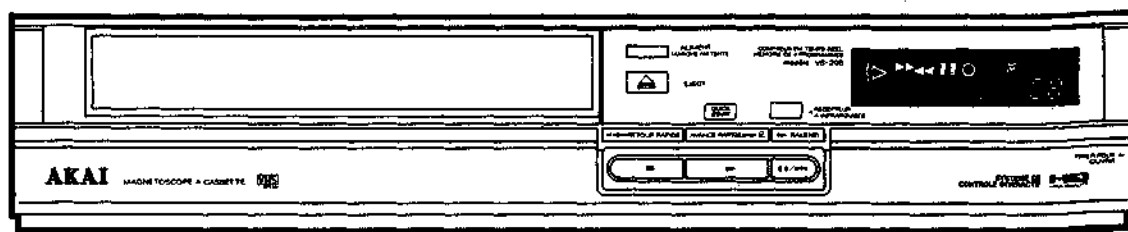


AKAI SERVICE MANUAL



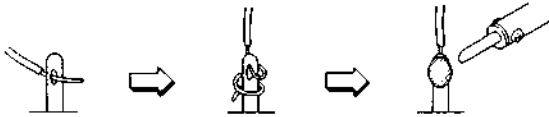
HQ VHS
HIGH QUALITY SECAM

VIDEO CASSETTE RECORDER

MODEL **VS-20S**

PRECAUTIONS DURING SERVICING

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



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

SAFETY CHECK AFTER SERVICING

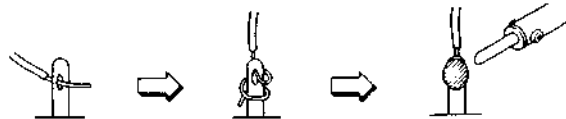
After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.

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

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

PRECAUTIONS A PRENDRE PENDANT
LES REPARATIONS

1. Les pièces indentifiées par le symbole Δ (*) sont des pièces critiques pour la sécurité. Elles ne doivent être remplacées que par des pièces de numéro spécifique.
2. Outre la sécurité, certaines pièces et ensembles sont spécifiés pour être conformes à des règlements tels que ceux s'appliquant à l'émission de parasites. Ils doivent aussi être remplacés par des pièces de rechange spécifiées.
Exemples: Convertisseurs RF, unités tuner, sélecteurs de déparasitage, filtres de déparasitage, etc.
3. Utiliser le cabiage interne spécifié. Noter spécialement:
 - 1) Fils recouverts de tube PVC
 - 2) Fils à double isolement
 - 3) Fils haute tension
4. Utiliser des matériaux d'isolement spécifiés pour les parties sous tension dangereuses. Noter spécialement:
 - 1) Bande d'isolement
 - 2) Tube en PVC
 - 3) Rondelles (barrières d'isolement)
 - 4) Feuilles d'isolement pour transistors
 - 5) Vis en plastique de fixation pour microrupteur (particulièrement pour tourne-disque)
5. Lors du remplacement de composants du côté courant alternatif primaire (transformateurs, cordons d'alimentation, condensateurs de déparasitage, etc.), enrouler soigneusement les extrémités des fils autour des bornes avant de procéder au soudage.



6. Faire attention à ce que les fils n'entrent pas en contact avec des parties produisant de la chaleur (radiateurs, résistances à film oxyde métal, résistances fusibles, etc.)
7. Contrôler que les fils remplacés n'entrent pas en contact avec des bords tranchants ou des parties pointues.
8. Contrôler aussi les zones voisines des endroits réparés.
9. Faire attention à ce que des corps étrangers (vis, gouttelettes de soudure, etc.) ne demeurent pas à l'intérieur de l'appareil.

CONTROLE DE SECURITE A EFFECTURE
APRES REPARATION

Après avoir effectué une réparation, mesurer le courant de fuite ou la résistance afin de déterminer que les pièces exposées sont suffisamment isolées du circuit d'alimentation.

La mesure du courant de fuite doit être effectuée, dans les conditions normales de fonctionnement de l'appareil, entre des pièces de métal accessibles (comme par exemple châssis, bornes de terre, prises de microphones, connecteurs d'entrée/sortie de signaux, etc.) et la terre en utilisant une résistance de 1500 ohms mise en parallèle avec un condensateur de 0,15 μ F. Le courant de fuite doit être inférieur à 0,5 mA eff. CA.

La mesure de la résistance doit être effectués entre des pièces de métal accessibles exposées et les fiches de la prise du cordon d'alimentation, l'interrupteur d'alimentation (si l'appareil en est pourvu) étant activé.

La résistance ne doit pas être supérieure à 2,2 Mohms.

★INFORMATION

SYMBOLS OF MODEL NAME FOR PRIMARY DESTINATION

Symbol indicates the destination of the units as listed below.

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

Quick start function

This VCR contains the quick start function.

This means that when a cassette tape is inserted into the VCR or the POWER is turned on with a cassette tape in the VCR, the tape will be loaded automatically, and at the same time QUICK START indicator will be turned on and the drum motor will be started to rotate.

* If the VCR is neglected in stop mode for several minutes, the quick start function will be automatically canceled. Accordingly, QUICK START indicator will be turned off and the drum motor will be stopped with the tape loaded. When the POWER is turned off with a cassette tape in the VCR, the tape will be unloaded and remain in the VCR.

Auto functions

This VCR contains the following auto functions.

1. If a cassette tape is inserted when the POWER is off, the POWER will be automatically turned on.
2. If a cassette tape without its recording safety tab is inserted, the VCR will automatically begin to play-back the tape.
3. While a cassette tape without its recording safety tab is in the VCR, if the REC button is pressed, the cassette tape will be ejected automatically.
4. Even if the POWER is OFF, the cassette tape can be ejected by pressing the EJECT button.
5. Between the hours of 23:00 and 6:00, if the VCR is not in use, the front panel display is automatically dimmed to a lower light level.

★INFORMATION

CODES DE DESIGNATION DE DESTINATION PRINCIPALE DES MODELES

Les codes indiquent la destination des appareils cités cidessous.

Code	Classification	Destination principale	Système	
			Couleur	Diffusion
EA	S	Australie	PAL	B, G
ED	E	Chine	PAL	D
EDG	E	Europe de l'Est	PAL	D, K
EDI	E	Chine, Hong Kong	PAL	D, K, I
EG	E	Espagne, Europe du Nord, autres	PAL	B, G
	Y7	Arabie Saoudite		
EK	B	Royaume-Uni	PAL	I
	Y1	Hong Kong		
EM	E	Moyen-Orient	PAL	B, G
	Y7	Arabie Saoudite		
EO	E	Hollande, Suisse, Europe du Nord	PAL	B, G
	V	Italie		
EOH	E	Hollande, Belgique	PAL	B, G
	V	Italie		
EOG	V	Allemagne de l'Ouest	PAL	B, G
ES	E	Afrique du Sud, Irlande, Hong Kong	PAL	I
EV	E	Asie du Sud-Est	PAL	B, G
	U	Asie du Sud-Est, Moyen-Orient		
	Y1	Nouvelle Zélande		
	Y7	Arabie Saoudite		
EZ	S	Nouvelle Zélande	PAL	B, G
EGN	E	Moyen-Orient	PAL, NTSC	B, G
	Y7	Arabie Saoudite		
S	E	France	SECAM	L
SK	E	Amérique Latine, Océanie, SECAM-OIRT	SECAM	K, K1
SEG	E	France, Suisse	SECAM, PAL	L, B, G
U	A	U.S.A.	NTSC	M
	C	Canada		
UM	U	Amérique Latine	NTSC	M
J	J	Japon	NTSC	M

Fonction lecture immédiate (QUICK START)

Ce magnéscope est pourvu d'une fonction de lecture immédiate.

Ceci signifie que lorsqu'une cassette est introduite dans le magnéscope, ou lorsque celui-ci est mis sous tension avec une cassette déjà en place, la bande sera chargée automatiquement, l'indicateur QUICK START s'allume alors et le moteur de tambour se met à tourner.

* Si le magnéscope est laissé en mode STOP pendant plusieurs minutes, la fonction de lecture immédiate est automatiquement annulée. L'indicateur QUICK START s'éteint et le moteur de tambour s'arrête, mais la bande reste chargée. Lorsque le magnéscope est mis hors tension avec une cassette en place, la bande est déchargée mais reste dans l'appareil.

Fonctions automatiques

Ce magnéscope est pourvu des fonctions automatiques suivantes:

1. Quand une cassette est insérée alors que le magnéscope est en fonction ATTENTE, il se met automatiquement en fonction MARCHE.
2. Quand une cassette sans languette de sécurité est insérée, le magnéscope commence immédiatement la lecture.
3. Si une cassette sans languette de sécurité est en place, et si la touche d'enregistrement (REC) est sollicitée, la cassette est automatiquement éjectée.
4. Même si le magnéscope est en fonction ATTENTE, il est possible d'éjecter la cassette en sollicitant la touche d'éjection (EJECT).
5. Si le magnéscope n'est pas utilisé entre 23h00 et 6h00, la luminosité de l'affichage de la face avant est automatiquement diminuée.

EDIT switch

The EDIT switch is used only when you want to record from this VCR to another VCR. When recording on another VCR, you may not want to record the Monitor Displays as they appear on this VCR (for example, the PLAY ► indicator, STOP ■ indicator etc.), onto the new tape. In that case, set the EDIT switch to ON. Now when you press a tape transport button, the indicator appears only on the VCR's front panel display, not on the TV screen or the new tape.

Safety Lock system (Remote control only)

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

To lock: With the VCR POWER ON, press and hold the remote control's STOP button for about 8 seconds. An "L" will appear on the front panel display. Tape play will not function until the VCR is unlocked.

Even if the POWER is turned off, the VCR PLAY mode will remain locked until released. Other modes will remain operable.

To unlock: Press and hold the remote control's PLAY button for about 8 seconds.

INDEX SEARCH system (Remote control only)

This VCR is equipped with the INDEX SEARCH system which allows you to directly locate the beginning of any recorded segment on a tape, within 1 segment of your starting point, in either forward or reverse direction, provided the recording was made on this VCR, or providing the recording is equipped with control signals. Each time a recording is made on this VCR, i.e. each time the REC button is pressed, a control signal is automatically recorded along with the program. This means that even while a recording is being made, if you press the REC button again, a new control signal is added to the tape at that point. This feature is very convenient for marking any important point on a tape.

Commutateur d'édition (ASSEMBL.)

Ce commutateur ne sert que lorsque vous désirez enregistrer depuis ce magnéto-scope à cassettes vers un autre magnéto-scope. Dans ce cas, vous ne voudrez peut-être pas enregistrer les messages de contrôle affichés par ce magnéto-scope (par exemple, le voyant de reproduction (►), le voyant d'arrêt (■), etc.) sur la nouvelle bande. Placez alors le commutateur d'édition (ASSEMBL.) en position MARCHE. Maintenant, lorsque vous appuyez sur une touche de transport de bande, le voyant n'apparaîtra que sur l'affichage du panneau frontal du magnéto-scope, et non sur l'écran de télévision ou sur la nouvelle bande. Pour revenir à un affichage normal sur l'écran, placez le commutateur ASSEMBL. sur la position ARRÊT.

Système de verrouillage

La touche de reproduction de ce magnéto-scope à cassettes peut être verrouillée pour éviter que de jeunes enfants accèdent à cet appareil.

Pour verrouiller: Le magnéto-scope à cassettes étant sous tension ou hors circuit, appuyez sur la touche d'arrêt de la télécommande et maintenez-la enfoncée pendant environ 8 secondes. Un "L" apparaîtra sur l'affichage du panneau frontal. La reproduction de cassettes ne pourra plus s'effectuer jusqu'au déverrouillage du magnéto-scope à cassettes.

Même si l'appareil est mis hors circuit, le mode de reproduction du magnéto-scope à cassettes sera annulé jusqu'au déverrouillage. Les autres modes resteront utilisables.

Pour déverrouiller: Appuyez sur la touche de reproduction de la télécommande et maintenez-la enfoncée pendant environ 8 secondes.

Recherche d'index (uniquement sur la télécommande)

Ce magnéto-scope est équipé d'un système de recherche d'index qui vous permet de localiser le début de quel segment enregistré sur une bande, dans la limite de 1 segment compté depuis votre point de départ, soit vers l'avant soit vers l'arrière, à condition que l'enregistrement ait été fait sur ce magnéto-scope, ou à condition que l'enregistrement soit pourvu de signaux de contrôle. A chaque fois qu'un enregistrement est fait sur ce magnéto-scope, c'est-à-dire à chaque fois que la touche d'enregistrement (ENRG.) est enfoncée, un signal de contrôle est automatiquement enregistré en même temps que l'émission. Autrement dit si vous appuyez à nouveau sur la touche ENRG. même après avoir commencé un enregistrement, un nouveau signal de contrôle est ajouté à la bande à ce moment-là. Cette fonction est fort utile pour marquer un point important sur la bande.

NOTE: When you press the REC button to begin recording from the recording standby mode (PAUSE/STILL button), new control signals will not be added.

Example 1: 1. Insert a recorded tape.

2. Let's say you are at the beginning of the tape and you want to view the 2nd program on the tape. Press the right side of the INDEX SEARCH button. The VCR display shows the fast forward indicator and the [S] indicator. When the VCR gets to the beginning of the program, playback of segment 2 will begin automatically.

Example 2: Imagine that you have recorded 12 individual segments on a tape (Music videos for example). Let's say segment 11 is finished and you want to go back and view it again. Since 11 is already finished, press the left side of the INDEX SEARCH button. The VCR will rewind all the way back to the beginning of segment 11 and begin playback.

INTRO SCAN system (Remote control only)

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

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

Press the INTRO SCAN button on the remote control. The VCR will immediately fast forward the tape to the beginning of the program and play about the first 8 seconds. Then, the VCR will again fast forward the tape to the beginning of the next recorded segment and again playback the first 8 seconds of the program.

This operation continues until the tape is finished or until you selected another mode (such as PLAY or STOP). While INTRO SCAN is searching, the F.FWD indicator lights and the PLAY indicator flashes. When INTRO SCAN is in playback, the F.FWD indicator flashes and the PLAY indicator lights. The [S] indicator lights all the time that INTRO SCAN is working.

Remarque: Lorsque vous appuyez sur la touche d'enregistrement (ENRG.) pour commencer à enregistrer à partir du mode d'attente d'enregistrement (touche de pause/arrêt sur image PAUSE ARR/IMGE), aucun nouveau signal de contrôle ne sera ajouté.

Exemple 1: 1. Insérez une bande enregistrée.

2. Disons que vous êtes au début de la bande et que vous voulez regarder le 2ème programme contenu sur la bande. Appuyez sur le côté droit de la touche INDEX. L'affichage du magnéto-scope montre le voyant d'avance rapide et le symbole [S]. Lorsque le magnéto-scope se rapproche du début du programme souhaité, la reproduction du segment 2 commence automatiquement.

Exemple 2: Imaginez que vous avez enregistré 12 segments individuels sur une cassette (vidéos musicales par exemple). Disons maintenant que le segment 11 est fini et que vous désirez reculer et le regarder à nouveau. Puisque 11 est déjà terminé, appuyez sur le côté gauche de la touche INDEX. Le magnéto-scope reculera jusqu'au début du segment 11 et commencera la reproduction.

Balayage des introductions (uniquement sur la télécommande)

Ce magnéto-scope à cassettes peut avancer rapidement jusqu'au début de chaque segment enregistré sur une cassette, reproduire ce court segment et continuer en avance rapide jusqu'au segment suivant.

Ce système fonctionne également en combinaison avec le signal de contrôle enregistré au début de chaque segment enregistré.

Appuyez sur la touche INTRO SCAN de la télécommande. Le magnéto-scope à cassettes avancera immédiatement sur la bande jusqu'au début du programme et en reproduira les 8 premières secondes environ. Puis, le magnéto-scope avancera à nouveau rapidement jusqu'au début du segment enregistré suivant et en reproduira également les 8 premières secondes.

Cette opération se poursuit jusqu'à la fin de la bande ou jusqu'à ce que vous sélectionnez un autre mode (par exemple le mode de reproduction ou d'arrêt). Lorsque le système INTRO SCAN cherche l'introduction, le voyant d'AVANCE RAPIDE est allumé et le voyant de reproduction clignote. Lorsque le système INTRO SCAN reproduit l'introduction, le voyant d'AVANCE RAPIDE clignote et le voyant de reproduction est allumé. Le voyant [S] est allumé tout au long de l'opération de balayage d'introduction.

Double speed playback (Remote control only)

This VCR can play back a tape at twice its normal speed. (Only a tape recorded at SP speed) Press the x2 button on the remote control while the tape is in play. No sound will be heard in this mode. Press PLAY button to resume normal speed.

**Reproduction à vitesse redoublée
(uniquement sur télécommande)**

Ce magnétoSCOPE à cassettes peut reproduire une bande deux fois plus vite que la vitesse normale. (Uniquement pour une cassette enregistrée à vitesse normale) Appuyez sur la touche x2 de la télécommande tandis que la bande est reproduite. Aucun son ne sera audible dans ce mode. Appuyez sur la touche de reproduction pour revenir à la vitesse normale.

★ SPECIFICATIONS

Format	VHS Standard
Video recording system	Rotary, slant azimuth two-head helical scan system
Rotary Heads	2 video heads
RF input	System L VHF: ch B - C, 1 - 6 UHF: ch 21 to 69 CABLE: ch B - Q
RF output	System L type modulation UHF: ch 30 to 39 adjustable (preset ch 36)
Recording (line input)	SECAM
Playback (line output)	SECAM
Video	
Line input level	0.5 to 2.0 Vp-p/75 ohms, unbalanced
Line output level	1.0 Vp-p/75 ohms, unbalanced
S/N ratio	More than 45 dB
Horizontal resolution	More than 220 lines
Audio	
Line input level	-8 dBm/50 kohms, unbalanced
Line output level	-6 dBm/1 kohms, unbalanced
S/N ratio	More than 40 dB
Frequency response	70 to 10,000 Hz
Recording/Playback time	240 min. with E-240 cassette
Tape speed	23.39 mm/sec.
Quick finder	approx. 7 times normal speed
Timer	
Programs	4 program/1 month and QUICK TIMER
Clock reference	Quartz crystal
Display	TV screen & FL (Tape counter, Timer etc.)
Power requirements	220V AC, 50 Hz
Power consumption	26W
Operating temperature	5°C to 40°C
Dimensions	425 (W) × 84 (H) × 340 (D) mm
Weight	5.5 kg
Standard accessory	Antenna cable 1 Remote control unit 1 Batteries for remote control 2 Operator's manual 1

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

★ SPÉCIFICATIONS

Format	VHS standard
Système d'enregistrement vidéo	Système à deux têtes rotatives, à azimutage incliné, à balayage hélicoïdal
Têtes rotatives	2 têtes vidéo
Entrée RF (HF)	Système L Canaux VHF B - C, 1 - 6 Canaux UHF 21 à 69 Canaux Câble B à Q
Sortie RF (HF)	Système L, type modulation, canaux réglables UHF 30 à 39 (préréglé sur canal 36)
Enregistrement (entrée de ligne)	SECAM
Reproduction (sortie de ligne)	SECAM
Vidéo Niveau d'entrée de ligne Niveau de sortie de ligne Rapport signal/bruit. Résolution horizontale	0,5 à 2,0 Vp-p/75 ohms, assymétrique 1,0 Vp-p/75 ohms, assymétrique Plus de 45 dB Plus de 220 lignes
Audio Niveau d'entrée le ligne Niveau de sortie de ligne S/B Réponse en fréquence	-8 dB/50 kohms, assymétrique -6 dB/1 kohm, assymétrique Plus de 40 dB 70 Hz à 10.000 Hz
Durée enregistrement/reproduction	240 mn. avec cassette E-240
Vitesse de bande	23,39 mm/sec.
Recherche rapide	environ 7 fois la vitesse normale
Minuterie Programmes Référence d'horloge	4 programmes/1 mois et minuterie rapide Cristal à quartz
Affichage	Ecran TV (compteur de bande, minuterie, etc.)
Alimentation	220 V CA. 50 Hz
Consommation	26 W
Température de fonctionnement	5°C à 40°C
Dimensions	425 (L) x 84 (H) x 340 (P) mm
Poids	5,5 kg
Accessoires standard	Antenne câble 1 Unité de télécommande 1 Piles pour la télécommande 2 Manuel de l'utilisateur 1

* Par suite d'améliorations, la présentation et les spécifications sont susceptibles de modification sans préavis.

I. CONTROLS/COMMANDE

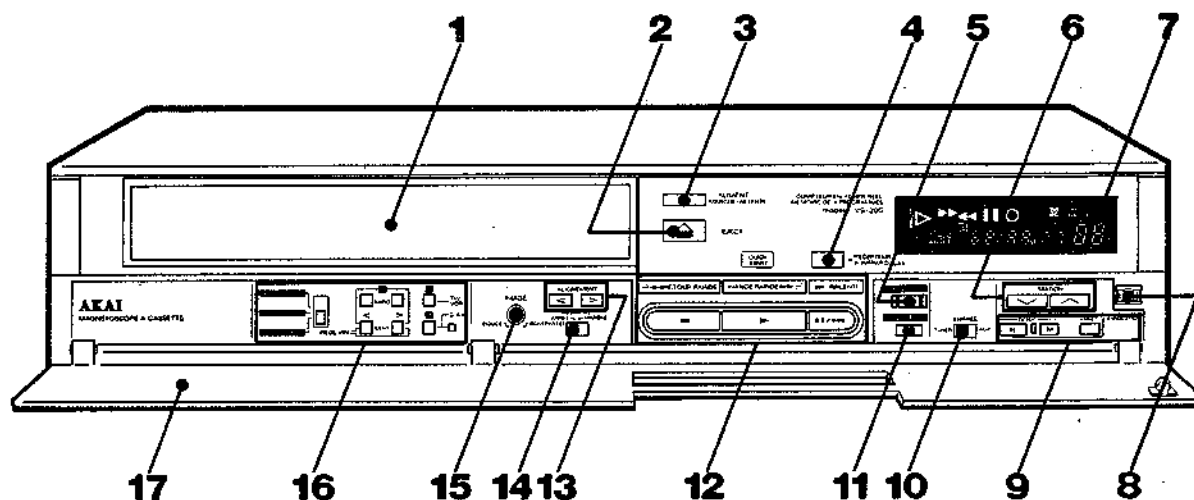


Fig. 1-1 Front

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Cassette loading slot. 2. EJECT button.
To eject the video cassette tape. 3. POWER button.
To turn on and off the Akai VCR. 4. Remote sensor window.
For reception of the remote control's signal.
* Keep this window clean for remote control operation. 5. REC (Recording) button. 6. CHANNEL selector.
To select a preset channel with the built-in tuner of the VCR. 7. FL (Fluorescent) display.
Tells you what the VCR is doing. 8. Sub-panel door latch. 9. QUICK TIMER buttons.
To preset recording end time or quick programme recording. 10. INPUT SELECTOR switch.
To switch between internal tuner and external input. 11. TIMER button.
To stand by for automatic recording. 12. Tape transport buttons.
To run the tape for recording or playback. 13. TRACKING/SLOW TRACKING control.
To fine tune the playback picture. 14. EDIT switch.
For removing the on-screen characters during tape dubbing. 15. SHARP/SOFT PICTURE control.
To soften or sharpen the video picture. 16. Tuning controls.
Used when presetting stations. 17. Sub-panel door. | <ol style="list-style-type: none"> 1. Chargez ici la cassette vidéo 2. Touche d'éjection (EJECT).
Pour éjecter la cassette vidéo. 3. Commutateur d'alimentation (ALIMENT).
Pour mettre sous tension et hors circuit le magnéscope à cassettes Akai. 4. Pour recevoir le signal de la télécommande provenant de l'unité de télécommande sans fil Akai.
* Gardez cette fenêtre propre pour l'utilisation de la télécommande. 5. Touche d'enregistrement (ENRG). 6. Sélecteur de canal (STATION).
Pour sélectionner un canal pré réglé avec le tuner incorporé du magnéscope à cassettes Akai. 7. Affichage fluorescent du magnéscope à cassettes.
Vous indique ce que l'appareil est en train de faire. 8. Loquet du panneau de recouvrement. 9. Touches de minuterie rapide (PROG. RAPIDE).
Pour pré régler l'heure de fin d'enregistrement ou un enregistrement rapide d'émission. 10. Sélecteur d'ENTREE (TUNER/AUX).
Pour passer du tuner interne à une entrée externe et inversement. 11. Touche de MINUTERIE.
Pour mettre en attente en vue d'un enregistrement automatique. 12. Touches de défilement de la bande.
Pour faire défiler la bande en vue d'un enregistrement ou d'une reproduction. 13. Commande d'ALIGNEMENT.
Pour effectuer une syntonisation fine de l'image reproduite. 14. Commutateur de duplication (ASSEMBL.)
Pour effacer les fonctions affichées sur l'écran lorsque vous copiez une cassette vers un autre magnéscope à cassettes. 15. Commande d'IMAGE DOUCE/CONTRASTEE.
Pour adoucir ou contraster l'image vidéo. 16. Commandes de syntonisation.
Pour syntoniser les canaux pré réglés. 17. Panneau de recouvrement des commandes. |
|---|--|

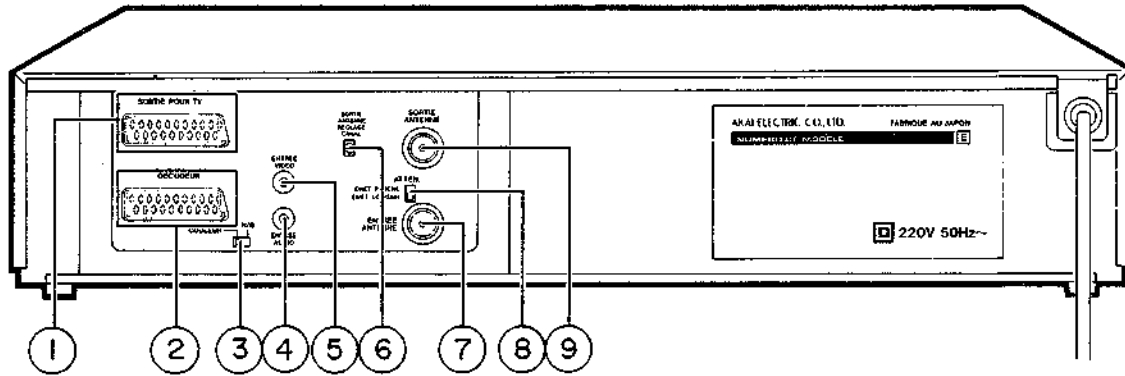


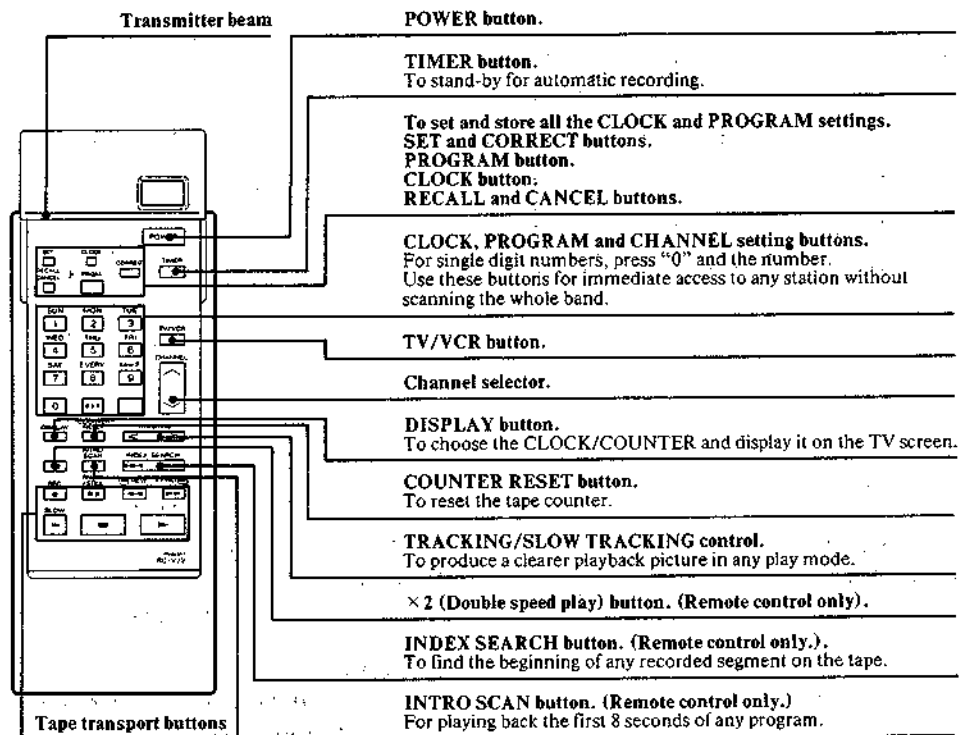
Fig. 1-2 Rear

1. OUT CONNECTOR FOR TV
2. DECODER CONNECTOR
3. VIDEO MODE SELECTOR
4. AUDIO IN
5. VIDEO IN
6. RF OUT CHANNEL ADJUSTER
7. ANT. IN
8. LOCAL/DX ATTENUATOR SWITCH
9. RF OUT

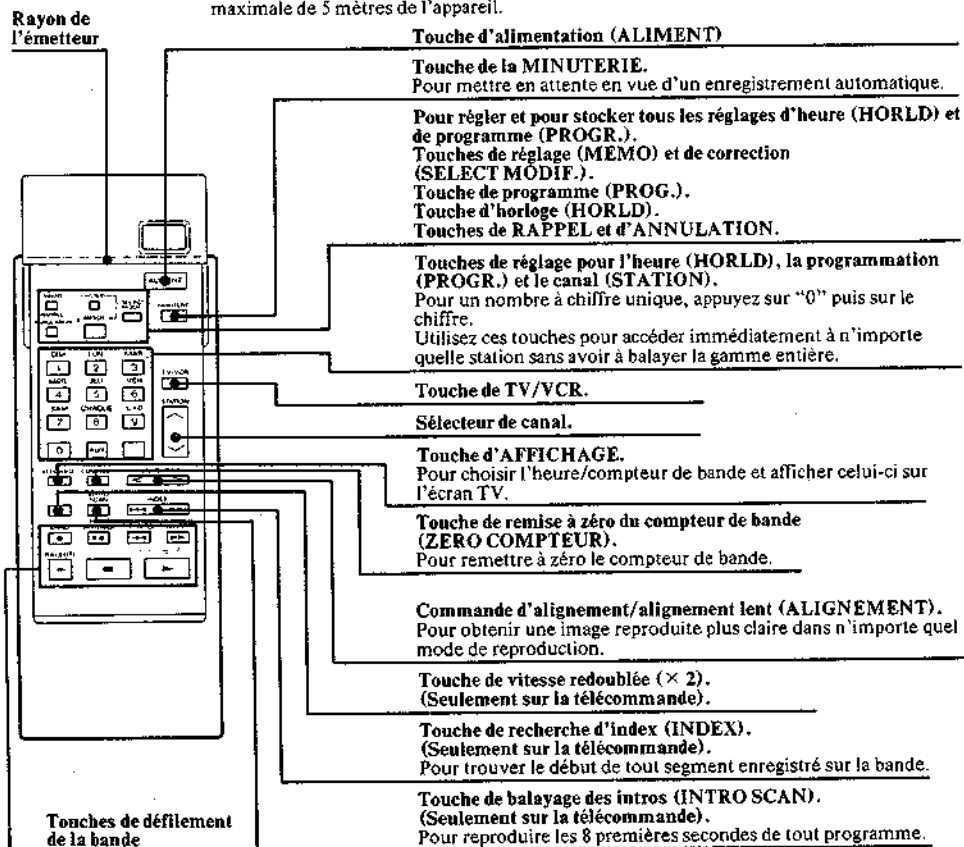
1. SORTIE POUR TV
2. DECODER
3. SELECTEUR DE MODE VIDEO
4. ENTRE AUDIO
5. ENTREE VIDEO
6. SORTIE ANTENNE REGLAGE CANAL
7. ENTREE ANTENNE
8. ATTENUATEUR EMET. PROCH/EMET. LOINTAIN
9. SORTIE ANTENNE

REMOTE CONTROL UNIT/SYSTÈME DE TÉLÉCOMMANDE

The remote control contains operation buttons which are used the same way as the operation buttons on the front panel of the Akai VCR, and many which appear on the remote control only. The remote control can be used from a distance of up to 5 meters.



Les touches de l'unité de télécommande s'utilisent de la même manière que les touches du panneau frontal du magnéscope à cassettes Akai. Certaines d'entre elles n'apparaissent que sur l'unité de télécommande. La télécommande peut être utilisée à une distance maximale de 5 mètres de l'appareil.

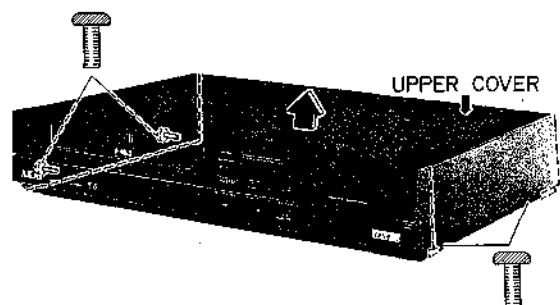


II. DISASSEMBLY/DEMONTAGE

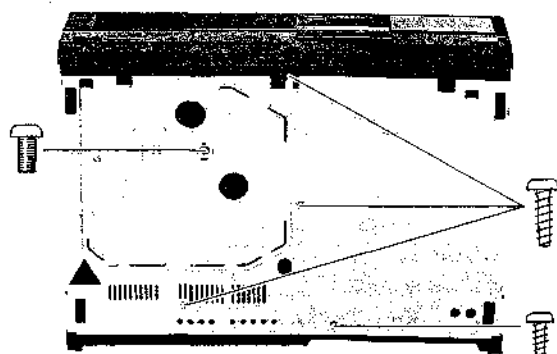
In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.

Au cas d'une panne, etc. qui requiert le démontage, veuillez l'effectuer selon la séquence indiquée sur les photos. Effectuer le remontage selon la séquence inverse.

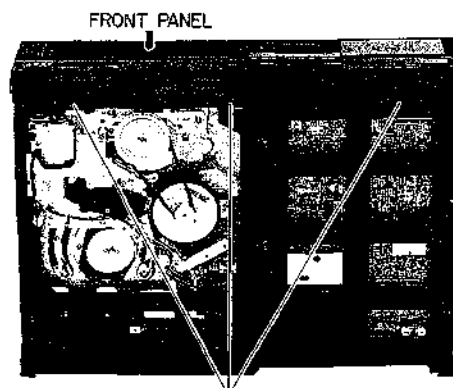
1 Removal of UPPER COVER



2 Removal of BOTTOM COVER

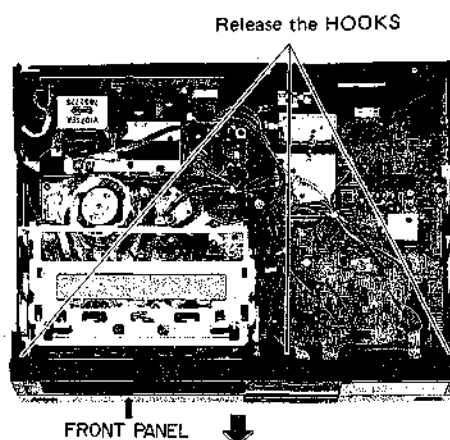


3 Removal of FRONT PANEL

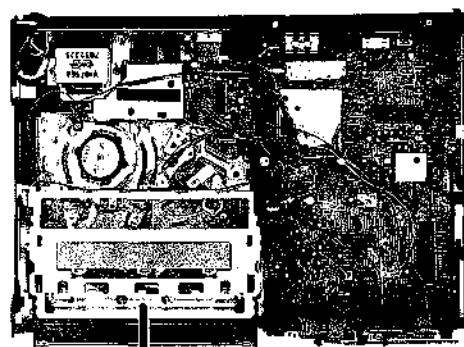


Release the HOOKS.

4



5



* Please refer to "4-1-1 REMOVING THE EJECTOR BLK"

* Photographs employed on this page are of model VS-35EK.

* C'est le modèle VS-35EK qui se réfère aux photos employées dans ce paragraphe.

III. PRINCIPAL PARTS LOCATION

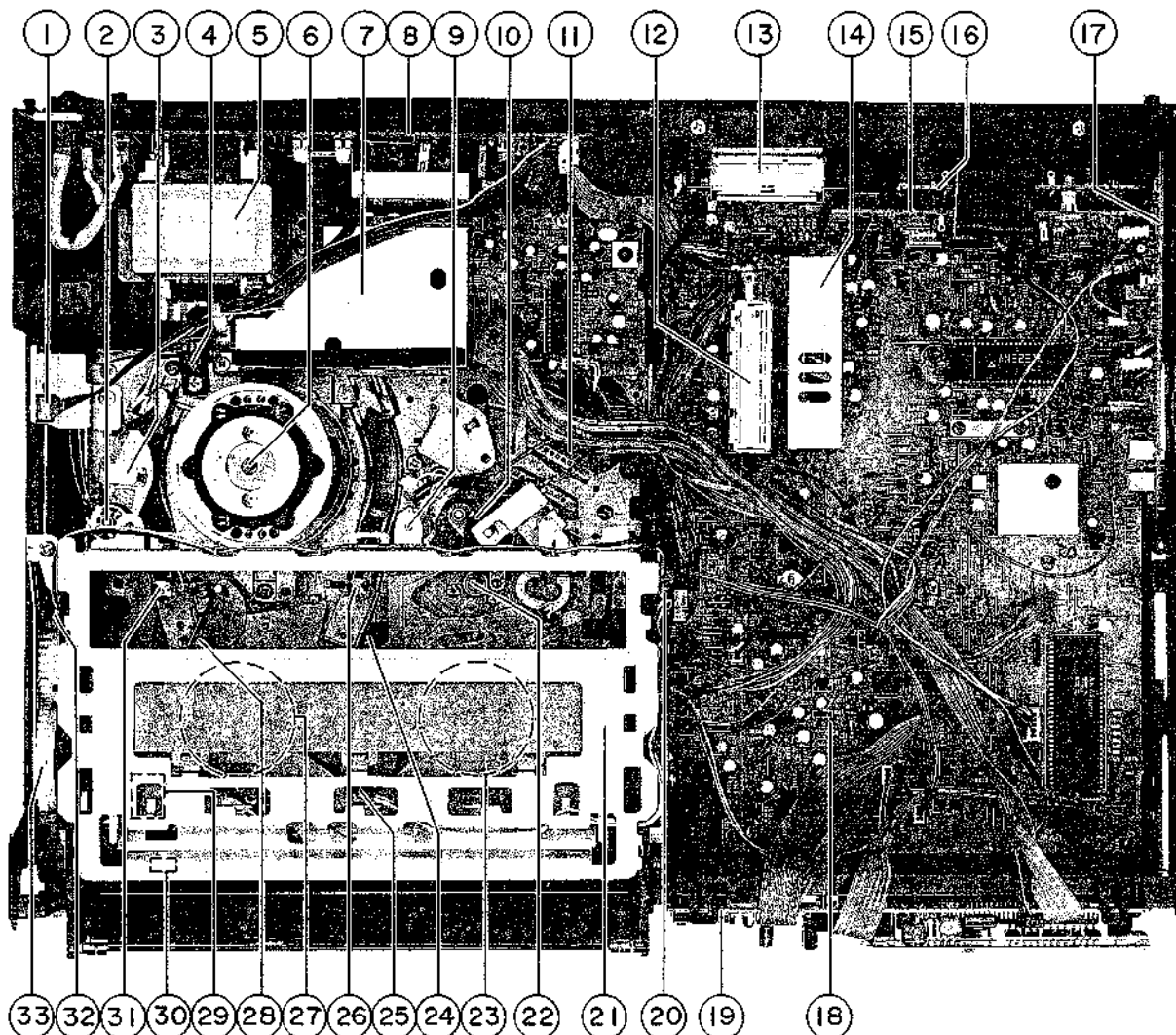


Fig. 3-1 Top view

* The photograph employed on this page is of model VS-35S.

* C'est le modèle VS-35S qui se réfère aux photos employées dans ce paragraphe.

- | | |
|--------------------------|--------------------------|
| 1. TR (2) PCB | 18. MAIN PCB |
| 2. SUPPLY TAPE, GUIDE | 19. OPERATION PCB |
| 3. FULL TRACK ERASE HEAD | 20. SENSOR (T) PCB |
| 4. TR (1) PCB | 21. EJECTOR BLOCK |
| 5. POWER TRANSFORMER | 22. CAPSTAN SHAFT |
| 6. HEAD DRUM BLOCK | 23. TAKE-UP REEL TABLE |
| 7. PRE AMP PCB | 24. SENSOR LED |
| 8. POWER SUPPLY PCB | 25. ROOM LAMP (NOT USE) |
| 9. AUDIO/CONTROL HEAD | 26. T.U. LOADING LEADER |
| 10. PINCH ROLLER | 27. SUPPLY REEL TABLE |
| 11. CAPSTAN MOTOR PCB | 28. TENSION ARM |
| 12. TUNER UNIT | 29. LOADING MOTOR |
| 13. RF CONVERTOR UNIT | 30. REC SAFETY SWITCH |
| 14. VIF UNIT | 31. S. LOADING LEADER |
| 15. 21 PIN (B) PCB | 32. SENSOR (S) PCB |
| 16. 21 PIN (A) PCB | 33. LOADING MECHA. BLOCK |
| 17. CHROMA PCB | |

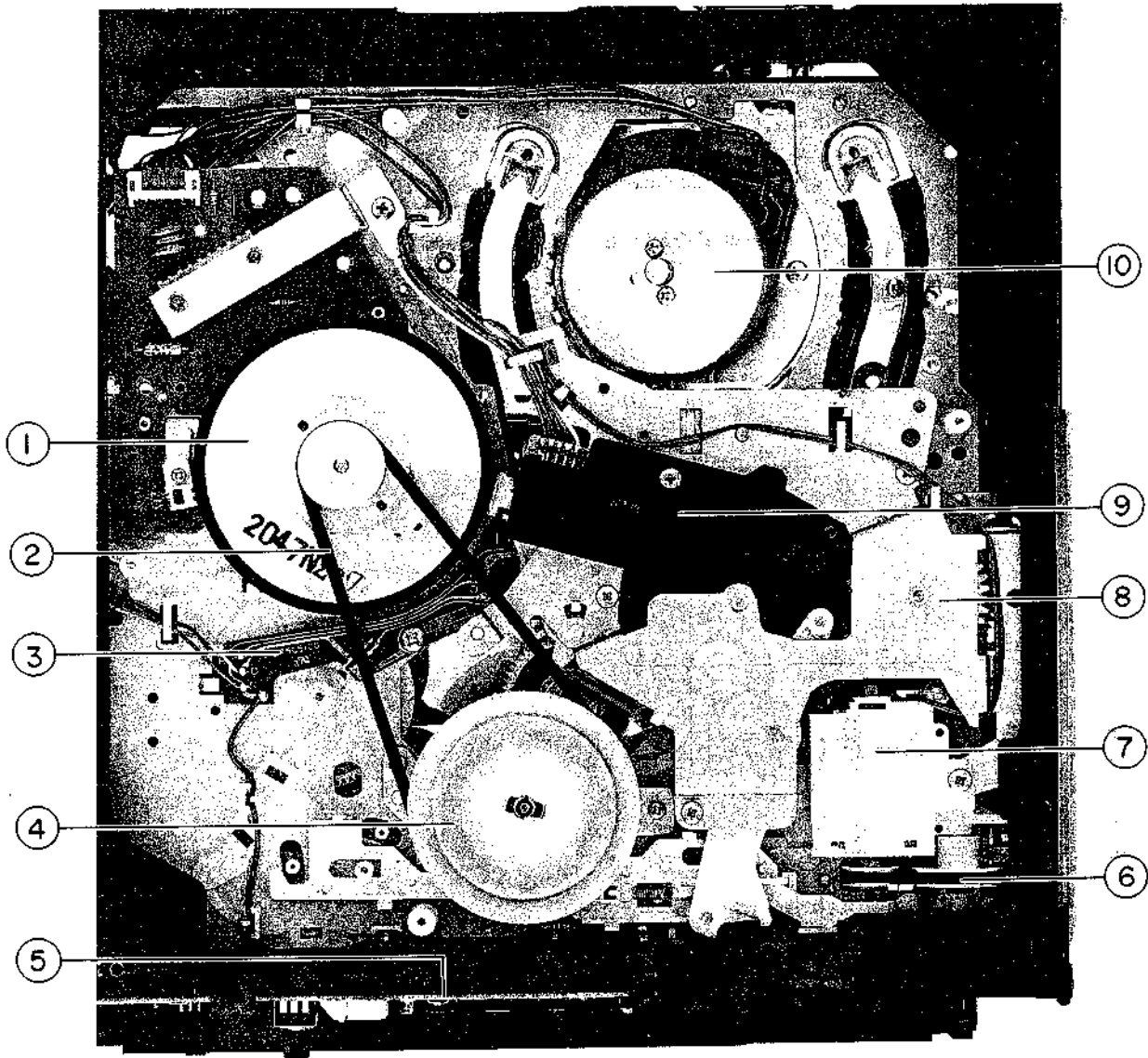


Fig. 3-2 Rear view

- 1. CAPSTAN MOTOR BLK
- 2. IDLER BELT
- 3. SENSOR PCB
- 4. CLUTCH BLK
- 5. PRE SET PCB
- 6. LOADING BELT

- 7. LOADING DRIVE BLK
- 8. LOADING MECH. BLK
- 9. MODE SELECTOR
- 10. DRUM MOTOR BLK

IV. MAIN COMPONENTS REPLACEMENT

IV. REMPLACEMENT DES ORGANES PRINCIPAUX

4-1. EJECTOR BLOCK

4-1. ENSEMBLE EJECTEUR

4-1-1. REMOVING THE EJECTOR BLOCK

4-1-1. RETRAIT DE L'ENSEMBLE EJECTEUR

- 1) Press the POWER button to turn ON the VCR and insert the cassette tape into the VCR. The unit will enter the PLAY mode automatically.
- 2) Press the POWER button again to turn OFF the VCR. Disconnect AC power cord after the tape is unloaded completely.
- 3) Remove two screws (A) and disconnect P504 from MAIN P.C. Board.
- 4) Remove the EJECTOR BLOCK.

- 1) Appuyer sur l'interrupteur d'alimentation (ALIMENT) pour mettre le magnéscope sous tension et introduire une cassette. L'appareil se met de lui-même en mode de lecture.
- 2) Appuyer de nouveau sur l'interrupteur d'alimentation (ALIMENT) pour mettre le magnéscope en fonction ATTENTE. Débrancher le cordon d'alimentation après avoir vérifié que la bande est bien déchargée.
- 3) Enlever les deux vis (A) (screw (A)) et déconnecter P504 de la plaquette PRINCIPALE.
- 4) Retirer l'ensemble éjecteur (Ejector Block).

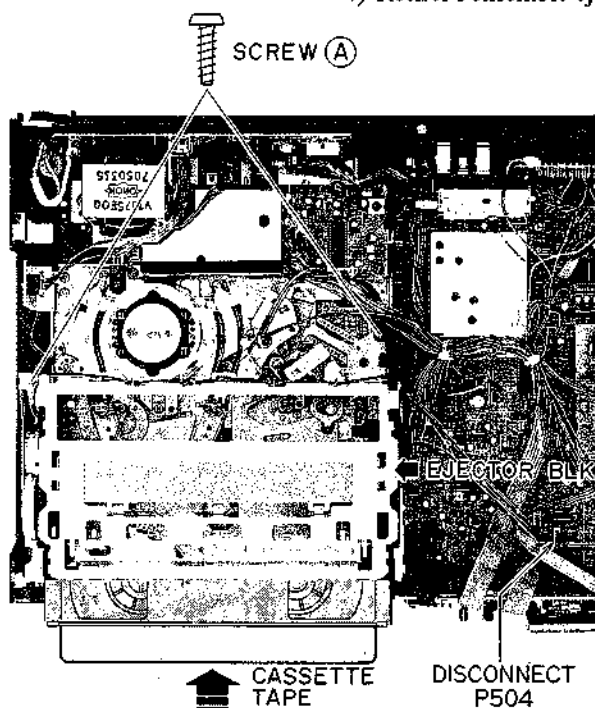


Fig. 4-1

4-1-2. INSTALLATION OF THE EJECTOR BLOCK

4.1.2. MISE EN PLACE DE L'ENSEMBLE EJECTEUR

- 1) Install the EJECTOR BLOCK on the MECHA CHASSIS as shown in Fig. 4-2.
- 2) Tighten two screws (A) and connect P504.
- 3) Plug in AC POWER CORD and press the POWER button to turn ON the VCR.
- 4) Confirm that unit will function correctly.

- 1) Poser l'ensemble éjecteur sur (Ejector Block) le châssis MECANISME de la manière illustrée à la Fig. 4-2.
- 2) Serrer les deux vis (A) (screw (A)) et connecter P504.
- 3) Brancher le CORDON D'ALIMENTATION et appuyer sur l'interrupteur d'alimentation (POWER) du magnéscope.
- 4) Vérifier que l'appareil fonctionne correctement.

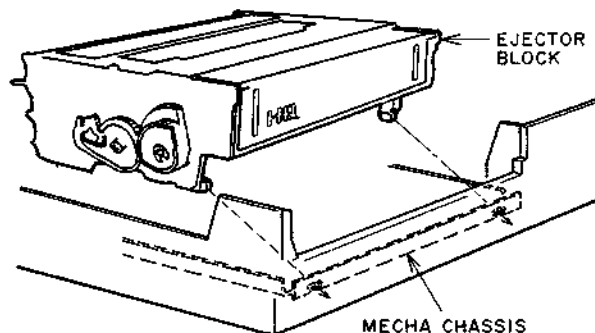


Fig. 4-2

4-2. LOADING MECHANISM BLOCK

4-2-1. REMOVAL OF MECHANISM BLOCK

- 1) Remove the EJECTOR BLOCK (Refer to 4-1-1. EJECTOR REPLACEMENT.)
- 2) Remove two screws (A) then remove the transistor and the diode.
- 3) Disconnect P700, P701 and P800 from the PRE-AMP P.C. Board.
- 4) Remove two screws (B) then remove the PRE-AMP P.C. Board.

4-2. ENSEMBLE MECANISME DE CHARGEMENT

4-2-1. RETAIT DE L'ENSEMBLE MECANISME DE CHARGEMENT

- 1) Retirer l'ensemble éjecteur (voir 4-1-1. RETRAIT DE L'ENSEMBLE EJECTEUR).
- 2) Enlever les deux vis (A) (screw (A)) et retirer les transistors diode.
- 3) Déconnecter P700, P701 et P800 de la plaquette CI de PRE-AMPLI.
- 4) Enlever la vis (B) (screw (B)) et retirer la plaquette de PREAMPLI.

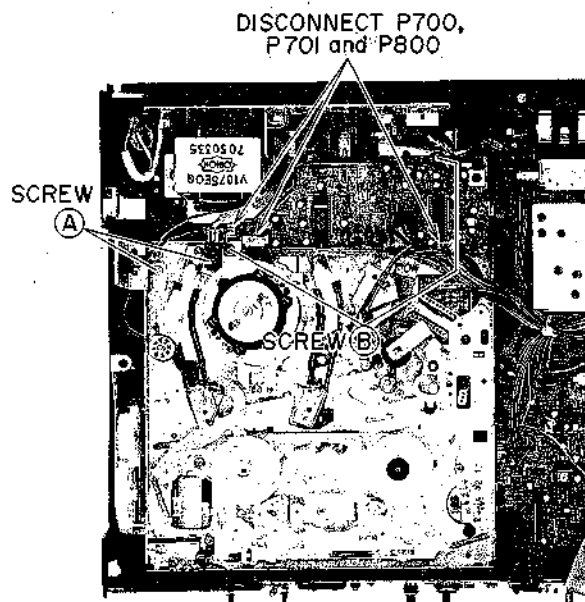


Fig. 4-3

- 5) Disconnect P502 from the DRUM MOTOR P.C. Board on the bottom of VCR.
- 6) Remove three screws (C) then remove the MECHA BLK.

- 5) Déconnecter P502 de la plaquette de MOTEUR DE TAMBOUR située au bas du magnétoscope.
- 6) Enlever les trois vis (C) (screw (C)) et retirer l'ENSEMBLE MECANISME.

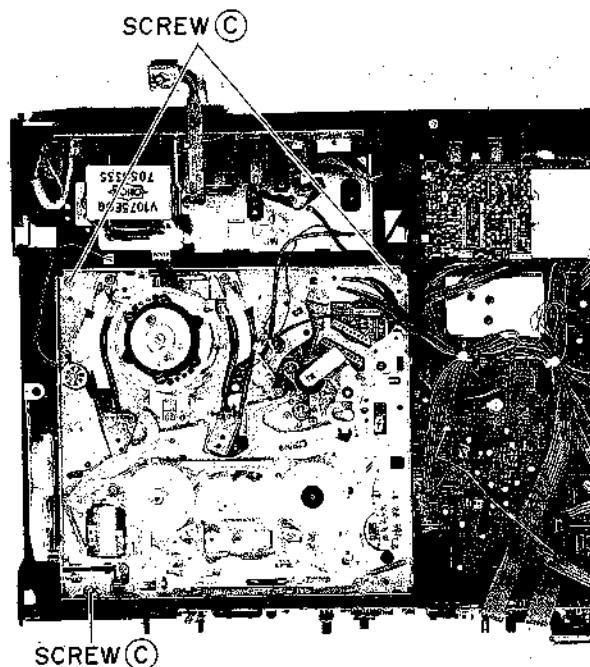


Fig. 4-4

4-2.2. REASSEMBLE OF THE LOADING MECHANISM BLOCK

1) Attach the GEAR FL DRIVE to CHASSIS CAM GEAR PART.

4-2.2. REMONTAGE DE L'ENSEMBLE MECANISME DE CHARGEMENT

1) Fixer la ROUE DE COMMANDE FL (GEAR FL DRIVE) au SUPPORT D'ENGRENAGES A CAME du châssis (CHASSIS CAM GEAR PART).

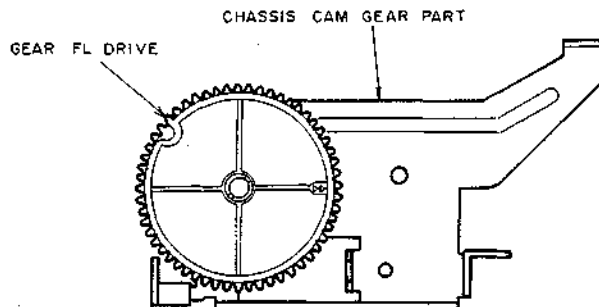


Fig. 4-5

2) Install the GEAR WARM PART as shown in Fig. 4-6.

2) Poser le engrenage à vis sans fin (GEAR WARM PART) de la manière illustrée à la Fig. 4-6.

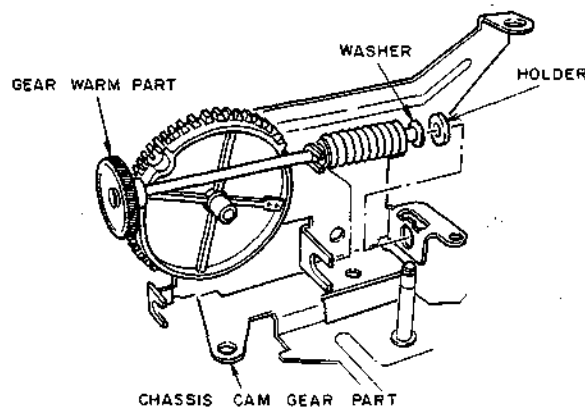


Fig. 4-6

3) Attach the GEAR WHEEL to CHASSIS CAM GEAR PART so that the GEAR FL DRIVE mark (a) coincide with the GEAR WHEEL mark (b-1), and fasten the GEAR WHEEL with slit washer.

3) Fixer la ROUE DENTEE (GEAR WHEEL) au SUPPORT D'ENGRENAGES A CAME du châssis de manière à ce que le repère (a) de la ROUE DE COMMANDE FL (GEAR FL DRIVE) coïncide avec le repère (b-1) de la ROUE DENTEE (GEAR WHEEL) et fixer la ROUE DENTEE (GEAR WHEEL) au moyen d'une rondelle fendue.

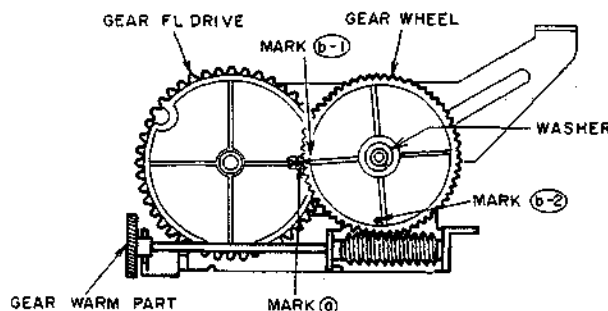


Fig. 4-7

4) Attach the LEVER CAM SLIDER as shown in Fig. 4-8.

4) Fixer le COULISSEAU DE LEVIER A CAME (LEVER CAM SLIDER) de la manière illustrée à la Fig. 4-8.

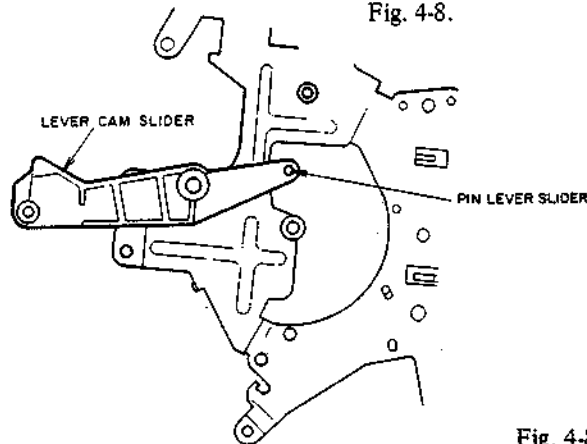


Fig. 4-8

5) Attach the GEAR CAM CENTER so that pin lever slider head appears through the hall (A) of the GEAR CAM CENTER.

5) Fixer la ROUE CENTRALE A CAME (GEAR CAM CENTER) de manière à ce que la tête de la goupille du levier à came apparaisse à l'orifice (A) (HALL (A)) de la ROUE CENTRALE A CAME (GEAR CAM CENTER).

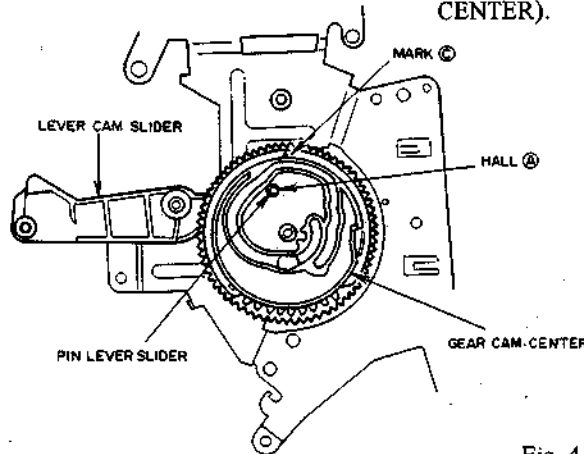


Fig. 4-9

6) Attach the GEAR CAM TENSION so that the GEAR CAM TENSION mark (d-1) coincide with the GEAR WHEEL mark (b-2), and moreover the GEAR CAM CENTER mark C should be located between the marks (d-2) of the GEAR CAM TENSION.

6) Fixer la ROUE DE TENSION A CAME (GEAR CAM TENSION) de manière à ce que son repère (d-1) coïncide avec le repère (b-2) de la ROUE DENTEE (GEAR WHEEL). Le repère (C) de la ROUE CENTRALE A CAME (GEAR CAM CENTER) doit de plus être situé entre les repères (d-2) de la ROUE DE TENSION A CAME (GEAR CAM TENSION).

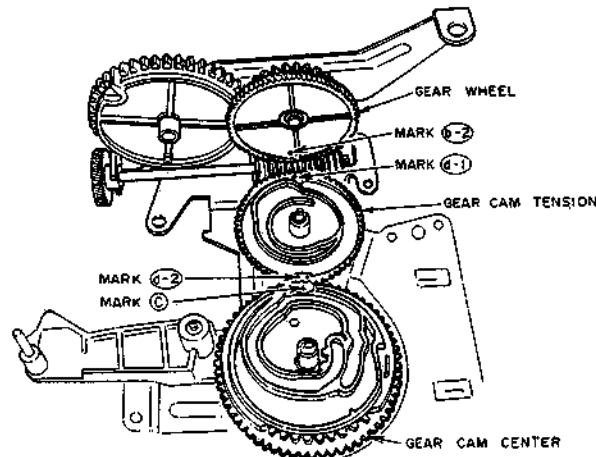


Fig. 4-10

7) Attach the ARM FWD BRAKE and SPRING as shown in Fig. 4-11.

7) Fixer le BRAS FREIN AVANT (ARM FWD BRAKE) et le ressort (SPRING) de la manière illustrée à la Fig. 4-11.

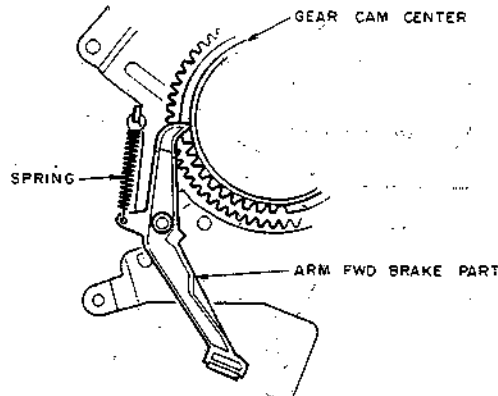


Fig. 4-11

8) Set the GEAR TOGGLE (TU) and (S) to the unloaded position with your fingers. At this time match the marks of the GEAR TOGGLE (TU) and (S) as shown in Fig. 4-12.

8) Mettre à la main les DÉCLENCHEURS D'ENGRENAGE (GEAR TOGGLE) (TU) et (S) sur la position déchargée. Faire coïncider les repères des DÉCLENCHEURS D'ENGRENAGE (GEAR TOGGLE) (TU) et (S) de la manière illustrée à la Fig. 4-12.

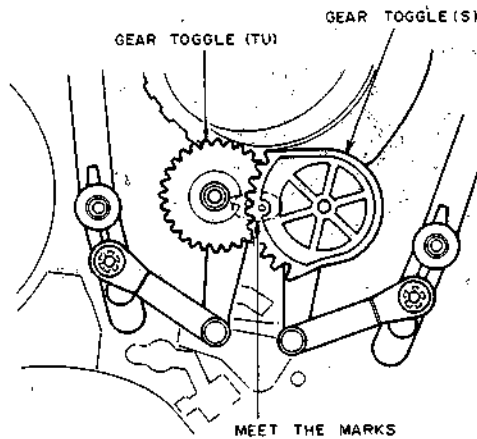


Fig. 4-12

9) Attach the LOADING MECHA. BLK with holding the GEAR TOGGLE (TU) in the direction of the arrow as shown in Fig. 4-13. Tighten the LOADING MECHA BLK with four screws (A) and (B).

9) Fixer l'ENSEMBLE MECANISME DE CHARGEMENT, de la manière illustrée à la Fig. 4-13, tout en maintenant le DÉCLENCHEUR D'ENGRENAGE (GEAR TOGGLE) (TU) dans le sens indiqué par la flèche.

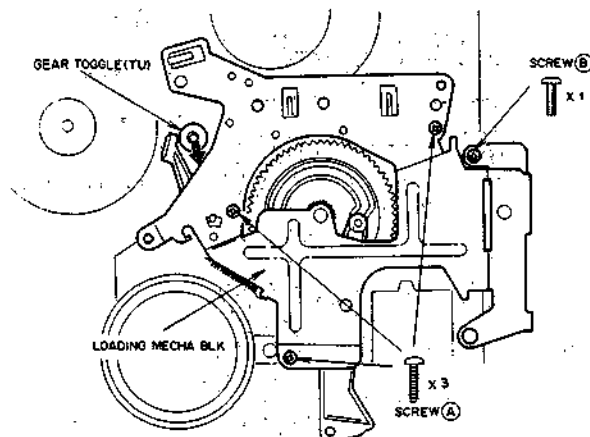


Fig. 4-13

10) Coincide the marks of MODE SELECT SW and attach the MODE SELECT SW BLK onto the LOADING MECHA BLK as shown in Fig. 4-14. Thghten the MODE SELECT SW BLK with a screw ©.

10) Faire coïncider les repères du CONTACTEUR DE SELECTION DE MODE et poser l'ENSEMBLE CONTACTEUR DE SELECTION DE MODE (MODE SELECT SW BLK) sur l'ENSEMBLE MECANISME DE CHARGEMENT de la manière illustrée à la Fig. 4-14. Fixer l'ENSEMBLE CONTACTEUR DE SELECTION DE MODE (MODE SELECT SW BLK) au moyen de la vis C (SCREW ©).

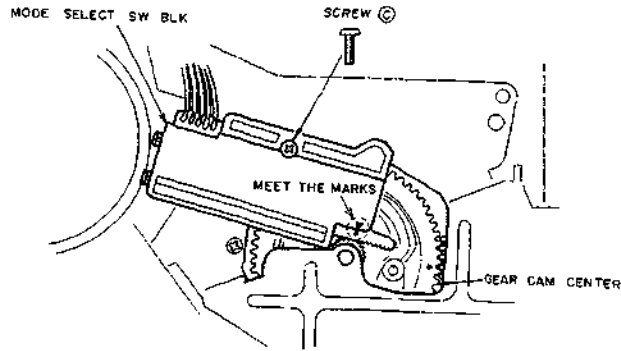


Fig. 4-14

11) Attach the BELT IDLER as shown in Fig. 4-15.

11) Fixer la COURROIE INTERMEDIAIRE (BELT IDLER) de la manière illustrée à la Fig. 4-15.

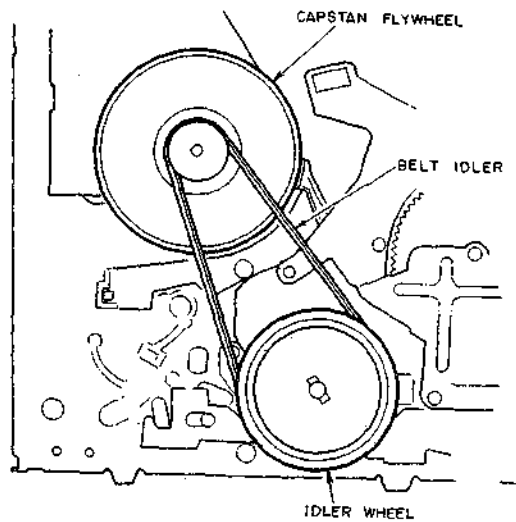


Fig. 4-15

12) Attach the **LOADING DRIVE BLK** and tighten with a screw ⑤.

12) Poser l'ENSEMBLE DE COMMANDE DE CHARGEMENT (**LOADING DRIVE BLK**) et le fixer au moyen de la vis ⑤ (**SCREW ⑤**).

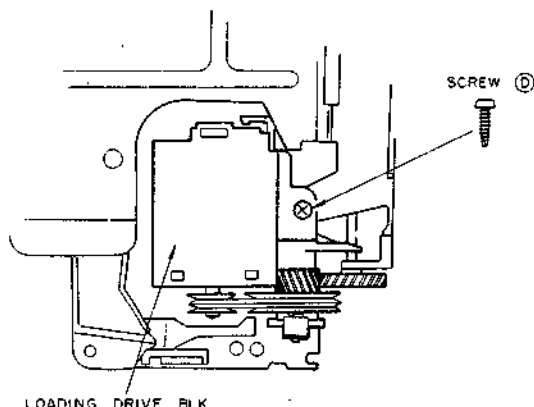


Fig. 4-16

4-3. UPPER DRUM (HEAD DRUM REPLACEMENT)

4-3-1. REMOVAL OF UPPER DRUM

- 1) Unsolder the four relay leads and remove two upper drum fixing screws.
- 2) Gently lift and remove the **UPPER DRUM**.

4-3. TAMBOUR SUPERIEUR (REPLACEMENT DU TAMBOUR DE TETE)

4-3-1. DEMONTAGE DU TAMBOUR SUPERIEUR

- 1) Dessouder les quatre plombs de relais et enlever les deux vis de fixation du tambour supérieur (upper drum fixing screws).
- 2) Soulever avec précaution le tambour supérieur (**UPPER DRUM**).

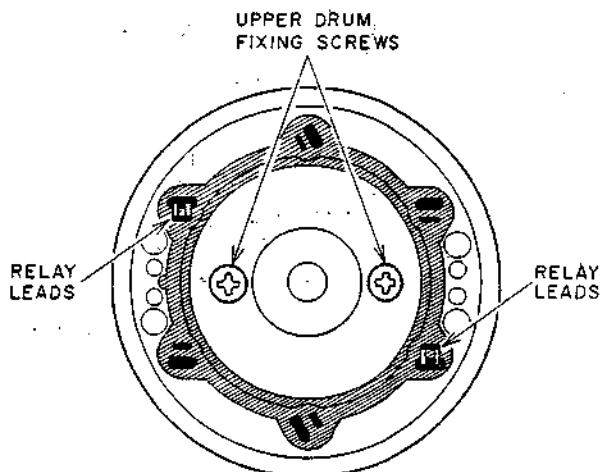


Fig. 4-17

4-3-2. INSTALLATION OF UPPER DRUM

- 1) Install the UPPER DRUM to the LOWER DRUM so that upper drum convex (A) and lower drum concave (B) locate in a same direction.

NOTE. Height precisi^or is required for the proper performance, and the head tips are fragile, so the following points should be noted when replacing the UPPER DRUM BLOCK.

- (a) Do not loosen the set screw on the collar pre-load.
- (b) Before fixing, clean both surfaces where the upper drum and the rotary transformer part meet with alcohol.
- (c) When installation of the UPPER DRUM, if it does not go on to the shaft easily, 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. Tighten them at 6 kg-cm torque.

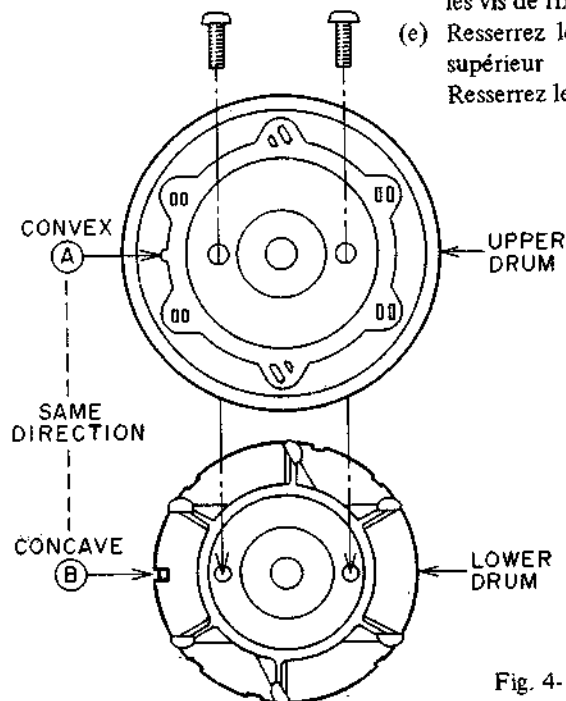


Fig. 4-18

4-3-3. AFTER REPLACEMENT

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

- 1) Control head phase adjustment. (Tape transport adj. 5-2-4)
- 2) PB switching point adjustment. (Electrical adj. Step 2)
- 3) Video REC current adjustment. (Electrical adj. Step 9)

4-3-2. MONTAGE DU TAMBOUR SUPERIEUR

- 1) Fixer le tambour sup^{er}ieur au tambour inf^{er}ieur de mani^{er}e à ce que la partie convexe (A) (UPPER DRUM CONVEX (A)) et la partie concave (B) (LOWER DRUM CONCAVE (B)) soient dirig^{er}es dans le m^{em}e sens.

REMARQUE:

La pr^{ec}ision au niveau de la hauteur est requise pour obtenir de correctes performance, et les extr^{em}it^{es} t^{er}etes sont fragiles, de ce fait les points suivants doivent ^{er}tre pris en consid^{er}ation lorsque vous re^{pl}acez le bloc tambour sup^{er}ieur.

- (a) Ne desserrez pas l'ensemble de vis situ^{er} sur le collier de charge pr^{ec}alable.
- (b) Avant toute fixation, nettoyez avec de l'alcool pur les surfaces o^u le tambour sup^{er}ieur et le transformateur rotary se joignent.
- (c) Lors de l'installation du tambour sup^{er}ieur, si il ne s'adapte pas ais^{em}ent sur l'arbre, nettoyez l'orifice du tambour sup^{er}ieur avec de l'alcool pur et huilez l^{eg}erement l'arbre.
- (d) Assurez vous que les trous des vis de fixation du tambour sup^{er}ieur sur le transformateur rotary et que les trous des vis de fixation du tambour sup^{er}ieur s'adaptent exactement avant d'ins^{er}er les vis de fixation.
- (e) Resserrez les deux vis de fixation du tambour sup^{er}ieur alternativement et graduellement. Resserrez les en couple de 6 kg-cm.

4-3-3. APRES REMPLACEMENT

Une fois le remplacement termin^{er}, les r^{eg}lages suivants doivent ^{er}tre effectu^{er}s pour obtenir de bonnes performances.

- 1) R^{eg}lage de phase de la t^{er}ete CTL (R^{eg}lages du d^{ef}ilement de la bande, Para. 5-2-4).
- 2) R^{eg}lage du point de commutation en Pecture (R^{eg}lages ^{el}ectriques, Op^{er}ation 2).
- 3) R^{eg}lage du courant d'enregistrement vid^{eo} (R^{eg}lages ^{el}ectriques, Op^{er}ation 9).

4-4. DRUM MOTOR REPLACEMENT

- 1) Disconnect the connector P102 from the DRUM MOTOR P.C. Board.
- 2) Remove two screws (A) then remove the ROTARY PLATE.

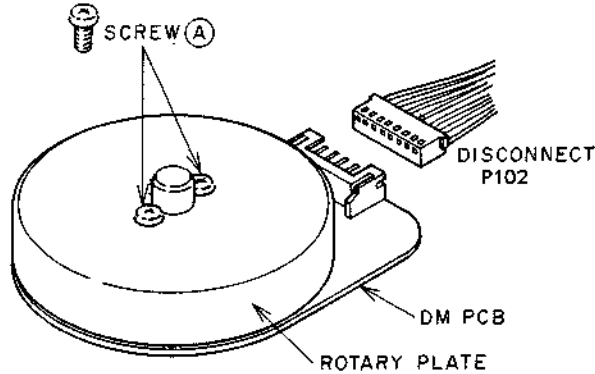


Fig. 4-19

4-4. REMPLACEMENT DU MOTEUR DE TAMBOUR

- 1) Débrancher le connecteur P102 de la plaquette de moteur de tambour.
- 2) Enlever les deux vis (A) (SCREW (A)) et retirer la plaque rotative.

- 3) Remove three screws (B) and replace the DRUM MOTOR.

- 3) Enlever les deux vis (B) (SCREW (B)) et remplacer le moteur de tambour.

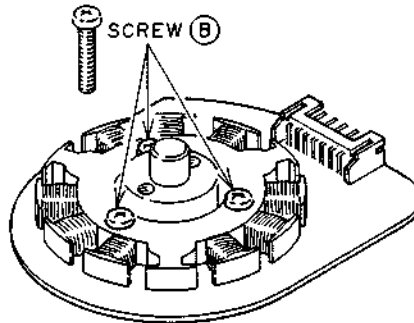


Fig. 4-20

- 4) Attach the ROTARY PLATE to the DRUM MOTOR so that the rotary plate hall (a) and collar preload hall (b) locate in the opposite direction.

- 4) Fixer la plaque rotative au moteur de tambour de manière à ce que l'orifice (a) (HALL (a)) de la plaque rotative et l'orifice (b) (HALL (b)) du collier de précharge soient dirigés dans le sens opposé.

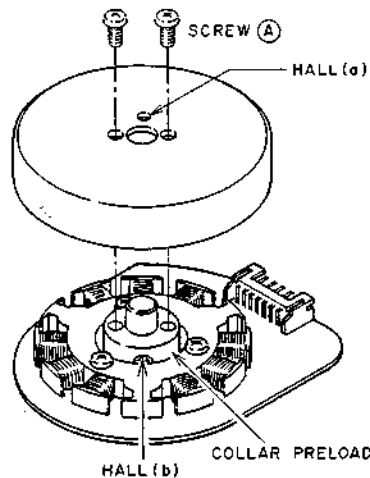


Fig. 4-21

V. MECHANICAL ADJUSTMENT

V. REGLAGES MECANQUES

5-1. BACK TENSION ADJUSTMENT

- 1) Remove the EJECTOR BLOCK. (Refer to 4-1-1. EJECTOR BLOCK REPLACEMENT.)
- 2) Press the POWER button to turn ON the VCR. the VCR will enter the tape loaded mode without cassette tape.
- 3) In the play mode, loosen the screw (A) and set the tension arm position to the correct position as shown in Fig. 5-1 by the tension band holder position, then tighten the screw (A).
- 4) Press the POWER button to turn OFF.
- 5) Set the reference tape TF-512CBS (AT-750799) and put some weight on the reference tape as a stabilizer.
- 6) Press the POWER button and PLAY button.
- 7) Observe the TV screen and adjust V-HOLD for TV so that switching point appears on the TV screen as shown in Fig. 5-2.
- 8) Select the hook position of the TENSION SPRING where the smallest skew should be obtained.

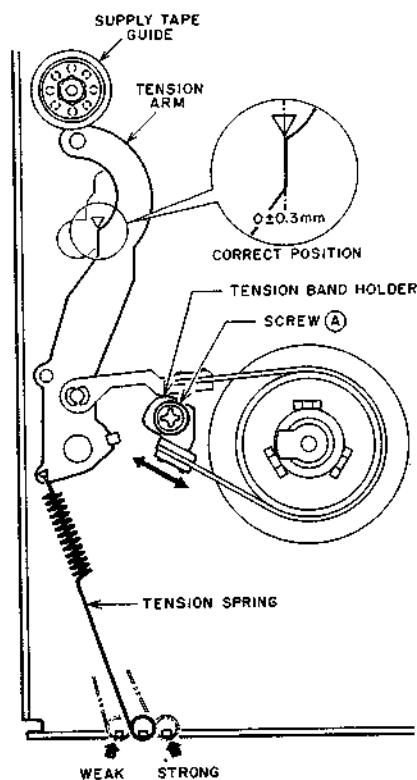


Fig. 5-1

5-1. REGLAGE DE LA TENSION DE RAPPEL

- 1) Retirer l'ensemble éjecteur (Voir 4-1-1. REMPLACEMENT DE L'ENSEMBLE EJECTEUR).
- 2) Appuyer sur l'interrupteur d'alimentation (ALIMENT) pour mettre le magnétoscope en fonction MARCHÉ. Le magnétoscope se met en mode de bande chargée sans cassette.
- 3) En mode de lecture, desserrer la vis (A) (screw A), mettre le bras de tension à la position correcte au moyen du porte-courroie tendeur, de la manière illustrée à la Fig. 5-1, et resserrer la vis (A) (screw A).
- 4) Appuyer sur l'interrupteur d'alimentation (ALIMENT) pour mettre le magnétoscope hors tension.
- 5) Mettre la bande de référence TF-512CBS (AT-750799) en place et la stabiliser en posant dessus un léger poids.
- 6) Appuyer sur l'interrupteur d'alimentation (ALIMENT) et sur la touche de lecture.
- 7) Observer l'écran de télévision et régler la stabilité verticale de TV de manière à ce que le point de commutation apparaisse sur l'écran de la manière illustrée à la Fig. 5-2.
- 8) Sélectionner la position d'accrochage du ressort tendeur (TENSION SPRING) de manière à obtenir une déformation oblique minimale.

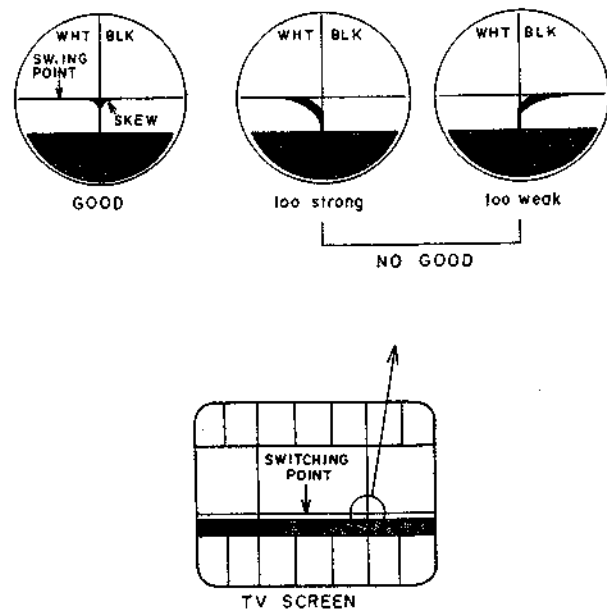


Fig. 5-2

5-2. TAPE TRANSPORT ADJUSTMENTS

5-2-1. TAPE CURL ADJUSTMENT AT THE TAKE-UP TAPE GUIDE

- 1) Play back the reference tape TF-530RFS (AT-751775).
- 2) Turn the screw (a) on the A/C HEAD BLK until the edge of the tape barely touches the lower part of TAKE-UP TAPE GUIDE without any curl or wrinkle.

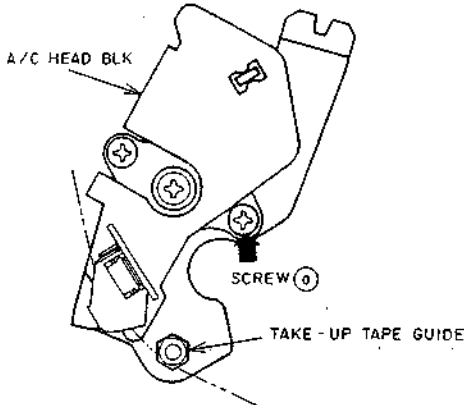


Fig. 5-3

5-2-2. CONFIRMATION OF TAPE CURL AT THE SUPPLY TAPE GUIDE

Confirm that the edge of the tape barely touches the lower part of the SUPPLY TAPE GUIDE without any curl or wrinkle.



Fig. 5-5

5-2-3. AUDIO HEAD AZIMUTH ADJUSTMENT

- 1) Connect an AC volt meter or an oscilloscope to AUDIO OUT (TP301).
- 2) Play back the reference tape TF-530RFS (AT-751775).
- 3) Adjust the screw (b) to obtain the maximum audio output (TP301).

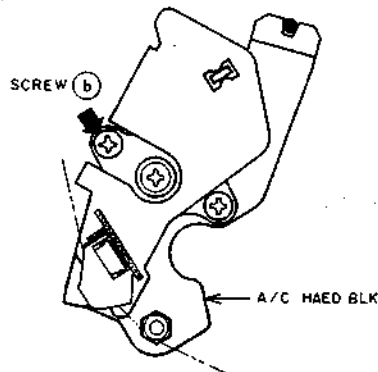


Fig. 5-6

5-2. REGLAGES DU DEFILEMENT DE LA BANDE

5-2-1. REGLAGE D'ONDULATION DE LA BANDE AU NIVEAU DU GUIDE-BANDE "TAKE-UP"

- 1) Lire la bande de référence TF-530RFS (AT-751775).
- 2) Tourner la vis (a) (screw (a)) de l'ensemble de tête A/C jusqu'à ce que le bord de la bande touche à peine la partie inférieure du GUIDE-BANDE "TAKE-UP" (TAPE GUIDE) et qu'il ne présente aucune ondulation ou pliure.

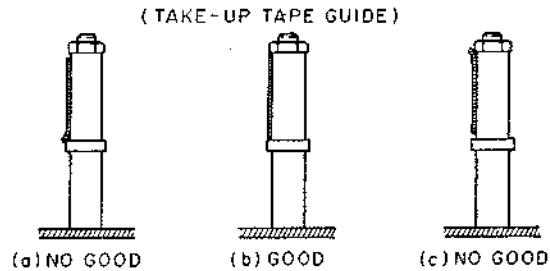


Fig. 5-4

5-2-2. CONFIRMATION DU REGLAGE D'ONDULATION AN AU NIVEAU DU GUIDE-BANDE "SUPPLY"

Vérifier que le bord de la bande touche à peine le GUIDE-BANDE "SUPPLY" (SUPPLY TAPE GUIDE) et qu'il n'est pas ondulé ou plié.

5-2-3. REGLAGE DE L'ALIGNEMENT DE LA TETE AUDIO

- 1) Connecter un voltmètre CA ou un oscilloscope à la prise de sortie AUDIO OUT (TP301).
- 2) Lire la bande de référence TF-530RFS (AT-751775).
- 3) Régler la vis (b) (SCREW (b)) de manière à obtenir un niveau de sortie audio maximal. (TP301).

5-2.4. CONTROL HEAD PHASE ADJUSTMENT

- 1) Connect an oscilloscope to TP202 (ENVE) on the MAIN P.C. Board.
- 2) Play back the reference tape TF-530RFS (AT-751775).
- 3) Press the TRACKING buttonn \langle or \rangle on the front panel until "T" mark can be seen in the center position as shown in Fig. 5-7.
- 4) Insert a sharpness screwdriver into A/C HEAD BASE and hall \textcircled{a} as shown in Fig. 5-8.
- 5) Move the A/C HEAD base by moving a screwdriver in the directions of the arrow as shown in Fig. 5-8 to obtain the maximum RF output.

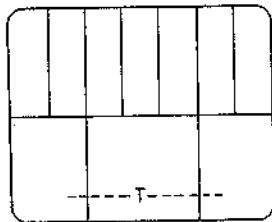


Fig. 5-7 On the TV screen

5-2.4. REGLAGE DE PHASE DE LA TETE CTL

- 1) Connecter un oscilloscope à TP202 (ENVE) sur la plaquette PRINCIPALE.
- 2) Lire la bande de référence TF530RFS (AT-751775).
- 3) Appuyer sur la touche d'alignement (TRACKING) \langle ou \rangle de la face avant jusqu'à ce que le repère "X" apparaissent au centre de la manière illustrée à la Fig. 5-7.
- 4) Introduire le bout d'un tournevis dans l'orifice \textcircled{a} (HALL \textcircled{a}) de la base de la TETE A/C (A/C HEAD BASE) de la manière illustrée à la Fig. 5-8.
- 5) Déplacer la base de la TETE A/C (A/C HEAD BASE) en déplaçant le tournevis dans le sens indiqués par la double flèche, de la manière illustrée à la Fig. 5-8, de manière à obtenir une enveloppe RF maximale.

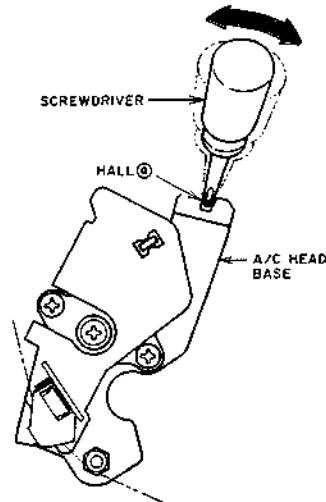


Fig. 5-8

5-2.5. ARM REVIEW HEIGHT ADJUSTMENT

- 1) Play back the beginning part of E-180 tape and set the unit in REVIEW mode with pressing REW button.
- 2) Turn the ARM REVIEW height nut \textcircled{a} so that the edge of the tape barely touches the lower part of TAKE-UP TAPE GUIDE without any curl or wrinkle between TAKE-UP TAPE GUIDE and CAPSTAN SHAFT.

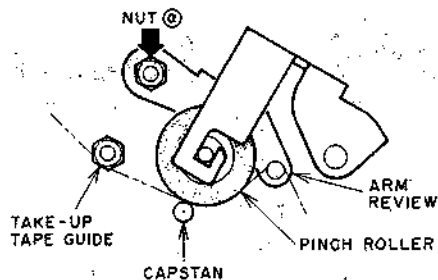


Fig. 5-9

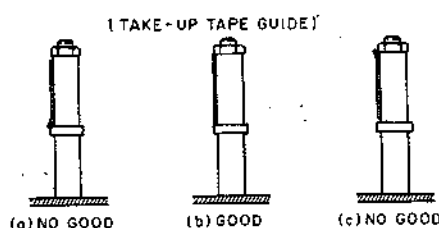


Fig. 5-10

5-2.5. REGLAGE DE LA HAUTEUR DU BRAS DE REMBOBINAGE DE REMBOBINAGE

- 1) Lire le début de la bande E-180 et appuyer ensuite sur la touche de rembobinage (Retour Rapide) pour mettre l'appareil dans ce mode.
- 2) Tourner l'écrou \textcircled{a} (NUT \textcircled{a}) de réglage de la hauteur du BRAS DE REMBOBINAGE de manière à ce que le bord de la bande touche à peine la partie inférieure du GUIDE-BANDE "TAKE-UP" (TAKE-UP TAPE GUIDE) et ne présente aucune ondulation ou pliure entre le GUIDE-BANDE "TAKE-UP" et l'AXE DE CABESTAN (TAKE-UP TAPE GUIDE and CAPSTAN SHAFT).

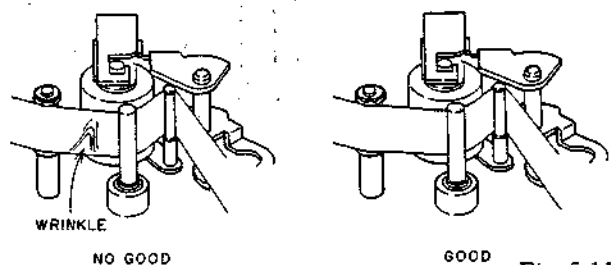


Fig. 5-11

5-2-6. LOADING LEADER HEIGHT ADJUSTMENTS

- 1) Slightly loosen the set screw at lower part of the LOADING LEADERS (L), (R) so that LOADING LEADERS can be adjusted with reasonable tightness. (Refer to Fig. 5-12.)
- 2) Play back the reference tape TF-530RFS (AT-751775).
- 3) Connect an oscilloscope to TP202 (ENVE) on the MAIN P.C. Board.
- 4) Turn the LOADING LEADER heads with a screwdriver to obtain flat RF envelope as ideal envelope shown in Fig. 5-13.
- 5) After the adjustments, tighten the LOADING LEADER set screws.

5-2-6. REGLAGE DE LA HAUTEUR DES GUIDES DE CHARGEMENT

- 1) Desserrer légèrement la vis d'arrêt située à la partie inférieure des GUIDES DE CHARGEMENT (LOADING LEADERS) (G.) et (D.) afin de pouvoir régler les GUIDES DE CHARGEMENT avec suffisamment de précision (voir la Fig. 5-12).
- 2) Lire la bande de référence TF530RFS (AT-751775).
- 3) Connecter un oscilloscope à TP202 (ENVE) sur la plaquette CI PRINCIPALE.
- 4) Tourner la tête des GUIDE DE CHARGEMENT (LOADING LEADER) au moyen d'un tournevis afin d'obtenir une enveloppe RF identique à l'enveloppe idéale montrée à la Fig. 5-13.
- 5) Une fois ce réglage effectué, resserrer la vis (SET SCREW) d'arrêt des GUIDES DE CHARGEMENT.

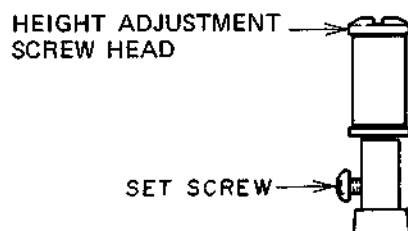


Fig. 5-12

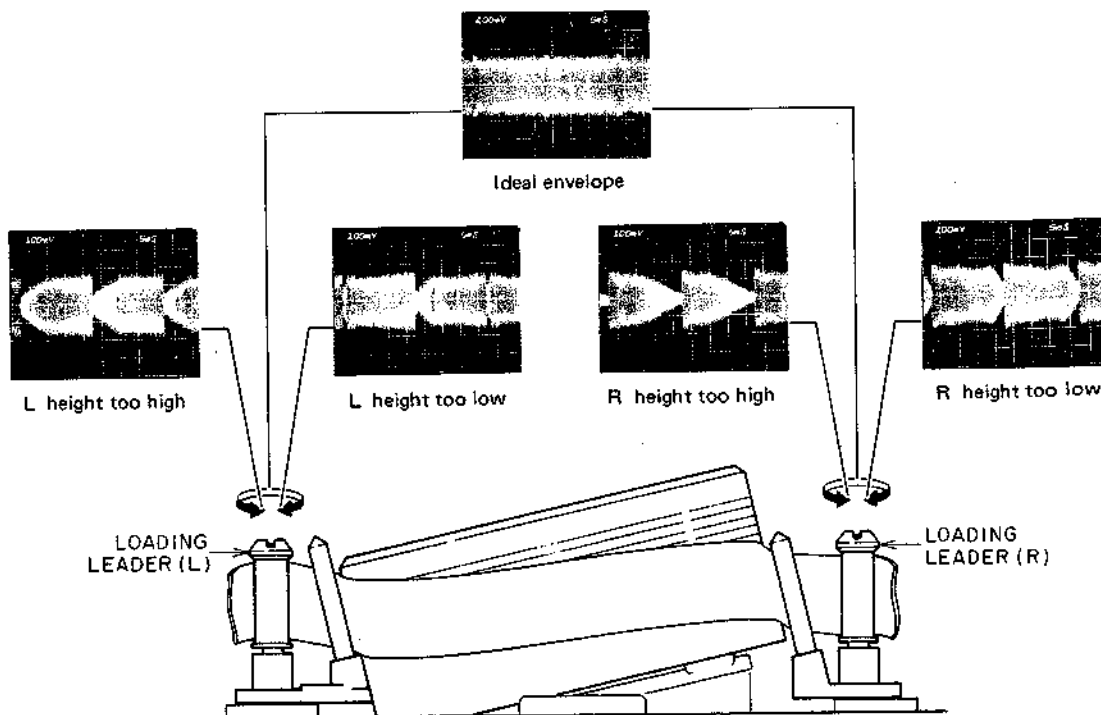


Fig. 5-13

5-2-7. A/C HEAD HEIGHT ADJUSTMENTS

- 1) Play back the test tape TF-526HH (AT-751788).
- 2) Connect the oscilloscope CH-1 to AUDIO OUTPUT and CH2 to TP500.
- 3) Turn the hexagon screw to obtain 1/2 of the output level of either CH1 or CH2 whichever has output signal.

5-2-7. REGLAGE DE LA HAUTEUR

DE LA TETE A/C

- 1) Lire la bande de référence TF-526HH (AT-751788).
- 2) Connecter un oscilloscope de CH-1 à la sortie audio (TP301) et de CH-2 à TP500.
- 3) Tourner légèrement la vis à tête hexagonale (HEXAGON SCREW) afin d'obtenir 1/2 du niveau de sortie de CH1 ou CH2.

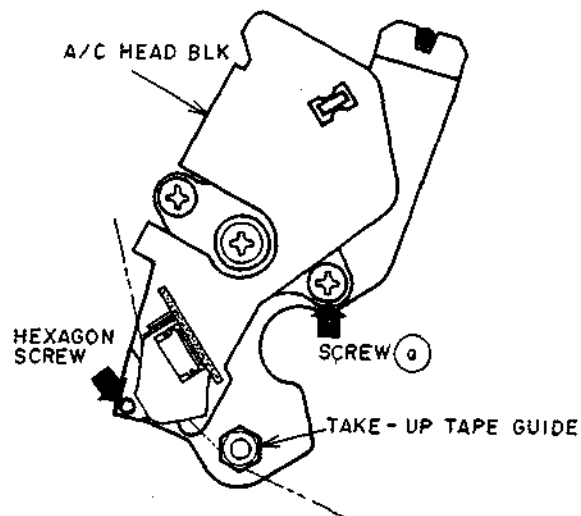


Fig. 5-14

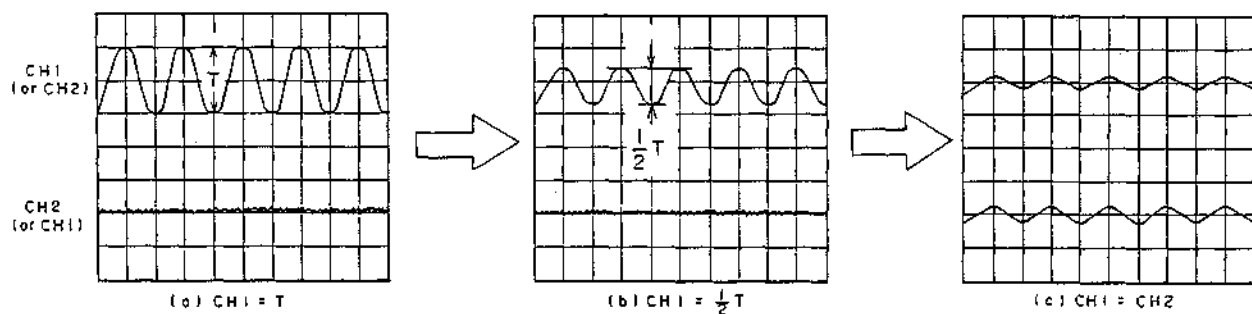


Fig. 5-15

- 4) Slightly turn the screw (a) until the tape edge barely touches the lower part of the TAKE-UP TAPE GUIDE without any curl as shown in Fig. 5-4.
- 5) Confirm that both signals of CH1 and CH2 are nearly same level. Repeat the adjustments 3), 4) if it is not nearly same level.

- 4) Tourner légèrement la vis (a) (SCREW (a)) de manière à ce que le bord de la bande touche à peine la partie inférieure du guide-bande enrouleur et ne présente aucune ondulation ou pliure de la manière illustrée à la Fig. 5-4.
- 5) Confirmer que les signaux CH1 et CH2 ont approximativement le même niveau. Dans le cas contraire refaire les opérations 3) et 4).

VI. ELECTRICAL ADJUSTMENT

6-1. SERVO & VIDEO ADJUSTMENTS

Precautionary items prior adjustment.

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

Required following Test tapes.

Test tape	Parts No.
TF-512CB	AT-750799
TF-527BL	AT-711880
TF-530RFS	AT-751775

4 AUDIO REC BIAS

1. "REC" (no signal input)
2. Test terminal on the A/C Head & VR701.
3. Connect AC voltmeter to test terminal.
 - 2.8 ± 0.1 mV

14 VERTICAL STABILITY

1. "PB" → "PAUSE/STILL"
2. Monitor screen & VR209
3. Minimum vibration of still picture.

3 AUDIO PB LEVEL

1. "PB" test tape TF-527BL
2. TP301 & VR700
3. Connect AC voltmeter to AUDIO OUT.
 - -5.0 ± 0.5 dBm

5 VIDEO E-E LEVEL

1. "E-E" (Stop mode) input stair step signal.
2. TP300 (V-OUT) & VR201
3. Connect oscilloscope to TP300
 - 1.0 ± 0.05 Vp-p

STEP ADJUSTMENT ITEM

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

10 REC/PB VIDEO LEVEL

1. "REC" - "PB" SECAM color bar signal.
2. TP300 (V-OUT) & VR200 (PB LEVEL)
3. Connect oscilloscope to TP300 (V-OUT)
 - 1.0 ± 0.05 Vp-p

8 WHITE & DARK CLIP

1. "REC" SECAM color signal.
2. TP205 (W/D CLIP) & VR205 (W. CLIP), VR204 (D. CLIP)
3. Connect oscilloscope to TP205 (W/D CLIP)
 - VR205 (WHITE CLIP) ... 195%
 - VR204 (DARK CLIP) ... 50%

6 FSC

1. "E-E" (Stop mode) input SECAM color bar signal.
2. TP207 (FSC) & VR400
3. Connect FRQ counter to TP300 (FSC)
 - 4.433619 MHz \pm 10 Hz

12 BELL FILTER

1. "REC" SECAM color bar signal.
2. TP401 & VL401
3. Adjust VL401 so that waveform become flat as shown.

13 EQUALIZER LEVEL

1. "REC" SECAM color bar signal.
2. TP400 & VL400
3. Adjust VL400 so that D'r and D'b are same level as shown.

7 CARRIER SET & DEVIATION

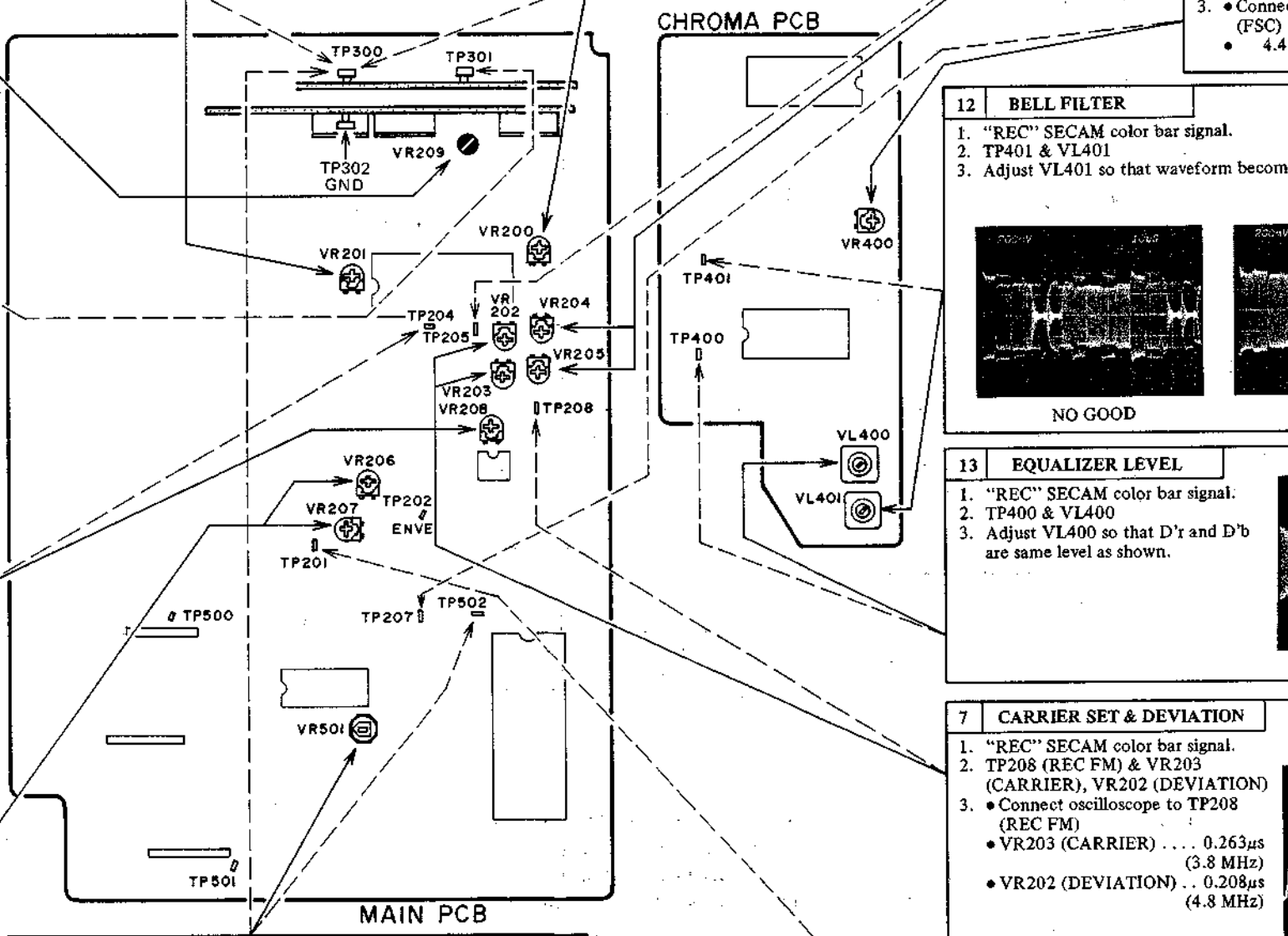
1. "REC" SECAM color bar signal.
2. TP208 (REC FM) & VR203 (CARRIER), VR202 (DEVIATION)
3. Connect oscilloscope to TP208 (REC FM)
 - VR203 (CARRIER) ... 0.263μ s (3.8 MHz)
 - VR202 (DEVIATION) ... 0.208μ s (4.8 MHz)

11 CCD

1. "PB" test tape TF-512CB
2. TP204 (CCD) & VR208 (CCD)
3. Connect oscilloscope to TP204 (CCD)
 - Adjust VR208 so that CCD level becomes minimum.

9 VIDEO REC CURRENT

1. "REC" SECAM color bar signal.
2. TP800 (REC I.R) & VR207 (CHROMA), VR206 (Y).
3. Connect oscilloscope to TP800 (REC I.R)
 - Turn the VR206 (Y) fully counterclockwise.
 - Adjust VR207 (CHROMA) so that chroma REC current becomes 45 ± 5 mVp-p.
 - Adjust VR206 (Y) so that Y REC current becomes 195 ± 5 mVp-p.



2 PB SWITCHING POINT

1. "PB" test tape TF-530RFS
2. TP502 (SWP), TP300 (V-OUT) & VR501
3. Connect oscilloscope to TP502 (SWP) for triggering and connect to TP300 (V-OUT)
 - Adjust VR501 so that switching point becomes 6.5 ± 0.5 H from the V-SYNC.

1 IDL 5V

1. STOP mode
2. TP201 & VR1
3. Connect DC voltmeter to TP201.
 - 5 ± 0.05 V DC

VI. REGLAGES ELECTRIQUES

6-1. REGLAGE DE CIRCUITS IMPRIMÉS MAIN

Précautions à prendre avant d'effectuer les réglages.

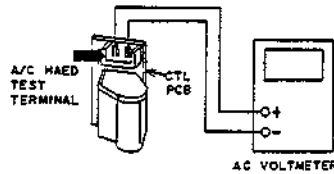
1. La sortie du générateur de barres couleurs doit être de 1,0 Vp-p.
2. La borne de sortie vidéo être bouclée à 75 ohms (fictif ou charge réelle)

Les sondes d'essai suivantes sont requises.

Bande d'Essai	Nombre Partie
TF-512CB	AT-750799
TF-527BL	AT-711880
TF-530RFS	AT-751775

4 POLARISATION D'ENREGISTREMENT AUDIO

1. "ENR." (pas d'entrée de signaux)
2. Borne d'essai de la tête A/C et VR701.
3. • Connecter un voltmètre CA à la borne d'essai.
 - $2,8 \pm 0,1$ mV

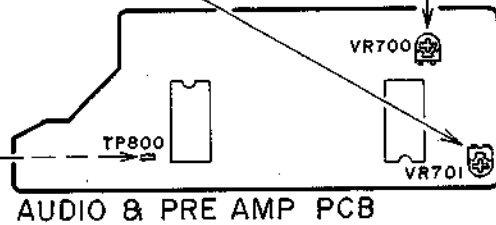


14 STABILITE VERTICALE

1. "ENR", programme TV et PB/PAUSE
2. Ecran moniteur et VR209.
3. Vibration minimale de l'image arrêtée.

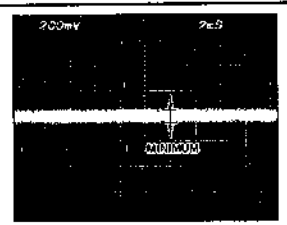
3 NIVEAU AUDIO EN LECTURE

1. "LEC" bande test TF-527BL.
2. TP301 et VR700.
3. • Connecter un voltmètre CA à la sortie audio
 - $-5,0 \pm 0,5$ dBm



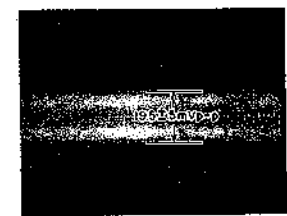
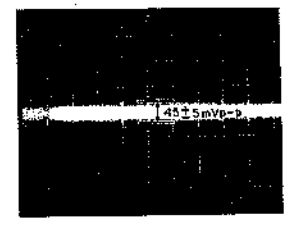
11 CCD

1. "LEC" bande test TF-512CB
2. TP204 (CCD) et VR208 (CCD).
3. • Connecter un oscilloscope à TP204 (CCD).
 - Régler VR208 afin d'obtenir un niveau CCD minimum.



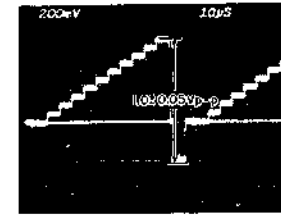
9 COURANT D'ENREGISTREMENT VIDEO

1. "ENR" signal de barre couleur SECAM.
2. TP800 (I.R ENR.) et VR207 (CHROMA), VR206 (Y).
3. • Connecter un oscilloscope à TP800 (I.E ENR.).
 - Tourner VR206 (Y) à fond dans le sens contraire des aiguilles d'une montre.
 - Régler VR207 (CHROMA) de manière à ce que le courant d'enregistrement chroma soit 45 ± 5 mVp-p.
 - Régler VR206 (Y) de manière à ce que le courant d'enregistrement Y soit 195 ± 5 mVp-p.



5 NIVEAU E-E VIDEO

1. "EE" signal de barre couleur SECAM (Mode arrêt).
2. TP300 (Sortie V) et VR201.
3. • Connecter un oscilloscope à TP300
 - $1,0 \pm 0,05$ Vp-p



DISPOSITION POINT DE REGLAGE

1. Mode et signal d'entrée ou bande d'essai.
2. Point d'essai et pieces de réglage.
3. Résultats et Remarques.

à pieces de réglage
à point d'essai

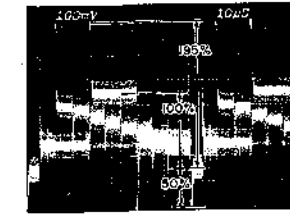
10 NIVEAU VIDEO ENR/LEC

1. "ENR/LEC" signal de barre couleur SECAM.
2. TP300 (SORTIE-V) et VR200 (NIVEAU LEC).
3. • Connecter un oscilloscope à TP300 (SORTIE-V).
 - $1,0 \pm 0,05$ Vp-p



8 CRETE BLANCHE/NOIRE

1. "ENR" signal couleur SECAM
2. TP205 (CRETE) et VR205 (CRETE B), VR204 (CRETE N)
3. • Connecter un oscilloscope à TP205 (CRETE B/N).
 - VR205 (CRETE BLANCHE) 195%
 - VR204 (CRETE NOIRE) 50%

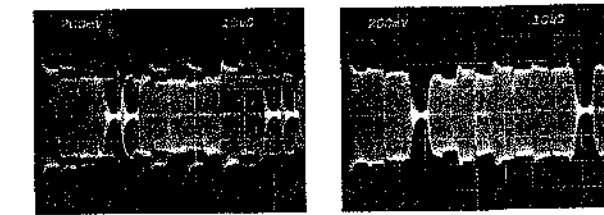


6 FSC

1. "E" signal de barre couleur SECAM d'entrée E-E (Mode arrêt).
2. TP207 (FSC) et VR400.
3. • Connecter un fréquencemètre à TP300 (FSC)
 - $4,4 33619$ MHz ± 10 Hz

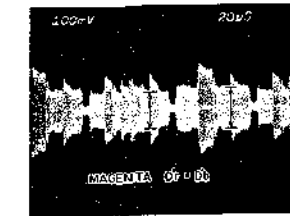
12 FILTRE CLOCHE

1. "ENR" signal de barre couleur SECAM d'enregistrement.
2. TP401 et VL401.
3. Régler VL401 de manière à obtenir une forme d'onde plate comme illustré.



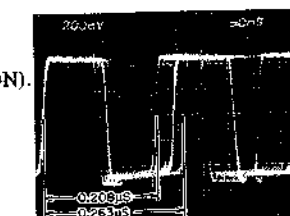
13 NIVEAU EGALISEUR

1. "ENR" signal de barre couleur SECAM d'enregistrement.
2. TP400 et VL400.
3. Régler VL400 afin que D'R et D'B est le même niveau comme illustré.



7 DEVIATION ET REGLAGE DE PORTEUSE

1. Signal de barre couleur SECAM d'enregistrement.
2. TP208 (ENR FM) et VR203 (PORTEUSE), VR202 (DEVIATION).
3. • Connecter un oscilloscope à TP208 (ENR FM).
 - VR203 (PORTEUSE) 0,263 microsec. (3,8 MHz)
 - VR202 (DEVIATION) 0,208 microsec. (4,8 MHz)



1 IDL 5V

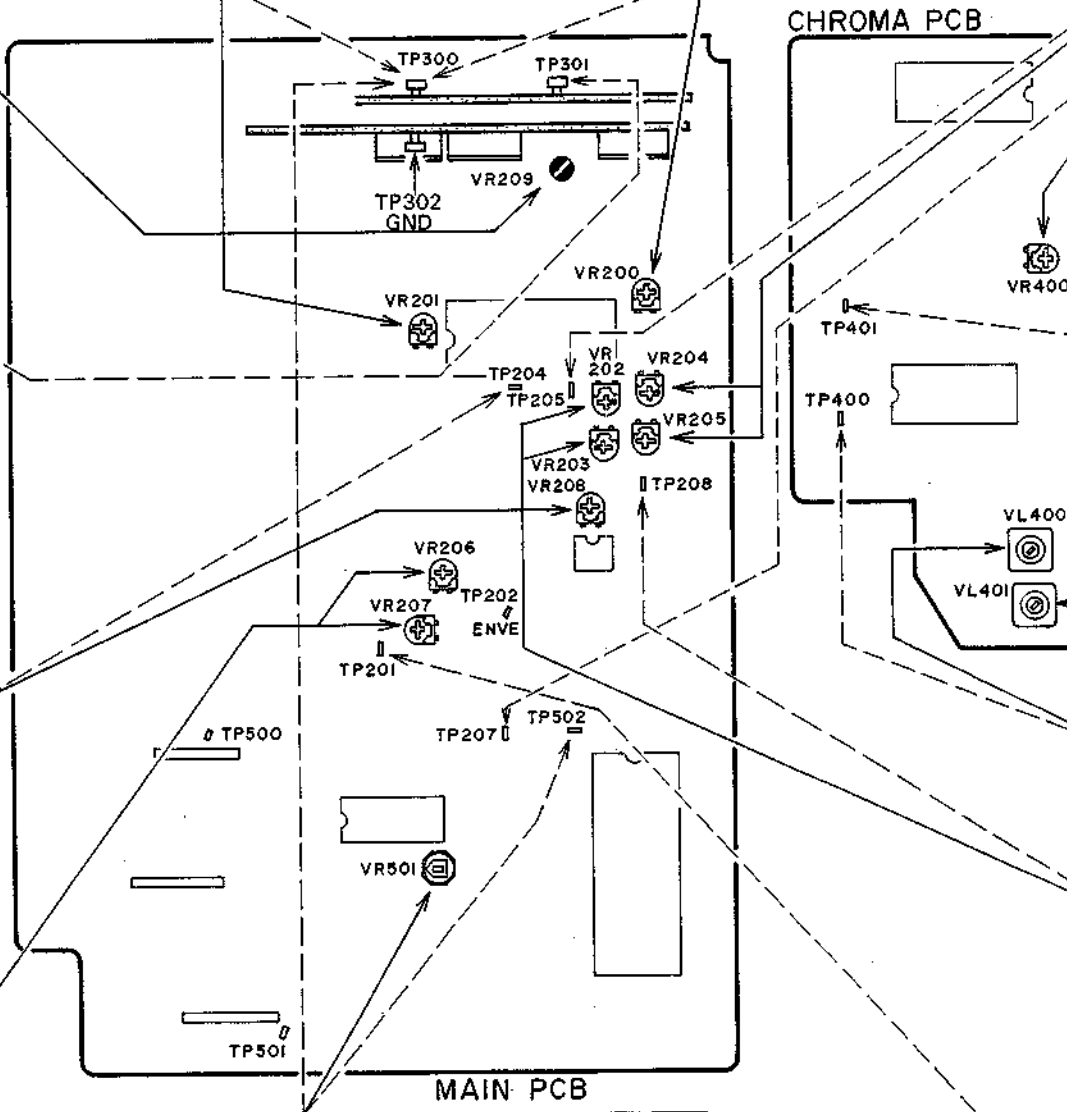
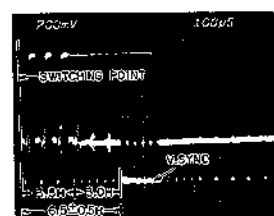
1. MODE ARRET
2. TP201 et VR1
3. • Connecter un voltmètre CC à TP201.
 - $5 \pm 0,05$ V CC

POWER SUPPLY PCB



2 POINT DE COMMUTATION EN LECTURE

1. "LEC" bande test TF-530RFS.
2. TP502 (PT. COMN.), TP300 (SORTIE-V) et VR501.
3. • Connecter un oscilloscope à TP502 (PT. COMN.) pour le déclenchement et à TP300 (SORTIE-V).
 - Régler VR501 afin que le point de commutation soit à $6,5 \pm 0,5$ H de V-SYNC.



VII. PARTS LIST

ATTENTION

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

HOW TO USE THIS PARTS LIST

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

a) Mechanism Block

b) PC Board

2. HEAD BASE BLOCK

Table with 3 columns: REF. NO., PART NO., DESCRIPTION. Includes parts like BH-T2023A320A HEAD BASE BLOCK, HP-H2206A010A HEAD R/P PR4-8FU C, ZS-477876 PAN20x03STL CMT, ZS-536488 BID20x08STL CMT, ZG-402895 SP CS ANGLE ADJUST.

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

6. MAIN PC BOARD

Table with 4 columns: REF. NO., PART NO., DESCRIPTION, and a secondary description. Includes 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 XTAL NC-18C.

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

The available PC Board Blocks are listed separately.

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

WARNING

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

AVERTISSEMENT

(*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SECURITE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL, NE REMPLACER QUE DES PIECES RECOMMANDEES PAR LE FABRICANT.

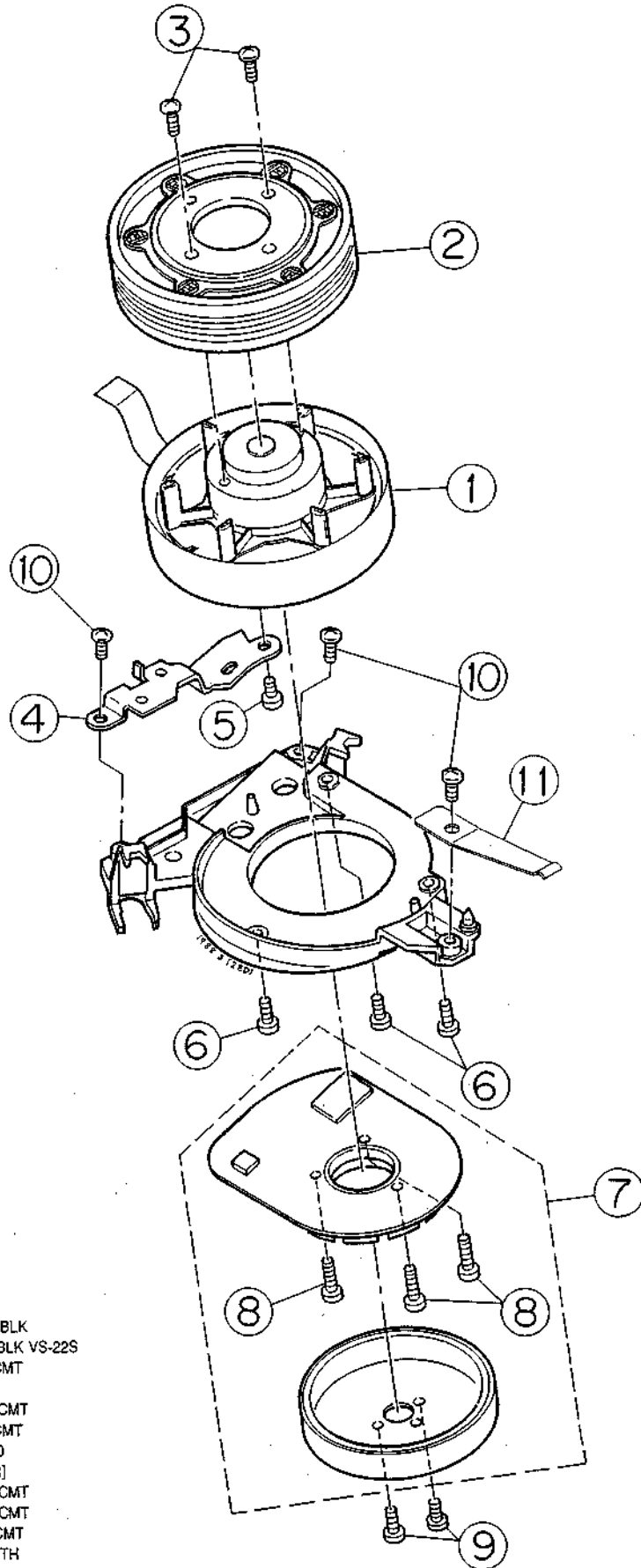
1. RECOMMENDED SPARE PARTS

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

Table with 3 columns: Ref. No., Part No., Description. Lists various components like BL-V1075A130A PINCH ROLLER BLK VS-35EA, BM-373098 MOTOR DVX-67A2R2, BM-367631 MOTOR PART, BM-M3225A010A MOTOR SM-250, BR-367618 DISK(S)PART, BR-367619 DISK(T)PART, *BT-380096J1 TRANS POW V1084EO, BV-V1075A410C LOWER DRUM BLK, BV-376294 RF CONVERTER MDLK3F063A S, BV-V1075A070A S.LOADING LEADER BLK VS-35EA, BV-V1075A080A T.U LOADING LEADER BLK VS-35EA, BV-V1075A420H UPPER DRUM BLK VS-22S, EC-368823 C DBL LAYER EEC5R5H 473Z5.5DC, ED-373101 D LED LN59AK INFRARED, ED-376111 D LED SE303AC INFRARED, ED-383034J D LED SLR-54PC3F L,M GREEN, ED-380409 D PHOTO PN323B, *ED-380089J D SILICON DFC15TC-FD1 200/1.5A, ED-371512 D SILICON ERA22-04Y F05 400/1.5, ED-344280 D SILICON H GMA-01-FY2 F05, ED-307572 D SILICON H 1S5131, ED-624903 D SILICON H 1S2473, *ED-370990 D SILICON 1SR35-100AHS F10, ED-365699 D ZENER H HZS5.6B1J F05, ED-346594 D ZENER H HZ3 B3, ED-346586 D ZENER H HZ33-3L, ED-351419 D ZENER H HZ7B3L, ED-346541 D ZENER H HZ9B2L, ED-346543 D ZENER H HZ9C1L, ED-346546 D ZENER H HZ9C3L, EE-375426 TV TUNER TEMQ1-009A, EE-380255J VIF UNIT SECAM, *EF-601301 FUSE SEMKO T 250V 2.00A, *EF-601942 FUSE SEMKO T 250V 630MA, EH-378927J FILTER LC BP BPF-K5-MS (5969), EH-378856J FILTER LC BP H287BSKS-9424LHD, EH-364066 FILTER LC LP H322LWQ-1168MAD, EH-378928J FILTER LC LP LPF-U5-MD (6231), EH-368821 FILTER LC LP MYV-23R, EI-380085J IC AN3231K, EI-373981J1 IC BA10393N, EI-367572 IC BA15218, EI-373980 IC BA15218N, EI-353421 IC BA6229, EI-360316 IC BA6305, EI-372243 IC BA7107S, EI-354095 IC BA718, EI-380086J IC BU2735AS, EI-380199J IC BU4066BL, EI-373954 IC CXK1006L, EI-373946 IC LA7292, EI-378177 IC MB88525-192G LCXSPYP, EI-373966 IC MSM6965-3RS, EI-379020 IC M50455-073SP, EI-346071 IC M5218L-21, EI-380090J IC NJM2352D, EI-373955 IC S8053ALF, EI-200573 IC TC4053BP, EI-367271 IC UPC1490HA, EI-380084J IC UPC2313CA, EI-337530 IC UPC574J, EI-376112 IC UPD6122G, EI-379549 IC UPD75208CW-154 LCXOPF2, EI-347991 OSC CE CSA6.00MS 6MHZ.

Table with 3 columns: Ref. No., Part No., Description. Lists various components like EI-376113 OSC CE CSB455EB, EI-388110J OSC CE CST4.19MG 4.194MHZ, EI-388825 OSC XTAL MX-38T 32.768KHZ, EI-309878 OSC XTAL 4.433619MHZ, EM-377963 IND FL FV223, EO-375471 COIL OSC 1 S033344, *ER-378650J R FUSE H S10 ERQ16NK 1/6W R47J, ES-373099 SW LEAF MTS10110MPC1, ES-381310J1 [REC SAFTY SW][SW1], ES-381310J1 SW MODE SELECTOR D2ZQ-S2-2, ES-380116J [MODE SELECTOR], ES-380116J SW SLIDE ESD-1112252 2-02-02N, ES-373973 [IN PUT SELECT], ES-373973 SW SLIDE HSW0810-010 1-01-02S, ES-349474 [N/B-COULEUR], ET-361463 SW TACT SKHHAM004A, ET-361463 [TRACKING >], ET-361463 DETECTOR ON2170 Q,R, ET-361463 [SENSOR PCB PH1], ET-366336 TR DTA114ES, ET-363953 TR DTA114TS, ET-360646 TR DTA143ES, ET-368836 TR DTA143TA, ET-354415 TR DTA144ES, ET-373985 TR DTA144TS, ET-353897 TR DTC114ES, ET-360399 TR DTC114TS, ET-354365 TR DTC114YS, ET-354371 TR DTC124ES, ET-354364 TR DTC143TS, ET-354414 TR DTC144ES, ET-356236 TR FET 2SK363 GR,BL, ET-364064 TR UN4119, ET-356224 TR 2SA1286 G,H,J F05, ET-353899 TR 2SA1317 S,T,U, ET-380630J TR 2SB1010, *ET-356817 TR 2SB891 Q,R, ET-321644 TR 2SC1213 C, ET-302502 TR 2SC2001 K, ET-375777 TR 2SC2926S P,Q, *ET-356669 TR 2SC3246 G,H,J F05, ET-360137 TR 2SC3330 U,V F05, ET-372197 TR 2SC3377 R, ET-366168 TR 2SD1292 Q,R, *ET-366581 TR 2SD1762 E,F, EV-380314J VR ROTARY RK09K1130 L=** B203, HE-361456 HEAD E HVFMD0005B, HR-387805J HEAD COMBO HXMZA1031A, MB-373080 BELT IDLER, MB-373096 BELT LOADING, ML-373075 ARM LOADING BRAKE, ML-367614 ARM MAIN BRAKE(S)PART, ML-367616 ARM MAIN BRAKE(TU)PART, ML-367617 ARM REVIEW BRAKE PART, ML-373043 CLUTCH BLK, ML-500681 LEVER TENSION BAND PART, MZ-500717T GEAR CAM CENTER, MZ-368797T GEAR CAM JOINT, MZ-500707T1 GEAR CAM TENSION, MZ-500715T GEAR FL DRIVE, MZ-V1075A090A GEAR TOGGLE (S) BLK VS-35EA, MZ-V1075A100A GEAR TOGGLE (TU) BLK VS-35EA, MZ-500716T GEAR WHEEL, MZ-367629J1 GEAR WORM PART, MZ-368794T GEAR(S), MZ-368795T1 GEAR(T), VT-367622J2 GUIDE ROLLER PART.

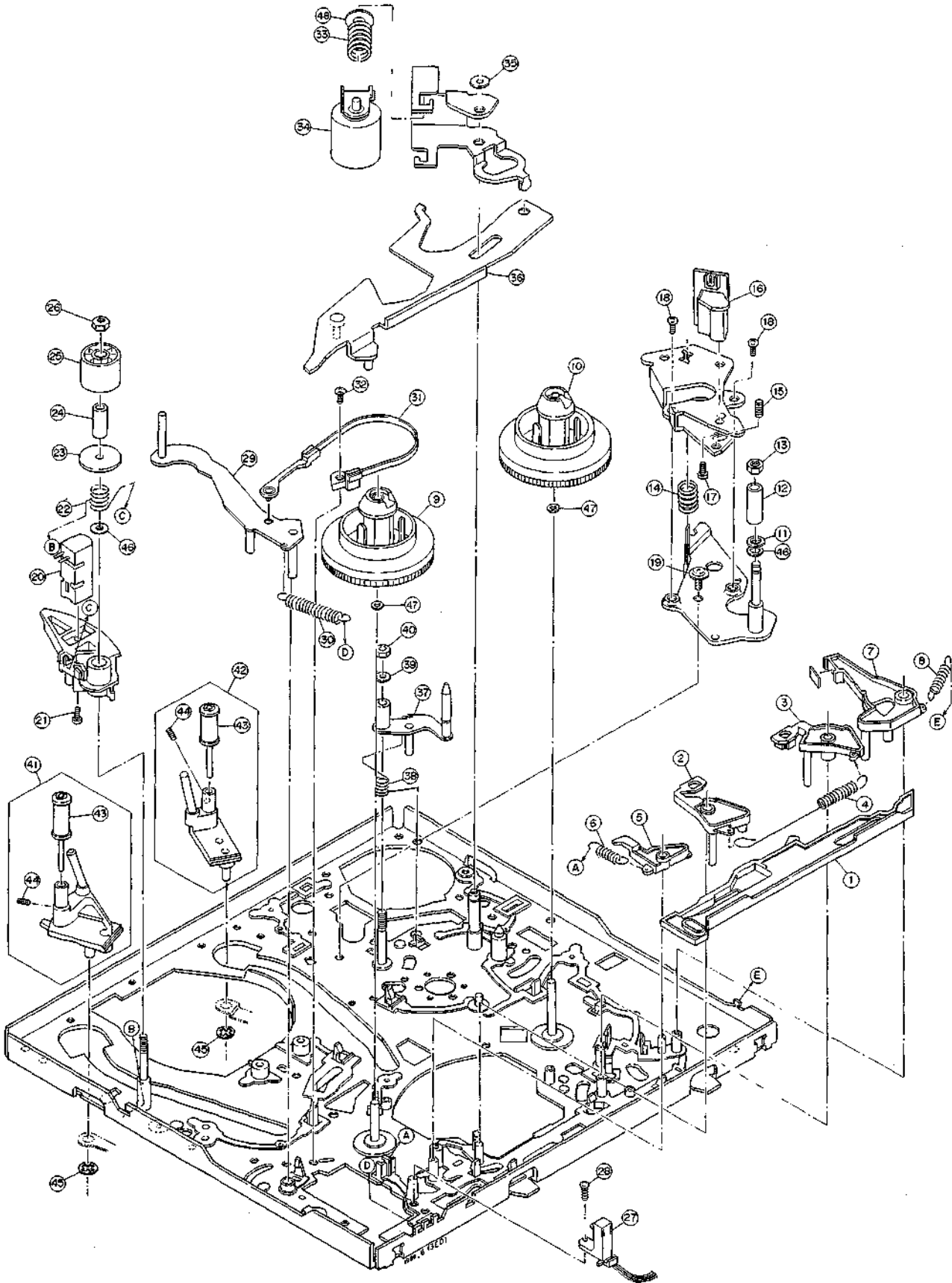
HEAD DRUM BLOCK



2. HEAD DRUM BLOCK

Ref. No.	Part No.	Description
1	BV-V1075A410C	LOWER DRUM BLK
2	BV-V1075A420H	UPPER DRUM BLK VS-22S
3	ZS-321298	BID30X08STL CMT
4	VT-373884J1	PLATE EARTH
5	ZS-479474	PAN26X05STL CMT
6	ZS-563444	BID26X08STL CMT
7	BM-M3225A010A	MOTOR SM-250 [DRUM MOTOR]
8	ZS-467796	PAN26X12STL CMT
9	ZS-479474	PAN26X05STL CMT
10	ZS-413785	BID30X12STL CMT
11	ZG-382137J	SP PLATE EARTH

MECHA BLOCK (1)

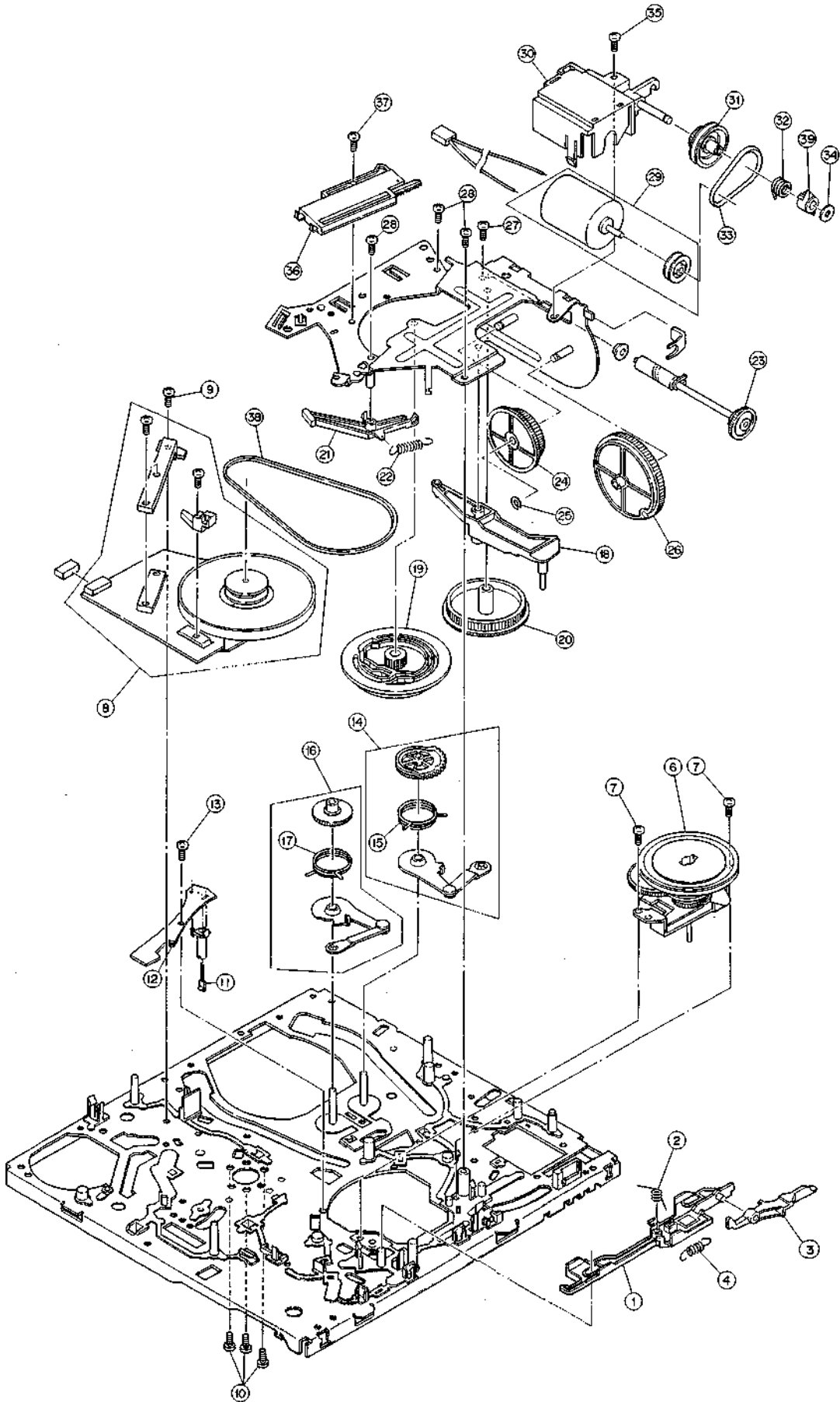


PARTS LIST

3. MECHA BLOCK (1)

Ref. No.	Part No.	Description
1	MZ-373079	SLIDER BRAKE
2	ML-367614	ARM MAIN BRAKE(S)PART
3	ML-367616	ARM MAIN BRAKE(TU)PART
4	ZG-373548	SP PULL MAIN BRAKE
5	ML-373075	ARM LOADING BRAKE
6	ZG-373534	SP PULL LOAD BRAKE
7	ML-367617	ARM REVIEW BRAKE PART
8	ZG-373535	SP PULL REVW BRAKE
9	BR-367618	DISK(S)PART
10	BR-367619	DISK(T)PART
11	MS-373095	GUIDE TAPE LCX
12	MS-372186J1	GUIDE TAPE(6)
13	ZW-358045	N30STL CMT 3
14	ZG-500792	SP PUSH A/C
15	ZG-373900	6SET30X080SCM PKR CP
16	HR-387805J	HEAD COMBO HXMZA1031A [AUDIO/CONTROL]
17	ZS-373899	PAN20X2.5STL BDY PS1
18	ZS-321298	BID30X08STL CMT
19	ZS-373896	DT BID30X08STL CMT PW080
20	HE-361456	HEAD E HVFMD0005B [FULL ERASE HEAD]
21	ZS-464703	BID20X04STL CMT
22	ZG-374022	SP TORSION ARM FE
23	ZW-373088	FLANGE Z
24	ZW-373089	SPACER
25	MR-373087	ROLLER Z
26	ZW-350839	N30 NYLON
27	ES-373099	SW LEAF MTS10110MPC1 [REC SAFTY SW][SW1]
28	ZS-321298	BID30X08STL CMT
29	BL-367620-A	ARM TENSION PART
30	ZG-373539	SP PULL TENSION
31	ML-500681	LEVER TENSION BAND PART
32	ZS-373532	DT BID30X08STL CMT C080
33	ZG-382153J	SP PUSH P
34	BL-V1075A130A	PINCH ROLLER BLK VS-35EA
35	ZW-373898	SLIT W31X070X050PSL
36	BL-500879T1	PLATE P SLIDER PART
37	BL-368475	ARM REVIEW GUIDE PART
38	ZG-373530	SP TORSION REVIEW ARM
39	ZW-324417	PW31X060X050PSL
40	ZW-350839	N30 NYLON
41	BV-V1075A070A	S.LOADING LEADER BLK VS-35EA
42	BV-V1075A080A	T.U LOADING LEADER BLK VS-35EA
43	VT-367622J2	GUIDE ROLLER PART
44	ZS-374458	6SET20X030SCM PKR FP
45	ZW-332843	RETAINING RING GRIP 380STL ACP
46	ZW-287458	PW33X060X030BRS NIS
47	ZW-324417	PW31X060X050PSL
48	ZW-292770	PW41X100X050STL CMT

MECHA BLOCK (2)

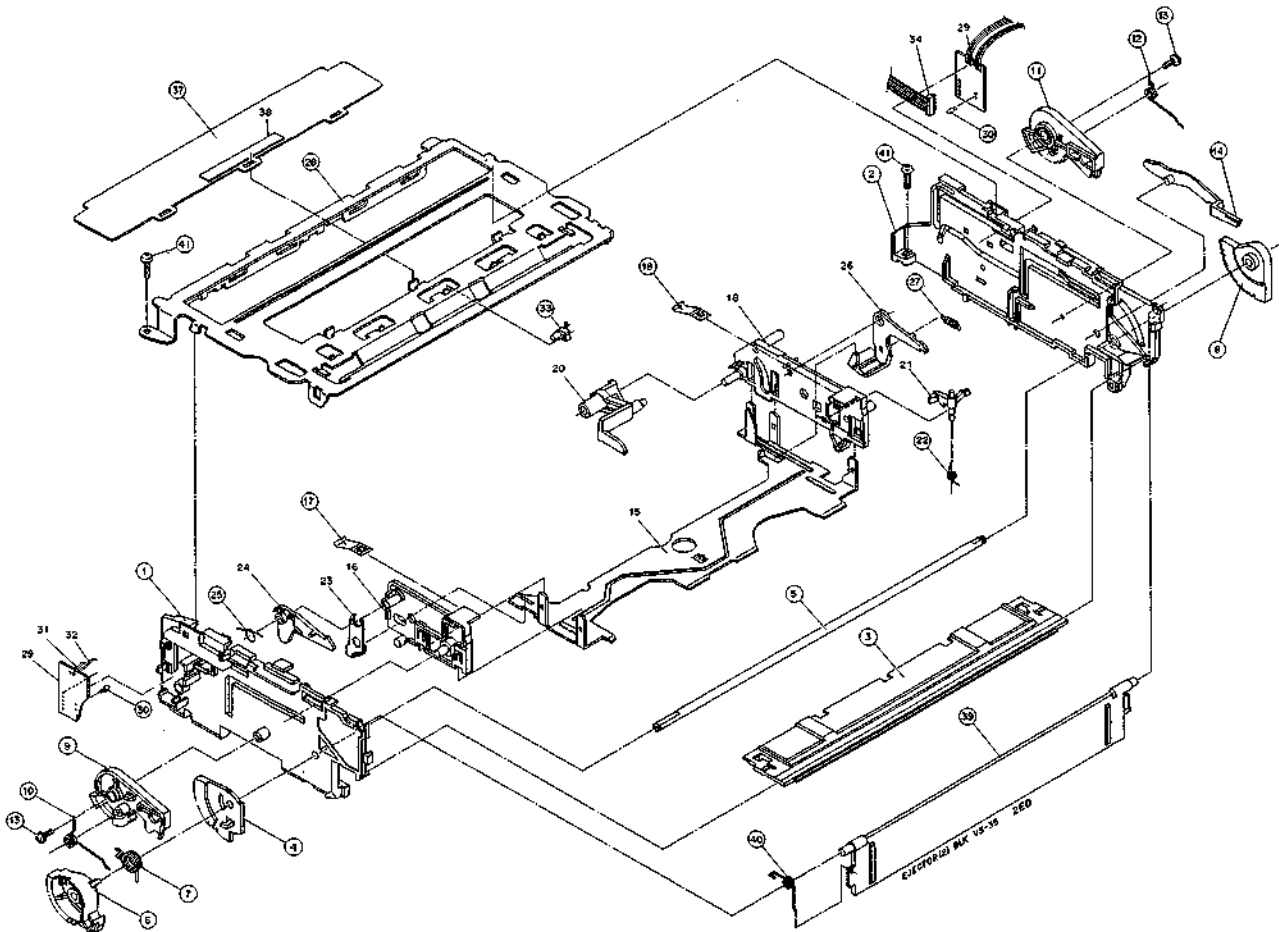


PARTS LIST

4. MECHA BLOCK (2)

Ref. No.	Part No.	Description
1	ML-373038	SLIDER FR
2	ZG-373894J1	SP TORSION SLIDER
3	ML-373036	LEVER F/R HOOK
4	ZG-373536	SP PULL HOOK
6	ML-373043	CLUTCH BLK
7	ZS-373895	DT BID26X08STL CMT
8	BM-373098	MOTOR DVX-67A2R2 [CAPSTAN MOTOR]
9	ZS-373895	DT BID26X08STL CMT
10	ZS-419782	BID26X06STL CMT
11	ED-373101	D LED LN59AK INFRARED [SENSOR PCB D1]
12	ET-361463	DETECTOR CN2170 Q,R [SENSOR PCB PH1]
13	ZS-369900	PAN30X08STL CMT TW
14	MZ-V1075A090A	GEAR TOGGLE (S) BLK VS-35EA
15	ZG-373542	SP TORSION GEAR TOGGLE(S)
16	MZ-V1075A100A	GEAR TOGGLE (TU) BLK VS-35EA
17	ZG-373541	SP TORSION GEAR TOGGLE(TU)
18	ML-367625	LEVER CAM SLIDER PART
19	MZ-500717T	GEAR CAM CENTER
20	MZ-500707T1	GEAR CAM TENSION
21	BL-367627	ARM FW BRAKE PART
22	ZG-373546	SP PULL FW BRAKE
23	MZ-367628J1	GEAR WORM PART
24	MZ-500716T	GEAR WHEEL
25	ZW-373898	SLIT W31X070X050PSL
26	MZ-500715T	GEAR FL DRIVE
27	ZS-373895	DT BID26X08STL CMT
28	ZS-373897	PLX BID26X10STL CMT
29	BM-367631	MOTOR PART [LOADING MOTOR][M901]
30	SP-500887T-A	HOUSING MOTOR PART
31	MR-373045	PULLY BELT LOADING
32	ZG-373046J1	SP TORSION TRIGGER
33	MB-373096	BELT LOADING
34	ZW-373901	SLIT W22X060X050PSL
35	ZS-373897	PLX BID26X10STL CMT
36	ES-361310J1	SW MODE SELECTOR D2ZQ-S2-2 [MODE SELECTOR]
37	ZS-373895	DT BID26X08STL CMT
38	MB-373080	BELT IDLER
39	ML-376267	RING TRIGGER(2)

EJECTOR BLOCK



5. EJECTOR BLOCK

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	MZ-366790T1	HOUSING(S)	14	ML-500730T	ARM LID OPENER
2	MZ-366791T2	HOUSING(T)	17	ZG-382450T	SP PLATE HOLDER(2)
3	SZ-375956T	GUID F	19	ZG-382450T	SP PLATE HOLDER(2)
4	MZ-366794T	GEAR(S)	22	ZG-375959T	SP TORSION RELEASE
5	MS-366798T	SHAFT LOADING	25	ZG-375957T1	SP TORSION DAMPER
6	MZ-366797T	GEAR CAM JOINT	27	ZG-375958T	SP PULL DAMPER
7	ZG-375953T	SP TORSION JOINT	28	MA-366799T	CHASSIS UPPER
8	MZ-366795T1	GEAR(T)	30	ET-361490	TR PHOTO PN268 R,S
9	ML-366792T	ARM LOADING(S)	39	SE-388026J	MASK CASSETTE LL2(F)
10	ZG-375954T	SP TORSION LOADING(S)	40	ZG-500767	SP TORSION MASK
11	ML-366793T	ARM LOADING(T)	41	ZS-378341	PLX BID30X12STL CMT
12	ZG-375955T	SP TORSION LOADING(T)	42	BV-V1075A240A	TW HOLDER CASSETTE BLK -35EA/TW
13	ZS-3668524	PLX BID26X10STL CMT C072	43	BV-V1075A205C	TW EJECTOR (2) BLK 9272/TW

6. P.C BOARD BLOCK

Ref. No.	Part No.	Description
1	BA-V1085A600A	PC(#) MAIN(SECAM) BLK (VS-22S)
2	BA-V1084D500J	PC(#) POWER BLK VS-22S

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

- * MAIN P.C BOARD
- * CHROMA P.C BOARD
- * AUDIO & PRE-AMP P.C BOARD
- * OPERATION P.C BOARD
- * PRE-SET P.C BOARD

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

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

7. MAIN P.C BOARD

Ref. No.	Part No.	Description
C500	EC-368823	C DBL LAYER EECS5R5H 47325.5DC
D3	ED-307572	D SILICON H 1SS131
D6	ED-346546	D ZENER H HZ9C3L
D201	ED-624903	D SILICON H 1S2473
D202	ED-307572	D SILICON H 1SS131
D204	ED-307572	D SILICON H 1SS131
D206	ED-307572	D SILICON H 1SS131
D310	ED-307572	D SILICON H 1SS131
D311	ED-307572	D SILICON H 1SS131
D500	ED-307572	D SILICON H 1SS131
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
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
D510	ED-307572	D SILICON H 1SS131
D511	ED-307572	D SILICON H 1SS131
D512	ED-307572	D SILICON H 1SS131
D514	ED-307572	D SILICON H 1SS131
D516	ED-346541	D ZENER H HZ9B2L
D528	ED-307572	D SILICON H 1SS131
D529	ED-365699	D ZENER H HZS5.6B1J F05
D530	ED-307572	D SILICON H 1SS131
FL200	EH-364066	FILTER LC LP H322LWQ-1166MAD
FL202	EH-368821	FILTER LC LP MYV-23R
FR500	ER-336756	R OMF H FS 1W R47J
IB500	EH-378540J	COMP R RGL65X 103J
IB501	EH-386636J	COMP R RGL65X 103J
IC1	EI-346071	IC M5218L-21
IC2	EI-337530	IC UPC574J
IC200	EI-380085J	IC AN3231K
IC202	EI-373966	IC MSM6965-3RS
IC500	EI-360316	IC BA6305
IC501	EI-373980	IC BA15218N
IC502	EI-354085	IC BA718
IC503	EI-380086J	IC BU2735AS
IC504	EI-353421	IC BA6229
IC505	EI-373981J	IC BA10393N
IC506	EI-378177	IC MB88525-192G LCXSY3P
IC507	EI-373980	IC BA15218N
L1	EO-365304	COIL FIX 1 EL0606SKI 1R0J
L2	EO-365304	COIL FIX 1 EL0606SKI 1R0J
L3	EO-365304	COIL FIX 1 EL0606SKI 1R0J
L4	EO-345885	COIL FIX 1 EL0606SKI 100J
L5	EO-365304	COIL FIX 1 EL0606SKI 1R0J

Ref. No.	Part No.	Description
L14	EO-380093J1	COIL FIX 2 C-5294-01 101K
L200	EO-376607	COIL FIX 1 LF-5.0S F05 181K
L201	EO-376602	COIL FIX 1 LF-5.0S F05 121K
L202	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L203	EO-376609	COIL FIX 1 LF-5.0S F05 270K
L204	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L206	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L207	EO-345878	COIL FIX 1 EL0606SKI 680J
L208	EO-376860	COIL FIX 1 LF-5.0S F05 820K
L211	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L212	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L213	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L220	EO-376616	COIL FIX 1 LF-5.0S F05 221K
L221	EO-376602	COIL FIX 1 LF-5.0S F05 121K
L222	EO-376602	COIL FIX 1 LF-5.0S F05 121K
L224	EO-380734J	COIL FIX 1 LF-5.0S F05 6R8K
L500	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L550	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
PJ200	EJ-380205J	PIN J JPJ8322-01-410
SW200	ES-373973	SW SLIDE HSW0810-010 1-01-02S [N/B-COULEUR]
TR1	ET-356224	TR 2SA1286 G,H,J F05
TR2	ET-375777	TR 2SC2826S P,Q
TR3	ET-353899	TR 2SA1317 S,T,U
TR4	ET-353899	TR 2SA1317 S,T,U
TR5	ET-353899	TR 2SA1317 S,T,U
TR6	ET-360137	TR 2SC3330 U,V F05
TR7	ET-321644	TR 2SC1213 C
TR8	ET-360137	TR 2SC3330 U,V F05
TR9	ET-360137	TR 2SC3330 U,V F05
TR10	ET-356236	TR FET 2SK363 GR,BL
TR11	ET-353897	TR DTC114ES
TR13	ET-356224	TR 2SA1286 G,H,J F05
TR14	ET-360646	TR DTA143ES
TR15	*ET-355669	TR 2SC3246 G,H,J F05
TR19	ET-356224	TR 2SA1286 G,H,J F05
TR205	ET-363953	TR DTA114TS
TR206	ET-360137	TR 2SC3330 U,V F05
TR208	ET-360137	TR 2SC3330 U,V F05
TR210	ET-356224	TR 2SA1286 G,H,J F05
TR215	ET-353899	TR 2SA1317 S,T,U
TR221	ET-360137	TR 2SC3330 U,V F05
TR223	ET-354414	TR DTC144ES
TR224	ET-360646	TR DTA143ES
TR225	ET-360399	TR DTC114TS
TR310	ET-354414	TR DTC144ES
TR500	ET-354415	TR DTA144ES
TR501	ET-360137	TR 2SC3330 U,V F05
TR502	ET-373985	TR DTA144TS
TR503	ET-354414	TR DTC144ES
TR504	ET-354414	TR DTC144ES
TR505	ET-354414	TR DTC144ES
TR507	ET-373985	TR DTA144TS
TR508	ET-354371	TR DTC124ES
TR512	ET-373985	TR DTA144TS
TR513	ET-360137	TR 2SC3330 U,V F05
TR514	ET-373985	TR DTA144TS
TR515	ET-353899	TR 2SA1317 S,T,U
TR516	ET-353899	TR 2SA1317 S,T,U
TR517	ET-354365	TR DTC114YS
TR518	ET-354371	TR DTC124ES
TR520	ET-354414	TR DTC144ES
TR521	ET-353899	TR 2SA1317 S,T,U
VR200	EV-358829	R S-FIX H RH0615C 0.10W 223
VR201	EV-358829	R S-FIX H RH0615C 0.10W 223
VR202	EV-356324	R S-FIX H KV5F637A 0.10W 103
VR203	EV-356324	R S-FIX H KV5F637A 0.10W 103
VR204	EV-358829	R S-FIX H RH0615C 0.10W 223
VR205	EV-358829	R S-FIX H RH0615C 0.10W 223
VR206	EV-356579	R S-FIX H RH0615C 0.10W 102
VR207	EV-356579	R S-FIX H RH0615C 0.10W 472
VR208	EV-356583	R S-FIX H RH0615C 0.10W 332
VR209	EV-374014	R S-FIX EVTK-8C 0.20W 104
VR501	EV-378325	R S-FIX H KV5F687A 0.30W 473
X500	EI-347991	OSC CE CSA6.00MS 6MHZ
1	EE-380255J	VIF UNIT SECAM
2	EE-375426	TV TUNER TEMQ1-009A
3	BV-376294	RF CONVERTER MDLK3F063A S

8. CHROMA P.C BOARD

Ref. No.	Part No.	Description
D400	ED-307572	D SILICON H 1SS131
D401	ED-307572	D SILICON H 1SS131
D402	ED-307572	D SILICON H 1SS131
D403	ED-307572	D SILICON H 1SS131
D404	ED-307572	D SILICON H 1SS131
FL400	EH-378927J	FILTER LC BP BPF-K5-MS (5969)
FL401	EH-378928J	FILTER LC LP LPF-U5-MD (6231)
FL402	EH-378856J	FILTER LC BP H287BSKS-9424LHD
IC400	EI-372243	IC BA7107S
IC401	EI-379020	IC M50455-073SP
L400	EO-376805	COIL FIX 1 LF-5.0S F05 151K
L401	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L402	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L403	EO-376803	COIL FIX 1 LF-5.0S F05 150K
L404	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L405	EO-376605	COIL FIX 1 LF-5.0S F05 151K
L406	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L407	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L408	EO-376859	COIL FIX 1 LF-5.0S F05 8R2K
L409	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
TR400	ET-360137	TR 2SC3330 U,V F05
TR401	ET-364064	TR UN4119
TR402	ET-354415	TR DTA144ES
TR403	ET-353897	TR DTC114ES
TR404	ET-353897	TR DTC114ES
TR405	ET-360137	TR 2SC3330 U,V F05
TR406	ET-360137	TR 2SC3330 U,V F05
TR407	ET-360137	TR 2SC3330 U,V F05
TR408	ET-360137	TR 2SC3330 U,V F05
TR409	ET-360137	TR 2SC3330 U,V F05
TR411	ET-353899	TR 2SA1317 S,T,U
VL400	EO-364063	COIL VARI 1 F291CNS-0665BS
VL401	EO-364062	COIL VARI 1 F291CNS-0666GW
VR400	EV-380253J	R S-FIX H KV5F687A 0.30W 223
X400	EI-309878	OSC XTAL 4.433619MHZ

9. AUDIO & PRE-AMP P.C BOARD

Ref. No.	Part No.	Description
D700	ED-307572	D SILICON H 1SS131
D701	ED-307572	D SILICON H 1SS131
FL700	EO-375471	COIL OSC 1 S033344
IC700	EI-373946	IC LA7292
IC800	EI-380084J	IC UPC2313CA
L700	EO-382618J	COIL FIX 1 FL07H 272K
L701	EO-382619J	COIL FIX 1 EL0607SKI F05 472J
L802	EO-376610	COIL FIX 1 LF-5.0S F05 330K
L804	EO-376606	COIL FIX 1 LF-5.0S F05 180K
L805	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L806	EO-376612	COIL FIX 1 LF-5.0S F05 680K
L807	EO-345687	COIL FIX 1 EL0606SKI 221J
L808	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
P800	EJ-373948	SOCKET 5597-08CPB 8P
TR700	ET-360137	TR 2SC3330 U,V F05
TR801	ET-360137	TR 2SC3330 U,V F05
TR802	ET-360137	TR 2SC3330 U,V F05
TR803	ET-356224	TR 2SA1286 G,H,J F05
VR700	EV-356577	R S-FIX H RH0615C 0.10W 103
VR701	EV-356582	R S-FIX H RH0615C 0.10W 473

10. OPERATION P.C BOARD

Ref. No.	Part No.	Description
D900	ED-307572	D SILICON H 1SS131
D901	ED-307572	D SILICON H 1SS131
D902	ED-307572	D SILICON H 1SS131
D903	ED-307572	D SILICON H 1SS131
D904	ED-307572	D SILICON H 1SS131
D905	ED-307572	D SILICON H 1SS131
D906	ED-307572	D SILICON H 1SS131
D907	ED-307572	D SILICON H 1SS131
D908	ED-307572	D SILICON H 1SS131
D912	ED-307572	D SILICON H 1SS131
D913	ED-307572	D SILICON H 1SS131
D915	ED-307572	D SILICON H 1SS131
D916	ED-346543	D ZENER H HZ9C1L
D917	ED-383034J	D LED SLR-54PC3F L,M GREEN [QUICK START]
D918	ED-383034J	D LED SLR-54PC3F L,M GREEN [QUICK START]
D919	ED-351419	D ZENER H HZ7B3L
D920	ED-360409	D PHOTO PN323B
D921	ED-307572	D SILICON H 1SS131
FL900	EM-377963	IND FL FV223
IB900	EH-378541J	COMP R RGL5X 473J
IB901	EH-383057J	COMP R RGL5X 473J
IC901	EI-379549	IC UPD75208CW-154 LCXOPF2
IC902	EI-373955	IC S8053ALR
IC903	EI-373954	IC CXX1006L
IC904	EI-367271	IC UPC1490HA
L900	EO-376800	COIL FIX 1 LF-5.0S F05 101K
L901	EO-376616	COIL FIX 1 LF-5.0S F05 221K
SW900	ES-349474	SW TACT SKHHAM004A [TRACKING >]
SW901	ES-349474	SW TACT SKHHAM004A [TRACKING <]
SW902	ES-349474	SW TACT SKHHAM004A [QUICK TIMER STOP]
SW903	ES-349474	SW TACT SKHHAM004A [QUICK TIMER-M]
SW904	ES-349474	SW TACT SKHHAM004A [REC]
SW905	ES-349474	SW TACT SKHHAM004A [STILL]
SW906	ES-349474	SW TACT SKHHAM004A [REW]
SW907	ES-349474	SW TACT SKHHAM004A [CH UP]
SW908	ES-349474	SW TACT SKHHAM004A [TIMER]
SW909	ES-349474	SW TACT SKHHAM004A [STOP]
SW910	ES-349474	SW TACT SKHHAM004A [FF]
SW911	ES-349474	SW TACT SKHHAM004A [POWER]
SW912	ES-349474	SW TACT SKHHAM004A [QUICK TIMER-H]
SW913	ES-349474	SW TACT SKHHAM004A [CH DOWN]
SW914	ES-349474	SW TACT SKHHAM004A [PLAY]
SW915	ES-349474	SW TACT SKHHAM004A [SLOW]
SW916	ES-349474	SW TACT SKHHAM004A [EJECT]
SW918	ES-380116J	SW SLIDE ESD-111225.2 2-02-02N [IN PUT SELECT]
SW919	ES-380116J	SW SLIDE ESD-111225.2 2-02-02N [EDIT ON/OFF]
TR900	ET-354414	TR DTC144ES
TR901	ET-354414	TR DTC144ES
TR902	ET-354414	TR DTC144ES
TR903	ET-354414	TR DTC144ES
TR904	ET-368836	TR DTA143TA
TR906	ET-354414	TR DTC144ES
TR907	ET-354364	TR DTC143TS
TR908	ET-354364	TR DTC143TS
TR909	ET-354364	TR DTC143TS

Ref. No.	Part No.	Description
VR900	EV-380314J	VR ROTARY RK09K1130 L=** B203 [PICTURE]
X900	EI-388110J	OSC CE CST4.19MG 4.194MHZ
X901	EI-368825	OSC X'TAL MX-38T 32.768KHZ

11. PRE-SET P.C BOARD

Ref. No.	Part No.	Description
D950	ED-382356J	D LED SLR34PC 3F K,L,M GREEN [AFC/MEMO]
D951	ED-307572	D SILICON H 1SS131
D952	ED-307572	D SILICON H 1SS131
D953	ED-307572	D SILICON H 1SS131
D954	ED-307572	D SILICON H 1SS131
D955	ED-307572	D SILICON H 1SS131
SW951	ES-349474	SW TACT SKHHAM004A [FAST -]
SW952	ES-349474	SW TACT SKHHAM004A [FAST +]
SW953	ES-349474	SW TACT SKHHAM004A [BAND]
SW954	ES-349474	SW TACT SKHHAM004A [SLOW -]
SW955	ES-349474	SW TACT SKHHAM004A [SLOW +]
SW956	ES-349474	SW TACT SKHHAM004A [MEMO]
SW957	ES-380117J	SW SLIDE ESD-1111352 2-01-03N [PRE-SET]

12. POWER SUPPLY P.C BOARD

Ref. No.	Part No.	Description
C1	EC-355371	C CE V DNS472ZV V 472Z 400AC
C2	EC-363491	C EC V CUT SME 222M 25.0DC
C3	EC-366613	C EC V CUT SME 102M 25.0DC
D1	*ED-370990	D SILICON 1SR35-100AHS F10
D2	*ED-370990	D SILICON 1SR35-100AHS F10
D3	*ED-370990	D SILICON 1SR35-100AHS F10
D4	*ED-370990	D SILICON 1SR35-100AHS F10
D5	*ED-370990	D SILICON 1SR35-100AHS F10
D6	*ED-370990	D SILICON 1SR35-100AHS F10
D7	*ED-370990	D SILICON 1SR35-100AHS F10
D8	*ED-370990	D SILICON 1SR35-100AHS F10
D9	*ED-380089J	D SILICON DFC15TC-FD1 200/1.5A
D10	*ED-307572	D SILICON H 1SS131
D11	*ED-624903	D SILICON H 1S2473
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-624903	D SILICON H 1S2473
D19	ED-346586	D ZENER H HZ33-3L
D20	ED-346584	D ZENER H HZ3 B3
D21	ED-371512	D SILICON ERA22-04Y F05 400/.5
D23	ED-307572	D SILICON H 1SS131
FR1	*ER-378650J	R FUSE H S10 ERC16NK 1/6W R47J
FR2	*ER-378650J	R FUSE H S10 ERC16NK 1/6W R47J
IC1	EI-380090J	IC NJM2352D
IC2	EI-367572	IC BA15218
L3	EO-389177J	COIL FIX 2 PC10 101K
L4	EO-382264T	COIL FIX 2 EF1950 560K
L5	EO-382264T	COIL FIX 2 EF1950 560K

Ref. No.	Part No.	Description
L6	EO-380093J1	COIL FIX 2 C-5294-01 101K
L7	EO-382264T	COIL FIX 2 EF1950 560K
L8	EO-349560	COIL FIX 1 FL09H 122J
R18	ER-367505	R OMF H S12 FS 1W 102J
TR1	*ET-356817	TR 2SB891 Q,R
TR3	ET-372197	TR 2SC3377 R
TR4	ET-360137	TR 2SC3330 U,V F05
TR6	ET-360137	TR 2SC3330 U,V F05
TR7	*ET-356817	TR 2SB891 Q,R
TR8	ET-356338	TR DTA114ES
TR9	ET-354364	TR DTC143TS
TR10	ET-354364	TR DTC143TS
TR11	*ET-356817	TR 2SB891 Q,R
TR12	ET-366168	TR 2SD1292 Q,R
TR13	ET-353899	TR 2SA1317 S,T,U
TR15	ET-380630J	TR 2SB1010
VR1	EV-356579	R S-FIX H RH0615C 0.10W 102
T1	*BT-380096J1	TRANS POW V1084EO
F1	*EF-601942	FUSE SEMKO T 250V 630MA
F2	*EF-601301	FUSE SEMKO T 250V 2.00A

13. TR (1) P.C BOARD

Ref. No.	Part No.	Description
TR2	*ET-366581	TR 2SD1762 E,F

14. TR (2) P.C BOARD

Ref. No.	Part No.	Description
TR5	*ET-366581	TR 2SD1762 E,F

15. 21 PIN (A) P.C BOARD

Ref. No.	Part No.	Description
C339	EC-378664J	C EC V CUT SME 102M 6.3DC
D300	ED-307572	D SILICON H 1SS131
D302	ED-307572	D SILICON H 1SS131
IC300	EI-200573	IC TC4053BP
IC301	EI-380199J	IC BU4066BL
IC302	EI-380199J	IC BU4066BL
IC303	EI-200573	IC TC4053BP
L300	EO-376610	COIL FIX 1 LF-5.0S F05 330K
L301	EO-376610	COIL FIX 1 LF-5.0S F05 330K
L302	EO-376611	COIL FIX 1 LF-5.0S F05 470K
L303	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L305	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
TR308	ET-353899	TR 2SA1317 S,T,U
TR309	ET-360137	TR 2SC3330 U,V F05
TR310	ET-353899	TR 2SA1317 S,T,U
TR311	ET-353899	TR 2SA1317 S,T,U
TR312	ET-353899	TR 2SA1317 S,T,U
TR313	ET-360137	TR 2SC3330 U,V F05
TR314	ET-353899	TR 2SA1317 S,T,U
TR315	ET-360137	TR 2SC3330 U,V F05
TR317	ET-353899	TR 2SA1317 S,T,U
TR318	ET-354414	TR DTC144ES
TR319	ET-360137	TR 2SC3330 U,V F05
TR320	ET-360137	TR 2SC3330 U,V F05

Ref. No.	Part No.	Description
TR321	ET-360137	TR 2SC3330 U,V F05
TR322	ET-353899	TR 2SA1317 S,T,U
TR323	ET-360137	TR 2SC3330 U,V F05
TR325	ET-360137	TR 2SC3330 U,V F05

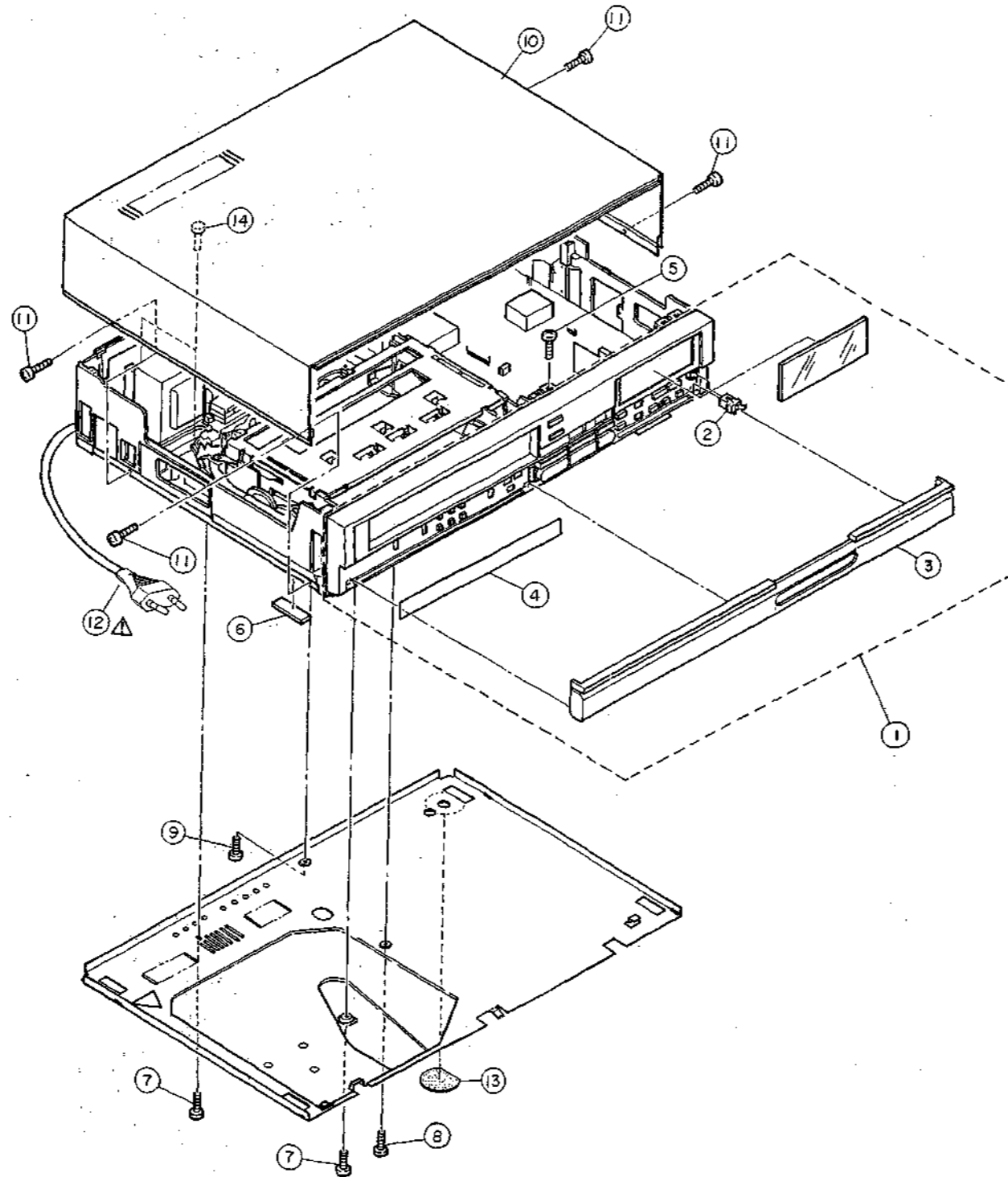
16. 21 PIN (B) P.C BOARD

Ref. No.	Part No.	Description
D301	ED-307572	D SILICON H 1SS131
D303	ED-307572	D SILICON H 1SS131
D304	ED-307572	D SILICON H 1SS131
P300	EJ-372242	SOCKET HXC 1521-01-010 21P
P301	EJ-380273J	SOCKET HXC1521-01-030 21P
TR300	ET-353899	TR 2SA1317 S,T,U
TR301	ET-353899	TR 2SA1317 S,T,U
TR302	ET-360137	TR 2SC3330 U,V F05
TR303	ET-360137	TR 2SC3330 U,V F05
TR304	ET-360137	TR 2SC3330 U,V F05
TR305	ET-353899	TR 2SA1317 S,T,U
TR306	ET-353899	TR 2SA1317 S,T,U
TR307	ET-360137	TR 2SC3330 U,V F05
TR316	ET-360137	TR 2SC3330 U,V F05
TR324	ET-354415	TR DTA144ES
1	SP-377985T	PANEL REAR JACK S
2	ZS-362378	PLX BID30X10STL CMT
3	ZS-373897	PLX BID26X10STL CMT

17. FINAL ASSEMBLY BLOCK

Ref. No.	Part No.	Description
1	BD-V1085B300E	PANEL FRONT BLK (VS-20S-B)
2	SZ-375320J1	LATCH DOOR
3	SP-383157J	DOOR FRONT LL2(F) B
4	ZZ-382433J	LABEL PRESET(L) OEM S
5	ZS-362378	PLX BID30X10STL CMT
6	SA-353927B	FOOT(2)
7	ZS-364545	DT BID30X08STL CMT
8	ZS-362378	PLX BID30X10STL CMT
9	ZS-368547	PLX BID30X06STL CMT
10	SP-500772	COVER UPPER B
11	ZS-374023	DT BID26X08STL BNI
12	*EW-371933	AC CORD200 KP419LTCE B100 A EV
13	TC-376182	PAD COVER BOTTOM
14	ZS-373962	PLX BID40X10STL CMT (TRANS POWER FIX)

FINAL ASSEMBLY BLOCK



18. ACCESSORY

Ref. No.	Part No.	Description
1	AV-348415	CORD SECAM
2	AX-N4003B010B	LLX REMOCON BLK RC-V22A-FB

19. REMOTE CONTROL UNIT RC-V22

Ref. No.	Part No.	Description
D1	ED-376111	D LED SE303AC INFRARED
D2	ED-344280	D SILICON H GMA-01-FY2 F05
D3	ED-344280	D SILICON H GMA-01-FY2 F05
D4	ED-344280	D SILICON H GMA-01-FY2 F05
IC1	EI-376112	IC UPD6122G
TR1	ET-302502	TR 2SC2001 K
X1	EI-376113	OSC CE CSB455EB
1	ZG-375530	TERMINAL BATTERY(A)
2	ZG-375531	TERMINAL BATTERY(B)
3	ZG-375532	TERMINAL BATTERY(C)
4	SC-375525A	COVER BATTERY(B)
5	SC-375526E	COVER PROGRAM E
6	ZS-367675	PT CTS20X06STL CMT

INDEX

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
AV-348415	18-1	ED-307572	10-D913	EH-378856J	1-36	EO-364063	8-VL400
AX-N4003B010B	18-2	ED-307572	10-D915	EH-378856J	8-FL402	EO-365304	7-L1
BA-V1084D500J	6-2	ED-307572	10-D921	EH-378927J	1-35	EO-365304	7-L2
BA-V1085A600A	6-1	ED-307572	11-D951	EH-378927J	8-FL400	EO-365304	7-L3
BD-V1085B300E	17-1	ED-307572	11-D952	EH-378928J	1-38	EO-365304	7-L5
BL-367620-A	3-29	ED-307572	11-D953	EH-378928J	8-FL401	EO-375471	1-70
BL-367627	4-21	ED-307572	11-D954	EH-383057J	10-IB901	EO-375471	9-FL700
BL-368475	3-37	ED-307572	11-D955	EH-386636J	7-IB501	EO-376179	7-L202
BL-500879T1	3-36	ED-307572	12-D10	EI-200573	1-58	EO-376179	7-L204
BL-V1075A130A	1-1	ED-307572	12-D12	EI-200573	15-IC300	EO-376179	7-L206
BL-V1075A130A	3-34	ED-307572	12-D13	EI-200573	15-IC303	EO-376179	7-L211
BM-367631	1-3	ED-307572	12-D14	EI-309878	1-68	EO-376179	7-L212
BM-367631	4-29	ED-307572	12-D15	EI-309878	8-X400	EO-376179	7-L213
BM-373098	1-2	ED-307572	12-D16	EI-337530	1-61	EO-376179	7-L500
BM-373098	4-8	ED-307572	12-D17	EI-337530	7-IC2	EO-376179	7-L550
BM-M3225A010A	1-4	ED-307572	12-D23	EI-346071	1-55	EO-376179	8-L401
BM-M3225A010A	2-7	ED-307572	15-D300	EI-346071	7-IC1	EO-376179	8-L402
BR-367618	1-5	ED-307572	15-D302	EI-347991	1-64	EO-376179	8-L404
BR-367618	3-9	ED-307572	16-D301	EI-347991	7-X500	EO-376179	8-L406
BR-367619	1-6	ED-307572	16-D303	EI-353421	1-44	EO-376179	8-L407
BR-367619	3-10	ED-307572	16-D304	EI-353421	7-IC504	EO-376179	8-L409
BT-380096J1	1-7	ED-344280	1-20	EI-354095	1-47	EO-376179	9-L805
BT-380096J1	12-T1	ED-344280	19-D2	EI-354095	7-IC502	EO-376179	9-L808
BV-376294	1-9	ED-344280	19-D3	EI-360316	1-45	EO-376179	15-L303
BV-376294	7-3	ED-344280	19-D4	EI-360316	7-IC500	EO-376179	15-L305
BV-V1075A070A	1-10	ED-346541	1-28	EI-367271	1-59	EO-376600	10-L900
BV-V1075A070A	3-41	ED-346541	7-D516	EI-367271	10-IC904	EO-376602	7-L201
BV-V1075A080A	1-11	ED-346543	1-29	EI-367572	1-42	EO-376602	7-L221
BV-V1075A080A	3-42	ED-346543	10-D916	EI-367572	12-IC2	EO-376602	7-L222
BV-V1075A205C	5-43	ED-346546	1-30	EI-368825	1-67	EO-376603	8-L403
BV-V1075A240A	5-42	ED-346546	7-D6	EI-368825	10-X901	EO-376605	8-L400
BV-V1075A410C	1-8	ED-346586	1-26	EI-372243	1-46	EO-376605	8-L405
BV-V1075A410C	2-1	ED-346586	12-D19	EI-372243	8-IC400	EO-376606	9-L804
BV-V1075A420H	1-12	ED-346594	1-25	EI-373946	1-51	EO-376607	7-L200
BV-V1075A420H	2-2	ED-346594	12-D20	EI-373946	9-IC700	EO-376609	7-L203
EC-355371	12-C1	ED-351419	1-27	EI-373954	1-50	EO-376610	9-L802
EC-363491	12-C2	ED-351419	10-D919	EI-373954	10-IC903	EO-376610	15-L300
EC-366613	12-C3	ED-360408	1-17	EI-373955	1-57	EO-376610	15-L301
EC-368823	1-13	ED-360409	10-D920	EI-373955	10-IC902	EO-376611	15-L302
EC-368823	7-C500	ED-365699	1-24	EI-373966	1-53	EO-376612	9-L806
EC-378664J	15-C339	ED-365699	7-D529	EI-373966	7-IC202	EO-376616	7-L220
ED-307572	1-21	ED-370990	1-23	EI-373980	1-43	EO-376616	10-L901
ED-307572	7-D3	ED-370990	12-D1	EI-373980	7-IC501	EO-376859	8-L408
ED-307572	7-D202	ED-370990	12-D2	EI-373980	7-IC507	EO-376860	7-L208
ED-307572	7-D204	ED-370990	12-D3	EI-373981J1	1-41	EO-380093J1	7-L14
ED-307572	7-D206	ED-370990	12-D4	EI-373981J1	7-IC505	EO-380093J1	12-L6
ED-307572	7-D310	ED-370990	12-D5	EI-376112	1-62	EO-380734J	7-L224
ED-307572	7-D311	ED-370990	12-D6	EI-376112	19-IC1	EO-382264T	12-L4
ED-307572	7-D500	ED-370990	12-D7	EI-376113	1-65	EO-382264T	12-L5
ED-307572	7-D501	ED-370990	12-D8	EI-376113	19-X1	EO-382264T	12-L7
ED-307572	7-D502	ED-371512	1-19	EI-378177	1-52	EO-382618J	9-L700
ED-307572	7-D503	ED-371512	12-D21	EI-378177	7-IC506	EO-382619J	9-L701
ED-307572	7-D504	ED-373101	1-14	EI-379020	1-54	EO-389177J	12-L3
ED-307572	7-D506	ED-373101	4-11	EI-379020	8-IC401	ER-336756	7-FR500
ED-307572	7-D507	ED-376111	1-15	EI-379549	1-63	ER-367505	12-R18
ED-307572	7-D508	ED-376111	19-D1	EI-379549	10-IC901	ER-378650J	1-71
ED-307572	7-D509	ED-380089J	1-18	EI-380084J	1-60	ER-378650J	12-FR1
ED-307572	7-D510	ED-380089J	12-D9	EI-380084J	9-IC800	ER-378650J	12-FR2
ED-307572	7-D511	ED-382358J	11-D950	EI-380085J	1-40	ES-349474	1-76
ED-307572	7-D512	ED-383034J	1-16	EI-380085J	7-IC200	ES-349474	10-SW900
ED-307572	7-D514	ED-383034J	10-D917	EI-380086J	1-48	ES-349474	10-SW901
ED-307572	7-D528	ED-383034J	10-D918	EI-380086J	7-IC503	ES-349474	10-SW902
ED-307572	7-D530	ED-624903	1-22	EI-380090J	1-56	ES-349474	10-SW903
ED-307572	8-D400	ED-624903	7-D201	EI-380090J	12-IC1	ES-349474	10-SW904
ED-307572	8-D401	ED-624903	12-D11	EI-380199J	1-49	ES-349474	10-SW905
ED-307572	8-D402	ED-624903	12-D18	EI-380199J	15-IC301	ES-349474	10-SW906
ED-307572	8-D403	EE-375426	1-31	EI-380199J	15-IC302	ES-349474	10-SW907
ED-307572	8-D404	EE-375426	7-2	EI-388110J	1-68	ES-349474	10-SW908
ED-307572	9-D700	EE-380255J	1-32	EI-388110J	10-X900	ES-349474	10-SW909
ED-307572	9-D701	EE-380255J	7-1	EJ-372242	16-P300	ES-349474	10-SW910
ED-307572	10-D900	EF-601301	1-33	EJ-373949	9-P800	ES-349474	10-SW911
ED-307572	10-D901	EF-601301	12-F2	EJ-380205J	7-PJ200	ES-349474	10-SW912
ED-307572	10-D902	EF-601942	1-34	EJ-380273J	16-P301	ES-349474	10-SW913
ED-307572	10-D903	EF-601942	12-F1	EM-377963	1-69	ES-349474	10-SW914
ED-307572	10-D904	EH-364066	1-37	EM-377963	10-FL900	ES-349474	10-SW915
ED-307572	10-D905	EH-364066	7-FL200	EO-345865	7-L4	ES-349474	10-SW916
ED-307572	10-D906	EH-368821	1-39	EO-345878	7-L207	ES-349474	11-SW951
ED-307572	10-D907	EH-368821	7-FL202	EO-345887	9-L807	ES-349474	11-SW952
ED-307572	10-D908	EH-378540J	7-IB500	EO-349560	12-L8	ES-349474	11-SW953
ED-307572	10-D912	EH-378541J	10-IB900	EO-364062	8-VL401	ES-349474	11-SW954

INDEX

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
ES-349474	11-SW955	ET-356336	12-TR8	EV-374014	7-VR209	ZG-373536	4-4
ES-349474	11-SW956	ET-356817	1-95	EV-378325	7-VR501	ZG-373539	3-30
ES-373099	1-72	ET-356817	12-TR1	EV-380253J	8-VR400	ZG-373541	4-17
ES-373099	3-27	ET-356817	12-TR7	EV-380314J	1-104	ZG-373542	4-15
ES-373973	1-75	ET-356817	12-TR11	EV-380314J	10-VR900	ZG-373546	4-22
ES-373973	7-SW200	ET-360137	1-100	EW-371933	17-12	ZG-373548	3-4
ES-380116J	1-74	ET-360137	7-TR6	HE-361456	1-105	ZG-373894J1	4-2
ES-380116J	10-SW918	ET-360137	7-TR8	HE-361456	3-20	ZG-373900	3-15
ES-380116J	10-SW919	ET-360137	7-TR9	HR-387805J	1-106	ZG-374022	3-22
ES-380117J	11-SW957	ET-360137	7-TR206	HR-387805J	3-16	ZG-375530	19-1
ES-381310J1	1-73	ET-360137	7-TR208	MA-368799T	5-28	ZG-375531	19-2
ES-381310J1	4-36	ET-360137	7-TR221	MB-373080	1-107	ZG-375532	19-3
ET-302502	1-97	ET-360137	7-TR501	MB-373080	4-38	ZG-375953T	5-7
ET-302502	19-TR1	ET-360137	7-TR513	MB-373096	1-108	ZG-375954T	5-10
ET-321644	1-96	ET-360137	8-TR400	MB-373096	4-33	ZG-375955T	5-12
ET-321644	7-TR7	ET-360137	8-TR405	ML-367614	1-110	ZG-375957T1	5-25
ET-353897	1-84	ET-360137	8-TR406	ML-367614	3-2	ZG-375958T	5-27
ET-353897	7-TR11	ET-360137	8-TR407	ML-367616	1-111	ZG-375959T	5-22
ET-353897	8-TR403	ET-360137	8-TR408	ML-367616	3-3	ZG-382137J	2-11
ET-353897	8-TR404	ET-360137	8-TR409	ML-367617	1-112	ZG-382153J	3-33
ET-353899	1-93	ET-360137	9-TR700	ML-367617	3-7	ZG-382450T	5-17
ET-353899	7-TR3	ET-360137	9-TR801	ML-367625	4-18	ZG-382450T	5-19
ET-353899	7-TR4	ET-360137	9-TR802	ML-368792T	5-9	ZG-500767	5-40
ET-353899	7-TR5	ET-360137	12-TR4	ML-368793T	5-11	ZG-500792	3-14
ET-353899	7-TR215	ET-360137	12-TR6	ML-373036	4-3	ZS-321298	2-3
ET-353899	7-TR515	ET-360137	15-TR309	ML-373038	4-1	ZS-321298	3-18
ET-353899	7-TR516	ET-360137	15-TR313	ML-373043	1-113	ZS-321298	3-28
ET-353899	7-TR521	ET-360137	15-TR315	ML-373043	4-6	ZS-362378	16-2
ET-353899	8-TR411	ET-360137	15-TR319	ML-373075	1-109	ZS-362378	17-5
ET-353899	12-TR13	ET-360137	15-TR320	ML-373075	3-5	ZS-362378	17-8
ET-353899	15-TR308	ET-360137	15-TR321	ML-500730T	5-14	ZS-364545	17-7
ET-353899	15-TR310	ET-360137	15-TR323	ML-500881	1-114	ZS-367675	19-6
ET-353899	15-TR311	ET-360137	15-TR325	ML-500881	3-31	ZS-368524	5-13
ET-353899	15-TR312	ET-360137	16-TR302	MR-373045	4-31	ZS-368547	17-9
ET-353899	15-TR314	ET-360137	16-TR303	MR-373087	3-25	ZS-369900	4-13
ET-353899	15-TR317	ET-360137	16-TR304	MS-368798T	5-5	ZS-373532	3-32
ET-353899	15-TR322	ET-360137	16-TR307	MS-372186J1	3-12	ZS-373895	4-7
ET-353899	16-TR300	ET-360137	16-TR316	MS-373095	3-11	ZS-373895	4-9
ET-353899	16-TR301	ET-360399	1-85	MZ-367628J1	1-122	ZS-373895	4-27
ET-353899	16-TR305	ET-360399	7-TR225	MZ-367628J1	4-23	ZS-373895	4-37
ET-353899	16-TR306	ET-360646	1-80	MZ-368790T1	5-1	ZS-373896	3-19
ET-354364	1-88	ET-360646	7-TR14	MZ-368791T2	5-2	ZS-373897	4-28
ET-354364	10-TR907	ET-360646	7-TR224	MZ-368794T	1-123	ZS-373897	4-35
ET-354364	10-TR908	ET-361463	1-77	MZ-368794T	5-4	ZS-373897	16-3
ET-354364	10-TR909	ET-361463	4-12	MZ-368795T1	1-124	ZS-373899	3-17
ET-354364	12-TR9	ET-361490	5-30	MZ-368795T1	5-8	ZS-373962	17-14
ET-354364	12-TR10	ET-363953	1-79	MZ-368797T	1-116	ZS-374023	17-11
ET-354365	1-86	ET-363953	7-TR205	MZ-368797T	5-6	ZS-374458	3-44
ET-354365	7-TR517	ET-364064	1-91	MZ-373079	3-1	ZS-378341	5-41
ET-354371	1-87	ET-364064	8-TR401	MZ-376267	4-39	ZS-413785	2-10
ET-354371	7-TR508	ET-366168	1-102	MZ-500707T1	1-117	ZS-419782	4-10
ET-354371	7-TR518	ET-366168	12-TR12	MZ-500707T1	4-20	ZS-464703	3-21
ET-354414	1-89	ET-366581	1-103	MZ-500715T	1-118	ZS-467796	2-8
ET-354414	7-TR223	ET-366581	13-TR2	MZ-500715T	4-26	ZS-479474	2-5
ET-354414	7-TR310	ET-366581	14-TR5	MZ-500716T	1-121	ZS-479474	2-9
ET-354414	7-TR503	ET-368836	1-81	MZ-500716T	4-24	ZS-563444	2-6
ET-354414	7-TR504	ET-368836	10-TR904	MZ-500717T	1-115	ZW-287458	3-46
ET-354414	7-TR505	ET-372197	1-101	MZ-500717T	4-19	ZW-292770	3-48
ET-354414	7-TR520	ET-372197	12-TR3	MZ-V1075A090A	1-119	ZW-324417	3-39
ET-354414	10-TR900	ET-373985	1-83	MZ-V1075A090A	4-14	ZW-324417	3-47
ET-354414	10-TR901	ET-373985	7-TR502	MZ-V1075A100A	1-120	ZW-332843	3-45
ET-354414	10-TR902	ET-373985	7-TR507	MZ-V1075A100A	4-16	ZW-350839	3-26
ET-354414	10-TR903	ET-373985	7-TR512	SA-353927B	17-6	ZW-350839	3-40
ET-354414	10-TR906	ET-373985	7-TR514	SC-375525A	19-4	ZW-358045	3-13
ET-354414	15-TR318	ET-375777	1-98	SC-375526E	19-5	ZW-373088	3-23
ET-354415	1-82	ET-375777	7-TR2	SE-388026J	5-39	ZW-373089	3-24
ET-354415	7-TR500	ET-380630J	1-94	SP-377985T	16-1	ZW-373898	3-35
ET-354415	8-TR402	ET-380630J	12-TR15	SP-383157J	17-3	ZW-373998	4-25
ET-354415	16-TR324	EV-356324	7-VR202	SP-500772	17-10	ZW-373901	4-34
ET-355669	1-99	EV-356324	7-VR203	SP-500887T-A	4-30	ZZ-382493J	17-4
ET-355669	7-TR15	EV-356576	7-VR207	SZ-375320J1	17-2		
ET-356224	1-92	EV-356577	9-VR700	SZ-375956T	5-3		
ET-356224	7-TR1	EV-356579	7-VR206	TC-376182	17-13		
ET-356224	7-TR13	EV-356579	12-VR1	VT-367622J2	1-125		
ET-356224	7-TR19	EV-356582	9-VR701	VT-367622J2	3-43		
ET-356224	7-TR210	EV-356583	7-VR208	VT-373884J1	2-4		
ET-356224	9-TR803	EV-358829	7-VR200	ZG-373046J1	4-32		
ET-356236	1-90	EV-358829	7-VR201	ZG-373530	3-38		
ET-356236	7-TR10	EV-358829	7-VR204	ZG-373534	3-6		
ET-356336	1-78	EV-358829	7-VR205	ZG-373535	3-8		

ABBREVIATIONS (VIDEO)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
A	Audio or Analogue	LM	Loading Motor
AC	Alternating Current	LM STP	Loading Motor SToP
ACC	Auto Color Control	LP	Long Play
A/C	Audio and Control	LPF	Low Pass Filter
ADJ	ADJust(ment)	ME-SECAM	Middle East SECAM
AFC	Auto Frequency Control	MI-COM	Micro COMputer
AFT	Auto Fine Turning	MM	Mono-stayble Multi
AGC	Auto Gain Control	MOD	MODulator
AH(P)	Audio Head (Play Back)	MRS	Motor ReverSe
AH(R)	Audio Head (Record)	NG	Noise Gate
AL	ALl	NON-LIN	NON-LINear
AL	ALways	N.T.S.C.	National Television System Committee
ALC	Auto Level Control	O MUTE	Output MUTE
A-SW.P	Audio-Switching - Pulse	OSC	OSCillator
A. MUTE	Audio MUTE	PAL	Phase Alternation Line
AUT/MAN	AUTO/MANual	PB	Play Back
ANT	ANTenna	P-COM	Phase-COMparator
APC	Automatic Phase Control	P DOWN	Power DOWN
ASSY	ASSEMBly	PG	Pulse Generator
BAL	BALance	PL, PLG	PLunger (PLunGer)
B DOWN	Break DOWN	POS	POSition
BGP	Burst Gate Pulse	PRG	PRoGram
BLK	BLAcK or BLock	P & S	Power supply & System control
BM	Balanced Modulator	PU	Pick Up (head, pulse)
BPF	Band Pass Filter	PWR	POWeR
BS	Band Select	Q	Quality factor
BU	Back Up	R	Right
B/W	Black and White	REC	RECORD
C	Chroma	REF	REFerence
CCIR	Comité Consultatif International des Radio Communications	REF-V	REFerence Vertical signal
CH (Ch.)	CHannel (Channel) or CHroma	REG	REGulator
CK	Color Killer	REV (REVW)	REView (REView)
CLK	CLock	REW	REWind
CLP	CLiP	RF	Radio Frequency
CM	Capstan Motor	R. S SW	Record-Safety SWitch
CN	CoNnector	RST (RES)	ReSeT (RESet)
COMP	COMParator	RVS	ReVerSe
Comp	Comparison	S	Sensor, Shield
C or R	Cue or Review	SC	SimulCast
CR 1	Cue Review 1 (high)	S CLK	Serial CLock
CSW	Cassette Switch	SECAM	Séquentiel à Memoire
C SYNC	Composite SYNC	SET (SEPA)	SEParator (SEPArator)
CTL	ConTroL	S & H	Sample and Hold
CUE	CUE	SLP	Super Long Play
CW	Carrier Wave	SP	Standard Play
DAC	Digital to Analog Converter	SPD	SPeeD
DC	Direct Current	SRP	Supply Reel Pulse
DEMODO	DEMODulator	SRV	SeRVo
DET	DETECT (DETECTOR)	SOW	Sync On Word
DL	Delay Line	STBY	STandBY
DM	Drum Motor	SW	SWitch
DOC	Drop Out Compensator	SW'NG	SWitchiNG
D-P.E	Drum-Phase-Error	SWP	SWitching Pulse
D-PG	Drum-Pulse Generator	SYNC	SYNChronize
EE	Electronic to Electronic	T-AUDIO	Tuner AUDIO
EF	Emitter Follower	TA-MUTE	Tuner Audio MUTE
EMPHA	EMPHAsis	TPZ (TRAPE)	TraPeZoid (TRAPEzoid)
ENV	ENVELOpe	TRK	TRAcKing
EP	Extended Play	TRP	Take up Reel Pulse
EQ	EQUALizer	T/U	Take Up
FE	Full track Erase	TV	TeleVision
FF	Flip-Flop or Fast Forward	UHF	Ultra High Frequency
FG	Frequency Generator	UNR	UNRegulated
Fig.	Figure	V	Vertical or Video
FM	Frequency Modulation	VCO	Voltage Controlled Oscillator
Fo	resonance Frequency	VD	Vertical Drive
FREQ	FREQUENCY	VF	Voltage for Fine tuning
FSI	Field Start Inhibit	VHF	Very High Frequency
GND	GrouND	VHS	Video Home System
H	Horizontal	VID	VIDEO
HP	Horizontal (sync) Pulse	VIDEO-J	VIDEO Judge
HPF	High Pass Filter	VIF	Video Intermediate Frequency
IC	Integrated Circuit	VJ	Video Judge
ID	IDentification	VM	Voltage for Memory
IDL	IDLe (Voltage)	VOB	Video On Blank
INS	INSert	VOW	Video On Word
INV	INVerter	VP	Vertical (sync) Pulse
L	Left	VT	Voltage for Tuning
L-CTL	Lamp-ControL	WHT	WHITe
LED	Light Emitting Diode	2H	2 Hour (SP)
LIM	LIMitter	4H	4 Hour (LP)
		6H	6 Hour (SLP/EP)

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AKAI

MODEL VS-20S

SCHEMATIC DIAGRAMS AND PC BOARDS

TABLE OF CONTENTS

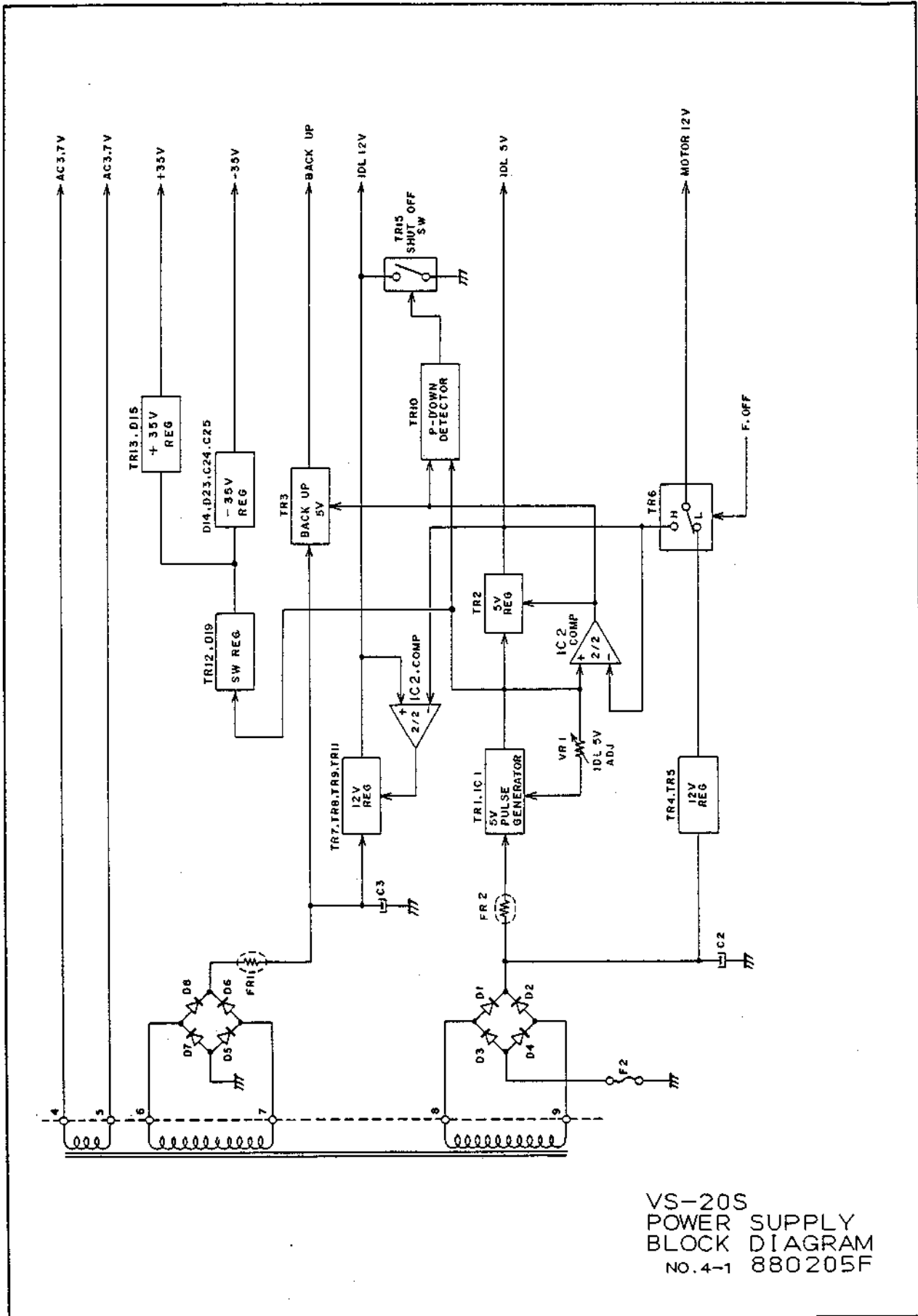
I. BLOCK DIAGRAMS

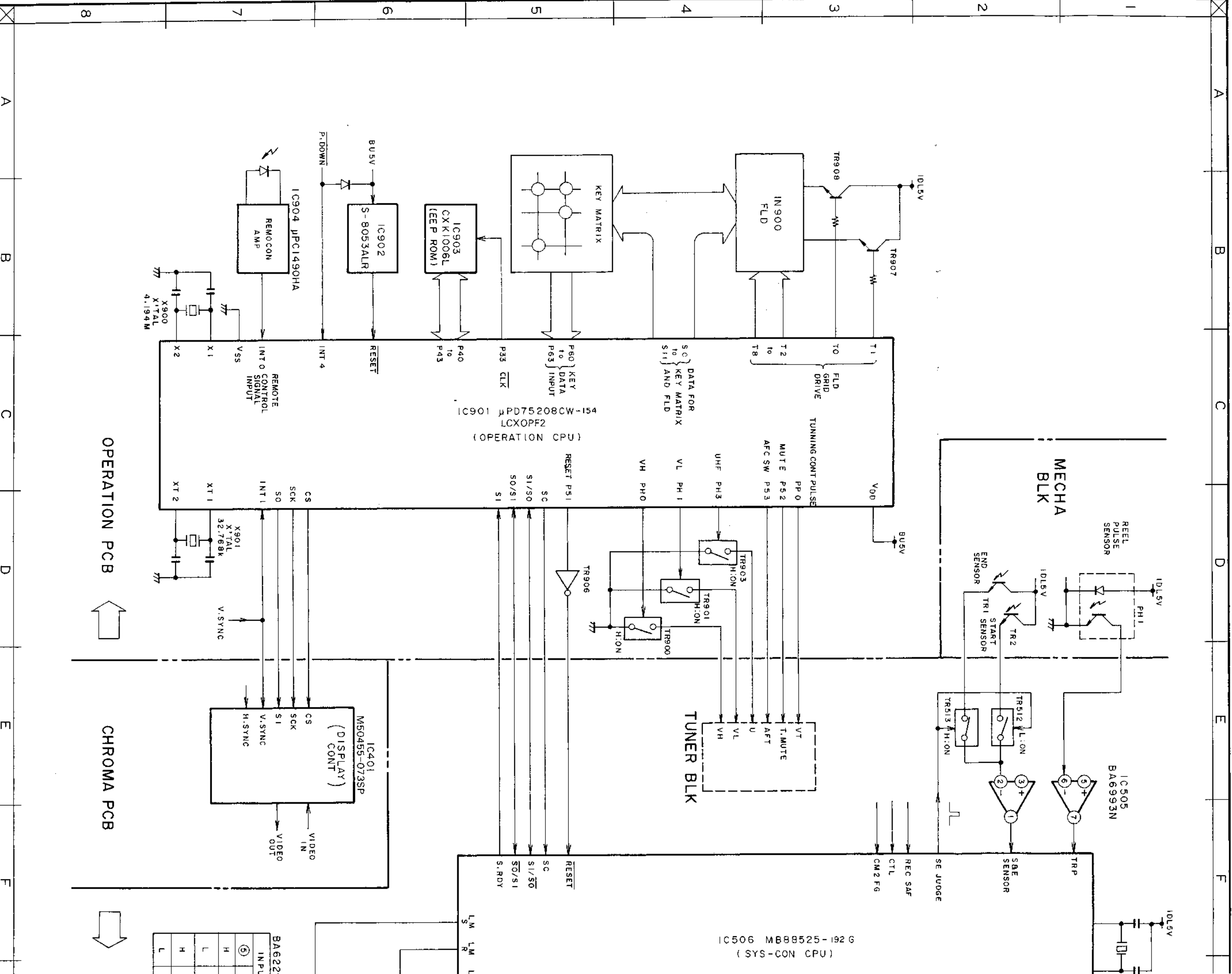
1. POWER SUPPLY	2
2. OPERATION AND SYS-CON.....	3
3. SERVO.....	4
4. VIDEO AND AUDIO	5

II. SCHEMATIC DIAGRAMS AND PC BOARDS

1. CONNECTION.....	6
2. MOTOR.....	7
3. MAIN.....	8
4. CHROMA, PRE AMP/AUDIO AND OPERATION.....	10
5. 21PIN (A·B).....	12
6. RC-V22A REMOTE CONTROL UNIT.....	14

III. SCHEMATIC DIAGRAM OF ICs.....	15
------------------------------------	----

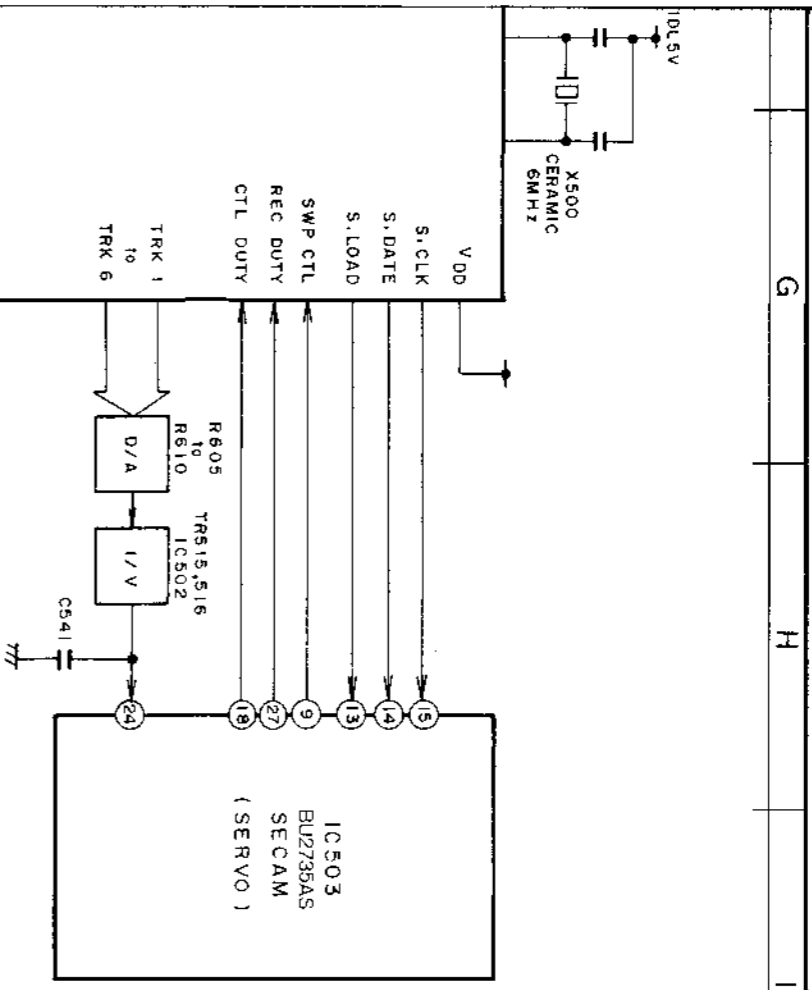




OPERATION PCB

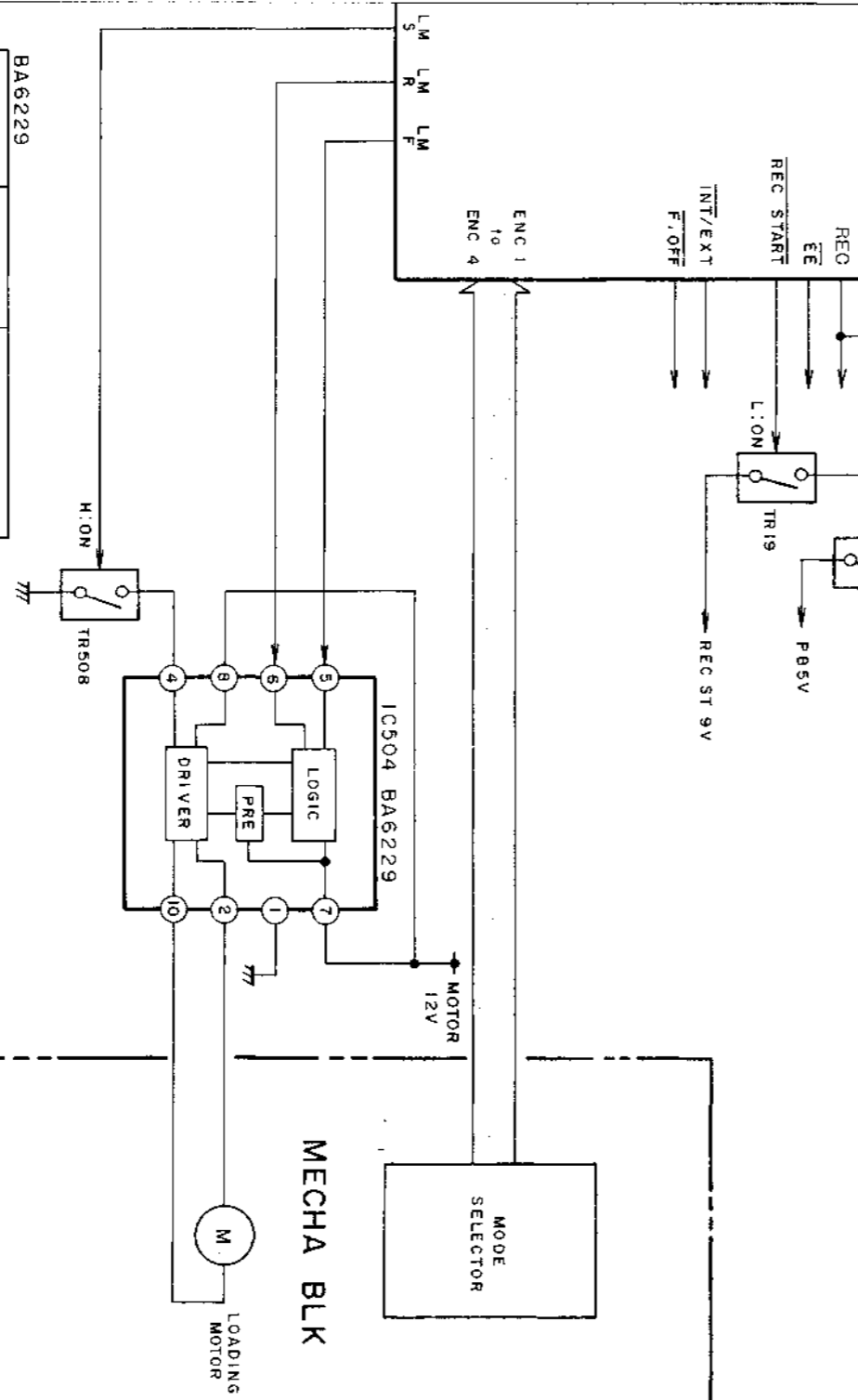
CHROMA PCB

BA6225	INPUT	
(5)	H	
	L	
	H	
	L	



MODE SELECTOR ENCODE DATA

P505 PIN NO.	POWER ON	ST	PLAY	F.F RWD	RWD SERCH	STILL	TAPE LOADING	CASSETTE LOADING
① GND	L	L	L	L	L	L	L	L
② ENC. 3	L	L	H	L	H	L	H	H
③ ENC. 2	H	H	L	L	L	H	H	H
④ ENC. 1	L	L	H	L	H	L	H	L
⑤ ENC. 4	L	L	H	L	H	H	L	L

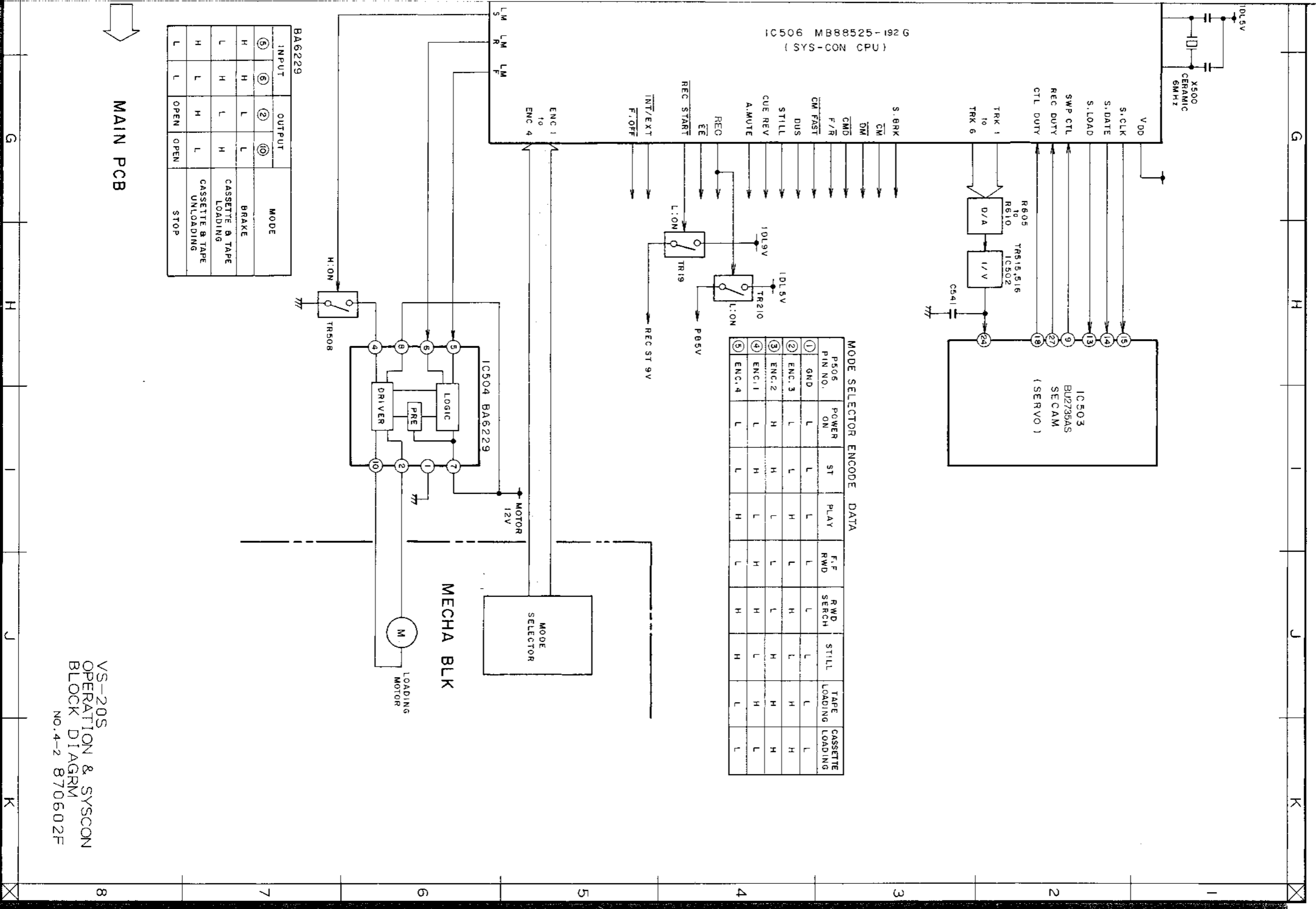


BA6229

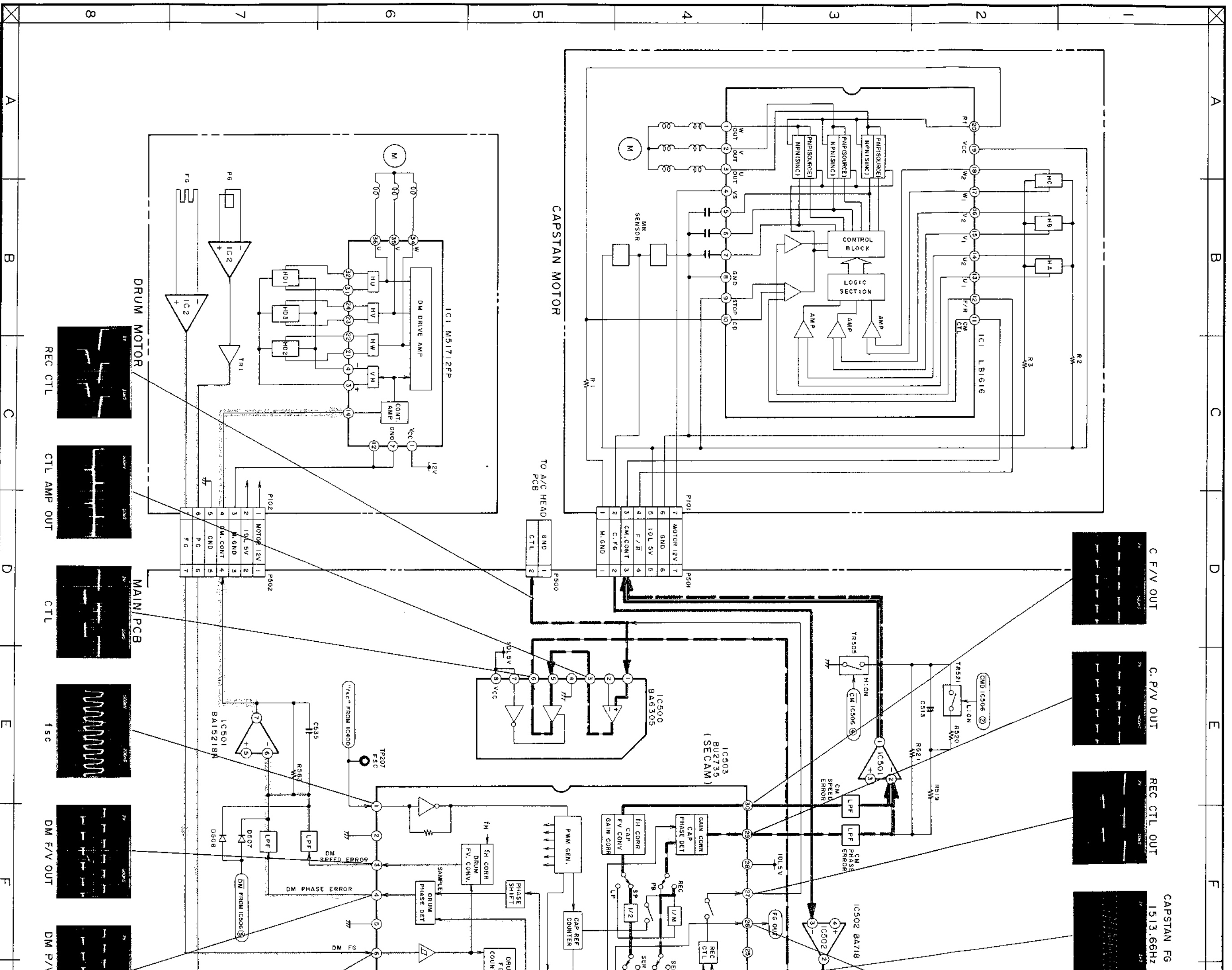
INPUT	OUTPUT	MODE
③	②	BRAKE
H	H	CASSETTE & TAPE LOADING
L	L	CASSETTE & TAPE UNLOADING
H	H	STOP
L	L	OPEN

MAIN PCB

VS-20S
OPERATION & SYSSCON
BLOCK DIAGM
NO.4-2 870602F



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



C F/V OUT

C P/V OUT

REC CTL OUT

CAPSTAN FG
1513.66HZ

DRUM MOTOR

REC CTL

CTL AMP OUT

CTL

fsc

DM F/V OUT

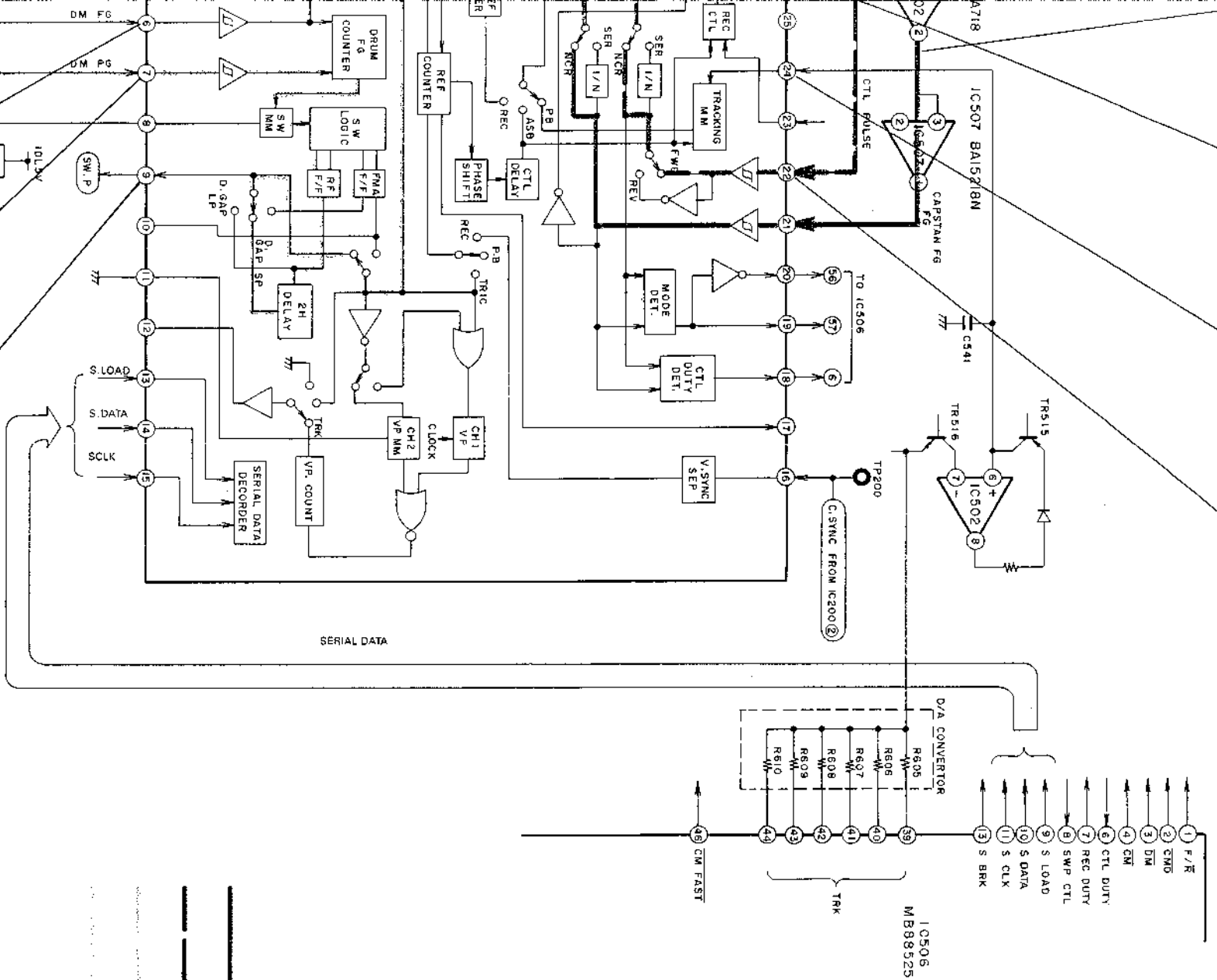
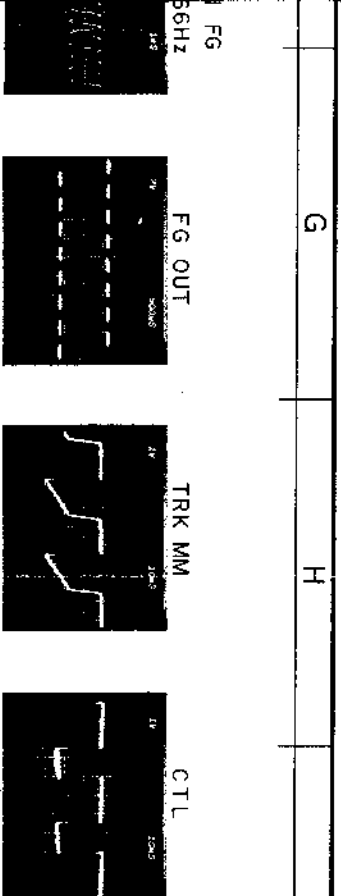
DM P/V

DRUM MOTOR

MAIN PCB

CAPSTAN MOTOR

TO A/C HEAD
PCB



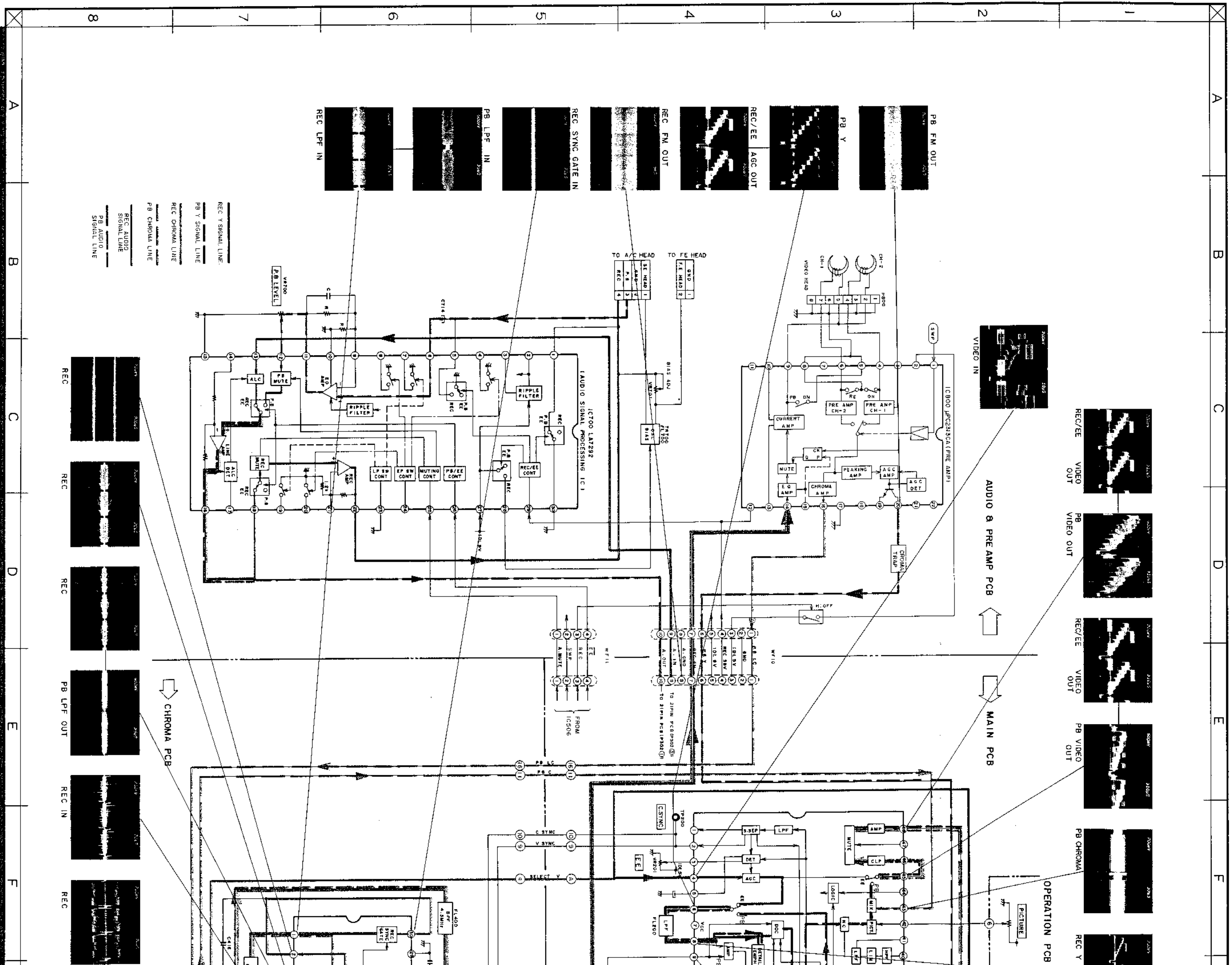
_____ CAPSTAN MOTOR SPEED
 _____ CAPSTAN MOTOR PHASE
 _____ DRUM MOTOR SPEED
 _____ DRUM MOTOR PHASE

VS-205
 SERVO
 BLOCK DIAGRAM
 NO.4-3 870603F



G H I J K

8 7 6 5 4 3 2 1



REC Y SIGNAL LINE:
 PB Y SIGNAL LINE
 REC CHROMA LINE
 PB CHROMA LINE
 REC AUDIO SIGNAL LINE
 REC AUDIO STORAGE LINE

AUDIO & PREAMP PCB

MAIN PCB

CHROMA PCB

OPERATION PCB

A B C D E F

1

2

3

4

5

6

7

8

PB FM OUT
 REC/EE AGC OUT
 PB Y
 REC/EE
 REC SYNC GATE IN
 PB LPF IN
 REC LPF IN

REC/EE VIDEO OUT
 PB VIDEO OUT
 REC/EE VIDEO OUT
 REC/EE VIDEO OUT
 PB VIDEO OUT
 PB CHROMA
 REC Y

REC
 REC
 REC
 PB LPF OUT
 REC IN
 REC

TO A/C HEAD
 TO FE HEAD

CH-2
 CH-1
 VIDEO HEAD

LA7292
 AUDIO SIGNAL PROCESSING IC 1

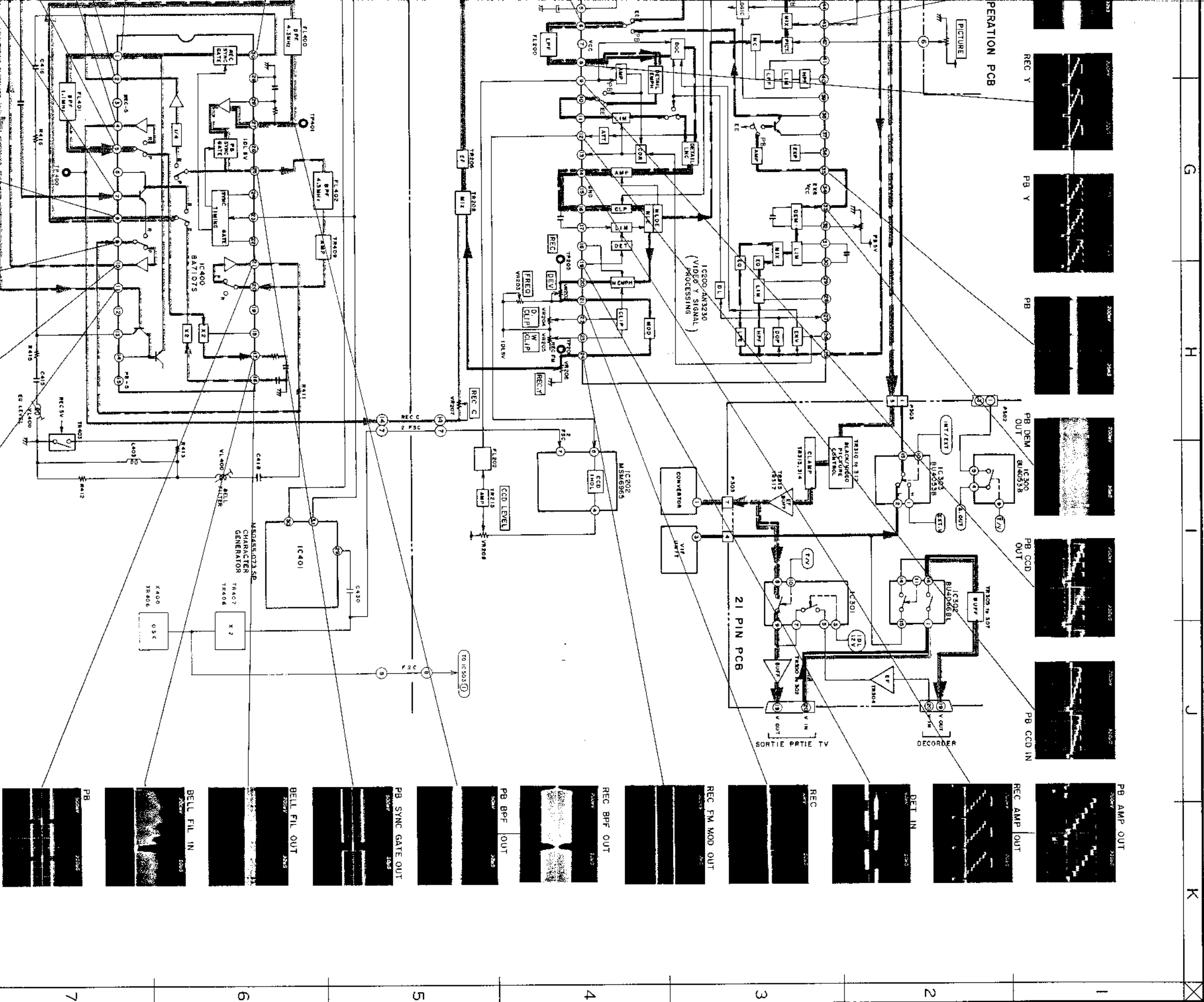
JPC2313CA (PRE AMP)

FROM IC506

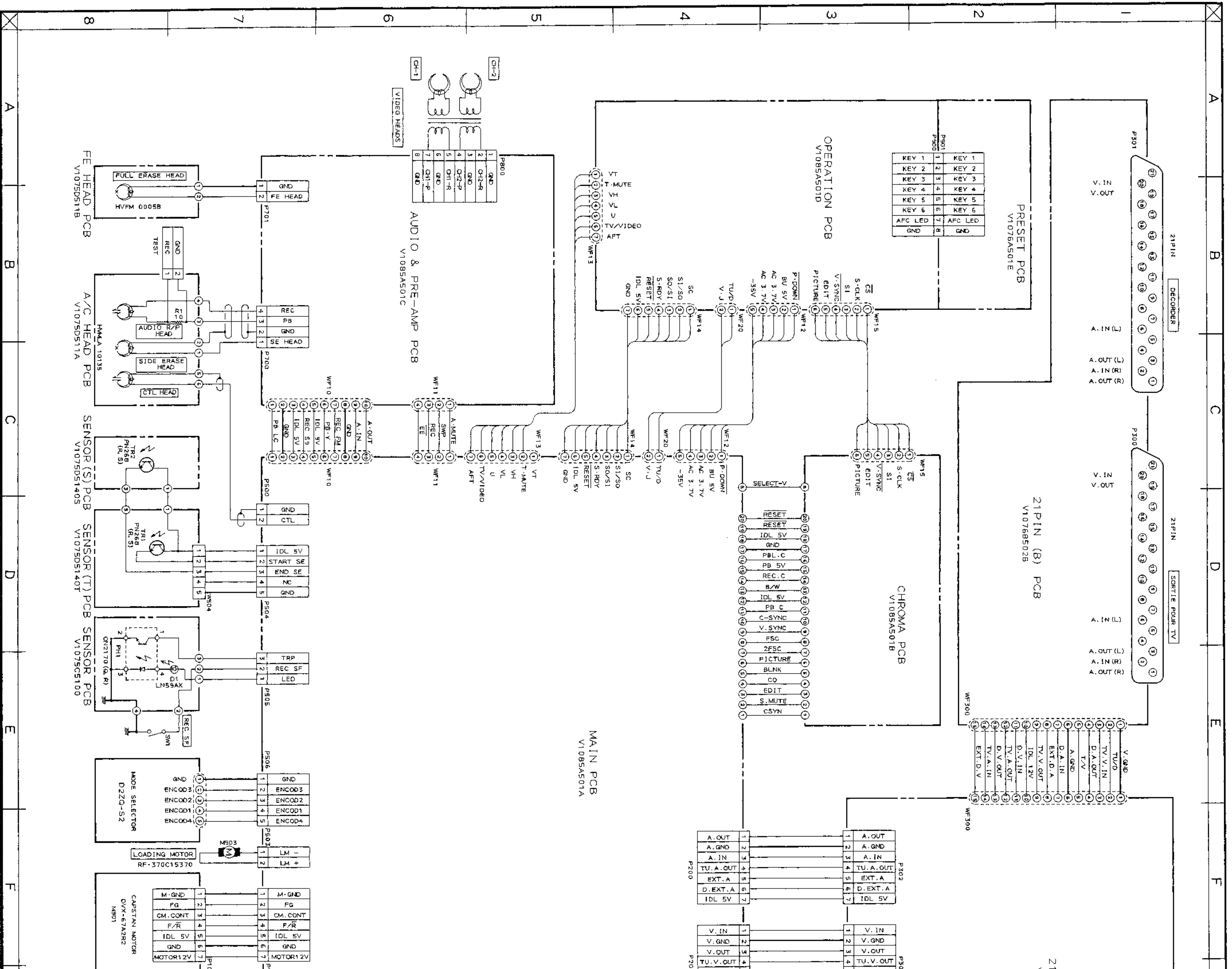
TO 21PM PCB (2001)
 TO 21PM PCB (1902)

LA400

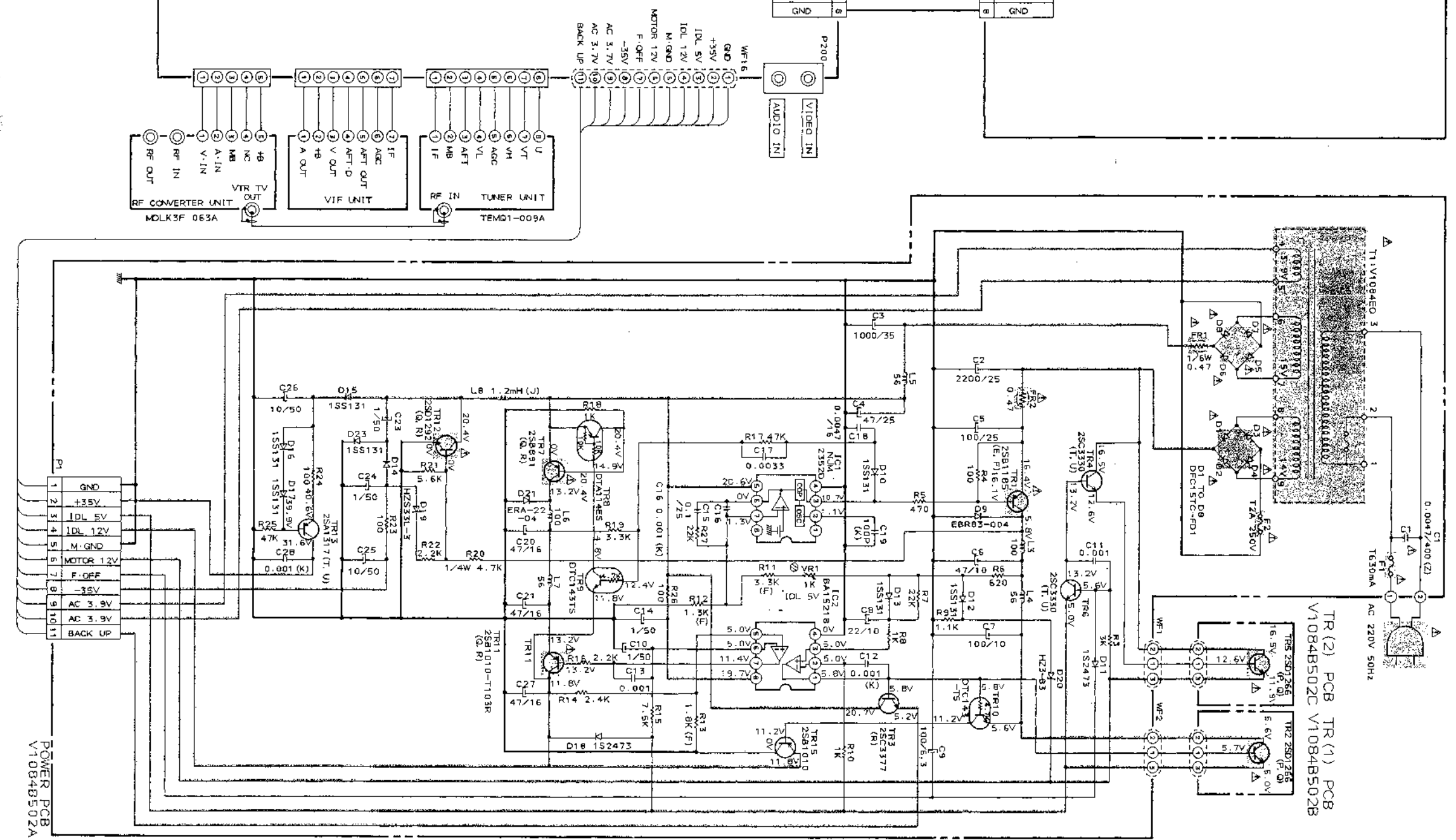
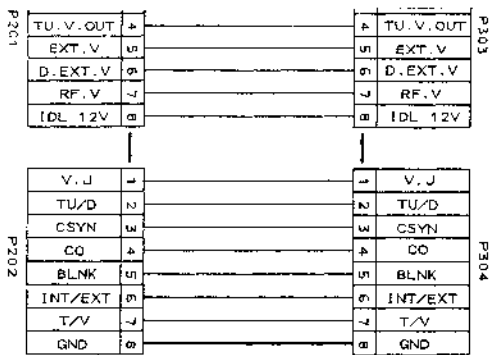
PICTURE



VS-20S
VIDEO & AUDIO
BLOCK DIAGRAM
NO.4-4 880206F



21PIN (A) PCB
V10768502A



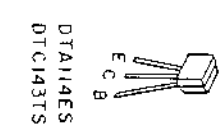
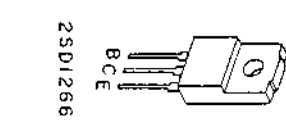
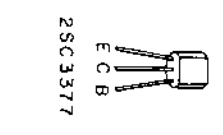
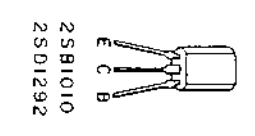
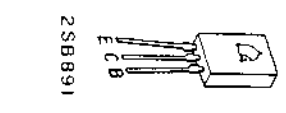
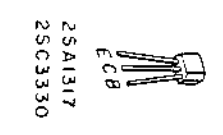
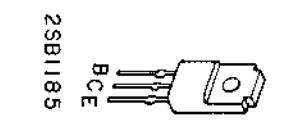
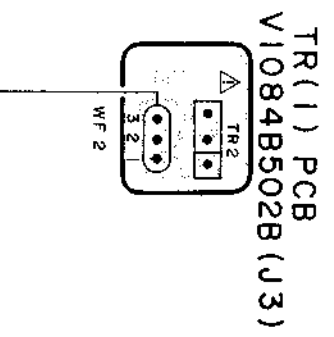
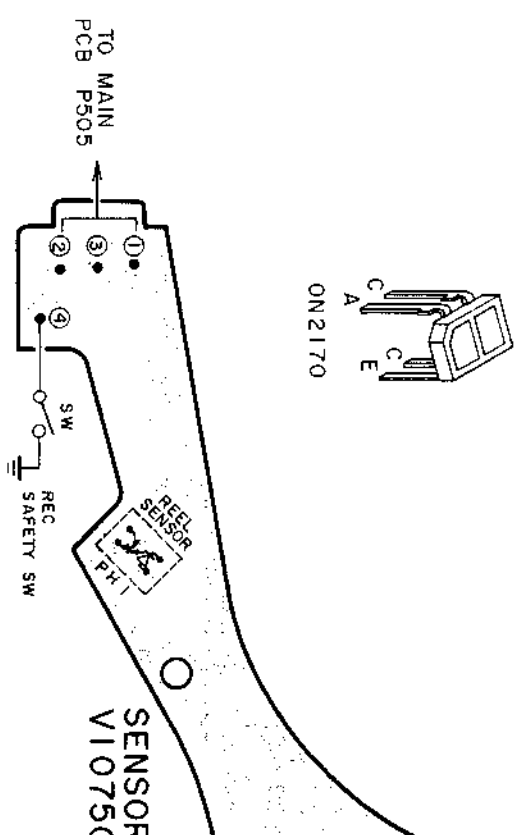
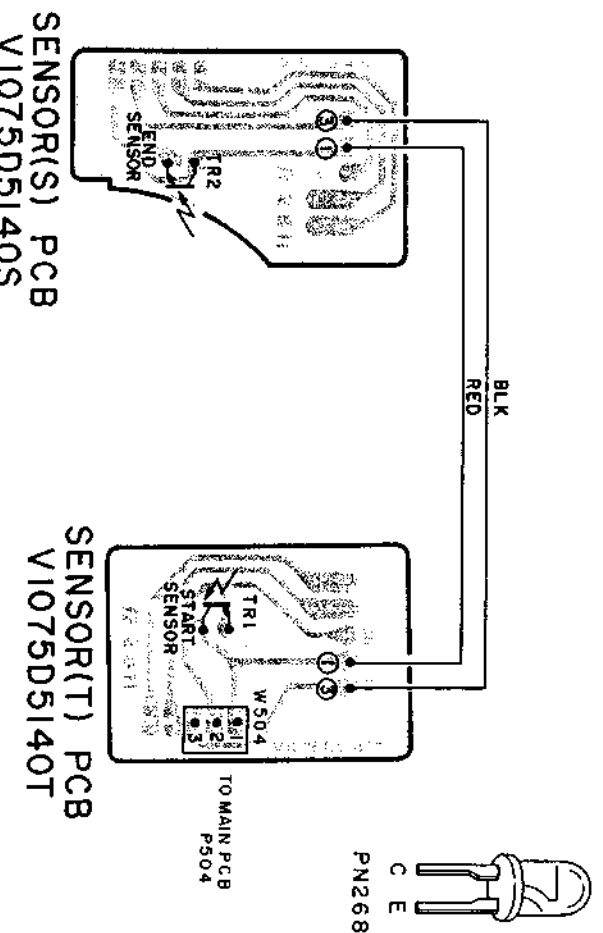
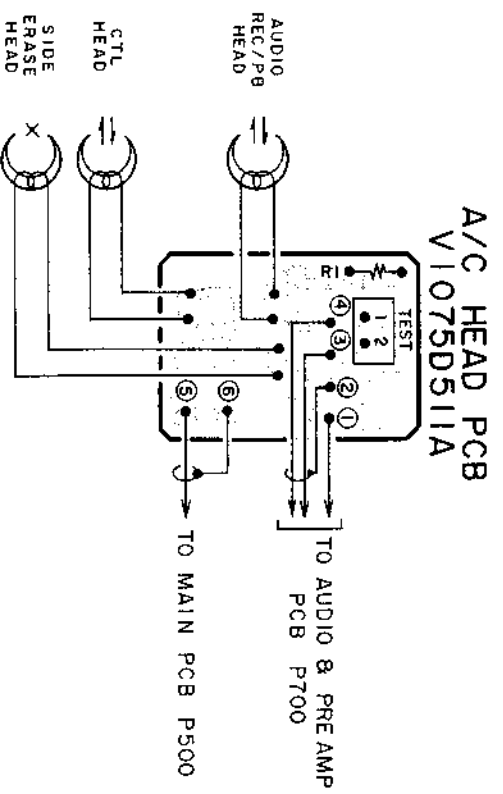
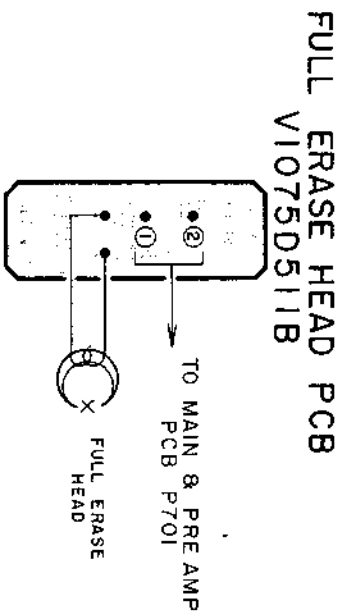
WARNINGS: A AND B INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
AVERTISSEMENT: A ET B INDICQUENT LES COMPOSANTS CRITIQUES DE SECURITE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL, NE REMPLACER QUE DES PIECES RECOMMANDEES PAR LE FABRICANT.

INDICATED VOLTAGES ARE MEASURED IN P.B. MODE.
NOTE UNLESS OTHERWISE SPECIFIED: ALL RESISTORS IN OHMS 1/6W (J) ALL CAPACITORS IN uF (K) ALL INDUCTORS IN uH (K)

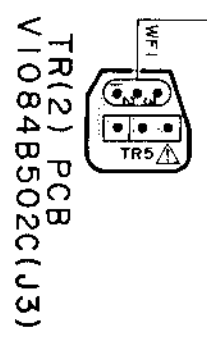
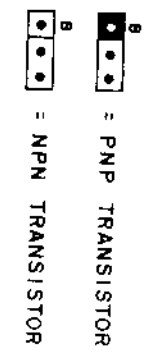
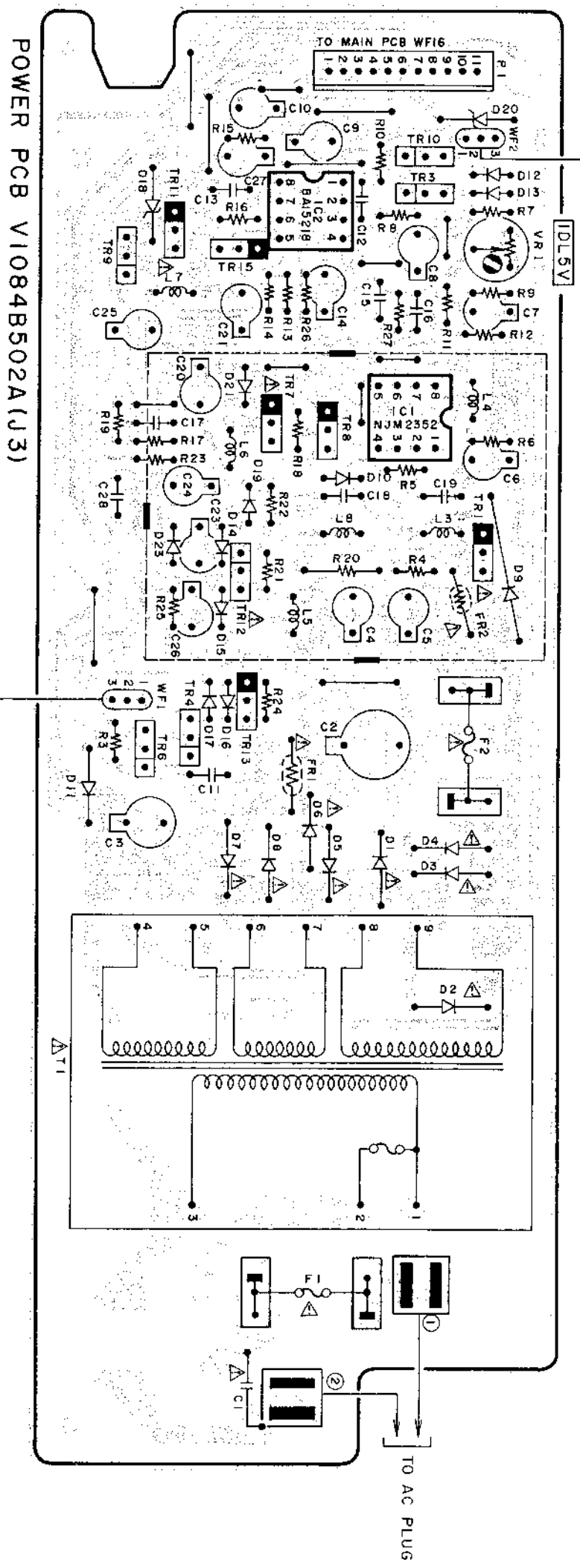
VS-20S CONNECTION DIAGRAM NO. 6-1 V108521M

TR (2) PCB TR (1) PCB V1084B502C V1084B502B

POWER PCB V1084B502A



- TR1.....2S
- TR2,5.....2S
- TR3.....2S
- TR4,6.....2S
- TR7,11.....2S
- TR8.....DTA
- TR9,10.....DTC
- TR12.....2S
- TR13.....2S
- TR15.....2S



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

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

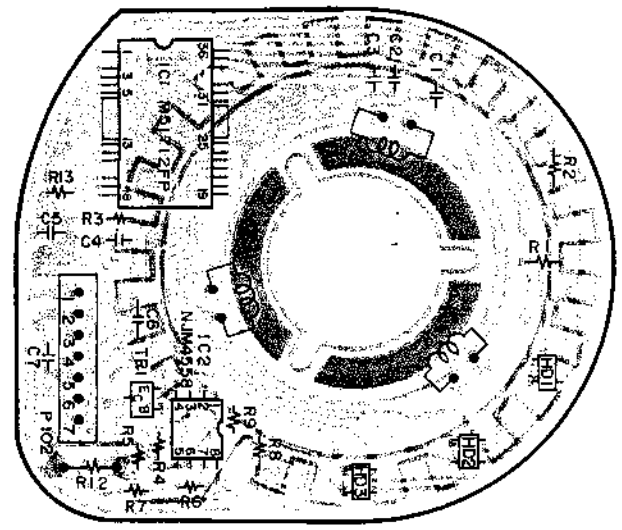
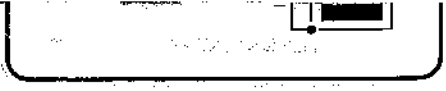
RE AMP
P500

SENSOR PCB
V1075C5100

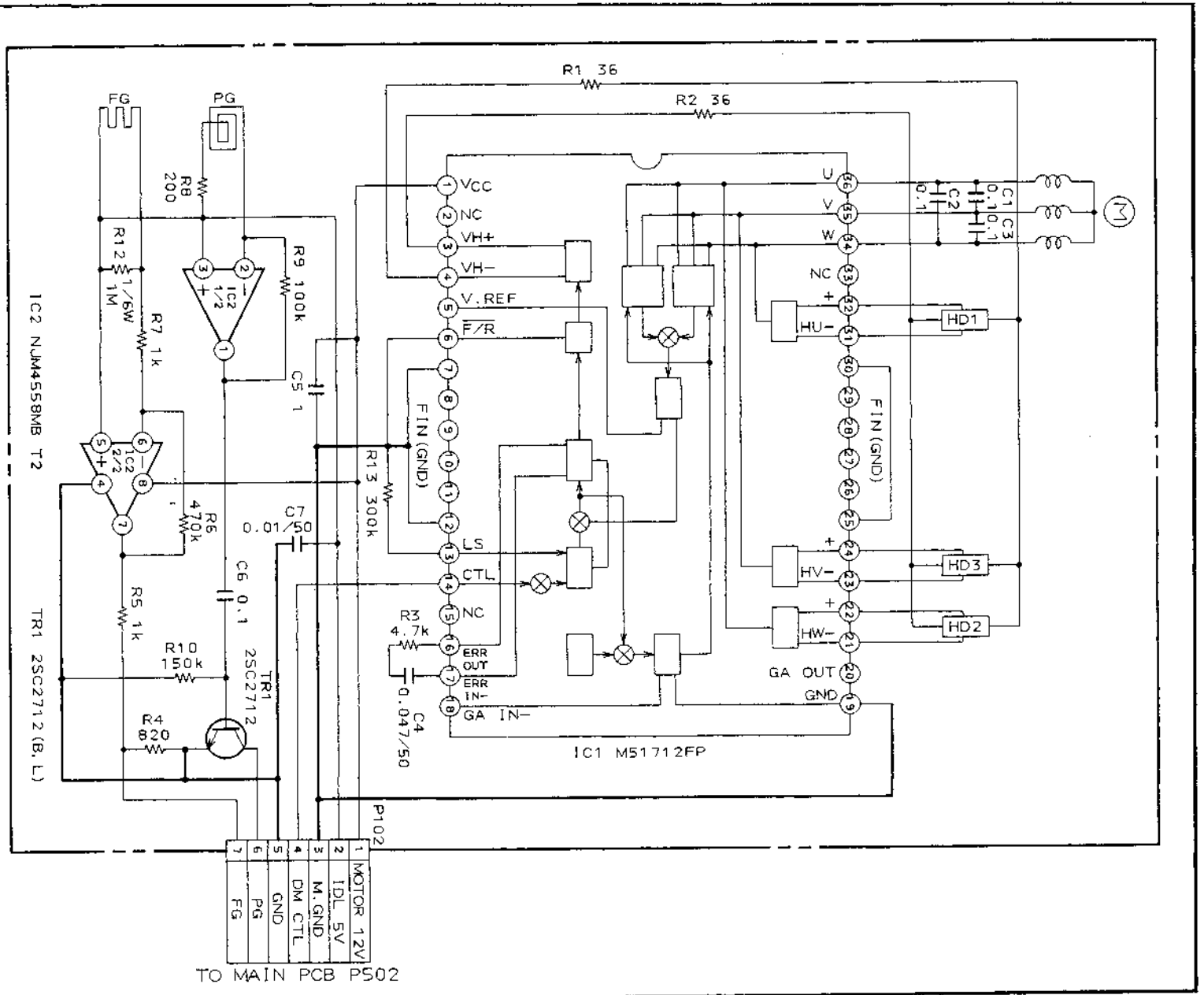
DI
SENSOR LED

- TR1.....2SB1185
- TR2,5.....2SD1266
- TR3.....2SC3377
- TR4,6.....2SC3330
- TR7,11.....2SB891
- TR8.....DTA114ES
- TR9,10...DTC143TS
- TR12.....2SD1292
- TR13.....2SA1317
- TR15.....2SB1010

TO AC PLUG

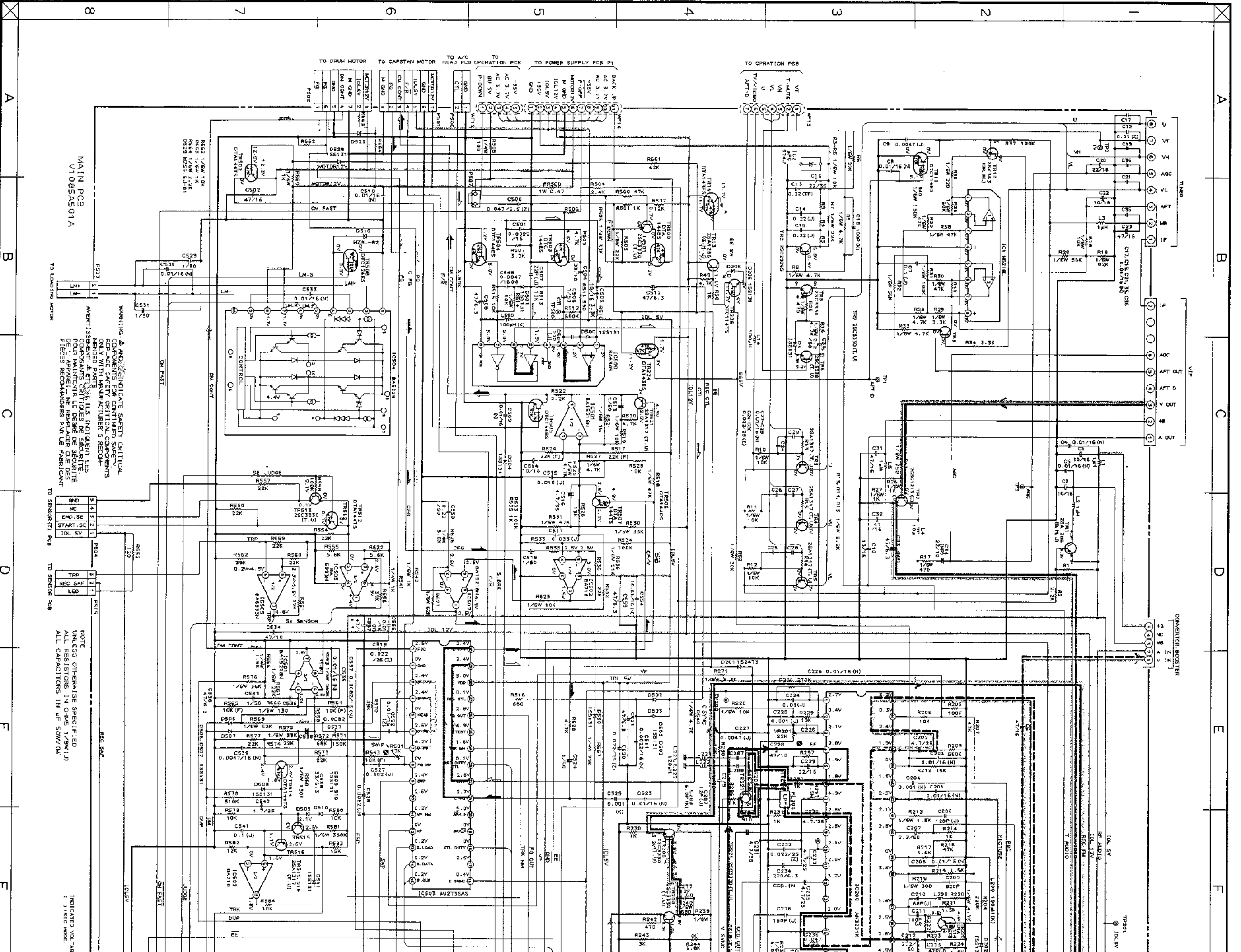


MOTOR PCB M3225D5010 (SM-250)



NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN μF 16W (J)

VS-20S
MOTOR PCB
SCHEMATIC DIAGRAM
NO. 6-2 V109508F



MAIN PCB
V1085A501A

WARNING: Δ AND Δ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS. U.S. INDUSTRY LES POUR MAINTENIR LE NIVEAU DE SECURITE DE L'APPAREIL NE REPARER QUE DES PIECES RECOMMANDEES PAR LE FABRICANT.

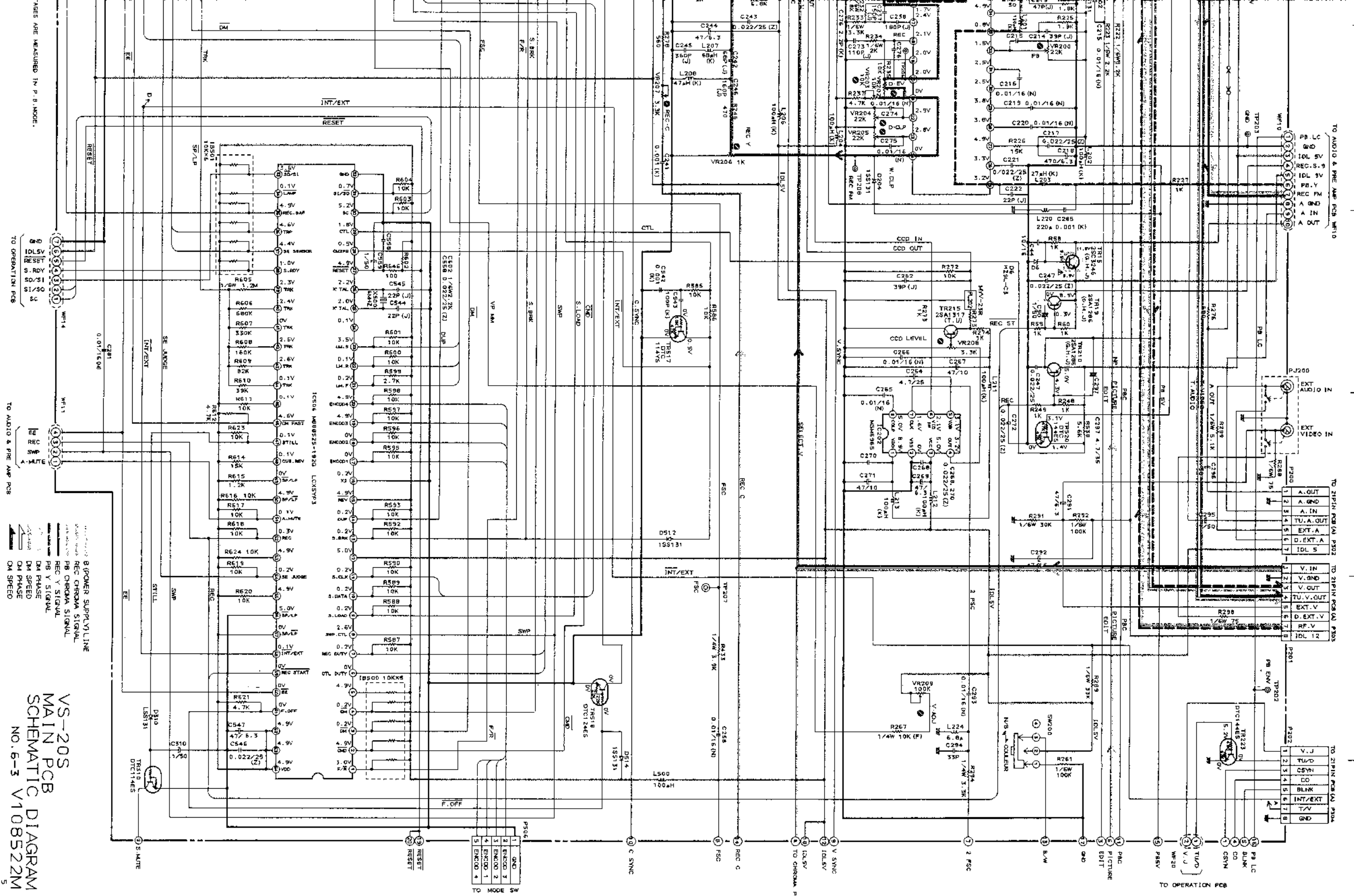
NOTE: UNLESS OTHERWISE SPECIFIED, ALL RESISTORS IN OHMS (1/2W/1/4W/1/10W) ALL CAPACITORS IN μF (50V/100V).

INDICATED VOLTAGES ARE () RECOMMENDED.

A B C D E F

1 2 3 4 5 6 7 8

VS-20S
MAIN PCB
SCHEMATIC DIAGRAM
NO. 6-3 V108522M



8 (POWER SUPPLY LINE)

REC CHROMA SIGNAL

PB CHROMA SIGNAL

REC Y SIGNAL

PB Y SIGNAL

DM PHASE

DM SPEED

DM PHASE

DM SPEED

DM PHASE

DM SPEED

DM PHASE

TO 21PIN PCB (A) PS02

1	A. OUT
2	A. GND
3	A. IN
4	TU. A. OUT
5	EXT. A
6	D. EXT. A
7	IDL. 5

TO 21PIN PCB (A) PS03

1	V. IN
2	V. GND
3	V. OUT
4	TU. V. OUT
5	EXT. V
6	D. EXT. V
7	RF. V
8	IDL. 12

TO 21PIN PCB (A) PS04

1	J. V.
2	TU. V.
3	CSYN
4	CD
5	BLNK
6	INT/EXT
7	T.V.
8	GND

TO OPERATION PCB

1	PA L.C.
2	PA ENW
3	TU/O
4	V. V.
5	CSYN
6	CD
7	BLNK
8	GND

TO AUDIO & PRE-AMP PCB WH10

1	W/O
2	W/O
3	W/O
4	W/O
5	W/O
6	W/O
7	W/O
8	W/O

TO OPERATION PCB

1	IDL 5V
2	REC. S. 9
3	IDL 5V
4	REC. FM
5	A. GND
6	A. IN
7	W/O
8	W/O

TO 21PIN PCB (A) PS01

1	PA L.C.
2	PA ENW
3	TU/O
4	V. V.
5	CSYN
6	CD
7	BLNK
8	GND

TO OPERATION PCB

1	IDL 5V
2	REC. S. 9
3	IDL 5V
4	REC. FM
5	A. GND
6	A. IN
7	W/O
8	W/O

PS06

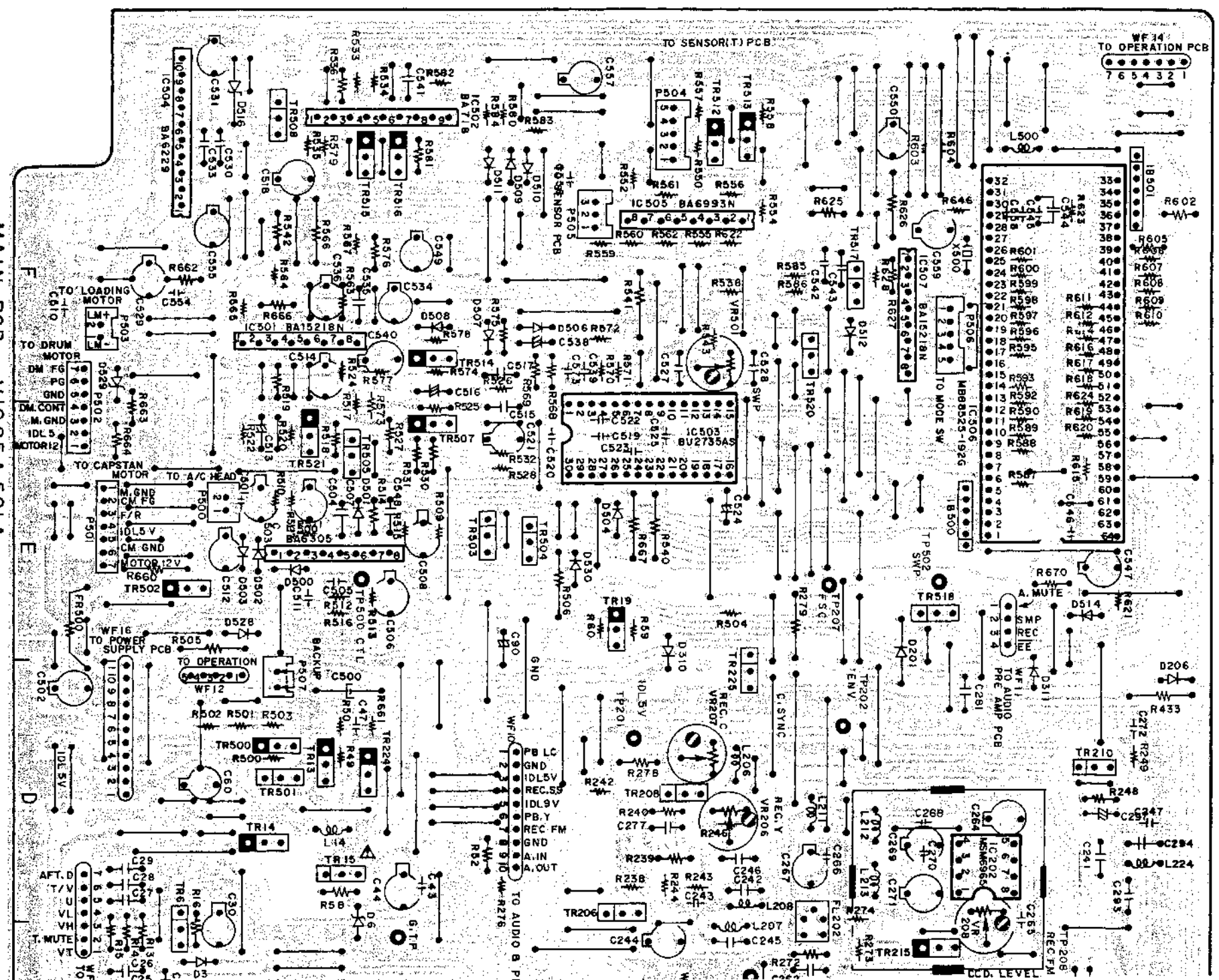
1	GND
2	ENCO 2
3	ENCO 2
4	ENCO 1
5	ENCO 4

TO MODE SW

VALUES ARE MEASURED IN P. 8 MODE.

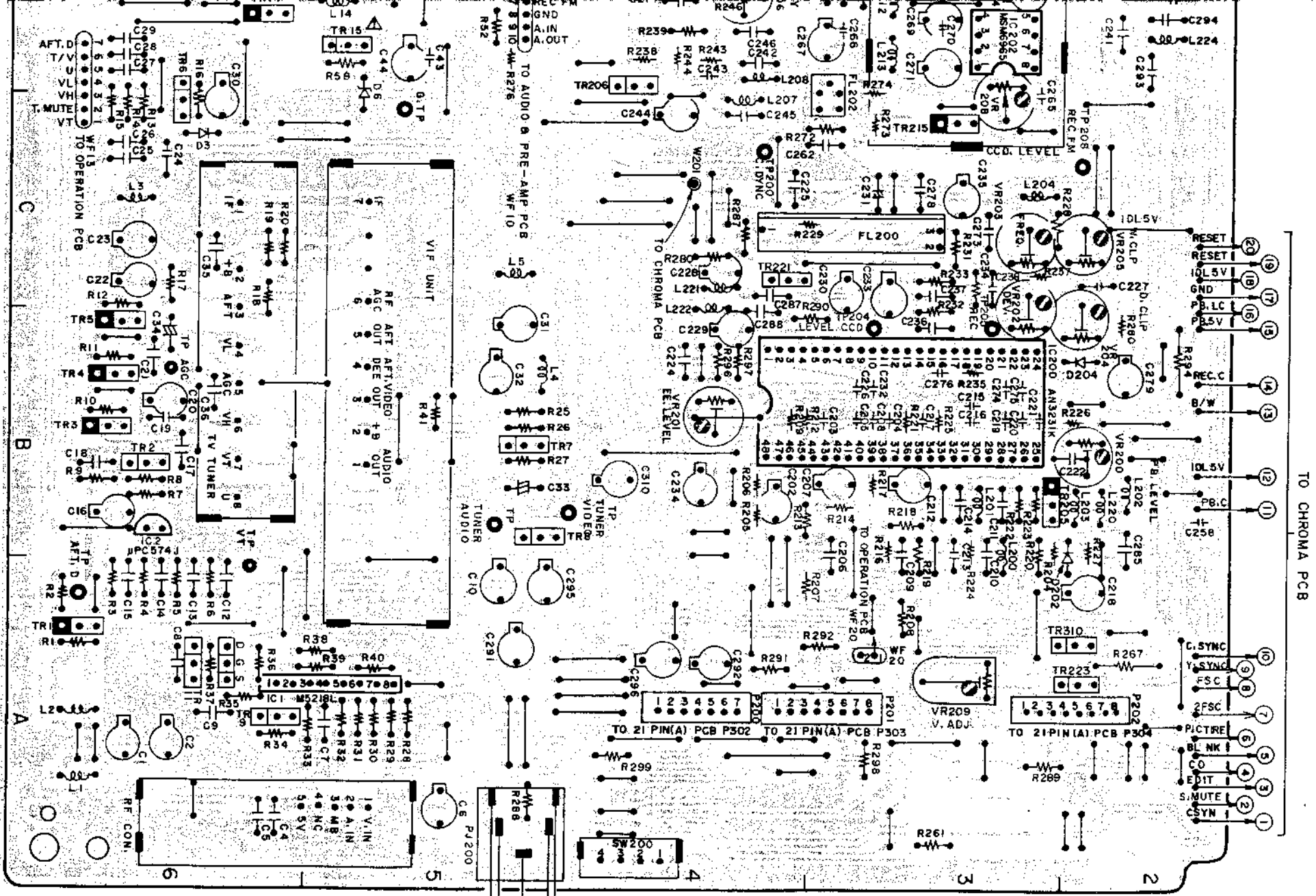
CONNECTORS, WIRES
P200.....A4
P201.....A3,4
P202.....A2,3
P500.....E6
P501.....E6
P502.....E6
P503.....F,E6
P504.....F6
P505.....F4
P506.....F3
P507.....D,E6
WF10.....D5
WF11.....E3
WF12.....D6
WF13.....D,C6
WF14.....F2
WF16.....D6
WF20.....A3

PRINCIPAL PARTS LOCATION
ICS
IC1.....A5,6
IC2.....B6
IC200.....B3
IC202.....D3
IC500.....E5,6
IC501.....F5,6
IC502.....F5
IC503.....E4
IC504.....F6
IC505.....F4
IC506.....E4
IC507.....F3
TRANSISTORS
TR1.....A6
TR2.....B6
TR3.....B6
TR4.....B6
TR5.....B6
TR6.....C6
TR7.....B5
TR8.....B5
TR9.....A6
TR10.....A6
TR11.....A6
TR13.....A6
TR14.....D6
TR15.....D5
TR19.....E4
TR205.....B3
TR206.....D4
TR208.....D4
TR210.....D2
TR211.....C4
TR215.....C3
TR222.....A2
TR223.....A2
TR224.....D5
TR225.....D4
TR500.....D6
TR501.....D6
TR502.....E6
TR503.....E5
TR504.....E5
TR505.....E5
TR507.....E5
TR508.....F6
TR509.....F6
TR510.....F6
TR511.....F4
TR512.....F4
TR513.....F4
TR514.....F5
TR515.....F5
TR516.....F5
TR517.....F3
TR518.....E3
TR520.....F3
TR521.....E5



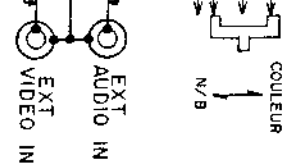
MAIN PCB V1085A 501A

WARNING Δ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED RECOMMENDED PARTS REPLACEMENT ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
AVERTISSEMENT Δ INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL. NE REMPLACEZ QUE DES PIÈCES RECOMMANDÉES PAR LE FABRI



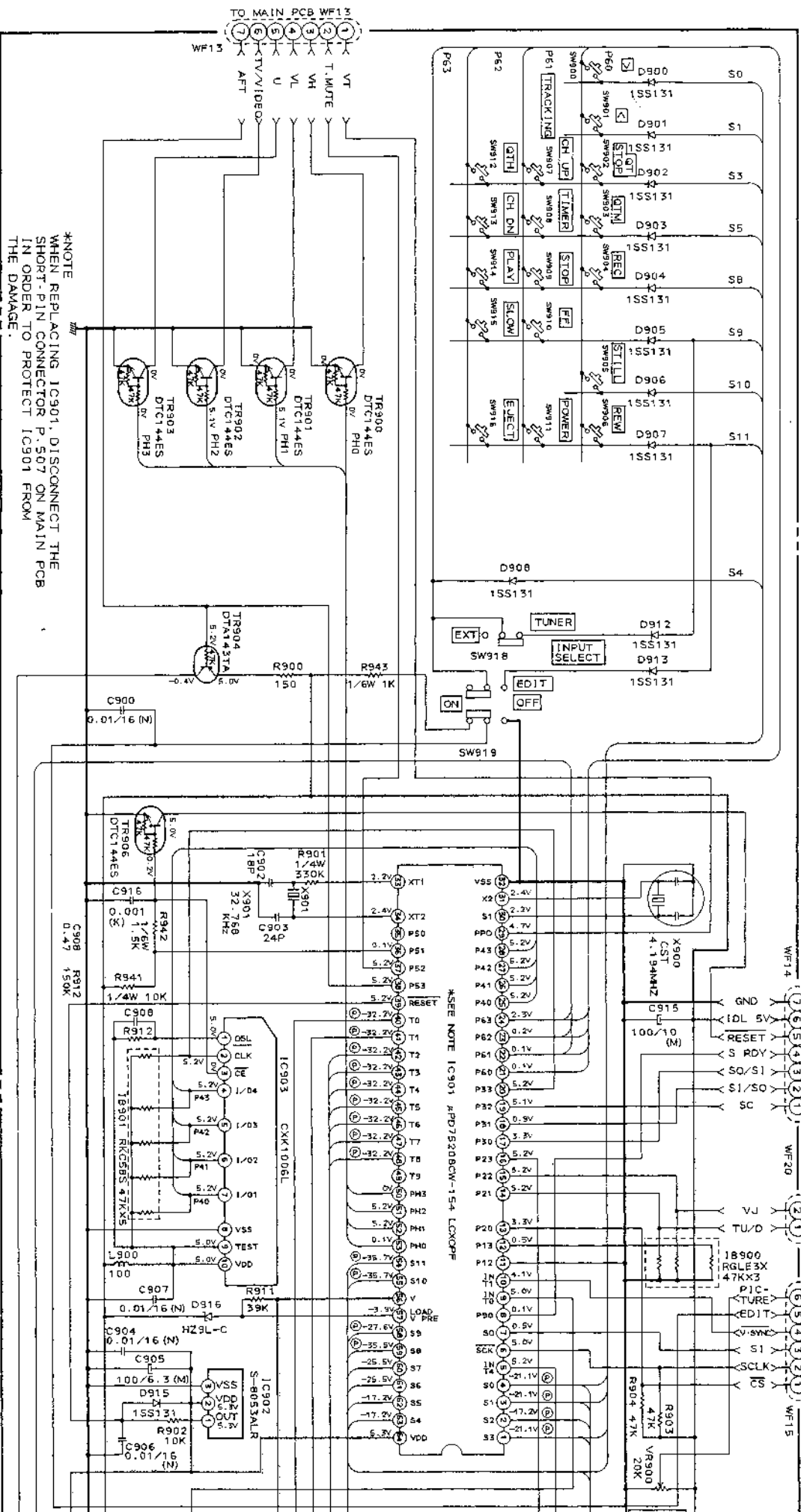
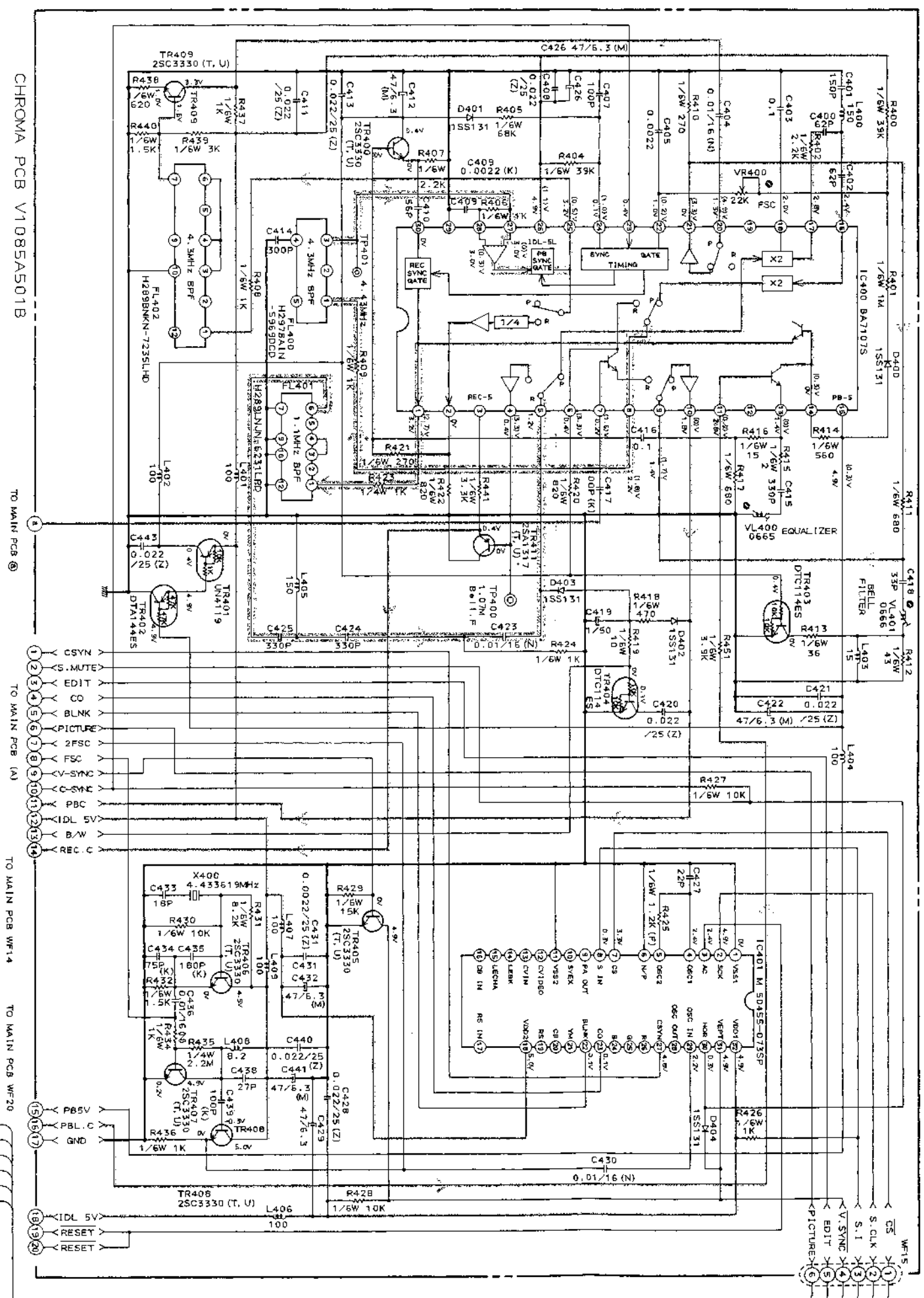
TO CHROMA PCB

- = NPN TRANSISTOR
- = PNP TRANSISTOR
- = FET

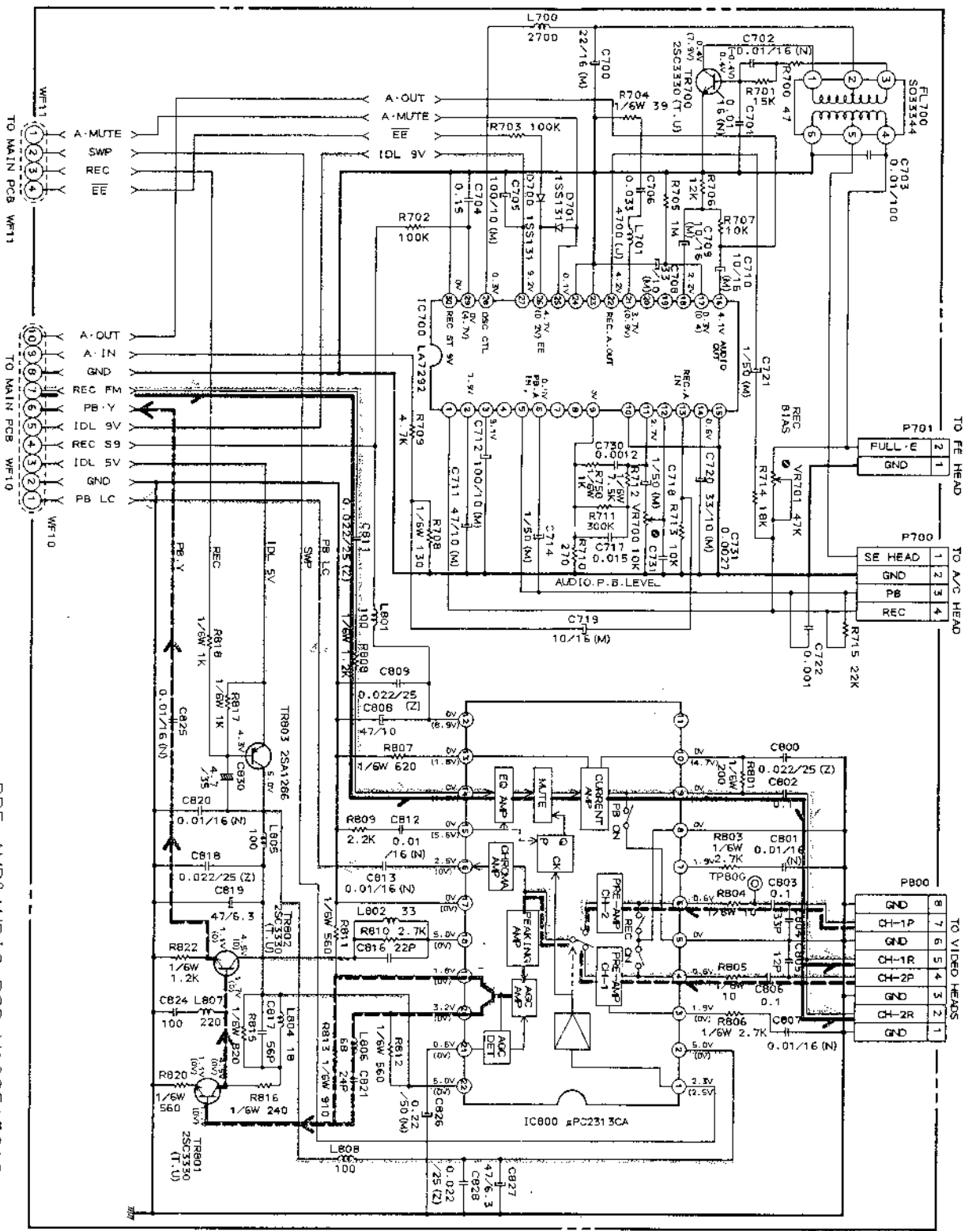


- 2SA1317 E C B
- 2SC2926 E C B
- 2SC3330 E C B
- DTC114ES DTC144ES
- 2SC1213 E C B
- 2SC3246 E C B
- 2SC1286 E C B
- 2SK363 G S

MENTS CRITIQUES DE SÉCURITÉ
 ÉQUIPEMENT SEUL AVEC MANUFACTURERS
 RECOMMANDÉS PAR LE FABRICANT



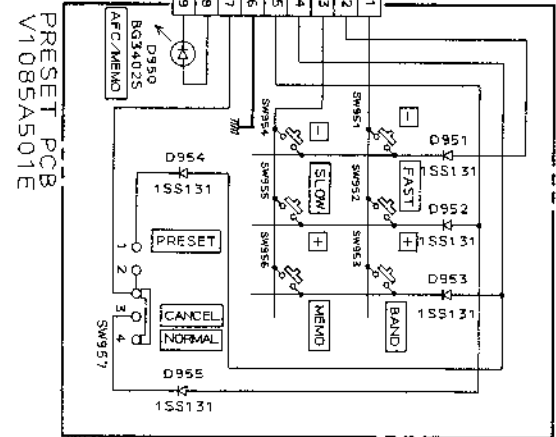
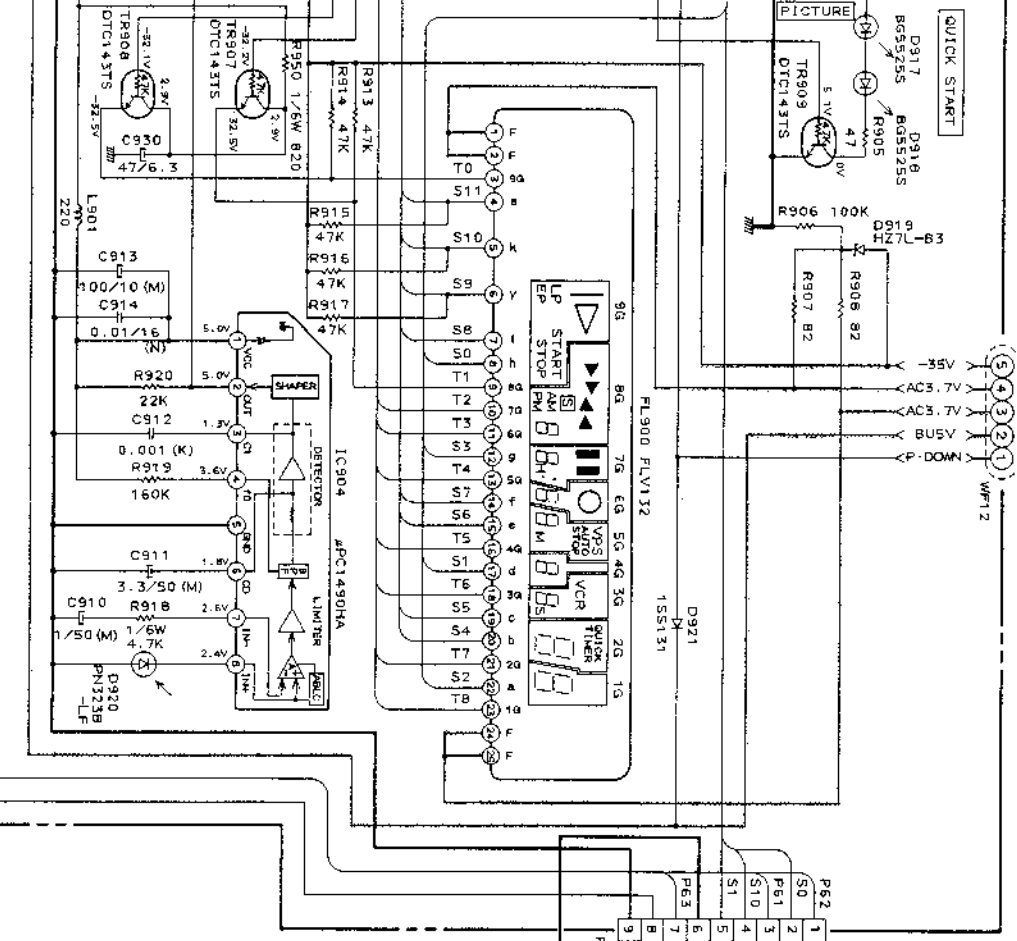
NOTE
WHEN REPLACING IC901, DISCONNECT THE
SHORT-PIN CONNECTOR P-507 ON MAIN PCB
IN ORDER TO PROTECT IC901 FROM
THE DAMAGE.



PRE-AMP&AUDIO PCB V1085A501C

INDICATED VOLTAGES ARE MEASURED IN P.B. MODE
 () : REC MODE

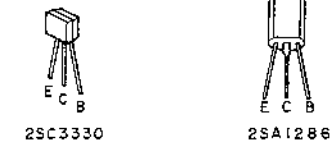
——— B (POWER SUPPLY) LINE
 - - - - - REC CHROMA SIGNAL
 P.B. CHROMA SIGNAL
 REC Y SIGNAL
 P.B. Y SIGNAL



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

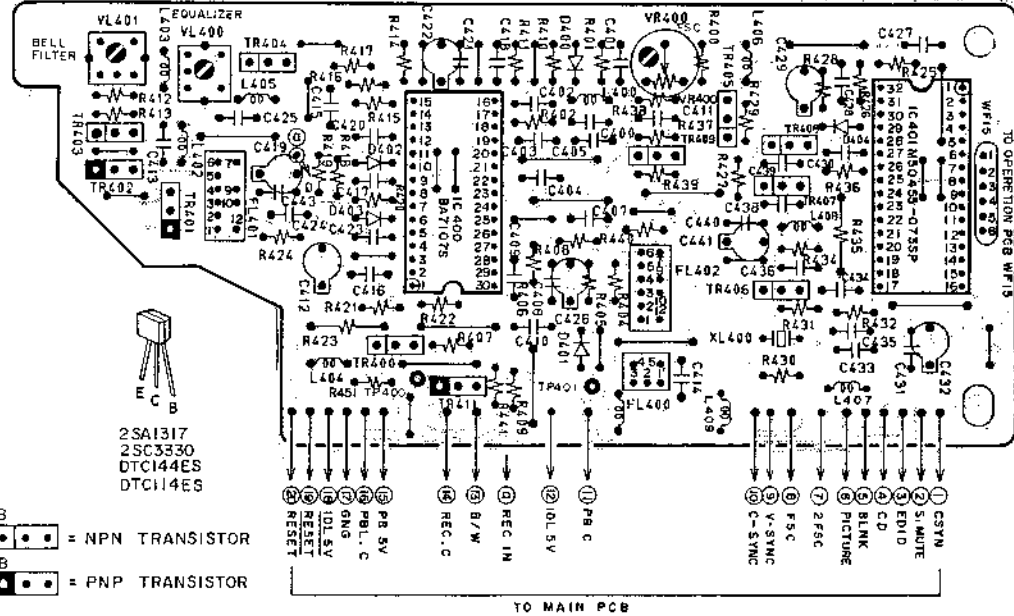
VS-20S
 CHROMA. PRE AMP&AUDIO
 OPERATION PCB
 SCHEMATIC DIAGRAM
 NO. 6-4 V108523M

TR700,801,802 2SC3330
 TR803 2SA1286



= PNP TRANSISTOR
 = NPN TRANSISTOR

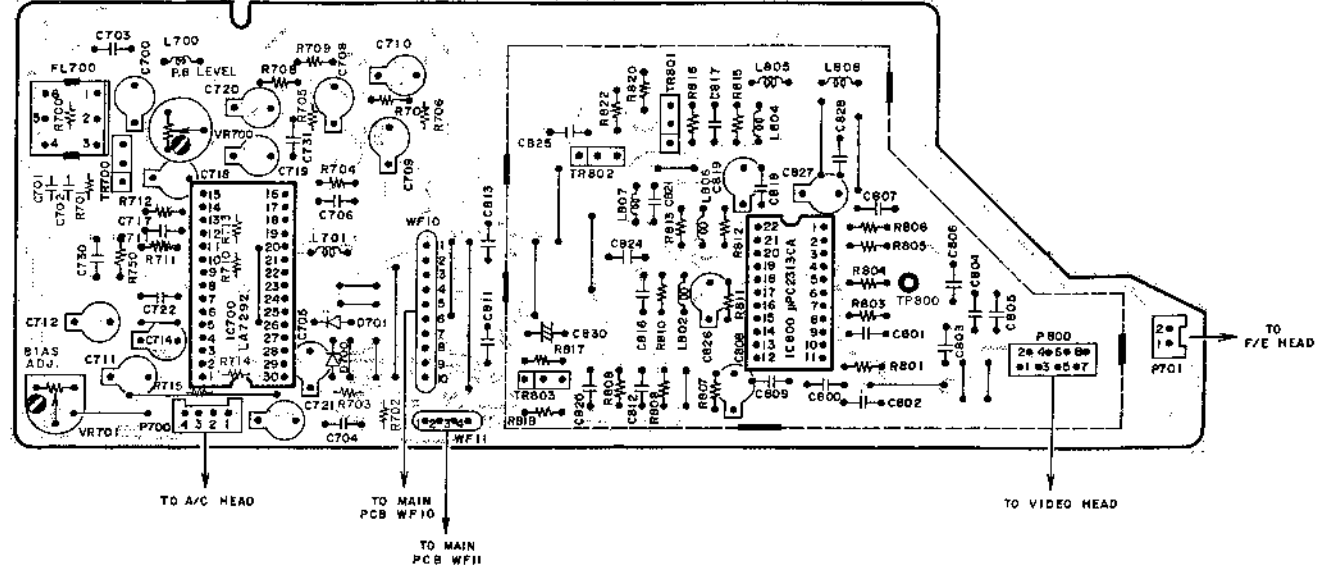
CHROMA PCB V1085A502B



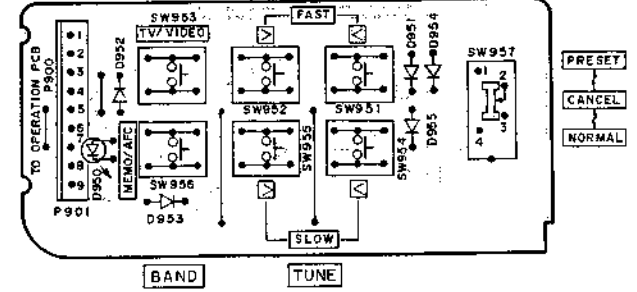
2SA1317
 2SC3330
 DTC144ES
 DTC144ES

= NPN TRANSISTOR
 = PNP TRANSISTOR

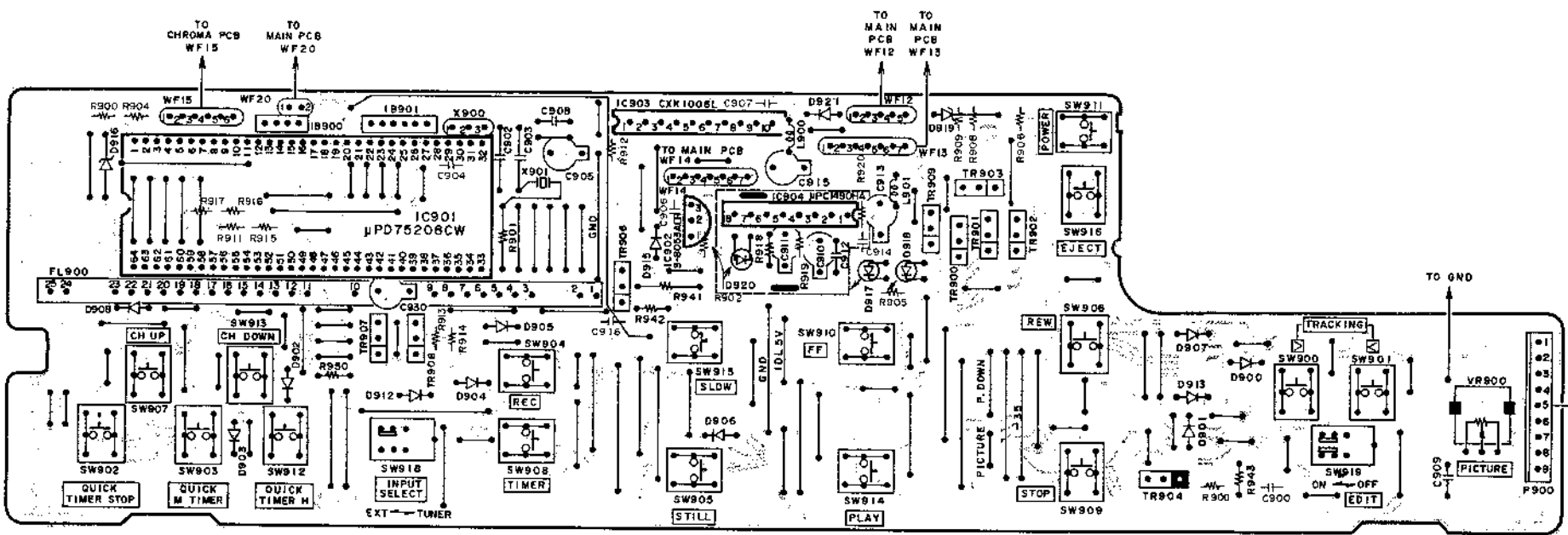
AUDIO & PREAMP PCB V1085A502B



PRESET PCB V1085A501E



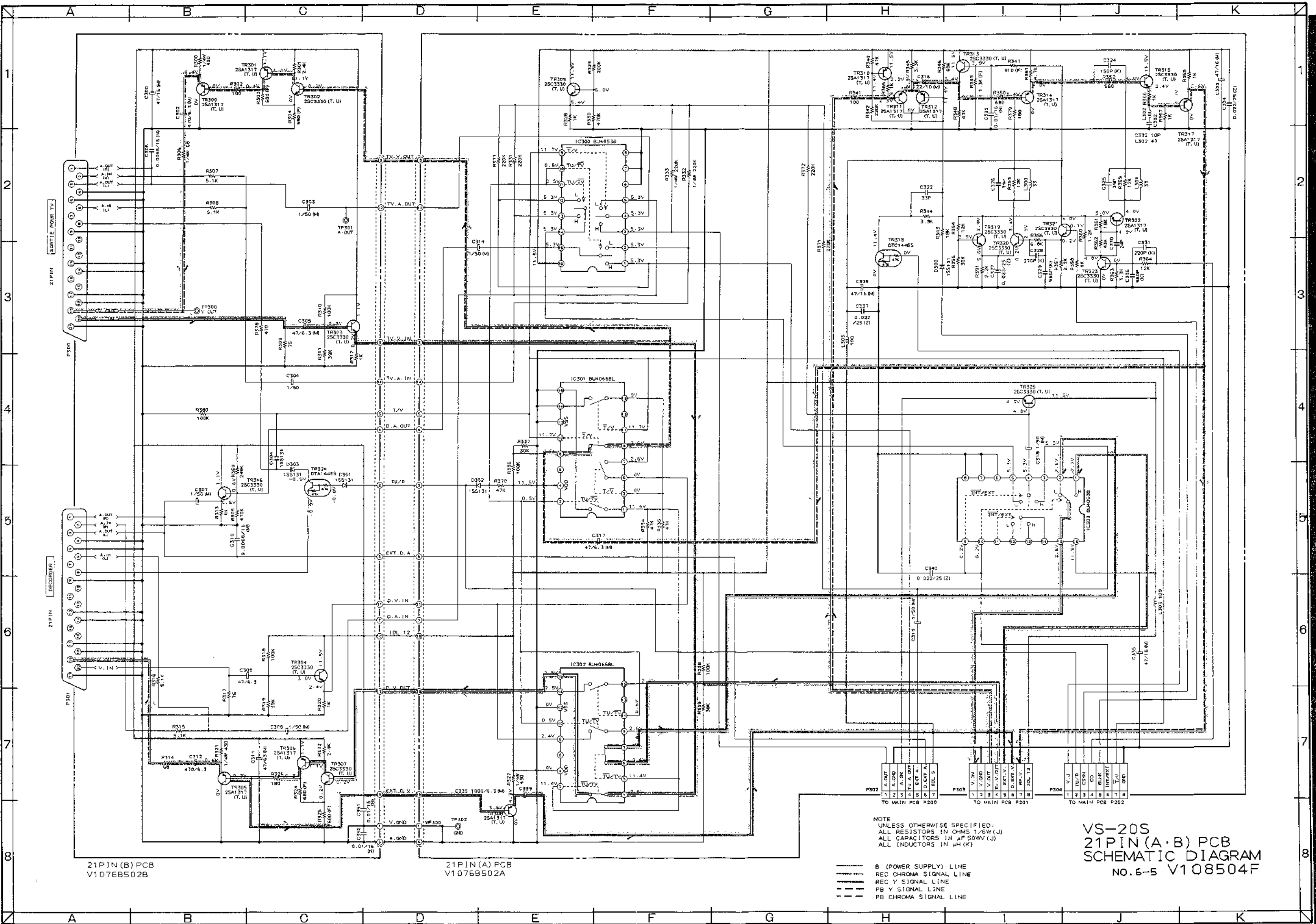
OPERATION PCB V1085A501D



TR900,901,902,903
 906 DTC144ES
 TR904 DTA143TA
 TR907,908,909 DTC143TS

= PNP TRANSISTOR
 = NPN TRANSISTOR



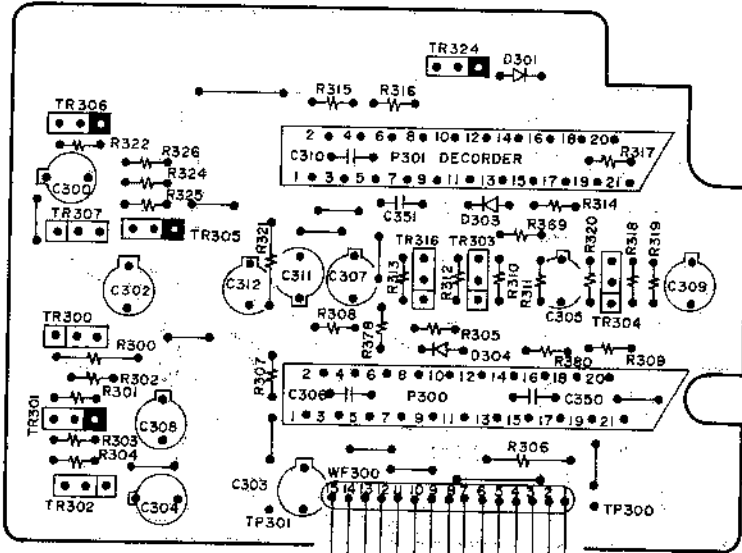


NOTE
 UNLESS OTHERWISE SPECIFIED:
 ALL RESISTORS IN OHMS 1/8W(J)
 ALL CAPACITORS IN μ F 50V(J)
 ALL INDUCTORS IN μ H(K)

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

VS-20S
 21PIN (A·B) PCB
 SCHEMATIC DIAGRAM
 NO. 6-5 V108504F

21 PIN (B) PCB V1076B502B (J1)

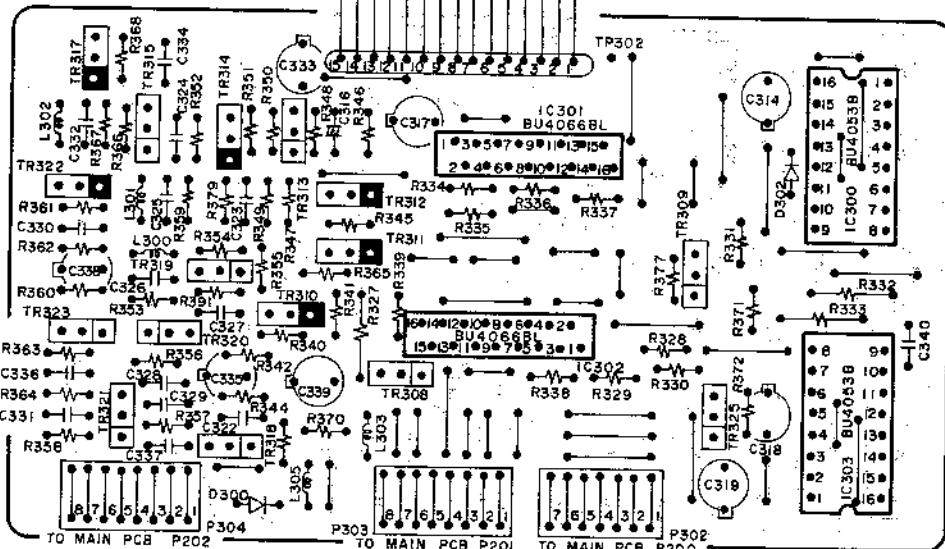


B = PNP TRANSISTOR
 B = NPN TRANSISTOR



2SA1317(T,U)
 2SC3330(T,U)
 DTA144(E,S)

EXT. D.V.
 TV. A. IN
 D.V. OUT
 TV. A. OUT
 D.V. IN
 TV. V. IN
 EXT. D. A.
 D. A. IN
 T.V.
 D. A. OUT
 TV. V. IN
 D. A. OUT
 TV. V. IN
 V. GND

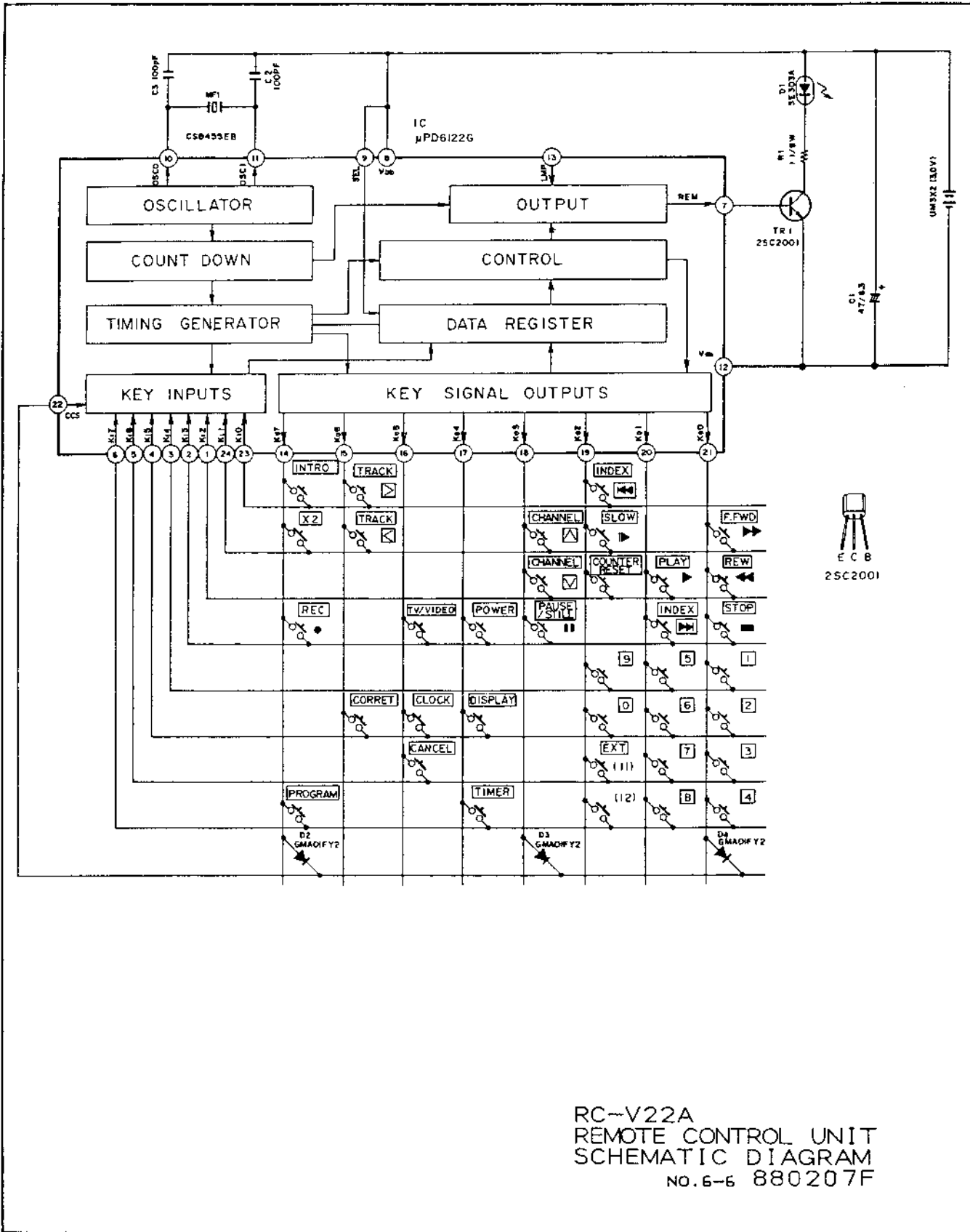


B = PNP TRANSISTOR
 B = NPN TRANSISTOR



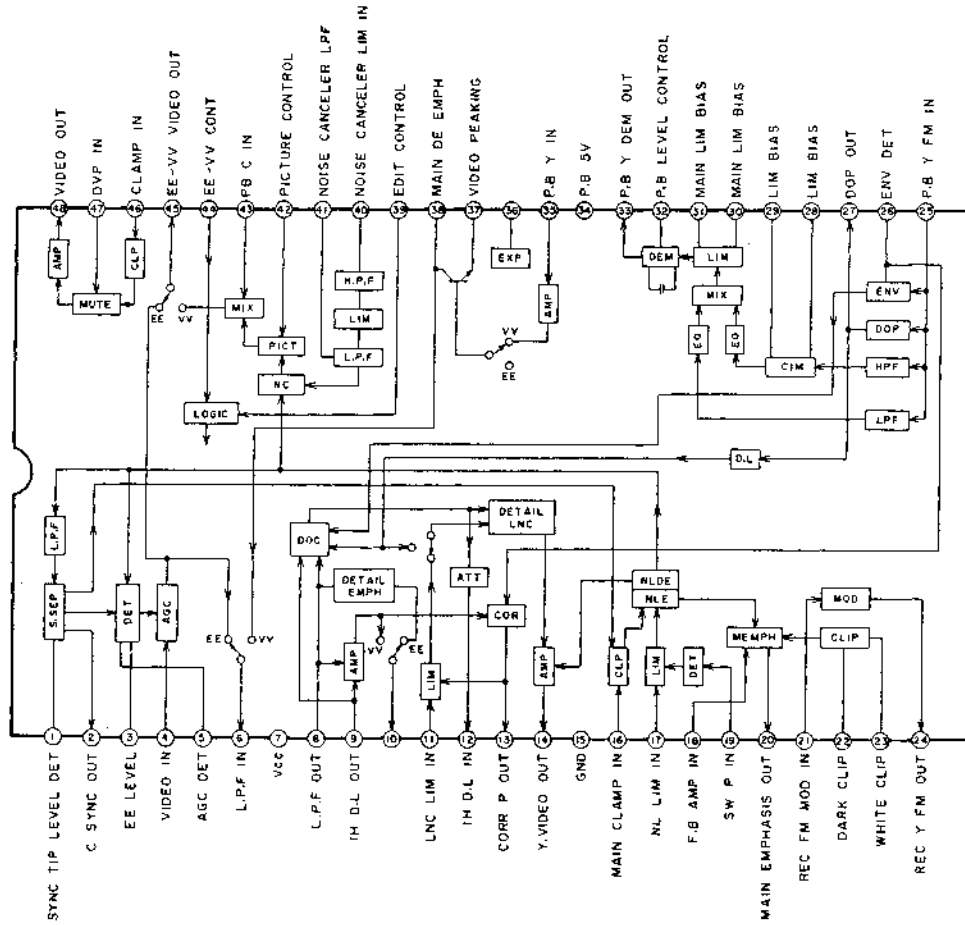
2SA1317(T,U)
 2SC3330(T,U)
 DTC144(E,S)

21 PIN (A) PCB V1076B502A (J1)

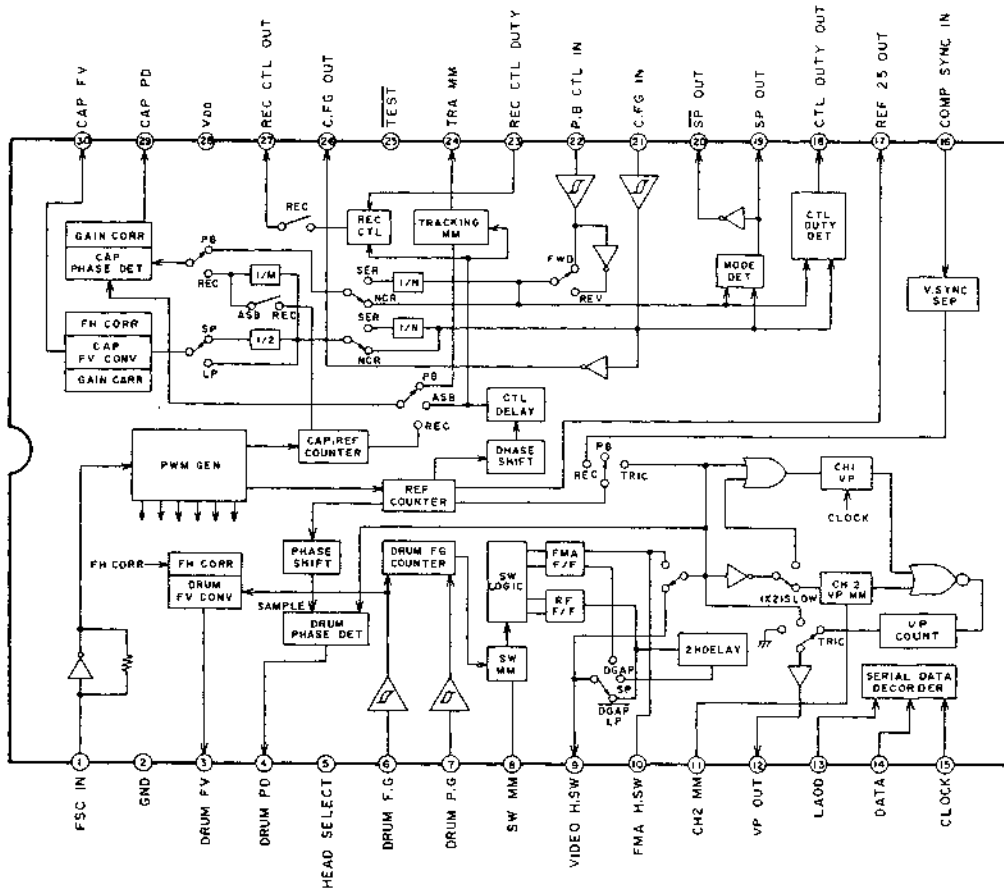


RC-V22A
 REMOTE CONTROL UNIT
 SCHEMATIC DIAGRAM
 NO. 6-6 880207F

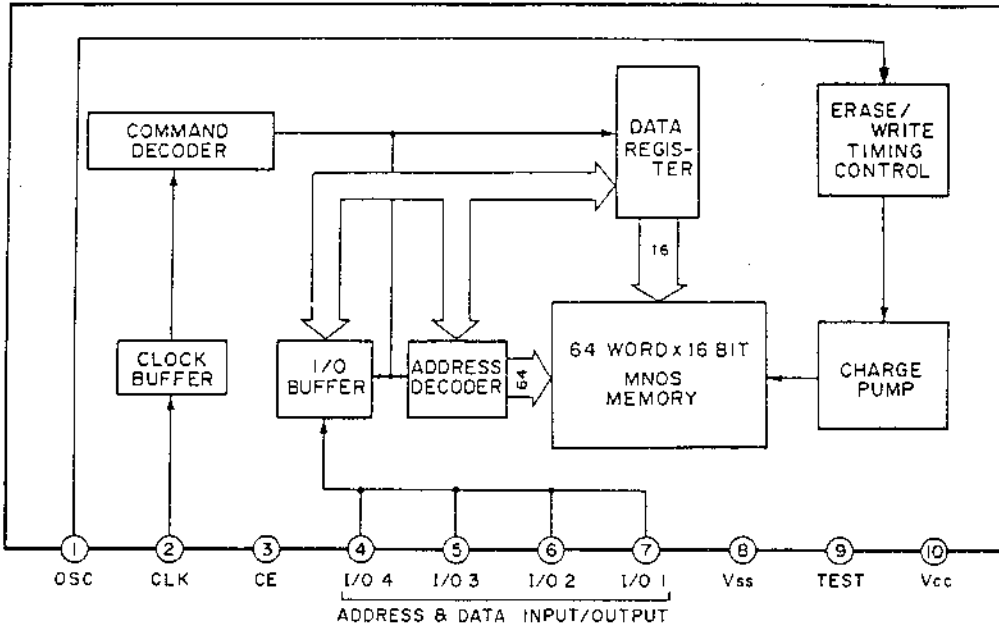
AN3231K (VIDEO Y SIGNAL PROCESSING IC)



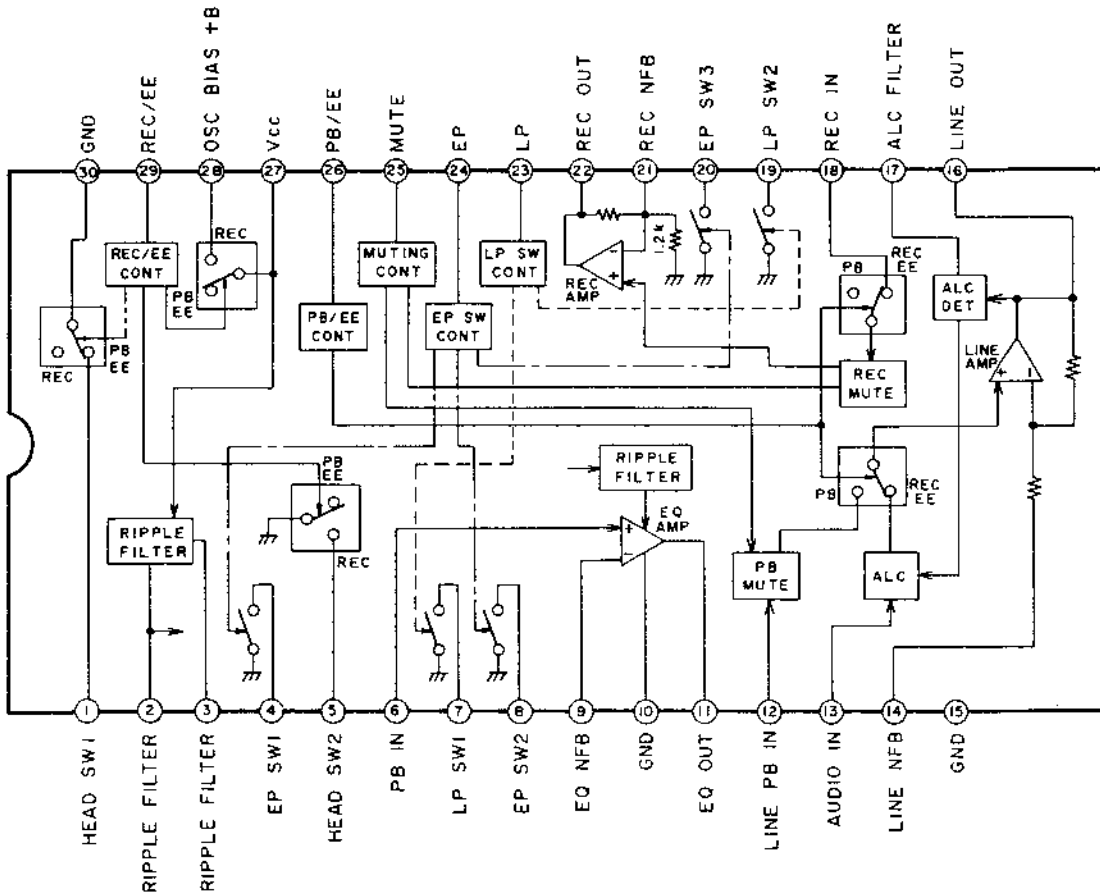
BU2735AS (DIGITAL SERVO)



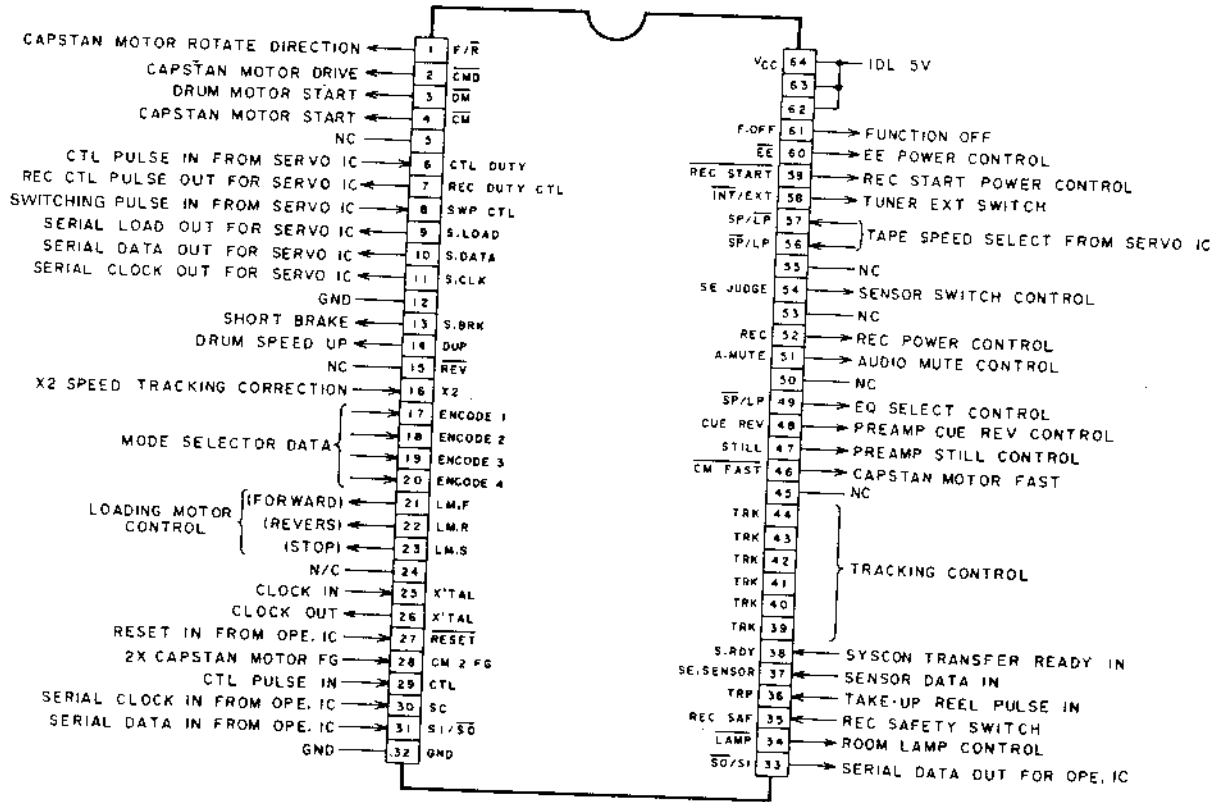
CXK1006 (NON VOLATILE RAM)



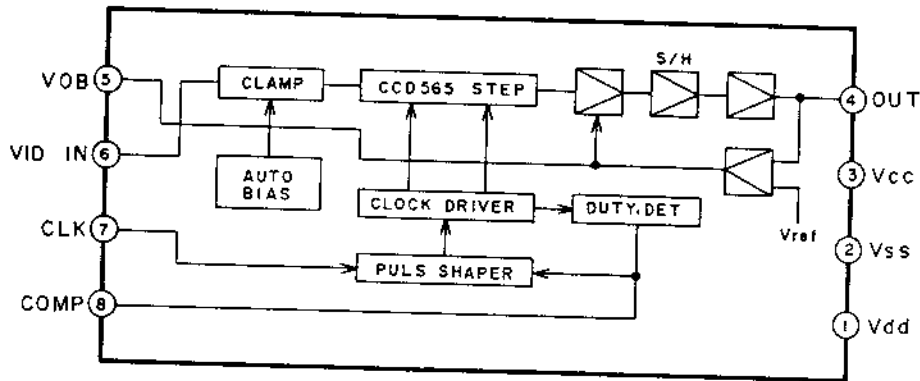
LA7292 (AUDIO SIGNAL REC/P.B AMPLIFIER)



MB88525-192G (SYSTEM CONTROL)



MSM6965-3RS (IH CCD DELAY LINE)



μPD75208 CW-LCXOPF2 (OPERATION)

