GV-A500/A500E

SERVICE MANUAL

Self Diagnostics Supported model

video Hi8

VIDEO WALKMAN

B MECHANISM

Photo : GV-A500E

US Model
Canadian Model
GV-A500
AEP Model
UK Model
E Model
Hong Kong Model
GV-A500E

GV-A500 (NTSC)
GV-A500E (PAL)

For MECHANISM ADJUSTMENT, refer to the "8mm Video MECHANICAL ADJUSTMENT MANUAL Ⅶ " (9-973-801-11).

SPECIFICATIONS

VCR

System

Video recording system
Four rotary heads, Helical scanning FM system
Audio recording system
Rotary heads, FM system
Video signal
NTSC color, EIA standards (GV-A500)
PAL color, EIA standards (GV-A500E)
Usable cassette
8 mm video format cassette (Hi8 or standard 8 mm)
Recording/playback time
GV-A500:
SP mode: 2 hours (E6/P6-120)
LP mode: 4 hours (E6/P6-120)
GV-A500E:
SP mode: 1 hour 30 minutes (E5/P5-90)
LP mode: 3 hours (E5/P5-90)
Fastforward/rewind time
GV-A500:
Approx. 6 min. (E6/P6-120)
GV-A500E
Approx. 5 min. (E5/P5-90)

LCD screen

Picture
4 inches measured diagonally
$3\,1/4 \times 2\,3/8$ in. (80.7 × 58.9 mm)
On-screen display
TN LCD/TFT active matrix method
Total dot number
112, 086 (479 × 234)

Input and output connectors

S video input/output
4-pin mini DIN
Luminance signal: 1 Vp-p, 75 ohms, unbalanced, sync negative
Chrominance signal: 0.286 Vp-p (GV-A500), 0.3 Vp-p (GV-A500E), 75 ohms, unbalanced
Video input/output
Phono jack, 1 Vp-p, 75 ohm, unbalanced, sync negative
Audio input/output
327 mV, (at output impedance less than 1 kohm)
RFU DC OUT
Special minijack, DC 5 V
Headphones jack
Stereo minijack (ø 3.5 mm)
LANC jack
Stereo mini-minijack (ø 2.5 mm)

LASER LINK

Video/Audio
IR special transmission system
Audio carrier
Lch: 4.3 MHz
Rch: 4.8 MHz

General

Power requirements
7.2 V (battery pack)
8.4 V (AC power adaptor)
Average power consumption
5.3 W
Operating temperature
32°F to 104°F (0°C to 40°C)
Storage temperature
–4°F to +140°F (–20°C to +60°C)
Dimensions
Approx. $5\,7/8 \times 2\,1/2 \times 5\,3/8$ in. (w/h/d) (148 × 62 × 135 mm)
Mass
Approx. 1 lb 15 oz (900 g) excluding the battery pack, lithium battery, cassette, and shoulder strap
Approx. 2 lb 2 oz (970 g) including cassette E6/P6-120, and shoulder strap
Speaker
Dynamic-speaker
Supplied accessories
See page 1-1.

AC power adaptor

Power requirements
100 to 240 V AC, 50/60 Hz
Power consumption
25 W
Output voltage
DC OUT: 8.4 V, 1.8 A in operating mode
Battery charge terminal: 8.4 V, 1.4 A in charge mode
Application
Sony battery pack NP-F530, NP-F730, NP-F930 lithium ion type
Operating temperature
32°F to 104°F (0°C to 40°C)
Storage temperature
–4°F to +140°F (–20°C to +60°C)
Dimensions
Approx. $2\,3/16 \times 1\,3/4 \times 4\,3/16$ in. (56 × 44 × 107 mm) (w/h/d)
Mass
Approx. 6.7 oz (190 g)

Design and specifications are subject to change without notice.

Hi8 VIDEO CASSETTE RECORDER

MICROFILM

SONY®

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replace-ment.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270˚C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

TABLE OF CONTENTS

6. REPAIR PARTS LIST

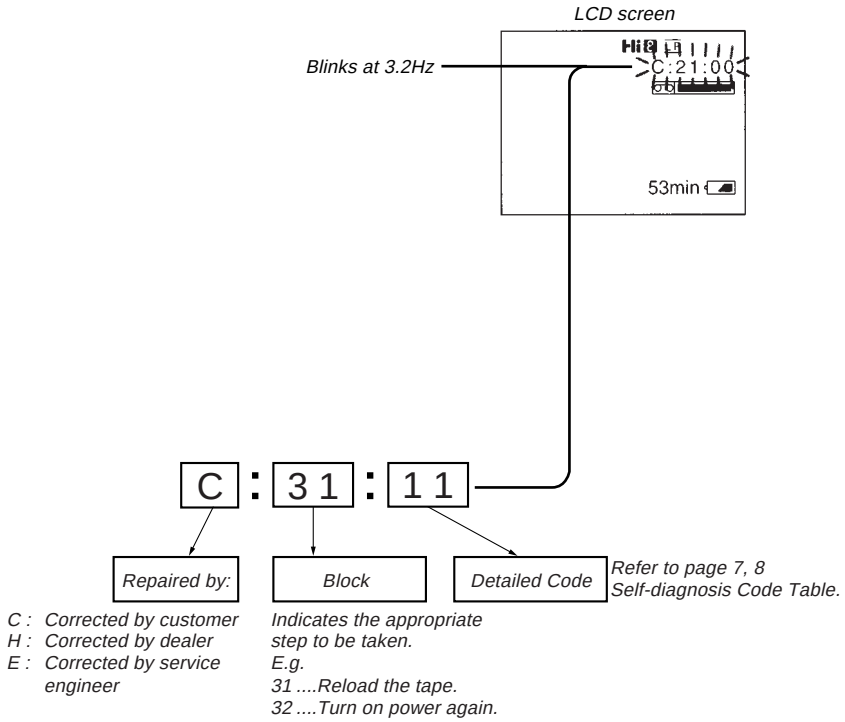
SELF-DIAGNOSIS FUNCTION

1. Self-diagnosis Function

When problems occur while the unit is operating, the self-diagnosis function starts working, and displays on the LCD window what to do. This function consists of two display; self-diagnosis display and service mode display.
Details of the self-diagnosis functions are provided in the Instruction manual.

2. Self-diagnosis display

When problems occur while the unit is operating, the counter of the LCD window shows a 4-digit display consisting of an alphabet and numbers, which blinks at 3.2 Hz. This 5-character display indicates the “repaired by:”, “block” in which the problem occurred, and “detailed code” of the problem.

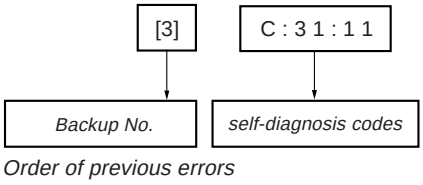


3. Service Mode Display

The service mode display shows up to six self-diagnosis codes shown in the past.

3-1. Display Method

While pressing the “STOP” key, set the power switch from OFF to “ON”, and continue pressing the “STOP” key for 5 seconds continuously. The service mode will be displayed, and the counter will show the backup No. and the 5-character self-diagnosis codes.



Order of previous errors

3-2. Switching of Backup No.

By rotating the SEL/PUSH EXEC dial, past self-diagnosis codes will be shown in order. The backup No. in the [] indicates the order in which the problem occurred. (If the number of problems which occurred is less than 6, only the number of problems which occurred will be shown.)

[1] : Occurred first time
[2] : Occurred second time
[3] : Occurred third time
[4] : Occurred fourth time
[5] : Occurred fifth time
[6] : Occurred the last time

3-3. End of Display

Turning OFF the power supply will end the service mode display.

Note: The self-diagnosis display data will be backed up by the coin-type lithium battery. When this coin-type lithium battery is disconnected, the self-diagnosis data will be lost by initialization.

4. Self-diagnosis Code Table

Self-diagnosis Code				Symptom/State	Correction
Repaired by:	Block Function		Detailed Code		
C	2	1	0 0	Condensation.	Remove the cassette, and insert it again after one hour.
C	2	2	0 0	Video head is dirty.	Clean with the optional cleaning cassette.
C	2	3	0 0	Non-standard battery is used.	Use the InfoLITHIUM battery.
C	2	3	1 0	LOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3	1	1 1	UNLOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3	1	2 0	T reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3	1	2 1	S reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3	1	2 2	T reel fault	Load the tape again, and perform operations from the beginning.
C	3	1	2 3	S reel fault	Load the tape again, and perform operations from the beginning.
C	3	1	3 0	FG fault when starting capstan	Load the tape again, and perform operations from the beginning.
C	3	1	3 1	FG fault during normal capstan operations	Load the tape again, and perform operations from the beginning.
C	3	1	4 0	FG fault when starting drum	Load the tape again, and perform operations from the beginning.
C	3	1	4 1	PG fault when starting drum	Load the tape again, and perform operations from the beginning.
C	3	1	4 2	FG fault during normal drum operations	Load the tape again, and perform operations from the beginning.
C	3	1	4 3	PG fault during normal drum operations	Load the tape again, and perform operations from the beginning.
C	3	1	4 4	Phase fault during normal drum operations	Load the tape again, and perform operations from the beginning.
C	3	2	1 0	LOAD direction loading motor time-out	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	1 1	UNLOAD direction loading motor time-out	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2 0	T reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2 1	S reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2 2	T reel fault	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2 3	S reel fault	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	3 0	FG fault when starting capstan	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	3 1	FG fault during normal capstan operations	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4 0	FG fault when starting drum	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4 1	PG fault when starting drum	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4 2	FG fault during normal drum operations	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4 3	PG fault during normal drum operations	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4 4	Phase fault during normal drum operations	Remove the battery or power cable, connect, and perform operations from the beginning.

SECTION 1
GENERAL

This section is extracted from instruction manual. (GV-A500 model)

Before you begin
Using this manual

Welcome !

Congratulations on your purchase of this Sony "Video Walkman" VCR.

As you read through this manual, buttons and settings on the VCR are shown in capital letters. e.g., Set the POWER switch to ON.
As indicated with ♪ in the illustrations, you can hear the beep sound to confirm your operation.

Note on TV color systems

TV color systems differ from country to country. To view the playback picture on a TV, you need an NTSC system-based TV.

Precaution on copyright

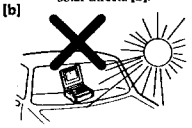
Television programs, films, video tapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the provision of the copyright laws.

Precautions on VCR care

- **The LCD screen is made with high-precision technology. However, black points or bright points of light (red, blue or green) may appear constantly on the LCD screen. These points are not recorded on the tape. This is not a malfunction. (Effective dots: more than 99.99%)**
- Do not let the VCR get wet. Keep the VCR away from rain and sea water. Letting the VCR get wet may cause the unit to malfunction, and sometimes the malfunction cannot be repaired **[a]**.
- Never leave the VCR exposed to temperatures above 140°F (60°C), such as in a car parked in the sun or under direct sunlight **[b]**.

[a]

[b]



Antes de comenzar
Uso de este manual

¡Bienvenido !

Felicitaciones por la adquisición de esta videograbadora de Sony "Video Walkman".

En este manual, los botones y ajustes de la videograbadora aparecen en mayúsculas. Por ejemplo: Ajuste el interruptor POWER en ON.
Como se indica con ♪ en las ilustraciones, es posible escuchar pitidos para confirmar operaciones.

Nota sobre sistemas de color de TV

Los sistemas de color de TV varían en función del país. Para ver la imagen de reproducción en un TV, éste debe estar basado en el sistema NTSC.

Precaución sobre los derechos de autor (copyright)

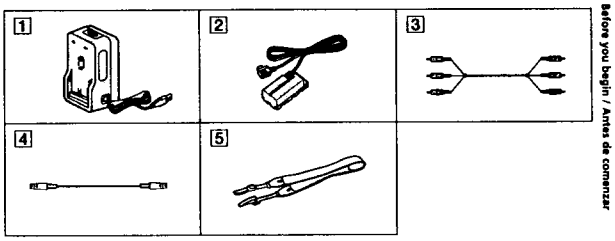
Los programas de televisión, películas, cintas de vídeo y otros materiales pueden estar protegidos por derechos de autor. La grabación no autorizada de tales materiales puede ir en contra de las leyes sobre derechos de autor.

Precauciones sobre los cuidados de la videograbadora

- **La pantalla LCD está fabricada con tecnología de alta precisión. No obstante, es posible que aparezcan en la misma de forma constante puntos negros o brillantes de luz (rojos, azules o verdes). Estos puntos no se graban en la cinta. Esto no es un fallo de funcionamiento (puntos efectivos: más del 99,99%).**
- No permita que la videograbadora se moje. Manténgala alejada de la lluvia y del agua marina. Si la videograbadora se moja, es posible que se produzcan fallos de funcionamiento que en ciertos casos no puedan repararse **[a]**.
- No exponga nunca la videograbadora a temperaturas superiores a 140°F (60°C), como en un automóvil aparcado al sol o bajo la luz solar directa **[b]**.

Checking supplied accessories

Check that the following accessories are supplied with your VCR.



1 **AC-V615 AC power adaptor** (1) (p. 6, 25)
The shape of the plug varies from region to region.

2 **DK-415 connecting cord** (1) (p. 6)

3 **A/V connecting cable** (1) (p. 14, 17, 19)

4 **S video cable**(1) (p. 14, 17, 19)

5 **Shoulder strap** (1) (p. 49)

Contents of the recording cannot be compensated if recording or playback is not made due to a malfunction of the VCR, video tape, etc.

Comprobación de los accesorios suministrados

Compruebe que ha recibido los siguientes accesorios junto con la videograbadora:

1 **Adaptador de alimentación de CA AC-V615** (1) (p. 6, 25)
La forma del enchufe varía según la región.

2 **Cable de conexión DK-415** (1) (p. 6)

3 **Cable de conexión de A/V** (1) (p. 14, 17, 19)

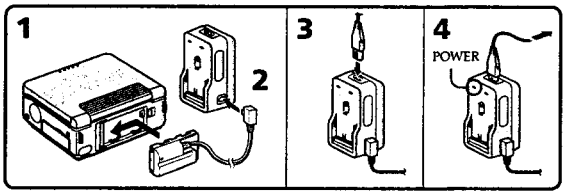
4 **Cable de vídeo S** (1) (p. 14, 17, 19)

5 **Asa de hombro** (1) (p. 49)

El contenido de la grabación no puede compensarse si ésta o la reproducción no se realiza debido a algún fallo de funcionamiento de la videograbadora, cinta de vídeo, etc.

Basic operations
Installing the AC power adaptor

Use the supplied AC power adaptor.
(1) While pressing the connecting plate of the connecting cord, slide it to the left so that it attaches to the battery mounting surface firmly.
(2) Connect the connecting cord to the DC OUT jack on the AC power adaptor.
(3) Connect the power cord to the AC power adaptor.
(4) Connect the power cord to a wall outlet. The POWER lamp (green) lights up.



To remove the AC power adaptor

While pressing BATT, slide the connecting plate to the right.

PRECAUTION

The set is not disconnected from the AC power source (house current) as long as it is connected to the wall outlet, even if the set itself has been turned off.

Operaciones básicas
Instalación del adaptador de alimentación de CA

Emplee el adaptador de alimentación de CA suministrado.
(1) Mientras presiona la placa de conexión del cable de conexión, deslícela a la izquierda de forma que quede firmemente fijada a la superficie de montaje de la batería.
(2) Conecte el cable de conexión a la toma DC OUT del adaptador de alimentación de CA.
(3) Conecte el cable de alimentación al adaptador.
(4) Conecte el cable de alimentación a una toma mural. El indicador POWER (verde) se ilumina.

Para extraer el adaptador de alimentación de CA

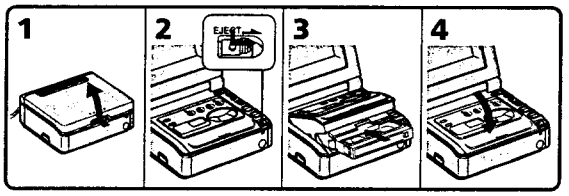
Deslice la placa de conexión a la derecha mientras pulsa BATT.

PRECAUCIÓN

La unidad no estará desconectada de la fuente de alimentación de CA (corriente doméstica) mientras esté conectada a la toma mural, aunque la haya apagado.

Inserting a cassette

Make sure that the power source is installed. When you want to record in the Hi8 system, use Hi8 video cassette **Hi8**.
(1) While pressing PUSH OPEN, open the LCD panel.
(2) While pressing the small blue button, slide EJECT to the right. The cassette compartment automatically lifts up and opens.
(3) Insert a cassette with the window facing up.
(4) Close the cassette compartment by pressing the PUSH mark on the cassette compartment.



To eject the cassette

While pressing the small blue button, slide EJECT to the right.

To prevent accidental erasure

Slide the tab on the cassette to expose the red mark. If you insert the cassette with the red mark exposed and close the cassette compartment, the beeps sound for a while. If you try to record with the red mark exposed, the ⌧ and ⏏ indicators flash on the LCD screen, and you cannot record. To re-record on this tape, slide the tab back out covering the red mark.

Inserción de videocassettes

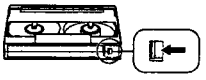
Compruebe que la fuente de alimentación está instalada. Si desea grabar en el sistema Hi8, emplee videocassettes **Hi8**.
(1) Abra el panel LCD mientras pulsa PUSH OPEN.
(2) Mientras pulsa el botón azul pequeño, deslice EJECT a la derecha. El compartimiento de videocassettes se eleva y se abre automáticamente.
(3) Inserte un videocassette con la ventana hacia arriba.
(4) Cierre el compartimiento de videocassettes presionando la marca PUSH del mismo.

Para expulsar el videocassette

Deslice EJECT a la derecha mientras pulsa el botón azul pequeño.

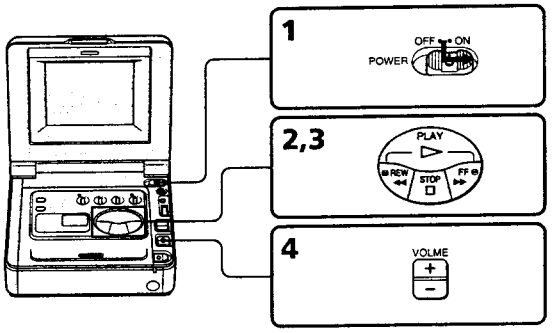
Para evitar borrados accidentales

Deslice la lengüeta del videocassette para que la marca roja sea visible. Si inserta el videocassette con la marca roja visible y cierra el compartimiento de videocassettes, la unidad emitirá pitidos durante unos instantes. Si intenta grabar con dicha marca visible, los indicadores ⌧ y ⏏ parpadearán en la pantalla LCD y no será posible grabar. Para volver a grabar en esta cinta, deslice la lengüeta a su posición anterior para cubrir la marca roja.



Playing back a tape

(1)While pressing the small green button on the POWER switch, set it to ON.
The POWER lamp (green) on the front lights up.
(2)Press ◀◀ to rewind the tape.
(3)Press ▷ to start playback.
(4)Adjust the volume using VOLUME.
You can also monitor the picture on a TV screen, after connecting the VCR to a TV or another VCR.



To stop playback, press □.
To rewind the tape, press ◀◀.
To fast-forward the tape rapidly, press ▶▶.
To adjust the brightness of the LCD screen, press LCD BRIGHT.

Note on DISPLAY button
Press DISPLAY to display the screen indicators on the LCD screen. To erase the indicators, press again.

Using headphones
Connect headphones (not supplied) to the ∩ jack (p. 48). You can adjust the volume of the headphones using VOLUME.

Reproducción de cintas

(1)Ajuste el interruptor POWER en ON mientras pulsa el botón verde pequeño del mismo.
El indicador POWER (verde) de la parte frontal se ilumina.
(2)Pulse ◀◀ para rebobinar la cinta.
(3)Pulse ▷ para iniciar la reproducción.
(4)Ajuste el volumen con VOLUME.
También es posible ver la imagen en la pantalla de un TV, después de conectar la videograbadora a un TV o a otra videograbadora.

Para detener la reproducción, pulse □.
Para rebobinar la cinta, pulse ◀◀.
Para avanzar la cinta rápidamente, pulse ▶▶.
Para ajustar el brillo de la pantalla LCD, pulse LCD BRIGHT.

Nota sobre el botón DISPLAY
Pulse DISPLAY para mostrar los indicadores en la pantalla LCD. Para borrarlos, vuelva a pulsarlo.

Uso de auriculares
Conecte auriculares (no suministrados) a la toma ∩ (p. 48). Es posible ajustar el volumen de los auriculares con VOLUME.

Using a Remote Commander
You can operate this VCR using a Remote Commander supplied with a Sony 8mm camcorder. Point the Remote Commander at the remote sensor of this VCR.

Notes on recording mode
- This VCR plays back and records in SP (standard play) mode and in LP (long play) mode. The VCR automatically plays back the tape in the recorded mode. The playback quality in LP mode, however, will not be as good as that in SP mode. When recording, select SP or LP in the menu system.
- When a tape recorded on this VCR in LP mode is played back on other types of 8 mm VCRs or camcorders, the playback quality may not be as good as that on this VCR.

Notes on the tape counter
- The tape counter indicates the playback or recording time. Use it as a guide. There will be a time lag of several seconds from the actual time. To set the counter to zero, press COUNTER RESET.
- If the tape is recorded in SP and LP modes mixed, the tape counter shows incorrect recording time. When you intend to edit the tape using the tape counter as a guide, record in same (SP or LP) mode.

Note on the beep sound
As indicated with ♪ in the illustrations, a beep sounds when you turn the power on. Several beeps also sound as a warning of any unusual condition of the VCR.
Note that the beep sound is not recorded on the tape. If you do not want to hear the beep sound, select "OFF" in the menu system.

Cautions on the LCD panel
- Do not push nor touch the LCD when moving the LCD panel.
- Do not pick up the VCR by the LCD panel.
- Do not place the VCR so as to point the LCD screen toward the sun. The LCD panel may be damaged. Be careful when placing the VCR under sunlight or by a window.

Uso de un mando a distancia
Es posible controlar esta videograbadora con un mando a distancia suministrado con una videocámara Sony de 8mm. Oriente dicho mando al sensor de control remoto de esta videograbadora.

Notas sobre el modo de grabación
- Esta videograbadora reproduce y graba en los modos SP (reproducción estándar) y LP (reproducción de larga duración). La videograbadora reproduce la cinta automáticamente en el modo grabado. No obstante, la calidad de reproducción en el modo LP no será tan buena como en el modo SP. Al grabar, seleccione SP o LP en el sistema de menús.
- Si una cinta grabada en esta videograbadora en el modo LP se reproduce en otros tipos de videocámaras o videograbadoras de 8 mm, es posible que la calidad de reproducción no sea tan buena como la obtenida en esta videograbadora.

Notas sobre el contador de cinta
- El contador de cinta indica el tiempo de reproducción o grabación. Empléelo como referencia. Habrá una diferencia de tiempo de varios segundos con respecto al tiempo real. Para ajustar el contador a cero, pulse COUNTER RESET.
- Si la cinta se graba mezclando los modos SP y LP, el contador de cinta mostrará un tiempo de grabación incorrecto. Si piensa editar la cinta utilizando el contador de cinta como referencia, grabe en el mismo modo (SP o LP).

Nota sobre los pitidos
Como se indica con ♪ en las ilustraciones, la unidad emite un pitido al activar la alimentación. También emite varios pitidos como aviso de alguna condición inusual de la videograbadora. Observe que los pitidos no se graban en la cinta. Si no desea oír los pitidos, seleccione "OFF" en el sistema de menús.

Precauciones sobre el panel LCD
- No presione ni toque la pantalla LCD al mover el panel LCD.
- No agarre la videograbadora por el panel LCD.
- Coloque la videograbadora de forma que la pantalla LCD no quede orientada hacia el sol, ya que el panel LCD podría dañarse. Tenga cuidado al colocar la videograbadora bajo la luz solar o en una ventana.

Various playback modes

You can enjoy noiseless pictures on the LCD screen during still, slow and picture search. **(Crystal-clear still/slow/picture search)**

To view a still picture (playback pause)
Press ❚❚ during playback. The PAUSE lamp (orange) lights up. To resume playback, press ❚❚ or ▷.

To locate a scene (picture search)
Keep pressing ◀◀ or ▶▶ during playback. To resume normal playback, release the button.

To monitor the high-speed picture while advancing the tape or rewinding (skip scan)
Keep pressing ◀◀ while rewinding or ▶▶ while advancing the tape. To resume normal rewinding or fast-forward, release the button.

To view the picture at 1/5 speed (slow playback)
Press I▶ during playback. To resume normal playback, press ▷. If slow playback lasts for about 1 minute, it shifts to normal speed automatically.

Notes on playback
- Streaks appear and the sound is muted in the various playback modes.
- When playback pause mode lasts for 5 minutes, the VCR automatically enters stop mode.
- Horizontal noise appears at the centre of the screen when you play back a tape in reverse if the RC time code or the Data Code is displayed on the screen. This is normal.

Distintos modos de reproducción

Es posible obtener imágenes sin ruido en la pantalla LCD durante los modos de imagen fija, reproducción a cámara lenta y búsqueda de imágenes **(búsqueda de imágenes/ reproducción a cámara lenta/imagen fija con nitidez).**

Para ver imágenes fijas (pausa de reproducción)
Pulse ❚❚ durante la reproducción. El indicador PAUSE (naranja) se ilumina. Para reanudar la reproducción, pulse ❚❚ o ▷.

Para localizar escenas (búsqueda de imágenes)
Mantenga pulsado ◀◀ o ▶▶ durante la reproducción. Para reanudar la reproducción normal, suelte el botón.

Para controlar la imagen a alta velocidad mientras la cinta avanza rápidamente o se rebobina (exploración con omisión)
Mantenga pulsado ◀◀ durante el rebobinado o ▶▶ durante el avance rápido de la cinta. Para reanudar el rebobinado o avance rápido normal, suelte el botón.

Para ver la imagen a una velocidad de 1/5 (reproducción a cámara lenta)
Pulse I▶ durante la reproducción. Para reanudar la reproducción normal, pulse ▷. Si la reproducción a cámara lenta dura aproximadamente 1 minuto, la unidad volverá automáticamente a la velocidad normal.

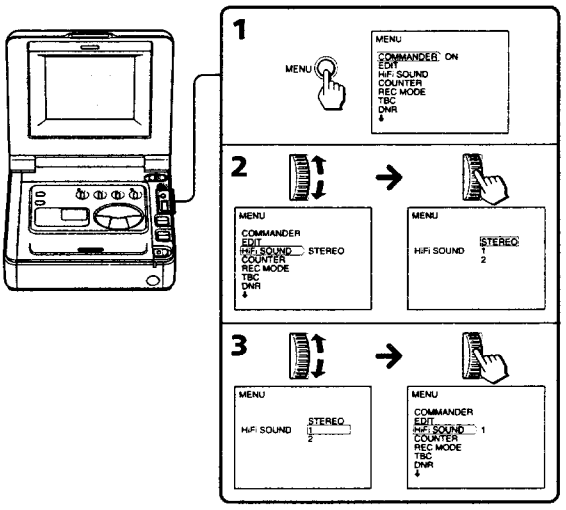
Notas sobre la reproducción
- Aparecen rayas y el sonido se cancela en los distintos modos de reproducción.
- Si el modo de pausa de reproducción dura 5 minutos, la videograbadora introduce automáticamente el modo de parada.
- Aparecerá ruido horizontal en el centro de la pantalla al reproducir una cinta en sentido inverso si el código de tiempos RC o el de datos se muestra en la pantalla. Esto es normal.

Playing back a dual soundtrack tape

When you play back a dual soundtrack tape, select the desired sound in the menu.
(1)Press MENU to display the menu.
(2)Turn the control dial to select HiFi SOUND, then press the control dial.
(3)Turn the control dial to select 1 or 2 to playback desired sound, then press the control dial.
Normally select STEREO.
(4)Press MENU to erase the menu display.

Reproducción de cintas de pista de sonido dual

Al reproducir una cinta de pista de sonido dual, seleccione el sonido que desee en el menú.
(1)Pulse MENU para mostrar el menú.
(2)Gire el dial de control para seleccionar HiFi SOUND y, a continuación, púlselo.
(3)Gire el dial de control para seleccionar 1 o 2 con el fin de reproducir el sonido que desee y, a continuación, pulse dicho dial.
Normalmente, seleccione STEREO.
(4)Pulse MENU para que el menú desaparezca.

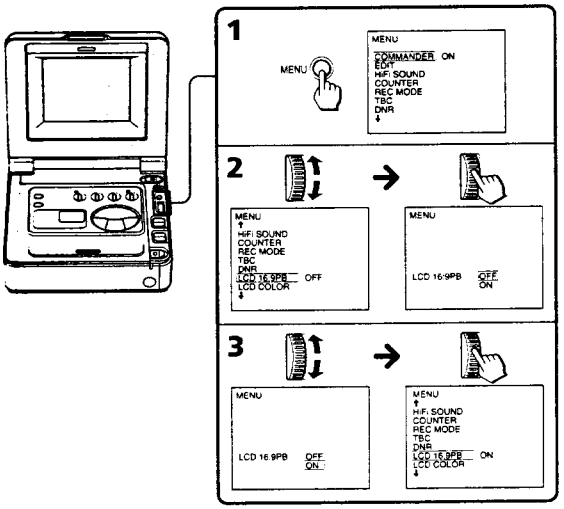


Viewing the picture recorded in 16:9 mode

When you play back a picture recorded in 16:9 wide mode of the camcorder, set the LCD 16:9PB mode in the menu.
1 Press MENU to display the menu.
2 Turn the control dial to select LCD 16:9PB, then press the control dial.
3 Turn the control dial to select ON, then press the control dial.
4 Press MENU to erase the menu display.

Visualización de imágenes grabadas en el modo 16:9

Al reproducir imágenes grabadas en el modo panorámico de 16:9 de la videocámara, ajuste el modo LCD 16:9PB en el menú.
(1) Pulse MENU para mostrar el menú.
(2) Gire el dial de control para seleccionar LCD 16:9PB y, a continuación, púlselo.
(3) Gire el dial de control para seleccionar ON y, a continuación púlselo.
(4) Pulse MENU para que el menú desaparezca.



Notes on playing back the picture recorded in 16:9 wide mode
- If LCD 16:9PB is set to OFF, the picture appears horizontally compressed.
- The picture output from the VIDEO/AUDIO jacks appears horizontally compressed regardless of the LCD 16:9PB setting.

Note on LCD 16:9PB setting
If you set LCD 16:9PB to ON when playing back a picture which was not recorded in 16:9 wide mode, the picture will appear widened.

Notas sobre la reproducción de imágenes grabadas en el modo panorámico de 16:9
- Si LCD 16:9PB está ajustado en OFF, la imagen aparecerá comprimida horizontalmente.
- La imagen enviada desde las tomas VIDEO/AUDIO aparece comprimida horizontalmente independientemente del ajuste de LCD 16:9PB.

Nota sobre el ajuste de LCD 16:9PB
Si ajusta LCD 16:9PB en ON para reproducir imágenes que no se han grabado en el modo panorámico de 16:9, la imagen aparecerá ensanchada.

Connect this VCR to another VCR or TV to watch the playback picture on the TV screen.

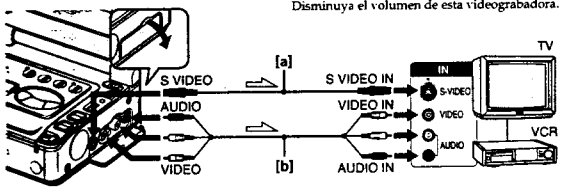
Connecting directly to a VCR/TV

Open the jack cover. Connect this VCR to the LINE IN inputs on the TV or VCR connected to the TV, using the supplied A/V connecting cable. Set the TV/VCR selector on the TV to VCR. When connecting to the VCR, set the input selector on the VCR to LINE.
If your VCR or TV has an S video jack, connect using the supplied S video cable [a] to obtain a high quality picture. If you are going to connect the VCR using the S video cable [a], you do not need to connect the yellow (video) plug of the A/V connecting cable [b].
The procedure to play back is the same as when playing back on the LCD screen. Turn down the volume of this VCR.

Conecte esta videograbadora a otra videograbadora o a un TV para ver la imagen de reproducción en la pantalla del TV.

Conexión directamente a una videograbadora/TV

Abra la cubierta de la toma. Conecte esta videograbadora a las entradas LINE IN del TV o videograbadora conectada al TV mediante el cable de conexión de A/V suministrado. Ajuste el selector TV/VCR del TV en VCR. Si realiza la conexión a la videograbadora, ajuste el selector de entrada de ésta en LINE.
Si la videograbadora o el TV dispone de una toma de vídeo S, realice la conexión mediante el cable de vídeo S suministrado [a] para obtener imágenes de alta calidad. Si va a conectar la videograbadora mediante el cable de vídeo S [a], no es preciso conectar el enchufe amarillo (vídeo) del cable de conexión de A/V [b].
El procedimiento de reproducción es el mismo que para reproducir en la pantalla LCD.
Disminuya el volumen de esta videograbadora.



: Signal flow / Flujo de señales

When connecting the A/V connecting cable
Connect the plugs to the jacks in the same colors on this VCR and the TV or the other VCR.

If the VCR or TV is a monaural type
Connect only the white plug for audio on both VCRs or the TV. With this connection, the sound is monaural even in stereo mode.

Si conecta el cable de conexión de A/V
Conecte los enchufes a las tomas del mismo color en esta videograbadora y en el TV o en la otra videograbadora.

Si la videograbadora o el TV es de tipo monofónico
Conecte sólo el enchufe blanco de audio en ambas videograbadoras o en el TV. Con esta conexión, el sonido será monofónico incluso en el modo estéreo.

To connect to a VCR or TV without video/audio input jacks
Use the RFU-95UC RFU adaptor (not supplied).

To display indicators on the TV
Set DISPLAY to V-OUT/LCD in the menu and press DISPLAY. To turn off, press DISPLAY again.

Using the AV cordless IR receiver - LASER LINK

Once you connect the AV cordless IR receiver (not supplied) having the LASER LINK mark to your TV or VCR, you can easily view the picture on your TV. For details, refer to the instruction manual of the AV cordless IR receiver.
LASER LINK is a system which transmits and receives a picture and sound between video equipment having the LASER LINK mark by using infrared rays.
LASER LINK is a trademark of Sony Corporation.

To play back on a TV
(1) After connecting your TV and AV cordless IR receiver, set the POWER switch on the AV cordless IR receiver to ON.
(2) Set the POWER switch on this VCR to ON.
(3) Turn the TV on and set the TV/VCR selector on the TV to VCR.
(4) Press LASER LINK. The lamp of the LASER LINK button lights up.
(5) Press ▷ PLAY on this VCR to start playback.
(6) Point the LASER LINK emitter at the AV cordless IR receiver.

Para realizar la conexión a una videograbadora o TV sin tomas de entrada de vídeo/audio
Emplee el adaptador RFU-95UC (no suministrado).

Para mostrar indicadores en el TV
Ajuste DISPLAY en V-OUT/LCD en el menú y pulse DISPLAY. Para desactivarlos, vuelva a pulsar DISPLAY.

Uso del receptor IR de AV inalámbrico - LASER LINK

Si conecta el receptor IR de AV inalámbrico (no suministrado) que presente la marca LASER LINK al TV o videograbadora, podrá ver fácilmente las imágenes en el TV. Para más información, consulte el manual de instrucciones de dicho receptor.
LASER LINK es un sistema que transmite y recibe mediante rayos infrarrojos imágenes y sonido entre equipos de vídeo que presenten la marca .
LASER LINK es una marca comercial de Sony Corporation.

Para realizar la reproducción en un TV
(1) Después de conectar el TV y el receptor IR, ajuste el interruptor POWER de éste en ON.
(2) Ajuste el interruptor POWER de esta videograbadora en ON.
(3) Encienda el TV y ajuste el selector TV/VCR del TV en VCR.
(4) Pulse LASER LINK. El indicador del botón LASER LINK se ilumina.
(5) Pulse ▷ PLAY en esta videograbadora para iniciar la reproducción.
(6) Oriente el emisor LASER LINK hacia el receptor IR.

Watching on a TV screen

Visualización de imágenes en la pantalla de un TV

If you use a Sony TV

- You can turn on the TV automatically when you press the LASER LINK or ▷ PLAY button. To do so, set the AUTO TV ON to ON in the menu system and turn the TV's main switch on, then do either of the following:
  - Point the LASER LINK emitter towards the TV's remote sensor and press LASER LINK.
  - Turn on the LASER LINK button and press ▷ PLAY.
- You can switch the video input of the TV automatically to the one which the AV cordless IR receiver is connected. To do so, set the AUTO TV ON to ON and the TV INPUT to the same video input (1, 2, 3) in the menu system. With some models, however, the picture and sound may be disconnected momentarily when the video input is switched.
- The above features may not work with some TV models.

Note

When LASER LINK is activated (the LASER LINK button is lit), the VCR consumes power. Press and turn off the LASER LINK button when it is not needed.

Si utiliza un TV Sony

- Es posible encenderlo automáticamente al pulsar el botón LASER LINK o ▷ PLAY. Para ello, ajuste AUTO TV ON en ON en el sistema de menús y active el interruptor principal del TV; a continuación, realice alguna de las siguientes operaciones:
  - Oriente el emisor LASER LINK hacia el sensor de control remoto del TV y pulse LASER LINK.
  - Active el botón LASER LINK y pulse ▷ PLAY.
- Es posible cambiar automáticamente la entrada de vídeo del TV a la que esté conectada el receptor IR. Para ello, ajuste AUTO TV ON en ON y TV INPUT en la misma entrada de vídeo (1, 2, 3) en el sistema de menús. No obstante, con determinados modelos es posible que la imagen y el sonido se desconecten momentáneamente al cambiar la entrada de vídeo.
- Las características anteriores pueden no funcionar con ciertos modelos de TV.

Nota

Si LASER LINK está activado (el botón LASER LINK está iluminado), la videograbadora consumirá energía. Pulse y desactive el botón LASER LINK si no es necesario.

Editing onto another tape

Edición en otra cinta

Before editing

Connect this (playback) VCR to another (recording) VCR using the supplied A/V connecting cable. Set the input selector on the VCR to LINE, if available.

(1) While pressing the small green button on the POWER switch, set it to ON.

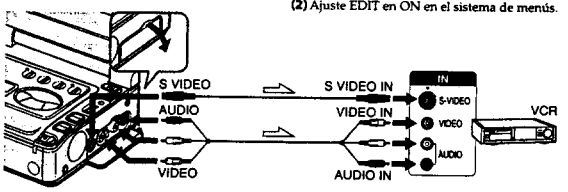
(2) Set EDIT to ON in the menu system.

Antes de editar

Conecte esta videograbadora (reproductora) a otra videograbadora (grabadora) mediante el cable de conexión de A/V suministrado. Ajuste el selector TV/VCR del TV en VCR. Si se encuentra disponible, ajuste el selector de entrada de la videograbadora en LINE.

(1) Ajuste el interruptor POWER en ON mientras pulsa el botón verde pequeño del mismo.

(2) Ajuste EDIT en ON en el sistema de menús.



: Signal flow / Flujo de señales

If the (recording) VCR is a monaural type

Connect only the white plug for audio on both VCRs. With this connection, the sound is monaural even in stereo mode.

Si la videograbadora (grabadora) es del tipo monofónico

Conecte sólo el enchufe blanco de audio en ambas videograbadoras. Con esta conexión, el sonido será monofónico incluso en el modo estéreo.

Editing onto another tape

Edición en otra cinta

Starting editing

Turn down the volume of this VCR while editing. Otherwise, picture distortion may occur.

(1) Insert a blank tape (or a tape you want to record over) into the (recording) VCR, and insert your recorded tape into this VCR.

(2) Play back the recorded tape on this VCR until you locate the point where you want to start editing, then press ❚❚ to set this VCR in playback pause mode.

(3) On the (recording) VCR, locate the recording start point and set the VCR in recording pause mode.

(4) Press ❚❚ on both VCRs simultaneously to start editing.

To edit more scenes

Repeat steps 2 to 4.

To stop editing

Press □ on both VCRs.

Inicio de la edición

Disminuya el volumen de esta videograbadora durante la edición, ya que en caso contrario la imagen podría distorsionarse.

(1) Inserte una cinta virgen (u otra en la que desee grabar) en la videograbadora (grabadora) y la cinta grabada en esta videograbadora.

(2) Reproduzca la cinta grabada en esta videograbadora hasta localizar el punto donde desee iniciar la edición y, a continuación, pulse ❚❚ para ajustar esta videograbadora en el modo de pausa de reproducción.

(3) En la videograbadora (grabadora), localice el punto de inicio de la grabación y ajuste la videograbadora (grabadora) en el modo de pausa de grabación.

(4) Pulse ❚❚ en ambas videograbadoras simultáneamente para iniciar la edición.

Para editar más escenas

Repita los pasos 2 a 4.

Para detener la edición

Pulse □ en ambas videograbadoras.

Recording from a VCR or TV

Grabación desde una videograbadora o TV

You can record a tape from another VCR or a TV program from a TV that has video/audio outputs. Connect this (recording) VCR to the (playback) VCR or TV. Turn down the volume of this VCR while editing. Otherwise, picture distortion may occur.

(1) While pressing the small green button on the POWER switch, set it to ON.

(2) Press the two ● REC buttons at the same time, then press ❚❚ to set the VCR to recording pause mode. The REC (red) and PAUSE (orange) lamps light up.

(3) Start playing back a tape on the (playback) VCR or tune in the TV program you want to record. The pictures on the VCR or TV appear on the LCD screen of this VCR.

(4) Press ❚❚ at the point where you want to start recording. The REC lamp remains on and the PAUSE lamp goes off.

S VIDEO and VIDEO/AUDIO jacks automatically work as input jacks.

If the (playback) VCR or TV has an S video jack, connect using the S video cable **[a]** to obtain high quality picture.

Es posible grabar cintas desde otra videograbadora o programas de TV desde un TV que disponga de salidas de vídeo/audio. Conecte esta videograbadora a la reproductora o al TV. Disminuya el volumen de esta videograbadora durante la edición, ya que en caso contrario la imagen puede distorsionarse.

(1) Ajuste el interruptor POWER en ON mientras pulsa el botón verde pequeño del mismo.

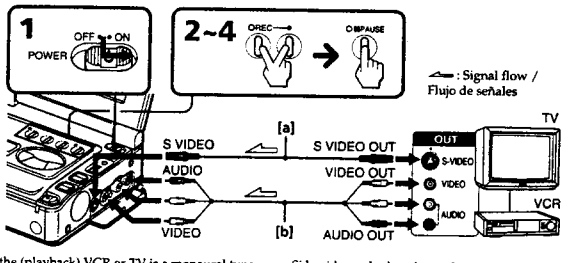
(2) Pulse simultáneamente los dos botones ● REC y, a continuación, ❚❚ para ajustar la videograbadora en el modo de pausa de grabación. Los indicadores REC (rojo) y PAUSE (naranja) se iluminan.

(3) Inicie la reproducción de la cinta de la videograbadora (reproductora) o sintonice el programa de TV que desee grabar. Las imágenes de la videograbadora o del TV aparecen en la pantalla LCD de esta videograbadora.

(4) Pulse ❚❚ en el punto donde desee iniciar la grabación. El indicador REC permanece encendido, mientras que el PAUSE se apaga.

Las tomas S VIDEO y VIDEO/AUDIO funcionan automáticamente como tomas de entrada.

Si la videograbadora (reproductora) o el TV dispone de toma de vídeo S, realice la conexión con el cable de vídeo S **[a]** para obtener imágenes de alta calidad.



If the (playback) VCR or TV is a monaural type, connect only the white plug for audio on the VCR or TV. Do not connect the red plug. With this connection, the recorded sound is monaural.

If you are going to connect the VCR using the S video cable **[a]**, you do not need to connect the yellow (video) plug of the A/V connecting cable **[b]**.

Si la videograbadora (reproductora) o el TV es de tipo monofónico, conecte sólo el enchufe blanco de audio en la videograbadora o en el TV. No conecte el enchufe rojo. Con esta conexión, el sonido grabado es monofónico. Si va a conectar la videograbadora con el cable de vídeo S **[a]**, no es necesario conectar el enchufe amarillo (vídeo) del cable de conexión de A/V **[b]**.

Recording from a VCR or TV

Note on the S video jack
If the S video jack is not provided on the TV or VCR, do not connect the S video cable to this VCR. Pictures will not appear.

To stop recording
Press □.

Notes on recording
- When you record from the beginning of the tape, run the tape for about 15 seconds before you start recording. Otherwise, the first scenes may not be played back on other players.
- You cannot record a picture that has a copyright control signal for copyright protection of software. "COPY INHIBIT" appears if you try to record such a picture.

To record TV programs
The TGV-100 TV tuner unit (not supplied) enables you to record the TV program easily without connecting the VCR to the TV. See the operating instructions of the TV tuner unit for details.

Grabación desde una videograbadora o TV

Nota sobre la toma de vídeo S
Si el TV o la videograbadora no dispone de toma de vídeo S, no conecte el cable de vídeo S a esta videograbadora. Las imágenes no aparecerán.

Para detener la grabación
Pulse □.

Notas sobre la grabación
- Si graba desde el principio de la cinta, ponga ésta en funcionamiento aproximadamente 15 segundos antes de iniciar la grabación. En caso contrario, es posible que las primeras escenas no se reproduzcan en otros reproductores.
- No es posible grabar imágenes que presenten señales de control de protección del copyright de software. Si intenta reproducir dicho tipo de imágenes, aparecerá "COPY INHIBIT".

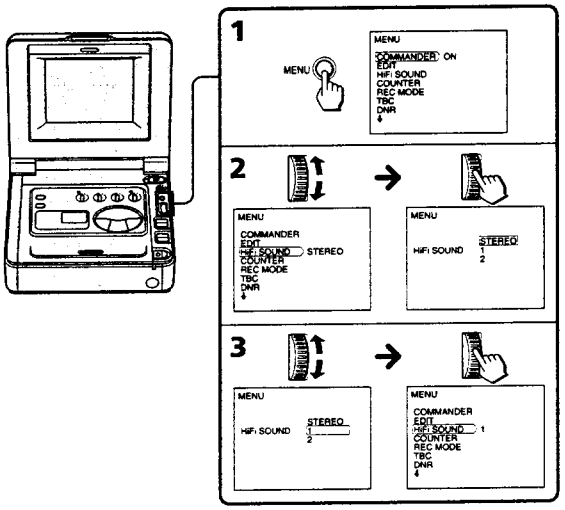
Para grabar programas de TV
La unidad de sintonización de TV TGV-100 (no suministrada) permite grabar programas de TV con facilidad sin conectar la videograbadora al TV. Consulte el manual de instrucciones de dicho unidad para más información.

Changing the mode settings

You can change the mode settings in the menu system to further enjoy the features and functions of the VCR.
(1) Press MENU to display the menu.
(2) Turn the control dial to select the desired item, then press the control dial. Only the selected item is displayed.
(3) Turn the control dial to select the desired mode, then press the control dial. If you want to change the other modes, repeat steps 2 and 3.
(4) Press MENU to erase the menu display.

Cambio de los ajustes de modo

Es posible cambiar los ajustes de modo en el sistema de menús para disfrutar en mayor medida de las características y funciones de la videograbadora.
(1) Pulse MENU para mostrar el menú.
(2) Gire el dial de control para seleccionar el elemento que desee y, a continuación, púlselo. Sólo aparecerá el elemento seleccionado.
(3) Gire el dial de control para seleccionar el modo que desee y, a continuación, púlselo. Si desea cambiar otros modos, repita los pasos 2 y 3.
(4) Pulse MENU para que el menú desaparezca.



Changing the mode settings

Selecting the mode setting of each item

COMMANDER <ON/OFF>
- Select ON when using a Remote Commander (not supplied).
- Select OFF when not using a Remote Commander.

EDIT <ON/OFF>
- Select ON to minimize picture deterioration when editing.
- Normally select OFF.

HiFi SOUND <STEREO/1/2>
- Normally select STEREO.
- Select 1 or 2 to play back a dual soundtrack tape.

COUNTER* <NORMAL/TIME CODE>
- Normally select NORMAL.
- Select TIME CODE to display the RC time code in order to edit more precisely.

REC MODE* <SP/LP>
- Select SP when recording in SP (standard play) mode.
- Select LP when recording in LP (long play) mode.

TBC* <ON/OFF>
- Normally select ON, to correct for jitter.
- Select OFF to not correct for jitter. The picture may not be steady when played back.

Note on TBC setting
Set TBC to OFF when playing back:
- A tape recorded when the VCR was shaking.
- A tape on which you recorded a low quality TV signal.
- A tape you have dubbed over.
- A tape on which you recorded the signal of a TV game or similar machine.

Cambio de los ajustes de modo

Selección del ajuste de modo de cada elemento

COMMANDER <ON/OFF>
- Seleccione ON si utiliza un mando a distancia (no suministrado).
- Seleccione OFF si no utiliza un mando a distancia.

EDIT <ON/OFF>
- Seleccione ON para reducir el deterioro de imagen al editar.
- Normalmente, seleccione OFF.

HiFi SOUND <STEREO/1/2>
- Normalmente, seleccione STEREO.
- Seleccione 1 o 2 para reproducir cintas de pista de sonido dual.

COUNTER* <NORMAL/TIME CODE>
- Normalmente, seleccione NORMAL.
- Seleccione TIME CODE para mostrar el código de tiempos RC con el fin de editar con mayor precisión.

REC MODE* <SP/LP>
- Seleccione SP al grabar en el modo SP (reproducción estándar).
- Seleccione LP al grabar en el modo LP (reproducción de larga duración).

TBC* <ON/OFF>
- Normalmente, seleccione ON para corregir vibraciones.
- Seleccione OFF si no desea corregir vibraciones. Es posible que la imagen no aparezca estable al reproducirse.

Nota sobre el ajuste TBC
Ajuste TBC en OFF para reproducir:
- Cintas grabadas mientras la videograbadora sufría sacudidas.
- Cintas en las que se grabaron señales de TV de baja calidad.
- Cintas copiadas.
- Cintas en las que se grabaron señales de un juego de TV o dispositivo similar.

Changing the mode settings

DNR* <ON/OFF>
- Normally select ON to reduce picture noise.
- Select OFF if the picture has a lot of movement, causing a conspicuous afterimage.

LCD 16:9PB* <OFF/ON>
- Normally select OFF.
- Select ON to view the picture recorded in 16:9 wide mode.

LCD COLOR*
Select this item and change the level of the indicator by turning the control dial to adjust the color intensity of the picture.

LCD HUE*
Select this item and change the level of the indicator by turning the control dial to adjust the hue of the picture.

BEEP* <ON/OFF>
- Select ON so that beeps sound when you turn the power on, etc.
- Select OFF when you do not want to hear the beep sound.

DISPLAY* <LCD or V-OUT/LCD>
- Normally select LCD.
- Select V-OUT/LCD to display indicator both on the LCD screen and the TV screen.

Note on DISPLAY setting
If you press the DISPLAY button with DISPLAY set to V-OUT/LCD, you cannot input an external signal.

AUTO TV ON* <OFF/ON>
You can use this feature only with Sony TVs.
- Select ON to turn on the TV automatically when using the LASER LINK function.
- Select OFF not to turn on the TV.

TV INPUT* <VIDEO1/VIDEO2/VIDEO3/OFF>
Select 1 or 2 or 3 of the video input on the TV which the IR receiver (not supplied) is connected to when using the LASER LINK function.

* These settings are retained even when the battery is removed, as long as the vanadium-lithium battery is charged. As far as the items without an asterisk are concerned, their settings return to the default 5 minutes or more after the battery is removed.

Cambio de los ajustes de modo

DNR* <ON/OFF>
- Normalmente, seleccione ON para reducir el ruido de imagen.
- Seleccione OFF si la imagen presenta mucho movimiento, causando postimágenes conspicuas.

LCD 16:9PB* <OFF/ON>
- Normalmente, seleccione OFF.
- Seleccione ON para ver imágenes grabadas en el modo panorámico de 16:9.

LCD COLOR*
Seleccione este elemento y cambie el nivel del indicador girando el dial de control para ajustar la intensidad del color de la imagen.

LCD HUE*
Seleccione este elemento y cambie el nivel del indicador girando el dial de control para ajustar la tonalidad de la imagen.

BEEP* <ON/OFF>
- Seleccione ON para que la unidad emita pitidos al activar la alimentación, etc.
- Seleccione OFF si no desea oír los pitidos.

DISPLAY* <LCD o V-OUT/LCD>
- Normalmente, seleccione LCD.
- Seleccione V-OUT/LCD para mostrar los indicadores en la pantalla LCD y en la del TV.

Nota sobre el ajuste DISPLAY
Si pulsa el botón DISPLAY con DISPLAY ajustado en V-OUT/LCD, no podrá introducir señales externas.

AUTO TV ON* <OFF/ON>
Sólo es posible utilizar esta función con televisores Sony.
- Seleccione ON para encender el TV automáticamente al emplear la función LASER LINK.
- Seleccione OFF si no desea encender el TV.

TV INPUT* <VIDEO1/VIDEO2/VIDEO3/OFF>
Seleccione 1 o 2 o 3 de la entrada de vídeo del TV a la que esté conectado el receptor IR (no suministrado) al emplear la función LASER LINK.

* Estos ajustes se conservan aunque retire la batería, siempre que la pila de vanadio-litio esté cargada. En cuanto a los elementos sin asterisco, sus ajustes recuperan el valor por omisión 5 minutos o más después de extraer la batería.

Using alternative power sources

Uso de fuentes de alimentación alternativas

You can choose any of the following power sources for your VCR: battery pack, house current, and 12/24 V car battery. Choose the appropriate power source depending on where you want to use your VCR.

Place	Power source	Accessory to be used
Indoors	House current	Supplied AC power adaptor
Outdoors	Battery pack	Battery pack NP-F530, NP-F730, NP-F930
In the car	12 V or 24 V car battery	Sony car battery charger DC-V515A

Note on power sources
Disconnecting the power source or removing the battery pack during recording or playback may damage the inserted tape. If this happens, restore the power supply again immediately.

Es posible elegir cualquiera de las siguientes fuentes de alimentación para la videograbadora: paquete de batería, corriente doméstica y batería de automóvil de 12/24 V. Elija la fuente adecuada en función del lugar donde desee emplear la videograbadora.

Lugar	Fuente de alimentación	Accesorio necesario
Interiores	Corriente doméstica	Adaptador de alimentación de CA suministrado
Exteriores	Paquete de batería	Paquete de batería NP-F530, NP-F730, NP-F930
En el automóvil	Batería de automóvil de 12V o de 24V	Cargador Sony de batería de automóvil DC-V515A

Nota sobre las fuentes de alimentación
Si desconecta la fuente de alimentación o extrae el paquete de batería durante la grabación o la reproducción, puede dañar la cinta insertada. Si esto ocurre, vuelva a restaurar el suministro de alimentación inmediatamente.

Using the battery pack

This VCR operates with the "InfoLITHIUM" battery pack (not supplied). If you use any other battery pack to operate your VCR, the VCR may not operate or the battery life may be shortened.

"InfoLITHIUM" is a trademark of Sony Corporation.

Charging the battery pack

(1) Connect the power cord to the AC power adaptor.
(2) Align the surface of the battery pack indicated by the ▶ mark with the edge of the terminal shutter of the AC power adaptor. Then fit and slide the battery pack in the direction of the arrow.
(3) Connect the power cord to a wall outlet. The CHARGE lamp (orange) lights up. Charging begins.
When the CHARGE lamp goes out, normal charge is completed **(Normal charge)**. For a full charge, which allows you to use the battery longer than usual, leave the battery pack in place for approximately one hour **(Full charge)**. Unplug the AC power cord from the wall outlet, then remove the battery pack and install it into the VCR. You can also use the battery pack before it is completely charged.
(4) When it is charged, remove the battery pack.

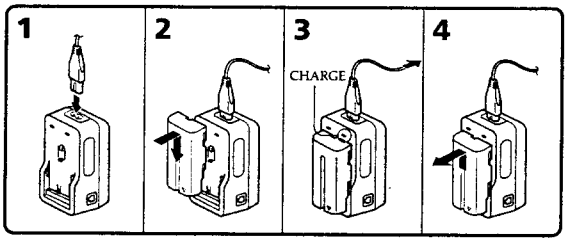
Uso del paquete de batería

Esta videograbadora funciona con el paquete de batería "InfoLITHIUM" (no suministrado). Si emplea otro tipo de paquete para emplear la videograbadora, es posible que ésta no funcione o que la duración de la batería se reduzca.

"InfoLITHIUM" es una marca comercial de Sony Corporation.

Carga del paquete de batería

(1) Conecte el cable de alimentación al adaptador de CA.
(2) Alinee la superficie del paquete, indicada con la marca ▶, con el borde del obturador del terminal del adaptador de alimentación de CA. A continuación, encaje y deslice el paquete en la dirección de la flecha.
(3) Conecte el cable de alimentación de CA a una toma mural. El indicador CHARGE (naranja) se ilumina y la carga comienza.
Cuando el indicador CHARGE se apague, significa que la carga normal ha finalizado **(carga normal)**. Para obtener una carga completa, que permite emplear la batería durante más tiempo del habitual, deje el paquete de batería cargándose durante aproximadamente una hora **(carga completa)**. Desenchufe el cable de alimentación de CA de la toma mural, extraiga el paquete de batería e instálelo en la videograbadora. También puede emplear dicho paquete antes de que esté completamente cargado.
(4) Una vez cargado, extraiga el paquete de batería.



Charging time

Battery pack	Charging time *
NP-F530	170 (110)
NP-F730	250 (190)
NP-F930	330 (270)

Numbers in parentheses indicate the time for a normal charge. **(Normal charge)**
* Approximate number of minutes to charge an empty battery pack fully using the supplied AC power adaptor. **(Full charge)** (Lower temperatures require a longer charging time.)

Battery life

Battery pack	Playback time
NP-F530	90 (80)
NP-F730	205 (185)
NP-F930	315 (285)

Numbers in parentheses indicate the time when you use a normal charged battery pack.

Note on remaining battery time indication
Remaining battery time is displayed on the LCD screen. It may not be displayed properly, however, depending on the conditions and circumstances of use.

Notes on charging the battery pack
- The CHARGE lamp will remain lit for a while even if the battery pack is removed and the power cord is unplugged after charging the battery pack. This is normal.
- If the CHARGE lamp does not light, disconnect the power cord. After about one minute, reconnect the power cord again.
- You cannot charge the battery pack while operating the VCR using the AC power adaptor.
- When a fully charged battery pack is installed, the CHARGE lamp will light once, then go out.

Tiempo de carga

Paquete de batería	Tiempo de carga *
NP-F530	170 (110)
NP-F730	250 (190)
NP-F930	330 (270)

Los números entre paréntesis indican el tiempo de una **carga normal.**
* Número aproximado de minutos para cargar completamente un paquete de batería descargado mediante el adaptador de alimentación de CA suministrado **(carga completa)**. (Las temperaturas bajas requieren un tiempo de carga mayor.)

Duración de la batería

Paquete de batería	Tiempo de reproducción
NP-F530	90 (80)
NP-F730	205 (185)
NP-F930	315 (285)

Los números entre paréntesis indican el tiempo al emplear un paquete de batería con carga normal.

Nota sobre la indicación de tiempo de batería restante
El tiempo de batería restante aparece en la pantalla LCD. No obstante, es posible que no aparezca correctamente en función de las condiciones y circunstancias de uso.

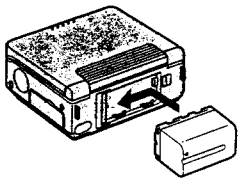
Notas sobre la carga del paquete de batería
- El indicador CHARGE permanecerá iluminado durante unos instantes aunque haya retirado el paquete de batería y haya desenchufado el cable de alimentación después de cargar dicho paquete. Esto es normal.
- Si el indicador CHARGE no se ilumina, desconecte el cable de alimentación. Transcurrido un minuto aproximadamente, vuelva a conectarlo.
- No es posible cargar el paquete de batería mientras emplea la videograbadora con el adaptador de alimentación de CA.
- Al instalar un paquete de batería completamente cargado, el indicador CHARGE se iluminará una vez y, a continuación, se apagará.

Install the battery pack on the VCR

While pressing the battery pack, slide it to the left so that it attaches to the battery mounting surface firmly.

Instale el paquete de batería en la videograbadora

Mientras presiona el paquete, deslícelo a la izquierda de forma que quede firmemente fijado en la superficie de montaje de la batería.



Note on the battery pack
Do not carry the VCR by grasping the battery pack.

To remove the battery pack
While pressing BATT, slide the battery pack to the right.

Nota sobre el paquete de batería
No transporte la videograbadora agarrando el paquete de batería.

Para extraer el paquete de batería
Deslice el paquete de batería a la derecha mientras pulsa BATT.

Using a car battery

Use a car battery charger such as Sony DC-V515A (not supplied). Connect the car battery cord to the cigarette lighter socket of a car (12 V or 24 V). Connect the car battery charger and the VCR using the supplied DK-415 connecting cord.

Uso de una batería de automóvil

Emplee un cargador de batería de automóvil, como el DC-V515A de Sony (no suministrado). Conecte el cable de batería de automóvil a la clavija del encendedor del automóvil (12 V o 24 V). Conecte el cargador de batería de automóvil y la videograbadora con el cable de conexión DK-415 suministrado.

This mark indicates that this product is a genuine accessory for Sony video product.
When purchasing Sony video products, Sony recommends that you purchase accessories with this "GENUINE VIDEO ACCESSORIES" mark.

Esta marca indica que este producto es un accesorio genuino para productos de vídeo Sony.
Al adquirir productos de vídeo Sony, Sony recomienda accesorios que presenten la marca "GENUINE VIDEO ACCESSORIES".

Additional information

Charging the vanadium-lithium battery in the VCR

Your VCR is supplied with a vanadium-lithium battery installed so as to retain the menu settings, regardless of the setting of the POWER switch. The vanadium-lithium battery is always charged as long as you are using the VCR. The battery, however, will get discharged gradually if you do not use the VCR. It will be completely discharged in about 1 year if you do not use the VCR at all. Even if the vanadium-lithium battery is not charged, it will not affect the VCR operation. To retain the menu settings, charge the battery if the battery is discharged. The following are charging methods:

- Connect the VCR to a wall outlet using the supplied AC power adaptor, and leave the VCR with the POWER switch turned off for more than 24 hours.
- Install the fully charged battery pack on the VCR, and leave the VCR with the POWER switch turned off for more than 24 hours.

Información complementaria

Carga de la pila de vanadio-litio de la videograbadora

La videograbadora se suministra con una pila de vanadio-litio instalada para conservar los ajustes de menú, independientemente del ajuste del interruptor POWER. Dicha pila siempre está cargada en tanto se utilice la videograbadora. No obstante, se descargará gradualmente si no utiliza la videograbadora. Se descargará por completo en 1 año aproximadamente si no utiliza la videograbadora en absoluto. Aunque la pila de vanadio-litio no esté cargada, no afectará al funcionamiento de la videograbadora. Para conservar los ajustes de menú, cargue la pila si está descargada. A continuación se describen métodos de carga:

- Conecte la videograbadora a una toma mural mediante el adaptador de alimentación de CA suministrado, y déjela con el interruptor POWER desactivado durante más de 24 horas.
- Instale el paquete de batería completamente cargado en la videograbadora, y déjela con el interruptor POWER desactivado durante más de 24 horas.

Usable cassettes and playback modes

Selecting cassette types

This Hi8 system is an extension of the standard 8 mm systems, and was developed for higher-quality pictures.
You can use Hi8 video and standard 8 mm cassettes. When you want to record in the Hi8 system, use only Hi8 video cassettes. You cannot record on standard 8 mm cassettes in the Hi8 system.

When you play back

The playback mode (SP/LP mode or Hi8/standard 8 mm) is selected automatically according to the format in which the tape has been recorded. The quality of the recorded picture in LP mode, however, will not be as good as that in SP mode.

Note on AFM Hi-Fi stereo

When you play back a tape, the sound will be in monaural if:

- you record the tape using this VCR, then play it back on an AFM Hi-Fi monaural video recorder/player.
- you record the tape on an AFM Hi-Fi monaural video recorder, then play it back on this VCR.

Recording mode

When you play back a tape, the SP/LP indicator on the LCD screen shows the recording mode SP/LP.

Foreign 8 mm Video

You may not play back tapes recorded on a different TV color system. Because the TV color systems differ from country to country, you may not be able to play back foreign pre-recorded tapes. Refer to the list of "Using your VCR abroad" to check the TV color system of foreign countries.

Videcassettes utilizables y modos de reproducción

Selección del tipo de videocassette

Este sistema Hi8 es una extensión de los sistemas estándar de 8 mm, y se ha desarrollado para proporcionar imágenes de mayor calidad.
Es posible utilizar videocasettes Hi8 y estándar de 8 mm. Si desea grabar en el sistema Hi8, emplee sólo videocassettes Hi8. No es posible grabar en videocassettes estándar de 8 mm en el sistema Hi8.

Al realizar la reproducción

El modo de reproducción (SP/LP o Hi8/estándar de 8 mm) se selecciona automáticamente según el formato en el que se ha grabado la cinta. No obstante, la calidad de las imágenes grabadas en el modo LP no será tan buena como la del modo SP.

Nota sobre el sonido estéreo AFM Hi-Fi

Al reproducir una cinta, el sonido será monofónico si:

- graba la cinta con esta videograbadora y la reproduce en una videograbadora/reproductor AFM Hi-Fi monofónico.
- graba la cinta en una videograbadora monofónica AFM Hi-Fi y la reproduce en esta videograbadora.

Modo de grabación

Al reproducir una cinta, el indicador SP/LP de la pantalla LCD muestra el modo de grabación SP/LP.

Vídeos de 8 mm extranjeros

Es posible que no pueda reproducir cintas grabadas en un sistema de color de TV diferente. Puesto que los sistemas de color de TV varían en función del país, es posible que no pueda reproducir cintas extranjeras previamente grabadas. Consulte la lista que aparece en "Uso de la videograbadora en el extranjero" para obtener información sobre el sistema de color de TV de países extranjeros.

Notes on "InfoLITHIUM" battery pack

"InfoLITHIUM" battery pack

The "InfoLITHIUM" battery pack is a lithium battery pack which can exchange data with compatible video equipment about its battery consumption.
Sony recommends that you use the "InfoLITHIUM" battery pack with video equipment having the (i) InfoLITHIUM mark.
When you use this battery pack with video equipment having the (i) InfoLITHIUM mark, the video equipment will indicate the remaining battery time in minutes.* However, if you use it with video equipment not having this mark, the remaining battery capacity will not be indicated in minutes.

* The indication may not be accurate depending on the condition and environment which the equipment is used under.

How the battery consumption is displayed

The power consumption of the VCR changes depending on its use.
While checking the condition of the VCR, the "InfoLITHIUM" battery pack measures the battery consumption and calculates the remaining battery power. If the condition changes drastically, the remaining battery indication may suddenly decrease or increase by more than 2 minutes. Even if 5 to 10 minutes is indicated as the battery remaining time on the LCD screen, the ⊂⊃ indicator may also flash under some conditions.

Notas sobre el paquete de batería "InfoLITHIUM"

Paquete de batería "InfoLITHIUM"

"InfoLITHIUM" es un paquete de batería de litio que puede intercambiar datos con equipos de vídeo compatibles sobre su consumo de energía.
Sony recomienda el empleo del paquete de batería "InfoLITHIUM" con equipos de vídeo que presenten la marca (i) InfoLITHIUM.
Si utiliza este paquete de batería con un equipo de vídeo que presente la marca (i) InfoLITHIUM, dicho equipo indicará el tiempo de batería restante en minutos*. No obstante, si lo utiliza con un equipo que no presente dicha marca, la capacidad de batería restante no se indicará en minutos.

* La indicación puede no ser precisa en función de la condición y entorno en los que se emplee el equipo.

Cómo se muestra el consumo de batería

El consumo de energía de la videograbadora cambia dependiendo de su uso.
Mientras comprueba la condición de la videograbadora, el paquete de batería "InfoLITHIUM" mide el consumo de energía y calcula la energía restante de la batería. Si la condición cambia drásticamente, es posible que la indicación de batería restante disminuya o aumente repentinamente en más de 2 minutos. Aunque se indiquen de 5 a 10 minutos como el tiempo de batería restante en la pantalla LCD, es posible que el indicador ⊂⊃ también parpadee en ciertas condiciones.

Notes on "InfoLITHIUM" battery pack

To obtain more accurate remaining battery indication

- If the indication seems incorrect, use up the battery pack and then recharge it fully (Full charge [1]). Note that if you have used the battery in a hot or cold environment for long time, or you have repeated charging many times, the battery pack may not be able to show the correct time even after being fully charged.
- After you have used the "InfoLITHIUM" battery pack with an equipment not having the (i) InfoLITHIUM mark, make sure that you use up the battery pack on the equipment having the (i) InfoLITHIUM mark and then recharge fully.

Why the remaining battery indication does not match the battery life in the operation manual

The battery life is affected by the environmental temperature and conditions. The battery life becomes very short in a cold environment. The battery life in the operation manual is measured under the condition of using a fully charged (or normal charged [2]) battery pack in 77°F (25°C). As the environmental temperature and condition are different when you actually use the VCR, the remaining battery time is not same as the battery life in the operation manual.

[1] Full charge: Charging for about 1 hour after the CHARGE lamp of the AC power adaptor goes off.
[2] Normal charge: Charging just until the CHARGE lamp of the AC power adaptor goes off.

Notas sobre el paquete de batería "InfoLITHIUM"

Para obtener una indicación de batería restante más precisa

- Si la indicación parece incorrecta, agote el paquete de batería y, a continuación, recárguelo por completo (carga completa [1]). Tenga en cuenta que si ha empleado la batería en un entorno cálido o frío durante mucho tiempo, o si ha repetido la carga muchas veces, es posible que el paquete de batería no pueda mostrar el tiempo correcto incluso después de cargarse por completo.
- Después de haber empleado el paquete de batería "InfoLITHIUM" con un equipo que no presente la marca (i) InfoLITHIUM, asegúrese de agotar dicho paquete en el equipo que presente la marca (i) InfoLITHIUM y, a continuación, recárguelo por completo.

Porqué la indicación de batería restante no coincide con la duración que aparece en el manual de instrucciones

La duración de la batería se ve afectada por las condiciones y temperatura ambiental. Dicha duración se reduce notablemente en entornos fríos. La duración de la batería del manual de instrucciones se ha medido utilizando un paquete completamente cargado (o con carga normal [2]) a 77°F (25°C). Puesto que la condición y temperatura ambiental son diferentes cuando la videograbadora se utiliza en la realidad, el tiempo de batería restante no es el mismo que la duración de dicha batería que aparece en el manual de instrucciones.

[1] Carga completa: Carga realizada durante aproximadamente 1 hora después de apagarse el indicador CHARGE del adaptador de alimentación de CA.
[2] Carga normal: Carga realizada justo hasta apagarse el indicador CHARGE del adaptador de alimentación de CA.

Moisture condensation

If the VCR is brought directly from a cold place to a warm place, moisture may condense inside the VCR, on the surface of the tape, or on the head drum. In this condition, the tape may stick to the head drum and be damaged or the VCR may not operate correctly. To prevent possible damage under these circumstances, the VCR is furnished with moisture sensors. Take the following precautions.

Inside the VCR

If there is moisture inside the VCR, the beep sounds and the ⚿ indicator flashes on the LCD screen. If this happens, none of the function except cassette ejection will work. Open the cassette compartment, turn off the VCR, and leave it about 1 hour. When ⏏ indicator flashes at the same time, the cassette is inserted in the VCR. Eject the cassette, turn off the VCR, and leave also the cassette about 1 hour.

How to prevent moisture condensation

When bringing the VCR from a cold place to a warm place, put the VCR in a plastic bag and allow it to adapt to room conditions over a period of time.

(1) Be sure to tightly seal the plastic bag containing the VCR.
(2) Remove the bag when the air temperature inside it has reached the temperature surrounding it (after about 1 hour).

Condensación de humedad

Si traslada la videograbadora directamente de un lugar frío a otro cálido, es posible que se condense humedad en el interior de la misma, en la superficie de la cinta o en el tambor del cabezal. En estas condiciones, la cinta puede adherirse en el tambor del cabezal y dañarse o la videograbadora puede no funcionar correctamente. Para evitar posibles daños en estas circunstancias, la videograbadora está equipada con sensores de humedad. Tome las siguientes precauciones.

Interior de la videograbadora

Si hay humedad en el interior de la videograbadora, se oirá un pitido y el indicador ⚿ parpadeará en la pantalla LCD. Si esto ocurre, no se activará ninguna función, excepto la de expulsión de videocassettes. Abra el compartimiento de videocassettes, apague la videograbadora y no la utilice durante 1 hora aproximadamente. Si el indicador ⏏ parpadea simultáneamente, significa que el videocassette está insertado en la videograbadora. Expúlselo, apague la videograbadora y tampoco utilice el videocassette durante 1 hora aproximadamente.

Cómo evitar la condensación de humedad

Cuando traslade la videograbadora de un lugar frío a otro cálido, introdúzcala en una bolsa de plástico y deje que se adapte a las condiciones de la sala durante un espacio de tiempo.

(1) Asegúrese de cerrar herméticamente la bolsa de plástico en la que se encuentra la videograbadora.
(2) Retire la bolsa cuando la temperatura de su interior alcance la del lugar en la que se encuentra (después de 1 hora aproximadamente).

Video head cleaning

To ensure normal recording and clear pictures, clean the video heads. When the ⚙ indicator and " 🧹 CLEANING CASSETTE" message appear one after another on the LCD screen or playback pictures are "noisy" or hardly visible, the video heads may be dirty.

[a] Slightly dirty
[b] Very dirty

If this happens, clean the video heads with the Sony V8-25CLH cleaning cassette (not supplied). After checking the picture, if it is still "noisy," repeat the cleaning. (Do not repeat cleaning more than 5 times in one session.)

Caution

Do not use a commercially available wet-type cleaning cassette. It may damage the video heads.

Note

If the V8-25CLH cleaning cassette is not available in your area, consult your nearest Sony dealer.

Limpieza de los cabezales de vídeo

Para garantizar grabaciones normales e imágenes nítidas, limpie los cabezales de vídeo. Si el indicador ⚙ y el mensaje " 🧹 CLEANING CASSETTE" aparecen uno tras otro en la pantalla LCD o si las imágenes de reproducción aparecen con "ruido" o apenas se ven, es posible que los cabezales de vídeo estén sucios.

[a] Ligeramente sucios
[b] Muy sucios

Si esto ocurre, limpie los cabezales con el cassette limpiador de Sony V8-25CLH (no suministrado). Si la imagen sigue apareciendo con "ruido", repita la limpieza. (No la repita más de 5 veces en una sesión.)

Precaución

No utilice cassettes limpiadores de tipo húmedo disponibles en las tiendas del ramo, ya que pueden dañar los cabezales.

Nota

Si el cassette limpiador V8-25CLH no se encuentra disponible en su zona, póngase en contacto con el proveedor Sony más próximo.

Precautions

VCR operation

- Operate the VCR on 8.4 V (AC power adaptor) or 7.2 V (battery pack).
- Should any solid object or liquid get inside the casing, unplug the VCR and have it checked by Sony dealer before operating it any further.
- Avoid rough handling or mechanical shock.
- Keep the POWER switch set to OFF when not using the VCR.
- Do not wrap up the VCR and operate it since heat may build up internally.
- Keep the VCR away from strong magnetic fields or mechanical vibration.
- Do not push the LCD screen.
- If the VCR is used in a cold place, a residual image may appear on the LCD screen. This is not a malfunction.
- While using the VCR, the back of the LCD screen may heat up. This is not a malfunction.

On handling tapes

Do not insert anything in the small holes on the rear of the cassette. These holes are used to sense the type of tape, thickness of tape and if the recording tab is in or out.

VCR care

- When the VCR is not to be used for a long time, disconnect the power source and remove the tape. Periodically turn on the power, play back a tape for about 3 minutes.
- If fingerprints or dust are on the LCD screen, we recommend you remove them using the LCD cleaning kit (not supplied).
- Clean the VCR body with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.
- Do not let sand get into the VCR. When you use the VCR on a sandy beach or in a dusty place, protect it from the sand or dust. Sand or dust may cause the unit to malfunction, and sometimes this malfunction cannot be repaired.

Precauciones

Empleo de la videograbadora

- Emplee la videograbadora con 8,4 V (adaptador de alimentación de CA) o con 7,2 V (paquete de batería).
- Si se introduce algún objeto sólido o líquido en la videograbadora, desenchúfela y haga que sea revisada por un proveedor Sony antes de volver a utilizarla.
- Evite manejarla bruscamente y los golpes mecánicos.
- Mantenga el interruptor POWER ajustado en OFF cuando no utilice la videograbadora.
- No cubra la videograbadora mientras la emplea, ya que puede producirse recalentamiento interno.
- Mantenga la videograbadora alejada de campos magnéticos intensos y de vibraciones mecánicos.
- No presione la pantalla LCD.
- Si utiliza la videograbadora en un lugar frío, es posible que aparezca una imagen residual en la pantalla LCD. Esto no es un fallo de funcionamiento.
- Mientras emplea la videograbadora, es posible que la parte trasera de la pantalla LCD se caliente. Esto no es un fallo de funcionamiento.

Manejo de cintas

No inserte nada en los orificios pequeños de la parte posterior del videocassette. Estos orificios se utilizan para detectar el tipo de cinta, el grosor de ésta y si la lengüeta de grabación se encuentra dentro o fuera.

Cuidados de la videograbadora

- Si no va a utilizar la videograbadora durante mucho tiempo, desconecte la fuente de alimentación y extraiga la cinta. Periódicamente, active la alimentación y reproduzca una cinta durante unos 3 minutos.
- Si hay huellas dactilares o polvo en la pantalla LCD, se recomienda eliminarlos con un kit de limpieza LCD (no suministrado).
- Limpie el exterior de la videograbadora con un paño seco y suave, o con un paño suave ligeramente humedecido con una solución detergente poco concentrada. No utilice ningún tipo de disolvente, ya que puede dañar el acabado.

On AC power adaptor

Charging

- Use only a lithium ion type battery pack.
- Place the battery pack on a flat surface without vibration during charging.
- The battery pack will get hot during charging. This is normal.

Others

- Unplug the unit from the wall outlet when not in use for a long time. To disconnect the power cord, pull it out by the plug. Never pull the cord itself.
- Do not operate the unit with a damaged cord or if the unit has been dropped or damaged.
- Do not bend the AC power cord forcibly, or put a heavy object on it. This will damage the cord and may cause a fire or an electrical shock.
- Be sure that nothing metallic comes into contact with the metal parts of the connecting plate. If this happens, a short may occur and the unit may be damaged.
- Always keep the metal contacts clean.
- Do not disassemble the unit.
- Do not apply mechanical shock or drop the unit.
- While the unit is in use, particularly during charging, keep it away from AM receivers and video equipment because it will disturb AM reception and video operation.
- The unit becomes warm while in use. This is normal.
- Do not place the unit in locations that are:
  - Extremely hot or cold
  - Dusty or dirty
  - Very humid
  - Vibrating

If any difficulty should arise, unplug the unit and contact your nearest Sony dealer.

Adaptador de alimentación de CA

Carga

- Utilice sólo paquetes de batería de tipo ion de litio.
- Coloque el paquete de batería sobre una superficie plana sin vibraciones durante la carga.
- El paquete de batería se calienta durante la carga. Esto es normal.

Otros

- Desenchufe la unidad de la toma mural cuando no la utilice durante mucho tiempo. Para desconectar el cable de alimentación, tire del enchufe, nunca del propio cable.
- No utilice la unidad con un cable dañado o si dicha unidad se ha caído o dañado.
- No doble a la fuerza el cable de alimentación de CA, ni ponga objetos pesados sobre él. Si lo hace, el cable se dañará y puede causar un incendio o descargas eléctricas.
- Asegúrese de que ningún objeto metálico entra en contacto con los componentes metálicos de la placa de conexión. Si esto ocurre, puede producirse un cortocircuito y dañarse la unidad.
- Mantenga los contactos metálicos siempre limpios.
- No desmonte la unidad.
- No aplique golpes mecánicos sobre la unidad ni la deje caer.
- Mientras la unidad se encuentre en uso, particularmente durante la carga, manténgala alejada de receptores de AM y de equipos de vídeo, ya que dificultará la recepción de AM y el funcionamiento del vídeo.
- La unidad se calienta durante el uso. Esto es normal.
- No coloque la unidad en lugares:
  - Extremadamente cálidos o fríos
  - Polvorientos o sucios
  - Muy húmedos
  - Con vibraciones

Si surgen dificultades, desenchufe la unidad y póngase en contacto con el proveedor Sony más próximo.

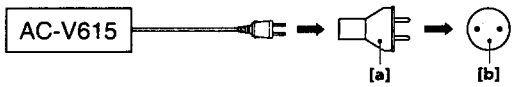
- No permita que se introduzca arena en la videograbadora. Si la emplea en una playa de arena o en un lugar polvoriento, protéjala de la arena o del polvo. Estos elementos pueden producir fallos de funcionamiento en la unidad que a veces no puedan repararse.

Using your VCR abroad

Each country or area has its own electric and TV color systems. Before using your VCR abroad, check the following points.

Power sources

You can use your VCR in any country or area with the supplied AC power adaptor within 100 V to 240 V AC, 50/60 Hz.
Use a commercially available AC plug adaptor **[a]**, if necessary, depending on the wall outlet **[b]**.



Difference in color systems

This VCR is an NTSC system-based VCR. If you want to view the playback picture on a TV, it must be an NTSC system-based TV.
Check the following list.

NTSC system
Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela, etc.

PAL system
Australia, Austria, Belgium, China, Czech Republic, Denmark, Finland, Germany, Great Britain, Holland, Hong Kong, Italy, Kuwait, Malaysia, New Zealand, Norway, Portugal, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Thailand, etc.

PAL-M system
Brazil

PAL-N system
Argentina, Paraguay, Uruguay

SECAM system
Bulgaria, France, Guiana, Hungary, Iran, Iraq, Monaco, Poland, Russia, Ukraine, etc.

Uso de la videograbadora en el extranjero

Cada país o zona tiene su propio sistema eléctrico y de color de TV. Antes de utilizar la videograbadora en el extranjero, consulte los siguientes puntos.

Fuentes de alimentación

Puede emplear la videograbadora en cualquier país o zona con el adaptador de alimentación de CA suministrado con una corriente de 100 V a 240 V CA, 50/60 Hz.
Si es necesario y dependiendo de la toma mural **[b]**, utilice un adaptador de enchufe de CA **[a]** disponible en las tiendas del ramo.

Diferencias en los sistemas de color

Esta videograbadora está basada en el sistema NTSC. Si desea ver la imagen de reproducción en un TV, éste debe estar basado en el sistema NTSC.
Consulte la siguiente lista.

Sistema NTSC
Islas Bahamas, Bolivia, Canadá, América Central, Chile, Colombia, Ecuador, Jamaica, Japón, Corea, México, Perú, Surinam, Taiwan, Filipinas, EE.UU., Venezuela, etc.

Sistema PAL
Australia, Austria, Bélgica, China, República Checa, Dinamarca, Finlandia, Alemania, Gran Bretaña, Holanda, Hong Kong, Italia, Kuwait, Malasia, Nueva Zelanda, Noruega, Portugal, Singapur, República Eslovaca, España, Suecia, Suiza, Tailandia, etc.

Sistema PAL-M
Brasil

Sistema PAL-N
Argentina, Paraguay, Uruguay

Sistema SECAM
Bulgaria, Francia, Guayana, Hungría, Irán, Irak, Mónaco, Polonia, Rusia, Ucrania, etc.

Trouble check

If you run into any problem using the VCR, use the following table to troubleshoot the problem. Should the difficulty persist, disconnect the power source and contact your Sony dealer or local authorized Sony service facility.

VCR

Power

Symptom	Cause and/or corrective actions
The power is not on.	• The AC power adaptor is not connected to a wall outlet. → Connect the AC power adaptor to a wall outlet. (p. 6) • The battery pack is not installed. → Install the battery pack. (p. 27) • The battery is dead. → Use a charged battery pack. (p. 25)
The battery pack is quickly discharged.	• The ambient temperature is too low. • The battery pack has not been charged fully. → Charge the battery pack again. (p. 25) • The battery pack is completely dead, and cannot be recharged. → Use another battery pack. (p. 24) • The VCR does not operate when using a battery that is not an "InfoLITHIUM" battery pack. → Use an "InfoLITHIUM" battery pack. (p. 25)

Operation

Symptom	Cause and/or corrective actions
The tape does not move when a tape transport button is pressed.	• The POWER switch is set to OFF. → Set it to ON. (p. 8) • The tape has run out. → Rewind the tape or use a new one. (p. 8)
Recording does not start.	• The tape is stuck to the drum. → Eject the tape. (p. 7) • The tape has run out. → Rewind the tape or use a new one. (p. 8) • The tab on the cassette is out (red). → Use a new tape or slide the tab. (p. 7)
The cassette cannot be removed from the holder.	• The AC power cord is disconnected. → Connect the cord properly. • The battery is dead. → Use a charged battery pack or the AC power adaptor. (p. 6, 25)
⊡ and ⏏ indicators flash and no function except for cassette ejection works.	• Moisture condensation has occurred. → Remove the cassette and leave the VCR for at least 1 hour. (p. 32)
No sound or only a low sound is heard when playing back a tape.	• The stereo tape is played back with HiFi SOUND set to 2 in the menu system. → Set it to STEREO. (p. 11) • The volume is turned to the minimum. → Turn the volume up. (p. 8)

Picture

Symptom	Cause and/or corrective actions
The playback picture is not clear.	• EDIT is set to ON in the menu system. → Set it to OFF. (p. 21)
The picture is "noisy".	• The video heads may be dirty. → Clean the heads using the Sony V8-25CLH cleaning cassette. (p. 33)
The picture is too dark.	• The LCD BRIGHT button is set to the minimum. → Press + to obtain the brightness you want. (p. 8)
The picture does not appear on the LCD screen.	• Incorporated fluorescent tube is worn out. → Please contact your nearest Sony dealer.
The picture jitters.	• A tape where video game pictures are recorded is played back with TBC set to ON in the menu system. → Set TBC to OFF. (p. 21) • A tape in a poor condition, such as a tape recorded repeatedly, is played back with TBC set to ON in the menu system. → Set TBC to OFF. (p. 21)

Others

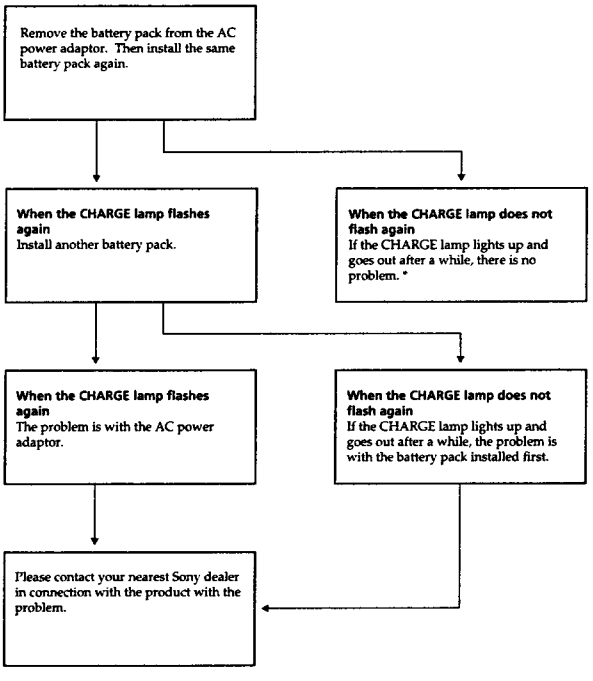
Symptom	Cause and/or corrective actions
No function works though the power is on.	• Disconnect the connecting plug on the AC power adaptor or the battery pack , then reconnect it in about 1 minute. Turn the power on. If the functions still do not work, press the RESET button at the bottom of the VCR using a sharp-pointed object. (If you press the RESET button, all the settings return to the default.) (p. 47)

AC power adaptor

Symptom	Corrective actions
The VTR/CAMERA or CHARGE lamp does not light.	• Disconnect the power cord. After about 1 minute, reconnect the power cord. (p. 26)
The CHARGE lamp flashes.	• See the chart on the next page.

When the CHARGE lamp flashes

Check through the following chart.

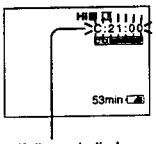


* If you use a battery pack which you have just bought or which has been left unused for a long time, the CHARGE lamp may flash at the first charging. This does not indicate a problem. Repeat again to charge with same battery pack.

Self-diagnosis display

The VCR has a self-diagnosis display. This function displays the VCR's condition with five digits (a combination of a letter and figures) on the LCD screen. If this occurs, check the following code chart. The five-digit display informs you of the VCR's current condition. The last two digits (indicated by □□) will differ depending on the state of the VCR.

LCD screen



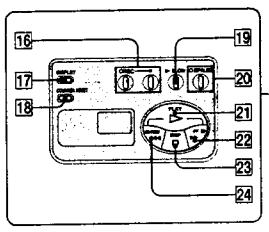
Self-diagnosis display

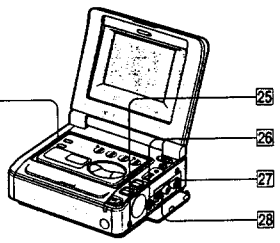
- C:□□:□□
  You can service the VCR yourself.
- E:□□:□□
  Contact your Sony dealer or local authorized Sony facility.

Five-digit display	Cause and/or corrective actions
C:21:□□	• Moisture condensation has occurred. → Remove the cassette and leave the VCR for at least 1 hour. (p. 32)
C:22:□□	• The video heads are dirty. → Clean the heads using the Sony V8-25CLH cleaning cassette (not supplied). (p. 33)
C:23:□□	• You are using a battery pack that is not an "InfoLITHIUM" battery pack. → Use an "InfoLITHIUM" battery pack. (p. 25)
C:31:□□ C:32:□□	• A servicable situation not malfunctioned above has occurred. → Remove the cassette and insert it again, then operate the VCR. (p. 7) → Disconnect the power cord of the AC power adaptor or remove the battery pack. After reconnecting the power source, operate the VCR.
E:61:□□ E:62:□□	• A VCR malfunction which you cannot service has occurred. → Contact your Sony dealer or local authorized Sony service facility and inform them of the five digits. (example: E:61:10)

If you are unable to resolve the problem, contact your Sony dealer or local authorized Sony service facility.

Identifying the parts / Identificación de los componentes





16 ● REC (recording) buttons and lamp (p. 19)

17 DISPLAY button (p. 8)

18 COUNTER RESET button (p. 9)

19 ▮► SLOW (slow) button (p. 10)

20 ▮▮ PAUSE (pause) button and lamp (p. 10)

21 ▷ PLAY (playback) button (p. 8)

22 ►► FF (fastforward) button (p. 8)

23 □ STOP (stop) button (p. 8)

24 ◄◄ REW (rewind) button (p. 8)

25 ∩ (headphones) jack (p. 8)

26 S VIDEO input/output jack (p. 14, 17, 19)

27 VIDEO/AUDIO input/output jacks (p. 14, 17, 19)

28 RFU DC OUT jack (p. 15)

16 Botones e indicador ● REC (grabación) (p. 19)

17 Botón DISPLAY (p. 8)

18 Botón COUNTER RESET (p. 9)

19 Botón ▮► SLOW (cámara lenta) (p. 10)

20 Botón e indicador ▮▮ PAUSE (pausa) (p. 10)

21 Botón ▷ PLAY (reproducción) (p. 8)

22 Botón ►► FF (avance rápido) (p. 8)

23 Botón □ STOP (parada) (p. 8)

24 Botón ◄◄ REW (rebobinado) (p. 8)

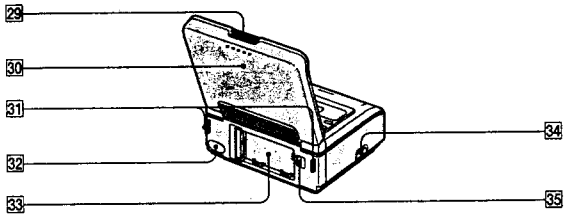
25 Toma ∩ (auriculares) (p. 8)

26 Toma de entrada/salida S VIDEO (p. 14, 17, 19)

27 Tomas de entrada/salida VIDEO/AUDIO (p. 14, 17, 19)

28 Toma RFU DC OUT (p. 15)

Identifying the parts / Identificación de los componentes



29 PUSH OPEN button (p. 7)

30 LCD panel

31 Hooks for shoulder strap

32 LASER LINK emitter (p. 15)

33 Battery mounting surface (p. 6)

34 RELEASE knob
Slide up to release the terminal cover when attaching the TV tuner unit or Video/Computer Interface unit (not supplied).

35 BATT release lever (p. 6)

29 Botón PUSH OPEN (p. 7)

30 Panel LCD

31 Ganchos para el asa de hombro

32 Emisor LASER LINK (p. 15)

33 Superficie de montaje de la batería (p. 6)

34 Mando RELEASE
Deslícelo hacia arriba para liberar la cubierta del terminal al fijar la unidad de sintonización de TV o la interface de vídeo/ordenador (no suministradas).

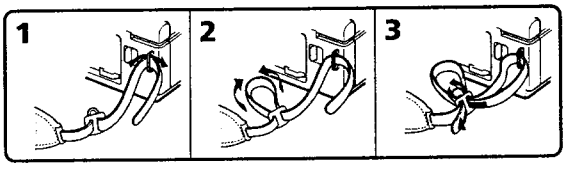
35 Palanca de liberación BATT (p. 6)

Attaching the shoulder strap

Attach the supplied shoulder strap to the hooks for the shoulder strap.

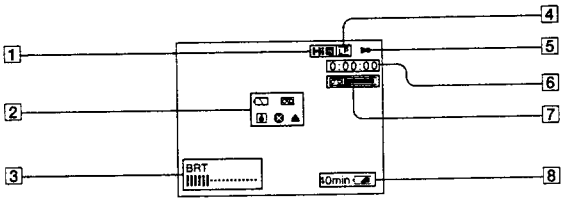
Fijación del asa de hombro

Fije el asa suministrado a los ganchos para el mismo.



Additional information / Información complementaria

Operation indicators / Indicadores de funcionamiento



1 **Lights up when playing back or recording in Hi8 format.**

2 **Warning indicators** (p. 51)

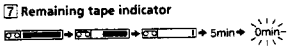
3 **BRIGHT indicator** (p. 8)/ **VOLUME indicator** (p. 8)

4 **Recording mode indicator** (p. 29)

5 **Tape transport mode indicator**

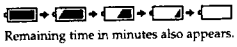
6 **Tape counter/RC time code/Self-diagnosis display** (p. 40)

7 **Remaining tape indicator**



Remaining tape in minutes appears during recording only.

8 **Remaining battery indicator**



Remaining time in minutes also appears.

1 **Se ilumina al reproducir o grabar en el formato Hi8.**

2 **Indicadores de aviso** (p. 51)

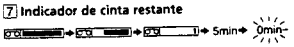
3 **Indicador BRIGHT** (p. 8)/ **Indicador VOLUME** (p. 8)

4 **Indicador de modo de grabación** (p. 29)

5 **Indicador de modo de transporte de la cinta**

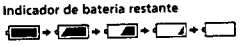
6 **Contador de cinta/código de tiempos RC/ indicación de autodiagnóstico** (p. 40)

7 **Indicador de cinta restante**



La cinta restante en minutos aparece sólo durante la grabación.

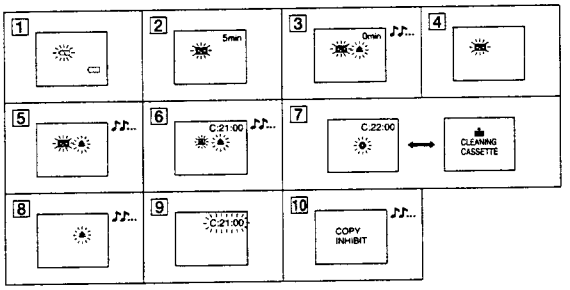
8 **Indicador de bateria restante**



También aparece el tiempo restante en minutos.

If indicators flash on the LCD screen, check the following:
♪: you can hear the beep sound when BEEP is set to ON in the menu system.

Si parpadean indicadores en la pantalla LCD, compruebe lo siguiente:
♪: es posible escuchar el pitido si BEEP está ajustado en ON en el sistema de menús.



1 **The battery is weak or dead.**
Slow flashing: The battery is weak.
Fast flashing: The battery is dead.

2 **The tape is near the end.**
The flashing is slow.

3 **The tape has run out.**
The flashing becomes rapid.

4 **No tape has been inserted.**
Appears only when REC was pressed.

5 **The tab on the tape is out (red).**
Appears only when REC was pressed.

6 **Moisture condensation has occurred.** (p. 32)

7 **The video heads may be contaminated.** (p. 33)

8 **Some other trouble has occurred.**
Disconnect the power source and contact your Sony dealer or local authorized facility.

9 **Self-diagnosis function was activated.** (p. 40)

10 **The tape has recorded a copyright control signal.** (p. 20)

1 **La batería está débil o agotada.**
Parpadeo lento: La batería está débil.
Parpadeo rápido: La batería está agotada.

2 **La cinta está cerca del final.**
El parpadeo es lento.

3 **La cinta ha llegado al final.**
El parpadeo pasa a ser rápido.

4 **No ha insertado ninguna cinta.**
Aparece sólo si se pulsa REC.

5 **La lengüeta de la cinta está fuera (roja).**
Aparece sólo si se pulsa REC.

6 **Se ha condensado humedad** (p. 32).

7 **Es posible que los cabezales de vídeo estén sucios.** (p. 33)

8 **Se ha producido cualquier otro problema.**
Desconecte la fuente de alimentación y póngase en contacto con un proveedor Sony o con un centro de servicio técnico local autorizado.

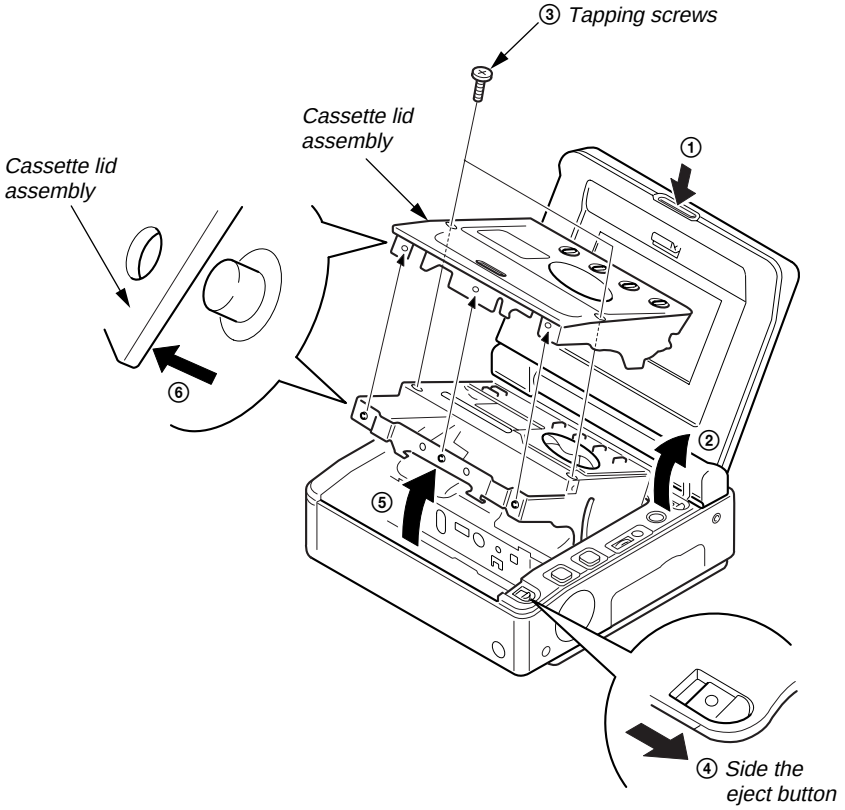
9 **Se ha activado la función de autodiagnóstico** (p. 40).

10 **La cinta presenta señales de control de copyright.** (p. 20)

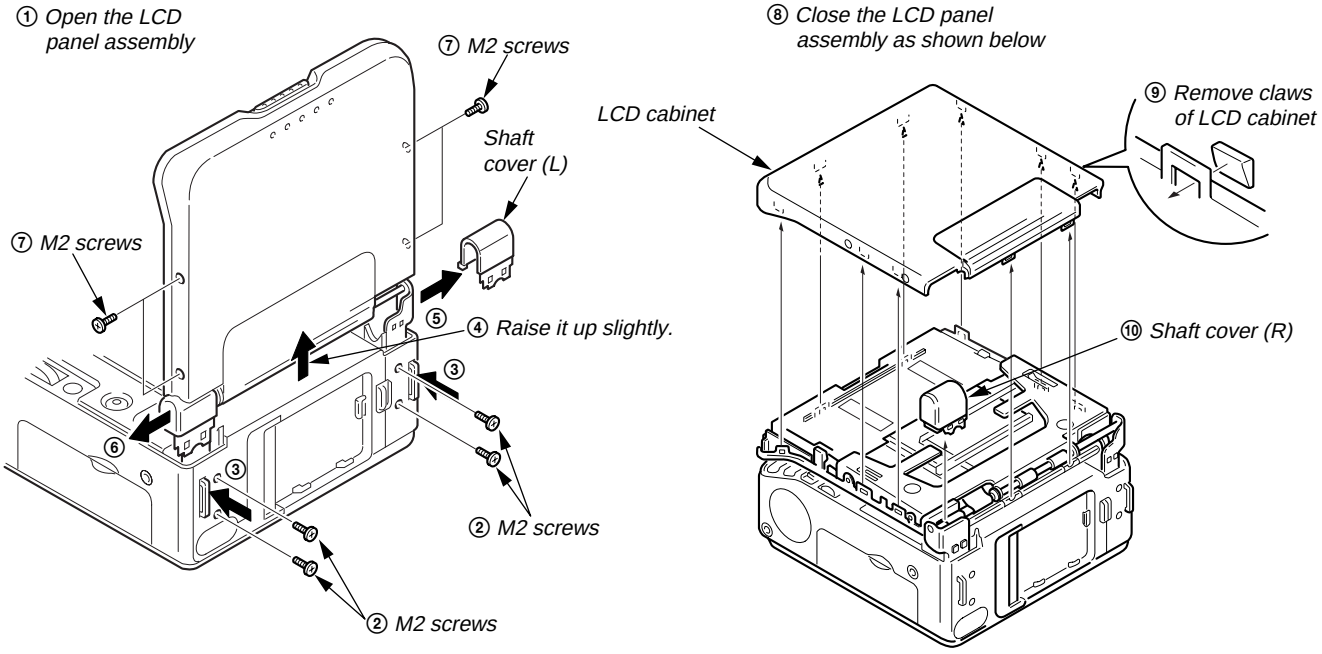
SECTION 2
DISASSEMBLY

NOTE : Follow the disassembly procedure in the numerical order given.

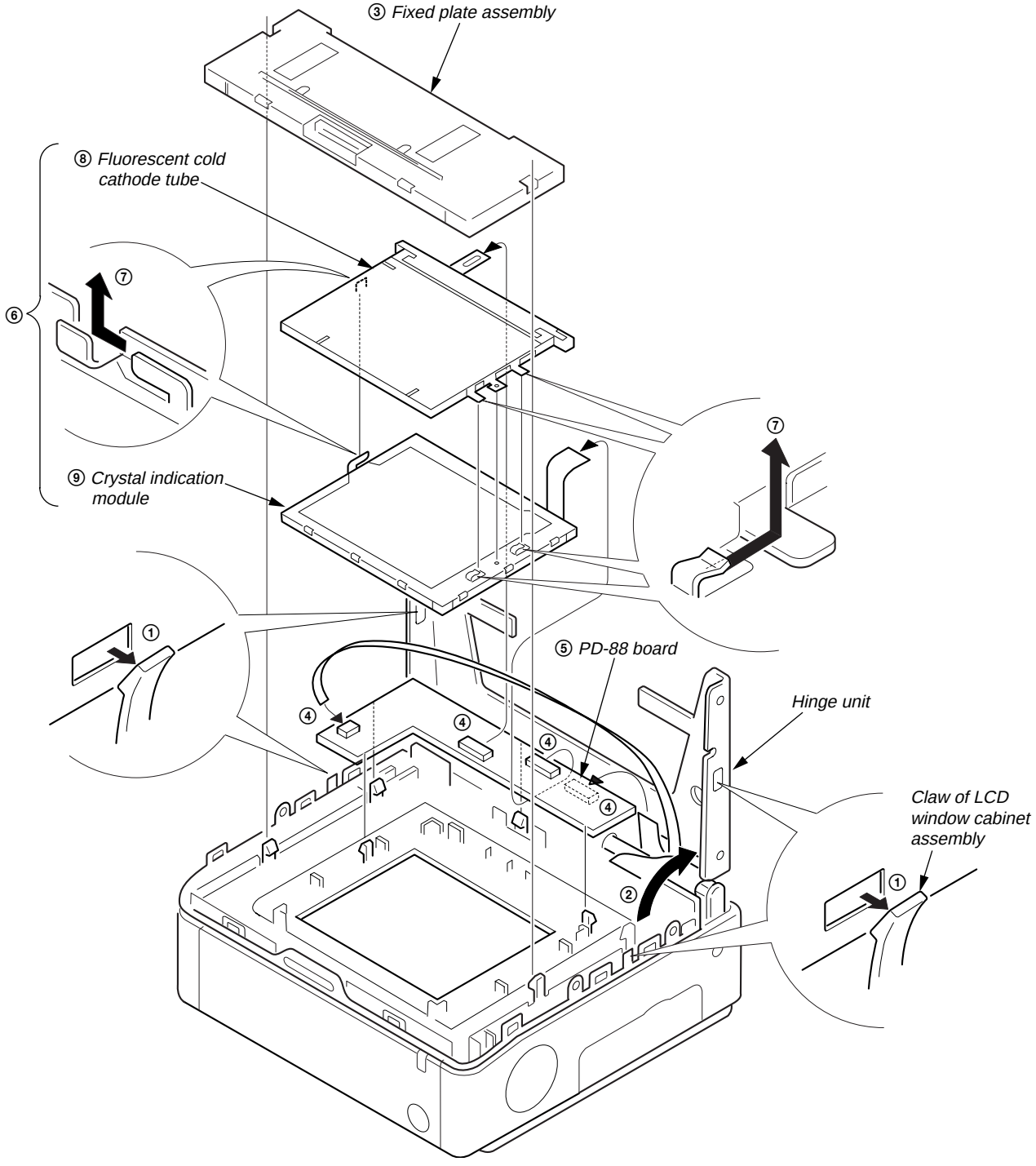
2-1. CASSETTE LID ASSEMBLY



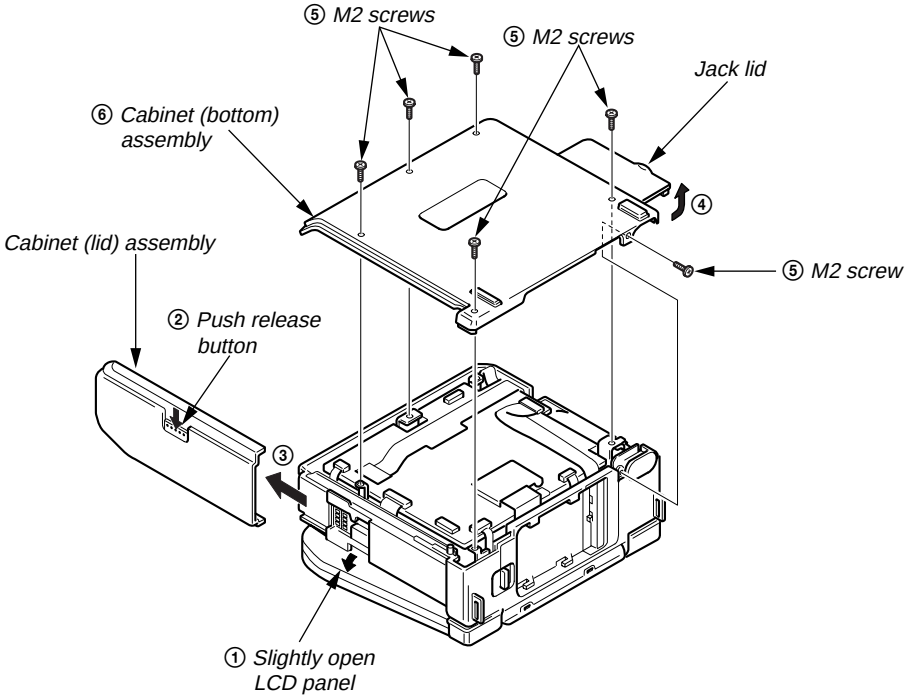
2-2. LCD CABINET



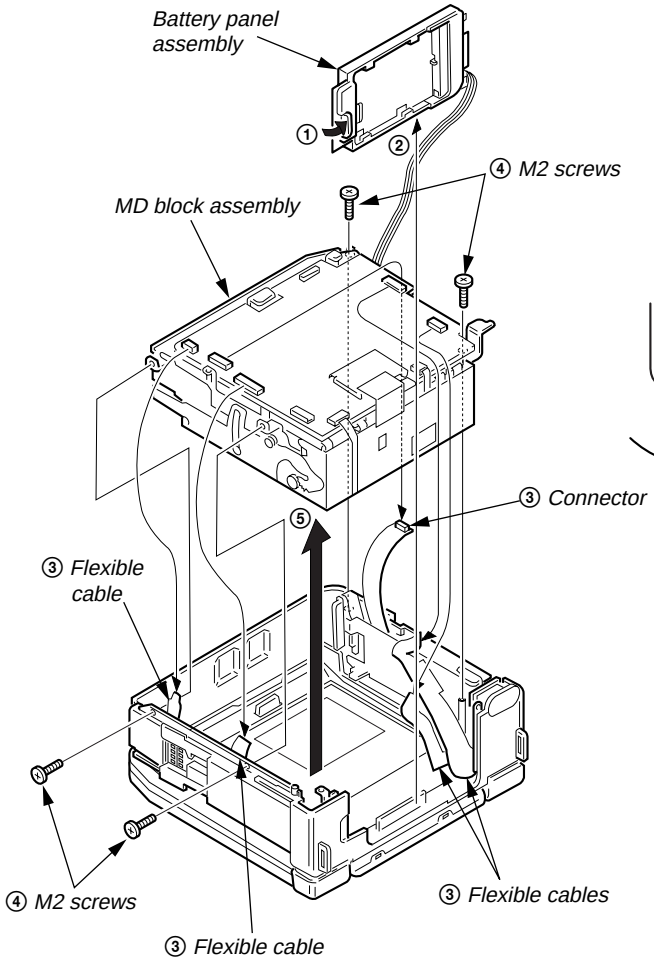
2-3. CRYSTAL INDICATION MODULE, FLUORESCENT COLD CATHODE TUBE, PD-88 BOARD



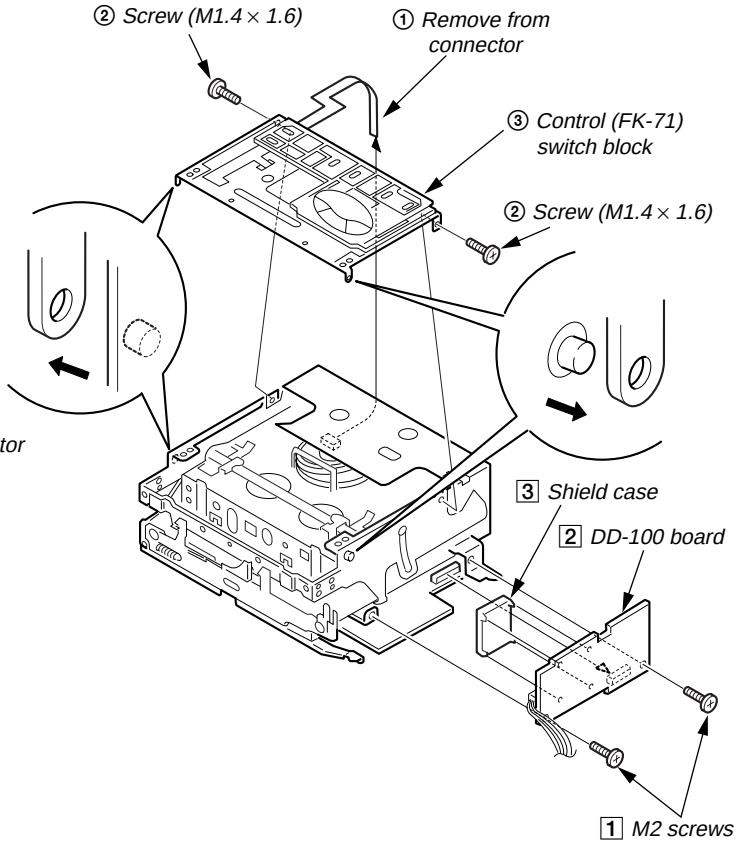
2-4. CABINET (BOTTOM) ASSEMBLY



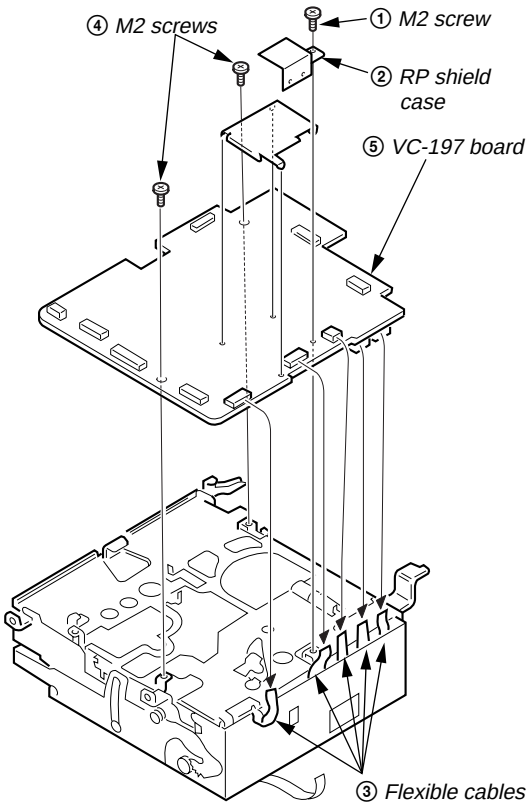
2-5. MD BLOCK ASSEMBLY



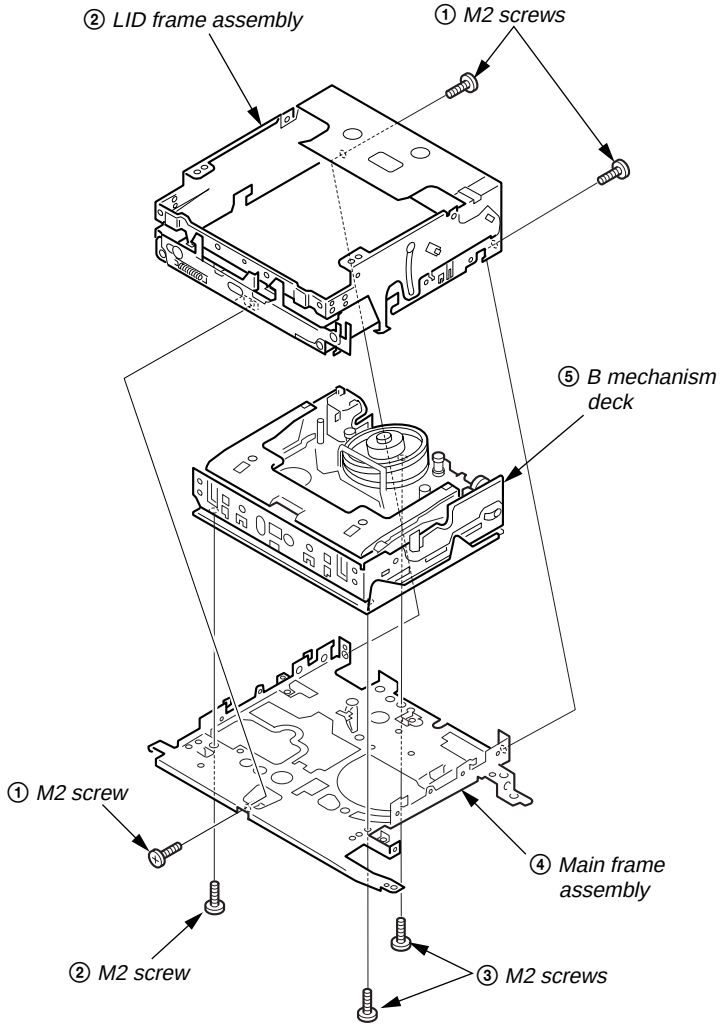
2-6. CONTROL (FK-71) SWITCH BLOCK, DD-100 BOARD



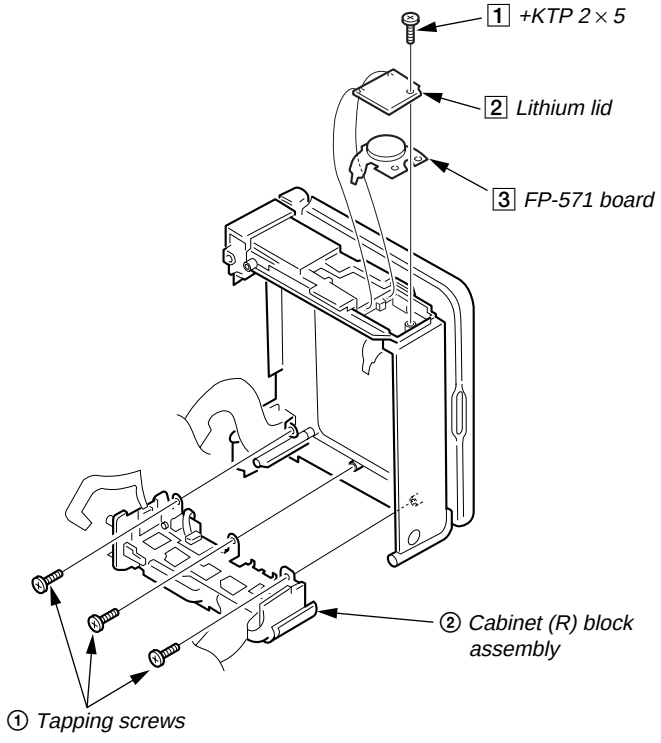
2-7. VC-197 BOARD



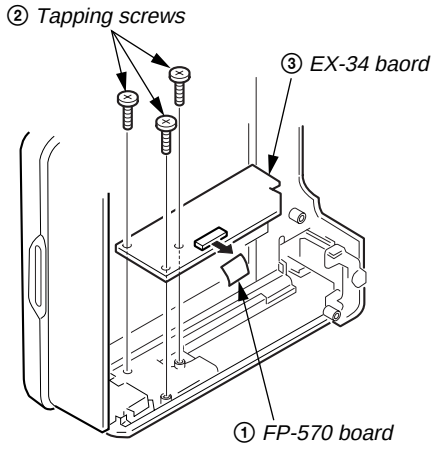
2-8. B MECHANISM DECK



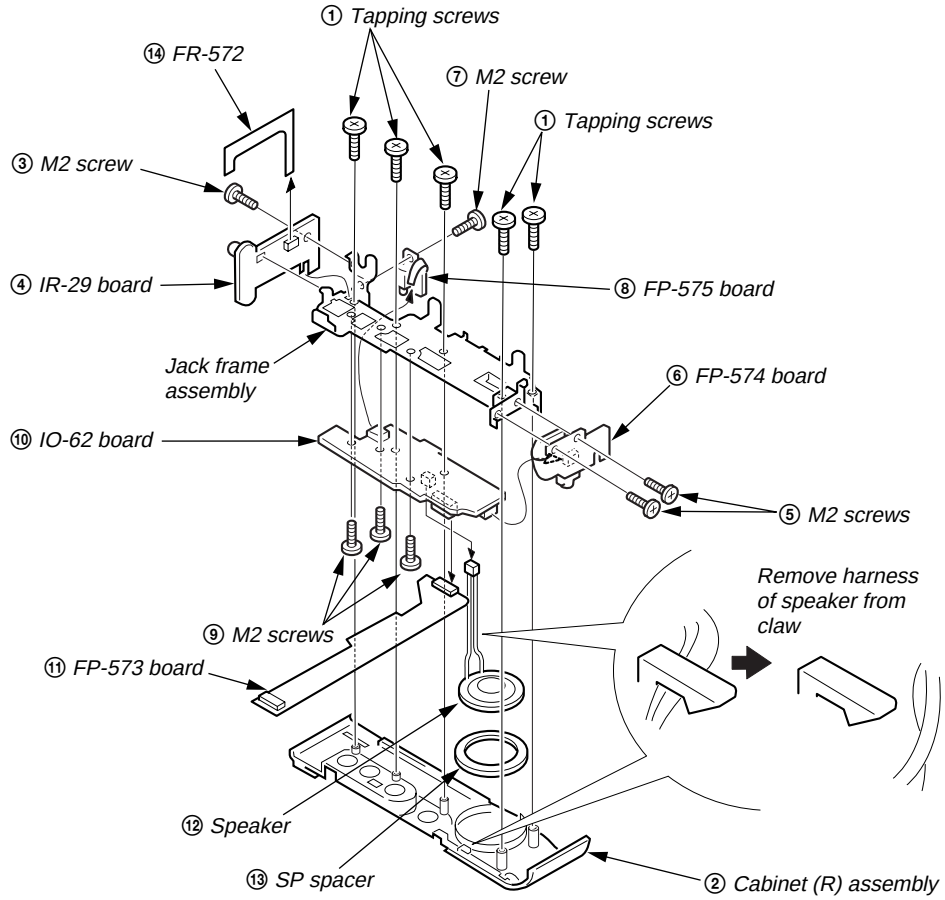
2-9. CABINET (R) BLOCK ASSEMBLY, FP-571 BOARD



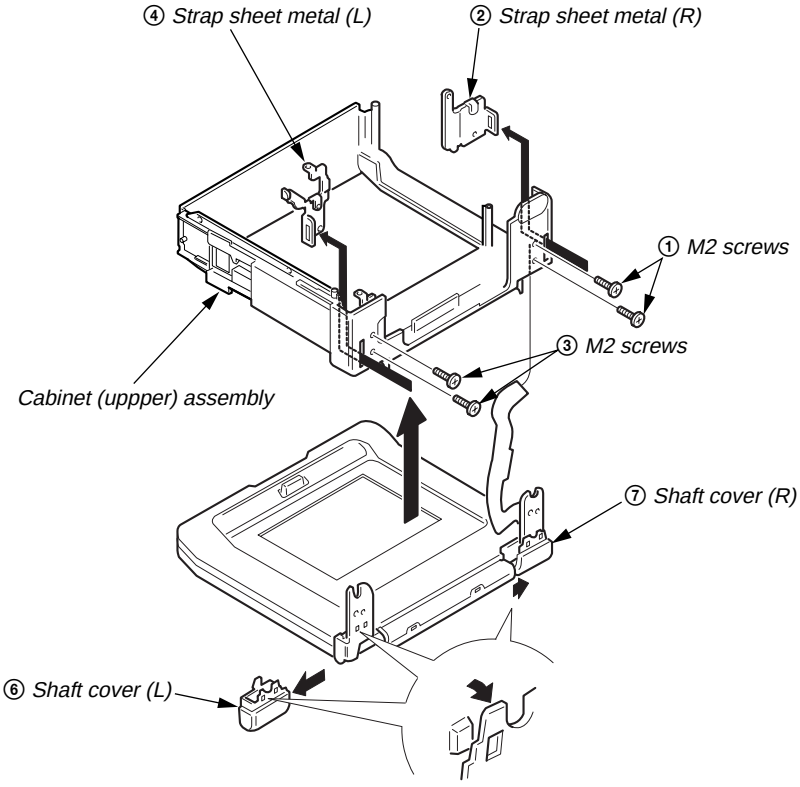
2-10. EX-34 BOARD



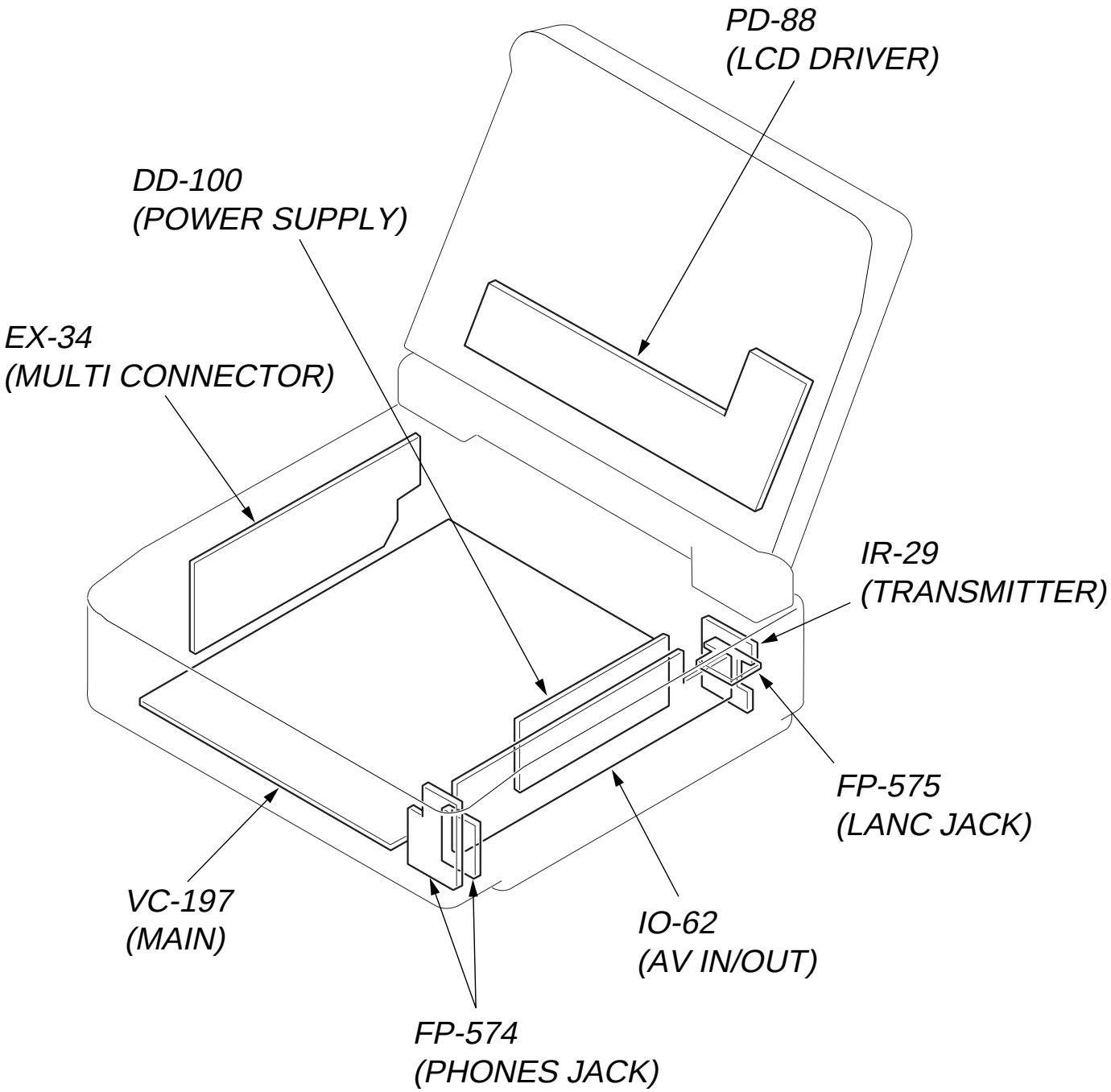
2-11. IO-62, IR-29, FP-572, FP-573, FP-574, FP-575 BOARDS SPEAKER



2-12. CABINET (UPPER) ASSEMBLY

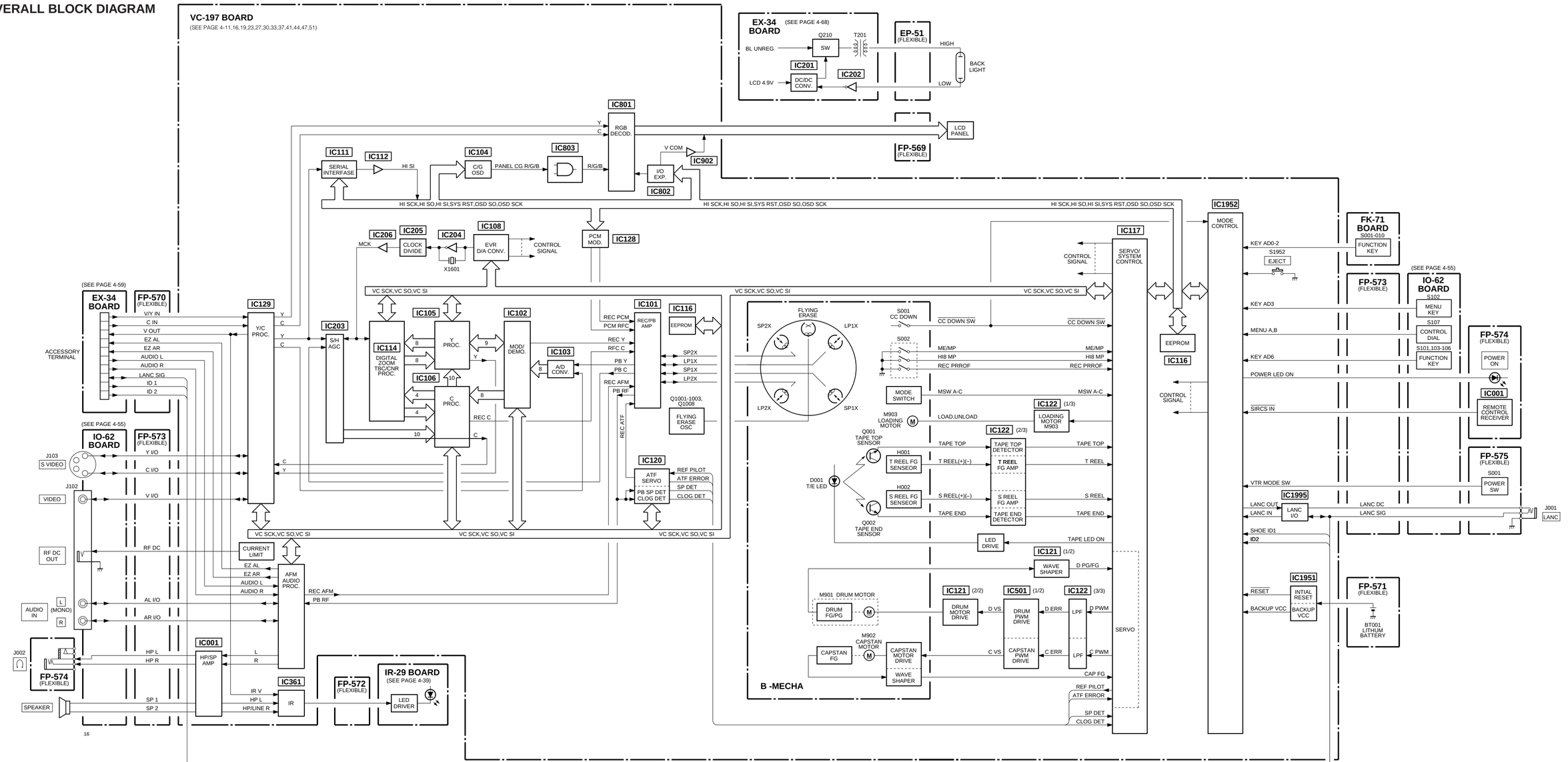


2-13. CIRCUIT BOARDS LOCATION

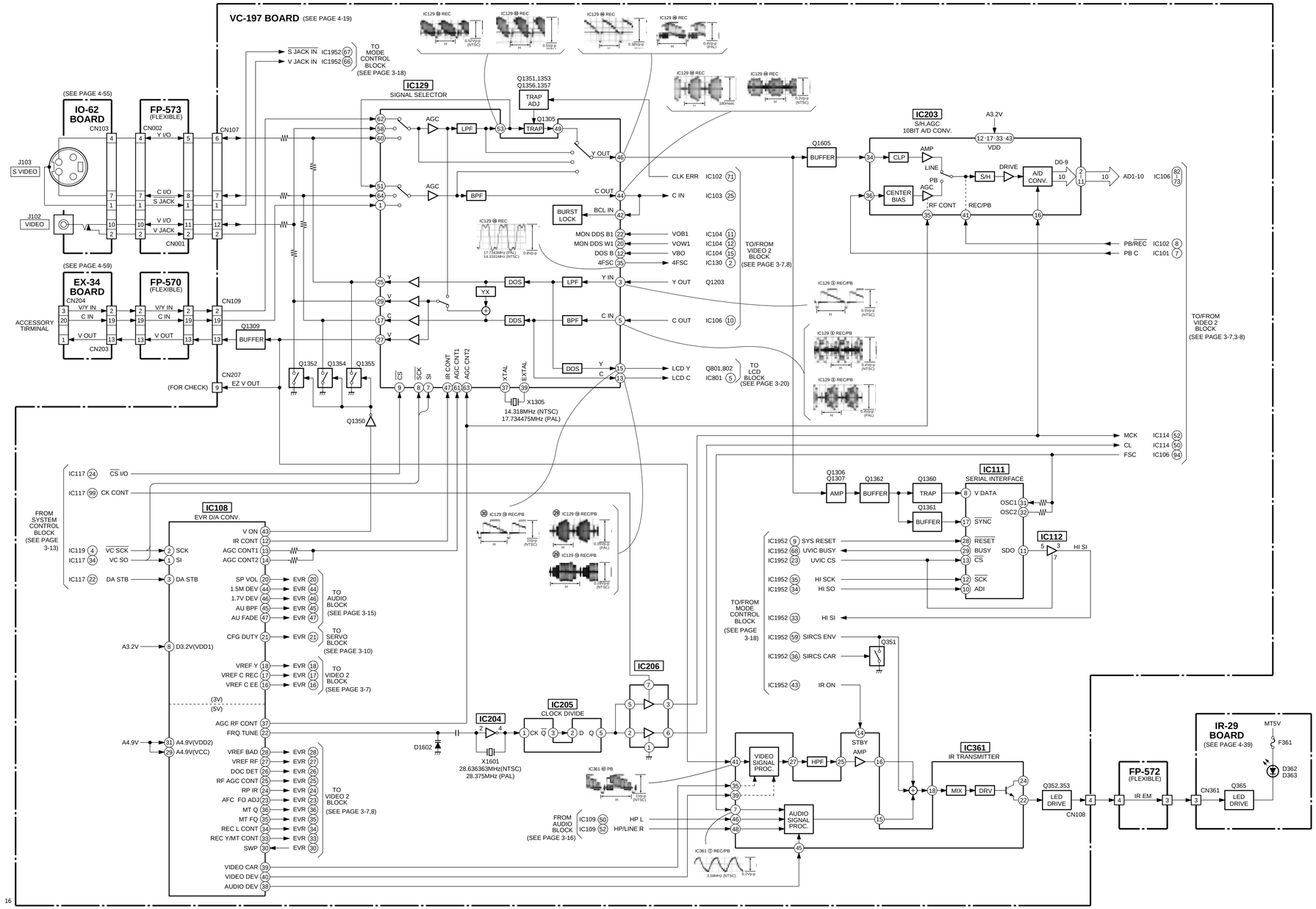


SECTION 3
BLOCK DIAGRAMS

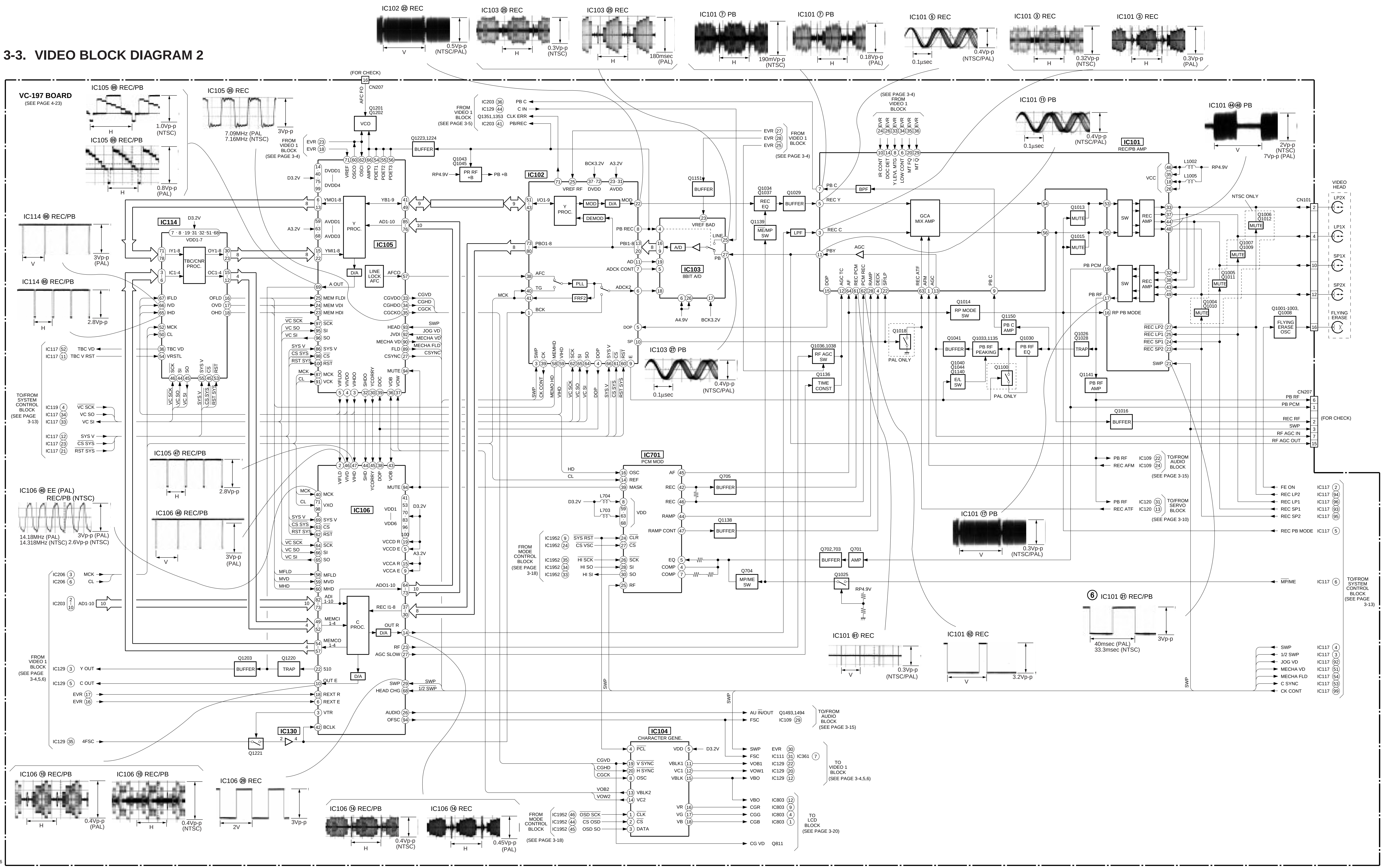
3-1. OVERALL BLOCK DIAGRAM



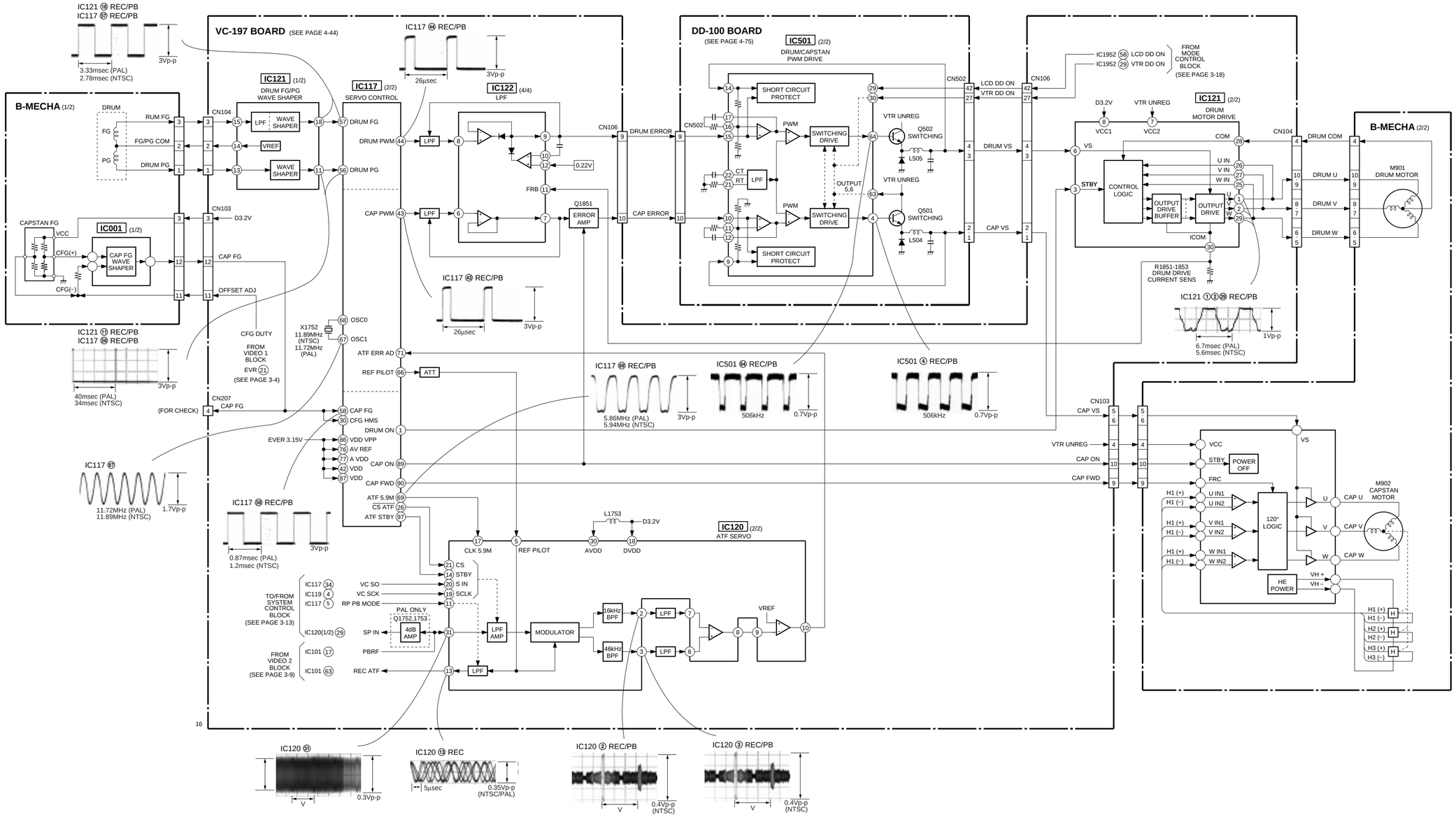
3-2. VIDEO BLOCK DIAGRAM 1



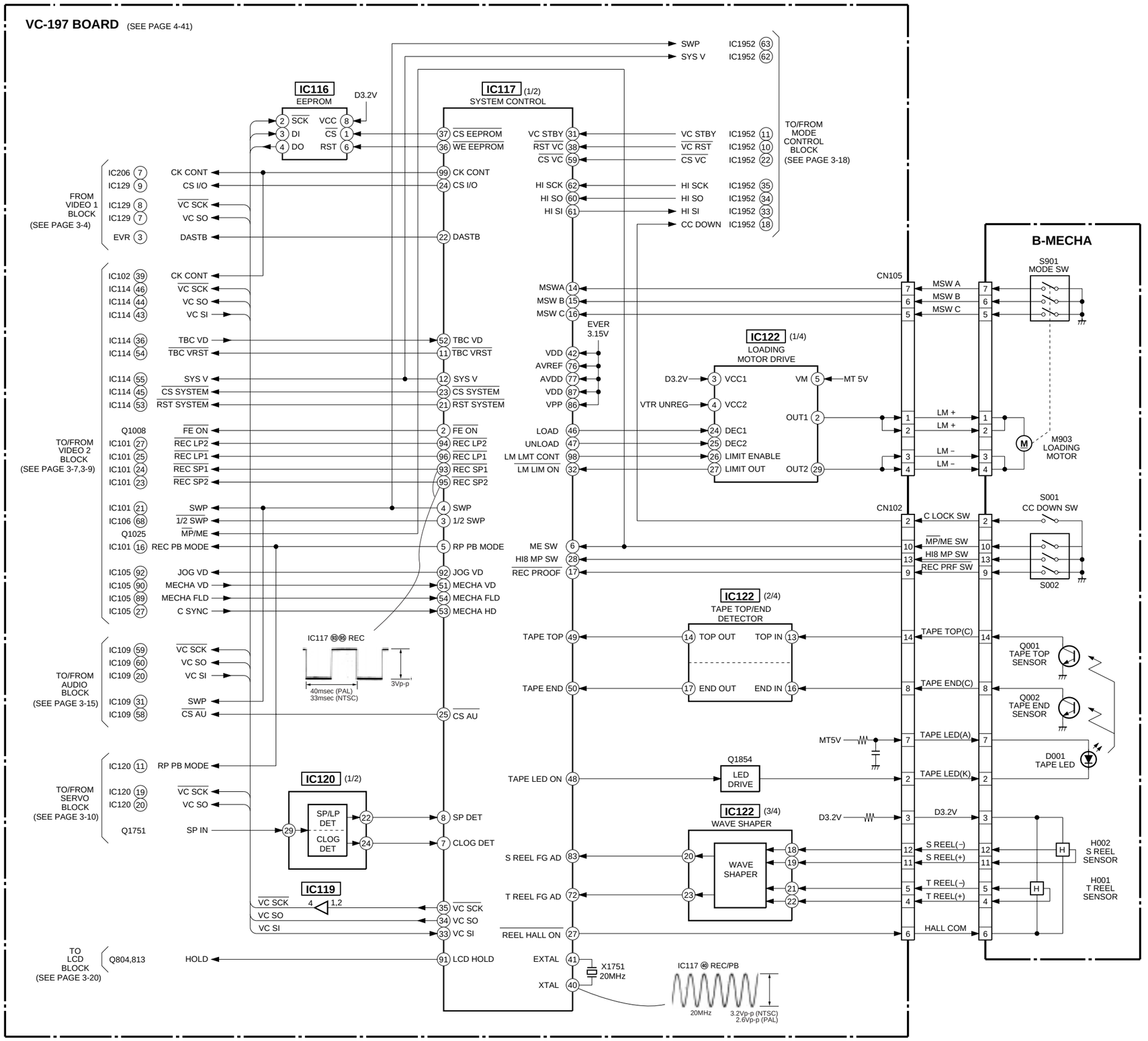
3-3. VIDEO BLOCK DIAGRAM 2



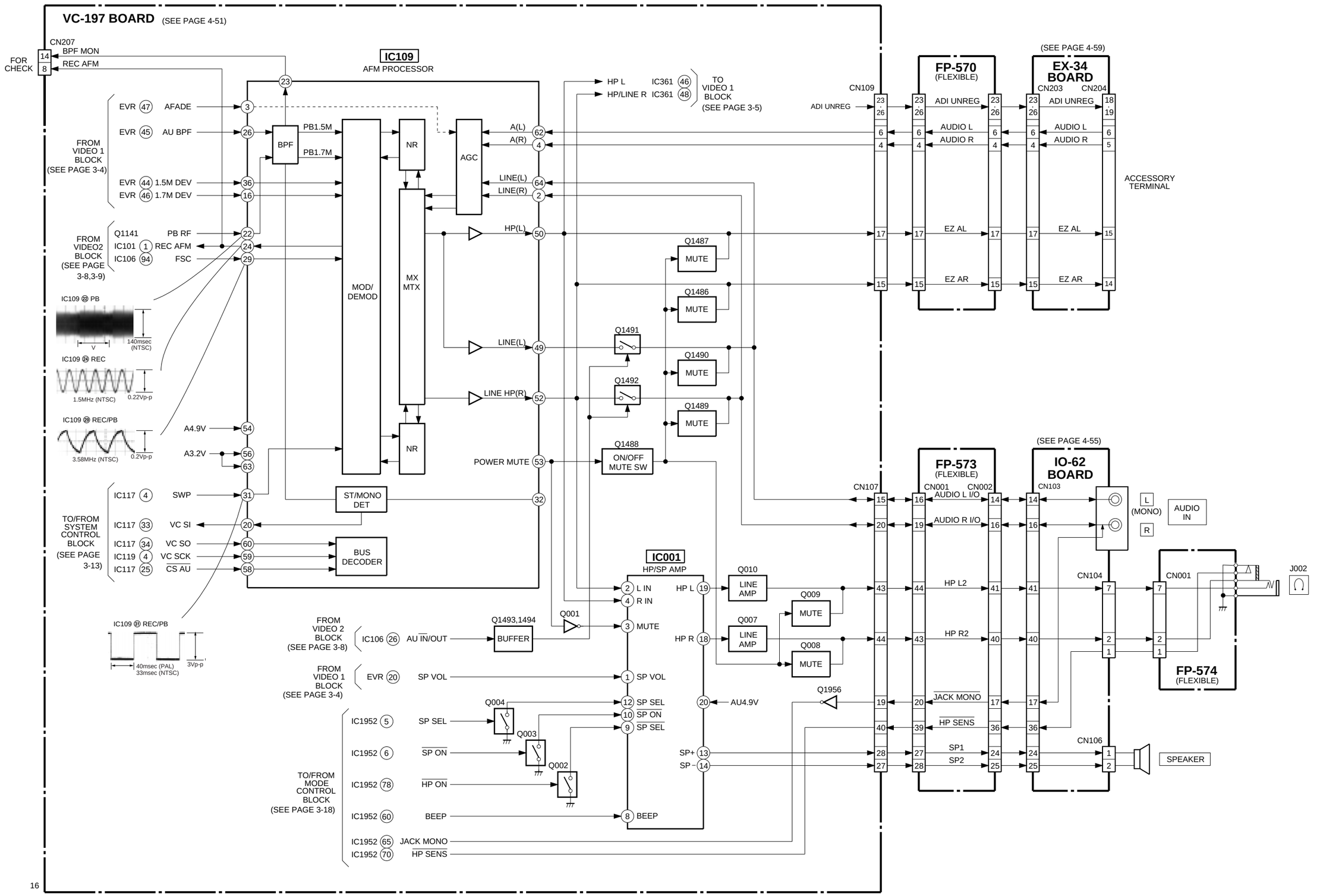
3-4. SERVO BLOCK DIAGRAM



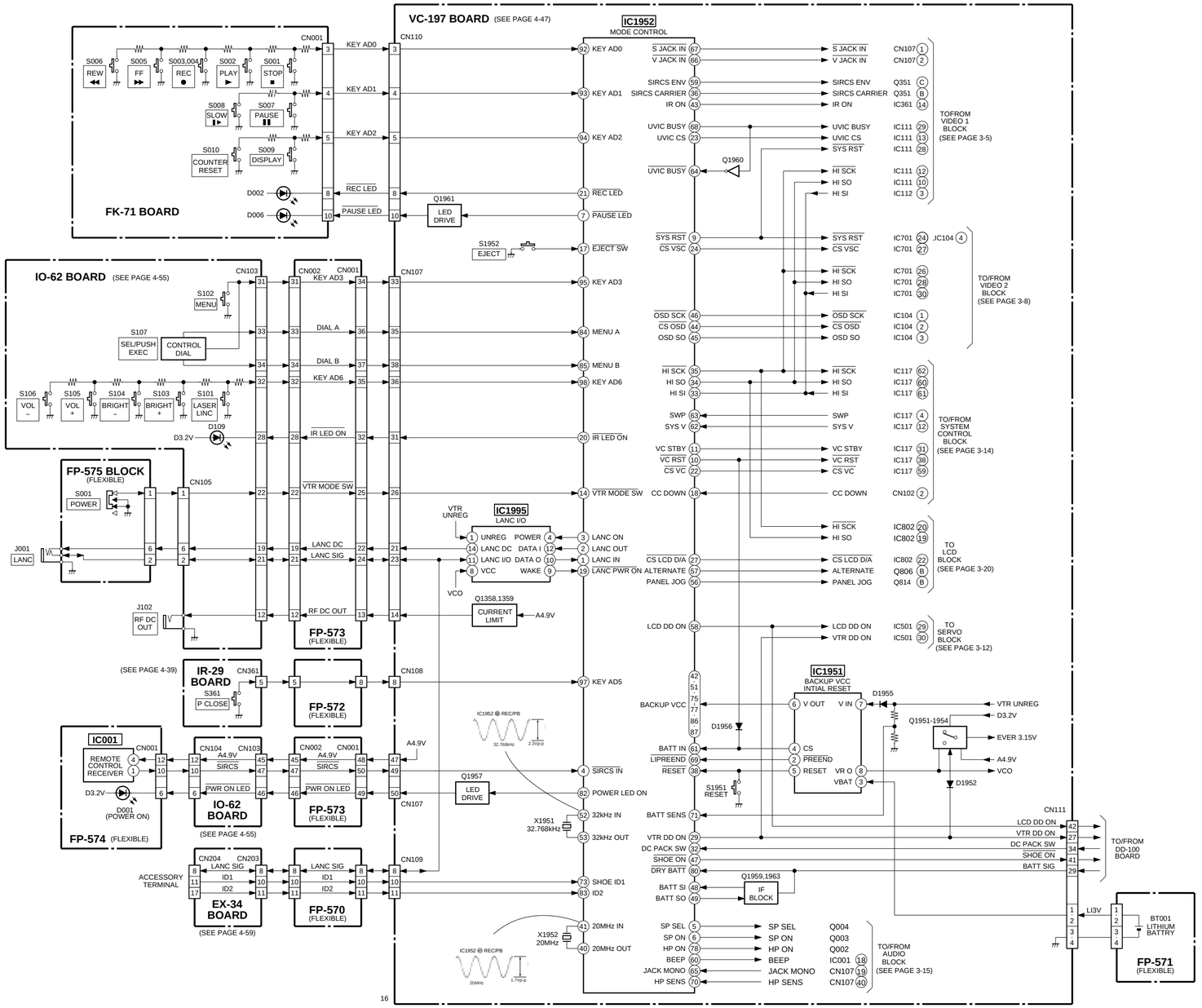
3-5. SYSTEM CONTROL BLOCK DIAGRAM



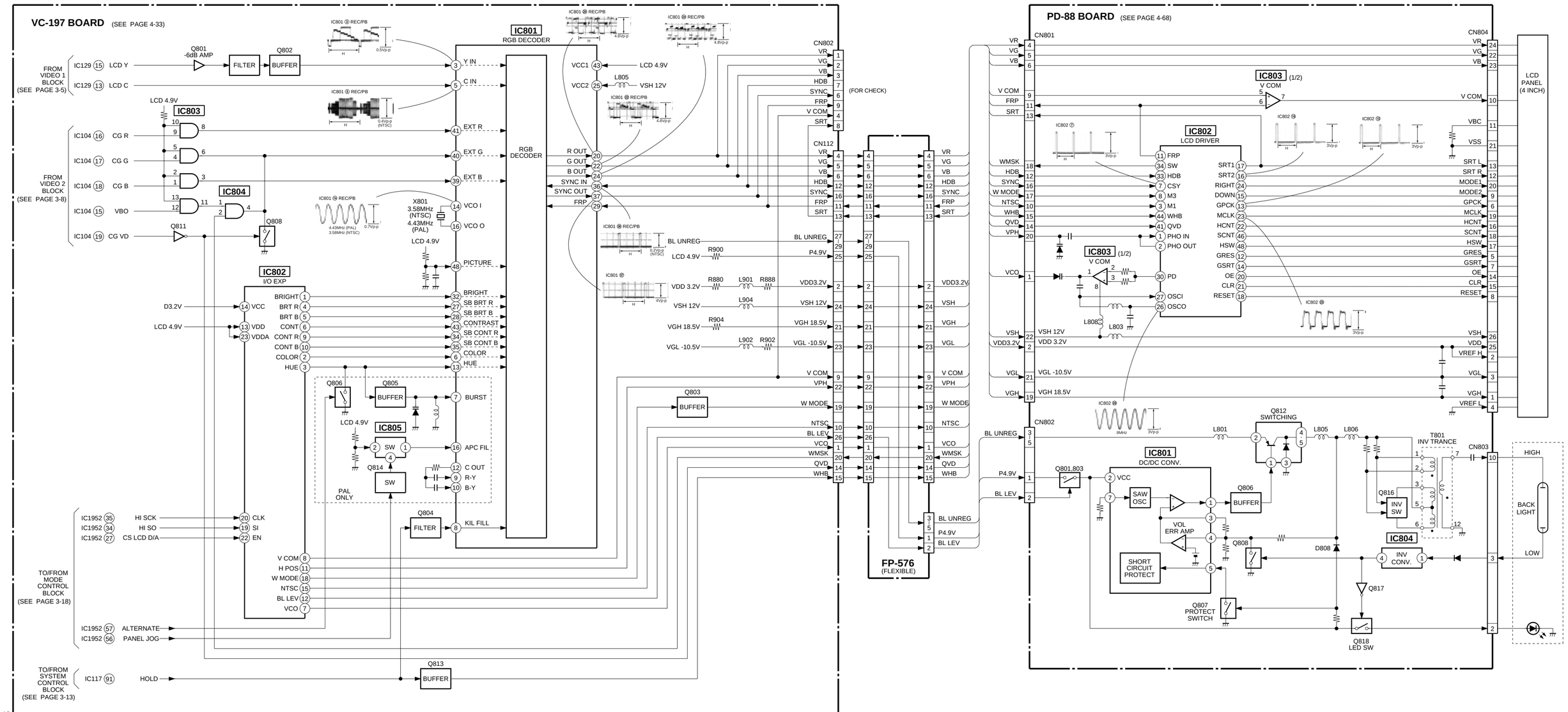
3-6. AUDIO BLOCK DIAGRAM



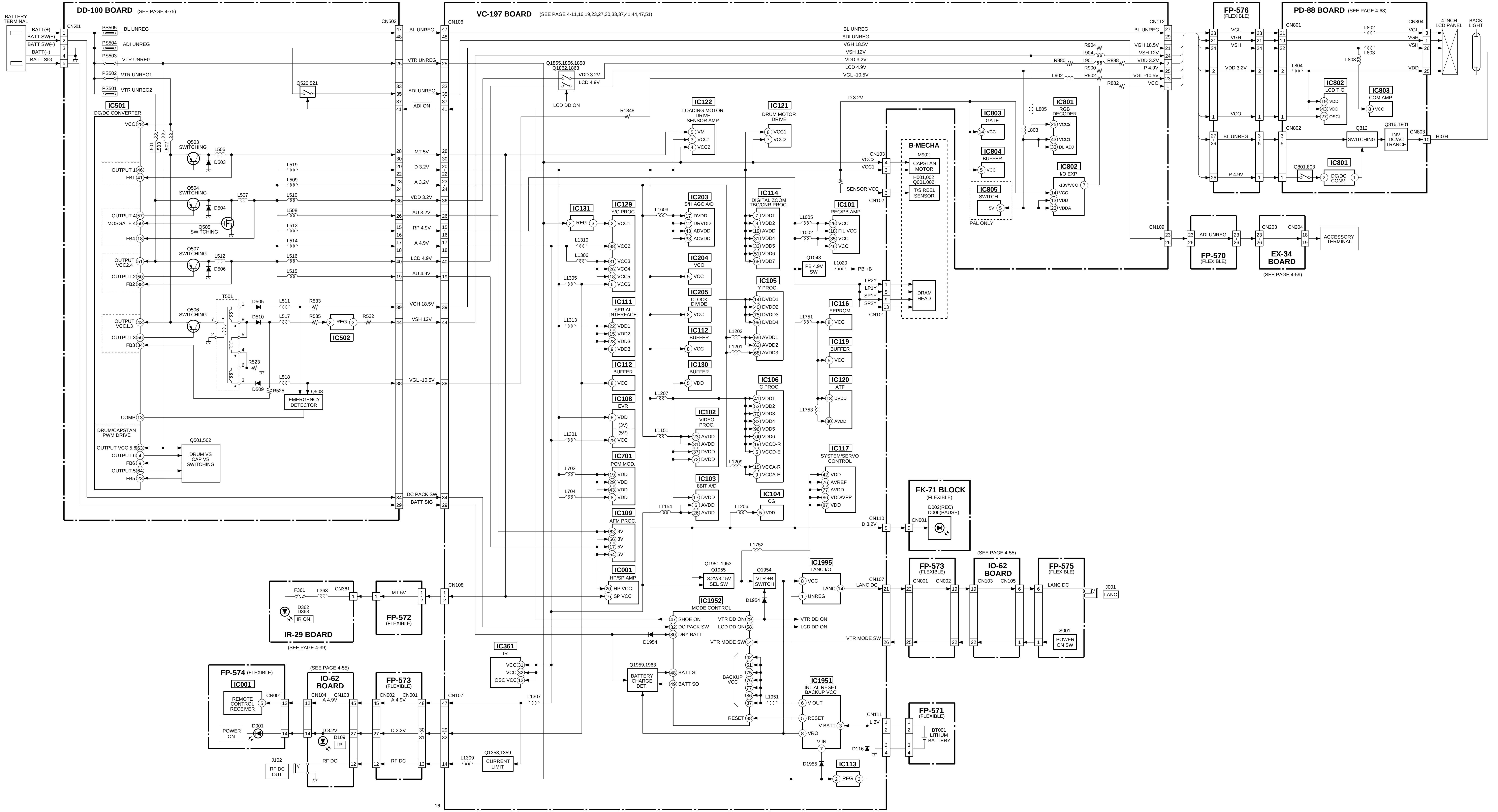
3-7. MODE CONTROL BLOCK DIAGRAM



3-8. LCD BLOCK DIAGRAM

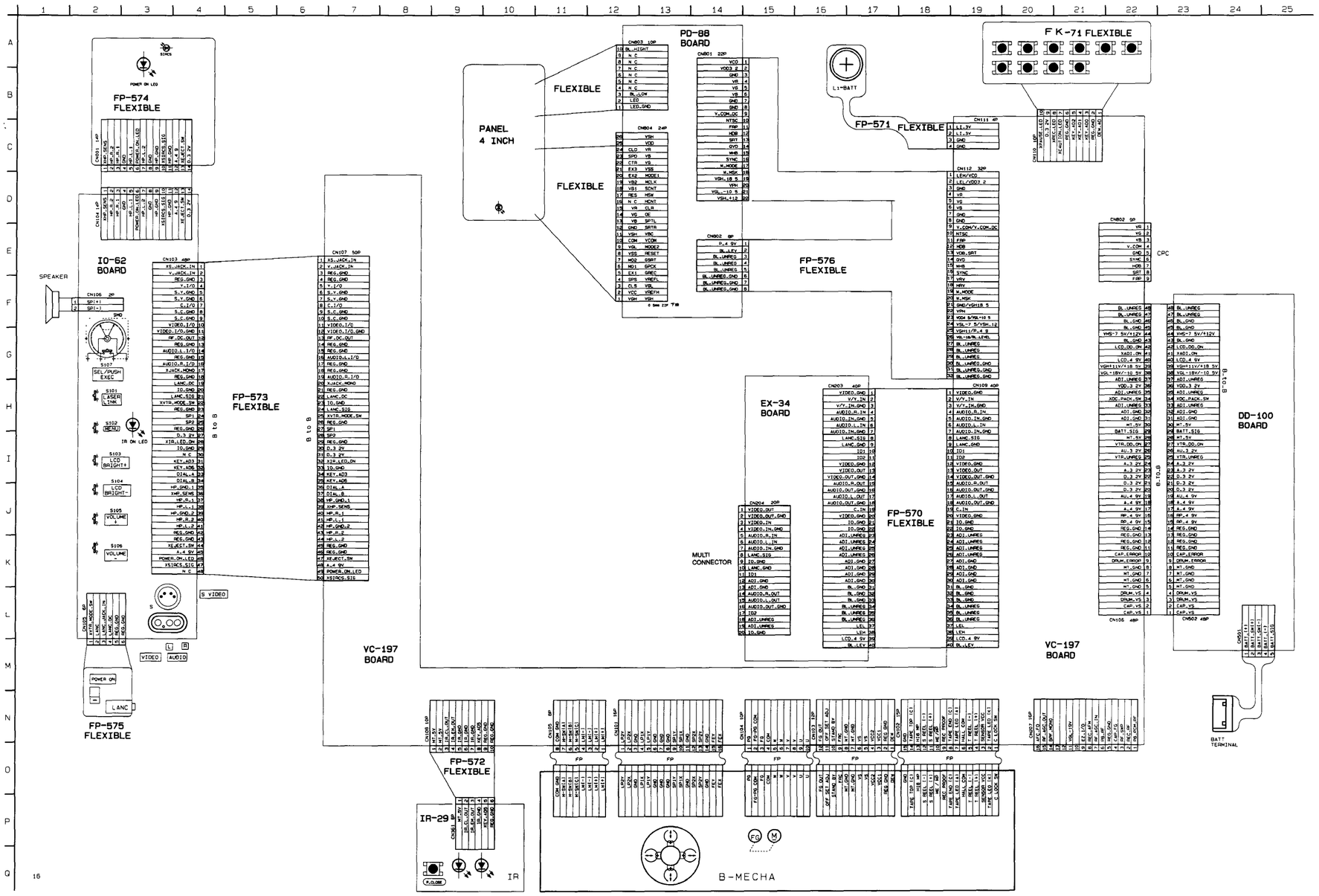


3-9. POWER SUPPLY BLOCK DIAGRAM



SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM

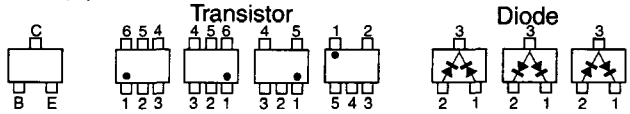


4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR WIRING BOARDS AND SCHEMATIC DIAGRAMS
(In addition to this, the necessary note is printed in each block)

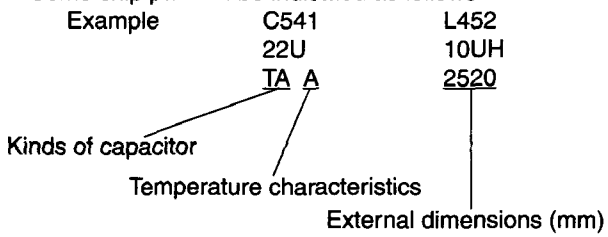
(For printed wiring boards)

- ▬▬ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)
- Through hole is omitted.
- Circled numbers refer to waveforms.
- There are few cases that the part printed on diagram isn't mounted in this model.
- Chip parts.



(For schematic diagrams)

- All capacitors are in μF unless otherwise noted. pF : μμF. 50V or less are not indicated except for electrolytics and tantalums.
- Chip resistors are 1/10W unless otherwise noted. kΩ=1000Ω, MΩ=1000kΩ.
- Caution when replacing chip parts. New parts must be attached after removal of chip. Be careful not to heat the minus side of tantalum capacitor, Because it is damaged by the heat.
- Some chip part will be indicated as follows.



- Constants of resistors, capacitors, ICs and etc with XX indicate that they are not used. In such cases, the unused circuits may be indicated.
- Parts with ★ differ according to the model/destination. Refer to the mount table for each function.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Signal name
  XEDIT → EDIT PB/XREC → PB/$\overline{\text{REC}}$
- : non flammable resistor
- : fusible resistor
- : panel designation
- ▬▬ : B+ Line ✻
- ▬ ▬ ▬ : B– Line ✻
- : IN/OUT direction of (+,–) B LINE. ✻
- : adjustment for repair. ✻
- Circled numbers refer to waveforms. ✻

✻ Indicated by the color red.

Note : Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

(Measuring conditions voltage and waveform)

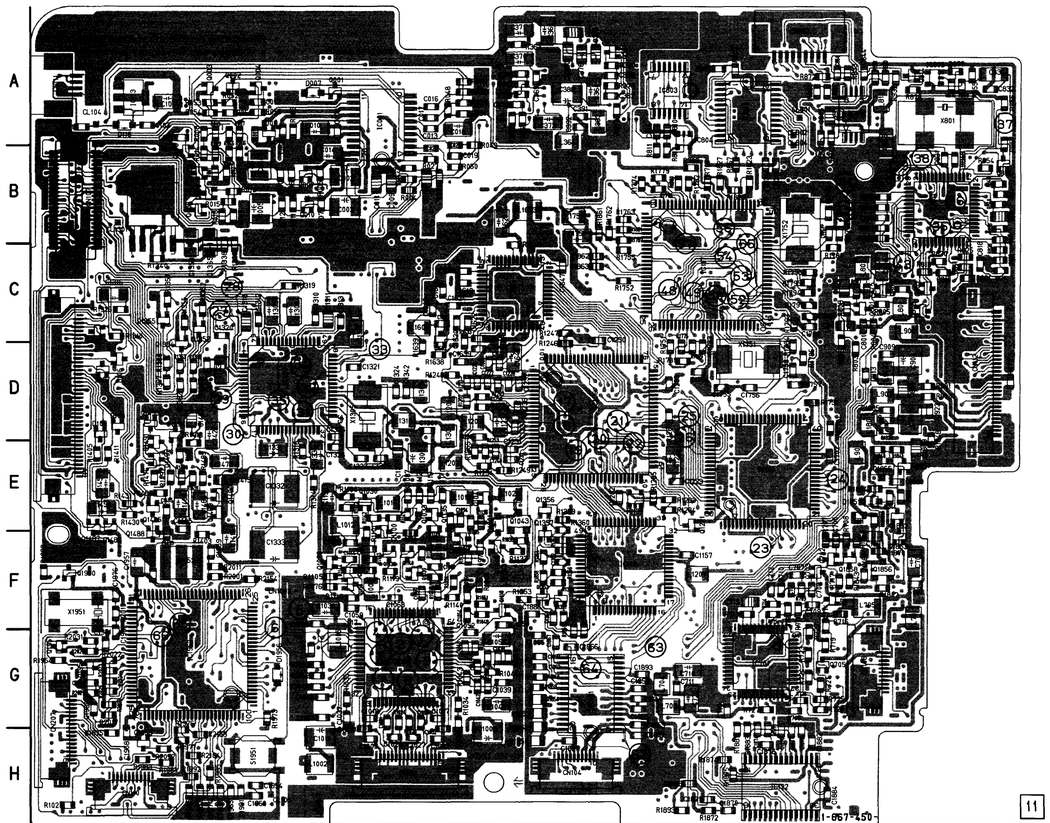
- Voltages and waveforms are measured between the measurement points and ground when the color bar is fed. They are reference values * and reference waveforms. (VOM of DC 10 MΩ input impedance is used.).
- Voltage values change depending upon input impedance of VOM used.)

When indicating parts by reference number, pleas include the board name.

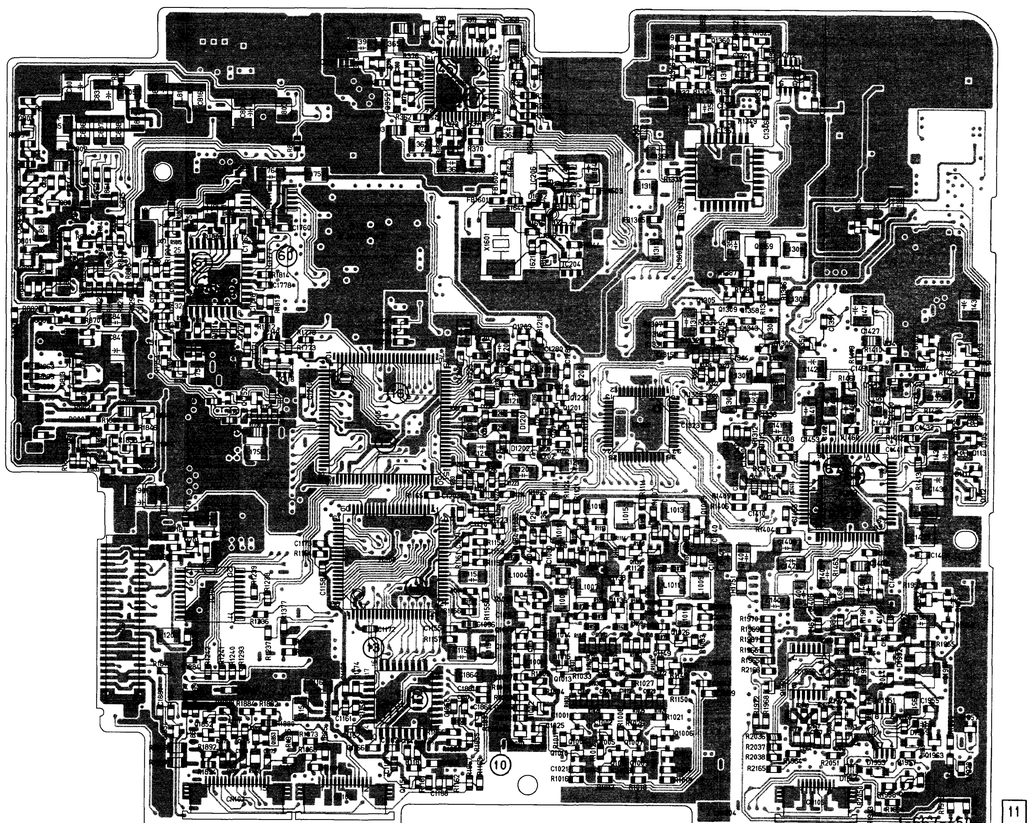
VC-197 (MAIN) PRINTED WIRING BOARD
— Ref. No. VC-197 board; 10,000 series —

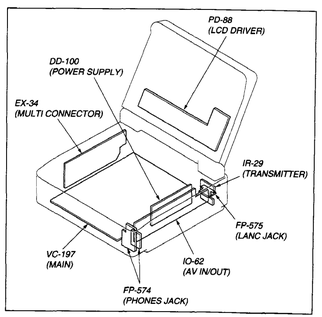
There are few cases that the part printed on this diagram isn't mounted in this model.

VC-197 BOARD (SIDE A)



VC-197 BOARD (SIDE B)





VC-197 BOARD

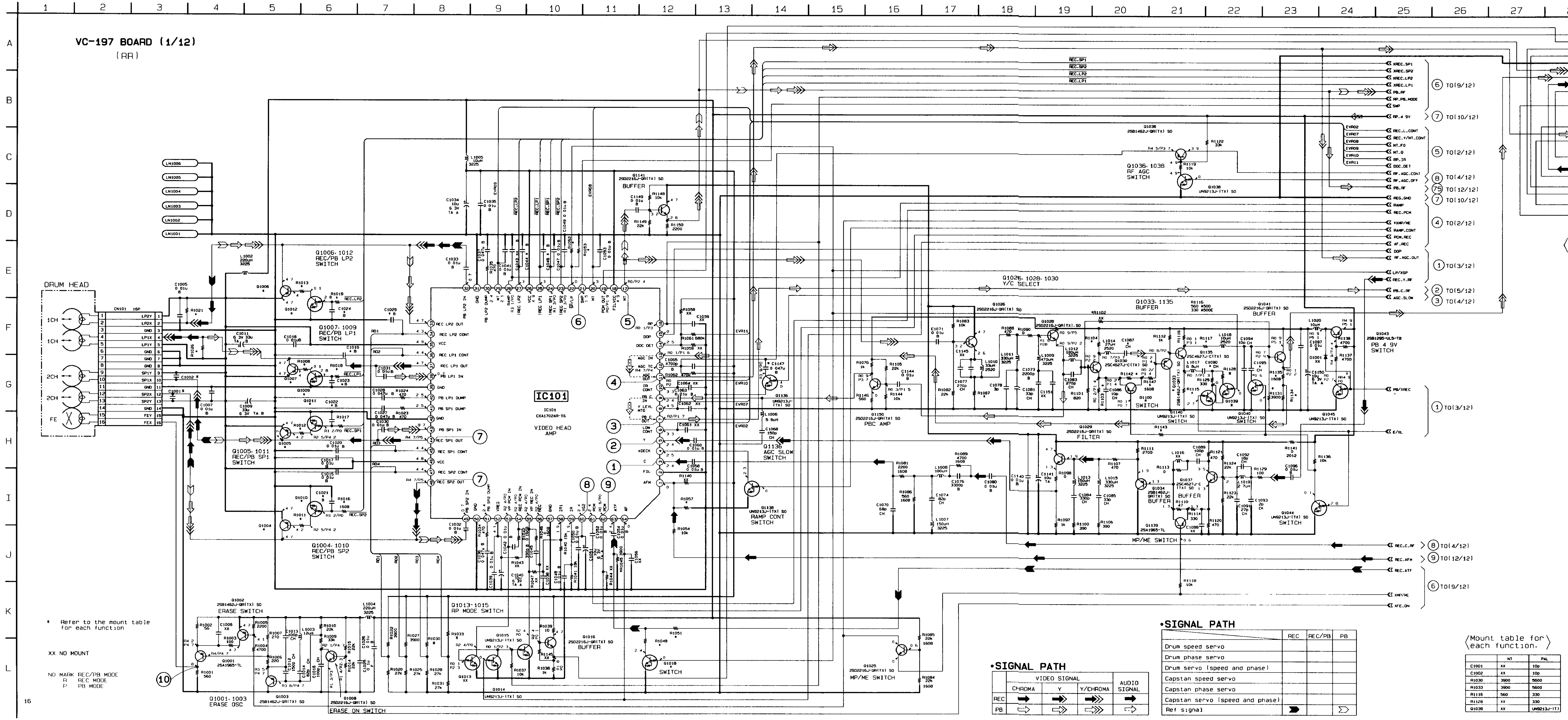
C002	B-4	C842	C-9	C1160	G-14	C1357	A-18	C1781	D-13	D114	D-20	L1018	E-5
C003	B-4	C845	B-9	C1161	G-14	C1358	C-2	C1851	H-6	D116	A-1	L1019	E-17
C004	B-3	C849	C-12	C1162	H-14	C1359	A-18	C1852	H-7	D801	C-11	L1020	E-5
C005	B-3	C850	C-11	C1163	H-15	C1360	C-18	C1853	G-7	D1201	D-16	L1151	G-16
C010	A-3	C852	B-12	C1164	H-15	C1361	B-18	C1854	G-16	D1202	E-16	L1154	G-14
C013	A-5	C902	D-9	C1165	G-14	C1362	A-17	C1855	G-7	D1305	C-18	L1201	D-5
C014	B-4	C908	D-9	C1166	H-15	C1363	A-18	C1856	G-15	D1306	D-19	L1202	E-5
C015	B-5	C909	D-9	C1167	H-15	C1364	A-19	C1857	G-16	D1602	B-16	L1203	D-17
C016	A-5	C1001	G-17	C1168	H-15	C1366	B-20	C1858	G-7	D1851	E-9	L1204	D-16
C017	A-5	C1002	G-17	C1173	F-14	C1370	E-4	C1859	G-7	D1951	F-20	L1206	G-13
C018	A-5	C1005	H-4	C1201	D-16	C1403	F-19	C1860	G-16	D1952	G-20	L1207	F-7
C020	B-5	C1007	H-5	C1202	D-16	C1404	F-19	C1861	G-16	D1953	H-20	L1209	D-5
C021	B-5	C1009	H-5	C1203	E-16	C1405	E-2	C1862	G-6	D1954	H-20	L1220	D-16
C102	A-2	C1011	H-3	C1204	E-16	C1406	F-19	C1863	G-6	D1955	H-20	L1301	E-5
C361	A-15	C1012	G-16	C1205	D-16	C1407	F-19	C1864	G-16	D1956	G-3	L1303	D-4
C362	B-15	C1013	G-16	C1206	D-16	C1409	F-18	C1865	G-6	D1957	G-20	L1305	C-19
C363	A-16	C1014	G-14	C1207	D-16	C1410	E-19	C1866	G-6	D1959	G-20	L1306	D-18
C365	A-6	C1015	G-17	C1208	E-16	C1411	E-19	C1867	G-6			L1307	D-18
C366	A-16	C1016	F-16	C1209	D-16	C1412	F-3	C1868	H-13	FB1151	E-16	L1308	C-19
C367	A-16	C1017	G-5	C1210	D-14	C1414	E-19	C1869	G-13	FB1305	B-17	L1309	C-19
C368	A-16	C1018	G-4	C1212	D-16	C1415	E-2	C1870	H-8	FB1601	B-16	L1310	D-4
C369	A-6	C1019	G-17	C1213	D-16	C1416	D-19	C1871	H-7	FB1602	B-16	L1311	A-18
C370	A-5	C1020	G-17	C1215	E-16	C1422	E-2	C1872	H-14	FB1603	B-17	L1312	B-17
C371	A-5	C1021	H-17	C1216	E-16	C1423	D-2	C1873	H-14	FB1701	D-9	L1313	C-17
C372	A-5	C1022	H-17	C1217	E-17	C1424	D-19	C1874	H-8			L1603	B-6
C373	A-6	C1023	H-17	C1218	D-16	C1425	D-19	C1875	H-13	IC001	A-4	L1604	C-4
C374	A-5	C1024	H-18	C1220	D-16	C1426	D-19	C1876	H-8	IC101	G-4	L1751	B-6
C375	B-16	C1025	G-16	C1222	G-13	C1430	D-20	C1877	H-8	IC102	F-15	L1752	B-14
C376	A-6	C1026	F-16	C1223	E-7	C1431	D-20	C1878	H-8	IC103	G-15	L1753	B-13
C377	A-15	C1027	H-4	C1224	E-7	C1432	C-20	C1879	H-8	IC104	F-13	L1754	D-13
C378	A-6	C1028	H-4	C1227	D-5	C1433	D-20	C1880	H-13	IC105	D-15	L1755	E-13
C379	A-15	C1029	G-17	C1228	D-5	C1435	E-20	C1881	F-9	IC106	D-6	L1951	G-20
C380	A-15	C1030	G-4	C1229	D-5	C1437	E-20	C1882	H-8	IC108	D-17		
C381	A-15	C1031	G-4	C1230	E-5	C1439	E-20	C1884	H-9	IC109	E-19	Q001	A-4
C382	A-6	C1032	H-5	C1231	E-5	C1441	E-20	C1886	F-6	IC111	B-18	Q002	A-3
C383	A-6	C1033	H-4	C1232	D-5	C1444	D-20	C1887	G-12	IC112	A-19	Q003	A-2
C385	A-16	C1034	F-4	C1233	E-5	C1450	E-1	C1888	H-7	IC113	A-2	Q004	A-3
C386	B-15	C1035	F-4	C1234	D-5	C1451	E-1	C1890	E-9	IC114	E-8	Q007	B-3
C387	A-15	C1036	G-5	C1236	D-5	C1452	D-20	C1891	F-9	IC116	B-14	Q008	B-2
C388	A-6	C1037	G-4	C1237	D-5	C1453	E-19	C1893	G-7	IC117	C-7	Q009	B-2
C389	A-6	C1039	G-5	C1240	E-5	C1463	D-19	C1951	F-20	IC119	D-14	Q010	B-3
C390	A-6	C1040	G-5	C1280	D-16	C1465	E-19	C1952	F-20	IC120	C-13	Q351	A-6
C391	A-6	C1041	G-3	C1282	E-6	C1466	E-19	C1953	G-20	IC121	G-6	Q352	A-15
C392	A-6	C1042	G-5	C1283	D-17	C1468	F-19	C1954	H-3	IC122	H-8	Q353	A-15
C393	A-15	C1044	G-3	C1285	D-7	C1477	C-20	C1955	G-20	IC129	D-3	Q701	F-13
C394	A-15	C1045	G-5	C1301	E-5	C1481	F-20	C1957	F-2	IC130	E-7	Q702	F-9
C395	A-14	C1046	G-3	C1302	E-4	C1488	E-2	C1958	H-1	IC131	B-2	Q703	F-8
C701	F-9	C1047	G-18	C1306	D-18	C1489	E-2	C1959	F-2	IC203	C-5	Q704	F-9
C702	F-9	C1048	G-5	C1307	D-18	C1490	F-20	C1960	H-3	IC204	C-17	Q705	G-9
C703	F-13	C1049	G-18	C1308	C-3	C1492	E-18	C1962	H-20	IC205	B-17	Q801	C-9
C704	F-13	C1050	F-5	C1309	C-3	C1616	B-16	C1965	H-3	IC206	B-16	Q802	C-9
C705	F-9	C1051	G-5	C1310	C-3	C1618	C-5	C1968	H-2	IC361	A-16	Q803	D-12
C706	F-8	C1052	F-5	C1311	C-4	C1619	C-5	C1971	H-19	IC701	G-8	Q804	B-11
C707	F-8	C1053	G-3	C1312	C-3	C1620	C-5	C1974	H-2	IC801	B-10	Q805	A-11
C708	F-8	C1054	F-5	C1313	C-4	C1621	C-16	C1976	F-1	IC802	A-8	Q806	B-10
C709	F-8	C1058	F-17	C1314	C-18	C1622	C-5	C1978	G-1	IC803	A-7	Q808	C-10
C710	G-7	C1060	F-4	C1315	D-18	C1624	C-5	C1980	G-1	IC804	B-7	Q811	D-12
C711	G-7	C1063	F-4	C1316	C-1	C1625	B-5	C1981	G-1	IC805	A-10	Q813	D-12
C712	F-8	C1065	G-17	C1317	C-4	C1635	D-5	C1982	G-1	IC1951	G-20	Q814	A-9
C713	F-8	C1068	F-4	C1318	C-3	C1637	D-5	C1986	G-19	IC1952	G-2	Q1001	H-16
C714	F-9	C1070	F-17	C1319	C-18	C1638	D-5	C1987	G-19	IC1995	G-19	Q1002	G-16
C715	G-8	C1071	G-18	C1320	D-2	C1639	D-5	C1989	G-19			Q1003	F-16
C719	G-8	C1073	F-18	C1321	D-4	C1640	D-5	C1990	H-20	L362	B-15	Q1004	H-17
C720	G-7	C1074	F-17	C1322	D-18	C1641	C-5	C1991	H-3	L363	A-6	Q1005	H-17
C801	C-9	C1076	F-17	C1323	D-18	C1642	D-5	C1992	B-13	L364	A-6	Q1006	H-18
C802	C-9	C1077	F-18	C1324	D-4	C1645	C-5			L365	A-15	Q1007	H-17
C805	A-9	C1078	F-18	C1326	E-4	C1646	C-5	CN101	H-4	L701	F-9	Q1008	F-16
C806	C-9	C1080	F-16	C1327	E-4	C1647	C-6	CN102	H-13	L702	E-13	Q1009	H-17
C807	C-12	C1081	F-18	C1328	E-4	C1648	B-17	CN103	H-14	L703	G-7	Q1010	H-17
C808	A-13	C1083	F-4	C1329		C1702		CN104	H-6	L704	G-7	Q1011	H-17
C809	A-12	C1084	F-18	C1330	E-18	C1752	B-13	CN105	H-19	L705	F-9	Q1012	H-18
C810	C-10	C1085	F-17	C1331	E-3	C1753	D-14	CN106	F-12	L801	C-9	Q1014	F-17
C811	C-10	C1086	F-4	C1332	E-3	C1754	D-7	CN107	B-1	L802	C-9	Q1015	F-17
C812	C-11	C1087	E-4	C1333	F-3	C1755	D-8	CN108	G-9	L803	A-14	Q1016	G-17
C813	D-9	C1089	E-17	C1334	E-3	C1756	D-8	CN109	D-1	L804	B-11	Q1018	F-5
C815	B-9	C1090	F-5	C1335	D-19	C1757	D-8	CN110	H-1	L805	A-12	Q1025	E-16
C817	C-12	C1091	F-17	C1336	D-18	C1758	D-8	CN111	A-1	L901	F-9	Q1026	G-18
C818	C-10	C1092	F-17	C1337	D-19	C1759	D-13	CN112	D-10	L902	D-9	Q1028	F-4
C820	B-8	C1093	F-17	C1338	D-19	C1760	B-14	CN207	G-1	L903	D-9	Q1029	E-18
C821	B-11	C1094	E-5	C1339	D-2	C1761	B-9	CN802	A-8	L904	C-9	Q1030	E-4
C823	B-11	C1095	E-5	C1340	D-2	C1762	B-9			L1002	H-3	Q1033	E-4
C824	B-8	C1096	F-16	C1341	A-18	C1763	B-13	D001	B-3	L1003	G-16	Q1034	F-18
C825	B-11	C1097	F-5	C1342	D-4	C1764	B-14	D101	C-1	L1004	F-16	Q1036	F-17
C826	B-10	C1140	F-18	C1343	C-18	C1765	B-13	D102	D-20	L1005	G-4	Q1037	F-17
C828	B-11	C1141	F-18	C1344	D-18	C1768	C-12	D103	D-20	L1006	F-4	Q1038	F-4
C829	B-11	C1144	F-4	C1345	A-18	C1769	C-12	D104	D-20	L1007	F-17	Q1040	F-5
C830	B-11	C1147	F-17	C1346	A-19	C1770	C-12	D105	E-20	L1008	F-17	Q1041	E-5
C832	A-10	C1149	G-18	C1347	A-18	C1771	D-13	D106	D-1	L1009	F-18	Q1043	E-5
C833	A-12	C1150	E-4	C1350	F-6	C1772	D-13	D107	D-1	L1010	F-18	Q1044	F-16
C834	A-10	C1152	G-16	C1351	C-19	C1773	C-13	D108	D-1	L1011	F-18	Q1045	F-5
C835	B-12	C1153	F-16	C1352	F-6	C1774	C-13	D109	E-1	L1012	E-4	Q1100	F-4
C836	A-12	C1154	F-16	C1353	G-6	C1775	C-13	D110	D-20	L1013	E-18	Q1135	E-5
C837	A-12	C1155	F-15	C1354	C-18	C1776	C-13	D111	E-20	L1014	E-4	Q1136	F-17
C838	A-12	C1156	F-16	C1355	A-18	C1777	C-14	D112	E-20	L1015	E-17	Q1138	F-17
C841	C-9	C1158	F-14	C1356	A-18	C1779	B-13	D113	E-20	L1017	F-5	Q1139	F-17

Q1140	F-4	R372	A-16	R869	D-11	R1122	F-17	R1320	A-18	R1758	D-14	R1960	H-20
Q1141	G-18	R373	A-15	R871	E-11	R1123	F-17	R1321	D-18	R1759	D-14	R1961	F-20
Q1150	F-4	R375	A-15	R872	A-8	R1124	E-17	R1322	D-18	R1760	D-14	R1962	G-20
Q1151	H-15	R376	A-15	R874	C-12	R1125	F-5	R1323	D-18	R1761	D-13	R1963	F-1
Q1201	D-17	R377	A-15	R875	B-12	R1128	F-5	R1324	D-18	R1762	B-6	R1964	H-19
Q1202	E-16	R378	A-6	R876	A-10	R1129	E-16	R1325	A-19	R1763	B-7	R1965	G-19
Q1203	D-16	R379	A-6	R877	A-10	R1131	F-5	R1326	C-1	R1772	D-14	R1966	G-19
Q1220	D-17	R380	A-6	R878	A-10	R1134	F-5	R1328	C-3	R1773	D-14	R1967	G-19
Q1221	F-7	R382	A-5	R880	E-9	R1135	E-5	R1329	A-19	R1774	B-7	R1968	G-19
Q1305	C-18	R386	A-5	R882	C-11	R1136	E-16	R1330	C-18	R1775	D-7	R1969	F-19
Q1306	A-18	R387	A-5	R888	C-11	R1137	F-5	R1331	D-18	R1776	B-7	R1970	F-19
Q1307	A-18	R390	A-16	R890	B-9	R1138	F-5	R1332	D-18	R1778	D-14	R1971	F-20
Q1309	C-18	R392	A-15	R891	C-12	R1141	E-17	R1333	A-19	R1779	B-7	R1972	G-19
Q1350	D-19	R393	A-15	R900	D-12	R1142	E-4	R1334	A-18	R1780	B-7	R1973	G-3
Q1351	F-6	R394		R902	D-12	R1143		R1335	A-18	R1781	D-7	R1974	
Q1352	C-2	R397	A-16	R904	D-12	R1144	F-4	R1336	A-18	R1782	B-7	R1975	H-1
Q1353	F-6	R399	A-15	R1001	H-16	R1146	F-4	R1337	A-18	R1783	D-7	R1976	H-2
Q1354	D-2	R701	F-13	R1002	G-16	R1147	E-4	R1338	C-2	R1784	D-8	R1977	H-2
Q1355	C-2	R702	F-13	R1003	G-16	R1148		R1339	B-20	R1785	D-8	R1978	H-20
Q1356	E-6	R703	F-13	R1004	G-16	R1149	G-18	R1349	A-18	R1787	C-7	R1979	F-20
Q1357	F-6	R704	E-13	R1005	G-16	R1150	G-18	R1350	F-6	R1790	C-9	R1980	F-19
Q1358	C-18	R705	B-7	R1006	G-16	R1151	F-16	R1351	F-6	R1792	B-9	R1982	H-2
Q1359	C-19	R706	B-7	R1007	G-16	R1152	F-16	R1352	C-2	R1793	C-8	R1983	H-2
Q1360	A-18	R707	E-9	R1008	G-17	R1153	F-16	R1353	F-6	R1794	C-8	R1984	H-2
Q1361	A-19	R708	E-9	R1009	F-16	R1154	F-16	R1354	F-6	R1795	C-8	R1985	H-2
Q1362	A-18	R709	F-8	R1010	G-16	R1155	F-16	R1355	C-2	R1796	C-8	R1986	H-2
Q1363	B-20	R710	F-8	R1011	H-17	R1156	F-16	R1356	F-6	R1798		R1991	G-19
Q1486	E-1	R711	F-8	R1012	H-17	R1157	G-15	R1357	C-2	R1803	B-13	R1992	H-5
Q1487	E-1	R712	F-8	R1013	H-18	R1159	G-15	R1358	F-6	R1804	C-13	R1993	H-20
Q1488	F-2	R713	F-8	R1014	F-16	R1160	H-15	R1360	E-6	R1805	C-12	R1994	H-20
Q1489	E-2	R714	F-8	R1015	F-16	R1162	H-15	R1361	F-6	R1808	B-13	R1995	H-20
Q1490	E-2	R715	F-8	R1016	H-17	R1163	H-16	R1362	D-2	R1809	C-13	R1996	H-20
Q1491	E-2	R716	F-9	R1017	H-17	R1164	F-14	R1363	D-2	R1810	C-13	R2001	F-2
Q1492	E-2	R717	F-9	R1018	H-17	R1165	E-15	R1364	F-6	R1811	C-13	R2011	F-2
Q1493	D-2	R718	F-13	R1019	H-18	R1180	H-15	R1365	F-6	R1812	C-14	R2012	H-19
Q1494	D-2	R719	G-9	R1020	G-18	R1181	H-15	R1366	D-2	R1813	C-14	R2015	F-1
Q1605	D-5	R720	G-9	R1021	G-18	R1213	D-17	R1367	D-2	R1814	C-14	R2017	G-1
Q1751	D-13	R721	G-9	R1022	G-18	R1215	D-17	R1368	D-2	R1815	B-13	R2020	G-1
Q1752	D-13	R722	G-8	R1023	G-4	R1216	D-16	R1369	D-2	R1821	B-7	R2021	G-1
Q1753	D-13	R723	G-8	R1024	G-4	R1217	D-16	R1371		R1822	B-14	R2022	G-1
Q1851	H-13	R724	G-8	R1025	G-17	R1218	D-16	R1373	A-19	R1827	B-7	R2023	G-1
Q1852	G-13	R725	G-9	R1026	G-17	R1219	D-16	R1374	G-14	R1836	C-9	R2024	G-1
Q1854	H-13	R726	G-8	R1027	G-17	R1220	D-15	R1375	B-18	R1840	E-9	R2026	G-1
Q1855	E-9	R727	G-8	R1028	G-17	R1221	D-16	R1376	B-18	R1841	E-9	R2029	G-1
Q1856	F-9	R801	A-7	R1030	G-17	R1222	E-16	R1377	F-14	R1842	F-9	R2031	G-1
Q1857	E-9	R802	A-8	R1031	G-17	R1223	E-16	R1384	C-19	R1843	F-9	R2036	H-19
Q1858	F-9	R803	D-9	R1033	G-17	R1225	D-16	R1385	C-18	R1844	E-9	R2037	H-19
Q1862	E-9	R804	C-9	R1034	G-5	R1227	D-16	R1386	C-19	R1848	E-10	R2038	H-19
Q1863	F-9	R805	C-9	R1035	G-4	R1228	E-16	R1387	C-18	R1851	G-6	R2044	G-20
Q1951	G-1	R806	D-9	R1037	G-17	R1230	D-16	R1388	A-18	R1852	G-6	R2046	G-19
Q1952	F-20	R807	C-9	R1038	G-17	R1231	D-16	R1389	A-18	R1853	G-6	R2047	G-19
Q1953	F-20	R808	C-9	R1039	G-17	R1232	E-16	R1403	F-2	R1855	H-16	R2048	G-19
Q1954	G-20	R809	C-12	R1040	G-5	R1233	E-16	R1404	E-19	R1856	H-15	R2049	G-19
Q1955	G-1	R811	B-7	R1041	G-5	R1234	E-16	R1405	E-1	R1857	H-15	R2050	H-20
Q1956	G-20	R812	B-7	R1042	G-5	R1236	F-14	R1406	E-18	R1858	E-9	R2051	H-19
Q1957	G-20	R815	A-11	R1045	F-5	R1237	G-14	R1408	E-19	R1859	G-6	R2052	H-2
Q1959	H-20	R817	C-9	R1046	G-5	R1238	F-14	R1409	E-18	R1860	G-6	R2151	G-20
Q1960	F-1	R818	C-12	R1048	G-18	R1239	F-13	R1410	D-20	R1861	B-6	R2152	G-20
Q1961	G-19	R819	C-11	R1051	F-5	R1240	G-13	R1411	E-1	R1862	C-6	R2154	F-3
Q1963	H-20	R820	C-10	R1052	G-3	R1241	G-13	R1412	E-20	R1863	C-6	R2162	F-19
		R821	C-11	R1053	G-3	R1242	G-13	R1413	E-20	R1864	E-9	R2163	H-2
R005	B-3	R822	C-12	R1054	F-5	R1246	D-6	R1414	D-20	R1865	H-14	R2164	H-2
R006	B-3	R823	B-14	R1057	F-5	R1247	C-6	R1415	D-20	R1866	F-9	R2165	H-19
R007	B-3	R824	C-11	R1061	F-17	R1248	D-5	R1416	D-20	R1867	H-16	R2166	G-19
R010	B-3	R826	C-12	R1062	G-17	R1249	E-5	R1418	E-2	R1868	H-14		
R011	B-3	R827	C-12	R1076	F-4	R1250	D-5	R1419	D-20	R1869	H-13	S1951	H-3
R012	B-3	R829		R1081	F-17	R1251	D-5	R1421	D-20	R1870	F-9	S1952	B-12
R015	B-3	R830	D-11	R1082	F-18	R1252	D-5	R1422	D-20	R1872	H-7		
R016	B-3	R831	C-10	R1083	G-18	R1253	E-5	R1423	D-20	R1873	H-14	TH1751	F-18
R017	B-3	R832	C-10	R1084	F-16	R1254	E-5	R1424	D-20	R1874	H-8		
R018	B-3	R833	C-10	R1085	E-16	R1255	E-5	R1425	D-20	R1875	H-8	X801	A-10
R027	B-5	R834		R1086	F-17	R1256	D-5	R1426	D-20	R1876	H-8	X1305	D-4
R031	A-5	R835	B-10	R1087	F-18	R1280	D-16	R1430	E-1	R1877	G-13	X1601	C-16
R032	A-5	R836	C-12	R1088	F-18	R1281	D-16	R1431	E-1	R1878	G-13	X1751	D-8
R034	A-5	R837	B-9	R1089	F-17	R1283	E-7	R1461	D-19	R1880	G-14	X1752	B-8
R046	B-3	R838	C-12	R1090	F-18	R1284	E-7	R1462	F-19	R1881	H-8	X1951	F-1
R047	B-3	R839	C-12	R1097	F-18	R1285	E-7	R1476	E-2	R1882	G-14	X1952	F-2
R049	B-5	R840	B-10	R1098	E-18	R1289	D-16	R1488	E-2	R1883	H-8		
R050	B-5	R841	B-11	R1100	F-18	R1290	E-17	R1489	E-2	R1884	G-13		
R051	A-3	R842	B-9	R1101	F-4	R1292	E-17	R1490	E-2	R1887	H-13		
R052	A-3	R843	B-12	R1103	F-4	R1293	G-13	R1491	E-2	R1888	G-13		
R055	A-3	R844	B-11	R1104	E-4	R1295	E-16	R1492	E-2	R1889	H-13		
R066	B-3	R845	B-11	R1105	F-4	R1297	D-5	R1616	B-16	R1890	H-13		
R067	A-3	R846	B-12	R1106	E-18	R1298	D-16	R1618	C-16	R1891	H-13		
R068	A-3	R847	C-12	R1107	E-17	R1307	C-18	R1633	D-5	R1892	H-13		
R101	A-1	R848	B-10	R1110	F-17	R1308	D-18	R1638	D-5	R1893	H-7		
R102	H-1	R849	B-10	R1111	E-17	R1309	C-18	R1639	D-4	R1894	H-13		
R361	A-16	R850	B-11	R1112	E-4	R1310	D-4	R1640	C-5	R1896	G-13		
R362	A-15	R851	B-12	R1113	E-17	R1311	A-18	R1642	B-16	R1897	G-16		
R363	A-16	R852	B-12	R1114	F-17	R1312	D-18	R1643	B-16	R1898	H-13		
R364	A-16	R853	B-12	R1115	E-5	R1313	D-18	R1644	C-17	R1953	F-20		
R365	A-16	R854	B-10	R1116	E-5	R1314	E-3	R1751	D-7	R1954	G-1		
R366	A-16	R855	A-10	R1117	E-5	R1315	E-19	R1752	C-7	R1955	G-20		
R367	A-5	R856	A-10	R1118	F-17	R1316	E-3	R1754	D-13	R1956	H-20		
R369	A-17	R857	B-10	R1119	F-4	R1317	A-18	R1755	C-7	R1957	H-20		
R370	B-16	R858	A-10	R1120	F-17	R1318	D-20	R1756	D-13	R1958	H-20		
R371	A-16	R863	D-11	R1121	E-17	R1319	C-3	R1757	D-13	R1959	G-20		

VC-197 (REC/PB HEAD AMP) SCHEMATIC DIAGRAM

• See page 4-5 for VC-197 BOARD printed wiring board.

— Ref. No. VC-197 board; 10,000 series —



• SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡»	➡»»	➡
PB	⇨	⇨»	⇨»»	⇨

• SIGNAL PATH

	REC	REC/PB	PB
Drum speed servo			
Drum phase servo			
Drum servo (speed and phase)			
Capstan speed servo			
Capstan phase servo			
Capstan servo (speed and phase)			
Ref signal	➤		⊃

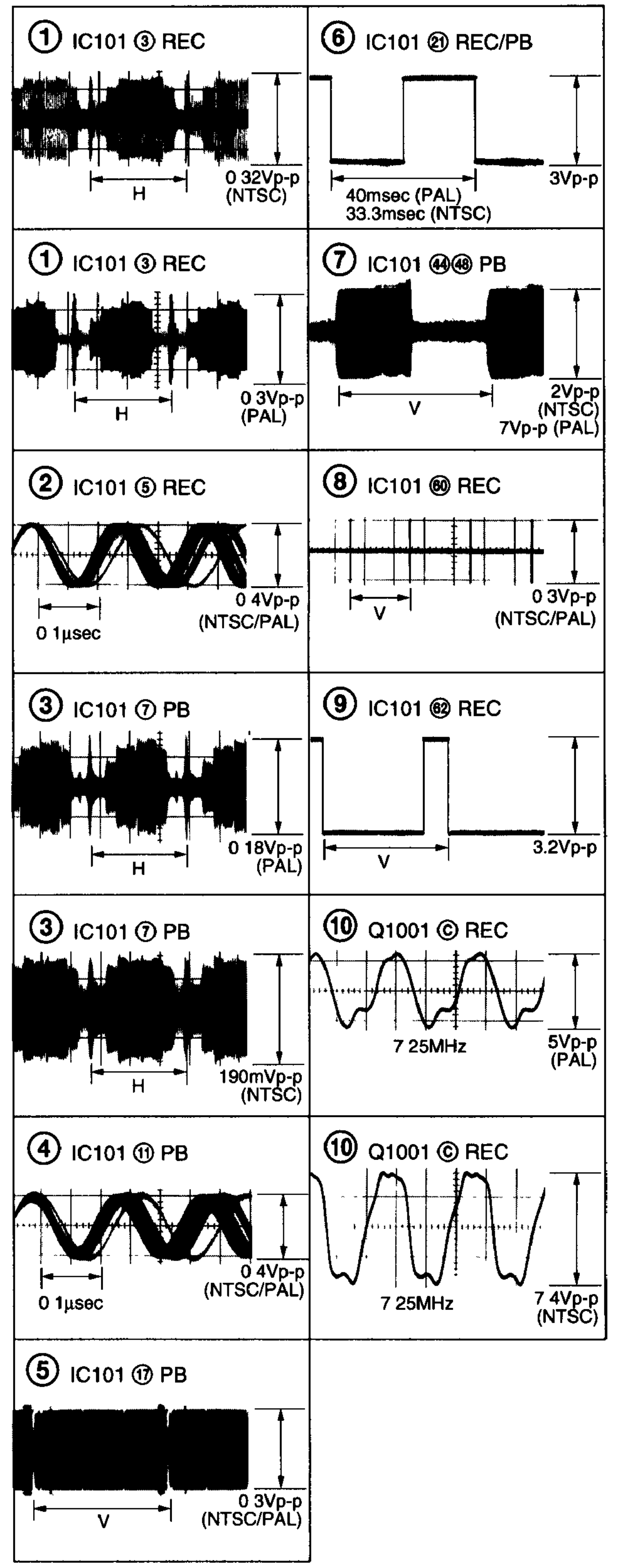
⟨Mount table for each function.⟩

	NT	PAL
C1001	XX	10p
C1002	XX	10p
R1030	3900	5600
R1033	3900	5600
R1116	560	330
R1128	XX	330
Q1039	XX	UN9213J-(T)

⟨Mount table for each function.⟩

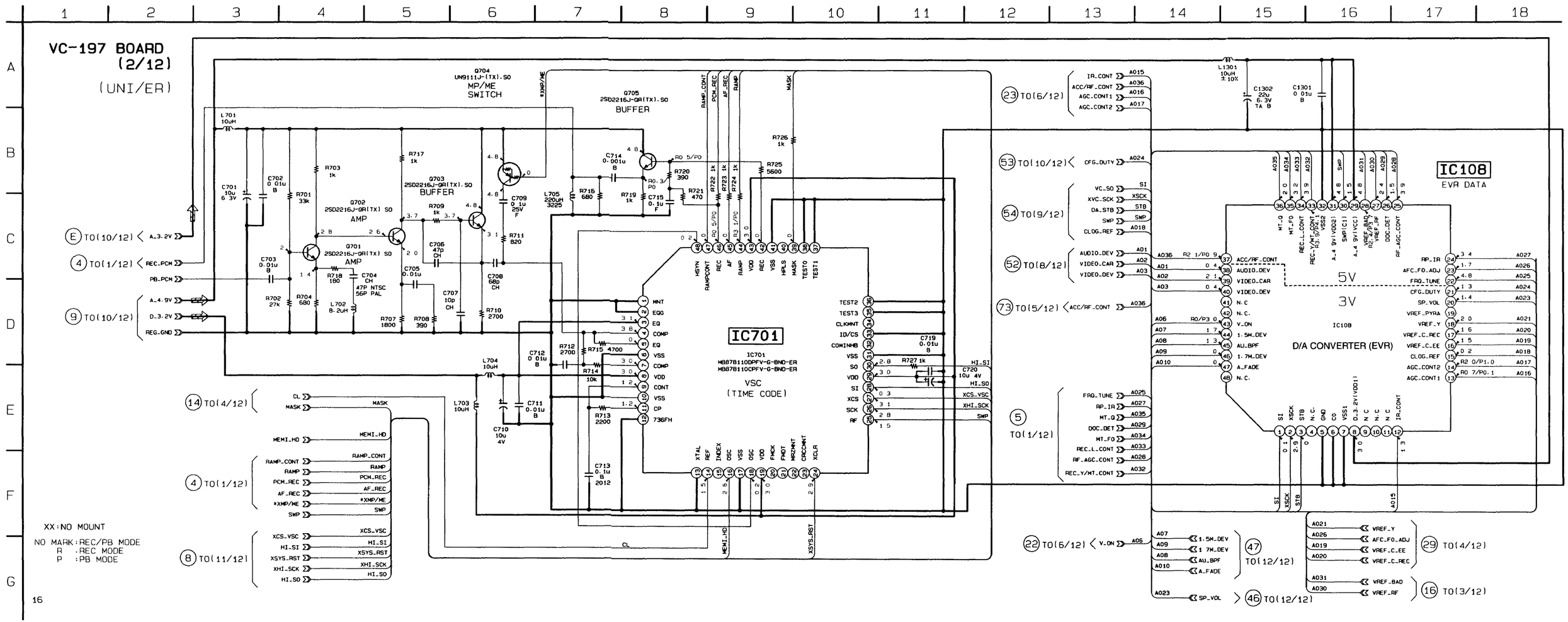
	NT	PAL
C1019	0.01u 25V B	XX
C1021	0.01u 25V B	XX
C1022	0.01u 25V B	XX
C1023	0.01u 25V B	XX
C1024	0.01u 25V B	XX
C1029	0.01u 25V B	XX
C1044	0.01u 25V B	XX
C1046	0.01u 25V B	XX
C1087	33p 50V CH	39p 50V CH
C1090	39p 50V CH	68p 50V CH
C1095	39p 50V CH	33p 50V CH
Q1004	2SA1965-TL 872903169	XX
Q1005	2SA1965-TL 872903169	XX
Q1006	2SA1965-TL 872903169	XX
Q1007	2SA1965-TL 872903169	XX
Q1009	UN9213J-(T 872903774	XX
Q1010	UN9213J-(T 872903774	XX
Q1011	UN9213J-(T 872903774	XX
Q1012	UN9213J-(T 872903774	XX
Q1018	XX	UN9213J-(T 872903774
Q1100	2SA1965-TL 872903169	XX
R1008	3900	XX
R1011	3900	XX
R1012	3900	XX
R1013	3900	XX
R1016	4700	XX
R1017	4700	XX
R1018	4700	XX
R1019	4700	XX
R1021	XX	0
R1026	XX	0
R1048	XX	8200
R1051	22k	15k
R1052	0	XX
R1053	XX	0
R1057	4700	5600
R1087	2200	1500
R1103	330	470
R1104	330	470
R1115	560	330
R1117	330	390
R1134	1500	2200
R1135	270	0
R1142	1k	820
R1143	10k	XX
R1147	820	0

VC-197 BOARD



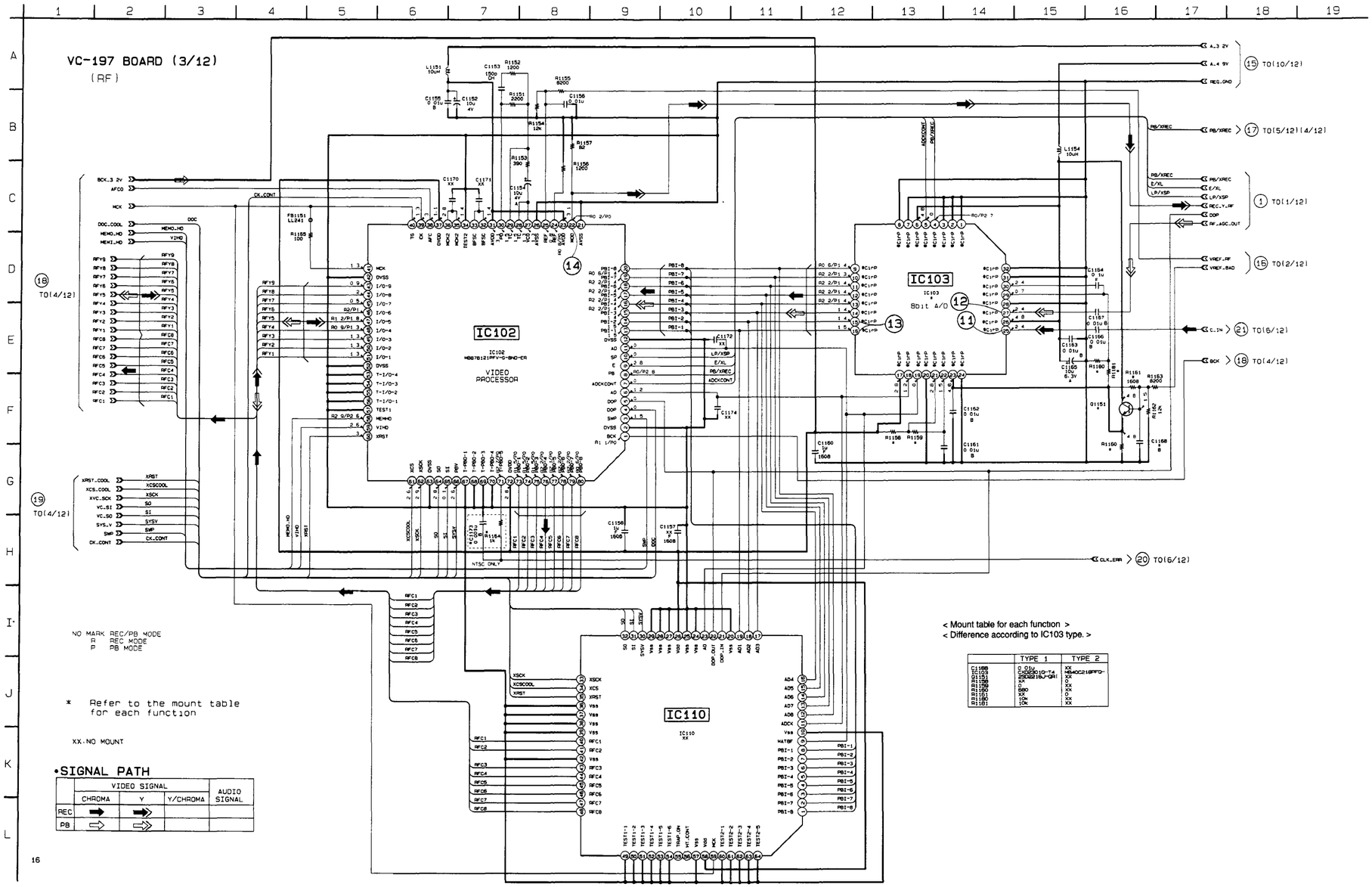
VC-197 (EVR) SCHEMATIC DIAGRAM
— Ref No. VC-197 board; 10,000 series —

• See page 4-5 for VC-197 BOARD printed wiring board.

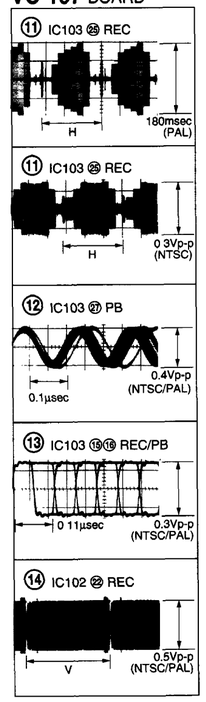


VC-197 (VIDEO PROCESS) SCHEMATIC DIAGRAM
— Ref. No. VC-197 board; 10,000 series —

• See page 4-5 for VC-197 BOARD printed wiring board.

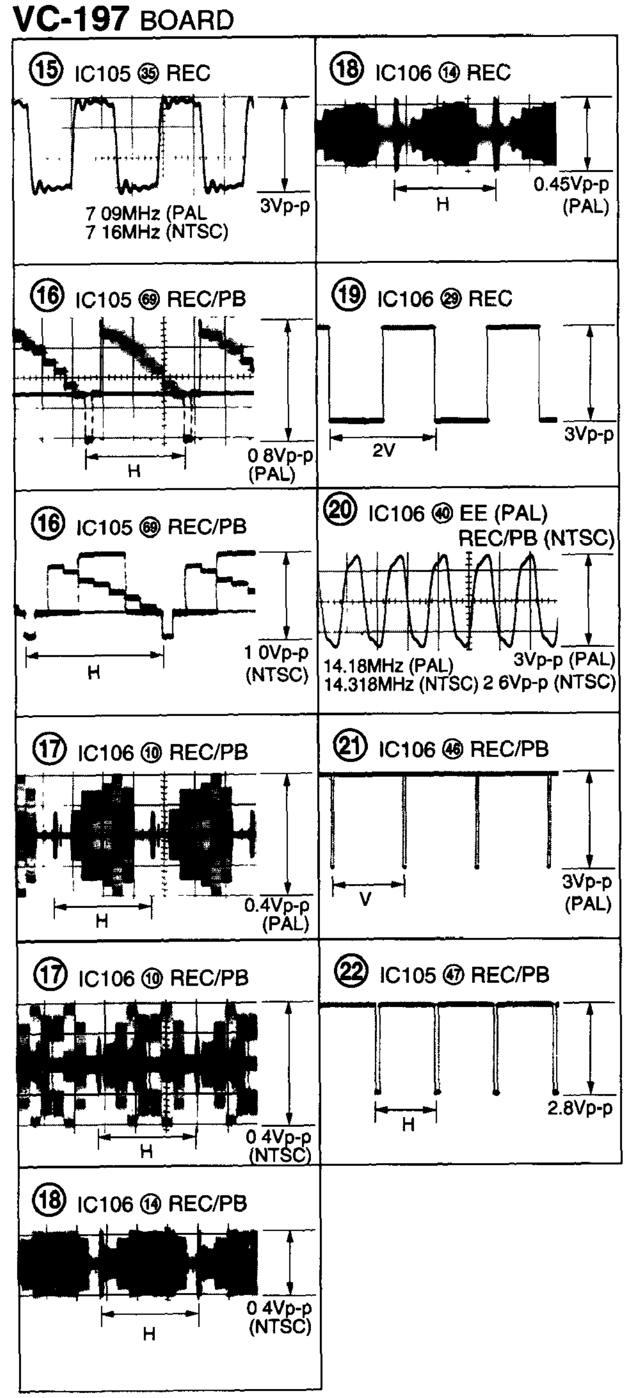


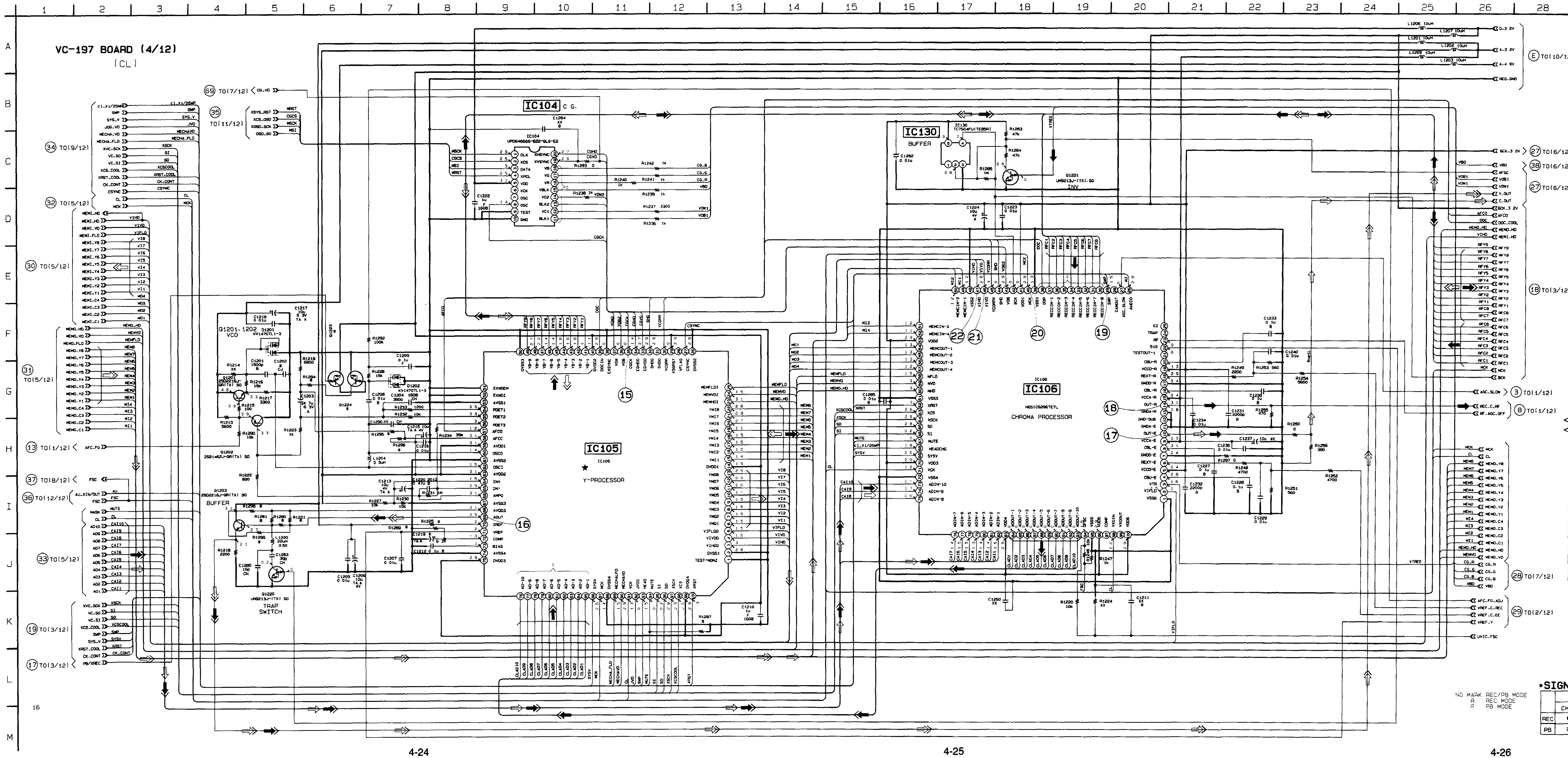
VC-197 BOARD



VC-197 (Y/C PROCESS) SCHEMATIC DIAGRAM
— Ref. No. VC-197 board; 10,000 series —

• See page 4-5 for VC-197 BOARD printed wiring board.





< Mount table for each function. >
< Difference according to IC105 type >

	TYPE1	TYPE2	TYPE3
C1202	XX	3p 50V CJ	XX
C1219	2.2u 6.3V	XX	2.2u 6.3V
IC105	CF45819BPZ 875935764	M65510FP-6 875945706	CF45819BPZ 875935764
Q1223	UN9113J-(T 872903761	XX	XX
Q1224	UN8213J-(T 872903774	XX	XX
R1221	820	560	820
R1225	4700	680	4700
R1280	1k	1k	1200
R1281	1200	1200	1k
R1289	XX	0	XX
R1294	470	XX	XX
R1295	XX	470	470
R1296	0	XX	XX
R1298	0	0	XX
R1299	XX	XX	0

* Refer to the mount table for each function

XX NO MOUNT

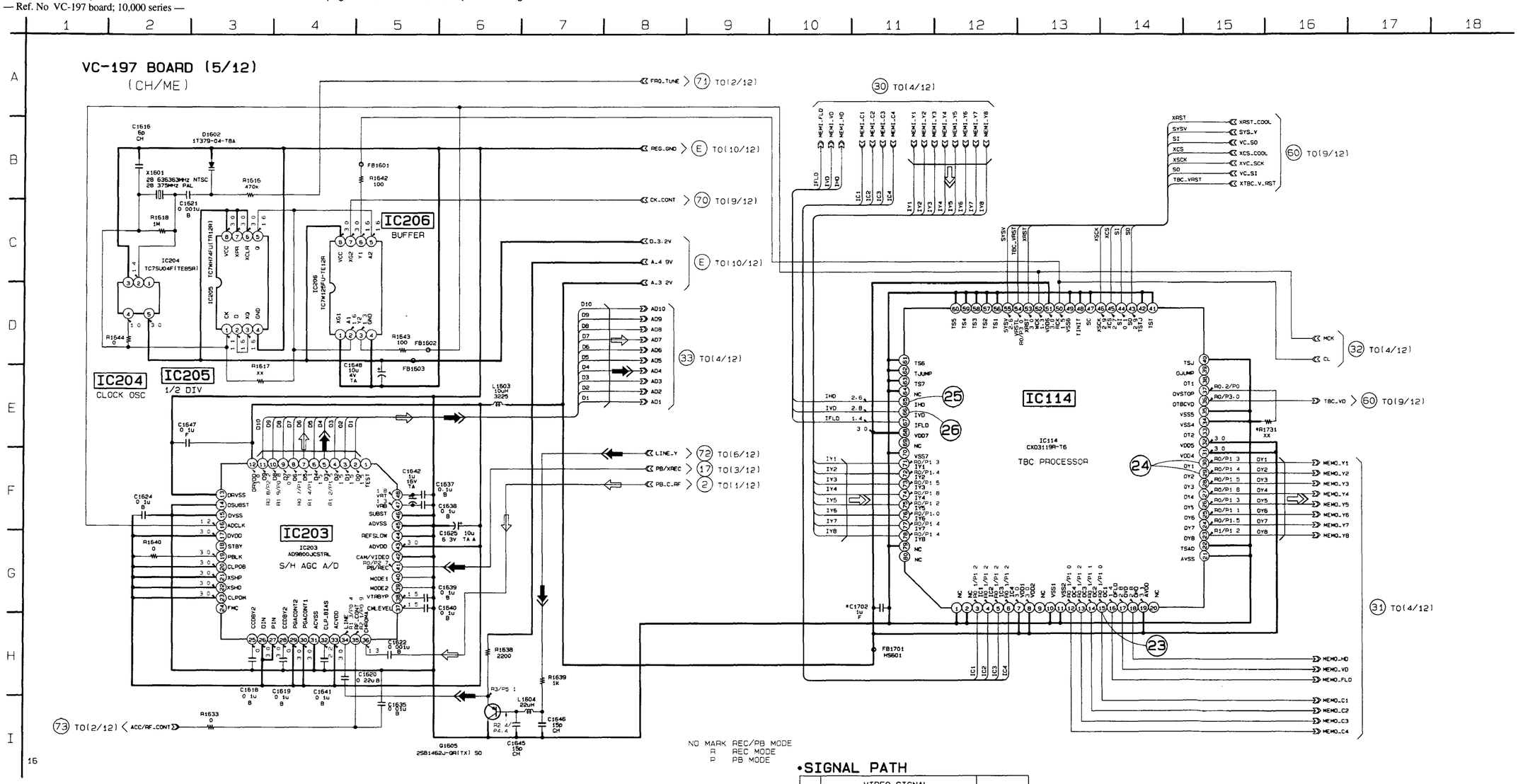
NO MARK REC/PB MODE
R REC MODE
P PB MODE

•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡		
PB	⇨	⇨		

VC-197 (TBC/CNR) SCHEMATIC DIAGRAM
— Ref. No VC-197 board; 10,000 series —

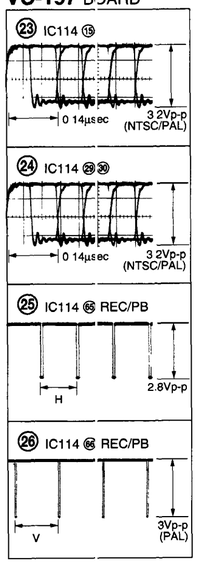
• See page 4-5 for VC-197 BOARD printed wiring board.



•SIGNAL PATH

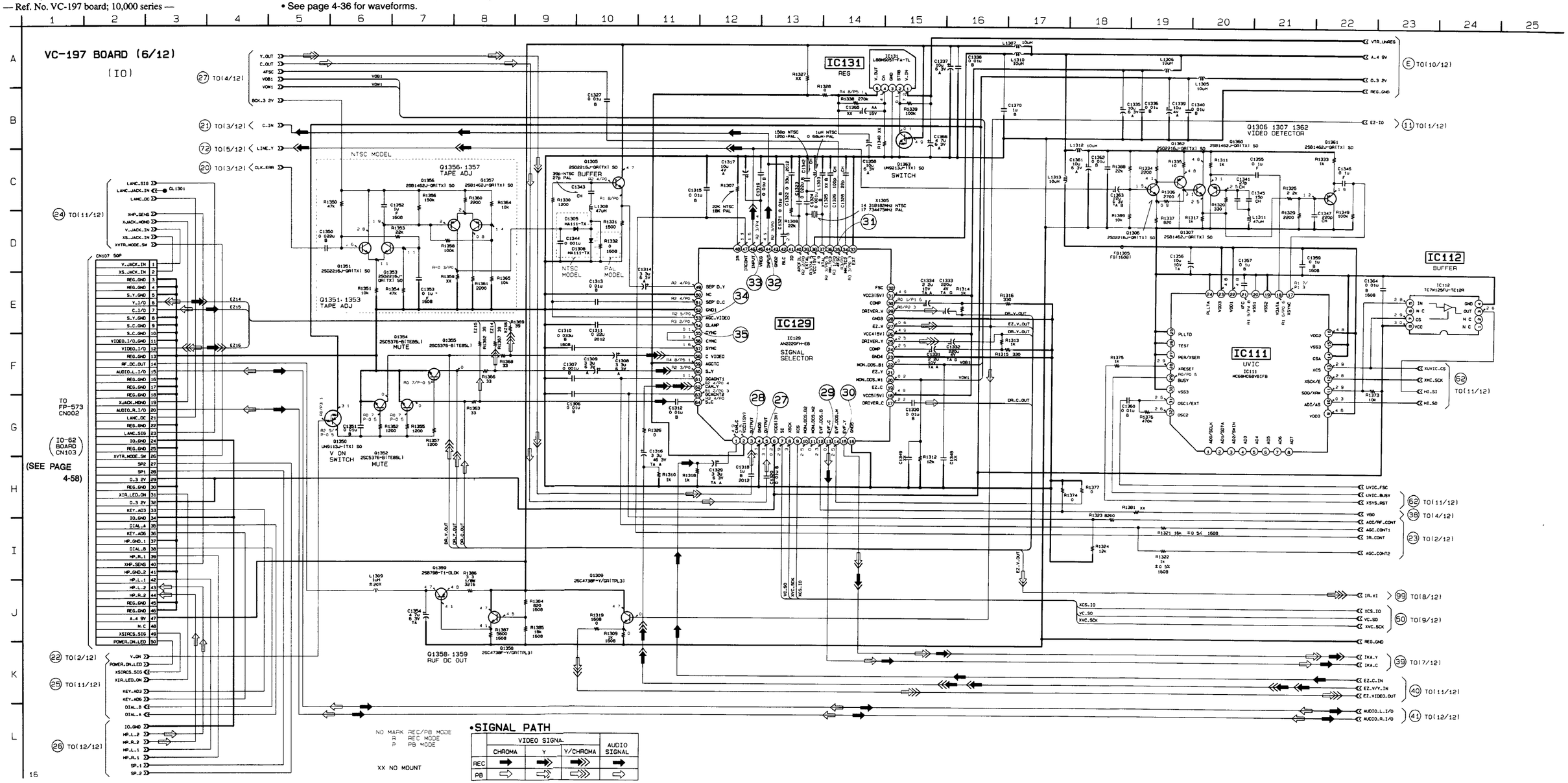
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡		
PB	⇨	⇨		

VC-197 BOARD



VC-197 (VIDEO IN/OUT) SCHEMATIC DIAGRAM
— Ref. No. VC-197 board; 10,000 series —

- See page 4-5 for VC-197 BOARD printed wiring board.
- See page 4-36 for waveforms.



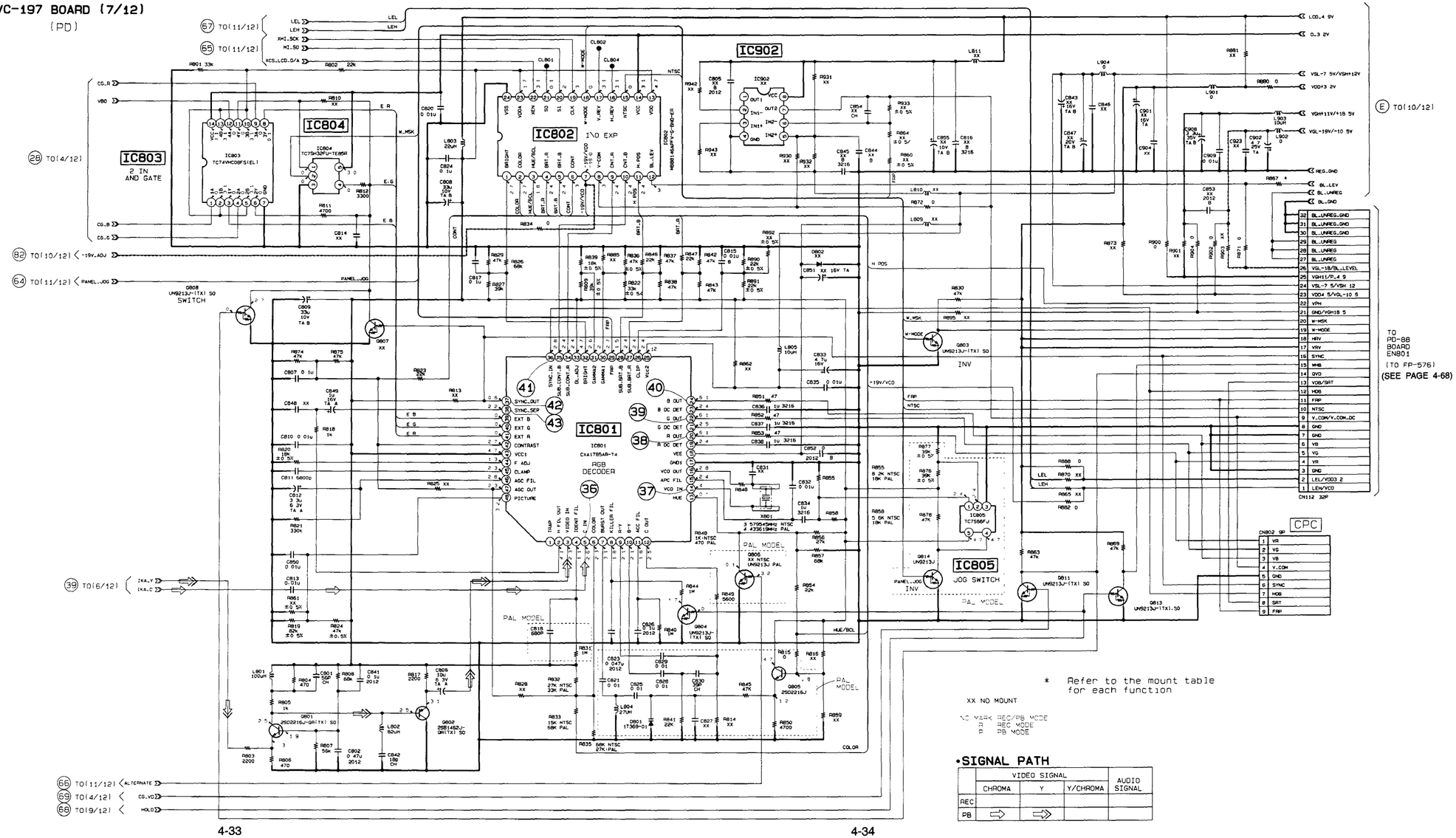
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡	➡	➡
PB	⇨	⇨	⇨	⇨

VC-197 (RGB DECODER) SCHEMATIC DIAGRAM
— Ref. No. VC-197 board; 10,000 series —

• See page 4-5 for VC-197 BOARD printed wiring board.

VC-197 BOARD (7/12)

(PD)



* Refer to the mount table for each function

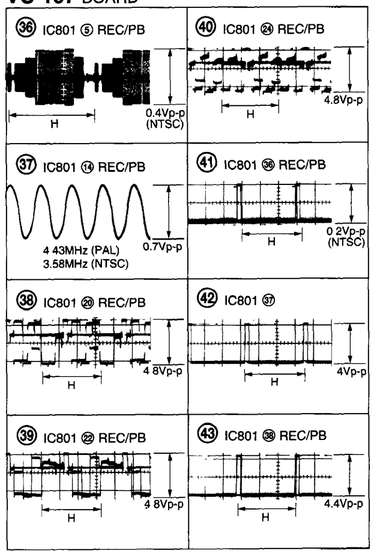
XX NO MOUNT

NC MARK REC/PB MODE
R REC MODE
P PB MODE

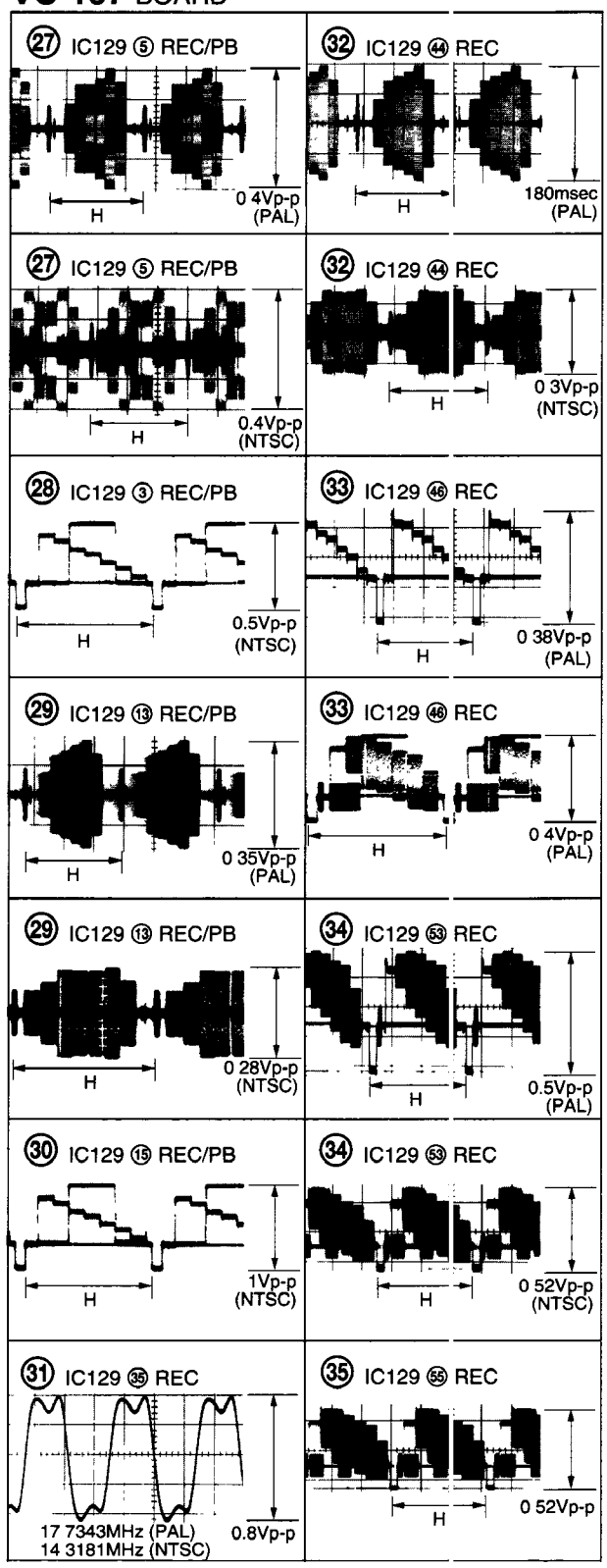
•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				
PB	⇨	⇨		

VC-197 BOARD

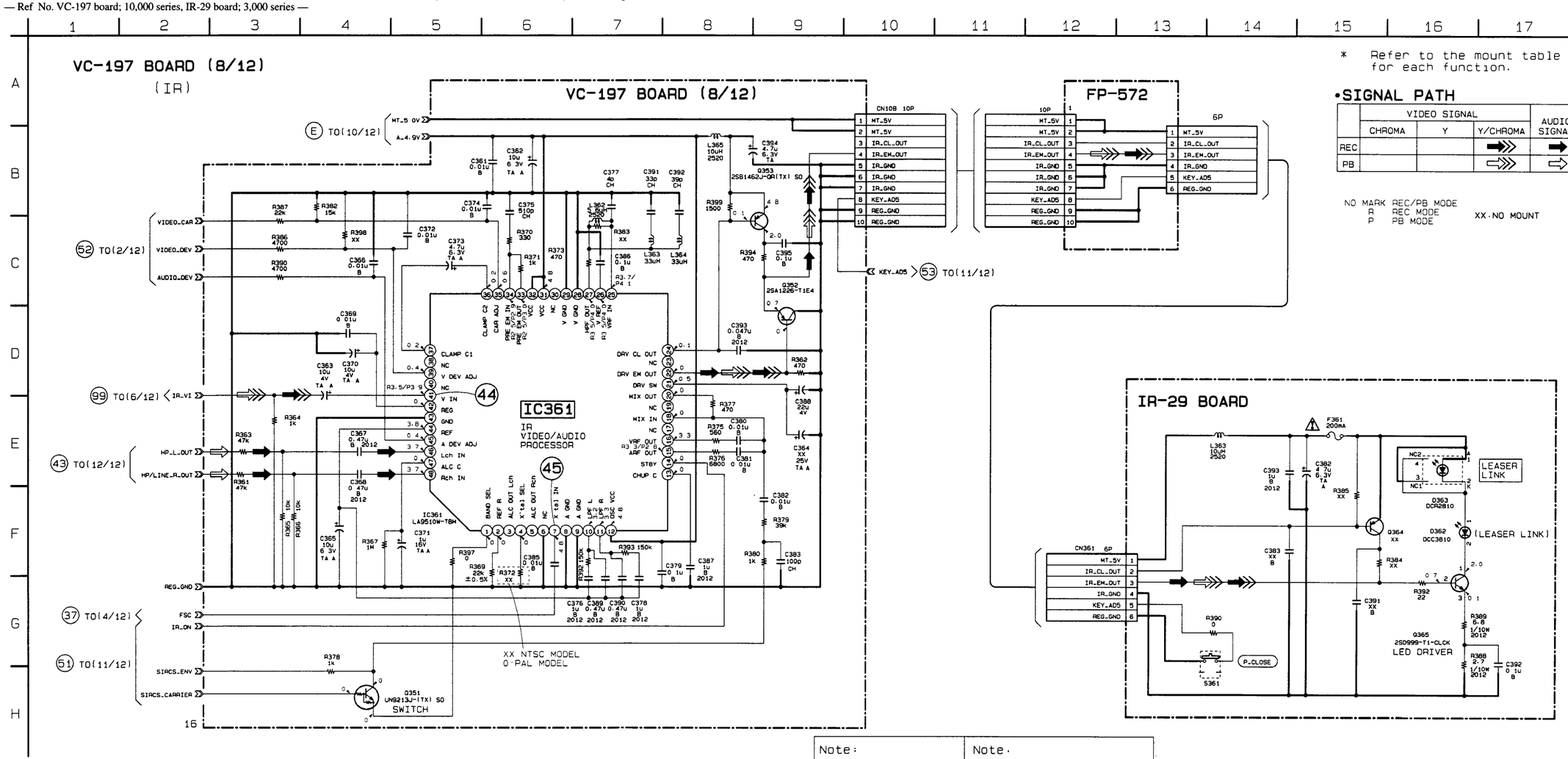


VC-197 BOARD


㉗ IC129 ⑤ REC/PB
H
0 4Vp-p (PAL)
㉜ IC129 ㊹ REC
H
180msec (PAL)
㉗ IC129 ⑤ REC/PB
H
0.4Vp-p (NTSC)
㉜ IC129 ㊹ REC
H
0 3Vp-p (NTSC)
㉘ IC129 ③ REC/PB
H
0.5Vp-p (NTSC)
㉝ IC129 ㊻ REC
H
0 38Vp-p (PAL)
㉙ IC129 ⑬ REC/PB
H
0 35Vp-p (PAL)
㉝ IC129 ㊻ REC
H
0 4Vp-p (PAL)
㉙ IC129 ⑬ REC/PB
H
0 28Vp-p (NTSC)
㉞ IC129 ㊸ REC
H
0.5Vp-p (PAL)
㉚ IC129 ⑮ REC/PB
H
1Vp-p (NTSC)
㉞ IC129 ㊸ REC
H
0 52Vp-p (NTSC)
㉛ IC129 ㉟ REC
17 7343MHz (PAL)
14 3181MHz (NTSC)
0.8Vp-p
㉟ IC129 ㊺ REC
H
0 52Vp-p

VC-197 (IR DRIVER), IR-29 (TRANSMITTER) SCHEMATIC DIAGRAM
— Ref No. VC-197 board; 10,000 series, IR-29 board; 3,000 series —

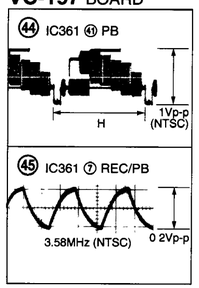
• See page 4-5 for VC-197 BOARD printed wiring board.



•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡	➡
PB			⇨	⇨

VC-197 BOARD

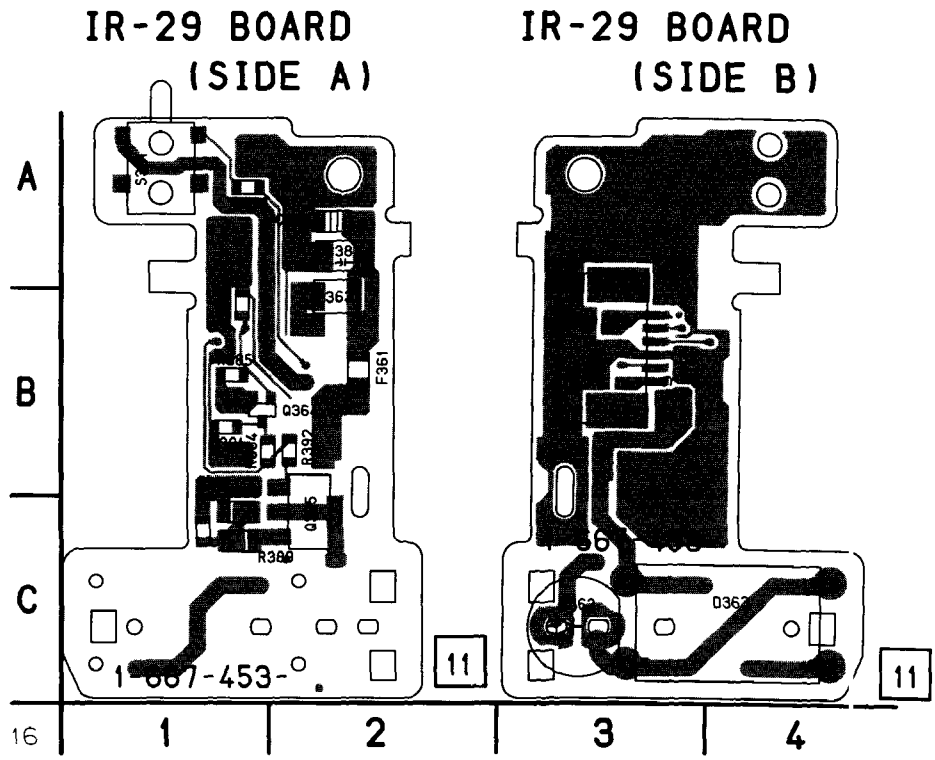


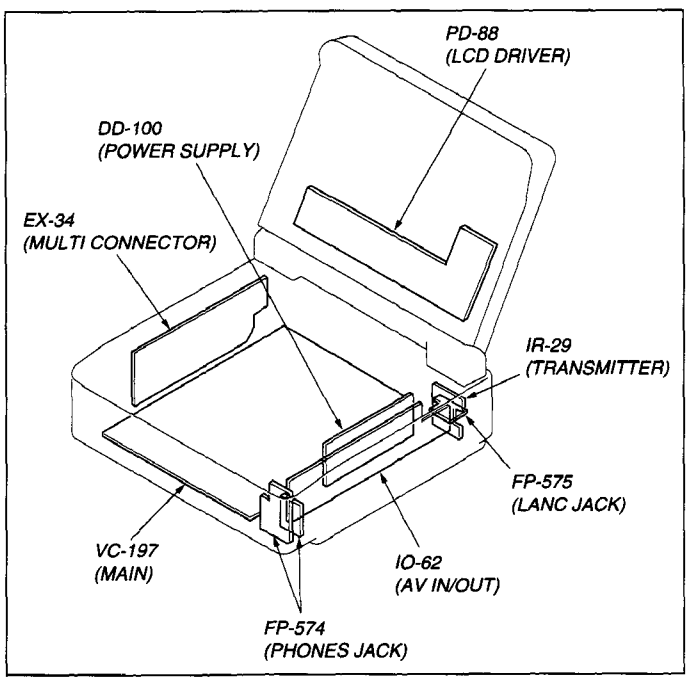
Note:	Note.
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

IR-29 (TRANSMITTER) PRINTED WIRING BOARD

— Ref. No. IR-29 board; 3,000 series —

There are few cases that the part printed on this diagram isn't mounted in this model.



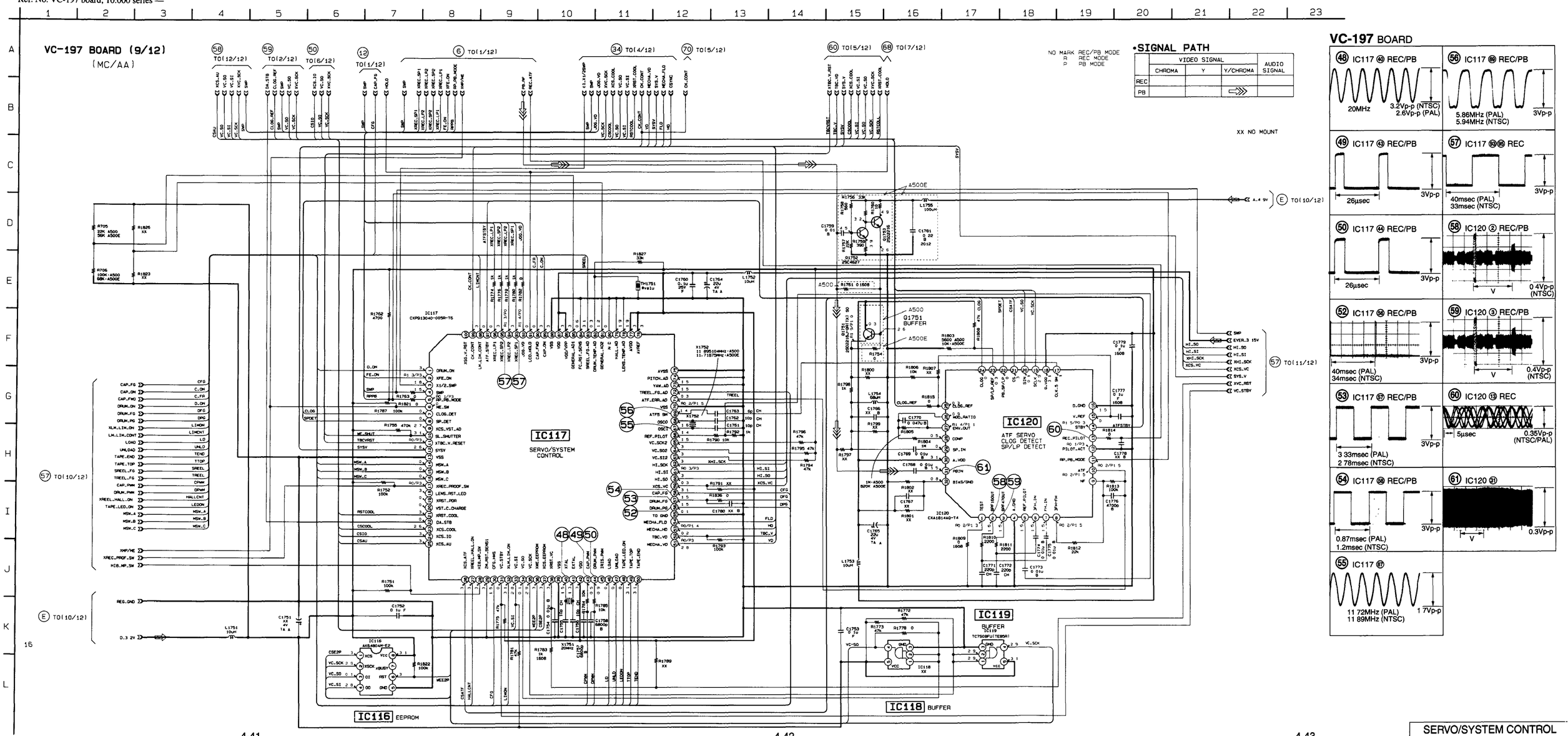


IR-29 BOARD

C382	A-2
C392	C-1
C393	A-3
CN361	B-3
D362	C-2
D363	C-1
F361	B-2
L363	B-2
Q365	C-2
R388	C-1
R389	C-1
R390	A-1
R392	B-2
S361	A-1

VC-197 (SERVO/SYSTEM CONTROL) SCHEMATIC DIAGRAM • See page 4-5 for VC-197 BOARD printed wiring board.

— Ref. No. VC-197 board; 10.000 series —



VC-197 BOARD

48 IC117 40 REC/PB
20MHz
3.2Vp-p (NTSC)
2.6Vp-p (PAL)

56 IC117 55 REC/PB
5.86MHz (PAL)
5.94MHz (NTSC)
3Vp-p

49 IC117 43 REC/PB
26µsec
3Vp-p

57 IC117 54 55 REC
40msec (PAL)
33msec (NTSC)
3Vp-p

50 IC117 44 REC/PB
26µsec
3Vp-p

58 IC120 2 REC/PB
V
0.4Vp-p (NTSC)

52 IC117 56 REC/PB
40msec (PAL)
34msec (NTSC)
3Vp-p

59 IC120 3 REC/PB
V
0.4Vp-p (NTSC)

53 IC117 57 REC/PB
3 33msec (PAL)
2 78msec (NTSC)
3Vp-p

60 IC120 13 REC
5µsec
0.35Vp-p (NTSC/PAL)

54 IC117 58 REC/PB
0.87msec (PAL)
1.2msec (NTSC)
3Vp-p

61 IC120 51
V
0.3Vp-p

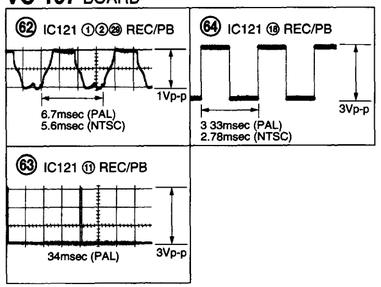
55 IC117 67
11 72MHz (PAL)
11 89MHz (NTSC)
1 7Vp-p

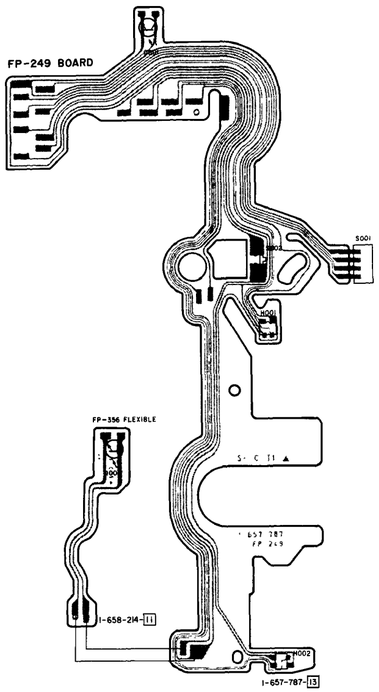
SERVO/SYSTEM CONTROL
VC-197 (9/12)

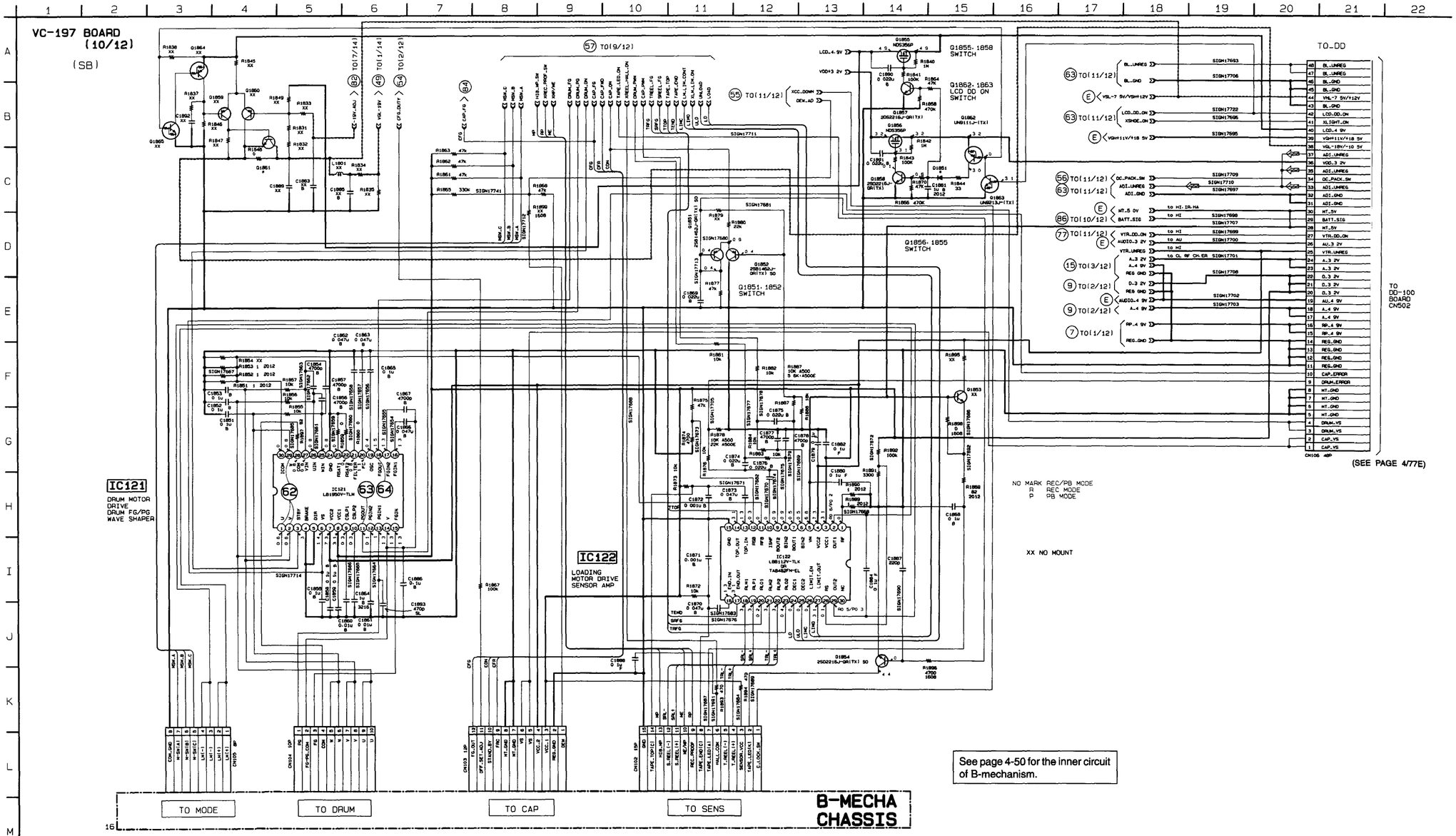
VC-197 (SERVO) SCHEMATIC DIAGRAM
— Ref. No. VC-197 board; 10,000 series —

• See page 4-5 for VC-197 BOARD printed wiring board.

VC-197 BOARD







VC-197 (MODE CONTROL) SCHEMATIC DIAGRAM
— Ref. No. VC-197 board; 10,000 series —

• See page 4-5 for VC-197 printed wiring board.

VC-197 BOARD (11/12)
(HI/FKEX)

VC-197 BOARD

65 IC1952 41 REC/PB
20MHz 1.7Vp-p

66 IC1952 42 REC/PB
32.768kHz 2.3Vp-p

NO MARK REC/PB MODE
R REC MODE
P PB MODE

XX NO MOUNT

IC1995 LANC I/O

IC1951 INITIAL RESET BACKUP VCC

IC1952 MODE CONTROL

IC113 REG

Q1954 VTR PB SELECT

Q1951, 1953, 1955 SWITCH

Q1963, 1959 BATTERY CHARGE DETECTOR

LED DRIVER

PAUSE-LED

FK-71 BLOCK

Not Used

VC-197 BOARD (10/12)

B-MECHA CHASSIS

FP-248 FLEXIBLE

FP-355 FLEXIBLE

FP-356 BOARD

FP-249 BOARD

FP-220 FLEXIBLE

CAPSTAN MOTOR DRIVE

CAPSTAN MOTOR

DRUM MOTOR

LOADING MOTOR

DEW SENSOR

TO EX-34 BOARD CN103 (TO FP-570)

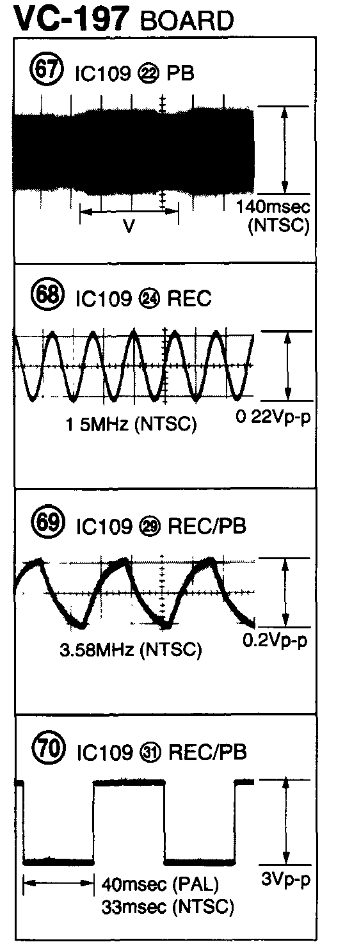
(SEE PAGE 4-59)

•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡	➡	➡
PB			⇨	⇨

VC-197 (AUDIO) SCHEMATIC DIAGRAM
— Ref. No. VC-197 board; 10,000 series —

• See page 4-5 for VC-197BOARD printed wiring board.



< Mount table for each function. >
< Difference according to IC109 type. >

	TYPE 1	TYPE 2
C1402	XX	0 47u
C1403	4.7u	47u
C1404	2.2u	4.7u
C1405	0.22u	0.01u
C1406	1u	0.47u
C1407	22u	2.2u
C1408	XX	2.2u
C1409	0 47u	22u
C1411	680p	0 01u
C1415	3300p	0.01u
C1416	0 47u	22u
C1417	XX	2 2u
C1422	22u	2 2u
C1423	1u	0.47u
C1424	0 22u	0 01u
C1425	4.7u	2 2u
C1426	10u	47u
C1427	XX	0.47u
C1436	XX	47u
C1452	10u	XX
C1453	220p	XX
C1463	10u	XX
C1465	0 22u	XX
C1466	0.22u	XX
C1468	0 001u	XX
C1471	XX	4700p
C1474	XX	0.01u
C1475	XX	4700p
C1477	10u	XX
C1480	XX	2 2u
C1481	0.001u	XX
C1491	XX	0 1u
IC109	CXA1737R-T6	AN2980FH-EB
R1402	XX	1800
R1403	82k	180k
R1404	470k	4700
R1406	82k	180k
R1407	XX	15k
R1408	470k	4700
R1410	0	68k
R1416	XX	47k
R1418	82k	180k
R1419	0	220
R1460	XX	0
R1461	0	XX
R1462	0	XX
R1463	XX	0
R1476	0	4700

*: Refer to the mount table for each function.

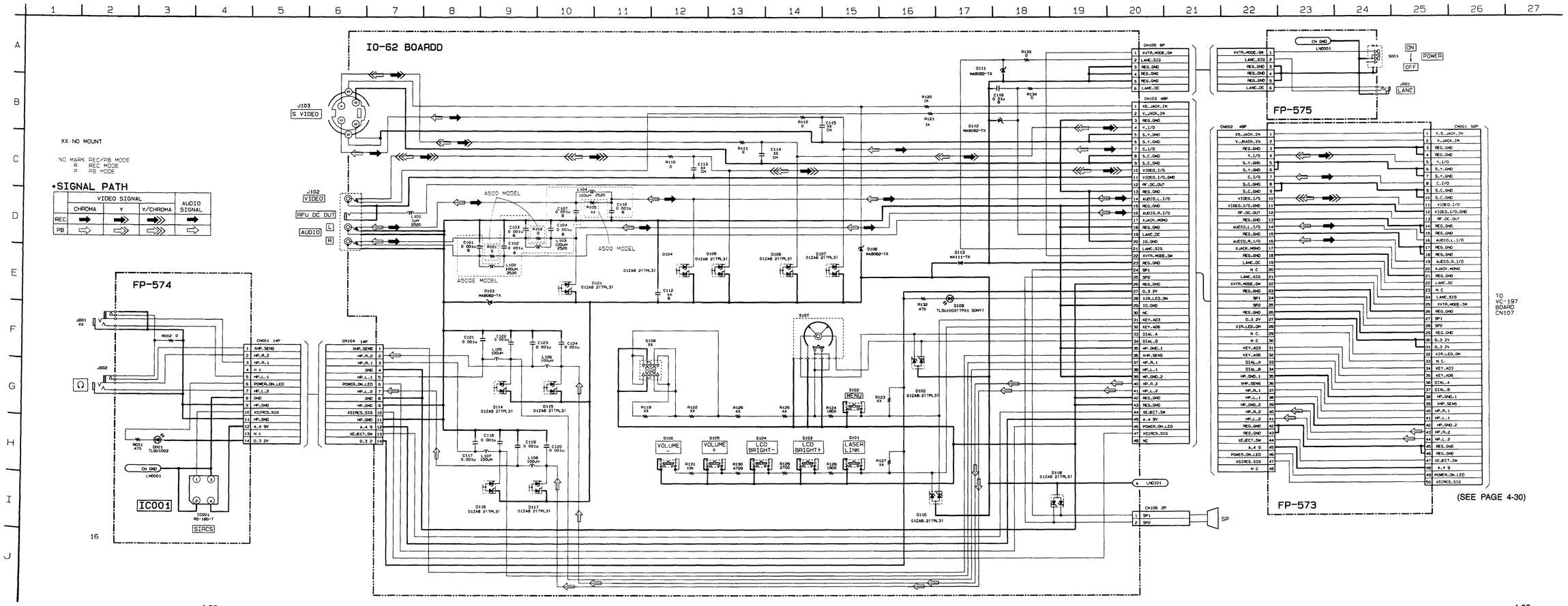
NO MARK REC/PB MODE
R REC MODE
P PB MODE

•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				➡
PB				⇨

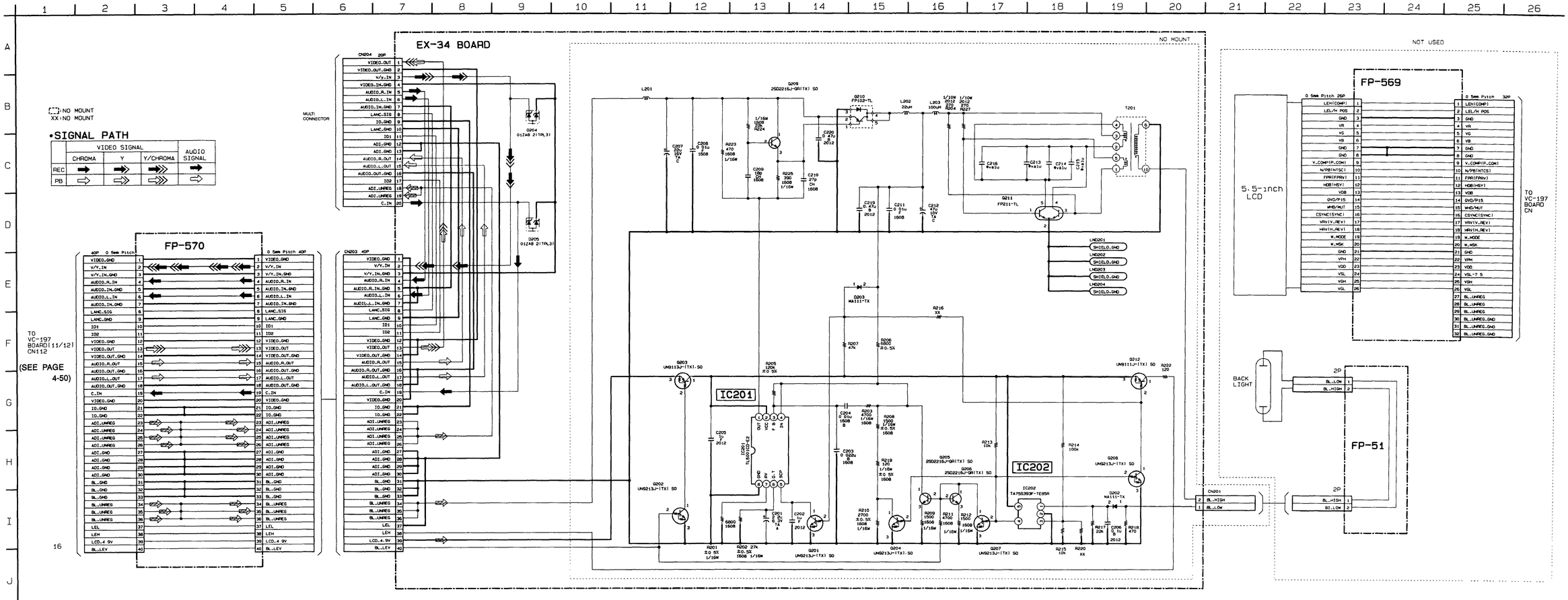
IO-62 (AV IN/OUT) SCHEMATIC DIAGRAM
— Ref. No. IO-62 board, 3,000 series —

• See page 4-65 for IO-62 BOARD printed wiring board.



EX-34 (MULTI CONNECTOR) SCHEMATIC DIAGRAM

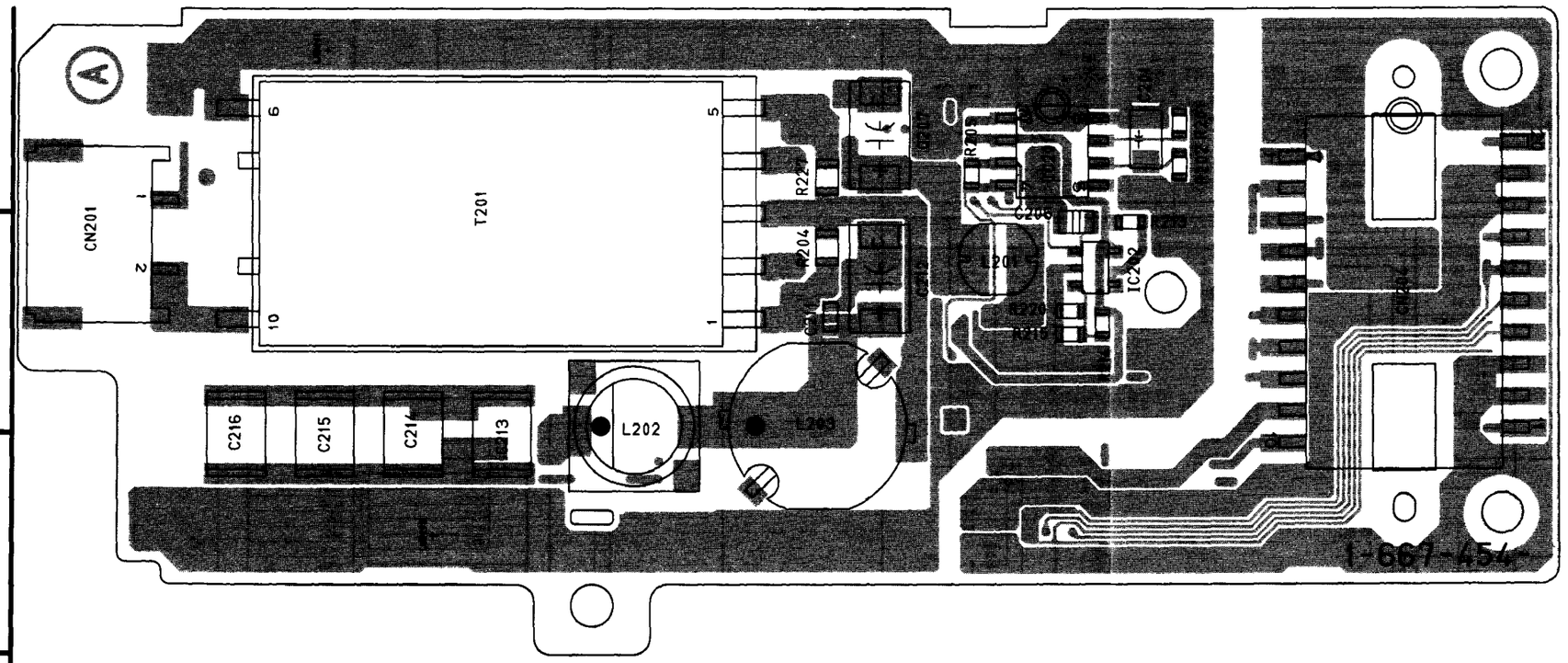
— Ref. No. EX-34 board; 3,000 series —



EX-34 (MULTI CONNECTOR) PRINTED WIRING BOARD
— Ref. No. EX-34 board; 3,000 series —

There are few cases that the part printed on this diagram isn't mounted in this model.

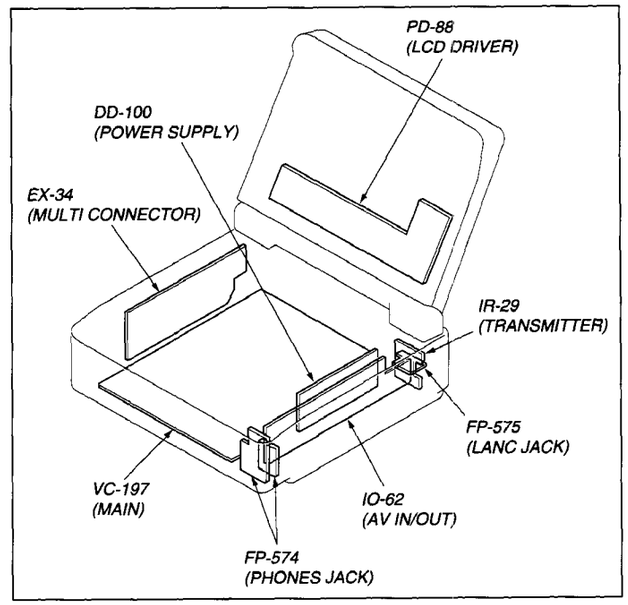
EX-34 BOARD(SIDE A)



EX-34 BOARD(SIDE B)

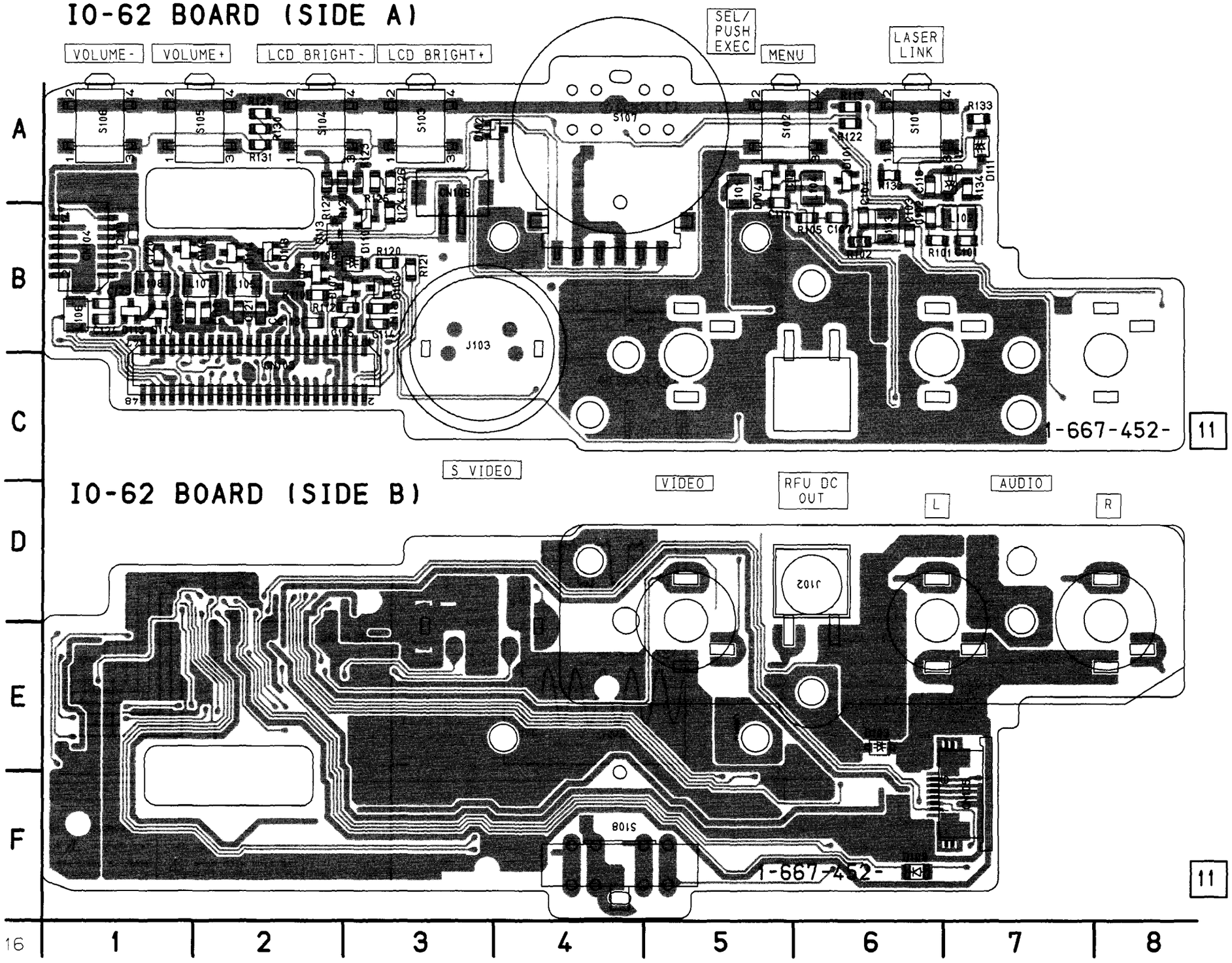
EX-34 BOARD

CN203	D-5
CN204	A-7
D204	E-6
D205	E-5



IO-62 (AV IN/OUT) PRINTED WIRING BOARD
— Ref. No. IO-62 board; 3,000 series —

There are few cases that the part printed on this diagram isn't mounted in this model.

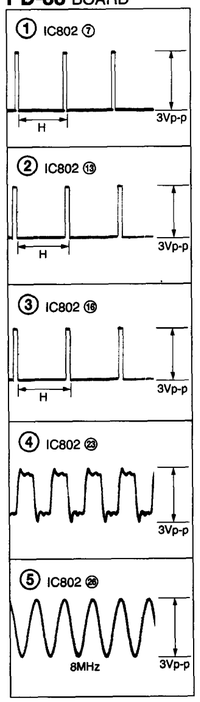


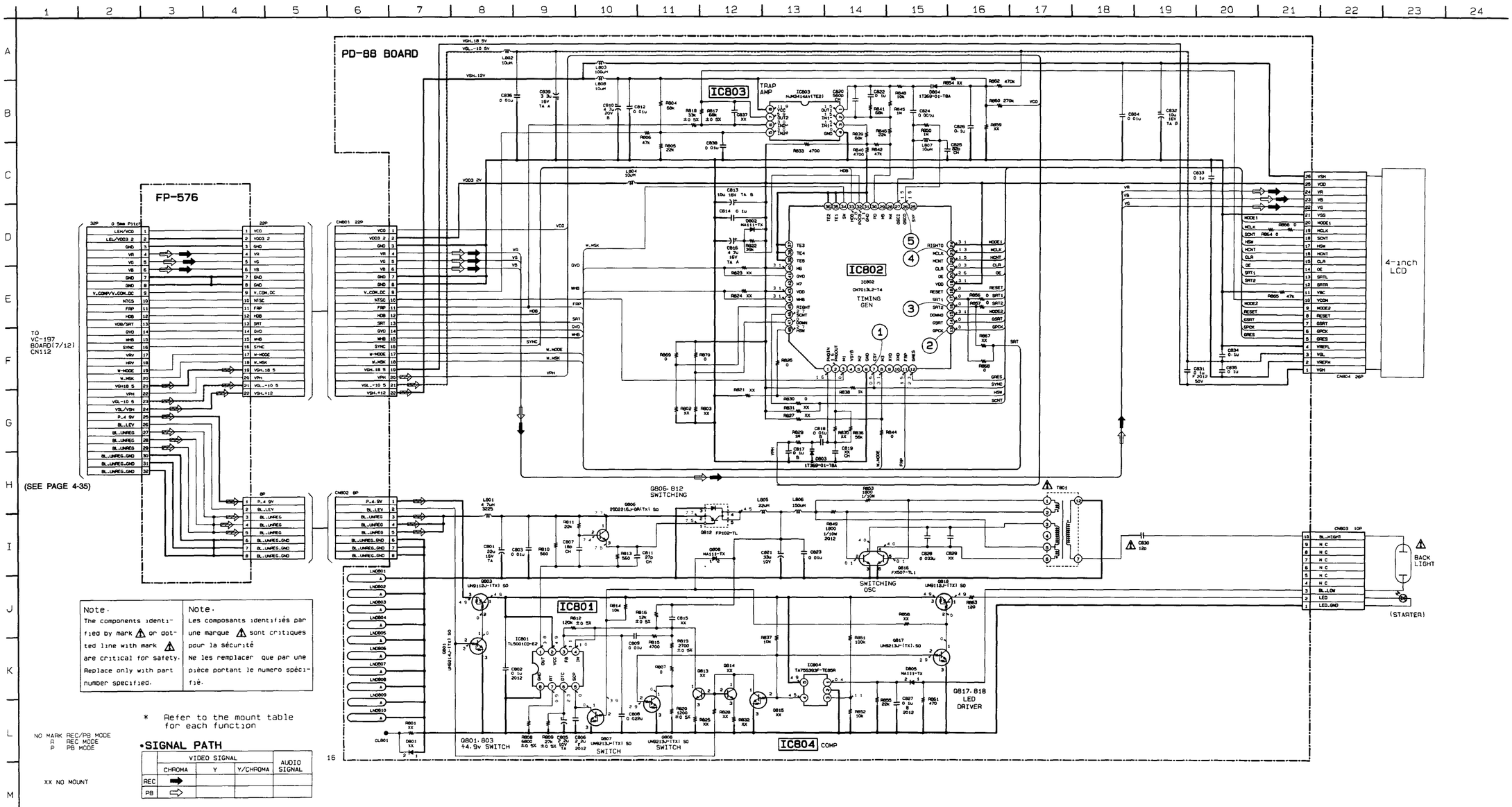
IO-62 BOARD

C101	B-7	D118	B-2
C102	B-6		
C103	B-6	J102	C-6
C104	B-6	J103	B-3
C107	B-6		
C110	A-5	L101	A-5
C116	A-6	L102	B-7
C117	B-1	L103	B-6
C118	B-2	L104	A-6
C119	B-1	L105	B-2
C120	B-1	L106	B-1
C121	B-2	L107	B-2
C122	B-2	L108	B-1
C123	B-1		
C124	B-1	R101	A-6
		R102	B-6
CN103	C-2	R105	B-6
CN104	B-1	R110	B-2
CN105	F-7	R111	B-3
CN106	A-3	R112	B-3
		R120	B-3
D101	A-6	R121	B-3
D102	A-3	R124	A-3
D103	F-6	R128	A-2
D104	A-5	R129	A-2
D105	B-2	R130	A-2
D106	B-3	R131	A-2
D107	B-3	R132	A-6
D108	B-2	R133	A-7
D109	F-6	R134	A-7
D110	B-3		
D111	A-7	S101	A-6
D112	A-7	S102	A-5
D113	B-2	S103	A-3
D114	B-2	S104	A-2
D115	B-1	S105	A-2
D116	B-1	S106	A-1
D117	B-1	S107	A-4

PD-88 (LCD DRIVER) SCHEMATIC DIAGRAM
— Ref. No. PD-88 board; 3,000 series —

PD-88 BOARD





Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numero spécifié.

* Refer to the mount table for each function

NO MARK REC/PB MODE
R REC MODE
P PB MODE

XX NO MOUNT

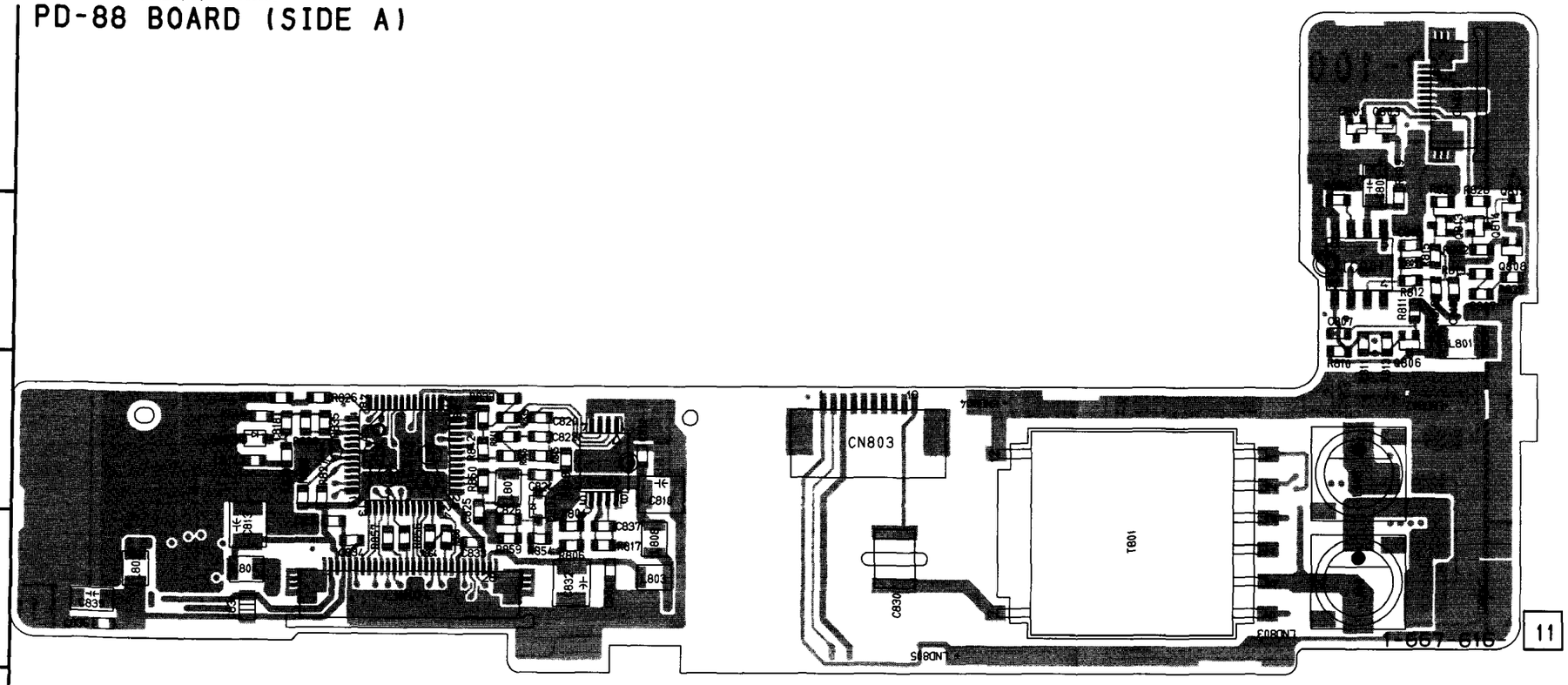
•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡			
PB	⇨			

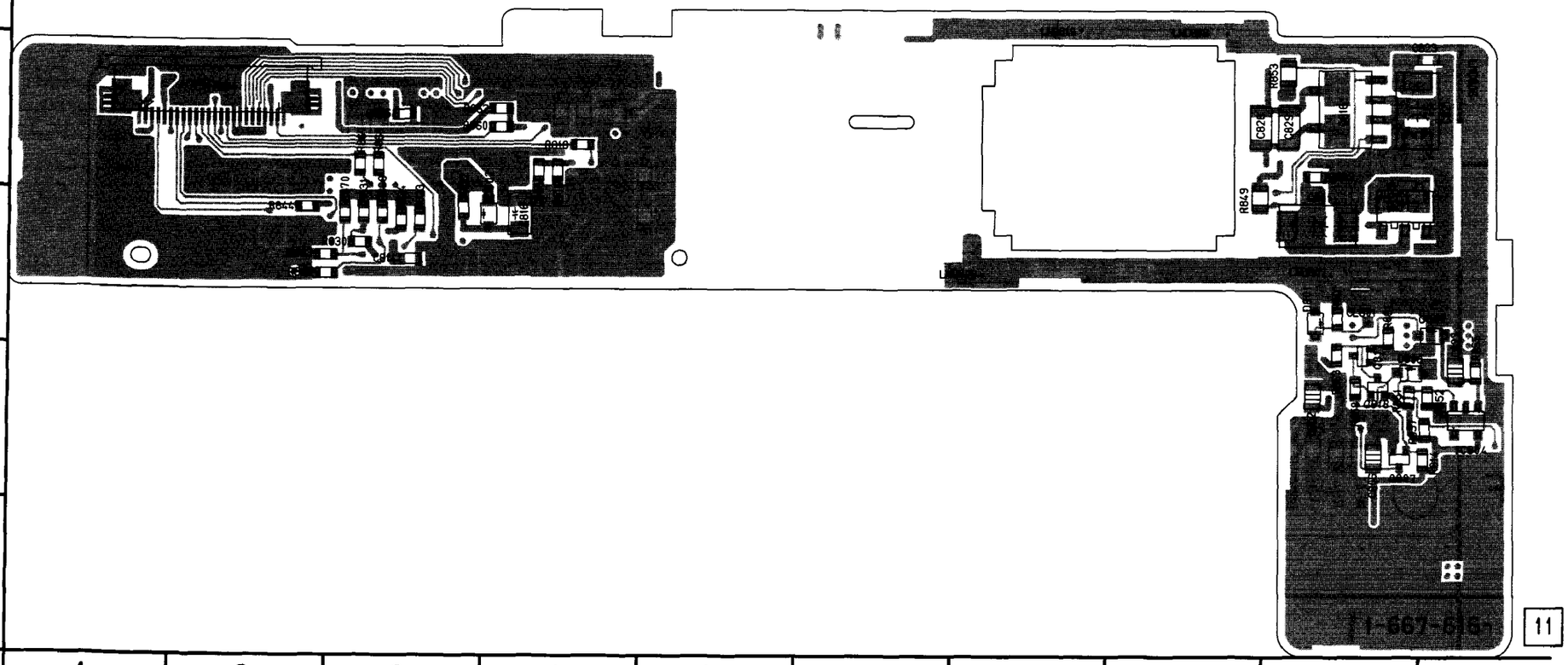
PD-88 (LCD DRIVER) PRINTED WIRING BOARD
— Ref. No. PD-88 board; 3,000 series —

There are few cases that the part printed on this diagram isn't mounted in this model.

PD-88 BOARD (SIDE A)

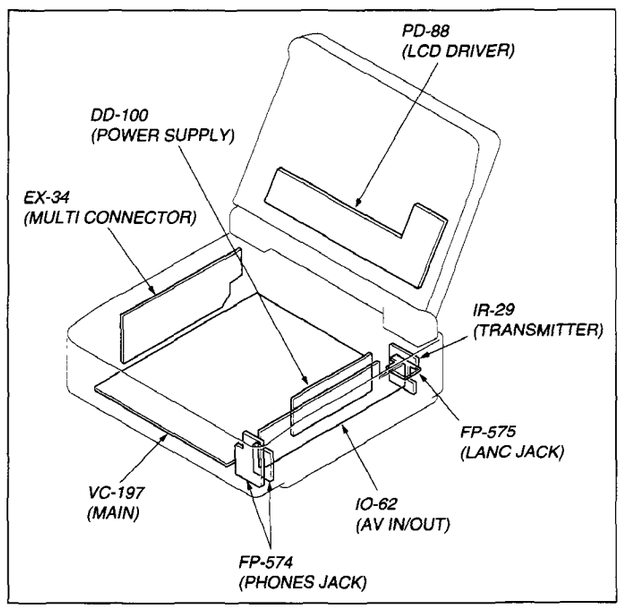


PD-88 BOARD (SIDE B)



PD-88 BOARD

C801	G-9	D803	C-2	R817	D-4
C802	H-9	D804	C-4	R818	F-4
C803	F-9	D805	G-10	R819	B-10
C804	D-4	D808	H-9	R820	B-10
C805	A-9			R822	G-3
C806	H-9	IC801	B-9	R826	C-2
C807	B-9	IC802	C-3	R829	C-2
C808	B-9	IC803	C-4	R830	G-3
C809	B-9	IC804	H-10	R833	C-4
C810	C-5			R836	C-2
C811	B-9	L801	B-10	R837	H-9
C812	C-4	L802	D-1	R838	C-2
C813	D-2	L803	D-5	R839	C-4
C814	G-3	L804	D-2	R840	C-3
C816	G-4	L805	C-9	R841	C-4
C817	C-2	L806	D-9	R842	C-3
C818	C-2	L807	C-4	R844	G-2
C820	C-4	L808	D-5	R845	C-4
C821	F-10			R846	C-4
C822	C-4	Q801	A-9	R848	C-4
C823	F-10	Q803	A-9	R849	G-9
C824	C-4	Q806	B-9	R850	C-3
C825	C-3	Q807	H-9	R851	H-9
C826	C-4	Q808	B-10	R852	H-10
C827	H-10	Q812	G-9	R853	F-9
C828	F-9	Q816	F-9	R855	F-10
C830	D-6	Q817	H-9	R856	D-3
C831	D-2	Q818	H-9	R857	D-3
C832	D-4			R860	F-4
C833	D-3	R804	D-4	R861	G-9
C834	D-3	R805	F-4	R862	F-4
C835	D-3	R806	D-4	R863	H-9
C836	D-1	R807	B-10	R864	D-3
C838	F-4	R808	A-9	R865	F-3
C839	D-1	R809	A-9	R866	D-3
		R810	B-9	R868	F-3
CN801	F-2	R811	B-9	R869	G-3
CN802	A-10	R812	B-9	R870	G-3
CN803	C-6	R813	B-9	T801	D-8
CN804	D-3	R814	H-10		
		R815	B-9		
D802	G-4	R816	B-9		



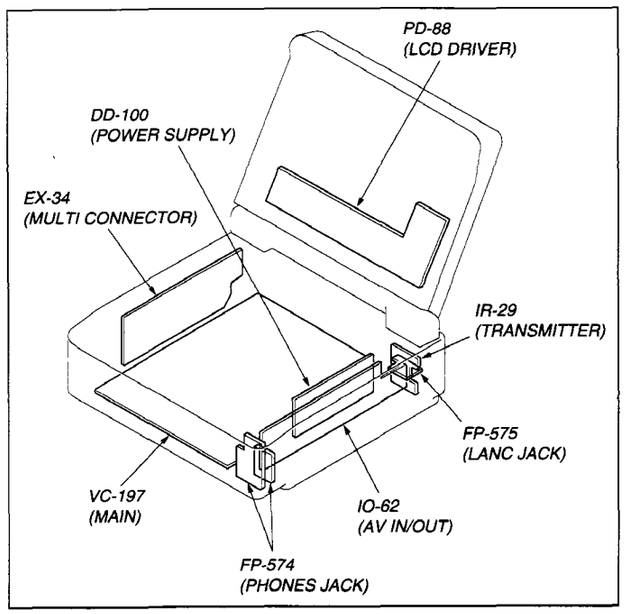
DD-100 (POWER SUPPLY) PRINTED WIRING BOARD

— Ref. No. DD-100 board; 3,000 series —

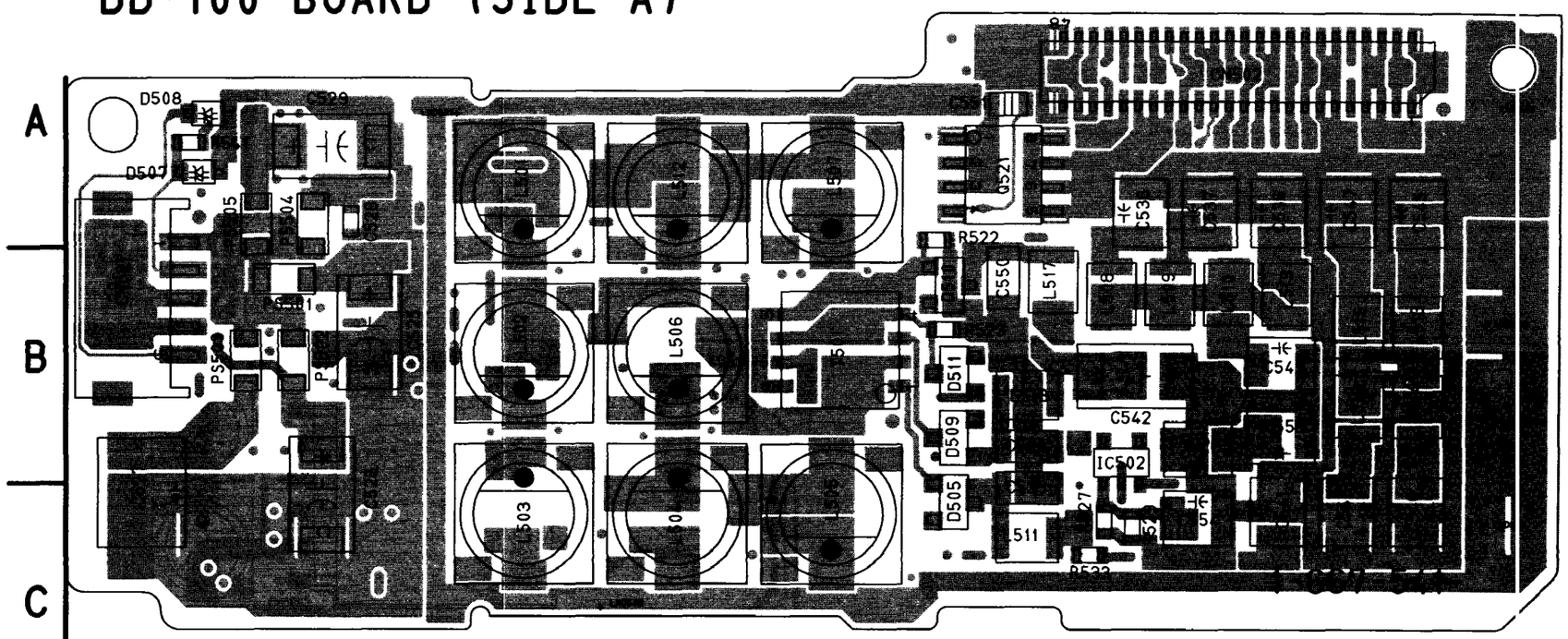
There are few cases that the part printed on this diagram isn't mounted in this model.

DD-100 BOARD

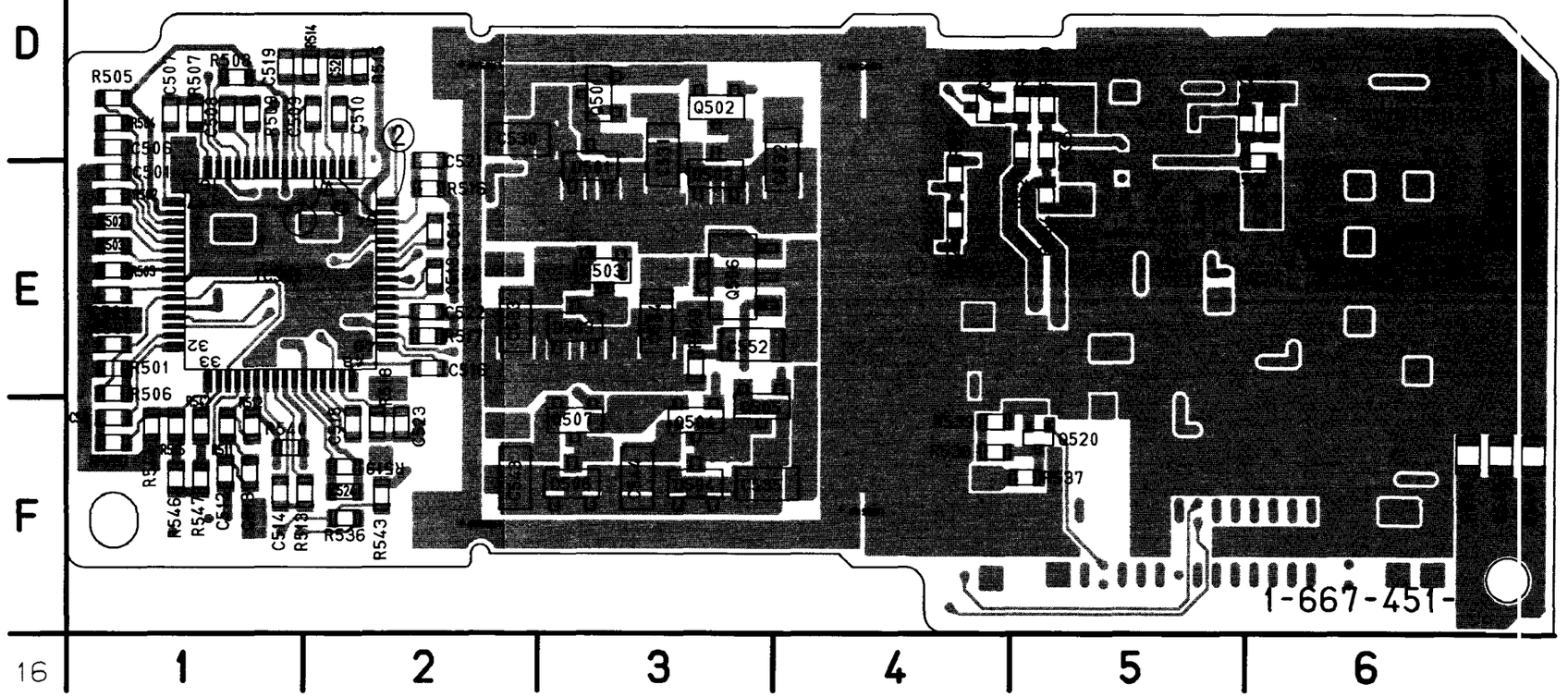
C501	E-1	C544	F-3	L508	B-5	R508	D-1
C502	E-1	C545	A-6	L509	B-5	R509	D-1
C503	E-1	C546	C-6	L510	B-5	R510	F-1
C504	E-1	C547	A-6	L511	C-5	R511	F-1
C505	E-1	C548	C-6	L512	A-3	R512	F-1
C506	D-1	C549	B-6	L513	B-6	R513	F-2
C507	D-1	C550	B-4	L514	B-6	R514	D-2
C508	D-1	C551	A-4	L515	B-6	R515	D-2
C509	D-2	C552	E-3	L516	B-6	R516	E-2
C510	D-2	C553	B-5	L517	B-5	R517	E-2
C511	F-1	C554	C-5	L518	B-5	R518	F-2
C512	F-1			L519	B-6	R519	F-2
C513	F-1	CN501	B-1			R520	D-5
C514	F-1	CN502	A-5	PS501	B-1	R521	D-5
C515	F-2			PS502	B-1	R523	B-4
C516	E-2	D501	E-3	PS503	B-1	R525	E-4
C517	E-2	D502	E-3	PS504	A-2	R526	D-6
C518	E-2	D503	E-3			R527	C-5
C525	B-2	D504	F-3	Q501	E-3	R528	E-3
C526	C-2	D505	C-4	Q502	D-3	R529	C-5
C527	C-1	D506	F-3	Q503	E-3	R532	E-6
C529	A-2	D507	A-1	Q504	F-3	R533	C-5
C530	D-2	D508	A-1	Q505	F-3	R535	D-5
C531	D-3	D509	B-4	Q506	E-3	R536	F-2
C532	E-4	D510	B-4	Q507	F-3	R537	F-5
C533	E-2			Q508	D-4	R538	F-4
C534	E-3	IC501	E-1	Q520	F-5	R540	F-1
C535	F-3	IC502	B-5	Q521	A-4	R541	A-1
C536	A-6					R542	F-1
C537	A-5	L501	A-2	R501	E-1	R548	F-6
C538	A-5	L502	B-2	R502	E-1	R549	F-6
C539	B-5	L503	C-2	R503	E-1	R550	F-6
C540	B-5	L504	C-3	R504	D-1		
C541	C-6	L505	C-4	R505	D-1	T501	B-4
C542	B-5	L506	B-3	R506	E-1		
C543	F-2	L507	A-4	R507	D-1		



DD-100 BOARD (SIDE A)



DD-100 BOARD (SIDE B)

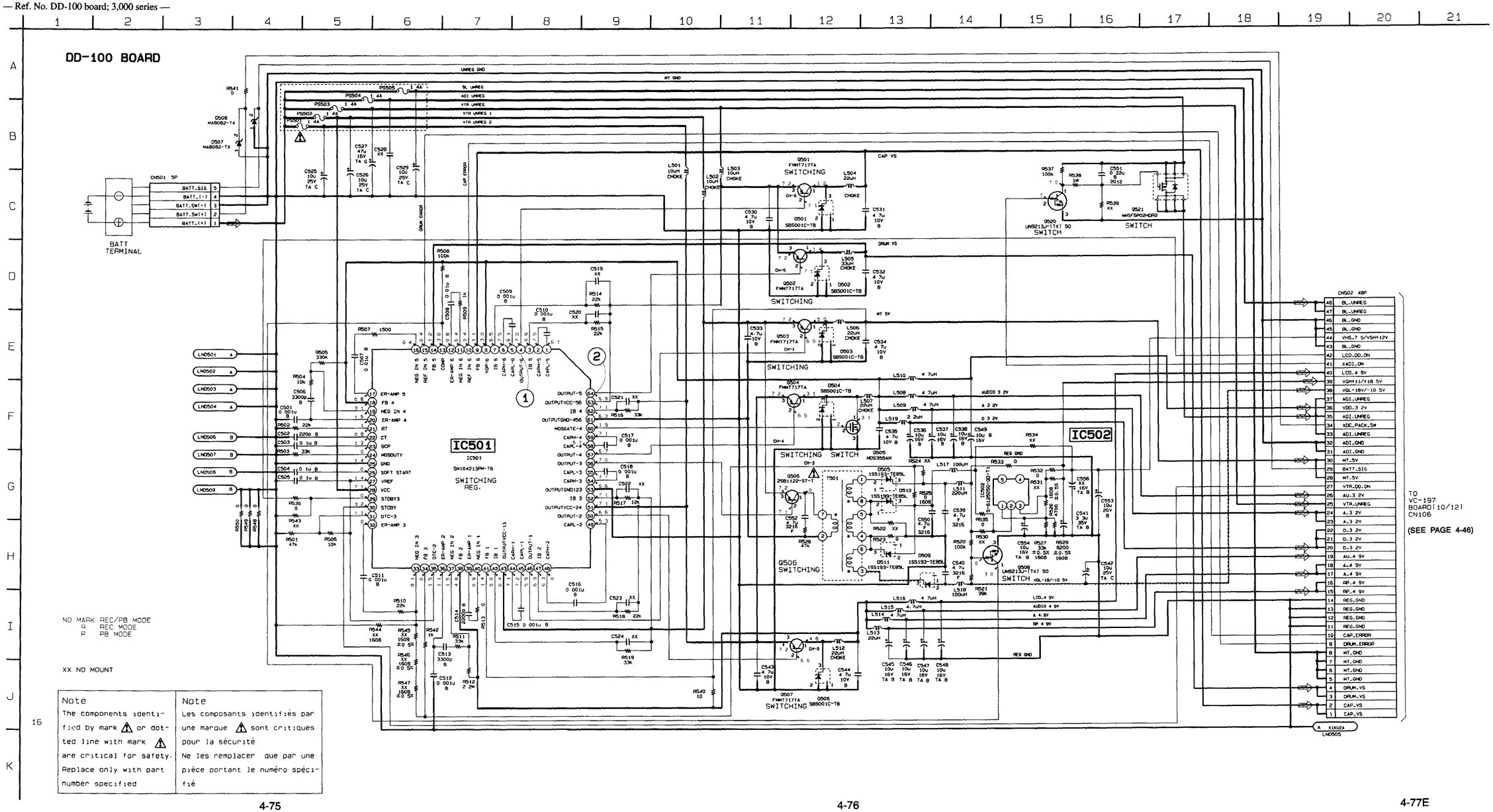


11

11

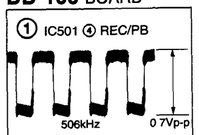
DD-100 (POWER SUPPLY) SCHEMATIC DIAGRAM

— Ref. No. DD-100 board; 3,000 series —

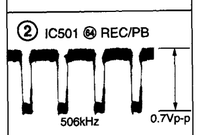


DD-100 BOARD

① IC501 ④ REC/PB



② IC501 ⑭ REC/PB



Note	Note
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SECTION 5
ADJUSTMENTS

5-1. PREPARATIONS

When performing adjustments, refer to the layout diagrams for adjustment related parts beginning from page 5–46.

NTSC model : GV-A500
PAL model : GV-A500E

1-1. PREPARATIONS BEFORE ADJUSTMENT

1-1-1. List of Service Tools

- Oscilloscope
- Adjusting driver
- Color monitor
- Regulated power supply
- Vectorscope
- Digital voltmeter

Ref. No.	Name	Parts Code	Usage
J-1	Adjusting remote commander (RM-95-remodeled partly)Note 1	J-6082-053-B	————————
J-2	Multi CPC jig	J-6082-311-A	For adjusting LCD block
J-3	CPC-7 jig	J-6082-382-A	For adjusting the video section
J-4	Power code	J-6082-223-A	For connecting the battery terminal and DC power supply
J-5	AFM DEV jig	J-6082-312-A	For adjusting the deviation
J-6	IR receiver jig	J-6082-383-A	For adjusting the IR transmitter

Note : If the micro processor IC in the adjusting remote commander is not the new micro processor (UPD7503G-C56-12), the pages cannot be switched. In this case, replace with the new micro processor (8-759-148-35).

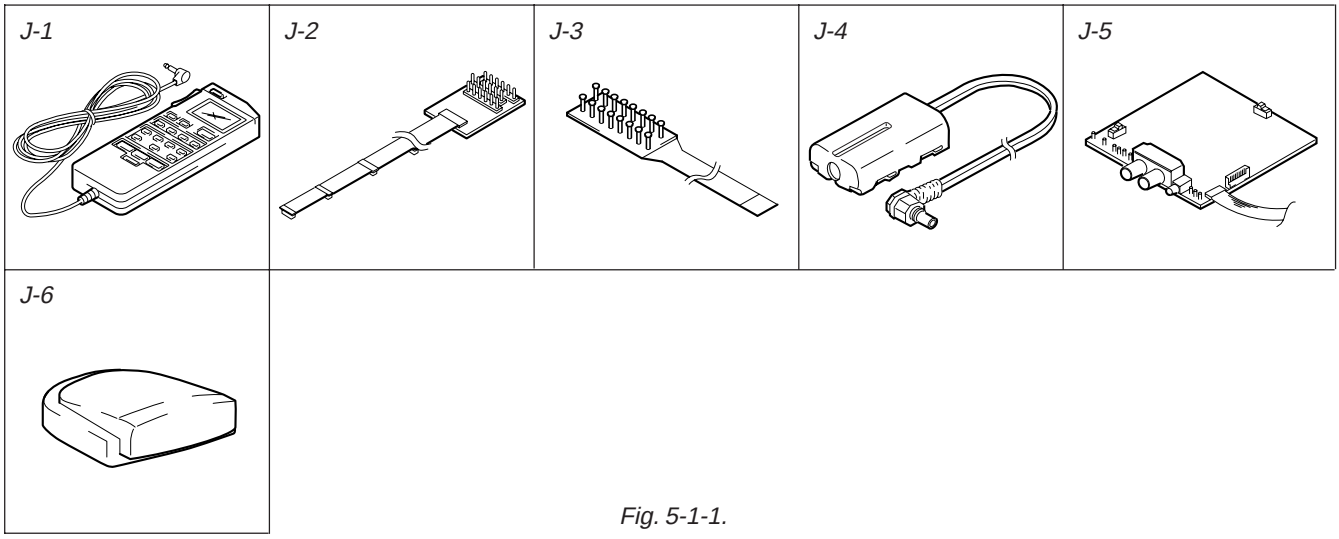


Fig. 5-1-1.

1-1-2. Adjusting Remote Commander

The adjusting remote commander is used for changing the calculation coefficient in signal processing, EVR data, etc. The adjusting remote commander performs bidirectional communication with the unit using the remote commander signal line (LANC). The resultant data of this bidirectional communication is written in the non-volatile memory.

1. Using the adjusting remote commander

1) Connect the adjusting remote commander to the LANC terminal.
2) Adjust the HOLD switch of the adjusting remote commander to "HOLD" (SERVICE position).
   If it has been properly connected, the LCD on the adjusting remote commander will display as shown in Fig. 5-1-7.

Fig. 5-1-2.

3) Operate the adjusting remote commander as follows.
   • Changing the page
   The page increases when the EDIT SEARCH+ button is pressed, and decreases when the EDIT SEARCH– button is pressed. There are altogether 16 pages, from 0 to F.

Hexadecimal notation	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
LCD Display	0	1	2	3	4	5	6	7	8	9	A	b	c	d	E	F
Decimal notation conversion value	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

   • Changing the address
   The address increases when the FF (►►) button is pressed, and decreases when the REW (◄◄) button is pressed. There are altogether 256 addresses, from 00 to FF.
   • Changing the data (Data setting)
   The data increases when the PLAY (►) button is pressed, and decreases when the STOP (■) button is pressed.
   There are altogether 256 data, from 00 to FF.
   • Writing the adjustment data
   The PAUSE button must be pressed to write the adjustment data (D, E, F page) in the nonvolatile memory.
   (The new adjustment data will not be recorded in the nonvolatile memory if this step is not performed.)
4) Select page: 0, address: 01, and set the data to 01, and enables Page D and E, F to be adjusted.
5) After completing all adjustments, set page: 0, address: 01, data: 00 and turn off the main power supply (7.2V) once.

2. Precautions upon using the adjusting remote commander

Mishandling of the adjusting remote commander may erase the correct adjustment data at times. To prevent this, it is recommended that all adjustment data be noted down before beginning adjustments and new adjustment data after each adjustment.

1-1-3. Page D Address

Note 1 : The initial adjustment data value is the value after "Page D, Page E, Page F Data Initialization" and "Page D Data Modification" have been executed. It is different from the value after all adjustments have been executed.

Note 2 : The ← mark shown in the adjustment data memo column indicates that the address data is fixed and same as the initial value.

Address	Adjustment Data			
	Initial Value			
	GV-A500	GV-A500E		Memo Column
		AEP,UK	E,HK	
00 to 0F				
10	00	00	00	←
11	02	07	07	←
12	7E	FE	FE	←
13	30	30	30	←
14	D6	56	D6	←
15	F0	F0	F0	←
16	80	80	80	←
17	0E	0E	0E	←
18	00	00	00	←
19	12	12	12	←
1A	40	40	40	←
1B	00	00	00	←
1C	00	00	00	←
1D	34	34	34	←
1E	00	00	00	←
1F	00	00	00	←
20	2D	2D	2D	←
21	10	10	10	←
22	1E	1E	1E	←
23	19	19	19	←
24	12	12	12	←
25	64	50	50	←
26	02	02	02	←
27	F9	F9	F9	←
28	88	88	88	
29	8D	8D	8D	
2A	A8	A8	A8	
2B	BD	BD	BD	
2C	C8	C8	C8	
2D	05	05	05	←
2E	03	03	03	←
2F	01	01	01	←
30	01	01	01	←
31	7C	7C	7C	←
32	36	36	36	←
33	4B	4B	4B	←
34	07	07	07	←
35	88	88	88	
36	C9	C9	C9	←
37	02	02	02	←
38	0A	0A	0A	←
39	04	04	04	←
3A	0A	0A	0A	←
3B	32	32	32	←
3C	04	04	04	←
3D	04	04	04	←
3E	04	04	04	←
3F	03	03	03	←

Address	Adjustment Data			
	Initial Value			
	GV-A500	GV-A500E		Memo Column
		AEP,UK	E,HK	
40				←
41				←
42				←
43				←
44				←
45				←
46				←
47				←
48				
49				
4A				
4B				
4C				←
4D				←
4E				←
4F				
50				
51				
52	76	84	84	
53	6D	9B	9B	
54	5D	67	67	
55	65	7D	7D	
56	5B	76	76	
57	94	9B	9B	
58	7C	80	80	
59	41	90	90	
5A	67	7E	7E	
5B	40	7C	7C	
5C	80	80	80	←
5D	76	84	84	
5E	00	67	67	
5F	80	80	80	←
60	00	F0	F0	←
61	00	60	60	←
62	A1	A1	A1	←
63	DA	DA	DA	←
64 to FF				

Table 5-1-1 .

1-1-4. Page F Address

Note 1 : The initial adjustment data value is the value after "Page D, Page E, Page F Data Initialization" and "Page F Data Modification" have been executed. It is different from the value after all adjustments have been executed.

Note 2 : The ← mark shown in the adjustment data memo column indicates that the address data is fixed and same as the initial value.

Address	Adjustment Data			
	Initial Value			
	GV-A500	GV-A500E		Memo Column
		AEP,UK	E,HK	
00				
01				
02				
03				
04				
05	B4	BA	BA	←
06	B8	B8	B8	←
07	5E	5E	5E	←
08	45	47	47	←
09	54	58	58	←
0A	69	6B	6B	←
0B	8A	8E	8E	←
0C				
0D				
0E				
0F				
10	00	00	00	
11	00	00	00	
12	00	00	00	
13	00	00	00	
14	00	00	00	
15	00	00	00	
16	00	00	00	
17	00	00	00	
18	00	00	00	
19	00	00	00	
1A	00	00	00	
1B	00	00	00	
1C	50	51	51	←
1D	00	10	10	←
1E	23	23	23	←
1F	52	52	52	
20	00	02	02	←
21	02	02	02	←
22	3B	3B	3B	
23	00	00	00	←
24	7C	7C	7C	←
25	80	80	80	←
26	1F	1F	1F	←
27	00	00	00	←
28	46	46	46	←
29	00	00	00	←
2A	FF	FF	FF	
2B	3B	3B	3B	
2C	7D	7D	7D	
2D	56	56	56	
2E	00	00	00	←
2F	00	00	00	←

Address	Adjustment Data			
	Initial Value			
	GV-A500	GV-A500E		Memo Column
		AEP,UK	E,HK	
30	A6	A6	A6	
31	1A	1A	1A	
32	15	15	15	
33	24	24	24	
34	8C	8C	8C	
35	11	11	11	
36	00	00	00	
37	0A	0A	0A	
38	00	00	00	
39	0A	0A	0A	
3A	3C	3C	3C	
3B	A0	A0	A0	
3C	80	80	80	
3D	80	80	80	
3E	30	30	30	
3F	49	49	49	←
40	1B	1B	1B	
41	1B	1B	1B	
42	AE	AE	AE	
43	42	42	42	
44	44	44	44	
45	34	34	34	
46	2A	2A	2A	
47	89	89	89	
48	59	59	59	
49	38	38	38	
4A	41	41	41	
4B	25	25	25	
4C	00	00	00	
4D	19	19	19	
4E	00	00	00	
4F	16	16	16	
50	52	52	52	
51	52	52	52	
52	7A	7A	7A	
53	8D	8D	8D	
54	7A	7A	7A	
55	55	55	55	←
56	A8	A8	A8	
57	00	00	00	
58	9A	9A	9A	
59	50	50	50	←
5A	7B	7B	7B	
5B	B3	B3	B3	
5C	99	AA	AA	←
5D	70	70	70	←
5E	A8	A2	A2	←
5F	70	70	70	←

Table 5-1-2 (1).

Address	Adjustment Data			
	Initial Value			
	GV-A500	GV-A500E		Memo Column
		AEP,UK	E,HK	
60	D5	D5	D5	
61	D5	D5	D5	
62	EA	EA	EA	
63	EA	EA	EA	
64	8B	93	93	←
65	80	8C	8C	←
66	89	93	93	←
67	80	8C	8C	←
68	B8	B8	B8	
69	B8	B8	B8	
6A	B1	B1	B1	
6B	B1	B1	B1	
6C	80	80	80	
6D	80	80	80	
6E	80	80	80	
6F	80	80	80	
70	7D	80	80	←
71	7D	80	80	←
72	80	80	80	
73	80	00	00	
74	00	00	00	←
75	80	00	00	
76	80	00	00	
77	00	00	00	←
78	7C	92	92	←
79	AA	00	00	←
7A	A0	00	00	←
7B	C3	00	00	←
7C	0C	0C	0C	←
7D	18	00	00	←
7E	77	77	77	←
7F	40	40	40	←
80	75	75	75	←
81	73	73	73	←
82	12	12	12	←
83	8A	8A	8A	←
84	A5	A5	A5	←
85	68	68	68	←
86	4A	4A	4A	←
87	F0	F0	F0	←
88	00	00	00	←
89	01	01	01	←
8A	6C	6C	6C	←
8B	40	40	40	←
8C	68	28	28	←
8D	A0	60	60	←
8E	70	40	40	←
8F	40	29	29	←
90	68	28	28	←
91	70	70	70	←
92	40	40	40	←
93	25	25	25	←
94	58	58	58	←

Address	Adjustment Data			
	Initial Value			
	GV-A500	GV-A500E		Memo Column
		AEP,UK	E,HK	
95	F0	60	60	←
96	40	40	40	←
97	3D	10	10	←
98	58	28	28	←
99	FF	80	80	←
9A	40	40	40	←
9B	30	10	10	←
9C	78	28	28	←
9D	70	70	70	←
9E	4C	30	30	←
9F	06	00	00	←
A0	28	28	28	←
A1	FF	E0	E0	←
A2	30	30	30	←
A3	10	00	00	←
A4	62	60	60	←
A5	91	91	91	←
A6	62	70	70	←
A7	B2	92	92	←
A8	62	70	70	←
A9	91	A2	A2	←
AA	62	70	70	←
AB	A2	A3	A3	←
AC	04	04	04	←
AD	E5	D5	D5	←
AE	04	04	04	←
AF	F7	D6	D6	←
B0	40	40	40	←
B1	00	00	00	←
B2	B3	B3	B3	←
B3	B3	B3	B3	←
B4	21	10	10	←
B5	05	01	01	←
B6	11	10	10	←
B7	06	03	03	←
B8	71	40	40	←
B9	35	32	32	←
BA	20	00	00	←
BB	00	00	00	←
BC	22	22	22	←
BD	80	80	80	←
BE	30	20	20	←
BF	40	40	40	←
C0	20	30	30	←
C1	50	50	50	←
C2	1B	2B	2B	←
C3	4B	4B	4B	←
C4	00	00	00	←
C5	00	00	00	←
C6	00	00	00	←
C7	DF	BF	BF	←
C8	FD	CE	CE	←
C9	DD	DF	DF	←

Table 5-1-2 (2).

Address	Adjustment Data			
	Initial Value			
	GV-A500	GV-A500E		Memo Column
		AEP,UK	E,HK	
CA	00	00	00	←
CB	DF	BF	BF	←
CC	FD	CE	CE	←
CD	DD	DF	DF	←
CE	00	00	00	←
CF	27	27	27	←
D0	CA	CA	CA	←
D1	00	00	00	←
D2	40	40	40	←
D3	1B	1B	1B	←
D4	E0	EC	EC	←
D5	A0	A0	A0	←
D6	30	28	28	←
D7	20	1A	1A	←
D8	C0	C0	C0	←
D9	6A	6A	6A	←
DA	60	60	60	←
DB	55	55	55	←
DC	55	55	55	←
DD	66	66	66	←
DE	25	25	25	←
DF	34	34	34	←
E0	3F	3F	3F	←
E1	A0	A0	A0	←
E2	00	00	00	←
E3	80	80	80	←
E4	70	70	70	←

Address	Adjustment Data			
	Initial Value			
	GV-A500	GV-A500E		Memo Column
		AEP,UK	E,HK	
E5	41	41	41	←
E6	1F	1F	1F	←
E7	C0	C0	C0	←
E8	14	14	14	←
E9	03	03	03	←
EA	00	00	00	←
EB	FE	FD	FD	
EC	F5	F4	F4	
ED	1A	21	21	←
EE	33	46	46	←
EF	FE	FE	FE	←
F0	3C	3C	3C	←
F1	24	24	24	←
F2	83	83	83	←
F3	A0	A0	A0	←
F4	67	67	67	←
F5	4D	4D	4D	←
F6	33	33	33	←
F7	5C	5C	5C	←
F8	5C	5C	5C	←
F9	5C	5C	5C	←
FA	3C	3C	3C	←
FB	0F	0F	0F	←
FC	10	10	10	←
FD	2C	2C	2C	←
FE	0A	0A	0A	←
FF	36	36	36	←

Table 5-1-2 (3).

1-1-5. Page E Address

Note 1 : The initial adjustment data value is the value after "Page D, Page E, Page F Data Initialization" and "Page E Data Modification" have been executed. It is different from the value after all adjustments have been executed.

Note 2 : The ← mark shown in the adjustment data memo column indicates that the address data is fixed and same as the initial value.

Address	Adjustment Data			
	Initial Value			
	GV-A500	GV-A500E		Memo Column
		AEP,UK	E,HK	
00	42	72	72	←
01	06	06	06	←
02	E0	E0	E0	←
03	50	50	50	←
04	3B	3B	3B	←
05	14	14	14	←
06	E8	E8	E8	←
07	90	90	90	←
08	00	00	00	←
09	02	02	02	←
0A	F3	F3	F3	←
0B	A0	A0	A0	←
0C	69	69	69	←
0D	89	89	89	←
0E	15	15	15	←
0F	50	50	50	←
10	5F	5F	5F	←
11	69	69	69	←
12	93	93	93	←
13	AA	AA	AA	←
14	65	65	65	←
15	44	44	44	←
16	A2	A2	A2	←
17	63	63	63	←
18	90	90	90	←
19	33	33	33	←
1A	15	15	15	←
1B	82	82	82	←
1C	00	00	00	←
1D	F3	F3	F3	←
1E	EE	EE	EE	←
1F	AD	AD	AD	←
20	D9	D9	D9	←
21	20	20	20	←
22	2A	2A	2A	←
23	EB	EB	EB	←
24	1F	1F	1F	←
25	0F	0F	0F	←
26	31	31	31	←
27	20	20	20	←
28	53	53	53	←
29	41	41	41	←
2A	F8	F8	F8	←
2B	10	10	10	←
2C	40	40	40	←
2D	60	60	60	←
2E	00	00	00	←
2F	00	00	00	←
30	00	00	00	←
31	10	10	10	←
32	20	20	20	←
33	12	12	12	←
34	3D	3D	3D	←
35	00	00	00	←
36	00	00	00	←
37	00	00	00	←
38	00	00	00	←
39	00	00	00	←
3A	00	00	00	←
3B	20	20	20	←
3C	26	21	21	←
3D	27	24	24	←
3E	08	09	09	←
3F	09	08	08	←
40	CC	20	20	←
41	40	40	40	←
42	1E	1E	1E	←
43	00	00	00	←
44	F8	00	00	←
45	30	22	22	←
46	10	10	10	←
47	04	00	00	←
48	10	04	04	←
49	F8	F8	F8	←
4A	F8	F8	F8	←
4B	60	60	60	←
4C	50	50	50	←
4D	1C	20	20	←
4E	00	F8	F8	←
4F	48	60	60	←
50	40	50	50	←
51	1E	20	20	←
52	00	F8	F8	←
53	80	80	80	←
54	FF	FF	FF	←
55	DD	DD	DD	←
56	B4	B4	B4	←
57	94	94	94	←
58	74	74	74	←
59	62	62	62	←
5A	49	49	49	←
5B	19	19	19	←
5C	1B	1B	1B	←
5D	1B	1B	1B	←
5E	00	00	00	←
5F	00	00	00	←
60	F3	F5	F5	←
61	EB	EB	EB	←
62	00	00	00	←
63	00	00	00	←
64	00	00	00	←
65	00	00	00	←
66 to FF				

Table 5-1-3.

1-2. INITIALIZATION OF D, E, F PAGE DATA

1. Initialization of D, E, F Page Data

Note 1 : If the D, E, F page data has been initialized, all adjustments need to be performed again.

Note 2 : < >: NTSC model: GV-A500
[ ]: PAL model: GV-A500E

Adjustment page	D
Adjustment address	00 to 63
Adjustment page	F
Adjustment address	00 to FF
Adjustment page	E
Adjustment address	00 to 65

Initializing method:

1) Set page: 0, address: 01, data: 01.
2) Set page: 2, address: 00, data: <55> [51].
3) Set page: 2, address: 01, data: <55> [51] and press the PAUSE button of the adjusting remote commander.
4) Check that the data of page: 2, address: 02 is 01.
5) Set page: 3, address: 00, data: 29.
6) Set page: 3, address: 01, data: 29 and press the PAUSE button of the adjusting remote commander.
7) Set page: 0, address: 01, data: 00.
8) Perform “Modification of D, E and F Page Data”.

2. Modification of D Page Data

If the D, E and F page data has been initialized, change the data as shown in the following table by manual input.

Note 1 : Before changing the data, set page: 0, address: 01, data: 01.

Note 2 : To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time to set the new data.

Note 3 : After changing the data, set page: 0, address: 01, data: 00. Also perform “Modification of F Page Data”.

Address	Adjustment Data		
	Initial Value		
	GV-A500	GV-A500E	
		AEP,UK	E,HK
11	02		
13	30	30	30
14	D6	56	D6
15	F0	F0	F0
16	80	80	80
17	0E	0E	0E
18	00	00	00
19	12	12	12
1A	40	40	40
1B	00	00	00
1C	00	00	00
1D	34	34	34
1E	00	00	00
1F	00	00	00
20	2D	2D	2D
21	10	10	10
22	1E	1E	1E
23	19	19	19
26	02	02	02
30	01	01	01
31	7C	7C	7C
32	36	36	36
33	4B	4B	4B

Address	Adjustment Data		
	Initial Value		
	GV-A500	GV-A500E	
		AEP,UK	E,HK
38	0A	0A	0A
3C	04	04	04
3D	04	04	04
3E	04	04	04
3F	03	04	03
52	76	84	84
53	6D	9B	9B
54	5D	67	67
55	66	7D	7D
56	5B	76	76
57	94	9B	9B
58	7C	80	80
59	41	90	90
5A	67	7E	7E
5B	40	7C	7C
5C	80	80	80
5D	76	84	84
5E	00	67	67
5F	80	80	80
60	00	F0	F0
61	00	60	60
62	A1	A1	A1
63	DA	DA	DA

Table 5-1-4.

3. Modification of F Page Data

If the D, E and F page data has been initialized, change the data as shown in the following table by manual input.

Note 1 : Before changing the data, set page: 0, address: 01, data: 80.

Note 2 : To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time to set the new data.

Note 3 : After changing the data, set page: 0, address: 01, data: 00. Also perform “Modification of E Page Data”.

Address	Adjustment Data		
	Initial Value		
	GV-A500	GV-A500E	
		AEP,UK	E,HK
05	B4	BA	BA
06	B8	B8	B8
07	5E	5E	5E
08	45	47	47
09	54	58	58
0A	69	6B	6B
0B	8A	8E	8E
10	00	00	00
11	00	00	00
12	00	00	00
13	00	00	00
14	00	00	00
15	00	00	00
16	00	00	00
17	00	00	00
18	00	00	00
19	00	00	00
1A	00	00	00
1B	00	00	00
1C	50	51	51
1D	00	10	10
21	02	02	02
27			
28	46	46	46
5D	70	70	70
5F	70		
64	8B	93	93
65		8C	8C
66	89	93	93
67		8C	8C
70	7D	80	80
71	7D	80	80

Address	Adjustment Data		
	Initial Value		
	GV-A500	GV-A500E	
		AEP,UK	E,HK
73	80		
75	80		
76	80		
8D	A0		
8F	40		
91		70	70
93	25		
95	F0	60	60
97	3D	10	10
99	FF	80	80
9A	40		
9B	30		
A1	FF		
A2	30		
A3	10		
A7	B2		
B9	35		
BE	30		
C2	1B	2B	2B
C3	4B	4B	4B
C7	DF	BF	BF
C8	FD	CE	CE
C9	DD	DF	DF
CB	DF	BF	BF
CC	FD	CE	CE
CD	DD	DF	DF
D4	E0	EC	EC
EB	FE	FD	FD
EC	F5	F4	F4
ED	1A	21	21
EE		46	46

Table 5-1-5.

4. Modification of E Page Data

If the D, E and F page data has been initialized, change the data as shown in the following table by manual input.

Note 1 : Before changing the data, set page: 0, address: 01, data: 01.

Note 2 : To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time to set the new data.

Note 3 : After changing the data, set page: 0, address: 01, data: 00. Also perform all adjustments of this unit.

Address	Adjustment Data		
	Initial Value		
	GV-A500	GV-A500E	
		AEP,UK	E,HK
00		72	72
3D		24	24
40	CC	20	20
44		00	00
47		00	00
48	10		
4B	60		

Address	Adjustment Data		
	Initial Value		
	GV-A500	GV-A500E	
		AEP,UK	E,HK
4C	50	50	50
4D	1C		
4F	48		
50	40	50	50
51	1E		
5C	1B	1B	1B
5D	1B	1B	1B

Table 5-1-6.

1-3. Data Processing

The calculation of the DDS display and the adjusting remote commander display data (hexadecimal notation) are required for obtaining the adjustment data of some adjustment items. In this case, after converting the hexadecimal notation to decimal notation, calculate and convert the result to hexadecimal notation, and use it as the adjustment data. Table 5-1-7. indicates the hexadecimal notation-decimal notation calculation table.

Hexadecimal notation-decimal notation calculation table

	Lower digit of hexadecimal / Upper digit of hexadecimal	0	1	2	3	4	5	6	7	8	9	A (A)	B (b)	C (c)	D (d)	E (E)	F (F)
	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
	3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
	4	64	65	66	67	68	69	70	71	72	73	74	77	76	77	78	79
	5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
	6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
	7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
	8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
	9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
	A (A)	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
①	B (b)	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
	C (c)	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
	D (d)	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
	E (E)	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
	F (F)	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

② (above the D (d) column)

Note : The characters shown in the parenthesis ( ) shown the display on the adjustment remote commander.
(Example) If the DDS display or the adjustment remote commander shows BD (bd);
Because the upper digit of the adjustment number is B (b), and the lower digit is D (d), the meeting point "189" of ① and ② in the above table is the corresponding decimal number.

Table 5-1-7.

5-2. MECHANICAL SECTION ADJUSTMENT

Mechanism Parts Adjustments

For details on the adjustments and checks of mechanical section and replacements of mechanism parts, refer to the separate volume-"8 mm Video Mechanism Adjustment Manual Ⅶ B Mechanism ".

2-1. OPERATING WITHOUT A CASSETTE

1) Refer to "Section 2 DISASSEMBLY" and supply the power with the cabinet removed. (So that the mechanical deck can be operated.)
2) Connect the adjusting remote commander to the LANC terminal.
3) Turn on the HOLD switch of the adjusting remote commander.
4) Close the cassette compartment without loading a cassette and complete loading.
5) Set page: 0, address: 01, data: 01.
6) Set page: F, address: 29, data: 01 and press the PAUSE button of the adjusting remote commander.
7) Set page: D, address: 10, data: 04 and press the PAUSE button of the adjusting remote commander.
8) Disconnect the power supply of the unit.

By carrying out the above procedure, the unit can be operated without loading a cassette.
Be sure to carry out "Processing after Operations" after checking the operations.
Set the data of page: D, address: 10 to the following if the sensor ineffective mode, forced PLAYER (VTR) power supply ON mode or forced camera power supply ON mode are to be used together.

Forced VTR power supply ON mode ····· 06

[Processing after Operations]

1) Set page: 0, address: 01, data: 01.
2) Set page: F, address: 29, data: 00 and press the PAUSE button of the adjusting remote commander.
3) Set page: D, address: 10, data: 00 and press the PAUSE button of the adjusting remote commander.
4) Set page: 0, address: 01, data: 00 .
5) Disconnect the power supply of the unit.

2-2. TAPE PATH ADJUSTMENT

1. Preparations for adjustments

1) Clean the tape path face (tape guide, drum, capstan shaft, pinch roller).
2) Connect the adjusting remote commander to the LANC terminal.
3) Turn on the HOLD switch of the adjusting remote commander.
4) Select page: 0, address: 01, and set data: 01.
5) Select page: F, address: 29, and set data: 04 and press the PAUSE button of the adjusting remote commander.
   (Be sure to perform "Processing after operations" after completing adjustments.)
6) Connect the oscilloscope.
   Channel 1: Pin ⑥ of CN207 of VC-197 board
   External trigger: Pin ③ of CN207 of VC-197 board
   (Connect the oscilloscope via the CPC-7 jig (J-6082-382-A).)
7) Playback the alignment tape for tracking.
   WR5-1NP: For NTSC model (GV-A500)
   WR5-1CP: For PAL model (GV-A500E)
8) Check that the RF waveform of the oscilloscope is flat at both the entrance and the exit.
   If not flat, perform necessary adjustment according to the separate "8 mm Video Mechanical Adjustment Manual Ⅶ (B Mechanism)".
9) Perform "Processing after operations", after completing adjustments.

CN207 of VC-197 board

Pin No.	Signal Name	Pin No.	Signal Name
1	PB PCM RF	9	EZ I/O
2	REC RF	10	
3	RF SWP	11	VGL-19V
4	CAP FG	12	
5	REG GND	13	
6	PB RF	14	BPF MON
7	RF AGC IN	15	RF AGC OUT
8	REC AFM	16	AFC FO

[Processing after operations]

1) Connect the adjusting remote commander, and turn on the HOLD switch.
2) Select page: 0, address: 01, and set data: 01.
3) Select page: F, address: 29, and set data: 00.
4) Press the PAUSE button of the adjusting remote commander.
5) Select page: 0, address: 01, and set data: 00.
6) Remove the power supply from the unit.

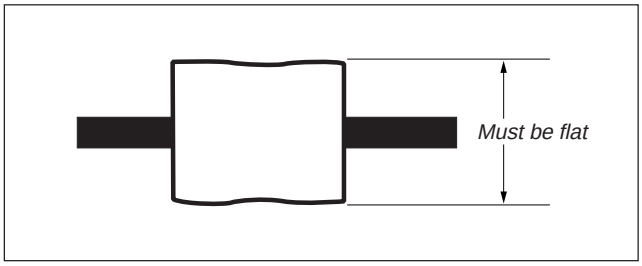


Fig. 5-2-1.

5-3. VIDEO SECTION ADJUSTMENTS

When performing adjustments, refer to the layout diagrams for adjustment related parts beginning from page 5-46.

3-1. PREPARATIONS BEFORE ADJUSTMENT

The following adjusting instruments are used for adjusting the video section.

3-1-1. Equipments to be Used

1) TV monitor
2) Oscilloscope: 2 phenomena, band 30 MHz or wider, with delay mode. (Use a 10:1 probe unless specified otherwise.)
3) Frequency counter
4) Pattern generator with video output terminal
5) Digital voltmeter
6) Audio generator
7) Audio level meter
8) Audio distortion meter
9) Audio attenuator
10) Regulated power supply
11) Alignment tape

[For NTSC model]

- For tracking adjustment (WR5-1NP)
  Part Code: 8-967-995-02
- For video frequency characteristics adjustment (WR5-7NE)
  Part Code: 8-967-995-13
- For checking Standard 8 mode operations
  For LP (WR5-4NL)
  Part Code: 8-967-995-51
  For SP (WR5-5NSP)
  Part Code: 8-967-995-42

Note : The following alignment tapes can also be used.
1) WR5-4NSP (8-967-995-41)

- For checking Hi8 mode operations
  For SP (WR5-8NSE)
  Part Code: 8-967-995-43
  For LP (WR5-8NLE)
  Part Code: 8-967-995-52
- For checking AFM stereo operations (WR5-9NS)
  Part Code: 8-967-995-23
  For checking BPF adjustment (WR5-11NS)
  Part Code: 8-967-995-71

12) Remote commander for adjustment (J-6082-053-B)
13) CPC-7 jig Part Code: J-6082-382-A
14) Power code Part Code: J-6082-223-A
15) AFM DEV jig (J-6082-312-A)
16) IR Receiving jig (J-6082-383-A)

[For PAL model]

- For tracking adjustment (WR5-1CP)
  Part Code: 8-967-995-07
- For video frequency characteristics adjustment (WR5-7CE)
  Part Code: 8-967-995-18
- For checking Standard 8 mode operations
  For LP (WR5-4CL)
  Part Code: 8-967-995-56
  For SP (WR5-5CSP)
  Part Code: 8-967-995-47

Note : The following alignment tapes can also be used.
1) WR5-3CL (8-967-995-36)
2) WR5-4CSP (8-967-995-46)

- For checking Hi8 mode operations
  For SP (WR5-8CSE)
  Part Code: 8-967-995-48
  For LP (WR5-8CLE)
  Part Code: 8-967-995-57
- For checking AFM stereo operations (WR5-9CS)
  Part Code: 8-967-995-28
  For checking BPF adjustment (WR5-11CS)
  Part Code: 8-967-995-76

3-1-2. Precautions in Adjustment

1) The adjustments of this unit are performed in the VTR mode (S VIDEO terminal input or VIDEO terminal input mode).
To set to the VTR mode, set the power switch to “ON” or set to the “forced VTR power supply ON mode” (Note 1) using the adjusting remote commander.
After completing adjustments, be sure to exit the “forced VTR power supply ON mode”. (Note 3)

Note 1 : Setting the “forced VTR power supply ON mode”

1) Set page: 0, address: 01, data: 01.
2) Set page: D, address: 10, data: 02 and press the PAUSE button of the adjusting remote commander.
Hereafter, VTR operations can be performed even if the cabinet has been removed.
After completing adjustments, be sure to exit the “forced VTR power supply ON mode”.

Note 2 : Exiting the “forced power supply ON mode”

1) Set page: 0, address: 01, data: 01.
2) Set page: D, address: 10, data: 00 and press the PAUSE button of the adjusting remote commander.
3) Set page: 0, address: 01, data: 00.

3-1-3. Connector for Adjustments

Some video section adjustment points are concentrated on the VC-197 board CN207. Connect the measuring instruments via a CPC-7 jig (J-6082-382-A).

Pin No.	Signal Name	Pin No.	Signal Name
1	PB PCM RF	9	EZ I/O
2	REC RF	10	
3	RF SWP	11	VGL-19V
4	CAP FG	12	
5	REG GND	13	
6	PB RF	14	BPF MON
7	RF AGC IN	15	RF AGC OUT
8	REC AFM	16	AFC FO

Table 5-3-1.

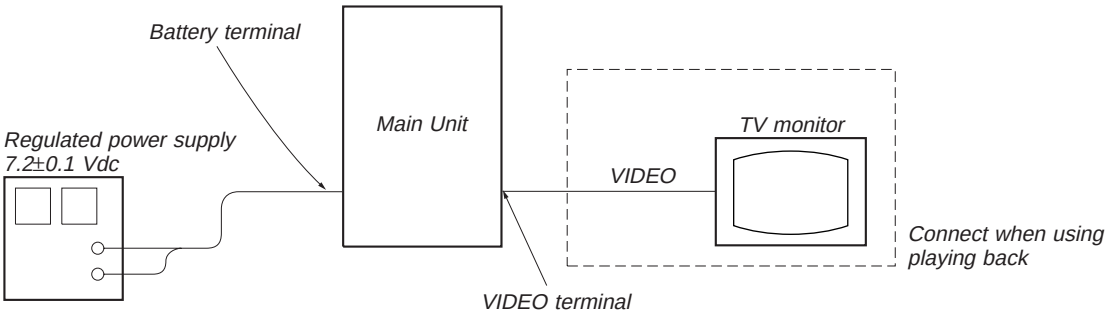
3-1-4. Connecting the Equipments

Connect the measuring instruments as shown in Fig. 5-3-1 according to the input terminal specifications (VIDEO input or S VIDEO input), and perform the adjustments.
The input terminal is specified in the ( ) in the signal column. Either input terminal can be used when there are no specifications.

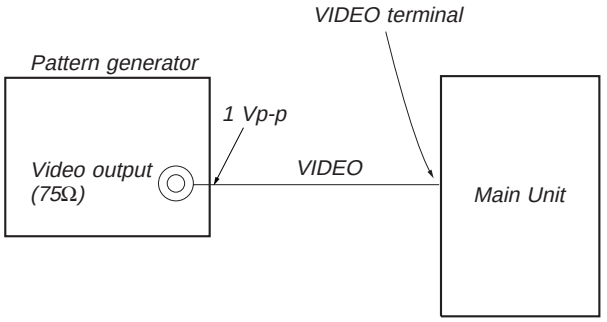
Note 1 : If the VIDEO input is used for adjustments which specify for the S VIDEO input to be used, the product specifications of the unit may not be satisfied in some cases. Be sure to perform according to the specifications.

Note 2 : When adjustments are performed with the S video output terminal VTR as the signal source, the efficiencies of the unit may be affected by the VTR. It is recommended that a pattern generator with a Y/C separation output terminal be used as much as possible.

Connecting the TV Monitor and Regulated Power Supply



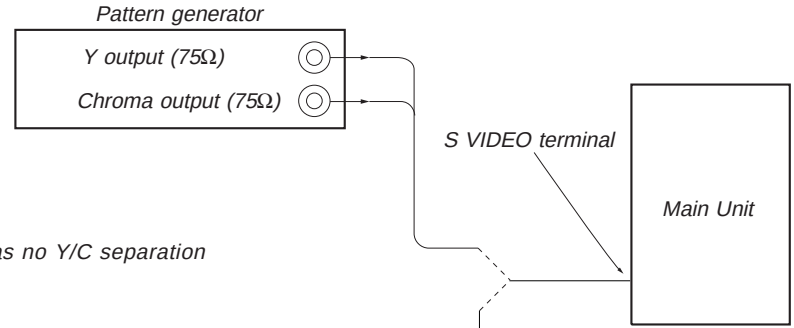
Connecting the Pattern Generator
[VIDEO Input]



Note 1: *The TV monitor cannot be connected. Monitor on the LCD.*

[S VIDEO Input]

- *When the pattern generator has a Y/C separation output terminal*



- *When the pattern generator has no Y/C separation output terminal*

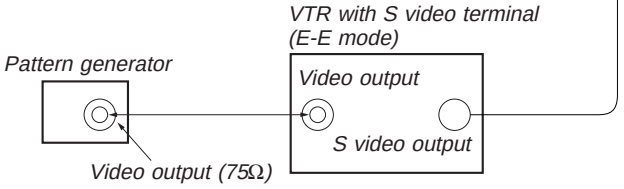


Fig. 5-3-1.

3-1-5. Checking the Input Signals

Because the video signal obtained from the pattern generator is used as the adjustment signal for adjusting the VTR section, the video output signal must satisfy the given specifications.

1. S VIDEO input

Connect the oscilloscope to the Y signal terminal of the S VIDEO terminal, and check that the sync signal of the Y signal is approximately <0.286> [0.30]V and that the amplitude of the video section is approximately <0.714> [0.70]V. (When a VTR with the S VIDEO output terminal is used, also check that the chroma signal and burst signal have not remained.) Connect the oscilloscope to the chroma signal terminal of the S VIDEO terminal, and check that the burst signal amplitude of the chroma signal is approximately <0.286>[0.30]V and flat, and that the amplitude ratio of the burst signal to the chroma signal is 0.30:0.66. The Y and chroma signals used in the adjustment are shown in Fig. 5-3-2.

< > : NTSC model

[ ] : PAL model

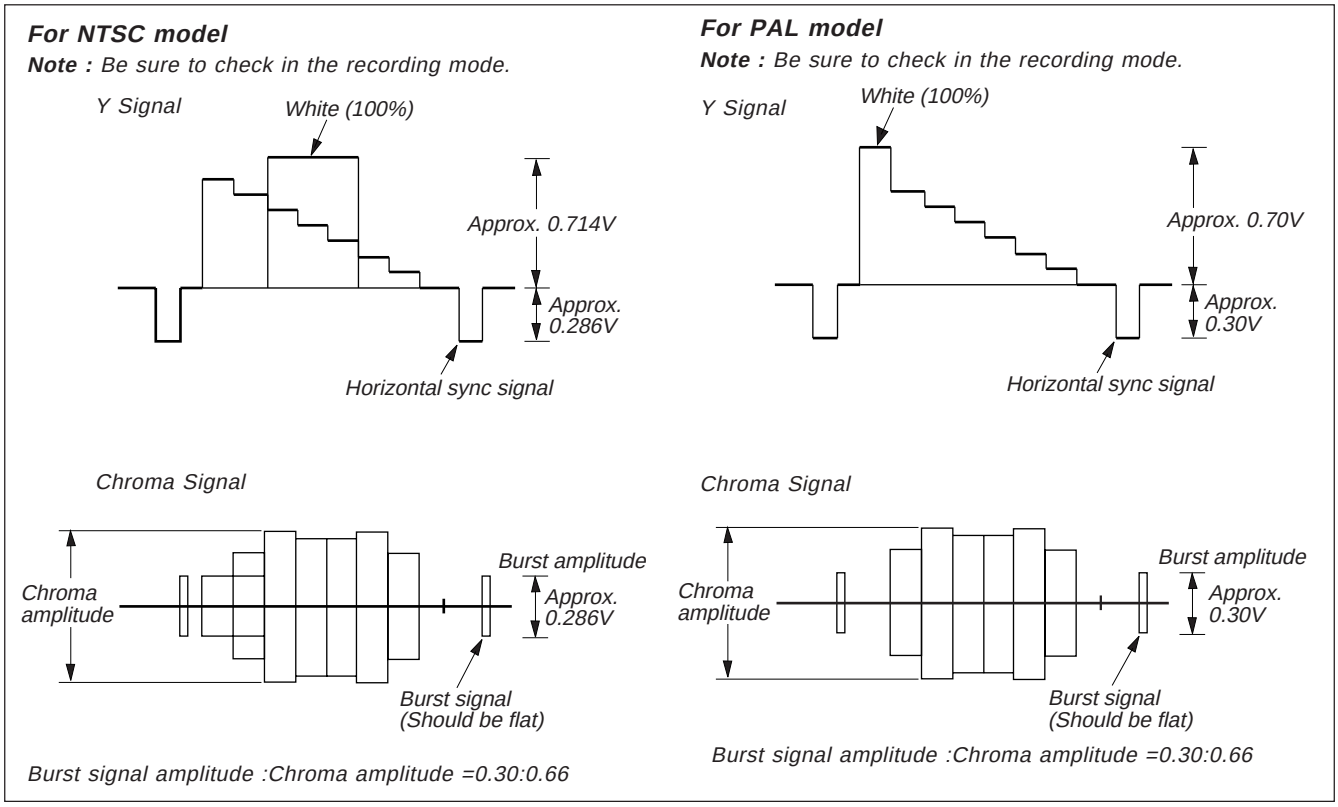


Fig. 5-3-2. Color bar signal of pattern generator

2. VIDEO input

Connect the oscilloscope to the VIDEO terminal, and check that the sync signal amplitude of the video signal is approximately <0.286> [0.30]V, the amplitude of the video section is approximately <0.714> [0.70]V, the amplitude of the burst signal is approximately <0.286> [0.30]V and flat, and that the level ratio of the burst signal to the "red" signal is 0.30 : 0.66.

The video signal (color bar) used for adjusting the VTR section is shown in Fig. 5-3-3.

< > : NTSC model

[ ] : PAL model

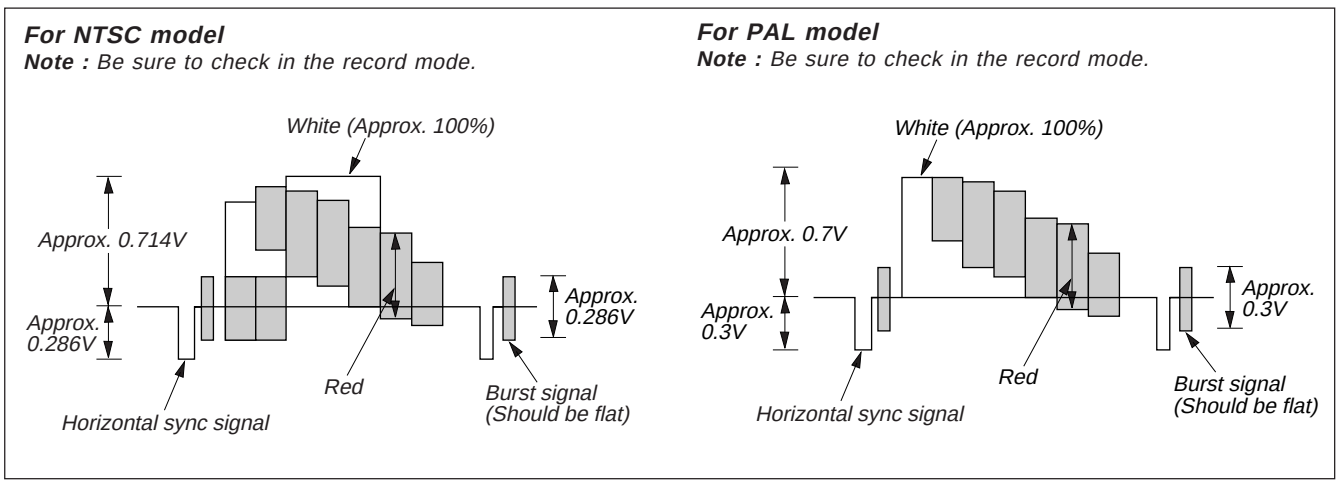


Fig. 5-3-3. Color Bar Signal of Pattern Generator

3-1-6. Alignment Tape

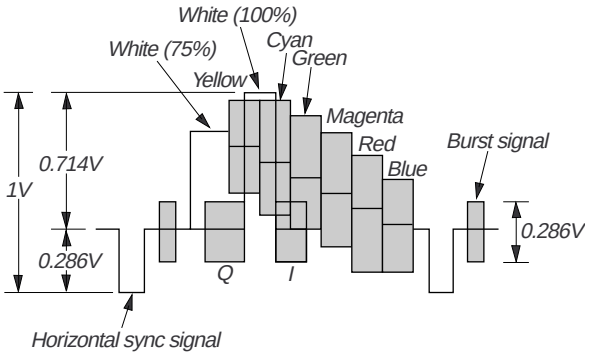
The following table lists alignment tapes which are available.
Use the tape specified in the signal column for each adjustment.
If the type of tape to be used for checking operations is not specified, use whichever type.

Name	Record-ing mode	Tape type	Tape speed	Usage
Tracking WR5-1NP (NTSC) WR5-1CP (PAL)	Standard 8 mm	MP	SP	Tape path adjustment Switching position adjustment
Video frequency characteristics WR5-7NE (NTSC) WR5-7CE (PAL)	Hi8	ME	SP (NTSC) LP (PAL)	Frequency characteristics adjustment
Operation check (SP mode) WR5-5NSP (NTSC) WR5-5CSP (PAL)	Standard 8 mm	MP	SP	Checking operations
Operation check (SP mode) WR5-8NSE (NTSC) WR5-8CSE (PAL)	Hi8	ME	SP	
Operation check (LP mode) WR5-4NL (NTSC) WR5-4CL (PAL)	Standard 8 mm	MP	LP	
Operation check (LP mode) WR5-8NLE (NTSC) WR5-8CLE (PAL)	Hi8	ME	LP	
AFM stereo Operation check WR5-9NS (NTSC) WR5-9CS (PAL)	Standard 8 mm	MP	SP	AFM stereo Checking operations
BPF adjustment WR5-11NS (NTSC) WR5-11CS (PAL)	Hi8	MP	SP	BPF adjustment

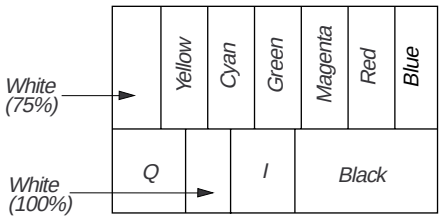
Fig. 5-3-4. Shows the color bar signals recorded on the alignment tape.

Note : Measure using the VIDEO terminal (Terminated at 75 Ω).

For NTSC model

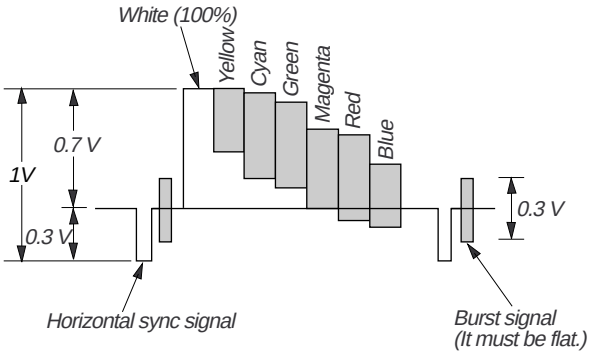


Color bar signal waveform



Color bar Pattern

For PAL model



Color bar signal waveform

Color bar Pattern

Fig. 5-3-4. Color Bar Signals of the Alignment Tape

3-1-7. Input/Output Level and Impedance

Video input/output

Phono jack, 1 Vp-p, 75Ω,
unbalanced, sync negative

S video input/output (Hi8 model)

4-pin mini DIN

Luminance signal:

1Vp-p, 75Ω, unbalanced, sync negative

Chrominance signal:

0.3Vp-p 75Ω, unbalanced

Audio input/output

Phono jack,

Input: –7.5 dBs, input impedance more than 47 kΩ

Output: –7.5 dBs, (at load impedance 47 kΩ), impedance less than 2.2 kΩ

3-1-8. Recording Mode (Standard 8/Hi8) switching

The record mode (Standard 8/Hi8) of this unit switches as shown in the following table. The playback mode (Standard 8/Hi8) switches automatically according to the recording mode of the tape played back.

Tape Used	Recording Mode
ME	Hi8
Hi8 MP	
MP	Standard 8

3-1-9. Service Mode

Additional note on adjustment

Note : After the completion of the all adjustments, cancel the service mode by either of the following ways.

1) Unplug the main power supply and remove the lithium battery. (In this case, date and time and menu setting have been set by users are canceled. Perform resetting.)
2) After data on page: D and F is restored, return data of the address: 01 on page: 0 to 00. And when data on page: 2 or page: 3 is changed, return the data to the original condition.

1. Test mode setting

Set/release each test mode. Set page: 0, address: 01, data: 01 before setting the data of page D and F.

Page F	Address 29

Data	Function
00	Normal
01	Test mode Various emergency prohibitions and releases Drum emergency, capstan emergency, loading motor emergency, reel emergency, tape top and end, DEW detection

Page D	Address 10

Data	Function
00	Normal
01	
02	VTR power ON
03	

* For page D and F, the data set will be recorded in the nonvolatile memory by pressing the PAUSE button on the adjusting remote commander. Take note that, in this case, the test mode will not be released even if the main power has been turned off (7.2 Vdc).

* Be sure to return this address data to 00 after completing adjustments/repairs and press the PAUSE button of the adjusting remote commander. And set page: 0, address: 01, data: 00.

2. Emergency Memory Address

When there are no emergency, data 00 will be written in the above addresses (10 to 1B). When the first emergency occurs, the data corresponding to the emergency will be written in the address (10 to 13) for this first emergency. In the same way, when the second emergency occurs, the data corresponding to the emergency will be written in the address (14 to 17) for this second emergency.
The data corresponding to the emergency occurring the last will be written in the address (18 to 1B) for this last emergency.
Therefore the data of addresses 18 to 1B are renewed each time an emergency occurs.

Page F	Address 10 to 1B

Address	Contents
10	1st EMG code
12	Upper: MSW code when the mechanism starts shifting the 1st time Lower: MSW code when the 1st emergency occurs
13	Lower: Target MSW code of the 1st emergency occurs
14	2nd EMG code
16	Upper: MSW code when the mechanism starts shifting the 2nd time Lower: MSW code when the 2nd emergency occurs
17	Lower: Target MSW code of the 2nd emergency occurs
18	Last EMG code
1A	Upper: MSW code when the mechanism starts shifting the last time Lower: MSW code when the last emergency occurs
1B	Lower: Target MSW code of the last emergency occurs

Note 1 : Be sure to rewrite the data of addresses 10 to 1B to 00 after repairs/adjustments.

Note 2 : When rewriting the data, be sure to press the PAUSE button of the remote commander after setting the data.

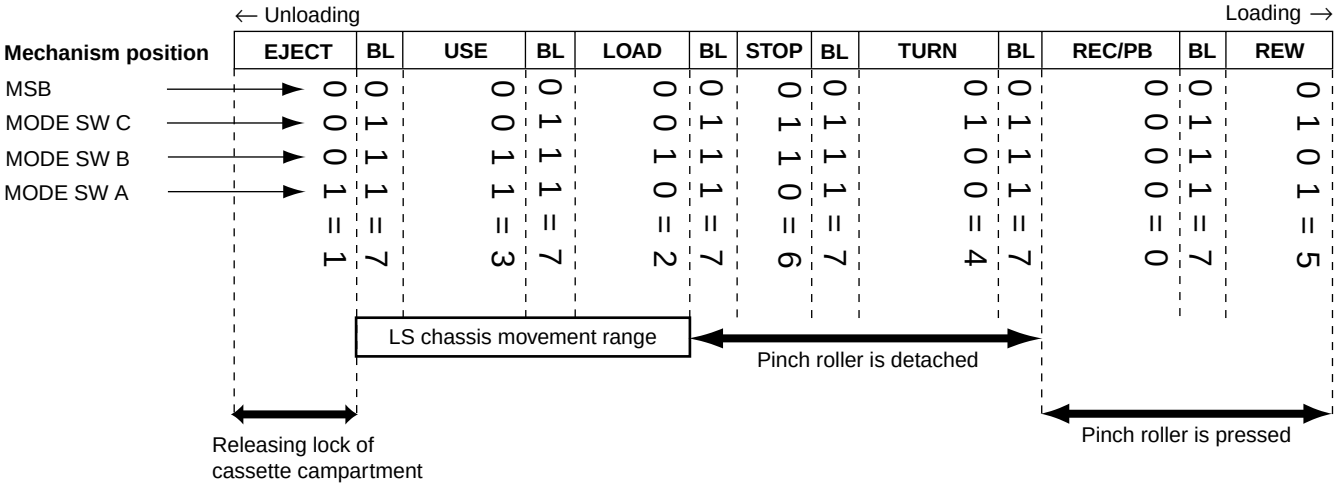
2-1. EMG CODE (Emergency Code)

The codes shown in the following table which correspond to errors that occur are recorded in addresses 10, 14, and 18.

Code	Type of Emergency
00	No error
10	Loading motor time-out during load
11	Loading motor time-out during unload
20	T reel emergency (reel slack) during unloading
21	S reel emergency (reel slack) during unloading
22	T reel emergency
23	S reel emergency
30	FG emergency at the start up of the capstan
31	FG emergency during the normal rotation of the capstan
40	FG emergency at the start up of the drum
41	PG emergency at the start up of the drum
42	FG emergency during the normal rotation of the drum
43	PG emergency during the normal rotation of the drum
44	Phase emergency during the normal rotation of the drum

2-2. MSW Codes

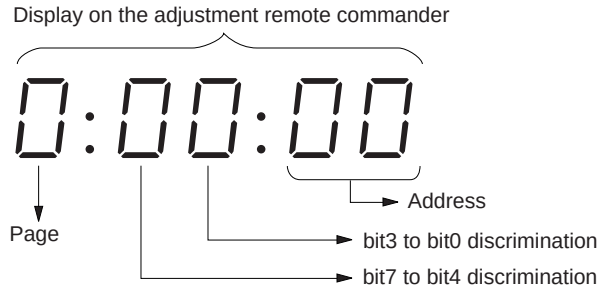
- The lower parts of the data of addresses 12, 16 and 1A represent the MSW codes (mode switch, mechanism position) when errors occurs.
- The upper parts of the data of addresses 12, 16 and 1A represent, when the mechanism position is to be moved, the MSW codes at the start of movement (when moving the loading motor).
- The lower parts of the data of addresses 13, 17 and 1B represent the MSW codes of the desired movement when the mechanism position is to be moved.



Mechanism Position	MSWCode	Contents
EJECT	1	Position at which the cassette compartment lock is released. The mechanism will not move any further in the unloading direction.
BL	7	BLANC code. Between two codes. The mechanism will not be stopped by this code while it is operating.
USE	3	EJECT completion position. When the cassette is ejected, the mechanism will stop at this position.
LOAD	2	Code during loading/unloading. Code that is used while the LS chassis is moving.
STOP	6	Normal stop position. The pinch roller separates, the tension regulator returns, and the brakes of both reels turn on.
TURN	4	Position at which is used when the pendulum gear swings from S to T or from T to S.
RECP/PB	0	PB, REC, CUE, REV, PAUSE, FF positions. The pinch roller is pressed and tension regulator is on.
REW	5	REW position. REW are carried at this position. The mechanism will not move any further in the loading direction.

3. Bit value discrimination

Bit values must be discriminated using the display data of the adjustment remote commander for the following items. Us the table below to discriminate if the bit value is “1” or “0”.



(Example) If the remote commander display is “8E”, bit value from bit 7 to bit 4 can be discriminated from the column Ⓐ, and those from bit 3 to bit 0 from column Ⓑ.

	Display on the adjustment remote commander	Bit values			
		bit3 or bit7	bit2 or bit6	bit1 or bit5	bit0 or bit4
	0	0	0	0	0
	1	0	0	0	1
	2	0	0	1	0
	3	0	0	1	1
	4	0	1	0	0
	5	0	1	0	1
	6	0	1	1	0
	7	0	1	1	1
Ⓐ	8	1	0	0	0
	9	1	0	0	1
	A (R)	1	0	1	0
	B (b)	1	0	1	1
	C (C)	1	1	0	0
	D (d)	1	1	0	1
Ⓑ	E (E)	1	1	1	0
	F (F)	1	1	1	1

4. Input/output selection check

Page 3	Address 16

Bit	Function	When bit value = 1	When bit value = 0
0	Not S video terminal input		S video terminal input
1	Not video terminal input		Video terminal input
2	Audio terminal monaural	Monaural	
3			
4			
5			
6			
7			

Using method:

1) Select page: 3, address: 16.
2) By discriminating the bit value of the display data, the state of the input/output selection can be discriminated.

5. Condensation, head clogging check

Page 3	Address 17

Bit	Function	When bit value = 1	When bit value = 0
0	Condensation state (1 hour preservation)	Condensation	
1	Head clogging	Head clogging	
2			
3			
4			
5			
6			
7			

Using method:

1) Select page: 3, address: 17.
2) By discriminating the bit value of the display data, the state of the VTR can be discriminated.

6. VTR state check (1)

Page 3	Address 18

Bit	Function	When bit value = 1	When bit value = 0
0	Video/audio circuit PB mode	PB mode	REC/E-E mode
1			
2			
3			
4	Head clog detection when REC	Head clog	
5			
6	Recorded tape playback	Playback	
7	Capstan rotation	Rotation	

Using method:

1) Select page: 3, address: 18.
2) By discriminating the bit value of the display data, the state of the VTR can be discriminated.

7. VTR state check (2)

Page 3	Address 19

Bit	Function	When bit value = 1	When bit value = 0
0	Eject state	Eject state	REC/E-E mode
1	Cassette insertion state	Cassette in	
2	Cassette accidental erasure prevention	Accidental erasure prevention state	
3	Tape type	ME	MP
4	Tape type	Hi8 MP	MORMAL MP, ME
5	Crystal variable speed playback	Variable speed playback	
6	Variable speed playback mode	Variable speed playback mode	
7	DRUM	DRUM rotation	STOP

Using method:

1) Select page: 3, address: 19.
2) By discriminating the bit value of the display data, the state of the VTR can be discriminated.

8. VTR state check (3)

Page 3	Address 1A

Bit	Function	When bit value = 1	When bit value = 0
0	Playback tape recording mode	Hi8	Standard 8
1			
2	Audio mode	Monaural	Stereo
3			
4			
5			
6			
7			

Using method:

1) Select page: 3, address: 1A.
2) By discriminating the bit value of the display data, the state of the VTR can be discriminated.

9. Record of Use Check

Page 3	Address E0 to E9

Bit	Function		Remarks
E0	Service status		For checking reset. Normal = “FF”. Reset: “00”
E1	Drum rotation	Hour (H)	1000th place digit and 100th place digit of counted time (decimal digit)
E2	counted time	Hour (L)	10th place digit and 1st place digit of counted time (decimal digital)
E3	(BCD code)	Minute	
E4	User initial power	Year	After setting the clock, set the date of power on next
E5	on date	Month	
E6	(BCD code)	Day	
E7	Final condensation	Year	
E8	occurrence date	Month	
E9	(BCD code)	Day	

Using method:

1) The record of use data is displayed at page 3, addresses: E0 to E9.

Note : This data will be erased when the coin lithium battery is removed (reset).

3-2. SYSTEM CONTROL SYSTEM ADJUSTMENTS

1. Initialization of D, E, F Page Data

If the D, E, F page data is erased due to some reason, perform "1-2. INITIALIZATION OF D, E, F PAGE DATA" (See page 5-8).

2. Battery End Adjustment (VC-197 board)

Set the battery end voltage.
If the voltage is incorrect, the life of the battery will shorten.
The image at the battery end will also be rough.

Mode	Camera record
Signal	Arbitrary
Measurement Point	LCD display of the adjusting remote
Measuring Instrument	control unit
Adjustment Page	D
Specified Value	28 to 2C, 35

Connection:

1) Connect the regulated power supply and the digital voltmeter to the battery terminal as shown in Fig. 5-3-5.

Adjusting method:

1) Adjust the output voltage of the regulated power supply so that the digital voltmeter display is 6.1 ± 0.1 Vdc.
2) Turn off the regulated power supply.
3) Turn on the HOLD switch of the adjusting remote commander.
4) Turn on the regulated power supply.
5) Load a cassette, and set to the VTR PB mode.
6) Set page: 0, address: 01, data: 01.
7) Decrease the output voltage of the regulated power supply so that the digital voltmeter display is 5.30 ± 0.01 Vdc.
8) Select page: 3, address: 15, read the adjusting remote commander display data, and this data is named Dref.
9) Set data Dref to page: D, address: 28, and press the PAUSE button of the adjusting remote commander.
10) Set the Dref to page: D, address: 35, and press the PAUSE button of the adjusting remote commander.
11) Convert Dref to decimal notation, and obtain Dref´. (Refer to Table 5-1-7. "Hexadecimal notation-decimal notation calculation table")
12) Calculate D_{29}´, D_{2A}´, D_{2B}´ and D_{2C}´ using following equations (decimal notation calculation).
    D_{29}´ = Dref´+8
    D_{2A}´ = Dref´+32
    D_{2B}´ = Dref´+53
    D_{2C}´ = Dref´+64
13) Convert D_{29}´, D_{2A}´, D_{2B}´ and D_{2C}´ to hexadecimal notation, and obtain D_{29}, D_{2A}, D_{2B} and D_{2C}.
14) Set page: D, address: 29, data: D_{29} and press the PAUSE button of the adjusting remote commander.
15) Set page: D, address: 2A, data: D_{2A} and press the PAUSE button.
16) Set page: D, address: 2B, data: D_{2B} and press the PAUSE button.
17) Set page: D, address: 2C, data: D_{2C} and press the PAUSE button.
18) Set page: 0, address: 01, data: 00.

3. Battery down voltage check

Connection:

Same connection as item "1. Battery down voltage adjustment".

Adjustment method:

1) Adjust the output voltage of the regulated power supply so that the digital voltmeter indicates 6.10 ± 0.01Vdc.
2) Insert a cassette and enter the VTR PB mode.
3) Adjust the output voltage of the regulated power supply so that the digital voltmeter indicates 5.53 ± 0.01Vdc.
4) Confirm that the battery down indication ⏍ on the POWER LED and EVF flashes at the rate of 0.8Hz.
5) Adjust the output voltage of the regulated power supply so that the digital voltmeter indicates 5.27 ± 0.01Vdc.
6) Confirm that the battery down indication ⏍ on the POWER LED and EVF flashes at the rate of 3.2Hz.

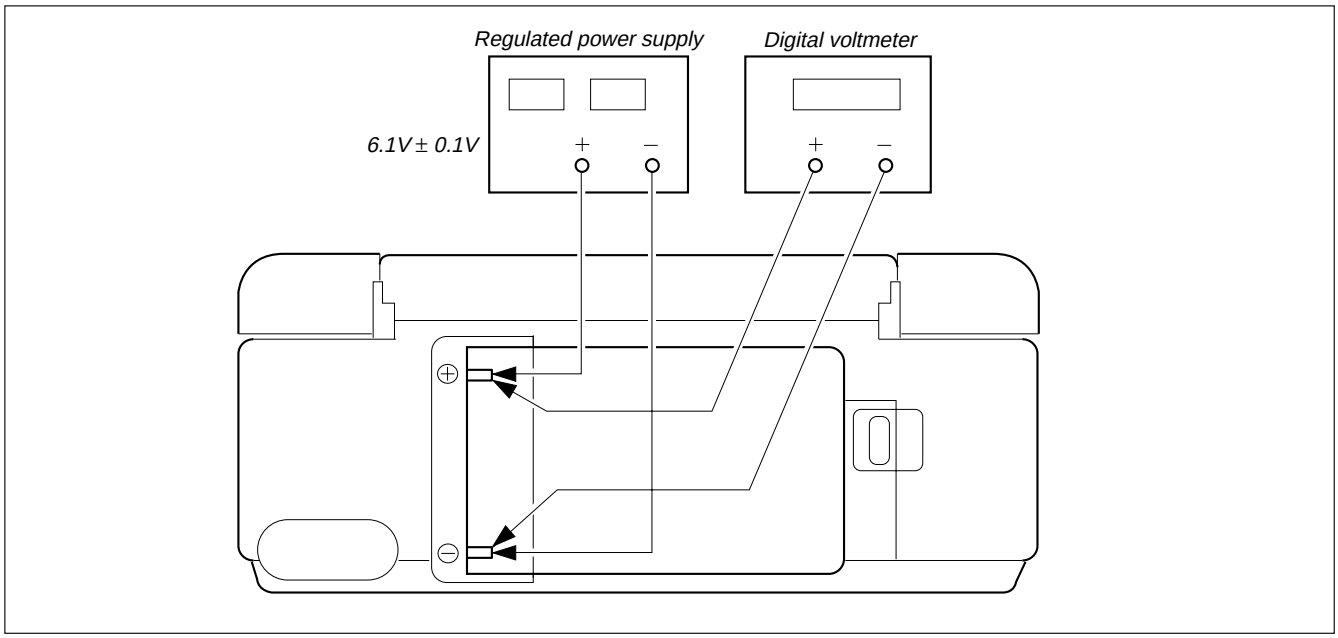


Fig. 5-3-5.

3-3. SERVO SYSTEM ADJUSTMENTS

1. CAP FG Offset Adjustment (VC-197 board)

Improve the capstan servo characteristic. If it is not correct, jitters will increase.

Mode	Playback (SP mode)
Signal	Alignment tape : For operation check (WR5-5NSP(NTSC)) (WR5-5CSP(PAL))
Measurement Point	Pin ④ of CN207 (CAP FG)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	3A
Specified Value	Duty = 50 ± 1.5%

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Change the page: F, address: 3A, data by pressing the PLAY and STOP buttons of the remote commander until the duty satifies the specification.
3) Press the PAUSE button of the adjusting remote commander.
4) Set page: 0, address: 01, data: 00.

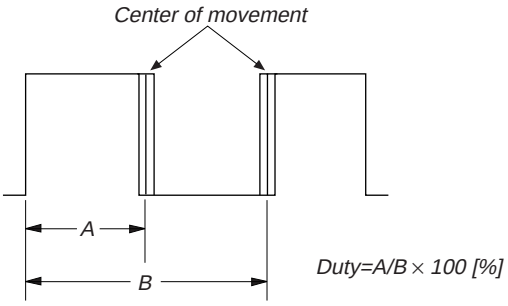


Fig. 5-3-6.

2. Switching Position Adjustment (VC-197 board)

If deviated in this case causes switching noise or jitter on the played back screen.

Mode	Playback
Signal	Alignment tape: For tracking adjustment (WR5-1NP (NTSC)) (WR5-1CP (PAL))
Measurement Point	CH1: Pin ③ of CN207 (RF SWP) CH2: Pin ⑥ of CN207 (PB RF)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	36, 37
Specified Value	t1 = 0 ± 10 µsec

Note : NTSC model : GV-A500
PAL model : GV-A500E

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Change the data of page: F, address: 37 and minimize “t1”, and press the PAUSE button of the adjusting remote commander. (Coarse adjustment)
3) Change the data of page: F, address: 36, and adjust so that the switching position (t1) becomes the specified value. (Fine adjustment)
4) Press the PAUSE button of the adjusting remote commander.
5) Set page: 0, address: 01, data: 00.

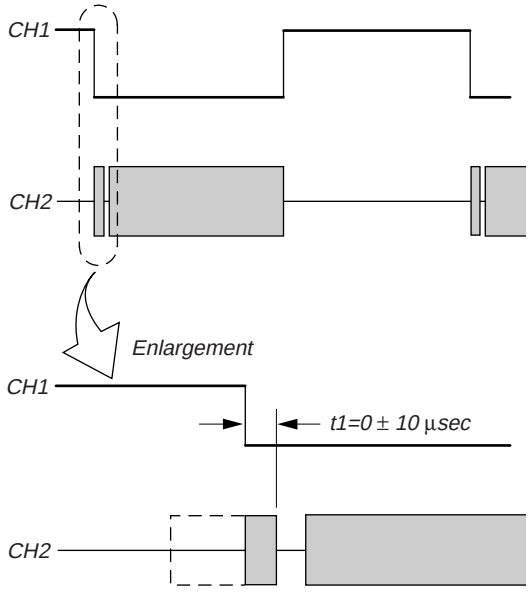


Fig. 5-3-7.

3. NTSC LP mode Switching Position Adjustment (VC-197 board)

If deviated in this case causes switching noise or jitter on the LP mode played back screen.

Mode	Playback
Signal	Alignment tape: For tracking adjustment (WR5-1NP)
Measurement Point	CH1: Pin ③ of CN207 (RF SWP) CH2: Pin ⑥ of CN207 (PB RF)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	38, 39
Specified Value	t1 = 0 ± 10 µsec

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Set page: F, address: 29, data: 40 and press the PAUSE button of the adjusting remote commander.
3) Change the data of page: F, address: 39 and minimize "t1", and press the PAUSE button of the adjusting remote commander. (Coarse adjustment)
4) Change the data of page: F, address: 38, and adjust so that the switching position (t1) becomes the specified value. (Fine adjustment)
5) Press the PAUSE button of the adjusting remote commander.
6) Set page: F, address: 29, data: 00 and press the PAUSE button of the adjusting remote commander.
7) Set page: 0, address: 01, data: 00.

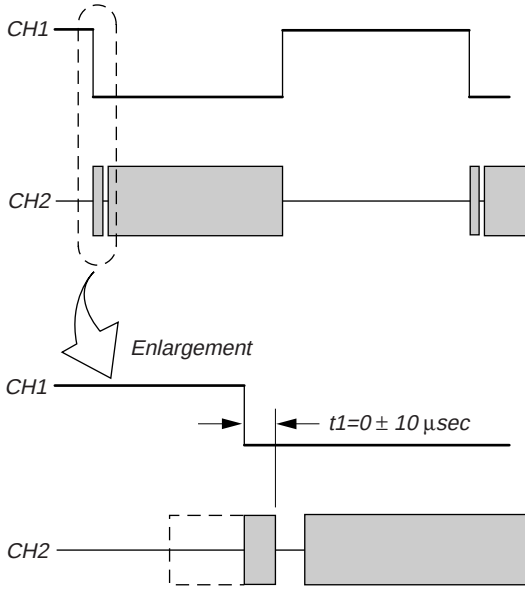


Fig. 5-3-8.

3-4. VIDEO SYSTEM ADJUSTMENTS

Video system adjustments must be performed in the following order.

[Adjusting Order]

1. 28 MHz origin oscillation adjustment
2. Filter f0 adjustment
3. Y OUT level adjustment
4. C OUT level adjustment
5. RP filter f0 adjustment
6. AFC f0 adjustment
7. NTSC Hi8 REC Y current adjustment
8. PAL Hi8 REC Y current adjustment
9. NTSC Hi8 REC C current adjustment
10. PAL Hi8 REC C current adjustment
11. REC C current adjustment

1. 28 MHz Origin Oscillation Adjustment (VC-197 board)

Set the frequency of the clock for synchronization.
If deviated, the synchronization will be disrupted and the color will become inconsistent.

Note 1 : If the x2 frequency is displayed, insert a 1 kΩ resistor between the measuring point and probe.
Note 2 : NTSC model : GV-A500
PAL model : GV-A500E

Mode	VTR stop
Subject	Arbitrary
Measurement Point	Pin ⑥ of IC206
Measuring Instrument	Frequency counter
Adjustment Page	F
Adjustment Address	3B
Specified Value	f = 14318181 ± 71 Hz (NTSC) f = 14187500 ± 70 Hz (PAL)

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Set page: 3, address: 01, data: 41 and press the PAUSE button of the adjusting remote commander.
3) Change the data of page: F, address: 3B, and set the oscillation frequency (f) to the specified value.
4) Press the PAUSE button of the adjusting remote commander.
5) Set page: 3, address: 01, data: 00 and press the PAUSE button of the adjusting remote commander.
6) Set page: 0, address: 01, data: 00.

2. Filter f0 Adjustment (VC-197 board)

Minimize the chroma signal residual components during composite video signal input.

Note : Do not insert a plug into the S video terminal.

Mode	VTR stop
Signal	Color bar (Video input)
Measurement Point	Pin ⑨ of CN207 (EZ I/O)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	5A
Specified Value	Minimum residual chroma signal components

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Set page: 3, address: 01, data: 33 and press the PAUSE button of the adjusting remote commander.
3) Change the data of page: F, address: 5A, and minimize the residual chroma signal components (A).
4) Press the PAUSE button of the adjusting remote commander.
5) Set page: 3, address: 01, data: 00 and press the PAUSE button of the adjusting remote commander.
6) Set page: 0, address: 01, data: 00.

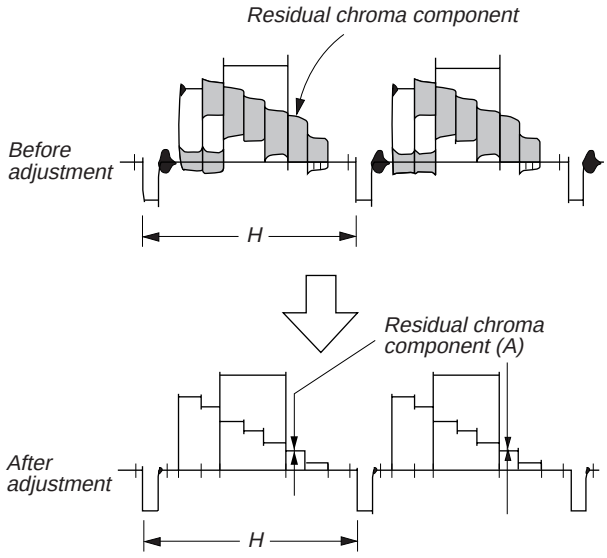


Fig. 5-3-9.

3. Y OUT Level Adjustment (VC-197 board)

Set the Y signal output level.

Note : Insert the plug into the S video terminal.

Mode	VTR stop
Subject	Arbitrary
Measurement Point	Y signal terminal of S VIDEO terminal (75Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	56
Specified Value	A = 286 ± 5 mV (NTSC) A = 300 ± 5 mV (PAL)

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Set page: 3, address: 01, data: 41 and press the PAUSE button of the adjusting remote commander.
3) Change the data of page: F, address: 56, and set the SYNC level (A) to the specified value.
4) Press the PAUSE button of the adjusting remote commander.
5) Set page: 3, address: 01, data: 00 and press the PAUSE button of the adjusting remote commander.
6) Set page: 0, address: 01, data: 00.

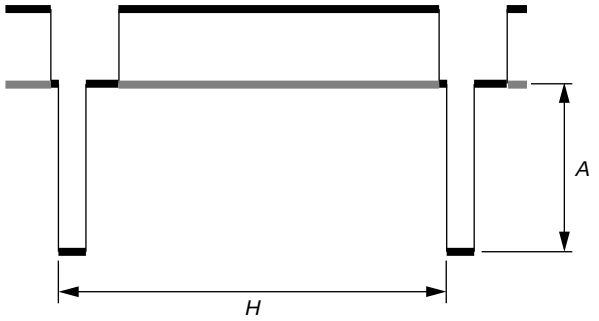


Fig. 5-3-10.

4. C OUT Level Adjustment (VC-197 board)

Set the chroma signal output level.

Note : Insert the plug into the S video terminal.

Mode	VTR stop
Subject	Arbitrary
Measurement Point	Chroma signal terminal of S VIDEO terminal (75Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	58
Specified Value	A = 286 ± 5 mV (NTSC) A = 300 ± 5 mV (PAL)

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Set page: 3, address: 01, data: 41 and press the PAUSE button of the adjusting remote commander.
3) Change the data of page: F, address: 58, and set the burst level (A) to the specified value.
4) Press the PAUSE button of the adjusting remote commander.
5) Set page: 3, address: 01, data: 00 and press the PAUSE button of the adjusting remote commander.
6) Set page: 0, address: 01, data: 00.

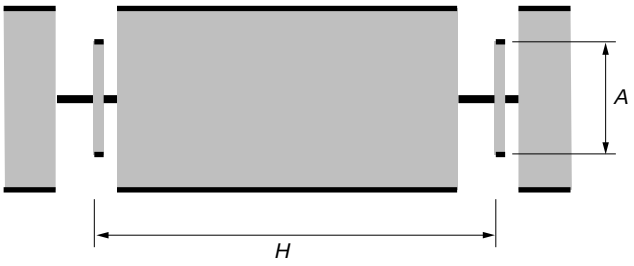


Fig. 5-3-11.

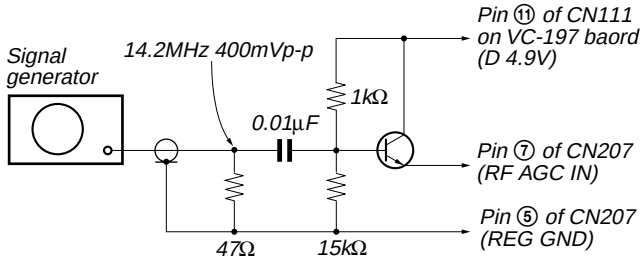
5. RP Filter f0 Adjustment (VC-197 board)

Adjust the LPF of the playback RF amplifier.

Mode	VTR stop
Subject	Arbitrary
Measurement Point	Pin ⑮ of CN207 (RF AGC OUT)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	5B
Specified Value	A = Below 10 mVp-p

Connection:

1) Input a 14.2 MHz, 400 mVp-p CW signal to Pin ⑦ of CN207 (RF AGC IN).



Transistor : General NPN transistor (2SC403, etc)
47 resistor : 1-249-401-11
1k resistor : 1-249-417-11
15k resistor : 1-249-431-11
0.01µF capacitor : 1-101-004-00

Fig. 5-3-12.

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Set page: 3, address: 01, data: 35 and press the PAUSE button of the adjusting remote commander.
3) Change the data of page: F, address: 5B, and minimize the 14.2 MHz signal level (A).
4) Press the PAUSE button of the adjusting remote commander.
5) Set page: 3, address: 01, data: 00 and press the PAUSE button of the adjusting remote commander.
6) Set page: 0, address: 01, data: 00.

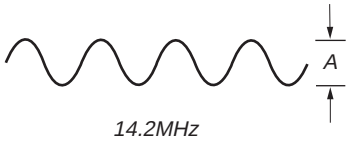


Fig. 5-3-13.

6. AFC f0 Adjustment (VC-197 board)

Adjust the pull-in range of the A/D converted clock generator during playback.

Note : Do not insert the plug in the S video terminal.

Mode	VTR stop
Signal	Color bar (Video input)
Measurement Point	Pin ⑯ of CN207 (AFC f0)
Measuring Instrument	Digital voltmeter
Adjustment Page	F
Adjustment Address	57
Specified Value	A = 2.2 ± 0.05 Vdc

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Set page: 3, address: 01, data: 31 and press the PAUSE button of the adjusting remote commander.
3) Change the data of page: F, address: 57, and set the DC voltage (A) to the specified value.
4) Press the PAUSE button of the adjusting remote commander.
5) Set page: 3, address: 01, data: 00 and press the PAUSE button of the adjusting remote commander.
6) Set page: 0, address: 01, data: 00.

7. NTSC Hi8 REC Y Current Adjustment (VC-197 board)

Adjust the Y FM signal recording current.

Mode	VTR recording
Signal	No signal
Measurement point	Pin ② of CN207 (REC RF)
Measuring instrument	Oscilloscope (20 MHz BW LIMIT: OFF)
Adjustment page	F
Adjustment address	60, 61, 62, 63, 64, 65, 66, 67
Specified value	A = 140 ± 5 mVp-p (ME, E, SP mode) A = 120 ± 5 mVp-p (MP, E, SP mode) A = 140 ± 5 mVp-p (MP, L, SP mode) A = 120 ± 5 mVp-p (ME, E, LP mode) A = 100 ± 5 mVp-p (MP, E, LP mode) A = 120 ± 5 mVp-p (MP, L, LP mode)

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Note down the data of page: F, address: 69, set data: FF, and press the PAUSE button of the adjusting remote commander.
3) Set page: F, address: 29, data: 01 and press the PAUSE button of the adjusting remote commander.
4) Note down the data of page: D, address: 10, set data: 06, and press the PAUSE button of the adjusting remote commander.
5) Set to recording mode.
6) Set page: 3, address: 01, data: 41 and press the PAUSE button of the adjusting remote commander. (ME, E, SP mode)
7) Change the data of page: F, address: 61, and set the REC Y signal level (A) to the specified value.
8) Press the PAUSE button of the adjusting remote commander.
9) Read the data (D_{61}) of page: F, address: 61.
10) Convert D_{61} to a decimal number, to obtain D_{61}'.
    (Refer to Table 5-1-7. Hexadecimal notation-decimal notation calculation table.)
11) Calculate the adjustment data (decimal) from the following equations (decimal calculation), convert it to a hexadecimal number, and input each adjustment address.
    Address: 60 $D_{60}' = D_{61}'$
    Address: 62 $D_{62}' = D_{61}' + 13$
    Address: 63 $D_{63}' = D_{61}' + 13$
    Note : After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
12) After setting data noted down at step 3) for page: F, address: 69, press the PAUSE button of the adjusting remote commander.
13) After setting data noted down at step 16) for page: F, address: 6B, press the PAUSE button of the adjusting remote commander.
14) After setting data noted down at step 5) for page: D, address: 10, press the PAUSE button of the adjusting remote commander.
15) Set page: F, address: 29, data: 00 and press the PAUSE button of the adjusting remote commander.
16) Set page: 3, address: 01, data: 00 and press the PAUSE button of the adjusting remote commander.
17) Set page: 0, address: 01, data: 00.

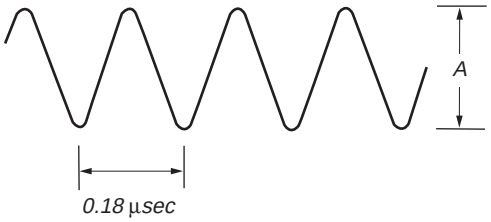


Fig. 5-3-14.

8. PAL Hi8 REC Y Current Adjustment (VC-197 board)

Adjust the Y FM signal recording current.

Mode	VTR recording (SP mode)
Signal	No signal
Measurement point	Pin ② of CN207 (REC RF)
Measuring instrument	Oscilloscope (20 MHz BW LIMIT: OFF)
Adjustment page	F
Adjustment address	60, 61, 62, 63, 64, 65
Specified value	A = 185 ± 5 mVp-p (ME, E, SP mode) A = 150 ± 5 mVp-p (MP, E, SP mode) A = 160 ± 5 mVp-p (MP, L, SP mode)

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Note down the data of page: F, address: 69, set data: FF, and press the PAUSE button of the adjusting remote commander.
3) Set page: F, address: 29, data: 01 and press the PAUSE button of the adjusting remote commander.
4) Note down the data of page: D, address: 10, set data: 06, and press the PAUSE button of the adjusting remote commander.
5) Set to recording mode.
6) Set page: 3, address: 01, data: 41 and press the PAUSE button of the adjusting remote commander. (ME, E, SP mode)
7) Change the data of page: F, address: 61, and set the REC Y signal level (A) to the specified value.
8) Press the PAUSE button of the adjusting remote commander.
9) Read the page: F, address: 61, data (D_{61}).
10) Set page: F, address: 60, 62 and 63, data: D_{61}.
    Note : After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
11) After setting data noted down at step 3) for page: F, address: 69, press the PAUSE button of the adjusting remote commander.
12) After setting data noted down at step 5) for page: D, address: 10, press the PAUSE button of the adjusting remote commander.
13) Set page: F, address: 29, data: 00 and press the PAUSE button of the adjusting remote commander.
14) Set page: 3, address: 01, data: 00 and press the PAUSE button of the adjusting remote commander.
15) Set page: 0, address: 01, data: 00.

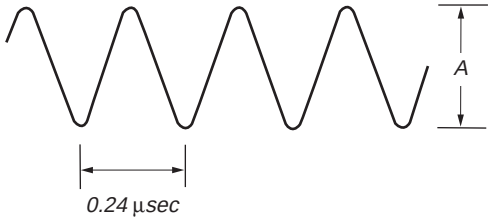


Fig. 5-3-15.

9. NTSC Hi8 REC C Current Adjustment (VC-197 board)

Set the recording levels of the REC AFM signal and REC ATF signal. If the level is too low, the audio S/N will deteriorate, tracking will not be stable, or SP/LP will not be discriminated properly. If too high, color beets will be produced on the self-recording /playback image.

Adjust the REC chroma signal recording current.

Mode	VTR recording
Signal	No signal
Measurement point	Pin ② of CN207 (REC RF)
Measuring instrument	Oscilloscope (20 MHz BW LIMIT: OFF)
Adjustment page	F
Adjustment address	60 to 71
Specified value	A = 30.3 ± 1 mVp-p (ME, E, SP mode)

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Insert a tape, and set to recording mode.
3) Note down the data of page: F, address: 29, set data: 01, and press the PAUSE button of the adjusting remote commander.
4) Note down the data of page: D, address: 10, set data: 06, and press the PAUSE button of the adjusting remote commander.
5) Set page: 2, address: 61, data: 30 and press the PAUSE button of the adjusting remote commander.
6) Set page: 3, address: 01, data: 41 and press the PAUSE button of the adjusting remote commander. (ME, E, SP mode)
7) Change the data of page: F, address: 69, and set the REC L signal level (A) to the specified value.
8) Press the PAUSE button of the adjusting remote commander.
9) Read the page: F, address: 69, data (D_{69}).
10) Convert D_{69} to a decimal number, to obtain D_{69}'. (Refer to Table 5-1-7. Hexadecimal notation-decimal notation calculation table.)
11) Calculate the adjustment data (decimal) from the following equations (decimal calculation), convert it to a hexadecimal number, and input each adjustment address.
    Address: 68 $D_{68}' = D_{69}'$
    Address: 6A $D_{6A}' = D_{69}' - 11$
    Address: 6B $D_{6B}' = D_{69}' - 11$
    Address: 6C $D_{6C}' = D_{69}' + 16$
    Address: 6D $D_{6D}' = D_{69}' + 16$
    Address: 6E $D_{6E}' = D_{69}' + 16$
    Address: 6F $D_{6F}' = D_{69}' + 16$
    Note : After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
12) After setting data noted down at step 3) for page: F, address: 29, press the PAUSE button of the adjusting remote commander.
13) After setting data noted down at step 4) for page: D, address: 10, press the PAUSE button of the adjusting remote commander.
14) Set page: 3, address: 01, data 00 and press the PAUSE button of adjusting remote commander.
15) Set page: 2, address: 61, data: 10 and press the PAUSE button of the adjusting remote commander.
16) Set page: 0, address: 01, data: 00.

Note : Do not insert a plug into the AUDIO (R) terminal.

Connection:

1) Remove C1060 (0.01µF, near Pin ⑤ of IC101).
   Note : After completing "REC L Level Adjustment" and "REC C Current Adjustment", replace C1060 with new parts (1-162-970-11 CERAMIC CHIP 0.01µF 10% 25V).
2) Connect Pin ⑬ of IC101 and GND with a 0.01µF capacitor. 0.01µF capacitor: 1-101-004-00

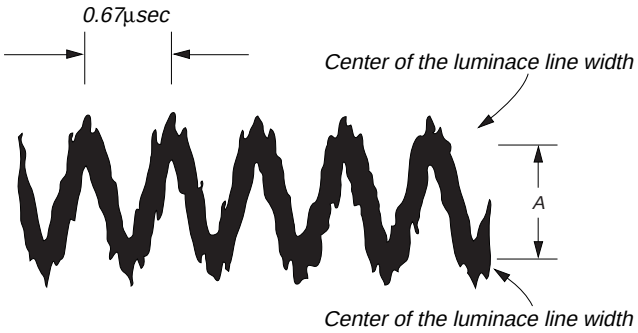


Fig. 5-3-16.

10. PAL Hi8 REC C Current Adjustment (VC-197 board)

Set the recording levels of the REC AFM signal and REC ATF signal. If the level is too low, the audio S/N will deteriorate, tracking will not be stable, or SP/LP will not be discriminated properly. If too high, color beets will be produced on the self-recording /playback image.

Adjust the REC chroma signal recording current.

Mode	VTR recording
Signal	No signal
Measurement point	Pin ② of CN207 (REC RF)
Measuring instrument	Oscilloscope (20 MHz BW LIMIT: OFF)
Adjustment page	F
Adjustment address	68 to 71
Specified value	A = 35.7 ± 1.3 mVp-p (ME, E, SP mode)

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Insert a tape, and set to recording mode.
3) Note down the data of page: F, address: 29, set data: 01, and press the PAUSE button of the adjusting remote commander.
4) Note down the data of page: D, address: 10, set data: 06, and press the PAUSE button of the adjusting remote commander.
5) Set page: 2, address: 61, data: 30 and press the PAUSE button of the adjusting remote commander.
6) Set page: 3, address: 01, data: 41 and press the PAUSE button of the adjusting remote commander. (ME, E, SP mode)
7) Change the data of page: F, address: 69, and set the REC C signal level (A) to the specified value.
8) Press the PAUSE button of the adjusting remote commander.
9) Read the page: F, address: 69, data (D_{69}).
10) Convert D_{69} to a decimal number, to obtain D_{69}'. (Refer to Table 5-1-7. Hexadecimal notation-decimal notation calculation table.)
11) Calculate the adjustment data (decimal) from the following equations (decimal calculation), convert it to a hexadecimal number, and input each adjustment address.
    Address: 68 $D_{68}' = D_{69}'$
    Address: 6A $D_{6A}' = D_{69}'$
    Address: 6B $D_{6B}' = D_{69}'$
    Address: 6C $D_{6C}' = D_{69}' + 14$
    Address: 6D $D_{6D}' = D_{69}' + 14$
    Address: 6E $D_{6E}' = D_{69}' + 14$
    Address: 6F $D_{6F}' = D_{69}' + 14$
    Note : After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
12) After setting data noted down at step 3) for page: F, address: 29, press the PAUSE button of the adjusting remote commander.
13) After setting data noted down at step 4) for page: D, address: 10, press the PAUSE button of the adjusting remote commander.
14) Set page: 3, address: 01, data: 00 and press the PAUSE button of the adjusting remote commander.
15) Set page: 3, address: 01, data: 00 page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
16) Set page: 0, address: 01, data: 00.

Note : Do not insert a plug into the AUDIO (R) terminal.

Connection:

1) Remove C1060 (0.01µF, near Pin ⑤ of IC101).
   Note : After completing "REC L Level Adjustment" and "REC C Current Adjustment", replace C1060 with new parts (1-162-970-11 CERAMIC CHIP 0.01µF 10% 25V).
2) Connect Pin ⑥③ of IC101 and GND with a 0.01µF capacitor. 0.01µF capacitor: 1-101-004-00

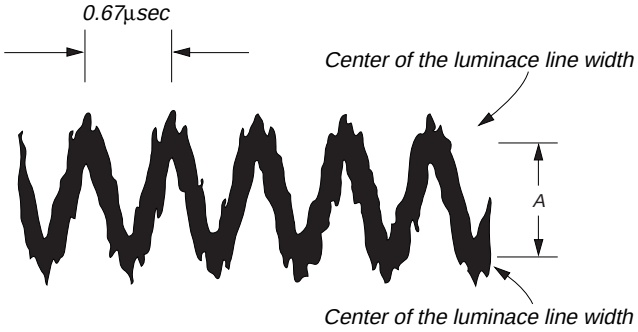


Fig. 5-3-17.

11. REC C Current Adjustment (VC-197 board)

Set the recording current level of REC chroma signal. If it is lower than its normal level, chroma signal noise in played back picture will increase and white modulation noises will be produced.

Mode	VTR recording (SP mode)
Signal	No signal
Measurement point	Pin ② of CN207 (REC RF)
Measuring instrument	Oscilloscope (20 MHz BW LIMIT: OFF)
Adjustment page	F
Adjustment address	72
Specified value	A = 116 ± 6.4 mVp-p (NTSC) A = 129 ± 7mVp-p (PAL)

Connection:

1) Remove C1060 (0.01µF, near Pin ⑤ of IC101).
   Note : After completing "REC L Level Adjustment" and "REC C Current Adjustment", replace C1060 with new parts (1-162-970-11 CERAMIC CHIP 0.01µF 10% 25V).
2) Connect Pin ① of IC101 and GND with a 0.01µF capacitor. 0.01µF capacitor: 1-101-004-00
3) Connect Pin ⑥③ of IC101 and GND with a 0.01µF capacitor. 0.01µF capacitor: 1-101-004-00

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Set to recording mode.
3) Note down the data of page: F, address: 29, set data: 01, and press the PAUSE button of the adjusting remote commander.
4) Note down the data of page: D, address: 10, set data: 06, and press the PAUSE button of the adjusting remote commander.
5) Set page: 2, address: 61, data: 30 and press the PAUSE button of the adjusting remote commander.
6) Set page: 3, address: 01, data: 41 and press the PAUSE button of the adjusting remote commander. (MP, SP mode)
7) Change the data of page: F, address: 72, and set the REC C signal level (A) to the specified value.
8) Press the PAUSE button of the adjusting remote commander.
9) After setting data noted down at step 3) for page: F, address: 29, press the PAUSE button of the adjusting remote commander.
10) After setting data noted down at step 4) for page: D, address: 10, press the PAUSE button of the adjusting remote commander.
11) Set page: 2, address: 61, data: 10 and press the PAUSE button of the adjusting remote commander.
12) Set page: 3, address: 01, data: 00 and press the PAUSE button of the adjusting remote commander.
13) Set page: 0, address: 01, data: 00.

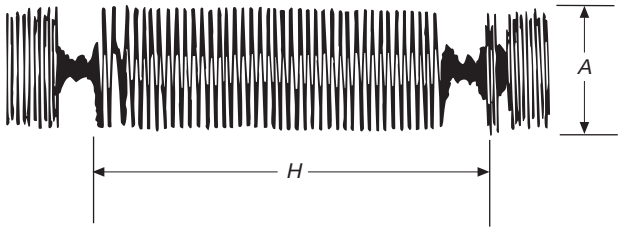


Fig. 5-3-18.

3-5. IR Transmitter Adjustments

Adjust using a IR receiver jig.

Switch setting:

LASER LINK ····· ON (Red LED is lit)

1. IR Video Carrier Frequency Adjustment (MI-27/28 board)

Mode	VTR stop
Subject	Arbitrary
Measuring point	TP607 of IR receiver jig (or Pin ⑯ of IC361 of MI-27/28 board)
Measuring instrument	Frequency counter
Adjusting page	F
Adjusting address	76
Specified value	f = 11.85 ± 0.05 MHz

Connection of Equipment:

Connect the measuring devices as shown in the following figure, and adjust.

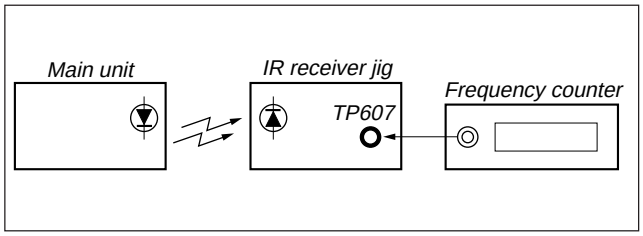


Fig. 5-3-19.

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Set page: 3, address: 09, data: 01 and press the PAUSE button of the adjusting remote commander.
3) Set page: 3, address: 01, data: 37 and press the PAUSE button of the adjusting remote commander.
4) Change the data of page: F, address: 76, and set the video carrier frequency (f) to the specified value.
5) Press the PAUSE button of the adjusting remote commander.
6) Set page: 3, address: 01, data: 00 and press the PAUSE button of the adjusting remote commander.
7) Set page: 3, address: 09, data: 00 and press the PAUSE button of the adjusting remote commander.
8) Set page: 0, address: 01, data: 00.

2. IR Video Deviation Adjustment (MI-27/28 board)

Mode	VTR stop
Subject	Arbitrary
Measuring point	VIDEO OUT terminal of IR receiver jig (Terminated at 75Ω)
Measuring instrument	Oscilloscope
Adjusting page	F
Adjusting address	73
Specified value	$A = 0.87^{+0.04}_{-0.10}$ V

Connection of Equipment:

Connect the measuring devices as shown in the following figure, and adjust.

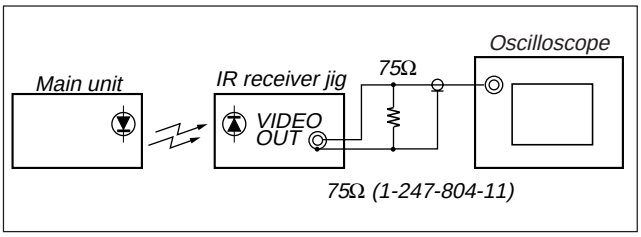


Fig. 5-3-20.

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Set page: 3, address: 09, data: 01 and press the PAUSE button of the adjusting remote commander.
3) Set page: 3, address: 01, data: 39 and press the PAUSE button of the adjusting remote commander.
4) Change the data of page: F, address: 73, and set the video signal amplitude (A) to the specified value.
5) Press the PAUSE button of the adjusting remote commander.
6) Set page: 3, address: 01, data: 00 and press the PAUSE button of the adjusting remote commander.
7) Set page: 3, address: 09, data: 00 and press the PAUSE button of the adjusting remote commander.
8) Set page: 0, address: 01, data: 00.

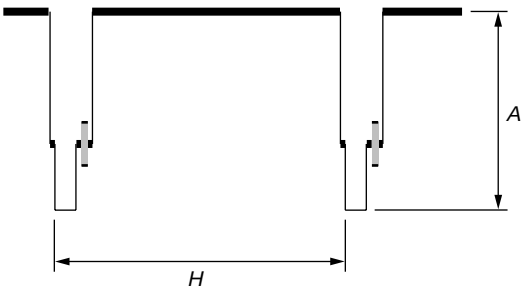


Fig. 5-3-21.

3. IR Audio Deviation Adjustment (MI-27/28 board)

Mode	VTR recording
Signal	Audio signal: 400 Hz, –7.5 dBs: Left or right of audio input/output terminal Video signal: Color bar signal: Video input/ output terminal
Measuring point	AUDIO OUT L terminal and AUDIO OUT R terminal of IR receiver jig (Terminated at 47 kΩ)
Measuring instrument	Audio level meter
Adjusting page	F
Adjusting address	75
Specified value	–7.5 ± 0.5 dBs

Connection of Equipment:
Connect the measuring devices as shown in the following figure, and adjust.

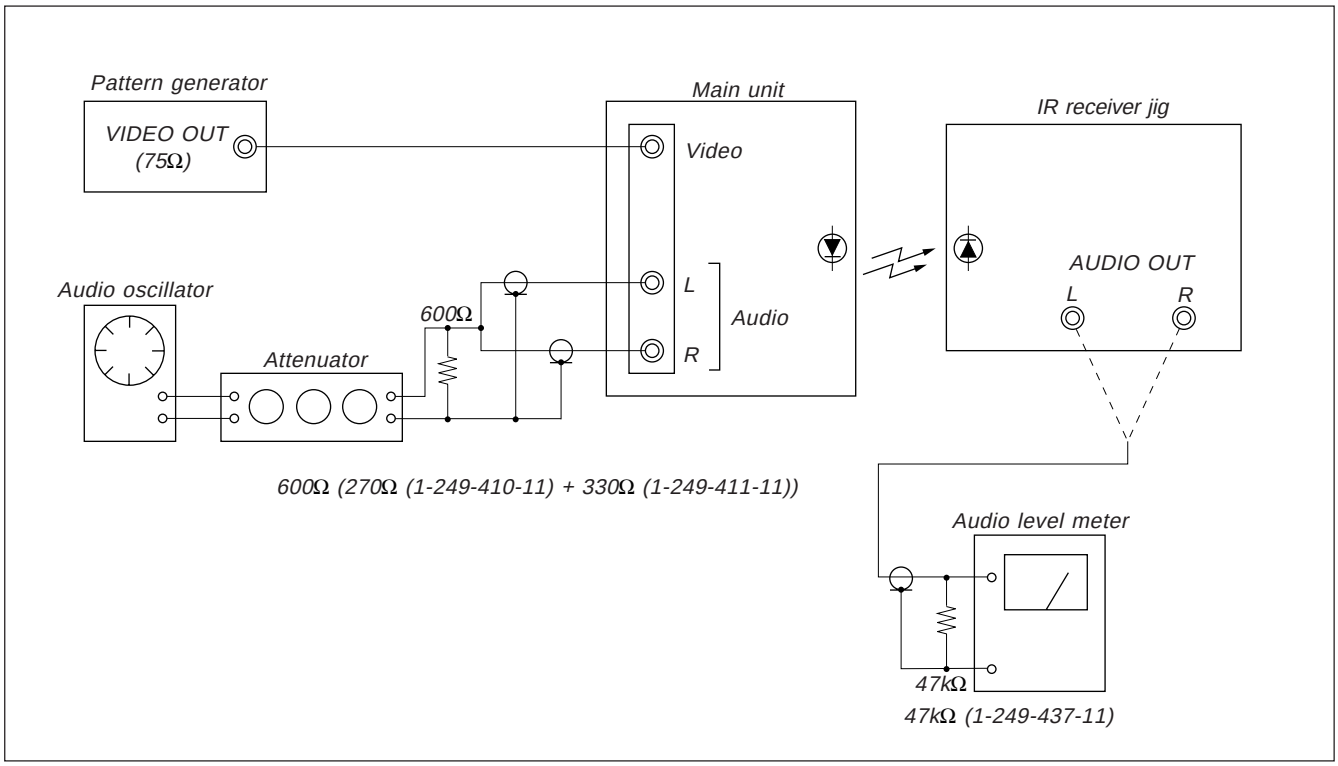


Fig. 5-3-22.

Adjusting method:
1) Set page: 0, address: 01, data: 01.
2) Connect the audio level meter to the AUDIO OUT L terminal of the IR receiver jig.
3) Set page: 3, address: 09, data: 01 and press the PAUSE button of the adjusting remote commander.
4) Change the data of page: F, address: 75, and set the audio signal level to the specified value.
5) Press the PAUSE button of the adjusting remote commander.
6) Connect the audio level meter to the AUDIO OUT R terminal of the IR receiver jig.
7) Check that the audio level is within the specified value. If outside, repeat from step 2.
8) Set page: 3, address: 09, data: 00 and press the PAUSE button of the adjusting remote commander.
9) Set page: 0, address: 01, data: 00.

3-6. AUDIO SYSTEM ADJUSTMENT

- Perform the adjustment using the color bar signal as a video signal input for VIDEO terminal.
- The items to be adjusted for the R channel will be indicated within the [ ], in regard to the adjusting items to be adjusted for both L and R channels.
- Set the Hi-Fi sound switch in the menu display to “STEREO” position unless specified otherwise.

Note :

1) When inputting the audio signal, input the same signal to both the L and R channels, unless specified otherwise.
2) Be sure to insert the plug (Shorting plug or dummy plug, etc) into the AUDIO terminal (Right). If the plug is not inserted, the monaural mode well be set, and correct adjustments can not be carried out.
   [Monaural mode]
   During recording ····· REC AFM RF 1.7MHz carrier will not be output.
   During playback ····· The L+R signal will be output from the AUDIO terminal (Left).

[Connecting the measuring instruments for the audio]

Connect the audio system measuring instruments in addition to the video system measuring instruments as shown in Fig. 5-3-25, and perform adjustments at the power switch [VTR] or [PLAYER] position.

[Adjustment Procedure]

1) 1.5 MHz deviation adjustment
2) 1.7 MHz deviation adjustment
3) BPF adjustment

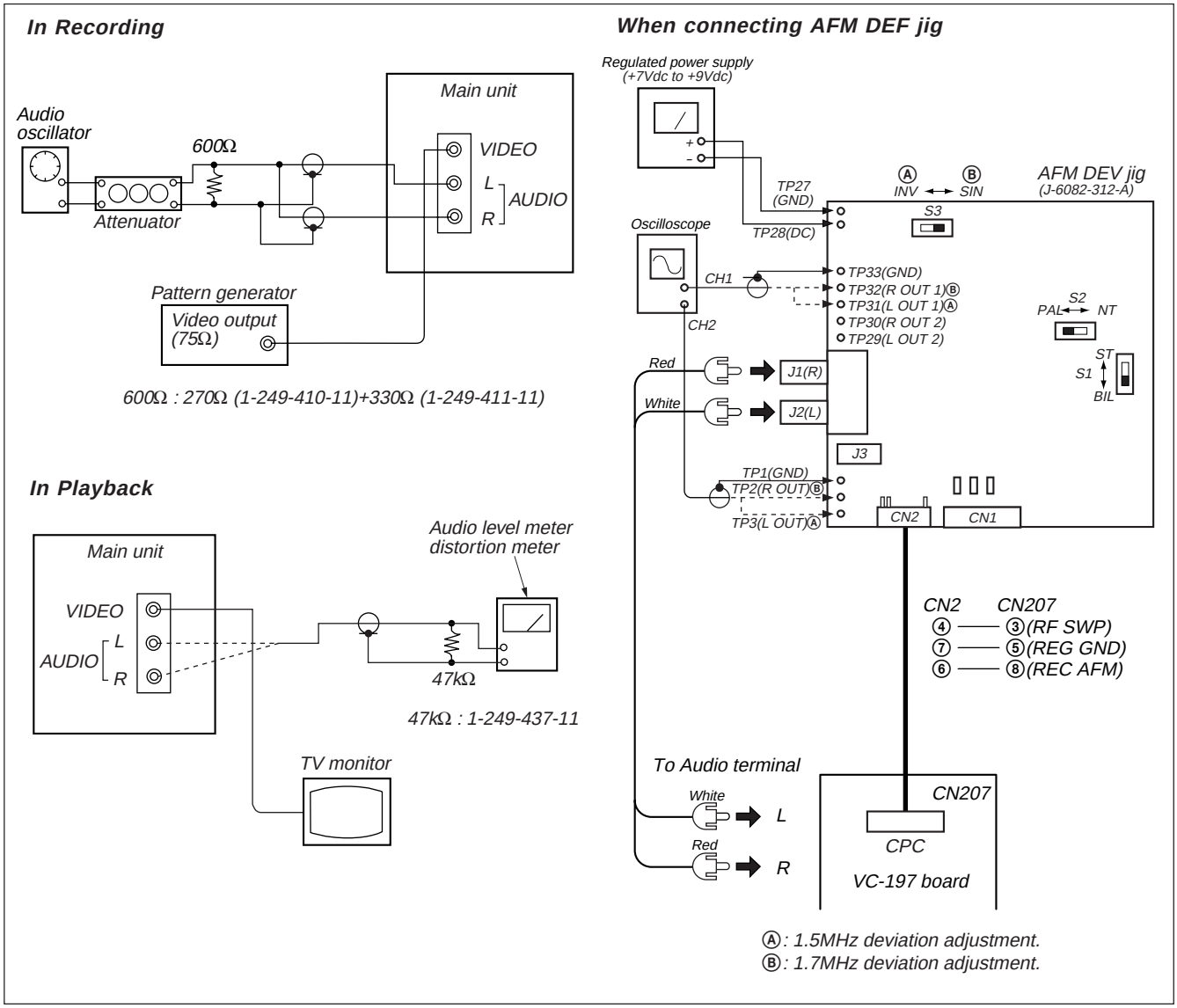


Fig. 5-3-24.

1. 1.5 MHz Deviation Adjustment (VC-197 board)

Sets the spectrum of the L-ch (L+R/2 signal) level modulated during recording. If deviated, the crosstalk of the audio signal will occur and the audio level will drop during both playback and recording.

Mode	VTR recording
Signal	Input the AFM DEV jig output signal to the right and left audio input terminals (Note 1)
Measuring point	CH1: AFM DEV jig TP31 CH2: AFM DEV jig TP3
Measuring device	Oscilloscope ADD mode CH2 INV mode
Adjustment page	F
Adjustment address	52
Specified value	The difference between CH1 signal and CH2 signal should be minimum.

Connection:

1) Connect CN2 of the AFM DEV jig to CN207 of the VC-197 board.
2) Connect the audio output terminal (J1 and J2) of the AFM DEV jig to AUDIO terminal of the unit.
3) Connect TP28 (DC), TP27 (GND) of the AFM DEV jig to the DC power supply (+7 Vdc to +9 Vdc).
4) Set the AFM DEV jig switches to the following positions.
   S1 ····· BIL position
   S2 ····· NT position (NTSC)
   PAL position (PAL)
   S3 ····· SIN position

Note : NTSC model : GV-A500
PAL model : GV-A500E

Adjustment method:

1) Match the vertical ranges of CH1 and CH2 of the oscilloscope to each other.
2) Set the oscilloscope to the ADD mode and CH2 to the INV (inverse) mode.
3) Set page: 0, address: 01, data: 01.
4) Change the data of page: F, address: 52 and minimize the audio signal level difference (A).
5) Press the PAUSE button of the adjusting remote commander.
6) Set page: 0, address: 01, data: 00.

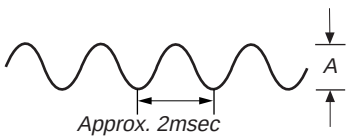


Fig. 5-3-25.

2. 1.7 MHz Deviation Adjustment (VC-197 board)

Sets the spectrum of the R-ch (L–R/2 signal) level modulated during recording. If deviated, the crosstalk of the audio signal will occur and the audio level will drop during both playback and recording.

Mode	VTR recording
Signal	Input the AFM DEV jig output signal to the right and left audio input terminals
Measuring point	CH1: AFM DEV jig TP32 CH2: AFM DEV jig TP2
Measuring device	Oscilloscope ADD mode CH2 INV mode
Adjustment page	F
Adjustment address	53
Specified value	The difference between CH1 signal and CH2 signal should be minimum.

Connection:

1) Connect CN2 of the AFM DEV jig to CN207 of the VC-197 board.
2) Connect the audio output terminal (J1 and J2) of the AFM DEV jig to AUDIO terminal of the unit.
3) Connect TP28 (DC), TP27 (GND) of the AFM DEV jig to the DC power supply (+7 to +9 Vdc).
4) Set the AFM DEV jig switches to the following positions.
   S1 ····· BIL position
   S2 ····· NT position (NTSC)
   PAL position (PAL)
   S3 ····· SIN position

Note : NTSC model : GV-A500
PAL model : GV-A500E

Adjustment method:

1) Match the vertical ranges of CH1 and CH2 of the oscilloscope to each other.
2) Set the oscilloscope to the ADD mode and CH2 to the INV (inverse) mode.
3) Set page: 0, address: 01, data: 01.
4) Change the data of page: F, address: 53 and minimize the audio signal level difference (A).
5) Press the PAUSE button of the adjusting remote commander.
6) Set page: 0, address: 01, data: 00.

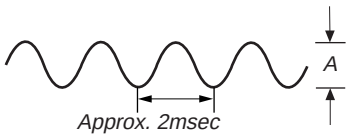


Fig. 5-3-26.

3. BPF f0 Adjustment (VC-197 board)

Sets the BPF passing frequency so that the AFM signal can separate from the playback RF signal properly. If deviated the mono/stereo mode will be differentiated incorrectly, and noises and distortions will increase during high volume playback.

Mode	Playback
Signal	Alignment tape:
	For BPF adjustment (WR5-11NS (NTSC)) (WR5-11CS (PAL))
Measuring point	Right or left audio output terminal
Measuring device	Distortion meter
Adjustment page	F
Adjustment address	54
Specified value	The Main and Sub channel distortion rates should be almost the same (within ± 1%) and minimum

Note : NTSC model : GV-A500
PAL model : GV-A500E

Adjustment method:

1) Set page: 0, address: 01, data: 01.
2) Set the Hi-Fi sound switch (menu display) to " 2 ".
3) Change the data of page: F, address: 54 and minimize the distortion rate.
4) Press the PAUSE button of the adjusting remote commander.
5) Set the Hi-Fi sound switch to " 1 ".
6) Change the data of page: F, address: 54 and minimize the distortion rate.
7) Press the PAUSE button of the adjusting remote commander.
8) Repeat steps 2) to 7) and set the data of address: 54 so that the distortions rates when the Hi-Fi sound switch is set to " 2 " and set to " 1 " respectively are almost the same and minimum.
9) Press the PAUSE button of the adjusting remote commander.
10) Set page: 0, address: 01, data: 00.
11) Set the Hi-Fi sound switch to "STEREO".

3-7. LCD SYSTEM ADJUSTMENT

Note 1 : The back light (fluorescent tube) is driven by a high voltage AC power supply. Therefore, do not touch the back light holder to avoid electrical shock.

Note 2 : When replacing the LCD unit, be careful to prevent damages caused by static electricity.

Note 3 : Set the brightness to the center using the LCD BRIGHT button.

[Adjusting connector]

Most of the measuring points for adjusting the LCD display are concentrated in the following connector.

CN802 of the VC-197 board. Connect the measuring instruments via the multi CPC jig (J-6082-311-A).

The following table shows the Pin No. and signal name of the connector.

Pin No.	Signal Name	Pin No.	Signal Name
1	VR	2	VG
3	VB	4	V-COM
5	GND	6	SYNC
7	HDB	8	SAT
9	FRP		

[Power Supply Voltage]

Adjust the power supply voltage so that the battery terminal voltage becomes 7.2 ± 0.1 Vdc .

[Video input signal for adjustment]

If stated as “10-step stair-step” in the signal column, input the 10-step stair-step signal in the video input terminal as the video input signal for the adjusting. Check that the input signal level is 1.00 Vp-p before adjusting.

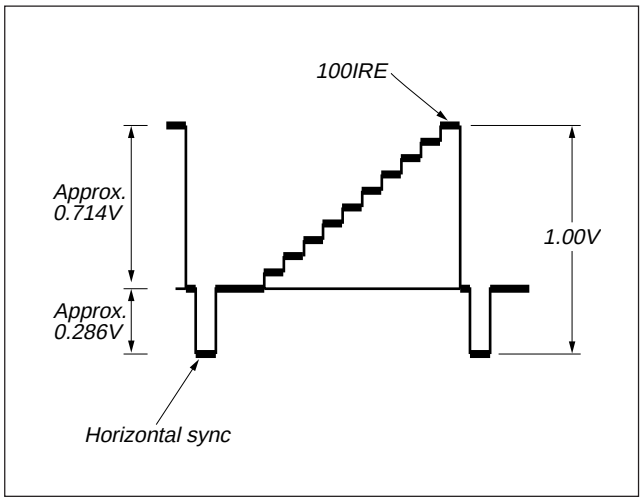


Fig. 5-3-27.

1. LCD Initial Data Input

Mode	VTR stop
Signal	Arbitrary
Adjustment Page	D
Adjustment Address	3C to 3F, 52 to 62

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Select page: D, and input the data in the following table.
   Note : To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time to set the data.
3) Set page: 0, address: 01, data: 00.

Address	Data		Remark
	NTSC 4” LCD	PAL 4” LCD	
3C	08	08	
3D	07	08	
3E	03	03	Fixed value
3F	05	05	Fixed value
52	88	86	
53	79	66	
54	72	60	
55	76	79	
56	68	73	
57	97	9A	
58	85	56	
59	97	9A	
5A	7D	7C	Fixed value
5B	7E	7D	Fixed value
5C	69	60	Fixed value
5D	88	86	
5E	00	60	(Fixed value)
5F	69	60	Fixed value
60	00	B0	Fixed value
61	00	67	Fixed value
62	A1	A1	Fixed value

( ): NTSC model only (GV-A500)

2. VCO Adjustment (PD-88 baord)

Set the VCO freerun frequency. If deviated, the LCD screen will be blurred.

Mode	VTR stop
Signal	No signal
Measurement point	Pin ⑦ of CN802 (HDB) of VC-197 board
Measuring instrument	Frequency counter
Adjustment page	D
Adjustment address	58
Specified value	f = 15734 ± 30Hz (NTSC) f = 15625 ± 30Hz (PAL)

Note : Press the DISPLAY button and erase the screen indictors on the LCD screen.

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Set page: 3, address: 01, data: 37 and press the PAUSE button of the adjusting remote commander.
3) Change the data of page: D, address: 58, and set the HDB signal frequency (f) to the specified value.
4) Press the PAUSE button of the adjusting remote commander.
5) Set page: 3, address: 01, data: 00 and press the PAUSE button of the adjusting remote commander.
6) Set page: 0, address: 01, data: 00.

3. H POS Adjustment (VC-197 baord)

Adjusts the horizontal position of picture on LCD display.

Mode	VTR stop
Signal	Color bar signal
Measurement point	CH1: VC-197 board CN802 pin ⑥ (SYNC) CH2: VC-197 board CN802 pin ⑧ (SRT)
Measuring equipment	Oscilloscope
Adjustment page	D
Adjustment address	5C, 55
Specification	T=6.9 ± 0.1µsec (NTSC) T=8.40 ± 0.1µsec (PAL)

Note : Set the LCD so that it is directed toward the lens. (The waveform is different depending upon direction.)

Adjusting method:

1) Set page :0, address: 01, data: 01
2) Change the data of page: D, address: 5C and set the signal level (T) to the specified value.
3) Press the PAUSE button of the adjusting remote commander.
4) Read the page: D, address: 5C, data (D_{5C}).
5) Set page: D, address: 5F, data: D_{5C} and press the PAUSE button of the adjusting remote commander.
6) Set page: 0, address: 01, data: 01.

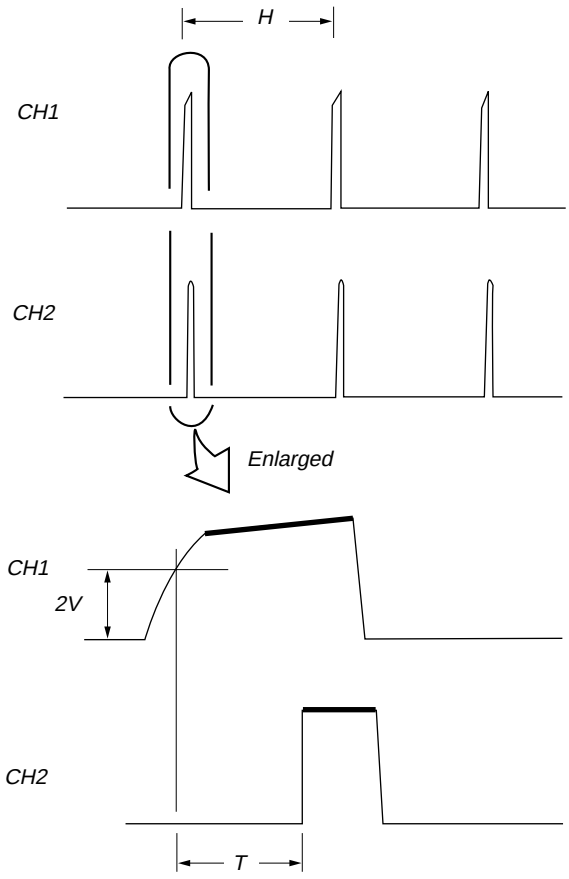


Fig. 5-3-28.

4. Bright Adjustment (VC-197 baord)

Set the D range of the RGB decoder used to drive the LCD to the specified value. If deviated, the LCD screen will become blackish or saturated (whitish).

Mode	VTR stop
Signal	10-step stair-step signal or color bar signal whose chroma and burst signals are turned off
Measurement point	Pin ② of CN802 (VG) of VC-197 board
Measuring instrument	Oscilloscope
Adjustment page	D
Adjustment address	52, 5D
Specified value	A = 2.60 ± 0.05V

Note : Perform "3. Bright Adjustment" and "4. Contrast Adjustment" alternately until each specified value is satisfied.

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Change the data of page: D, address: 52, and set the voltage (A) between the reversed waveform pedestal and non-reversed waveform pedestal to the specified value.
3) Press the PAUSE button of the adjusting remote commander.
4) Set the same data as page: D, address: 52 to page: D, address: 5D, and press the PAUSE button of the adjusting remote commander.
5) Set page: 0, address: 01, data: 00.
6) Check that the specified value of "Contrast Adjustment" is satisfied, if not, perform "Contrast Adjustment".

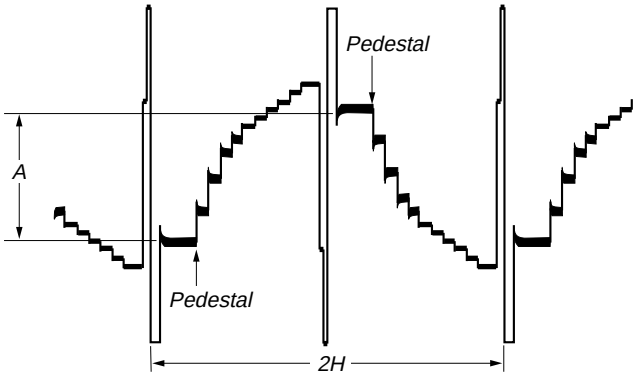


Fig. 5-3-29.

5. Contrast Adjustment (VC-197 baord)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	VTR stop
Signal	10-step stair-step signal
Measurement point	Pin ② of CN802 (VG) of VC-197 board
Measuring instrument	Oscilloscope
Adjustment page	D
Adjustment address	57
Specified value	A = 3.30 ± 0.05V

Note : Perform "3. Bright Adjustment" and "4. Contrast Adjustment" alternately until each specified value is satisfied.

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Change the data of page: D, address: 57, and set the voltage (A) between the pedestal (0 IRE) and 100 IRE to the specified value.
3) Press the PAUSE button of the adjusting remote commander.
4) Set page: 0, address: 01, data: 00 .
5) Check that the specified value of "Bright Adjustment" is satisfied, if not, perform "Bright Adjustment".

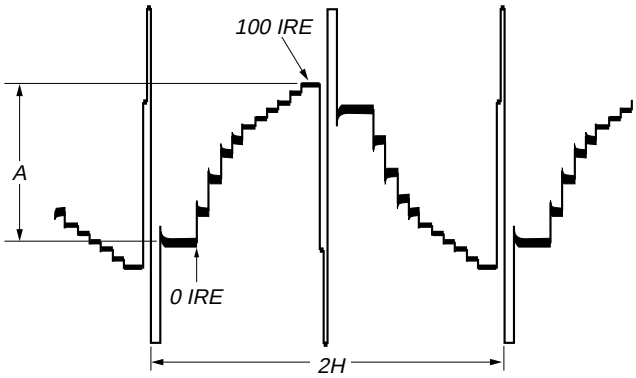


Fig. 5-3-30.

6. Color Adjustment for NTSC model (VC-197 baord)

Set the color saturation to the standard value. If deviated, the color will be to dark or light.

Mode	VTR stop
Signal	Color bar
Measurement point	Pin ② of CN802 (VG)
Measuring instrument	Oscilloscope
Adjustment page	D
Adjustment address	53
Specified value	A = 0.27 ± 0.05V

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Change the data of page: D, address: 53 and set the green level (A) to White (75%) to the specified value.
3) Press the PAUSE button of the adjusting remote commander.
4) Set page: 0, address: 01, data: 00.

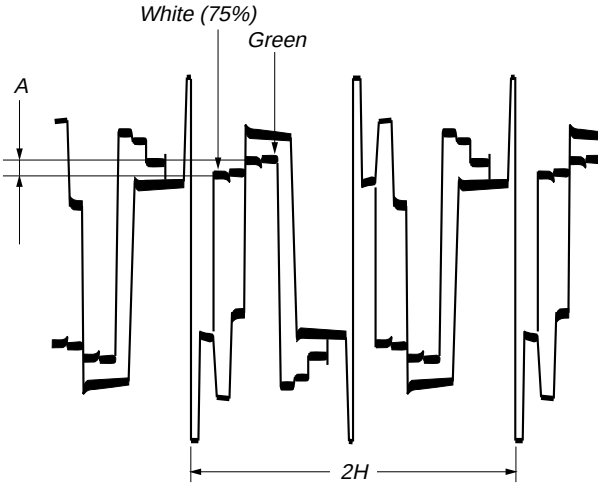


Fig. 5-3-31

7. Hue Adjustment for NTSC model (VC-197 baord)

Set the hue to the standard value. If deviated, the color will be to unnatural.

Mode	VTR stop
Signal	Color bar
Measurement point	Pin ② of CN802 (VG)
Measuring instrument	Oscilloscope
Adjustment page	D
Adjustment address	54
Specified value	A = 0.27 ± 0.05V

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Change the data of page: D, address: 54, and set the cyan level (A) to yellow to the specified value.
3) Press the PAUSE button of the adjusting remote commander.
4) Set page: 0, address: 01, data: 00.

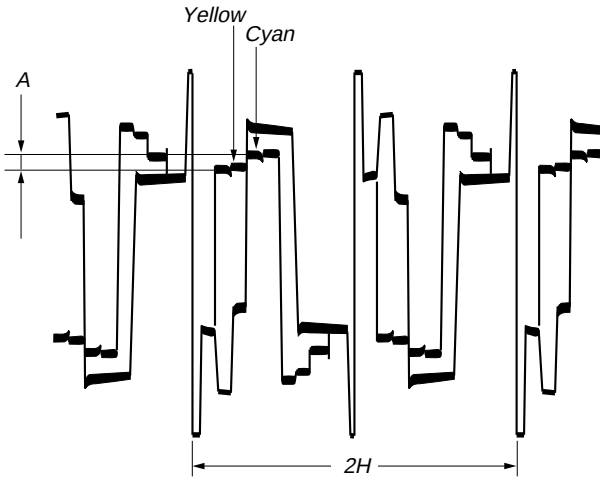


Fig. 5-3-32.

8. Burst Cleaning Adjustment for PAL model (VC-197 baord)

Adjust to the optimum PAL chroma signal demodulation phase. If the phase is not correct, moire distortion noises will stand out.

Mode	VTR stop
Signal	Color bar
Measurement point	Pin ② of CN802 (VG) of VC-197 board
Measuring instrument	Oscilloscope
Adjustment page	D
Adjustment address	54, 5E
Specified value	A = 0 ± 50 mV

Note : Perform "7. Burst Cleaning Adjustment for PAL model" and "8. Color Adjustment for PAL model" alternately until each specified value is satisfied.

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Change the data of page: D, address: 54, and adjust so that the flicker amplitude (A) of the cyan section becomes minimum.
3) Press the PAUSE button of the adjusting remote commander.
4) Set the same data as page: D, address: 54 to page: D, address: 5E, and press the PAUSE button of the adjusting remote commander.
5) Set page: 0, address: 01, data: 00.
6) Check that the specified value of "Color Adjustment for PAL model" is satisfied, if not, perform "Color Adjustment for PAL model".

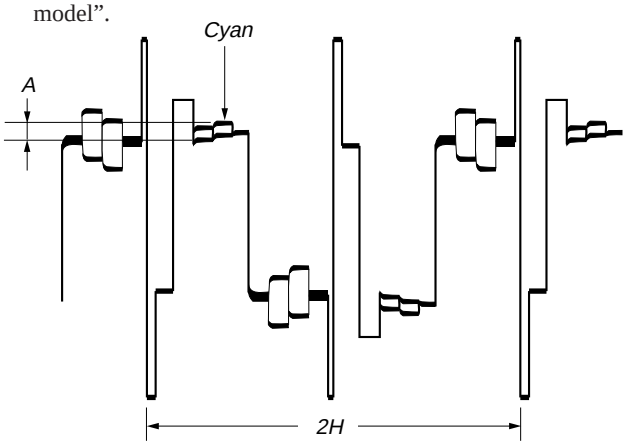


Fig. 5-3-32.

9. Color Adjustment for PAL model (VC-197 baord)

Set the color saturation to the standard value. If deviated, the color will be to dark or light.

Mode	VTR stop
Signal	Color bar
Measurement point	Pin ② of CN802 (VG) of VC-197 board
Measuring instrument	Oscilloscope
Adjustment page	D
Adjustment address	53
Specified value	A = 0.37 ± 0.05V

Note : Perform "7. Burst Cleaning Adjustment for PAL model" and "8. Color Adjustment for PAL model" alternately until each specified value is satisfied.

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Change the data of page: D, address: 53, and set the green level (A) to yellow to the specified value.
3) Press the PAUSE button of the adjusting remote commander.
4) Set page: 0, address: 01, data: 00.
5) Check that the specified value of "Burst Cleaning Adjustment for PAL model" is satisfied, if not, perform "Burst Cleaning Adjustment for PAL model".

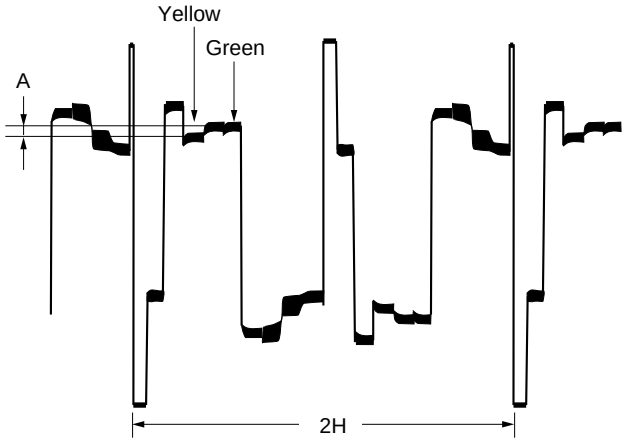


Fig. 5-3-33.

10. V-COM Adjustment (PD-88 baord)

Set the DC bias of the common electrode drive signal of LCD display to the specified value.
If deviated, the LCD display will move, producing flicker and conspicuous vertical lines.

Mode	Playback pause
Signal	Alignment tape: LP mode operation check (WR5-8NLE (NTSC)) (WR5-8CLE or WR5-4CL (PAL)) Color bar portion
Measurement point	Check on LCD display
Measuring instrument	
Adjustment page	D
Adjustment address	59

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Playback the alignment tape and set to the playback pause mode.
3) Change the data of page: D, address: 59. When the data is increased from the initial value, vertical lines with intervals of 3 dots between them will be seen. Take the data at this times as DA. When decreased from the initial value, the same vertical lines will be seen. Take the data at this times as D_B.
4) Convert D_A and D_B to decimal numbers to obtain D_A' and D_B'. (Refer to Table 5-1-5. "Hexadecimal notation-decimal notation calculation table".)
5) Calculate D_C' using the following equation (decimal calculation).
   $D_C' = (D_A' + D_B') \div 2$
6) Convert D_C' to hexadecimal number to obtain D_C .
7) Set page: D, address: 59, data: D_C and press the PAUSE button of the adjusting remote commander.
8) Set page: 0, address: 01, data: 00.

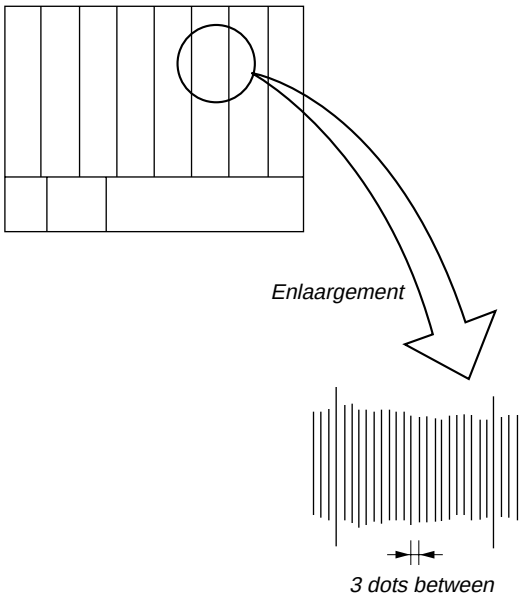


Fig. 5-3-35.

11. White Balance Adjustment (VC-197 baord)

Correct the white balance.
If deviated, the LCD screen color cannot be reproduced.

Mode	VTR stop
Signal	10-step stair-step signal or color bar signal whose chroma and burst signals are turned off
Measurement point	Check on LCD screen
Measuring instrument	
Adjustment page	D
Adjustment address	55, 56
Specified value	The LCD screen should not be colored.

Note : Check the white balance only when replacing the following parts. If necessary, adjust them.
1. LCD panel
2. Light induction plate
3. IC801

Adjusting method:

1) Set page: 0, address: 01, data: 01.
2) Check that the LCD screen is not colored. If colored, change the data of page: D, address: 55 and 56 so that the LCD screen is not colored.
   Note : To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time to set the data.
3) Set page: 0, address: 01, data: 00.

SECTION 6
REPAIR PARTS LIST

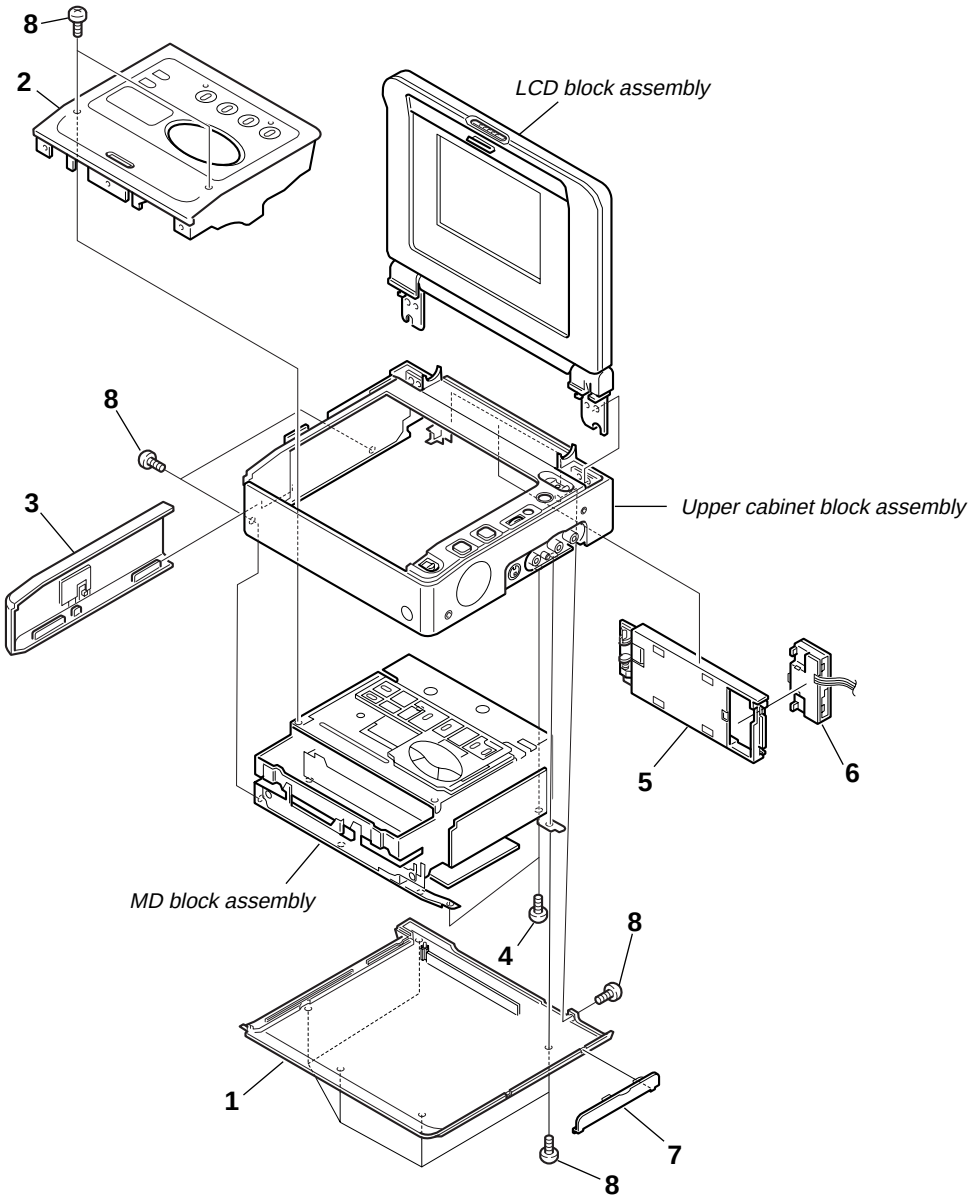
6-1. EXPLODED VIEWS

Note:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (#mark) list is given in the last of this parts list.

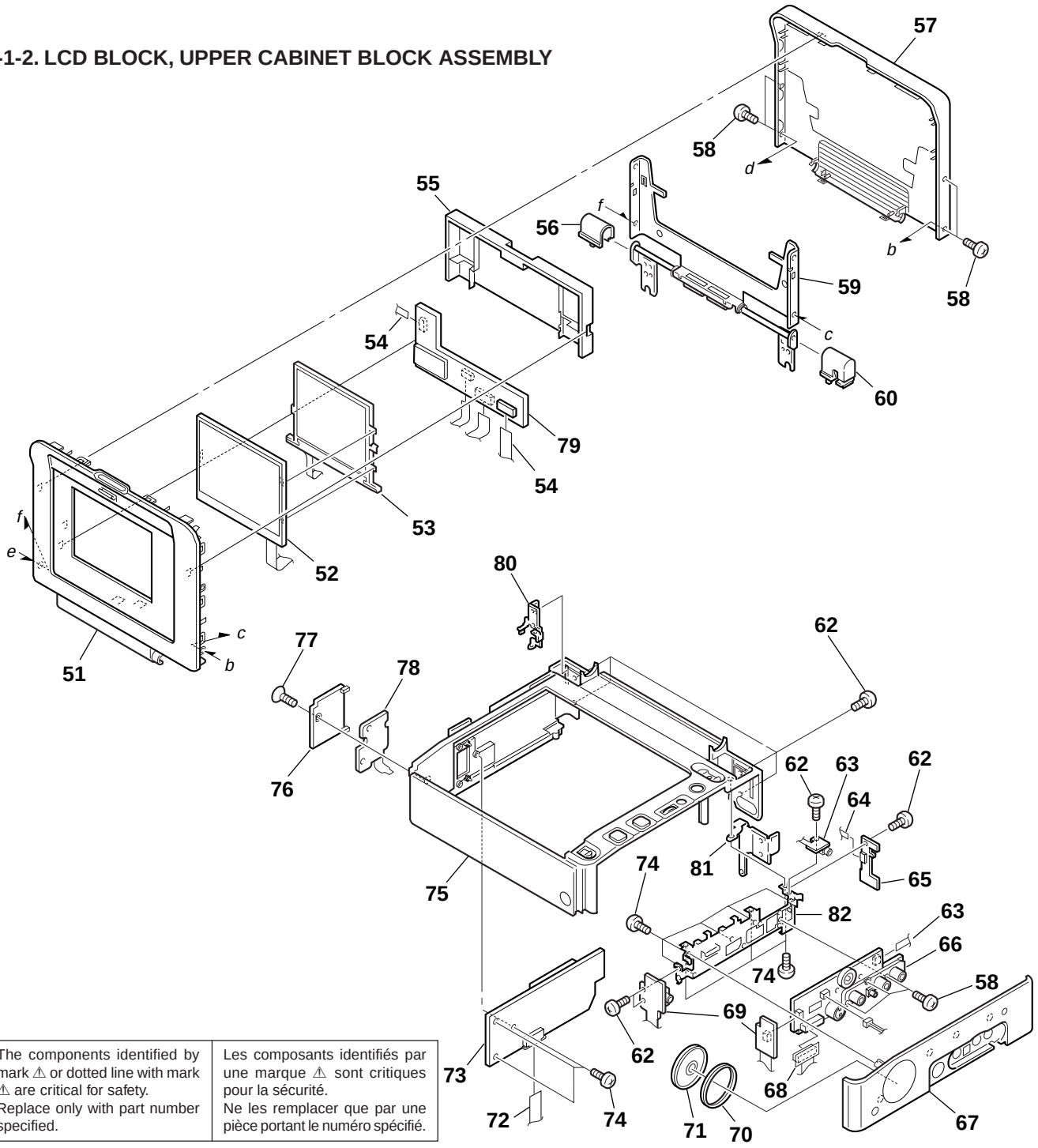
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

6-1-1. OUTER CABINET ASSEMBLY



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
1	X-3947-749-1	CABINET (BOTTOM) ASSY		5	X-3947-753-1	PANEL ASSY, BATTERY	
2	X-3947-872-1	LID ASSY, CASSETTE		6	1-694-076-11	TERMINAL BOARD, BATTERY	
3	X-3947-873-1	CABINET (LID) ASSY		7	3-978-675-11	LID, JACK	
4	3-948-339-61	TAPPING		8	3-968-729-01	SCREW (M2), LOCK ACE, P2	

6-1-2. LCD BLOCK, UPPER CABINET BLOCK ASSEMBLY

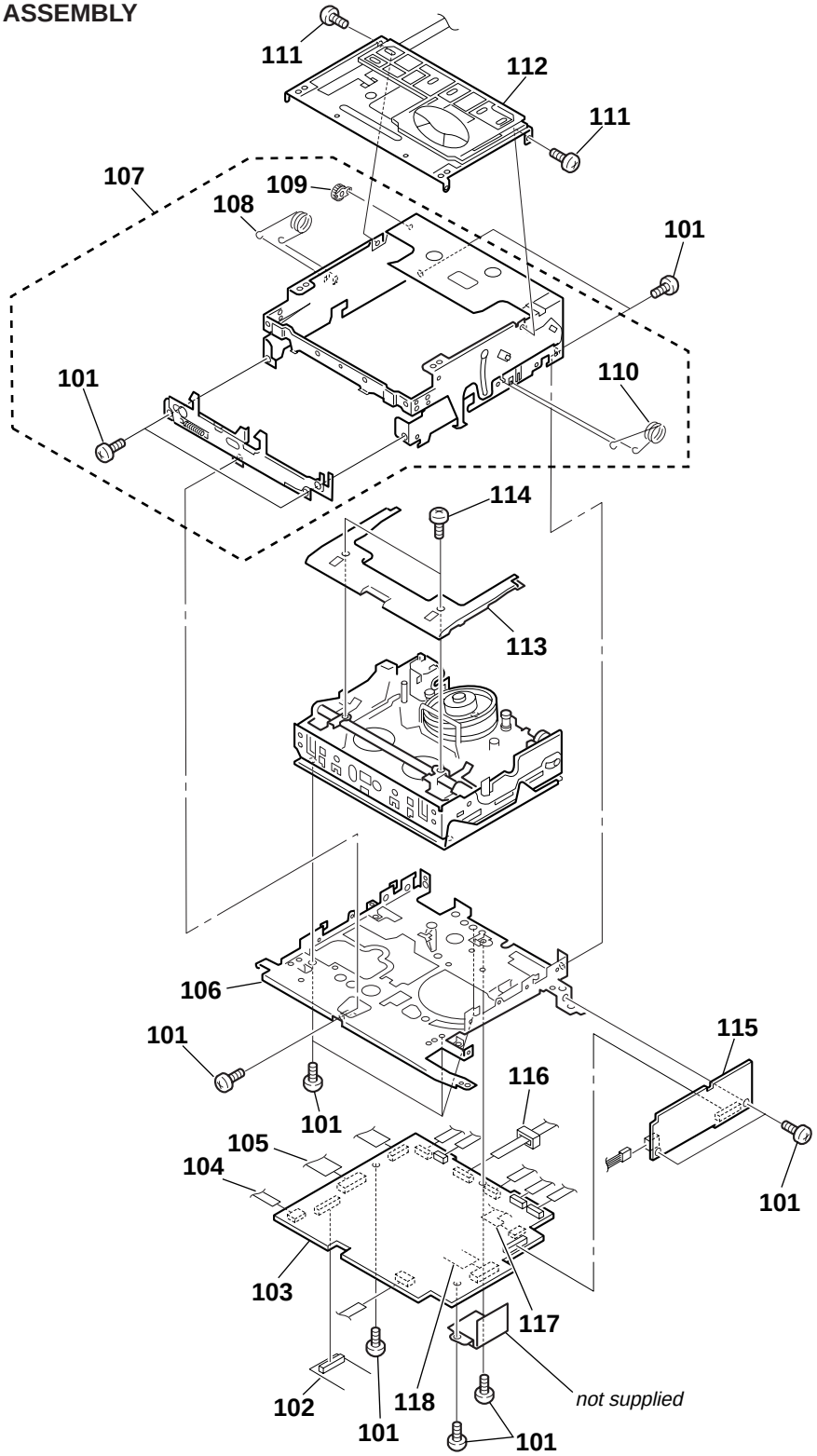


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remarks
51	X-3947-874-1	CABINET ASSY, LCD WINDOW	
52	1-801-664-21	MODULE, CRYSTAL INDICATION	
⚠53	1-517-656-21	TUBE, FLUORESCENT LOLD CATHODE	
54	1-667-405-11	FP-576 FLEXIBLE BOARD	
* 55	X-3948-044-1	PLATE ASSY, FIXED	
56	3-978-718-01	COVER (L), SHAFT	
57	3-978-717-11	CABINET, LCD (A500)	
57	3-978-717-21	CABINET, LCD (A500E)	
58	3-968-729-01	SCREW (M2), LOCK ACE, P2	
59	3-978-709-01	HINGE UNIT	
60	3-978-719-01	COVER (R), SHAFT	
62	3-968-729-51	SCREW (M2), LOCK ACE, P2	
63	1-667-404-11	FP-575 FLEXIBLE BOARD	
64	1-667-401-11	FP-572 FLEXIBLE BOARD	
65	A-7073-329-A	IR-29 BOARD, COMPLETE	
66	A-7073-328-A	IO-62 BOARD, COMPLETE (A500)	
66	A-7073-365-A	IO-62 BOARD, COMPLETE (A500E)	

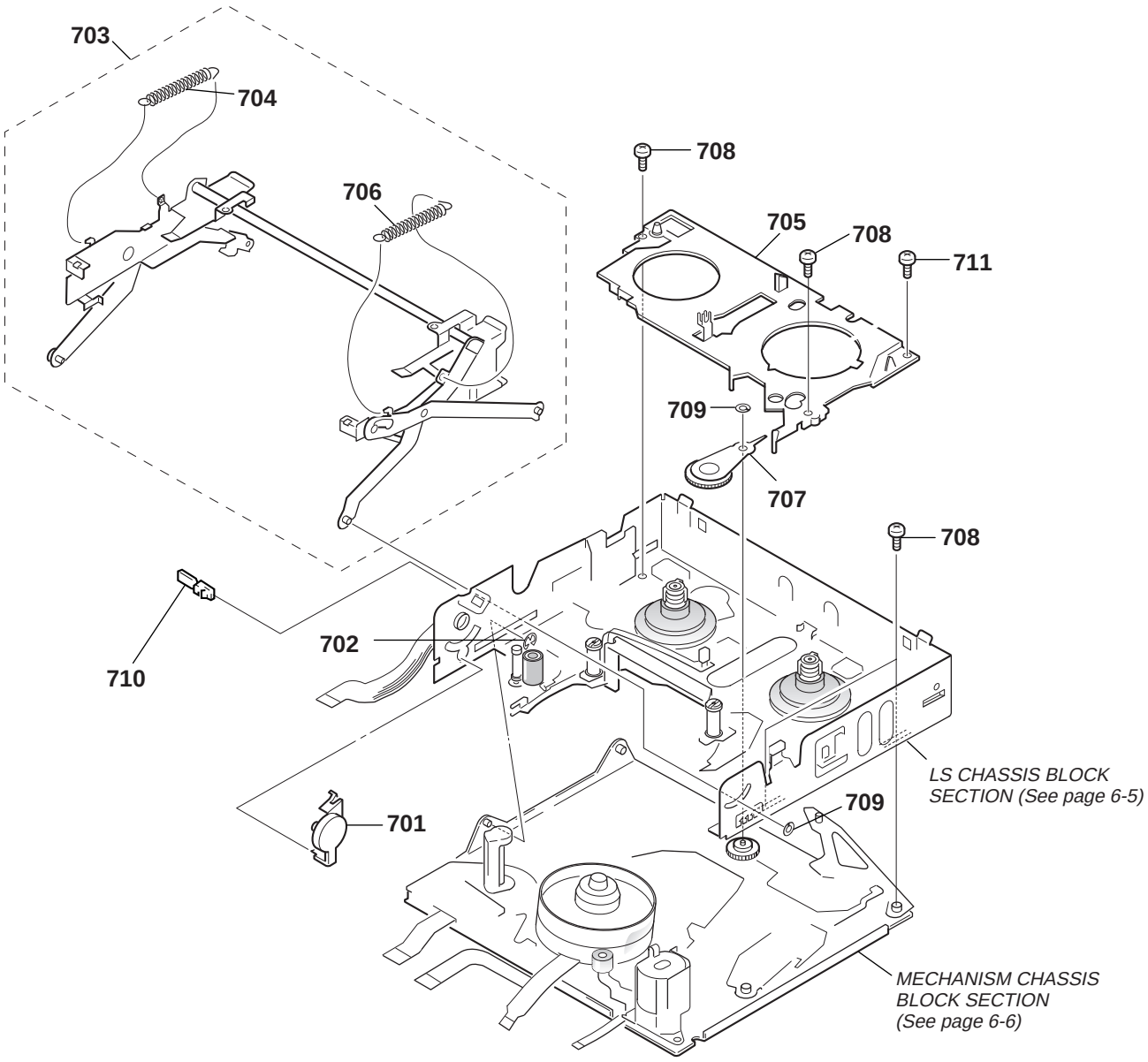
Ref. No.	Part No.	Description	Remarks
67	X-3947-754-1	CABINET (R) ASSY	
68	1-667-402-11	FP-573 FLEXIBLE BOARD	
69	1-667-403-11	FP-574 FLEXIBLE BOARD	
70	3-965-367-01	SPACER, SP	
71	1-504-753-21	SPEAKER (2.8CM)	
72	1-667-399-11	FP-570 FLEXIBLE BOARD	
73	A-7073-364-A	EX-34 BOARD, COMPLETE	
74	3-948-339-61	TAPPING	
75	X-3947-871-1	CABINET (UPPER) ASSY	
76	3-978-710-01	LID, LITHIUM	
77	7-685-203-19	SCREW +KTP 2X5 TYPE2 NON-SLIT	
78	1-667-400-11	FP-571 FLEXIBLE BOARD	
79	A-7073-363-A	PD-88 BOARD, COMPLETE	
* 80	3-978-678-01	SHEET METAL (L), STRAP	
* 81	3-978-677-01	SHEET METAL (R), STRAP	
* 82	X-3947-865-1	FRAME ASSY, JACK	

6-1-3. MD BLOCK ASSEMBLY



Ref. No.	Part No.	Description	Remarks
101	3-968-729-51	SCREW (M2), LOCK ACE, P2	
102	1-667-402-11	FP-573 FLEXIBLE BOARD	
103	A-7085-076-A	VC-197 BOARD, COMPLETE (A500)	
103	A-7085-077-A	VC-197 BOARD, COMPLETE (A500E)	
104	1-667-400-11	FP-571 FLEXIBLE BOARD	
105	1-667-399-11	FP-570 FLEXIBLE BOARD	
* 106	X-3947-997-1	FRAME ASSY, MAIN	
* 107	X-3947-755-1	FRAME ASSY, LID	
108	3-978-702-01	SPRING (L), FRAME RETURN	
109	3-965-303-01	DAMPER	
110	3-978-713-01	SPRING (R), FRAME RETURN	
111	3-703-816-33	SCREW (M1.4X1.6), SPECIAL HEAD	
112	1-475-383-31	SWITCH BLOCK, CONTROL (FK-71)	
113	3-978-711-01	LID, LOADING	
114	3-968-729-01	SCREW (M2), LOCK ACE, P2	
115	A-7073-362-A	DD-100 BOARD, COMPLETE	
116	1-500-227-11	BEAD, FERRITE	
117	1-667-401-11	FP-572 FLEXIBLE BOARD	
118	1-667-405-11	FP-576 FLEXIBLE BOARD	

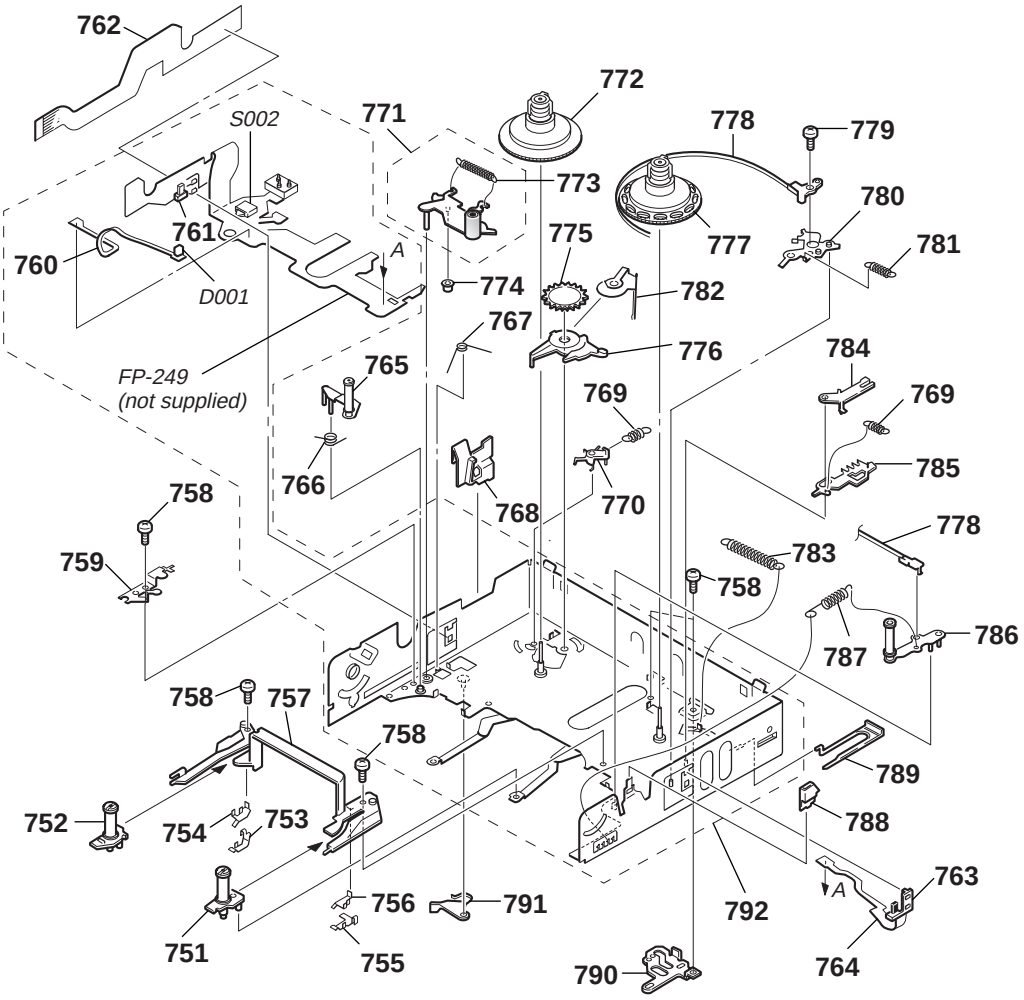
6-1-4. CASSETTE COMPARTMENT BLOCK SECTION



Ref. No.	Part No.	Description	Remarks
701	A-7040-421-A	DAMPER ASSY	
702	7-624-102-04	STOP RING 1.5, TYPE -E	
703	X-3945-400-1	CASSETTE COMPARTMENT ASSY	
704	3-965-587-03	SPRING, TENSION	
705	3-965-584-08	RETAINER, GOOSENECK	
706	3-973-268-01	SPRING, TENSION	

Ref. No.	Part No.	Description	Remarks
707	X-3945-399-1	GEAR ASSY, GOOSENECK	
708	3-947-503-01	SCREW (M1.4X2.5)	
709	3-727-176-01	WASHER	
710	3-971-076-01	FASTENER, D	
711	3-976-055-01	SCREW (M1.4X1)	

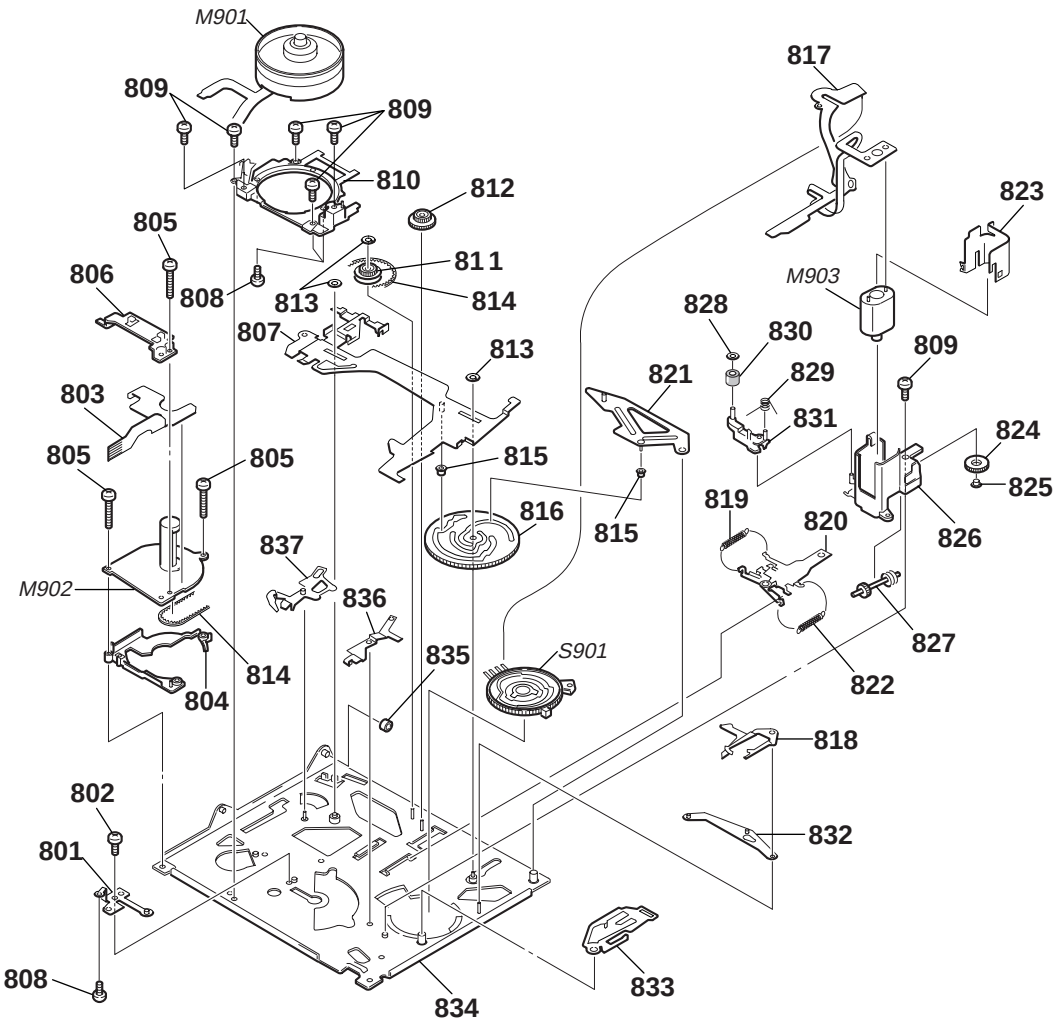
6-1-5. LS CHASSIS BLOCK SECTION



Ref. No.	Part No.	Description	Remarks
751	A-7040-419-A	BASE (S) BLOCK ASSY, GUIDE	
752	A-7040-418-B	BASE (T) BLOCK ASSY, GUIDE	
753	3-965-559-01	STOPPER (T)	
754	3-965-557-01	STOPPER (T), GB	
755	3-965-558-01	STOPPER (S)	
756	3-965-556-01	STOPPER (S), GB	
757	3-965-553-01	RAIL, GUIDE	
758	3-947-503-01	SCREW (M1.4X2.5)	
759	3-965-573-01	RETAINER, TG4	
760	1-658-213-11	FP-355 FLEXIBLE PRINT BOARD	
761	3-965-552-01	HOLDER (T), SENSOR	
762	1-657-786-13	FP-221 FLEXIBLE BOARD	
763	3-965-551-01	HOLDER (S), SENSOR	
764	1-658-214-11	FP-356 FLEXIBLE PRINT BOARD	
765	A-7040-417-A	ARM BLOCK ASSY, TG4	
766	3-965-574-01	SPRING, TORSION	
767	3-965-575-01	SPRING (PINCH), TORSION	
768	3-965-568-01	GUIDE, LOCK	
769	3-965-562-01	SPRING (RATCHET), TENSION	
770	3-965-581-03	RATCHET, T	
771	X-3945-394-1	ARM ASSY, PINCH	
772	X-3945-398-1	DECK ASSY, REEL, T	

Ref. No.	Part No.	Description	Remarks
773	3-965-648-01	SPRING (PINCH), TENSION	
774	3-965-579-01	ROLLER, PINCH PRESS	
775	3-965-563-01	GEAR, T SOFT	
776	3-965-565-01	CLAW, T SOFT	
777	X-3945-397-1	DECK ASSY, REEL, S	
778	X-3945-396-1	BAND ASSY, TENSION REGULATOR	
779	3-945-756-01	SCREW (M1.4X3)	
780	3-965-583-01	ARM, RVS	
781	3-965-580-01	SPRING, TENSION	
782	3-966-384-01	SPRING, T SOFT	
783	3-965-578-01	SPRING, TENSION	
784	3-965-560-01	RATCHET, S	
785	3-965-561-01	PLATE, RELEASE, S RATCHET	
786	X-3945-395-1	ARM ASSY, TG1	
787	3-965-576-01	SPRING (TG1), TENSION	
788	3-965-567-01	LID OPEN	
789	3-965-566-01	COVER, LS GUIDE	
* 790	3-965-577-01	PLATE, CAM, LS	
791	3-965-569-01	ARM, EJ	
792	A-7040-427-A	CHASSIS (S1) ASSY, LS	
D001	8-719-988-42	DIODE GL453	
S002	1-572-688-11	SWITCH, PUSH (1 KEY)(C.C.LOCK)	

6-1-6. MECHANISM CHASSIS BLOCK SECTION



Ref. No.	Part No.	Description	Remarks
801	X-3947-343-1	GROUND (IM) ASSY, SHAFT	
802	3-965-550-02	SCREW (M1.7X1.6)	
803	1-657-785-11	FP-248 FLEXIBLE BOARD	
804	3-965-545-01	SPACER, CAPSTAN	
805	3-965-549-01	SCREW (M1.4 X 6.5)	
806	3-966-349-01	HOLDER, FLEXIBLE	
807	3-971-644-01	SLIDER (2), M	
808	3-965-588-11	SCREW (M1.4)	
809	3-947-503-01	SCREW (M1.4X2.5)	
810	A-7040-416-A	BASE BLOCK ASSY, DRUM	
811	3-965-527-01	GEAR, CHANGE	
812	3-965-544-01	GEAR, RELAY	
813	3-331-007-21	WASHER	
814	3-965-546-01	BELT, TIMING	
815	3-965-533-01	ROLLER, LS	
816	3-965-528-01	GEAR, CAM	
817	1-657-784-11	FP-220 FLEXIBLE BOARD	
818	3-965-529-01	PLATE, REGULATOR, TENSION	
819	3-965-536-01	SPRING, TENSION	
820	X-3945-388-1	SLIDER ASSY, GL	
821	3-965-532-01	ARM, LS	

Ref. No.	Part No.	Description	Remarks
822	3-965-535-01	SPRING, TENSION	
823	3-965-542-01	SHIELD, MOTOR	
824	3-965-539-01	GEAR (A)	
825	3-965-538-01	SLEEVE, MOTOR HOLDER	
826	3-965-540-01	HOLDER, MOTOR	
827	3-965-541-01	SHAFT, WORM	
828	3-321-393-01	WASHER, STOPPER	
829	3-965-724-01	SPRING, TORSION	
830	A-7040-423-A	ROLLER BLOCK ASSY, HC	
831	X-3945-407-1	ARM ASSY, HC ROLLER	
832	3-965-531-01	ARM, GL	
833	3-965-530-01	PLATE (2), REGULATOR, TENSION	
834	X-3947-915-2	CHASSIS ASSY, MECHANICAL	
835	3-965-526-02	ROLLER, LS GUIDE	
836	3-965-547-01	ARM, HC DRIVING	
837	3-965-534-01	PLATE, PRESS, PINCH	
M901	A-7048-849-A	DRUM BLOCK ASSY (DGH-0D4A-R)(NTSC)	
M901	A-7048-859-A	DRUM BLOCK ASSY (DGH-0E0A-R)(PAL)	
M902	8-835-531-32	MOTOR, DC SCE-0601A/C-NP (CAPSTAN)	
M903	X-3945-401-1	MOTOR ASSY, DC (LOADING)	
S901	1-762-436-15	SWITCH, ROTARY (ENCODER)	

6-2. ELECTRICAL PARTS LIST

Note:

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...

Ref. No.	Part No.	Description			Remarks
	A-7073-362-A	DD-100 BOARD, COMPLETE			
		**********			
		(Ref.No.: 3,000 Series)			
		< CAPACITOR >			
C501	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C502	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C503	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C504	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C505	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C506	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C507	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C508	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C509	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C510	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C511	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C512	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C513	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C514	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C515	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C516	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C517	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C518	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C525	1-104-919-11	TANTAL. CHIP	10uF	20%	25V
C526	1-104-919-11	TANTAL. CHIP	10uF	20%	25V
C527	1-104-823-11	TANTAL. CHIP	47uF	20%	16V
C529	1-104-919-11	TANTAL. CHIP	10uF	20%	25V
C530	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C531	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C532	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C533	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C534	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C535	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C536	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C537	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C538	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C539	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C540	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C541	1-113-992-11	TANTAL. CHIP	3.3uF	20%	35V
C542	1-104-919-11	TANTAL. CHIP	10uF	20%	25V
C543	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C544	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C545	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C546	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C547	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C548	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C549	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C550	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C551	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C552	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C553	1-113-985-11	TANTAL. CHIP	10uF	20%	20V
C554	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
		< CONNECTOR >			
CN501	1-569-775-21	PIN, CONNECTOR 5P			
CN502	1-691-520-11	CONNECTOR, BOARD TO BOARD 48P			
		< DIODE >			
D501	8-719-057-68	DIODE SBS001C-TB			
D502	8-719-057-68	DIODE SBS001C-TB			
D503	8-719-057-68	DIODE SBS001C-TB			
D504	8-719-057-68	DIODE SBS001C-TB			
D505	8-719-801-48	DIODE 1SS193			
D506	8-719-057-68	DIODE SBS001C-TB			
D507	8-719-420-14	DIODE MA8082-E			
D508	8-719-420-14	DIODE MA8082-E			
D509	8-719-801-48	DIODE 1SS193			
D510	8-719-801-48	DIODE 1SS193			
		< IC >			
IC501	8-759-350-29	IC SN104213PM-T6			
IC502	8-759-281-13	IC S-81250SG-QD-S			
		< COIL >			
L501	1-424-653-11	COIL, CHOKE 10uH			
L502	1-424-653-11	COIL, CHOKE 10uH			
L503	1-424-653-11	COIL, CHOKE 10uH			
L504	1-424-674-11	COIL, CHOKE 22uH			
L505	1-424-675-11	COIL, CHOKE 33uH			
L506	1-424-674-11	COIL, CHOKE 22uH			
L507	1-424-674-11	COIL, CHOKE 22uH			
L508	1-414-396-21	INDUCTOR 4.7uH			
L509	1-414-396-21	INDUCTOR 4.7uH			
L510	1-414-396-21	INDUCTOR 4.7uH			
L511	1-414-406-11	INDUCTOR 220uH			
L512	1-424-674-11	COIL, CHOKE 22uH			
L513	1-414-400-11	INDUCTOR 22uH			
L514	1-414-396-21	INDUCTOR 4.7uH			
L515	1-414-396-21	INDUCTOR 4.7uH			

Ref. No.	Part No.	Description			Remarks
L516	1-414-396-21	INDUCTOR 4.7uH			
L517	1-414-404-11	INDUCTOR 100uH			
L518	1-414-404-11	INDUCTOR 100uH			
L519	1-412-054-21	INDUCTOR CHIP 2.2uH			
		< IC LINK >			
⚠PS501	1-533-760-21	FUSE (SMD) 1.4A			
⚠PS502	1-533-760-21	FUSE (SMD) 1.4A			
⚠PS503	1-533-760-21	FUSE (SMD) 1.4A			
⚠PS504	1-533-760-21	FUSE (SMD) 1.4A			
		< TRANSISTOR >			
Q501	8-729-039-86	TRANSISTOR FMMT717TA			
Q502	8-729-039-86	TRANSISTOR FMMT717TA			
Q503	8-729-039-86	TRANSISTOR FMMT717TA			
Q504	8-729-039-86	TRANSISTOR FMMT717TA			
Q505	8-729-041-24	TRANSISTOR NDS355AN			
Q506	8-729-804-41	TRANSISTOR 2SB1122-S			
Q507	8-729-039-86	TRANSISTOR FMMT717TA			
Q508	8-729-037-74	TRANSISTOR UN9213J-(TX).SO			
Q520	8-729-037-74	TRANSISTOR UN9213J-(TX).SO			
Q521	8-729-041-69	TRANSISTOR MMSF5P02HDR2			
		< RESISTOR >			
R501	1-216-841-11	METAL CHIP	47K	5%	1/16W
R502	1-216-837-11	METAL CHIP	22K	5%	1/16W
R503	1-216-839-11	METAL CHIP	33K	5%	1/16W
R504	1-216-833-11	METAL CHIP	10K	5%	1/16W
R505	1-218-907-11	METAL GLAZE	330K	0.50%	1/16W
R506	1-216-833-11	METAL CHIP	10K	5%	1/16W
R507	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R508	1-216-845-11	METAL CHIP	100K	5%	1/16W
R509	1-216-821-11	METAL CHIP	1K	5%	1/16W
R510	1-216-837-11	METAL CHIP	22K	5%	1/16W
R511	1-216-839-11	METAL CHIP	33K	5%	1/16W
R512	1-216-861-11	METAL CHIP	2.2M	5%	1/16W
R513	1-216-864-11	METAL CHIP	0	5%	1/16W
R514	1-216-837-11	METAL CHIP	22K	5%	1/16W
R515	1-216-837-11	METAL CHIP	22K	5%	1/16W
R516	1-216-839-11	METAL CHIP	33K	5%	1/16W
R517	1-216-834-11	METAL CHIP	12K	5%	1/16W
R518	1-216-837-11	METAL CHIP	22K	5%	1/16W
R519	1-216-839-11	METAL CHIP	33K	5%	1/16W
R520	1-216-845-11	METAL CHIP	100K	5%	1/16W
R521	1-216-840-11	METAL CHIP	39K	5%	1/16W
R523	1-216-864-11	METAL CHIP	0	5%	1/16W
R525	1-216-864-11	METAL CHIP	0	5%	1/16W
R526	1-218-863-11	METAL GLAZE	4.7K	0.50%	1/16W
R527	1-218-883-11	METAL GLAZE	33K	0.50%	1/16W
R528	1-216-841-11	METAL CHIP	47K	5%	1/16W
R529	1-218-869-11	METAL GLAZE	8.2K	0.50%	1/16W
R532	1-216-864-11	METAL CHIP	0	5%	1/16W
R533	1-216-864-11	METAL CHIP	0	5%	1/16W
R535	1-216-864-11	METAL CHIP	0	5%	1/16W
R536	1-216-864-11	METAL CHIP	0	5%	1/16W
R537	1-216-845-11	METAL CHIP	100K	5%	1/16W
R538	1-216-857-11	METAL CHIP	1M	5%	1/16W
R540	1-216-797-11	METAL CHIP	10	5%	1/16W
R541	1-216-864-11	METAL CHIP	0	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R542	1-216-821-11	METAL CHIP	1K	5%	1/16W
R548	1-216-295-11	CONDUCTOR, CHIP (2012)			
R549	1-216-295-11	CONDUCTOR, CHIP (2012)			
R550	1-216-295-11	CONDUCTOR, CHIP (2012)			
		< TRANSFORMER >			
⚠T501	1-431-548-21	TRANSFORMER, DC-DC CONVERTER			
	A-7073-364-A	EX-34 BOARD, COMPLETE			
		**********			
		(Ref.No.: 3,000 Series)			
		< CONNECTOR >			
CN203	1-770-542-21	CONNECTOR, FFC/FPC 40P			
CN204	1-537-439-11	TARMINAL BOARD, CONNECTOR			
		< DIODE >			
D204	8-719-062-16	DIODE 01ZA8.2(TPL3)			
D205	8-719-062-16	DIODE 01ZA8.2(TPL3)			
		FP-249 BOARD, COMPLETE			
		**********			
		(Ref.No.: 3,000 Series)			
	1-658-214-11	FP-356 FLEXIBLE BOARD			
	3-965-551-01	HOLDER (S), SENSOR			
	3-965-552-01	HOLDER (T), SENSOR			
		< HOLE ELEMENT >			
H001	8-719-033-37	ELEMENT, HALL HW-105C			
H002	8-719-033-37	ELEMENT, HALL HW-105C			
		< TRANSISTOR >			
Q001	8-729-907-25	PHOTO TRANSISTOR PT4850F			
Q002	8-729-907-25	PHOTO TRANSISTOR PT4850F			
		< SWITCH >			
S001	1-692-614-11	SWITCH, PUSH (3 KEY)			
		(REC PROOF/TAPE SELECT)			
S002	1-572-688-11	SWITCH, PUSH (1 KEY)(CC LOCK)			
	1-658-213-11	FP-355 FLEXIBLE BOARD			
		**********			
		(Ref.No.: 3,000 Series)			
		< DIODE >			
D001	8-719-988-42	DIODE GL453			
	1-667-400-11	FP-571 FLEXIBLE BOARD			
		**********			
		(Ref.No.: 3,000 Series)			
		< BATTERY >			
BT001	1-528-724-21	BATTERY, V/L RICHARGEABL			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remarks
	1-667-403-11	FP-574 FLEXIBLE BOARD	
		**********	
		(Ref.No.: 3,000 Series)	
		< JACK >	
J001	1-695-514-21	JACK (SMALL TYPE) 1P (PHONES)	
	A-7073-328-A	IO-62 BOARD, COMPLETE (A500)	
		**********	
	A-7073-365-A	IO-62 BOARD, COMPLETE (A500E)	
		**********	
		(Ref.No.: 3,000 Series)	
		< CAPACITOR >	
C101	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(A500E)
C102	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(A500E)
C103	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(A500E)
C104	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(A500E)
C107	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(A500E)
C110	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(A500E)
C116	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C117	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C118	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C119	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C120	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C121	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C122	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C123	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C124	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
		< CONNECTOR >	
CN103	1-750-332-41	CONNECTOR, BOARD TO BOARD 48P	
CN104	1-573-371-21	CONNECTOR, BOARD TO BOARD 14P	
CN105	1-774-631-21	CONNECTOR, FFC/FPC 6P	
* CN106	1-695-320-21	PIN, CONNECTOR (1.5MM)(SMD) 2P	
		< DIODE >	
D101	8-719-062-16	DIODE 01ZA8.2(TPL3)	
D102	8-719-062-16	DIODE 01ZA8.2(TPL3)	
D103	8-719-420-14	DIODE MA8082-M	
D104	8-719-062-16	DIODE 01ZA8.2(TPL3)	
D105	8-719-062-16	DIODE 01ZA8.2(TPL3)	
D106	8-719-062-16	DIODE 01ZA8.2(TPL3)	
D107	8-719-062-16	DIODE 01ZA8.2(TPL3)	
D108	8-719-420-14	DIODE MA8082-TX	
D109	8-719-061-82	DIODE TLSU1002(TPX1,SONY)	
D110	8-719-062-16	DIODE 01ZA8.2(TPL3)	
D111	8-719-420-14	DIODE MA8082-M	
D112	8-719-420-14	DIODE MA8082-M	
D113	8-719-404-49	DIODE MA111	
D114	8-719-062-16	DIODE 01ZA8.2(TPL3)	
D115	8-719-062-16	DIODE 01ZA8.2(TPL3)	
D116	8-719-062-16	DIODE 01ZA8.2(TPL3)	
D117	8-719-062-16	DIODE 01ZA8.2(TPL3)	
D118	8-719-062-16	DIODE 01ZA8.2(TPL3)	
		< JACK >	
J102	1-537-747-31	TERMINAL BOARD	
			(AUDIO/VIDEO LINE IN/OUT)
J103	1-566-850-31	CONNECTOR, (S) TERMINAL 4P	
			(S VIDEO IN/OUT)
		< COIL >	
L101	1-414-072-11	INDUCTOR 1uH	
L102	1-412-963-11	INDUCTOR 100uH (A500E)	
L103	1-412-963-11	INDUCTOR 100uH (A500E)	
L104	1-412-963-11	INDUCTOR 100uH (A500E)	
L105	1-412-963-11	INDUCTOR 100uH	
L106	1-412-963-11	INDUCTOR 100uH	
L107	1-412-963-11	INDUCTOR 100uH	
L108	1-412-963-11	INDUCTOR 100uH	
		< RESISTOR >	
R101	1-216-864-11	METAL CHIP 0 5% 1/16W	(A500E)
R102	1-216-864-11	METAL CHIP 0 5% 1/16W	
R105	1-216-864-11	METAL CHIP 0 5% 1/16W	(A500E)
R110	1-216-864-11	METAL CHIP 0 5% 1/16W	
R111	1-216-864-11	METAL CHIP 0 5% 1/16W	
R112	1-216-864-11	METAL CHIP 0 5% 1/16W	
R120	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R121	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R124	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	
R128	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	
R129	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R130	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R131	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R132	1-216-817-11	METAL CHIP 470 5% 1/16W	
R133	1-216-864-11	METAL CHIP 0 5% 1/16W	
R134	1-216-864-11	METAL CHIP 0 5% 1/16W	
		< SWITCH >	
S101	1-692-088-41	SWITCH, TACTILE (IR ON)	
S102	1-692-088-41	SWITCH, TACTILE (MENU)	
S103	1-692-088-41	SWITCH, TACTILE (BRIGHT +)	
S104	1-692-088-41	SWITCH, TACTILE (BRIGHT –)	
S105	1-692-088-41	SWITCH, TACTILE (VOL +)	
S106	1-692-088-41	SWITCH, TACTILE (VOL –)	
S107	1-771-025-21	SWITCH, ROTARY (ENCODER)	
	A-7073-329-A	IR-29 BOARD, COMPLETE	
		**********	
		(Ref.No.: 3,000 Series)	
		< CAPACITOR >	
C382	1-135-181-21	TANTALUM CHIP 4.7uF 20% 6.3V	
C392	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C393	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	

IR-29 **PD-88**

Ref. No.	Part No.	Description			Remarks
		< CONNECTOR >			
CN361	1-766-866-21	CONNECTOR, FFC/FPC 6P			
		< DIODE >			
D362	8-749-060-65	DIODE DCC3810			
D363	8-719-061-86	DIODE DCR2810			
		< FUSE >			
⚠F361	1-533-874-11	FUSE, MICRO 200mA			
		< COIL >			
L363	1-414-078-11	INDUCTOR 10uH			
		< TRANSISTOR >			
Q365	8-729-140-75	TRANSISTOR 2SD999-CLCK			
		< RESISTOR >			
R388	1-216-302-00	METAL CHIP	2.7	5%	1/10W
R389	1-216-311-00	METAL CHIP	6.8	5%	1/10W
R390	1-216-864-11	METAL CHIP	0	5%	1/16W
R392	1-216-801-11	METAL CHIP	22	5%	1/16W
		< SWITCH >			
S361	1-572-467-21	SWITCH, PUSH (1 KEY) (P CLOSE)			
	A-7073-363-A	PD-88 BOARD, COMPLETE			
		**********			
		(Ref.No.: 3,000 Series)			
		< CAPACITOR >			
C801	1-104-914-11	TANTAL. CHIP	22uF	20%	16V
C802	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C803	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C804	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C805	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C806	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C807	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C808	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C809	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C810	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V
C811	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C812	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C813	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C814	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C816	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V
C817	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C818	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C820	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C821	1-104-911-11	TANTAL. CHIP	33uF	20%	10V
C822	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C823	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C824	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C825	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
C826	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C827	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C828	1-164-664-11	CERAMIC CHIP	0.033uF	10%	50V
⚠C830	1-113-521-11	CERAMIC CHIP	12PF	10%	3KV
C831	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C832	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C833	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C834	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C835	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C836	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C838	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C839	1-104-912-11	TANTAL. CHIP	3.3uF	20%	16V
		< CONNECTOR >			
CN801	1-573-931-11	CONNECTOR, FFC/FPC (ZIF) 22P			
CN802	1-573-917-11	CONNECTOR, FFC/FPC (ZIF) 8P			
CN803	1-764-709-11	CONNECTOR, FFC/FPC (LIF) 10P			
CN804	1-573-366-21	CONNECTOR, FFC/FPC 26P			
		< DIODE >			
D802	8-719-404-49	DIODE MA111			
D803	8-713-102-80	DIODE 1T369-01-T8A			
D804	8-713-102-80	DIODE 1T369-01-T8A			
D805	8-719-404-49	DIODE MA111			
D808	8-719-404-49	DIODE MA111			
		< IC >			
IC801	8-759-521-35	IC TL5001CD			
IC802	8-759-443-40	IC CM7013L2-T4			
IC803	8-759-359-49	IC NJM3414AV(TE2)			
IC804	8-759-075-70	IC TA75S393F			
		< COIL >			
L801	1-410-377-31	INDUCTOR CHIP 4.7uH			
L802	1-414-754-11	INDUCTOR 10uH			
L803	1-412-963-11	INDUCTOR 100uH			
L804	1-414-754-11	INDUCTOR 10uH			
L805	1-406-824-11	COIL, CHOKE 22uH			
L806	1-406-924-11	COIL, CHOKE 150uH			
L807	1-412-951-11	INDUCTOR 10uH			
L808	1-414-754-11	INDUCTOR 10uH			
		< TRANSISTOR >			
Q801	8-729-037-75	TRANSISTOR UN9214J-(TX).SO			
Q803	8-729-037-60	TRANSISTOR UN9112J-(TX).SO			
Q806	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO			
Q807	8-729-037-74	TRANSISTOR UN9213J-(TX).SO			
Q808	8-729-037-74	TRANSISTOR UN9213J-(TX).SO			
Q812	8-729-823-84	TRANSISTOR FP102			
Q816	8-729-028-36	TRANSISTOR FX507-TL1			
Q817	8-729-037-74	TRANSISTOR UN9213J-(TX).SO			
Q818	8-729-037-60	TRANSISTOR UN9112J-(TX).SO			
		< RESISTOR >			
R804	1-216-843-11	METAL CHIP	68K	5%	1/16W
R805	1-216-837-11	METAL CHIP	22K	5%	1/16W
R806	1-216-841-11	METAL CHIP	47K	5%	1/16W
R807	1-216-864-11	METAL CHIP	0	5%	1/16W
R808	1-218-867-11	METAL GLAZE	6.8K	0.50%	1/16W
R809	1-218-881-11	METAL GLAZE	27K	0.50%	1/16W
R810	1-216-818-11	METAL CHIP	560	5%	1/16W
R811	1-216-837-11	METAL CHIP	22K	5%	1/16W
R812	1-218-897-11	METAL GLAZE	120K	0.50%	1/16W
R813	1-216-818-11	METAL CHIP	560	5%	1/16W

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Ref. No.	Part No.	Description			Remarks
R814	1-216-833-11	METAL CHIP	10K	5%	1/16W
R815	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R816	1-218-873-11	METAL GLAZE	12K	0.50%	1/16W
R817	1-218-891-11	METAL GLAZE	68K	0.50%	1/16W
R818	1-218-883-11	METAL GLAZE	33K	0.50%	1/16W
R819	1-218-857-11	METAL GLAZE	2.7K	0.50%	1/16W
R820	1-218-849-11	METAL GLAZE	1.2K	0.50%	1/16W
R822	1-216-840-11	METAL CHIP	39K	5%	1/16W
R826	1-216-864-11	METAL CHIP	0	5%	1/16W
R829	1-216-857-11	METAL CHIP	1M	5%	1/16W
R830	1-216-864-11	METAL CHIP	0	5%	1/16W
R833	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R836	1-218-889-11	METAL GLAZE	56K	0.50%	1/16W
R837	1-216-833-11	METAL CHIP	10K	5%	1/16W
R838	1-216-821-11	METAL CHIP	1K	5%	1/16W
R839	1-216-843-11	METAL CHIP	68K	5%	1/16W
R840	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R841	1-216-843-11	METAL CHIP	68K	5%	1/16W
R842	1-216-841-11	METAL CHIP	47K	5%	1/16W
R844	1-216-864-11	METAL CHIP	0	5%	1/16W
R845	1-216-857-11	METAL CHIP	1M	5%	1/16W
R846	1-216-837-11	METAL CHIP	22K	5%	1/16W
R848	1-216-833-11	METAL CHIP	10K	5%	1/16W
R849	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R850	1-216-857-11	METAL CHIP	1M	5%	1/16W
R851	1-216-845-11	METAL CHIP	100K	5%	1/16W
R852	1-216-833-11	METAL CHIP	10K	5%	1/16W
R853	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R855	1-216-837-11	METAL CHIP	22K	5%	1/16W
R856	1-216-864-11	METAL CHIP	0	5%	1/16W
R857	1-216-864-11	METAL CHIP	0	5%	1/16W
R860	1-216-850-11	METAL CHIP	270K	5%	1/16W
R861	1-216-817-11	METAL CHIP	470	5%	1/16W
R862	1-216-853-11	METAL CHIP	470K	5%	1/16W
R863	1-216-810-11	METAL CHIP	120	5%	1/16W
R864	1-216-864-11	METAL CHIP	0	5%	1/16W
R865	1-216-841-11	METAL CHIP	47K	5%	1/16W
R866	1-216-864-11	METAL CHIP	0	5%	1/16W
R868	1-216-864-11	METAL CHIP	0	5%	1/16W
R869	1-216-864-11	METAL CHIP	0	5%	1/16W
R870	1-216-864-11	METAL CHIP	0	5%	1/16W
		< TRANSFORMER >			
⚠T801	1-429-507-31	TRANSFORMER, INVERTER			
	A-7085-076-A	VC-197 BOARD, COMPLETE (A500)			
		**********			
	A-7085-077-A	VC-197 BOARD, COMPLETE (A500E)			
		**********			
		(Ref.No.: 10,000 Series)			
		< CAPACITOR >			
C002	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C003	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C004	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C005	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C010	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V

Ref. No.	Part No.	Description			Remarks
C013	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C014	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C015	1-164-346-11	CERAMIC CHIP	1uF		16V
C016	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C017	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C018	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C020	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C021	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C102	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C361	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C362	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C363	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C365	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C366	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C367	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C368	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C369	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C370	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C371	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C372	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C373	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C374	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C375	1-164-668-11	CERAMIC CHIP	510PF	5%	50V
C376	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C377	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C378	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C379	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C380	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C381	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C382	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C383	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C385	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C386	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C387	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C388	1-135-202-21	TANTAL. CHIP	22uF	20%	4V
C389	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C390	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C391	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C392	1-162-922-11	CERAMIC CHIP	39PF	5%	50V
C393	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C394	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C395	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C701	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C702	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C703	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C704	1-162-923-11	CERAMIC CHIP	47PF	5%	50V (A500)
C704	1-162-924-11	CERAMIC CHIP	56PF	5%	50V (A500E)
C705	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C706	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C707	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C708	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C709	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C710	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C711	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C712	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V

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VC-197

Ref. No.	Part No.	Description			Remarks
C713	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C714	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C715	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C719	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C720	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C801	1-162-924-11	CERAMIC CHIP	56PF	5%	50V
C802	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C805	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V (A500E)
C806	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C807	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C808	1-113-682-11	TANTAL. CHIP	33uF	20%	10V
C809	1-113-682-11	TANTAL. CHIP	33uF	20%	10V
C810	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C811	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C812	1-104-912-11	TANTAL. CHIP	3.3uF	20%	6.3V
C813	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C815	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C817	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C818	1-162-963-11	CERAMIC CHIP	680PF	10%	50V (A500E)
C820	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C821	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (A500E)
C823	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C824	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C825	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (A500E)
C826	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C828	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (A500E)
C829	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (A500E)
C830	1-162-922-11	CERAMIC CHIP	39PF	5%	50V (A500E)
C832	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C833	1-135-155-21	TANTALUM CHIP	4.7uF	10%	16V
C834	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C835	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C836	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C837	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C838	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C841	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C842	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C845	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V (A500E)
C849	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C850	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C852	1-216-864-11	METAL CHIP	0	5%	1/16W
C902	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V
C908	1-113-992-11	TANTAL. CHIP	3.3uF	20%	35V
C909	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1001	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V (A500E)
C1002	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V (A500E)
C1005	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1007	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1009	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C1011	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V

Ref. No.	Part No.	Description			Remarks
C1012	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C1013	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C1014	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
C1015	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1016	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C1017	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1018	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1019	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (A500)
C1020	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1021	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (A500)
C1022	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (A500)
C1023	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (A500)
C1024	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (A500)
C1025	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1026	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1027	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1028	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1029	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (A500)
C1030	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1031	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1032	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1033	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1034	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1035	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1036	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1037	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1039	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1040	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1041	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1042	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1044	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (A500)
C1045	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C1046	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (A500)
C1047	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1048	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1049	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1050	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1051	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1052	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1053	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1054	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1058	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1060	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1063	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1065	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C1068	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C1070	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C1071	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1073	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C1074	1-162-926-11	CERAMIC CHIP	82PF	5%	50V

Ref. No.	Part No.	Description			Remarks
C1076	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C1077	1-162-958-11	CERAMIC CHIP	270PF	5%	50V
C1078	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C1080	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1081	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C1083	1-162-958-11	CERAMIC CHIP	270PF	5%	50V
C1084	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C1085	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C1086	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C1087	1-162-921-11	CERAMIC CHIP	33PF	5%	50V (A500)
C1087	1-162-922-11	CERAMIC CHIP	39PF	5%	50V (A500E)
C1089	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C1090	1-162-922-11	CERAMIC CHIP	39PF	5%	50V (A500)
C1090	1-162-925-11	CERAMIC CHIP	68PF	5%	50V (A500E)
C1091	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C1092	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C1093	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V
C1094	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C1095	1-162-921-11	CERAMIC CHIP	33PF	5%	50V (A500E)
C1095	1-162-922-11	CERAMIC CHIP	39PF	5%	50V (A500)
C1096	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1097	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1140	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1141	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1144	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1147	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1149	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1150	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1152	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1153	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C1154	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1155	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1156	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1158	1-115-156-11	CERAMIC CHIP	1uF		10V
C1160	1-115-156-11	CERAMIC CHIP	1uF		10V
C1161	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1162	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1163	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1164	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1165	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1166	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1167	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1168	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1173	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V (A500)
C1201	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C1202	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C1203	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C1204	1-164-392-11	CERAMIC CHIP	390PF	5%	50V
C1205	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1206	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1207	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1208	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1209	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1210	1-115-156-11	CERAMIC CHIP	1uF		10V
C1212	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1213	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1215	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1216	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1217	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1218	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1220	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C1222	1-115-156-11	CERAMIC CHIP	1uF		10V
C1223	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1224	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1227	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1228	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1229	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1230	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1231	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C1232	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C1233	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1234	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1236	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1237	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1240	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1280	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C1282	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1283	1-162-922-11	CERAMIC CHIP	39PF	5%	50V
C1285	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1301	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1302	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
C1306	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1307	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1308	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C1309	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C1310	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C1311	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C1312	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1313	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1314	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C1315	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1316	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C1317	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1318	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C1319	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1320	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1321	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1322	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C1323	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C1324	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1326	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C1327	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1328	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C1329	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C1330	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1331	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C1332	1-113-996-11	TANTAL. CHIP	220uF	20%	4V
C1333	1-113-996-11	TANTAL. CHIP	220uF	20%	4V
C1334	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C1335	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1336	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1337	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1338	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1339	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1340	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V

Ref. No.	Part No.	Description			Remarks
C1341	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C1342	1-162-928-11	CERAMIC CHIP	120PF	5%	50V (A500E)
C1342	1-164-217-11	CERAMIC CHIP	150PF	5%	50V (A500)
C1343	1-162-920-11	CERAMIC CHIP	27PF	5%	50V (A500E)
C1343	1-162-922-11	CERAMIC CHIP	39PF	5%	50V (A500)
C1344	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V (A500)
C1345	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C1346	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C1347	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C1350	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V (A500)
C1351	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1352	1-115-156-11	CERAMIC CHIP	1uF		10V (A500)
C1353	1-164-156-11	CERAMIC CHIP	0.1uF		25V (A500)
C1354	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C1355	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C1356	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C1357	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1358	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C1359	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1360	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1361	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1362	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1363	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
C1364	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1366	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C1370	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C1403	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C1404	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C1405	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C1406	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C1407	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C1409	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C1410	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1411	1-162-963-11	CERAMIC CHIP	680PF	10%	50V
C1412	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1414	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1415	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C1416	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C1422	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C1423	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C1424	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C1425	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C1426	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C1430	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C1431	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C1432	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C1433	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C1435	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C1437	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C1439	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
C1441	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C1444	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C1450	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1451	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1452	1-135-201-11	TANTALUM CHIP	10uF	20%	4V

Ref. No.	Part No.	Description			Remarks
C1453	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C1463	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1465	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C1466	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C1468	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C1477	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C1481	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1488	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1489	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1490	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1492	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C1616	1-162-911-11	CERAMIC CHIP	6PF	0.5PF	50V
C1618	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1619	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1620	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C1621	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1622	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1624	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1625	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1635	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1637	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1638	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1639	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1640	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1641	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1642	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C1645	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C1646	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C1647	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1648	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1702	1-115-156-11	CERAMIC CHIP	1uF		10V
C1752	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1753	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1754	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1755	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C1756	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C1757	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C1758	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C1759	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (A500E)
C1760	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1761	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C1762	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C1763	1-162-911-11	CERAMIC CHIP	6PF	0.5PF	50V
C1764	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C1765	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C1768	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1769	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1770	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1771	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C1772	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C1773	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1774	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1775	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1776	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C1777	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1779	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1781	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V (A500E)
C1851	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1852	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1853	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V

Ref. No.	Part No.	Description			Remarks
C1854	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C1855	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1856	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C1857	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C1858	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1859	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1860	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1861	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1862	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1863	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1864	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C1865	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1866	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1867	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C1868	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1869	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C1870	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1871	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1872	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C1873	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1874	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C1875	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C1876	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C1877	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C1878	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C1879	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1880	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1881	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C1882	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1884	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1886	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1887	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C1888	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1890	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C1891	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C1893	1-164-362-11	CERAMIC CHIP	470PF	5%	50V
C1951	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C1952	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1953	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1954	1-115-156-11	CERAMIC CHIP	1uF		10V
C1955	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1957	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C1958	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1959	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C1960	1-115-156-11	CERAMIC CHIP	1uF		10V
C1962	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1965	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1968	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1971	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1974	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1976	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C1978	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1980	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1981	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1982	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C1986	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1987	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C1989	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C1990	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1991	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1992	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		< CONNECTOR >			
CN101	1-691-354-21	CONNECTOR, FFC/FPC (ZIF) 16P			
CN102	1-774-639-21	CONNECTOR, FFC/FPC 15P			
CN103	1-766-673-21	CONNECTOR, FFC/FPC 12P			
CN104	1-691-348-11	CONNECTOR, FFC/FPC (ZIF) 10P			
CN105	1-766-619-11	1ONNECTOR, FFC/FPC 8P			
CN106	1-691-542-21	CONNECTOR, BOARD TO BOARD 48P			
CN107	1-778-597-21	CONNECTOR, BOARD TO BOARD 50P			
CN108	1-691-374-11	CONNECTOR, FFC/FPC 10P			
CN109	1-770-543-21	CONNECTOR, FFC/FPC 40P			
CN110	1-766-340-21	CONNECTOR, FFC/FPC 10P			
CN111	1-766-759-11	CONNECTOR, FFC/FPC 4P			
CN112	1-774-932-21	CONNECTOR, FFC/FPC (ZIF) 32P			
CN207	1-766-677-21	CONNECTOR, FFC/FPC 16P			
CN802	1-764-708-21	CONNECTOR, FFC/FPC (LIF) 9P			
		< DIODE >			
D001	8-719-062-16	DIODE 01ZA8.2(TPL3)			
D101	8-719-062-16	DIODE 01ZA8.2(TPL3)			
D102	8-719-062-16	DIODE 01ZA8.2(TPL3)			
D103	8-719-062-16	DIODE 01ZA8.2(TPL3)			
D104	8-719-062-16	DIODE 01ZA8.2(TPL3)			
D105	8-719-062-16	DIODE 01ZA8.2(TPL3)			
D106	8-719-062-16	DIODE 01ZA8.2(TPL3)			
D107	8-719-062-16	DIODE 01ZA8.2(TPL3)			
D108	8-719-062-16	DIODE 01ZA8.2(TPL3)			
D109	8-719-062-16	DIODE 01ZA8.2(TPL3)			
D110	8-719-041-31	DIODE 015Z12-TPH3			
D111	8-719-062-16	DIODE 01ZA8.2(TPL3)			
D112	8-719-062-16	DIODE 01ZA8.2(TPL3)			
D113	8-719-041-31	DIODE 015Z12-TPH3			
D114	8-719-062-16	DIODE 01ZA8.2(TPL3)			
D116	8-719-421-27	DIODE MA728			
D801	8-713-102-80	DIODE 1T369-01-T8A (A500E)			
D1201	8-719-055-86	DIODE KV1470TL1-3			
D1202	8-719-055-86	DIODE KV1470TL1-3			
D1305	8-719-404-49	DIODE MA111 (A500)			
D1306	8-719-404-49	DIODE MA111(A500)			
D1602	8-713-102-28	DIODE 1T379-04-T8A			
D1851	8-719-404-49	DIODE MA111			
D1951	8-719-404-49	DIODE MA111			
D1952	8-719-404-49	DIODE MA111			
D1953	8-719-404-49	DIODE MA111			
D1954	8-719-420-51	DIODE MA729			
D1955	8-719-420-51	DIODE MA729			
D1956	8-719-421-27	DIODE MA728			
D1957	8-719-404-49	DIODE MA111			
D1959	8-719-420-14	DIODE MA8082-M			
		< FERRITE BEAD >			
FB1151	1-500-284-21	INDUCTOR, FERRITE BEAD			
FB1305	1-543-955-11	BEAD, FERRITE (CHIP)			
FB1601	1-500-284-21	INDUCTOR, FERRITE BEAD			
FB1602	1-500-284-21	INDUCTOR, FERRITE BEAD			
FB1603	1-414-228-11	INDUCTOR, FERRITE BEAD			
FB1701	1-414-228-11	INDUCTOR, FERRITE BEAD			

Ref. No.	Part No.	Description	Remarks
		< IC >	
IC001	8-759-456-30	IC BA7787FS-E2	
IC101	8-752-070-64	IC CXA1702AR	
IC102	8-759-447-79	IC MB87B121PFV-G-BND-E	
IC103	8-752-356-45	IC CXD2301Q	
IC104	8-759-454-36	IC uPD6466GS-622-GLG-E2	
IC105	8-759-457-06	IC M65510FP-600D	
IC106	8-759-435-29	IC HG51CS296TETL	
IC108	8-759-169-02	IC MB88344BPFV-G-BND-ER	
IC109	8-752-069-26	IC CXA1737R	
IC111	8-759-349-01	IC MC68HC68VBIFB	
IC112	8-759-327-60	IC TC7W125FU-TE12R	
IC113	8-759-398-90	IC S-81236PG-P7-T1	
IC114	8-752-384-82	IC CXD3119R	
IC116	8-759-445-94	IC AK6480AM-E2	
IC117	8-752-889-21	IC CXP913040-005R	
IC119	8-759-058-62	IC TC7S08FU(TE85R)	
IC120	8-752-078-49	IC CXA1814AQ	
IC121	8-759-327-67	IC LB1950V-TLM	
IC122	8-759-327-61	IC LB8112V-TLM	
IC129	8-759-357-63	IC AN2220FH-EB	
IC130	8-759-058-58	IC TC7S04FU(TE85R)	
IC131	8-759-822-99	IC L88MS05T-FA	
IC203	8-759-462-43	IC AD9800JCSTRL	
IC204	8-759-243-19	IC TC7SU04F	
IC205	8-759-447-77	IC TC7WH74FU(TR12R)	
IC206	8-759-327-60	IC TC7W125FU-TE12R	
IC361	8-759-474-38	IC LA9510W-B-TBM	
IC701	8-759-421-52	IC MB87B110CPFV-G-BND-E	
IC801	8-752-070-03	IC CXA1785AR-T4	
IC802	8-759-427-85	IC MB88146APFV-G-BND-E	
IC803	8-759-079-52	IC TC74VHC08FS(EL)	
IC804	8-759-196-97	IC TC7SH32FU-TE85R	
IC805	8-759-082-60	IC TC7S66FU(A500E)	
IC1951	8-759-298-10	IC S-8423NFS-T2	
IC1952	8-759-483-53	IC S579GDX4000PZ-TEB	
IC1995	8-759-059-05	IC TL1596CPW	
		< COIL >	
L362	1-412-948-11	INDUCTOR 5.6uH	
L363	1-412-957-11	INDUCTOR 33uH	
L364	1-412-957-11	INDUCTOR 33uH	
L365	1-412-951-11	INDUCTOR 10uH	
L701	1-414-754-11	INDUCTOR 10uH	
L702	1-412-950-11	INDUCTOR 8.2uH	
L703	1-414-754-11	INDUCTOR 10uH	
L704	1-414-754-11	INDUCTOR 10uH	
L705	1-410-658-31	INDUCTOR CHIP 220uH	
L801	1-412-963-11	INDUCTOR 100uH	
L802	1-412-962-11	INDUCTOR 82uH	
L803	1-414-755-11	INDUCTOR 22uH	
L804	1-412-956-21	INDUCTOR 27uH (A500E)	
L805	1-414-754-11	INDUCTOR 10uH	
L901	1-216-295-11	CONDUCTOR, CHIP (2012)	
L902	1-216-295-11	CONDUCTOR, CHIP (2012)	
L903	1-414-754-11	INDUCTOR 10uH	
L904	1-216-295-11	CONDUCTOR, CHIP (2012)	
L1002	1-414-406-11	INDUCTOR 220uH	
L1003	1-412-952-11	INDUCTOR 12uH	
L1004	1-414-406-11	INDUCTOR 220uH	
L1005	1-414-398-11	INDUCTOR 10uH	
L1006	1-412-948-11	INDUCTOR 5.6uH	
L1007	1-410-656-11	INDUCTOR CHIP 150uH	
L1008	1-412-963-11	INDUCTOR 100uH	
L1009	1-412-282-41	INDUCTOR 470uH	
L1010	1-412-957-11	INDUCTOR 33uH	
L1011	1-412-280-31	INDUCTOR 330uH	
L1012	1-410-657-21	INDUCTOR CHIP 180uH	
L1013	1-410-656-11	INDUCTOR CHIP 150uH	
L1014	1-412-956-21	INDUCTOR 27uH	
L1015	1-412-280-31	INDUCTOR 330uH	
L1017	1-412-949-21	INDUCTOR 6.8uH	
L1018	1-412-951-11	INDUCTOR 10uH	
L1019	1-412-944-11	INDUCTOR 2.7uH	
L1020	1-414-754-11	INDUCTOR 10uH	
L1151	1-414-754-11	INDUCTOR 10uH	
L1154	1-414-754-11	INDUCTOR 10uH	
L1201	1-414-754-11	INDUCTOR 10uH	
L1202	1-414-754-11	INDUCTOR 10uH	
L1203	1-414-754-11	INDUCTOR 10uH	
L1204	1-412-945-11	INDUCTOR 3.3uH	
L1206	1-414-754-11	INDUCTOR 10uH	
L1207	1-414-078-11	INDUCTOR 10uH	
L1209	1-414-754-11	INDUCTOR 10uH	
L1220	1-412-955-11	INDUCTOR 22uH	
L1301	1-414-078-11	INDUCTOR 10uH	
L1303	1-412-937-11	INDUCTOR 0.68uH (A500E)	
L1303	1-412-939-11	INDUCTOR 1uH (A500)	
L1305	1-414-754-11	INDUCTOR 10uH	
L1306	1-414-754-11	INDUCTOR 10uH	
L1307	1-414-754-11	INDUCTOR 10uH	
L1308	1-412-959-11	INDUCTOR 47uH	
L1309	1-414-072-11	INDUCTOR 1uH	
L1310	1-414-754-11	INDUCTOR 10uH	
L1311	1-412-959-11	INDUCTOR 47uH	
L1312	1-414-754-11	INDUCTOR 10uH	
L1313	1-414-754-11	INDUCTOR 10uH	
L1603	1-414-398-11	INDUCTOR 10uH	
L1604	1-412-955-11	INDUCTOR 22uH	
L1751	1-414-754-11	INDUCTOR 10uH	
L1752	1-414-754-11	INDUCTOR 10uH	
L1753	1-414-754-11	INDUCTOR 10uH	
L1754	1-412-961-11	INDUCTOR 68uH	
L1755	1-414-757-11	INDUCTOR 100uH (A500E)	
L1951	1-414-754-11	INDUCTOR 10uH	
		< TRANSISTOR >	
Q001	8-729-037-78	TRANSISTOR UN9217J-(TX).SO	
Q002	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q003	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q004	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q007	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q008	8-729-013-60	TRANSISTOR RN1110-TE85L	
Q009	8-729-013-60	TRANSISTOR RN1110-TE85L	
Q010	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q351	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q352	8-729-122-63	TRANSISTOR 2SA1226	

Ref. No.	Part No.	Description	Remarks
Q353	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q701	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q702	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q703	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q704	8-729-037-59	TRANSISTOR UN9111J-(TX).SO	
Q705	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q801	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q802	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q803	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q804	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q805	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO (A500E)	
Q806	8-729-037-74	TRANSISTOR UN9213J-(TX).SO (A500E)	
Q808	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q811	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q813	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q814	8-729-037-74	TRANSISTOR UN9213J-(TX).SO (A500E)	
Q1001	8-729-031-69	TRANSISTOR 2SA1965-TL	
Q1002	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1003	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1004	8-729-031-69	TRANSISTOR 2SA1965-TL (A500)	
Q1005	8-729-031-69	TRANSISTOR 2SA1965-TL (A500)	
Q1006	8-729-031-69	TRANSISTOR 2SA1965-TL (A500)	
Q1007	8-729-031-69	TRANSISTOR 2SA1965-TL (A500)	
Q1008	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1009	8-729-037-74	TRANSISTOR UN9213J-(TX).SO (A500)	
Q1010	8-729-037-74	TRANSISTOR UN9213J-(TX).SO (A500)	
Q1011	8-729-037-74	TRANSISTOR UN9213J-(TX).SO (A500)	
Q1012	8-729-037-74	TRANSISTOR UN9213J-(TX).SO (A500)	
Q1014	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1015	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1016	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1018	8-729-037-74	TRANSISTOR UN9213J-(TX).SO (A500E)	
Q1025	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1026	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1028	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1029	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1030	8-729-037-89	TRANSISTOR 2SC4627J-C(TX).SO	
Q1033	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1034	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1036	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1037	8-729-037-89	TRANSISTOR 2SC4627J-C(TX).SO	
Q1038	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1040	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1041	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1043	8-729-807-86	TRANSISTOR 2SB1295-UL5	
Q1044	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1045	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1100	8-729-031-69	TRANSISTOR 2SA1965-TL (A500)	
Q1135	8-729-037-89	TRANSISTOR 2SC4627J-C(TX).SO	
Q1136	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1138	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1139	8-729-031-69	TRANSISTOR 2SA1965-TL	
Q1140	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1141	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1150	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1151	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1201	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1202	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1203	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1220	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1221	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1305	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1306	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1307	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1309	8-729-425-64	TRANSISTOR 2SC4738-YGR-TE85L	
Q1350	8-729-037-61	TRANSISTOR UN9113J-(TX).SO	
Q1351	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO (A500)	
Q1352	8-729-040-77	TRANSISTOR 2SC5376-B(TE85L)	
Q1353	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO (A500)	
Q1354	8-729-040-77	TRANSISTOR 2SC5376-B(TE85L)	
Q1355	8-729-040-77	TRANSISTOR 2SC5376-B(TE85L)	
Q1356	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO (A500)	
Q1357	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO (A500)	
Q1358	8-729-425-64	TRANSISTOR 2SC4738-YGR-TE85L	
Q1359	8-729-101-07	TRANSISTOR 2SB798-DL	
Q1360	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1361	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1362	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1363	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1486	8-729-013-60	TRANSISTOR RN1110-TE85L	
Q1487	8-729-013-60	TRANSISTOR RN1110-TE85L	
Q1488	8-729-037-63	TRANSISTOR UN9115J-(TX).SO	
Q1489	8-729-013-60	TRANSISTOR RN1110-TE85L	
Q1490	8-729-013-60	TRANSISTOR RN1110-TE85L	
Q1491	8-729-037-76	TRANSISTOR UN9215J-(TX).SO	
Q1492	8-729-037-76	TRANSISTOR UN9215J-(TX).SO	
Q1493	8-729-037-61	TRANSISTOR UN9113J-(TX).SO	
Q1494	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1605	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1751	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO (A500)	
Q1752	8-729-037-89	TRANSISTOR 2SC4627J-C(TX).SO (A500E)	
Q1753	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO (A500E)	
Q1851	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1852	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1854	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1855	8-729-039-87	TRANSISTOR NDS356P	
Q1856	8-729-039-87	TRANSISTOR NDS356P	
Q1857	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1858	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1862	8-729-037-59	TRANSISTOR UN9111J-(TX).SO	
Q1863	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1951	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1952	8-729-040-77	TRANSISTOR 2SC5376-B(TE85L)	
Q1953	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO	
Q1954	8-729-032-00	TRANSISTOR 2SJ381-TD	
Q1955	8-729-037-72	TRANSISTOR UN9211J-(TX).SO	
Q1956	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1957	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1959	8-729-032-62	TRANSISTOR 2SJ347-TE85L	
Q1960	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q1961	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q1963	8-729-024-48	TRANSISTOR 2SK1830-TE85L	

< RESISTOR >

R005	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R006	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R007	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R010	1-202-924-11	METAL GLAZE	240	5%	1/16W
R011	1-216-832-11	METAL CHIP	8.2K	5%	1/16W

VC-197

Ref. No.	Part No.	Description			Remarks
R012	1-202-924-11	METAL GLAZE	240	5%	1/16W
R015	1-216-809-11	METAL CHIP	100	5%	1/16W
R016	1-216-809-11	METAL CHIP	100	5%	1/16W
R017	1-216-821-11	METAL CHIP	1K	5%	1/16W
R018	1-216-821-11	METAL CHIP	1K	5%	1/16W
R027	1-216-864-11	METAL CHIP	0	5%	1/16W
R031	1-216-864-11	METAL CHIP	0	5%	1/16W
R032	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R034	1-216-849-11	METAL CHIP	220K	5%	1/16W
R046	1-216-834-11	METAL CHIP	12K	5%	1/16W
R047	1-216-834-11	METAL CHIP	12K	5%	1/16W
R049	1-216-837-11	METAL CHIP	22K	5%	1/16W
R050	1-216-837-11	METAL CHIP	22K	5%	1/16W
R051	1-216-845-11	METAL CHIP	100K	5%	1/16W
R052	1-216-845-11	METAL CHIP	100K	5%	1/16W
R055	1-216-845-11	METAL CHIP	100K	5%	1/16W
R066	1-216-836-11	METAL CHIP	18K	5%	1/16W
R067	1-216-834-11	METAL CHIP	12K	5%	1/16W
R068	1-216-852-11	METAL CHIP	390K	5%	1/16W
R101	1-216-804-11	METAL CHIP	39	5%	1/16W
R102	1-216-864-11	METAL CHIP	0	5%	1/16W (A500)
R361	1-216-841-11	METAL CHIP	47K	5%	1/16W
R362	1-216-817-11	METAL CHIP	470	5%	1/16W
R363	1-216-841-11	METAL CHIP	47K	5%	1/16W
R364	1-216-821-11	METAL CHIP	1K	5%	1/16W
R365	1-216-833-11	METAL CHIP	10K	5%	1/16W
R366	1-216-833-11	METAL CHIP	10K	5%	1/16W
R367	1-216-857-11	METAL CHIP	1M	5%	1/16W
R369	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W
R370	1-216-815-11	METAL CHIP	330	5%	1/16W
R371	1-216-821-11	METAL CHIP	1K	5%	1/16W
R372	1-216-864-11	METAL CHIP	0	5%	1/16W (A500E)
R373	1-216-817-11	METAL CHIP	470	5%	1/16W
R375	1-216-818-11	METAL CHIP	560	5%	1/16W
R376	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R377	1-216-817-11	METAL CHIP	470	5%	1/16W
R378	1-216-821-11	METAL CHIP	1K	5%	1/16W
R379	1-216-840-11	METAL CHIP	39K	5%	1/16W
R380	1-216-821-11	METAL CHIP	1K	5%	1/16W
R382	1-216-835-11	METAL CHIP	15K	5%	1/16W
R386	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R387	1-216-837-11	METAL CHIP	22K	5%	1/16W
R390	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R392	1-216-847-11	METAL CHIP	150K	5%	1/16W
R393	1-216-847-11	METAL CHIP	150K	5%	1/16W
R394	1-216-817-11	METAL CHIP	470	5%	1/16W
R397	1-216-864-11	METAL CHIP	0	5%	1/16W
R399	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R701	1-216-839-11	METAL CHIP	33K	5%	1/16W
R702	1-216-838-11	METAL CHIP	27K	5%	1/16W
R703	1-216-821-11	METAL CHIP	1K	5%	1/16W
R704	1-216-819-11	METAL CHIP	680	5%	1/16W
R705	1-216-837-11	METAL CHIP	22K	5%	1/16W (A500)
R705	1-216-842-11	METAL CHIP	56K	5%	1/16W (A500E)
R706	1-216-843-11	METAL CHIP	68K	5%	1/16W (A500E)
R706	1-216-845-11	METAL CHIP	100K	5%	1/16W (A500)
R707	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R708	1-216-816-11	METAL CHIP	390	5%	1/16W
R709	1-216-821-11	METAL CHIP	1K	5%	1/16W
R710	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R711	1-216-820-11	METAL CHIP	820	5%	1/16W
R712	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R713	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R714	1-216-833-11	METAL CHIP	10K	5%	1/16W
R715	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R716	1-216-819-11	METAL CHIP	680	5%	1/16W
R717	1-216-821-11	METAL CHIP	1K	5%	1/16W
R718	1-216-812-11	METAL CHIP	180	5%	1/16W
R719	1-216-821-11	METAL CHIP	1K	5%	1/16W
R720	1-216-816-11	METAL CHIP	390	5%	1/16W
R721	1-216-817-11	METAL CHIP	470	5%	1/16W
R722	1-216-821-11	METAL CHIP	1K	5%	1/16W
R723	1-216-821-11	METAL CHIP	1K	5%	1/16W
R724	1-216-821-11	METAL CHIP	1K	5%	1/16W
R725	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R726	1-216-821-11	METAL CHIP	1K	5%	1/16W
R727	1-216-821-11	METAL CHIP	1K	5%	1/16W
R801	1-216-839-11	METAL CHIP	33K	5%	1/16W
R802	1-216-837-11	METAL CHIP	22K	5%	1/16W
R803	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R804	1-216-817-11	METAL CHIP	470	5%	1/16W
R805	1-216-821-11	METAL CHIP	1K	5%	1/16W
R806	1-216-817-11	METAL CHIP	470	5%	1/16W
R807	1-216-842-11	METAL CHIP	56K	5%	1/16W
R808	1-216-843-11	METAL CHIP	68K	5%	1/16W
R809	1-218-885-11	METAL GLAZE	39K	0.50%	1/16W
R811	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R812	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R815	1-216-864-11	METAL CHIP	0	5%	1/16W (A500E)
R817	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R818	1-216-821-11	METAL CHIP	1K	5%	1/16W
R819	1-218-893-11	METAL GLAZE	82K	0.50%	1/16W
R820	1-218-877-11	METAL GLAZE	18K	0.50%	1/16W
R821	1-216-851-11	METAL CHIP	330K	5%	1/16W
R822	1-218-883-11	METAL GLAZE	33K	0.50%	1/16W
R823	1-216-837-11	METAL CHIP	22K	5%	1/16W
R824	1-218-887-11	METAL GLAZE	47K	0.50%	1/16W
R826	1-216-843-11	METAL CHIP	68K	5%	1/16W
R827	1-216-840-11	METAL CHIP	39K	5%	1/16W
R829	1-216-841-11	METAL CHIP	47K	5%	1/16W
R830	1-216-841-11	METAL CHIP	47K	5%	1/16W
R831	1-219-570-11	METAL GLAZE	10M	5%	1/16W (A500E)
R832	1-216-838-11	METAL CHIP	27K	5%	1/16W (A500)
R832	1-216-839-11	METAL CHIP	33K	5%	1/16W (A500E)
R833	1-216-835-11	METAL CHIP	5K	5%	1/16W (A500)

Ref. No.	Part No.	Description			Remarks
R833	1-216-843-11	METAL CHIP	68K	5%	1/16W (A500E)
R834	1-216-864-11	METAL CHIP	0	5%	1/16W
R835	1-216-838-11	METAL CHIP	27K	5%	1/16W (A500E)
R835	1-216-843-11	METAL CHIP	68K	5%	1/16W (A500)
R836	1-218-887-11	METAL GLAZE	47K	0.50%	1/16W
R837	1-216-841-11	METAL CHIP	47K	5%	1/16W
R838	1-216-841-11	METAL CHIP	47K	5%	1/16W
R839	1-218-877-11	METAL GLAZE	18K	0.50%	1/16W
R840	1-216-857-11	METAL CHIP	1M	5%	1/16W
R841	1-216-837-11	METAL CHIP	22K	5%	1/16W (A500E)
R842	1-216-841-11	METAL CHIP	47K	5%	1/16W
R843	1-216-841-11	METAL CHIP	47K	5%	1/16W
R844	1-216-857-11	METAL CHIP	1M	5%	1/16W
R845	1-216-841-11	METAL CHIP	47K	5%	1/16W (A500E)
R846	1-216-837-11	METAL CHIP	22K	5%	1/16W
R847	1-216-837-11	METAL CHIP	22K	5%	1/16W
R848	1-216-817-11	METAL CHIP	470	5%	1/16W (A500E)
R848	1-216-821-11	METAL CHIP	1K	5%	1/16W (A500)
R849	1-216-830-11	METAL CHIP	5.6K	5%	1/16W (A500E)
R850	1-216-829-11	METAL CHIP	4.7K	5%	1/16W (A500E)
R851	1-216-805-11	METAL CHIP	47	5%	1/16W
R852	1-216-805-11	METAL CHIP	47	5%	1/16W
R853	1-216-805-11	METAL CHIP	47	5%	1/16W
R854	1-216-837-11	METAL CHIP	22K	5%	1/16W
R855	1-216-832-11	METAL CHIP	8.2K	5%	1/16W (A500)
R855	1-216-836-11	METAL CHIP	18K	5%	1/16W (A500E)
R856	1-216-838-11	METAL CHIP	27K	5%	1/16W
R857	1-216-843-11	METAL CHIP	68K	5%	1/16W
R858	1-216-830-11	METAL CHIP	5.6K	5%	1/16W (A500)
R858	1-216-836-11	METAL CHIP	18K	5%	1/16W (A500E)
R863	1-216-841-11	METAL CHIP	47K	5%	1/16W
R869	1-216-841-11	METAL CHIP	47K	5%	1/16W
R871	1-216-864-11	METAL CHIP	0	5%	1/16W
R872	1-216-864-11	METAL CHIP	0	5%	1/16W
R874	1-216-841-11	METAL CHIP	47K	5%	1/16W
R875	1-216-841-11	METAL CHIP	47K	5%	1/16W
R876	1-218-885-11	METAL GLAZE	39K	0.50%	1/16W (A500E)
R877	1-218-885-11	METAL GLAZE	39K	0.50%	1/16W (A500E)
R878	1-216-841-11	METAL CHIP	47K	5%	1/16W (A500E)
R880	1-216-864-11	METAL CHIP	0	5%	1/16W
R882	1-216-864-11	METAL CHIP	0	5%	1/16W
R888	1-216-864-11	METAL CHIP	0	5%	1/16W
R890	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W (A500E)
R891	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W (A500E)
R900	1-216-864-11	METAL CHIP	0	5%	1/16W
R902	1-216-864-11	METAL CHIP	0	5%	1/16W
R904	1-216-864-11	METAL CHIP	0	5%	1/16W
R1001	1-216-818-11	METAL CHIP	560	5%	1/16W
R1002	1-216-806-11	METAL GLAZE	56	5%	1/16W
R1003	1-216-809-11	METAL CHIP	100	5%	1/16W
R1004	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1005	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1006	1-216-813-11	METAL CHIP	220	5%	1/16W
R1007	1-216-814-11	METAL CHIP	270	5%	1/16W
R1008	1-216-828-11	METAL CHIP	3.9K	5%	1/16W (A500)
R1009	1-216-839-11	METAL CHIP	33K	5%	1/16W
R1010	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1011	1-216-828-11	METAL CHIP	3.9K	5%	1/16W (A500)
R1012	1-216-828-11	METAL CHIP	3.9K	5%	1/16W (A500)
R1013	1-216-828-11	METAL CHIP	3.9K	5%	1/16W (A500)
R1014	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1015	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1016	1-216-829-11	METAL CHIP	4.7K	5%	1/16W (A500)
R1017	1-216-829-11	METAL CHIP	4.7K	5%	1/16W (A500)
R1018	1-216-829-11	METAL CHIP	4.7K	5%	1/16W (A500)
R1019	1-216-829-11	METAL CHIP	4.7K	5%	1/16W (A500)
R1020	1-216-838-11	METAL CHIP	27K	5%	1/16W
R1021	1-216-864-11	METAL CHIP	0	5%	1/16W (A500E)
R1022	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R1023	1-216-817-11	METAL CHIP	470	5%	1/16W
R1024	1-216-817-11	METAL CHIP	470	5%	1/16W
R1025	1-216-838-11	METAL CHIP	27K	5%	1/16W
R1026	1-216-864-11	METAL CHIP	0	5%	1/16W (A500E)
R1027	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R1028	1-216-838-11	METAL CHIP	27K	5%	1/16W
R1030	1-216-828-11	METAL CHIP	3.9K	5%	1/16W (A500)
R1030	1-216-830-11	METAL CHIP	5.6K	5%	1/16W (A500E)
R1031	1-216-838-11	METAL CHIP	27K	5%	1/16W
R1033	1-216-828-11	METAL CHIP	3.9K	5%	1/16W (A500)
R1033	1-216-830-11	METAL CHIP	5.6K	5%	1/16W (A500E)
R1034	1-216-817-11	METAL CHIP	470	5%	1/16W
R1035	1-216-817-11	METAL CHIP	470	5%	1/16W
R1037	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1038	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1039	1-216-797-11	METAL CHIP	10	5%	1/16W
R1040	1-218-875-11	METAL GLAZE	15K	0.50%	1/16W
R1041	1-216-836-11	METAL CHIP	18K	5%	1/16W
R1042	1-216-864-11	METAL CHIP	0	5%	1/16W
R1045	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R1046	1-216-864-11	METAL CHIP	0	5%	1/16W

VC-197

Ref. No.	Part No.	Description			Remarks
R1048	1-216-832-11	METAL CHIP	8.2K	5%	1/16W (A500E)
R1051	1-216-835-11	METAL CHIP	15K	5%	1/16W (A500E)
R1051	1-216-837-11	METAL CHIP	22K	5%	1/16W (A500)
R1052	1-216-864-11	METAL CHIP	0	5%	1/16W (A500)
R1053	1-216-864-11	METAL CHIP	0	5%	1/16W (A500E)
R1054	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1057	1-216-829-11	METAL CHIP	4.7K	5%	1/16W (A500)
R1057	1-216-830-11	METAL CHIP	5.6K	5%	1/16W (A500E)
R1061	1-216-855-11	METAL CHIP	680K	5%	1/16W
R1062	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1076	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1081	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1082	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1083	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1084	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1085	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1086	1-216-818-11	METAL CHIP	560	5%	1/16W
R1087	1-216-823-11	METAL CHIP	1.5K	5%	1/16W (A500E)
R1087	1-216-825-11	METAL CHIP	2.2K	5%	1/16W (A500)
R1088	1-216-817-11	METAL CHIP	470	5%	1/16W
R1089	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1090	1-216-864-11	METAL CHIP	0	5%	1/16W
R1097	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1098	1-216-864-11	METAL CHIP	0	5%	1/16W
R1100	1-216-816-11	METAL CHIP	390	5%	1/16W
R1101	1-216-820-11	METAL CHIP	820	5%	1/16W
R1103	1-216-815-11	METAL CHIP	330	5%	1/16W (A500)
R1103	1-216-817-11	METAL CHIP	470	5%	1/16W (A500E)
R1104	1-216-815-11	METAL CHIP	330	5%	1/16W (A500)
R1104	1-216-817-11	METAL CHIP	470	5%	1/16W (A500E)
R1105	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1106	1-216-816-11	METAL CHIP	390	5%	1/16W
R1107	1-216-817-11	METAL CHIP	470	5%	1/16W
R1110	1-216-805-11	METAL CHIP	47	5%	1/16W
R1111	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R1112	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1113	1-216-864-11	METAL CHIP	0	5%	1/16W
R1114	1-216-815-11	METAL CHIP	330	5%	1/16W
R1115	1-216-817-11	METAL CHIP	470	5%	1/16W (A500E)
R1115	1-216-818-11	METAL CHIP	560	5%	1/16W (A500)
R1116	1-216-815-11	METAL CHIP	330	5%	1/16W (A500E)
R1116	1-216-818-11	METAL CHIP	560	5%	1/16W (A500)
R1117	1-216-815-11	METAL CHIP	330	5%	1/16W (A500)
R1117	1-216-816-11	METAL CHIP	390	5%	1/16W (A500E)
R1118	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1119	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1120	1-216-817-11	METAL CHIP	470	5%	1/16W
R1121	1-216-817-11	METAL CHIP	470	5%	1/16W
R1122	1-216-839-11	METAL CHIP	33K	5%	1/16W
R1123	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1124	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1125	1-216-815-11	METAL CHIP	330	5%	1/16W
R1128	1-216-815-11	METAL CHIP	330	5%	1/16W (A500E)
R1129	1-216-809-11	METAL CHIP	100	5%	1/16W
R1131	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R1134	1-216-823-11	METAL CHIP	1.5K	5%	1/16W (A500)
R1134	1-216-825-11	METAL CHIP	2.2K	5%	1/16W (A500E)
R1135	1-216-814-11	METAL CHIP	270	5%	1/16W (A500)
R1135	1-216-864-11	METAL CHIP	0	5%	1/16W (A500E)
R1136	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1137	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1138	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1141	1-216-295-11	CONDUCTOR, CHIP (2012)			
R1142	1-216-820-11	METAL CHIP	820	5%	1/16W (A500E)
R1142	1-216-821-11	METAL CHIP	1K	5%	1/16W (A500)
R1143	1-216-833-11	METAL CHIP	10K	5%	1/16W (A500)
R1144	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1146	1-216-818-11	METAL CHIP	560	5%	1/16W
R1147	1-216-820-11	METAL CHIP	820	5%	1/16W (A500)
R1147	1-216-864-11	METAL CHIP	0	5%	1/16W (A500E)
R1148	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1149	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1150	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1151	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1152	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R1153	1-216-816-11	METAL CHIP	390	5%	1/16W
R1154	1-216-834-11	METAL CHIP	12K	5%	1/16W
R1155	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R1156	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R1157	1-216-808-11	METAL CHIP	82	5%	1/16W
R1159	1-216-864-11	METAL CHIP	0	5%	1/16W
R1160	1-216-819-11	METAL CHIP	680	5%	1/16W
R1162	1-216-834-11	METAL CHIP	12K	5%	1/16W
R1163	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R1164	1-216-821-11	METAL CHIP	1K	5%	1/16W (A500)
R1165	1-216-809-11	METAL CHIP	100	5%	1/16W
R1180	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1181	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1213	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R1215	1-216-809-11	METAL CHIP	100	5%	1/16W
R1216	1-216-835-11	METAL CHIP	15K	5%	1/16W
R1217	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R1218	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1219	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R1220	1-216-833-11	METAL CHIP	10K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R1221	1-216-818-11	METAL CHIP	560	5%	1/16W
R1222	1-216-820-11	METAL CHIP	820	5%	1/16W
R1223	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1225	1-216-819-11	METAL CHIP	680	5%	1/16W
R1227	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1228	1-216-835-11	METAL CHIP	15K	5%	1/16W
R1230	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1231	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1232	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1233	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R1234	1-216-840-11	METAL CHIP	39K	5%	1/16W
R1236	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1237	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R1238	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1239	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1240	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1241	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1242	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1246	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1247	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1248	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1249	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1250	1-216-864-11	METAL CHIP	0	5%	1/16W
R1251	1-216-818-11	METAL CHIP	560	5%	1/16W
R1252	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1253	1-216-818-11	METAL CHIP	560	5%	1/16W
R1254	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R1255	1-216-817-11	METAL CHIP	470	5%	1/16W
R1256	1-216-816-11	METAL CHIP	390	5%	1/16W
R1280	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1281	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R1283	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1284	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1285	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1289	1-216-864-11	METAL CHIP	0	5%	1/16W
R1290	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1292	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1293	1-216-864-11	METAL CHIP	0	5%	1/16W
R1295	1-216-817-11	METAL CHIP	470	5%	1/16W
R1297	1-216-864-11	METAL CHIP	0	5%	1/16W
R1298	1-216-864-11	METAL CHIP	0	5%	1/16W
R1307	1-216-836-11	METAL CHIP	18K	5%	1/16W (A500E)
R1307	1-216-837-11	METAL CHIP	22K	5%	1/16W (A500)
R1308	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1309	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1310	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1311	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1312	1-216-834-11	METAL CHIP	12K	5%	1/16W
R1313	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1314	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1315	1-216-815-11	METAL CHIP	330	5%	1/16W
R1316	1-216-815-11	METAL CHIP	330	5%	1/16W
R1317	1-216-821-11	METAL CHIP	1K	5%	1/16W (A500E)
R1318	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1319	1-216-864-11	METAL CHIP	0	5%	1/16W
R1320	1-216-815-11	METAL CHIP	330	5%	1/16W
R1321	1-218-876-11	METAL GLAZE	16K	0.50%	1/16W
R1322	1-218-847-11	METAL GLAZE	1K	0.50%	1/16W
R1323	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R1324	1-216-834-11	METAL CHIP	12K	5%	1/16W
R1325	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1326	1-216-864-11	METAL CHIP	0	5%	1/16W
R1328	1-216-864-11	METAL CHIP	0	5%	1/16W
R1329	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1330	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R1331	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R1332	1-216-864-11	METAL CHIP	0	5%	1/16W (A500E)
R1333	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1334	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1335	1-216-797-11	METAL CHIP	10	5%	1/16W
R1336	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R1337	1-216-820-11	METAL CHIP	820	5%	1/16W
R1338	1-216-850-11	METAL CHIP	270K	5%	1/16W
R1339	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1349	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1350	1-216-841-11	METAL CHIP	47K	5%	1/16W (A500)
R1351	1-216-833-11	METAL CHIP	10K	5%	1/16W (A500)
R1352	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R1353	1-216-837-11	METAL CHIP	22K	5%	1/16W (A500)
R1354	1-216-841-11	METAL CHIP	47K	5%	1/16W (A500)
R1355	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R1356	1-216-847-11	METAL CHIP	150K	5%	1/16W (A500)
R1357	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R1358	1-216-845-11	METAL CHIP	100K	5%	1/16W (A500)
R1360	1-216-825-11	METAL CHIP	2.2K	5%	1/16W (A500)
R1361	1-216-825-11	METAL CHIP	2.2K	5%	1/16W (A500)
R1362	1-216-804-11	METAL CHIP	39	5%	1/16W
R1363	1-216-803-11	METAL CHIP	33	5%	1/16W
R1364	1-216-833-11	METAL CHIP	10K	5%	1/16W (A500)
R1365	1-216-833-11	METAL CHIP	10K	5%	1/16W (A500)
R1366	1-216-803-11	METAL CHIP	33	5%	1/16W
R1367	1-216-804-11	METAL CHIP	39	5%	1/16W
R1368	1-216-803-11	METAL CHIP	33	5%	1/16W
R1369	1-216-804-11	METAL CHIP	39	5%	1/16W
R1371	1-216-821-11	METAL CHIP	1K	5%	1/16W (A500)
R1373	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1374	1-216-864-11	METAL CHIP	0	5%	1/16W
R1375	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1376	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1377	1-216-864-11	METAL CHIP	0	5%	1/16W
R1384	1-216-820-11	METAL CHIP	820	5%	1/16W
R1385	1-216-836-11	METAL CHIP	18K	5%	1/16W
R1386	1-216-138-00	METAL CHIP	3.3	5%	1/8W
R1387	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R1388	1-216-837-11	METAL CHIP	22K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R1389	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1403	1-216-844-11	METAL CHIP	82K	5%	1/16W
R1404	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1405	1-216-817-11	METAL CHIP	470	5%	1/16W
R1406	1-216-844-11	METAL CHIP	82K	5%	1/16W
R1408	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1409	1-216-820-11	METAL CHIP	820	5%	1/16W
R1410	1-216-864-11	METAL CHIP	0	5%	1/16W
R1411	1-216-817-11	METAL CHIP	470	5%	1/16W
R1412	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1413	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R1414	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1415	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R1416	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1418	1-216-844-11	METAL CHIP	82K	5%	1/16W
R1419	1-216-864-11	METAL CHIP	0	5%	1/16W
R1421	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R1422	1-216-854-11	METAL CHIP	560K	5%	1/16W
R1423	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1424	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1425	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1426	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R1430	1-216-817-11	METAL CHIP	470	5%	1/16W
R1431	1-216-817-11	METAL CHIP	470	5%	1/16W
R1461	1-216-864-11	METAL CHIP	0	5%	1/16W
R1462	1-216-864-11	METAL CHIP	0	5%	1/16W
R1476	1-216-864-11	METAL CHIP	0	5%	1/16W
R1488	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1489	1-216-817-11	METAL CHIP	470	5%	1/16W
R1490	1-216-817-11	METAL CHIP	470	5%	1/16W
R1491	1-216-817-11	METAL CHIP	470	5%	1/16W
R1492	1-216-817-11	METAL CHIP	470	5%	1/16W
R1616	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1618	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1633	1-216-864-11	METAL CHIP	0	5%	1/16W
R1638	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1639	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1640	1-216-864-11	METAL CHIP	0	5%	1/16W
R1642	1-216-809-11	METAL CHIP	100	5%	1/16W
R1643	1-216-809-11	METAL CHIP	100	5%	1/16W
R1644	1-216-864-11	METAL CHIP	0	5%	1/16W
R1751	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1752	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1754	1-216-864-11	METAL CHIP	0	5%	1/16W (A500E)
R1755	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1756	1-216-839-11	METAL CHIP	33K	5%	1/16W (A500E)
R1757	1-216-837-11	METAL CHIP	22K	5%	1/16W (A500E)
R1758	1-216-818-11	METAL CHIP	560	5%	1/16W (A500E)
R1759	1-216-816-11	METAL CHIP	390	5%	1/16W (A500E)
R1760	1-216-797-11	METAL CHIP	10	5%	1/16W (A500E)
R1761	1-216-864-11	METAL CHIP	0	5%	1/16W (A500)
R1762	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1763	1-216-864-11	METAL CHIP	0	5%	1/16W
R1772	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1773	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1774	1-218-847-11	METAL GLAZE	1K	0.50%	1/16W
R1775	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1776	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1778	1-216-864-11	METAL CHIP	0	5%	1/16W
R1779	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1780	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1781	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1782	1-216-864-11	METAL CHIP	0	5%	1/16W
R1783	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1784	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1785	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1787	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1790	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1792	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1793	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1794	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1795	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1796	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1798	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1803	1-216-830-11	METAL CHIP	5.6K	5%	1/16W (A500)
R1803	1-216-833-11	METAL CHIP	10K	5%	1/16W (A500E)
R1804	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1805	1-216-856-11	METAL CHIP	820K	5%	1/16W (A500E)
R1805	1-216-857-11	METAL CHIP	1M	5%	1/16W (A500)
R1808	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1809	1-216-864-11	METAL CHIP	0	5%	1/16W
R1810	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1811	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1812	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1813	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1814	1-216-864-11	METAL CHIP	0	5%	1/16W
R1815	1-216-864-11	METAL CHIP	0	5%	1/16W
R1821	1-216-864-11	METAL CHIP	0	5%	1/16W
R1822	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1827	1-216-839-11	METAL CHIP	33K	5%	1/16W
R1836	1-216-864-11	METAL CHIP	0	5%	1/16W
R1840	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1841	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1842	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1843	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1844	1-216-803-11	METAL CHIP	33	5%	1/16W
R1848	1-216-864-11	METAL CHIP	0	5%	1/16W
R1851	1-217-671-11	METAL CHIP	1	5%	1/10W
R1852	1-217-671-11	METAL CHIP	1	5%	1/10W
R1853	1-217-671-11	METAL CHIP	1	5%	1/10W
R1855	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1856	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1857	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1858	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1859	1-216-864-11	METAL CHIP	0	5%	1/16W
R1860	1-216-864-11	METAL CHIP	0	5%	1/16W
R1861	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1862	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1863	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1864	1-216-841-11	METAL CHIP	47K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R1865	1-216-851-11	METAL CHIP	330K	5%	1/16W
R1866	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1867	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1868	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1869	1-216-023-00	METAL CHIP	82	5%	1/10W
R1870	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1872	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1873	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1874	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1875	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1876	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1877	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1878	1-216-833-11	METAL CHIP	10K	5%	1/16W (A500)
R1878	1-216-837-11	METAL CHIP	22K	5%	1/16W (A500E)
R1880	1-216-837-11	METAL CHIP	22K	5%	1/16W
R1881	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1882	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1883	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1884	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1887	1-216-830-11	METAL CHIP	5.6K	5%	1/16W (A500E)
R1887	1-216-833-11	METAL CHIP	10K	5%	1/16W (A500)
R1888	1-216-836-11	METAL CHIP	18K	5%	1/16W
R1889	1-217-671-11	METAL CHIP	1	5%	1/10W
R1890	1-217-671-11	METAL CHIP	1	5%	1/10W
R1891	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R1892	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1893	1-216-817-11	METAL CHIP	470	5%	1/16W
R1894	1-216-817-11	METAL CHIP	470	5%	1/16W
R1896	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R1897	1-216-808-11	METAL CHIP	82	5%	1/16W
R1898	1-216-864-11	METAL CHIP	0	5%	1/16W
R1953	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1954	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R1955	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1956	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1957	1-216-813-11	METAL CHIP	220	5%	1/16W
R1958	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1959	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1960	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1961	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1962	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1963	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1964	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1965	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1966	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1967	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1968	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1969	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1970	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1971	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1972	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1973	1-216-841-11	METAL CHIP	47K	5%	1/16W
R1974	1-216-809-11	METAL CHIP	100	5%	1/16W
R1975	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1976	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1977	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1978	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1979	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1980	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1982	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1983	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1984	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1985	1-216-821-11	METAL CHIP	1K	5%	1/16W
R1986	1-216-845-11	METAL CHIP	100K	5%	1/16W
R1991	1-216-853-11	METAL CHIP	470K	5%	1/16W
R1992	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1993	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1994	1-216-857-11	METAL CHIP	1M	5%	1/16W
R1995	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1996	1-216-833-11	METAL CHIP	10K	5%	1/16W
R2001	1-216-821-11	METAL CHIP	1K	5%	1/16W
R2011	1-216-841-11	METAL CHIP	47K	5%	1/16W
R2012	1-216-853-11	METAL CHIP	470K	5%	1/16W
R2015	1-219-570-11	METAL GLAZE	10M	5%	1/16W
R2017	1-216-853-11	METAL CHIP	470K	5%	1/16W
R2020	1-216-845-11	METAL CHIP	100K	5%	1/16W
R2021	1-216-849-11	METAL CHIP	220K	5%	1/16W
R2022	1-216-841-11	METAL CHIP	47K	5%	1/16W
R2023	1-216-853-11	METAL CHIP	470K	5%	1/16W
R2024	1-216-853-11	METAL CHIP	470K	5%	1/16W
R2026	1-216-845-11	METAL CHIP	100K	5%	1/16W
R2029	1-216-833-11	METAL CHIP	10K	5%	1/16W
R2031	1-216-817-11	METAL CHIP	470	5%	1/16W
R2036	1-216-841-11	METAL CHIP	47K	5%	1/16W
R2037	1-216-841-11	METAL CHIP	47K	5%	1/16W
R2038	1-216-841-11	METAL CHIP	47K	5%	1/16W
R2044	1-216-853-11	METAL CHIP	470K	5%	1/16W
R2046	1-216-845-11	METAL CHIP	100K	5%	1/16W
R2047	1-216-833-11	METAL CHIP	10K	5%	1/16W
R2048	1-216-853-11	METAL CHIP	470K	5%	1/16W
R2049	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R2050	1-216-815-11	METAL CHIP	330	5%	1/16W
R2051	1-216-815-11	METAL CHIP	330	5%	1/16W
R2052	1-216-815-11	METAL CHIP	330	5%	1/16W
R2151	1-216-841-11	METAL CHIP	47K	5%	1/16W
R2152	1-216-853-11	METAL CHIP	470K	5%	1/16W
R2154	1-216-853-11	METAL CHIP	470K	5%	1/16W
R2162	1-216-853-11	METAL CHIP	470K	5%	1/16W
R2163	1-216-821-11	METAL CHIP	1K	5%	1/16W
R2164	1-216-821-11	METAL CHIP	1K	5%	1/16W
R2165	1-216-853-11	METAL CHIP	470K	5%	1/16W
R2166	1-216-821-11	METAL CHIP	1K	5%	1/16W

< SWITCH >

S1951	1-692-111-11	SWITCH, KEY BOARD (RESET)
S1952	1-692-366-11	SWITCH, PUSH (1 KEY) (EJECT)

< THERMISTOR >

TH1751	1-809-360-21	THERMISTOR, NTC (2125)

Ref. No.	Part No.	Description	Remarks
		< VIBRATOR >	
X801	1-579-466-11	VIBRATOR, CRYSTAL 3.579545MHz (A500)	
X801	1-579-661-21	OSCILLATOR, CRYSTAL 4.43619MHz(A500E)	
X1305	1-767-028-21	VIBRATOR, CRYSTAL 14.318182MHz (A500)	
X1305	1-767-029-21	VIBRATOR, CRYSTAL 17.734475MHz (A500E)	
X1601	1-760-320-11	VIBRATOR, CRYSTAL 28.636363MHz (A500)	
X1601	1-760-321-11	VIBRATOR, CRYSTAL 28.375MHz (A500E)	
X1751	1-760-655-41	VIBRATOR, CRYSTAL 20MHz	
X1752	1-767-030-21	VIBRATOR, CRYSTAL 11.895104MHz (A500)	
X1752	1-767-031-21	VIBRATOR, CRYSTAL 11.71875MHz (A500E)	
X1951	1-760-458-21	VIBRATOR, CRYSTAL 32.768kHz	
X1952	1-579-907-21	VIBRATOR, CERAMIC 20MHz	
		MISCELLANEOUS	
		**********	
6	1-694-076-11	TERMINAL BOARD, BATTERY	
52	1-801-664-21	MODULE, CRYSTAL INDICATION	
⚠53	1-517-656-21	TUBE, FLUORESCENT LOLD CATHODE	
71	1-504-753-21	SPEAKER (2.8CM)	
112	1-475-383-31	SWITCH BLOCK, CONTROL (FK-71)	
116	1-500-227-11	BEAD, FERRITE	
M901	A-7048-849-A	DRUM BLOCK ASSY (DGH-0D4A-R)(NTSC)	
M901	A-7048-859-A	DRUM BLOCK ASSY (DGH-0E0A-R)(PAL)	
M902	8-835-531-32	MOTOR, DC SCE-0601A	
M903	X-3945-401-1	MOTOR ASSY, DC	
S901	1-762-436-15	SWITCH, ROTARY (ENCODER)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remarks
		ACCESSORIES & PACKING MATERIALS	
		**********	
	⚠A-7009-474-F	POWER ADAPTER AC-V615 (A500)	
	⚠A-7009-475-A	POWER ADAPTER AC-V615 (A500E)	
	⚠1-569-008-11	ADAPTOR, CONVERSION 2P (A500E: E)	
	1-575-334-11	CORD, CONNECTION (AUDIO/VIDEO) 1.5m	
	1-575-335-21	CORD, CONNECTION (S VIDEO) 1.5m	
	⚠1-751-676-11	CORD, POWER (A500)	
	⚠1-769-608-11	CORD, POWER (A500E)	
	⚠1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (A500E:UK,Hong Kong)	
	1-782-361-11	CODE, CONNECTION (DK-415)	
	3-860-731-11	MANUAL, INSTRUCTION (ENGLISH,SPANISH)(A500)	
	3-860-731-21	MANUAL, INSTRUCTION (FRENCH)(A500)	
	3-860-731-31	MANUAL, INSTRUCTION (CHINESE)(A500)	
	3-861-067-11	MANUAL, INSTRUCTION (ENGLISH,RUSSIAN) (A500E: AEP,UK)	
	3-861-067-21	MANUAL, INSTRUCTION (GERMAN,ITALIAN) (A500E:AEP)	
	3-861-067-31	MANUAL, INSTRUCTION (FRENCH,DUTCH) (A500E:AEP)	
	3-861-067-41	MANUAL, INSTRUCTION (SPANISH,PORTUGUESE)(A500E:AEP)	
	3-861-067-51	MANUAL, INSTRUCTION (ENGLISH,RUSSIAN) (A500E: E,Hong Kong)	
	3-861-067-61	MANUAL, INSTRUCTION (FRENCH,GERMAN) (A500E: E,Hong Kong)	
	3-861-067-71	MANUAL, INSTRUCTION (ARABIC,PERSIAN) (A500E: E)	
	3-861-067-81	MANUAL, INSTRUCTION (CHINESE) (A500E: E, Hong Kong)	
	3-861-067-91	MANUAL, INSTRUCTION (CHINESE) (A500E: Hong Kong)	
*	3-979-155-01	INDIVIDUAL CARTON (A500)	
*	3-979-156-01	CUSHION (UPPER)	
*	3-979-157-01	CUSHION (LOWER)	
	3-979-196-01	BAG, PROTECTION	
*	3-979-907-01	INDIVIDUAL CARTON (A500E)	
	3-987-015-01	BELT (VW), STRAP	