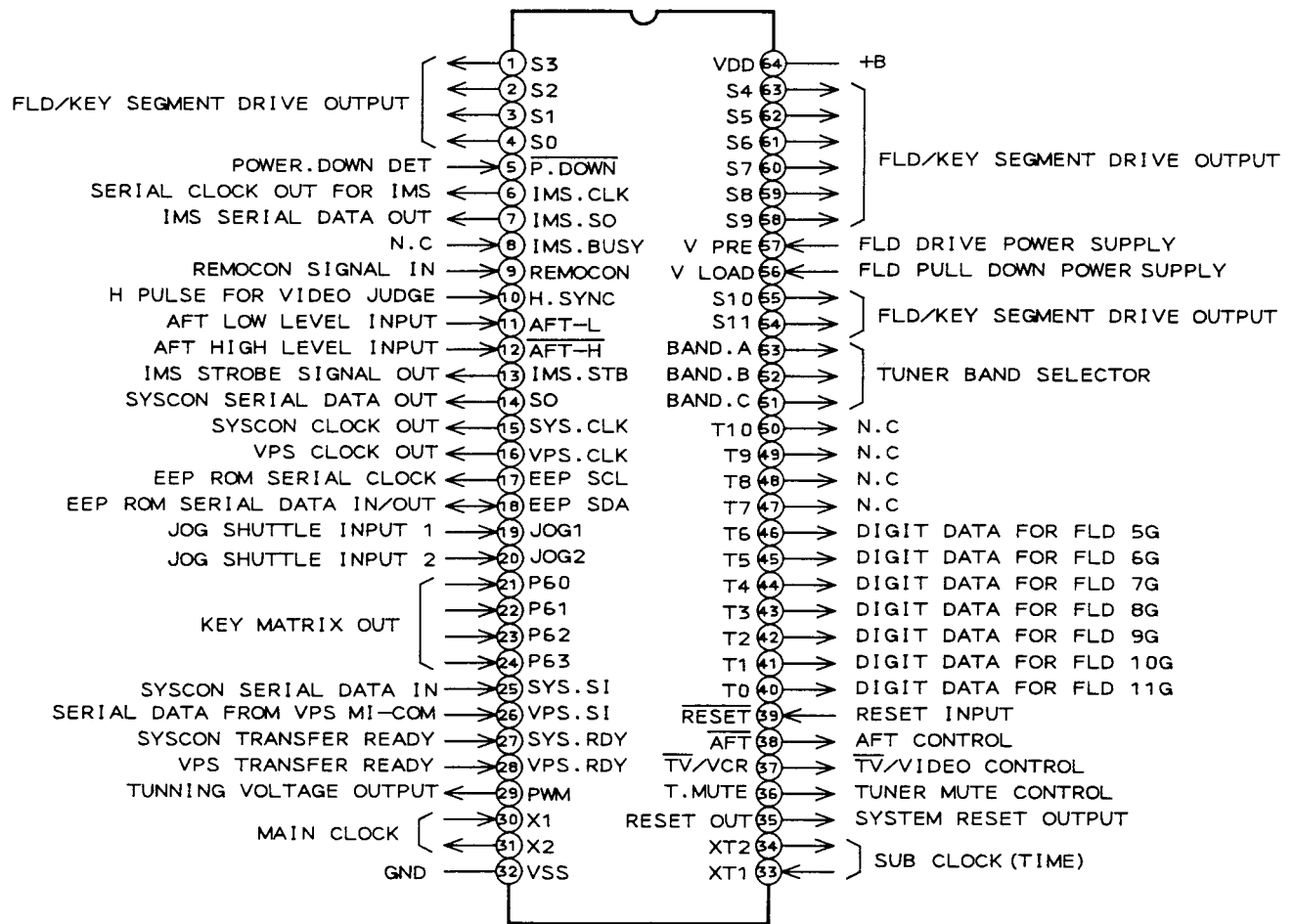
MV1815 (TELETEXT DECODER FOR 625 LINE OPERATION)



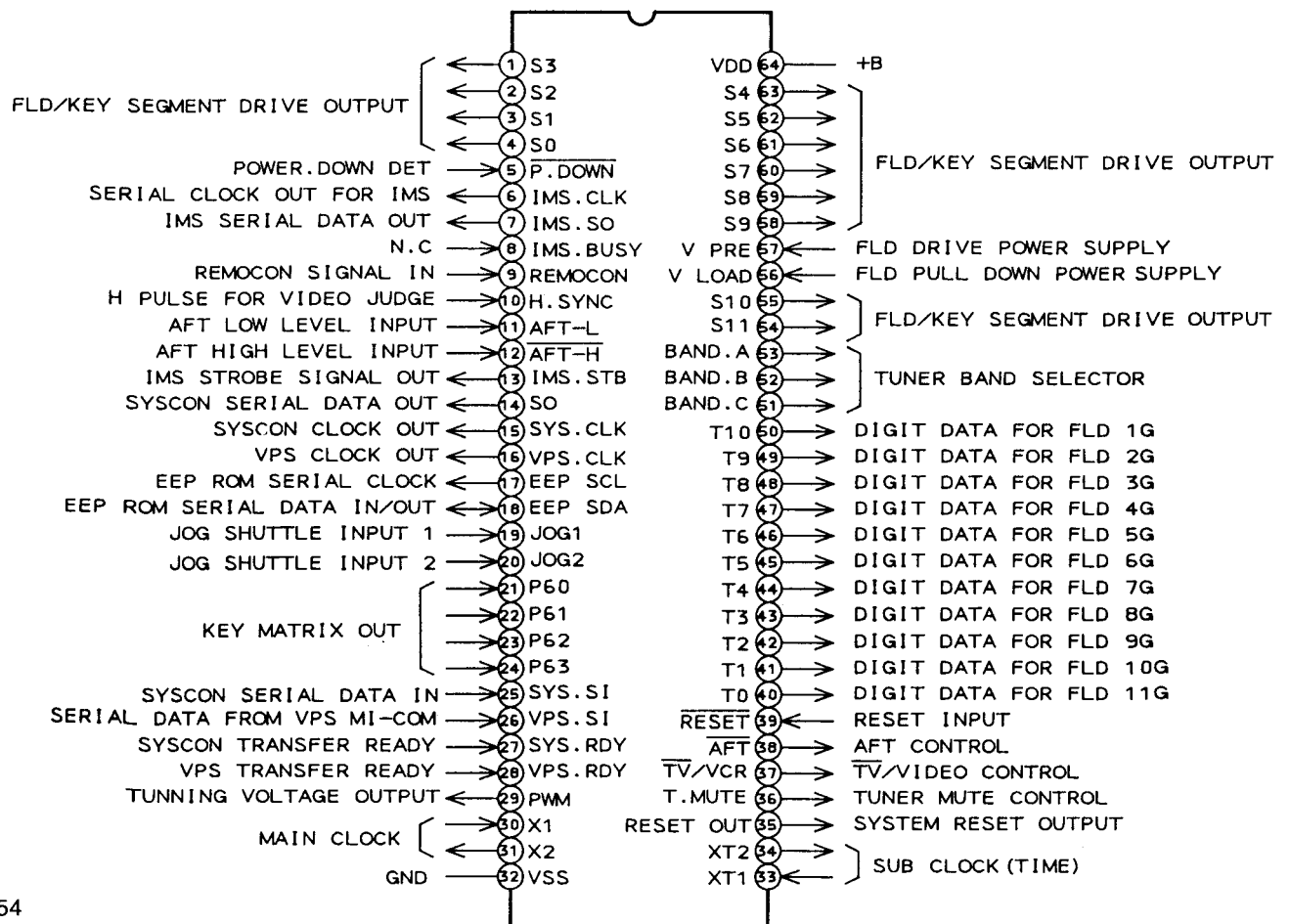
SAA4700 (VPS DATALINE PROCESSOR)



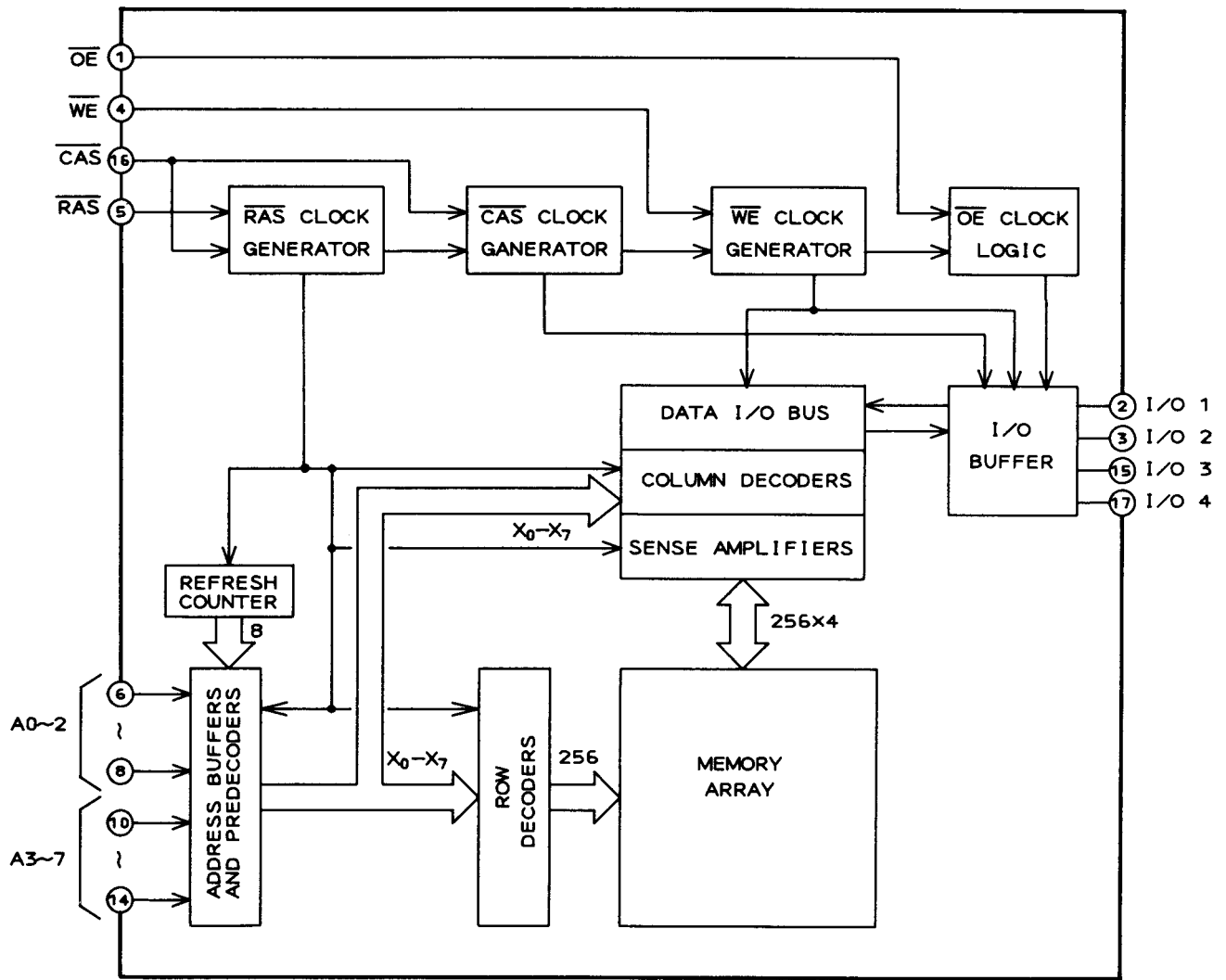
μPD75217ACW (OPERATION MI-COM) (OPERATION (A) ONLY)



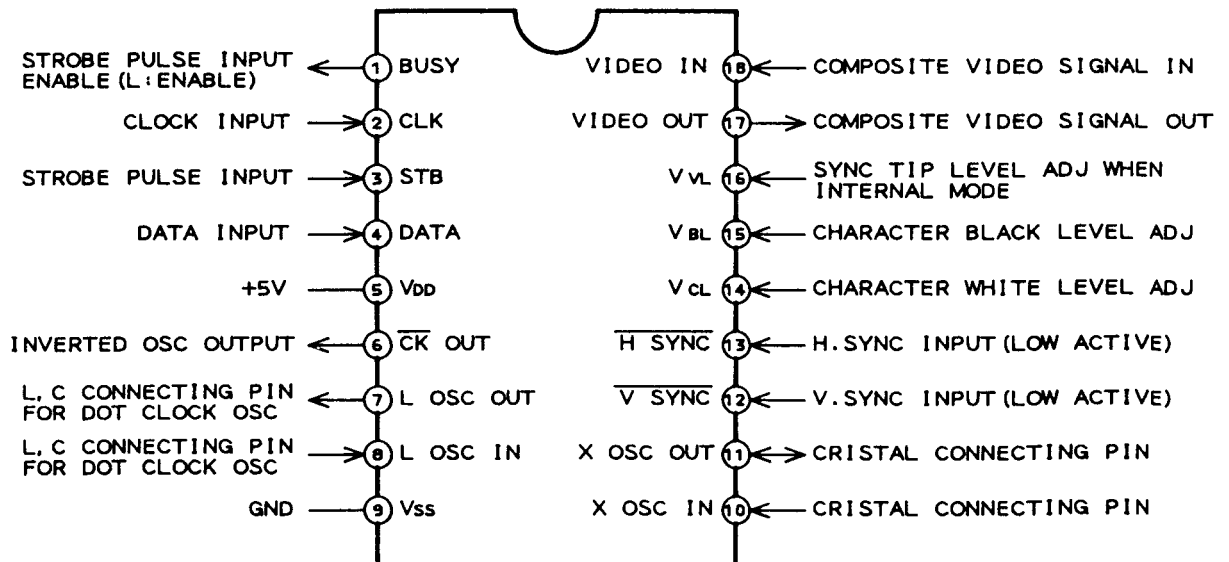
μPD75217ACW (OPERATION MI-COM) (OPERATION (G) ONLY)



V53C464A (64K × 4 BIT D-RAM)



μPD6450 (CHARACTER GENERATOR)



μPD75218CW (VPT/PDC MI-COM)

