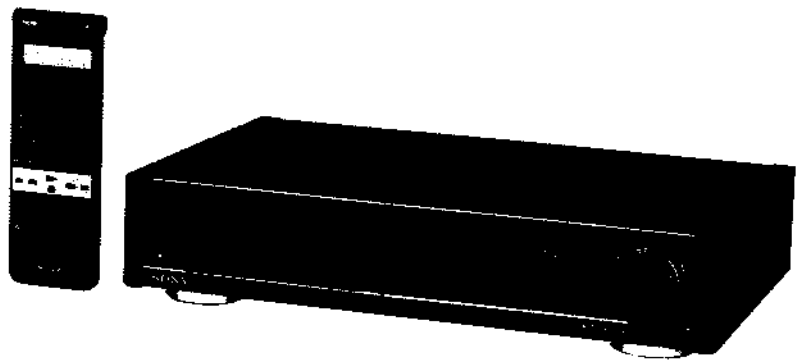
EV-S1000E

SERVICE MANUAL

AEP Model
UK Model



Hi 8

L'MECHANISM

SPECIFICATIONS

For Mechanical ADJUSTMENTS, refer to the "8 mm Video MECHANICAL ADJUSTMENT MANUAL III" (9-972-732-11)

System

Video recording system	Rotary two-head helical scanning FM system
Audio recording system (Normal recording)	**Standard:** Rotary head FM system (2 channels) **PCM:** PCM system (2 channels)
Colour system	**EV-S1000E:** DDR SECAM to PAL colour, convertible **EV-S1000E (UK):** CCIR system B, G, and H, PAL colour
Usable cassettes	8 mm video format cassette
Tape speed	**SP:** 20.051 mm/sec. **LP:** 10.058 mm/sec.
Maximum recording/playback time	
	SP: 1 hour 30 min. (with Sony E5/P5-90)
	LP: 3 hours (with Sony E5/P5-90)
Fast-forward/rewind time	Approx. 4 min. (with Sony E5/P5-90)

PCM

Sampling frequency	31.25 kHz
Audio frequency	20 Hz to 15 kHz
Dynamic range	More than 90 dB
Wow and flutter	Less than 0.005 % RMS

Tuner Section

Channel coverage	**EV-S1000E:** VHF E2 to E4, E5 to E12 UHF E21 to E69 Cable TV channels S01 to S03, S1 to S20 S21 to S41 **EV-S1000E (UK):** UHF 21 to B68
Programming system	60 programmes
Stereo/bilingual system	**EV-S1000E:** West German two-carrier system **EV-S1000E (UK):** NICAM
RF output signal	**EV-S1000E:** UHF channels E30 — E39 (variable) **EV-S1000E (UK):** UHF channels B30 — B3 (variable) 75 ohms, unbalanced
Aerial input	75-ohms asymmetrical aerial socket

— Continued on page 2 —

• SERVICE OF REMOTE COMMANDER RMT-451

Remote commander RMT-451 is available as a unit. But as individual parts the battery case lid of commander is only available.

8 VIDEO CASSETTE RECORDER

SONY®

MICROFILM

Inputs and Outputs

LINE IN 1/2

VIDEO: Phono jack (1 each)
1 Vp-p, 75 ohms, unbalanced, sync negative
AUDIO: Phono jack (2 each)
47 kilohms, – 7.5 dBs
(0 dBs = 0.775 V rms)
S VIDEO: 4-pin mini DIN (1 each)
Luminance signal: 1 Vp-p, 75 ohms, unbalanced, sync negative
Chrominance signal: 0.30 Vp-p, 75 ohms, unbalanced

LINE OUT

VIDEO: Phono jack (1)
1 Vp-p, 75 ohms, unbalanced, sync negative
AUDIO: Phono jack (2 each)
Output impedance less than 1 kilohms, – 7.5 dBs with 10 kilohms load unbalanced
S VIDEO: 4-pin mini DIN (1)
Luminance signal: 1 Vp-p, 75 ohms, unbalanced, sync negative
Chrominance signal: 0.30 Vp-p, 75 ohms, unbalanced

MONITOR OUT

EURO-AV: 21-pin (1)
Video out: pin 19
1 Vp-p, 75 ohms, unbalanced, sync negative (with change-over switch)
Luminance signal: 1 Vp-p, 75 ohms, unbalanced, sync negative
Chrominance signal:
PIN 15 0.30 Vp-p, 75 ohms, unbalanced
PIN 21 S VIDEO/VIDEO: S VIDEO
Audio out: pins 1 and 3
Output impedance Less than 1 kilohms, – 6dBs with 10 kilohms load, unbalanced
S VIDEO: 4-pin, mini DIN (1)
Luminance signal: 1 Vp-p, 75 ohms, unbalanced, sync negative
Chrominance signal: 0.30 Vp-p, 75 ohms, unbalanced

CONTROL L (LANC): Rear panel: 5-pin DIN (1)
Front panel: stereo miniminijack (1)

HEADPHONES jack: Stereo minijack (1), – 20 dBs, 8 ohms

MIC (microphone) input: Minijack (1)
– 60 dBs, for low impedance microphone

Timer Section

Clock Crystal locked
Command mode VTR 1/2/3
Time indication 24-hour cycle
Timer setting Only for recording
6 programmes in one month at max.
Timer back-up Built-in self-charging capacitor
Back-up duration: Up to 1 hour at one time

General

Power requirements
EV-S1000E: 220 V AC, 50 Hz
EV-S1000E (UK): 240 V AC, 50 Hz

Power consumption
EV-S1000E: 28 W
EV-S1000E (UK): 30 W

Operating temperature 5°C to 40°C (41°F to 104°F)
Storage temperature – 20°C to 60°C (– 4°F to 140°F)
Dimensions
EV-S1000E: 470 × 105 × 305 mm (w/h/d)
(18 5/8 × 4 1/4 × 12 1/8 inches) (including side woods)
EV-S1000E (UK): 430 × 105 × 305 mm (w/h/d)
(17 × 4 1/4 × 12 1/8 inches)

Weight
EV-S1000E: 6.5 kg (14 lb 5 oz)
EV-S1000E (UK): 5.9 kg (13 lb)

Wireless Commander RMT-451

Remote control system Infrared control
Power requirements 3.0 V DC, two IEC designation R6 batteries
Command mode VTR 1/VTR 2/VTR 3
Dimensions Approx. 77 × 18 × 220 mm (w/h/d) (3 1/8 × 3/4 × 8 3/4 inches) including projecting parts and controls
Weight 170 g (5 oz) excluding batteries

Accessories Supplied

Wireless Remote Commander RMT-451 with two R6 batteries	(1)
75-ohm coaxial cable	(1)
Audio connecting cable (2 phono to 2 phono)	(1)
Video connecting cable (phono to phono)	(1)
Video connecting cable for S VIDEO connector (4-pin DIN to 4-pin DIN)	(1)
Control cable (stereo minimini jack to stereo minimini jack)	(1)
Screwdriver	(1)
Cleaning cassette	(1)

Design and specifications are subject to change without notice.

Note
This appliance conforms with EEC Directives 76/889 and 82/499 regarding interference suppression.

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, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.

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.

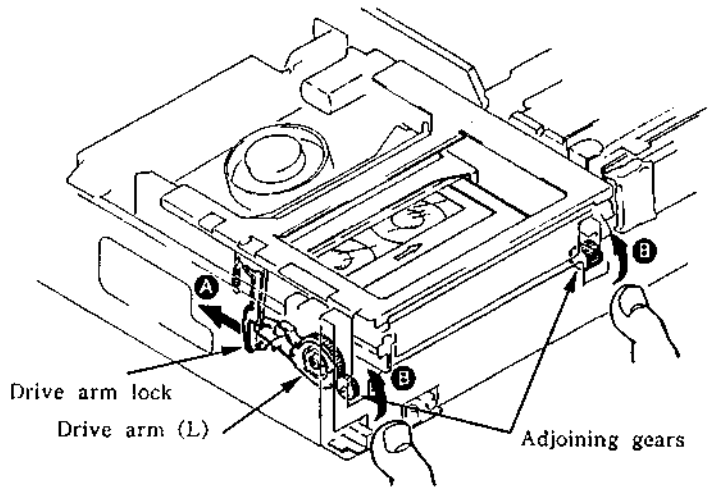
TABLE OF CONTENTS

SECTION 1
SERVICE NOTE

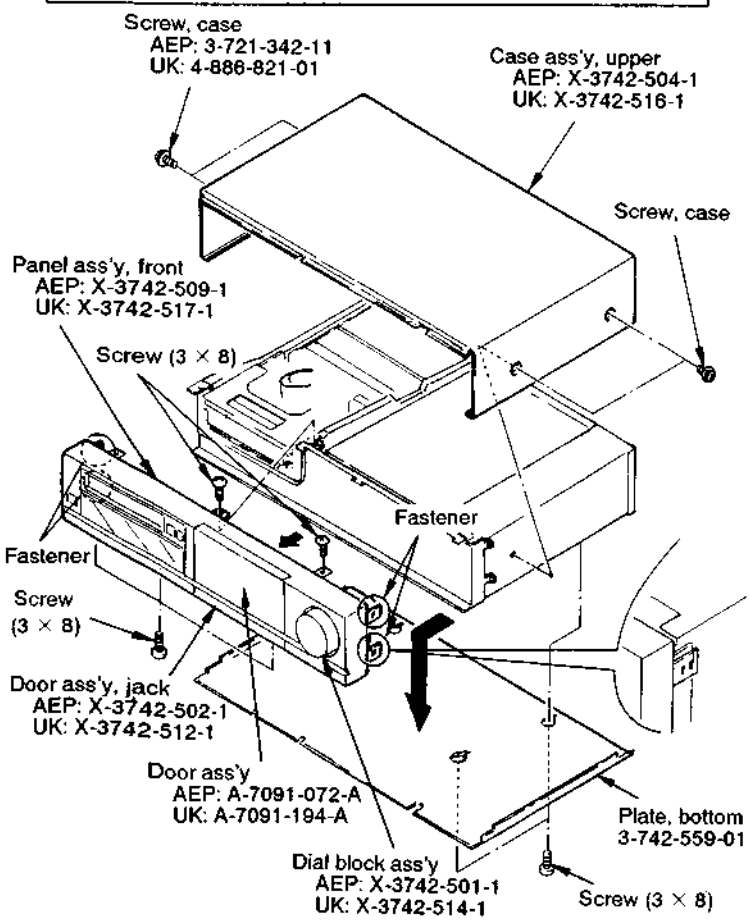
1-1. Ejecting a malfunctioning videocassette

A. If the videocassette cannot be ejected because the videotape is still wrapped around the drum, remove the CM-15 board on the lower part of the mechanical section. Turn the capstan motor wheel in either direction and turn either the S or T reel to return the tape to the cassette. After the tape is back inside the cassette, proceed to step "B" if necessary.

B. If the videotape is in the cassette half and cannot be ejected :
   1) Remove the front panel. Remove the drive arm lock (located between the L frame and the left part of the cassette control section) away from the drive arm (L) in the direction of the arrow Ⓐ.
   2) Use both thumbs to turn the adjoining gears in the direction of arrow Ⓑ.



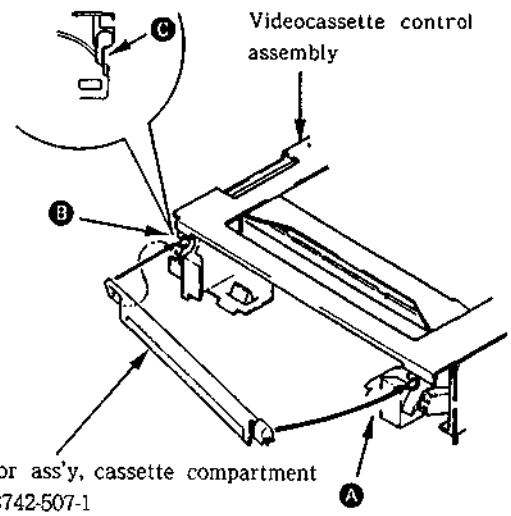
1-2. Replacing the external casing



Note: Remove the locks of the five fasteners, then remove the front panel.

1-3. Replacing the videocassette door assembly

1) Remove the front panel.
2) Remove the videocassette door assembly first from part Ⓐ, then from part Ⓑ.



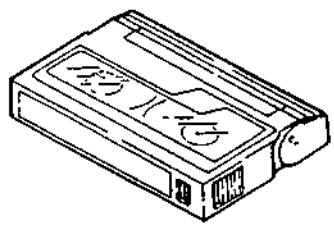
3) When reinstalling the videocassette door assembly, install at part Ⓑ first. Install it on the fastener of part Ⓒ as shown in the figure. Then install at part Ⓐ with the door assembly lowered vertically.

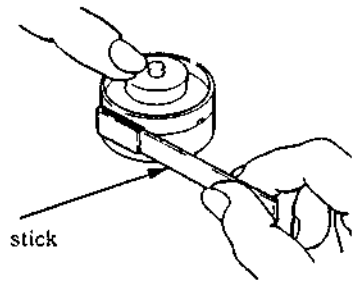
1-4. Cleaning the video head and transport system

Procedure 1

[Using a cleaning tape]

- Use the V8-25CLN cleaning tape. (Before using the cleaning tape, read the instructions carefully.)





Head cleaner stick
(3-601-330-99)

[Cleaning the transport system]

① Apply the cleaning fluid to the head cleaner stick.
② Use the head cleaner stick to clean the tape guide, pinch roller, and other parts that come in direct contact with the tape.

Procedure 2

[Using cleaning fluid]

① Remove the video deck's upper casing.
② Apply the cleaning fluid to the head cleaner stick (Ref. No. 3-601-330-99).
③ As shown in the figure on the right, gently contact the head cleaner stick to the video head, and clean while turning the rubber part on the top of the rotating drum.

1-5. Notes for cassette compartment ass'y installation

1. After installing the cassette compartment ass'y onto the MD block ass'y, look from the front panel and check if the tab of the eject lever (MD block ass'y) is properly latched onto the rear of the knob of the lock slider (cassette compartment ass'y). See Fig. 1.
2. If the tab is latched on the reverse, use the tip of a screwdriver to lightly push the eject lever. Then install the cassette compartment ass'y.

Notes

1. When the MD block ass'y is not in the STOP position, the eject lever might not be able to move.
2. If the cassette compartment is not properly installed on the MD block ass'y (improper latching between the cassette compartment ass'y's lock slider and the MD block ass'y's eject lever) and the unit's AC plug is inserted into a power outlet, the cassette door and holder will operate repeatedly regardless of the ON/OFF setting of the power switch. The cassette will not be loaded even when it is inserted.

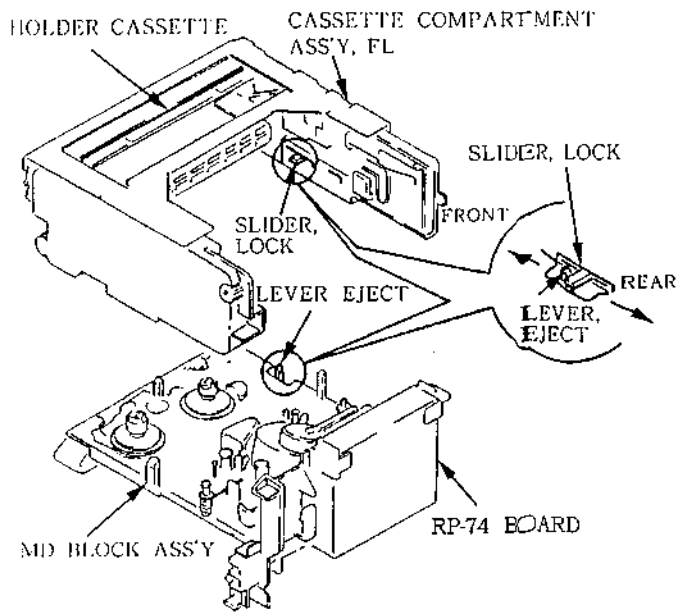


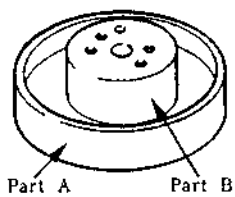
Fig. 1.

1-6. Replacing the rotating drum

Procedure 3

Precautions

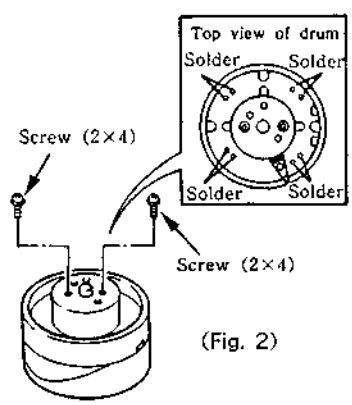
- Be especially careful when handling the video head and terminals.
- Hold the drum by the upper part (Part B), do not touch the side of the drum (Part A) directly. See Fig. 1.



(Fig. 1)

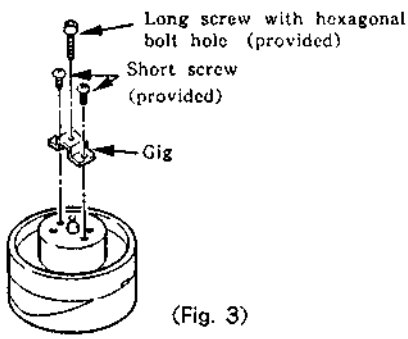
Removing the rotating drum

① As shown in Fig. 2, remove the two short screws (2×4).
② Completely remove the eight soldering points on the rotating drum's board. Refer to Fig. 2.



(Fig. 2)

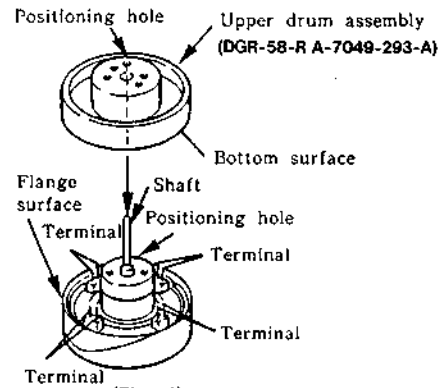
③ While referring to Fig. 3, use the two short screws supplied with the jig (which comes with the spare rotating drum) to fasten the jig to the drum. Then screw in the long screw until the drum is removed.



(Fig. 3)

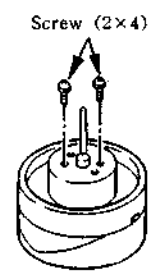
Installing the new drum

① Clean the flange surface and the new rotating drum's bottom surface. Refer to Fig. 4.
② While referring to Fig. 4, insert the supplied shaft through the jig and into the positioning hole of the lower drum. Slip the shaft into new rotating drum's positioning hole and gently set the rotating drum.



(Fig. 4)

③ With the shaft still inserted in the positioning hole, use your hand to push down the rotating drum lightly. If the drum does not go down completely, refer to Fig. 5 and gradually tighten the two long screws (2×5) alternately to fasten the rotating drum.
④ Take out the shaft. If the shaft cannot be readily taken out, redo the procedure from step 2.



(Fig. 5)

⑤ While referring to Fig. 2, solder the board's eight places and eight terminals.
⑥ After the rotating drum is replaced, use a head cleaner stick to clean the video head and transport system. Follow Procedure 2 of "Cleaning the video head and transport system."

SECTION 2
GENERAL

This section is extracted from instruction manual.

Precautions

On Safety

- For EV-S1000E (UK), operate on 240 V AC, 50 Hz. For EV-S1000E, operate on 220 V AC, 50 Hz.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- If the unit will not be used for an extended period, unplug it from the mains outlet. To disconnect the cord, pull it out by the plug. Never pull the lead itself.
- The unit is not disconnected from the mains (AC power source) as long as it is connected to the mains outlet, even if the unit itself has been turned off.

On Installation

- Allow adequate air circulation to prevent internal heat build-up.
- Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies, etc.) that may block the ventilation holes.
- Do not install the unit near heat sources such as radiators or air ducts or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- The unit is designed for operation in a horizontal position. Do not install it in an inclined position.
- Keep the unit and cassette tapes away from equipment with strong magnets, such as microwave ovens or large loudspeakers.
- Do not place any heavy object on the unit.

On Operation

- When the unit is not in use, turn the power off to conserve energy and to extend its life.
- Remove and store video cassettes after recording or playback.

On Cleaning

- Clean the cabinet, panel and controls with a dry soft cloth, or a soft cloth slightly moistened with a mild detergent solution.
- Do not use any type of solvent, such as alcohol or benzine, which might damage the finish.

On Repacking

- Do not throw away the carton and packing materials. They make an ideal container to transport the unit. When shipping the unit to another location, repack it as illustrated on the carton.

On Cassette Care

- Store cassettes in their cases and keep them in an upright position to prevent intrusion of dust and uneven winding.

On the Remote Controller

Be sure not to lose the Remote Commander. Some function of this VTR can not be performed without the Remote Commander.

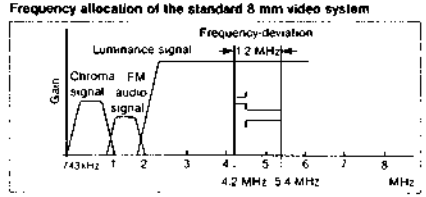
If you have any questions about the unit, contact your Sony service facility.

Hi8 (High Eight) Video System

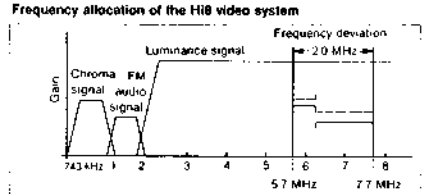
High Quality Picture

Information capacity is the key element for picture improvement. It can be increased by shifting the FM carrier frequency range. In the Hi8 video system, the FM carrier frequency range of the luminance signal is shifted to 5.7 — 7.7 MHz, up from the 4.2 — 5.4 MHz of the standard 8 mm video system. Thanks to this improvement, the horizontal resolution is increased.

Frequency allocation of the standard 8 mm video system



Frequency allocation of the Hi8 video system



High Grade Tape to Match the Hi8 Video System

Metal evaporated tapes have been developed exclusively for Hi8 recording. The high magnetic energy of the metal evaporated tape which allows for high-density recording, coupled with the Hi8 video recording technology will cover a wide frequency range to achieve recording of excellent picture quality.

S VIDEO (Separated Luminance/Chrominance Signal) Input/Output Connectors

Conventional video equipment transmits or receives the composite video signal. The composite video signal is liable to produce interference resulting in picture quality loss. On the other hand, the S VIDEO connector transmits or receives the video signal separated into the luminance signal and the chrominance signal.
Flickers and colour blur in the picture are minimized with the separated video signals and picture sharpness is enhanced to such an extent that even hair and fine stripes are clearly visible. The S VIDEO connector also assures minimum loss in picture quality during editing.

Compatibility with a Standard 8 mm Video Cassette Recorder

Refer to the chart below for the compatibility between the Hi8 video system and the standard 8 mm system.

Recording with this VTR

Tape used	Hi8 indicator	Recording system
Hi8 tape	On	Hi8
	Off	Standard 8 mm video system
Standard 8 mm tape	Automatically turned off	Standard 8 mm video system

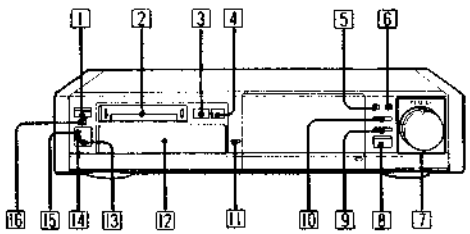
Playback with this VTR

Tape used	Playback system
Tape recorded in Hi8 video system	The recording video system is automatically selected
Tape recorded in standard 8 mm video system	

Notes

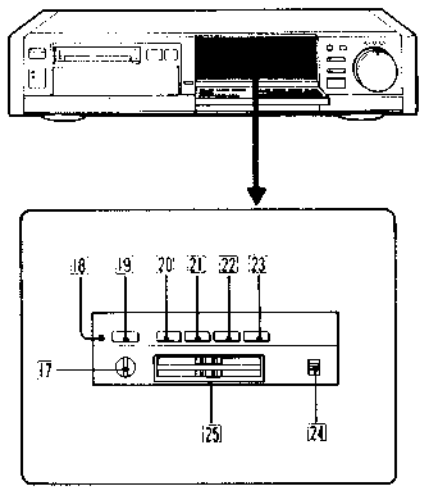
- Hi8 recording or playback can only be performed with a Hi8 tape.
- A standard 8 mm tape cannot be recorded or played back using the Hi8 video system.
- The recording tape speed of the Hi8 video system is compatible with the standard 8 mm video system. Recording/playback time is 1.5 hours in the SP mode and 3 hours in the LP mode using a P5/E5-90HME tape or equivalent.

Operational Parts

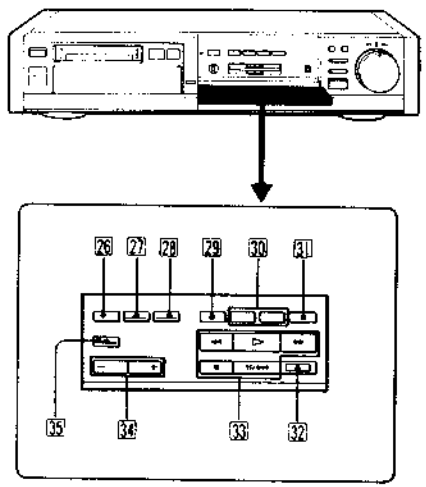


Front Panel

1. **ON/STANDBY switch**
2. **Cassette compartment**
3. **▲ EJECT button**
4. **Hi8 (Recording/playback) indicator**
   Lights to indicate that Hi8 recording or playback can be performed.
5. **PLAYER control button**
6. **RECORDER control button**
7. **EDIT SHUTTLE (REVERSE/FORWARD) and indicator**
8. **SYNCHRO EDIT button and indicator**
9. **EDIT STANDBY button and indicator**
10. **EDIT MONITOR button and indicator**
11. **PUSH OPEN button**
12. **Display window**
13. **Remote sensor**
14. **Hi-Fi STEREO indicator**
    Lights when playing back the Hi-Fi audio track recorded in the bilingual or stereo mode. Also lights when recording is made in the bilingual or stereo mode on the Hi-Fi track.
15. **PCM indicator**
    Lights when recording on or playing back the PCM audio track.
16. **ON/STANDBY lamp [for EV-S1000E (UK) only.]**
    Lights when the VTR is in the standby mode.



17. **PHONE LEVEL (headphones level) control**
18. **Reset switch**
    Press this switch with a pointed object such as a ball point pen if the VTR does not operate even when pressing the operating buttons. When this switch is pressed, the information entered to the VTR's memory will be lost. Reset the information before operating the VTR again.
19. **Hi8 mode button**
20. **COUNTER RESET button**
21. **TV/VTR button**
22. **REC MODE SP/LP button**
23. **INPUT SELECT button**
24. **AUDIO MONITOR select switch**
    (PCM/MIX/STD (Hi-Fi))
25. **REC LEVEL controls**



26 **TIMER CHECK button**

27 **TIMER REC ON/OFF button**

28 **QUICK TIMER button**

29 **INDEX button**

30 **INDEX MARK/ERASE buttons**

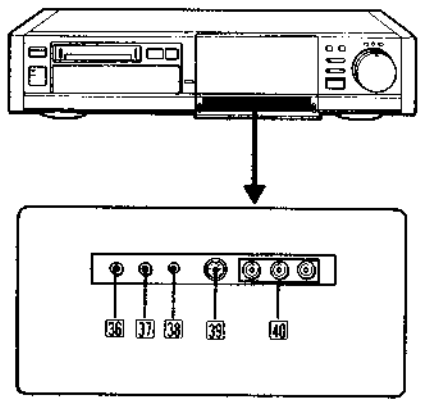
31 **EDIT button**

32 ● **REC (recording) button**

33 **Tape transport buttons**
◂◂ REW (rewind), ▷ PLAY (playback), ▸▸ FF (fast-forward), ■ STOP, II/▸II PAUSE/STILL

34 **PROGRAM + / – buttons**

35 **AUDIO DUB button and indicator**



36 **HEADPHONES jack (stereo minijack)**

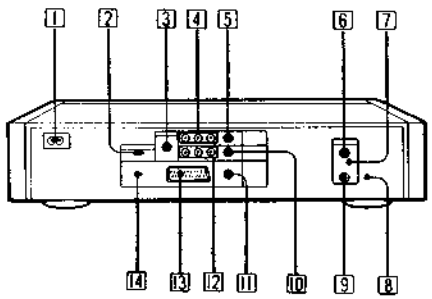
37 **MIC (microphone) jack (minijack)**

38 **CONTROL L (LANC) jack (stereo mini-minijack)**

39 **LINE IN 2 S VIDEO connector (4-pin DIN)**

40 **LINE IN 2 VIDEO/AUDIO jacks (phono)**
When connecting a monaural equipment to these jacks, connect to the LINE IN 2 AUDIO L (MONO) jack only.

About LANC
LANC stands for Local Application Control Bus System.
The LANC connector is used for controlling the tape transport of video equipment and peripherals connected to it. This connector has the same function as the connectors indicated as CONTROL L or REMOTE.



Rear Panel

1 AC INPUT

2 COMMAND MODE selector

3 CONTROL L (LANC) connector (5-pin DIN)

4 LINE IN 1 VIDEO/AUDIO jacks (phono)

5 LINE IN 1 S VIDEO connector (4-pin DIN)

6 AERIAL IN socket

7 DX/LOCAL switch

8 RF CHANNEL screw (30 CH to 39 CH)

9 AERIAL OUT socket

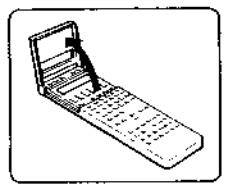
10 LINE OUT S VIDEO connector (4-pin DIN)

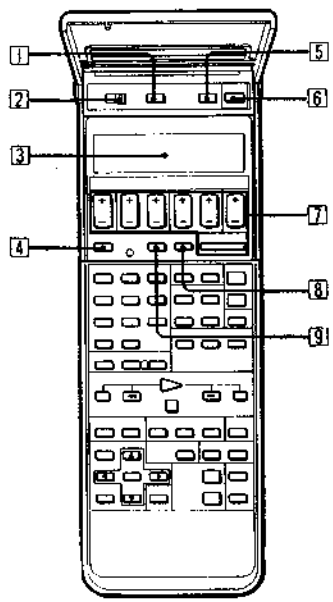
11 MONITOR OUT S VIDEO connector (4-pin DIN)

12 LINE OUT VIDEO/AUDIO jacks (phono)

13 MONITOR OUT EURO-AV connector (21-pin CENELEC)

14 VIDEO OUT (VIDEO or S VIDEO) selector





Remote Commander RMT-451

Before you begin

- The buttons on the Commander with the same name or mark as those on the unit have the same function.
- The buttons with a red dot inscribed on top can be used to remotely control Sony TV's with the ■ mark when the TV/VTR remote control selector is set to TV.
- Keep the upper cover closed except where noted.

1 **TIMER REC (ON/OFF) button**

2 **TV/VTR remote control selector**
Set to VTR to control this VTR and set to TV to control the TV.

3 **LCD (Liquid-crystal) display**

4 **COMMAND MODE button**

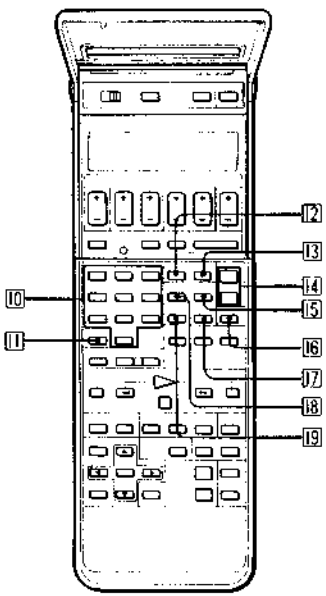
5 **TV/VTR button**

6 **⏻ (on/standby) button**

7 **Timer recording/clock set buttons**
- DAY
- TURN ON time
- TURN OFF time
- PROG (programme position)
- TRANSMIT

8 **MEMORY button**

9 **CLOCK SET (SET/START) button**



10 **Programme position number buttons**
Press to select the programme position directly. To enter single digit numbers, press 0 and then the desired number.

11 **–/– – (10's digit) button**
Press to select a programme position number over 9.
To select 23, press –/– – , then 2 and 3.

12 **INPUT SELECT button**
Open the cover to select the input signal for timer recording. Close the cover to change the current input setting.

13 **REC MODE select button**

14 **PROG (programme) + / – buttons**

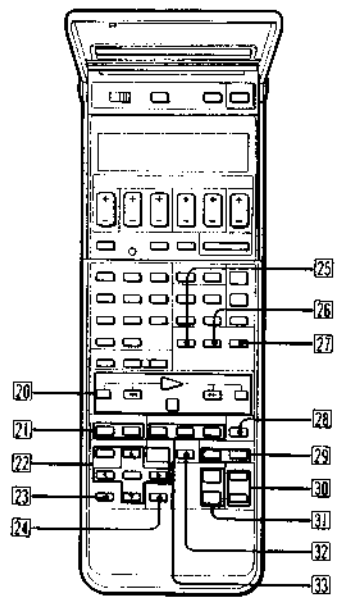
15 **MAIN/SUB button**

16 **INDEX button**

17 **COUNTER RESET button**

18 **DATA SCREEN button**

19 **EDIT MONITOR button**



20 **Basic operational buttons**
II PAUSE button
● REC (recording) buttons
⏮/⏭ SEARCH button
▷ PLAY
◀◀ REW (rewind)
▶▶ FF (fast-forward)
■ STOP

21 **SHUTTLE EDIT < / > buttons**

22 **Menu operation buttons**
MENU
EXECUTE
Cursor shift buttons ▲/▼/◀/▶

23 **FUNCTION MEMORY button**

24 **TIMER ON SCREEN button**

25 **II▶ FRAME button**

26 **X1/5 button**

27 **X2 button**
When this buttton is pressed, the playback sound will automatically be changed to monaural, even though the STEREO indicator will be turned on in the display window.

28 **TV SCAN button**

29 **INDEX MARK and ERASE button**

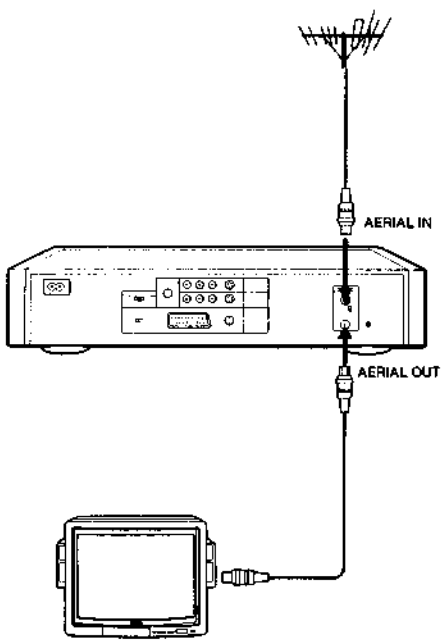
30 **TIMER CHECK/TIMER CLEAR buttons**

31 **VOL (TV volume) + / – buttons**
Press to control the volume of the TV. Effective only for Sony TVs with the mark.

32 **AUDIO DUB button**

33 **P in P (picture in picture) buttons**

Connections



Before You Begin

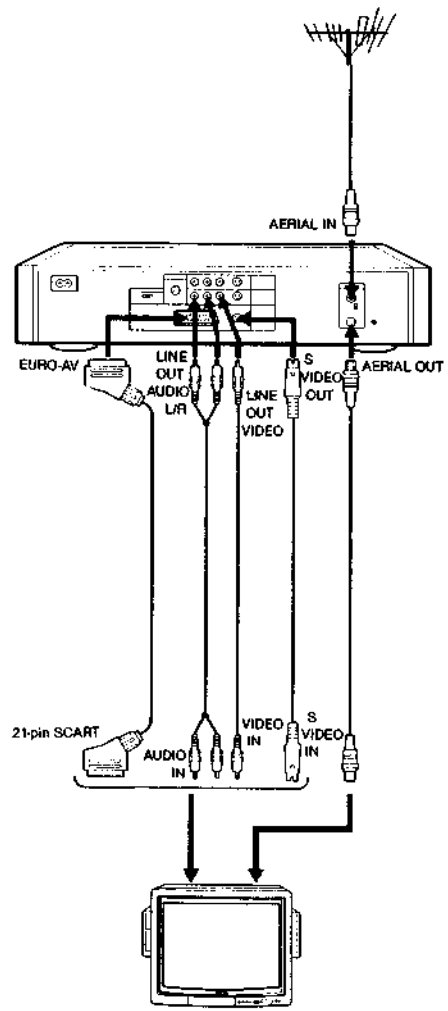
- Turn off the power to the unit and TV
- Do not connect the mains lead until all of the other connections are complete
- Connect firmly as a loose connection may cause picture distortion

To Connect a TV without Audio/video Inputs

1 Remove the aerial cable on the TV from its socket.

2 Connect the aerial cable to AERIAL IN on the VTR.

3 Connect the aerial input of the TV to AERIAL OUT on the VTR using the supplied cable.



To Connect a TV with Audio/video Inputs

Connections using the audio/video inputs on the TV provide a better quality playback picture.

If your TV is equipped with an EURO-AV connector

1 Follow steps 1 to 3 in "To Connect a TV without Audio/video Inputs."

2 Connect LINE OUT AUDIO/MONITOR OUT EURO-AV of the VTR to the audio input/ EURO-AV on the TV with an optional cable.

3 Set the VIDEO OUT (VIDEO or S VIDEO) selector on the rear panel to S VIDEO to view the picture of the Luminance and Chrominance separated signal, i.e. the same as the video signal output from the S VIDEO connector. Set it to VIDEO to output standard video signals.

If your TV is equipped with S VIDEO input connector

1 Follow steps 1 to 3 in "To Connect a TV without Audio/video Inputs."

2 Connect LINE OUT AUDIO/MONITOR OUT S VIDEO of the VTR to the AUDIO/S VIDEO input on the TV with the supplied cable.

If your TV is equipped with audio/video input jacks

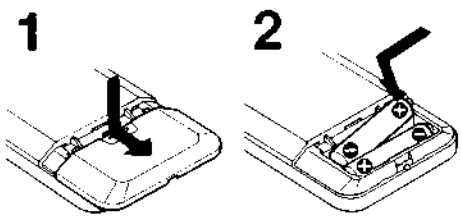
1 Follow steps 1 to 3 in "To Connect a TV without Audio/video Inputs."

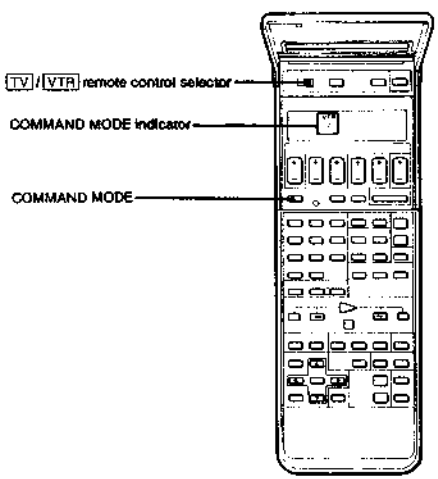
2 Connect LINE OUT AUDIO/VIDEO jacks on the VTR to the audio/video input jacks on the TV.

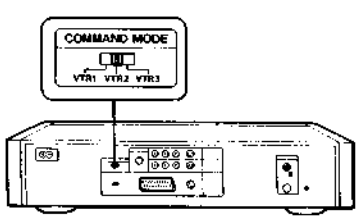
Notes

- If this VTR is connected to a TV or monitor which does not have S VIDEO input, and the VIDEO OUT (VIDEO or S VIDEO) selector is set to S VIDEO, picture will be displayed on the screen but without colour.
- Avoid making VIDEO and S VIDEO connections at the same time.
- The on screen display will not be output to the TV if connection is made via LINE OUT AUDIO/VIDEO jacks.

Remote Control Operation







Preparing the Commander

Battery insertion

1 **Slide and remove the cover.**

2 **Insert two R6 (size AA) batteries with the correct polarity.**

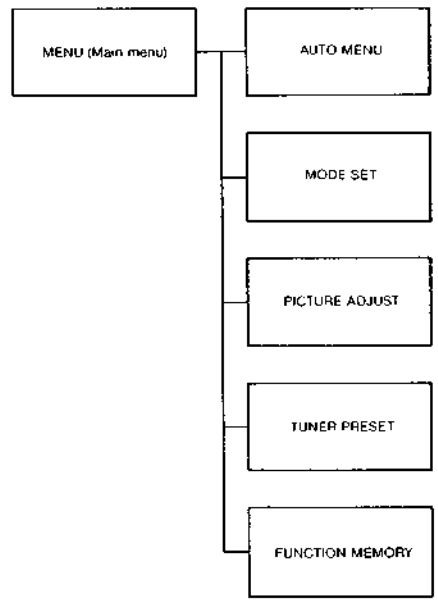
3 **Close the cover.**
The clock on the Commander will read – D – – – – Set the date and clock referring to "Date and Clock Setting."

Command mode setting

Set the COMMAND MODE selector on the rear of this VTR to the same number displayed in the LCD display.
Normally set to VTR 2. To change the setting on the Commander, press COMMAND MODE repeatedly.

Note on batteries
With normal operation, batteries will last for about six months. If the Commander will not be used for a long period, remove the batteries to avoid possible damage from battery leakage.

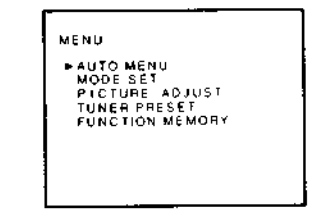
The Menu System

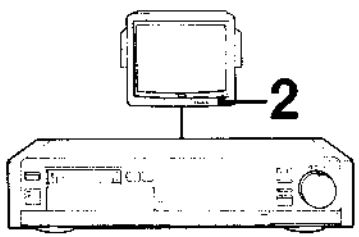


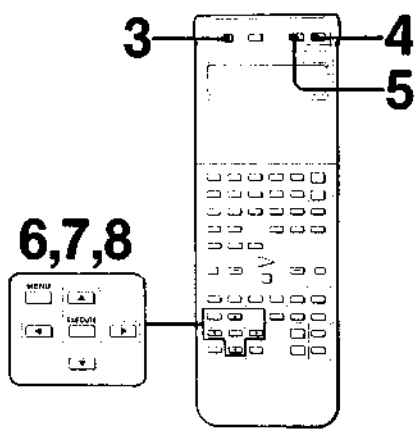
Overview

This VTR employs a menu system in which various settings and adjustments necessary for operation can be made. The menu system of this VTR consists of five different menu displays which can be selected from the main MENU.

Refer to the following pages for the details of each menu.







To Call Up the Menu Display

1 Check that the VTR and the TV are connected properly.
Connect the VTR and the TV using the AERIAL OUT socket, MONITOR OUT EURO-AV connector, or the MONITOR OUT S VIDEO connector on the VTR referring to "Connections."

2 Turn on the TV.
Select the programme position for VTR playback if connection is made using the AERIAL OUT socket on the VTR. Select VTR input if connection is made using the MONITOR OUT EURO-AV or S VIDEO connector.

3 Set the TV/VTR remote control selector to VTR.

4 Press ON/STANDBY.

5 Press TV/VTR to turn on the VTR indicator.
When connection is made via the AERIAL OUT socket on the VTR.

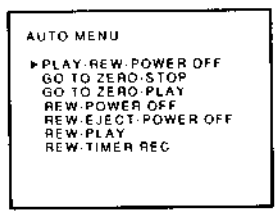
6 Press MENU.
The main MENU will appear on the screen.

7 Select the desired menu by moving the cursor.
Press ▲ to go up, and ▼ to go down.

8 Press EXECUTE.
The selected menu will appear on the TV screen.

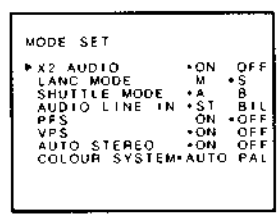
To erase the menu display
Press MENU again.

Note
The menu display will not be output to the TV screen if connection is made via the LINE OUT S VIDEO connector or LINE OUT VIDEO jacks.



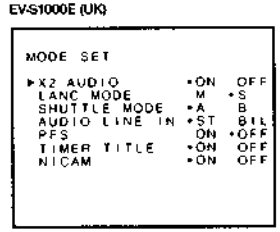
AUTO MENU
The VTR can be set to enter the desired operational sequence. For the actual operation, refer to "Assigning a Desired Operation Mode" on page 45.

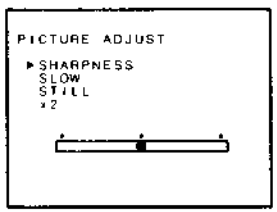
EV-S1000E



MODE SET
Various mode settings can be made in this menu. For details of each setting, refer to "Mode Setting" on page 30.

EV-S1000E (UK)

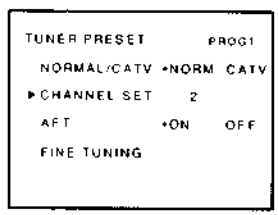




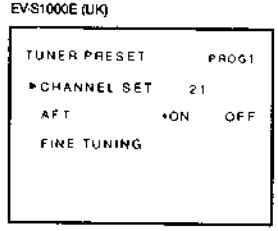
PICTURE ADJUST

The playback picture can be adjusted to obtain maximum quality in this menu. Refer to "Picture Adjustments" on page 40

EVS1000E

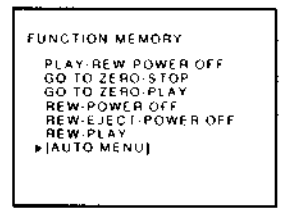


EVS1000E (UK)



TUNER PRESET

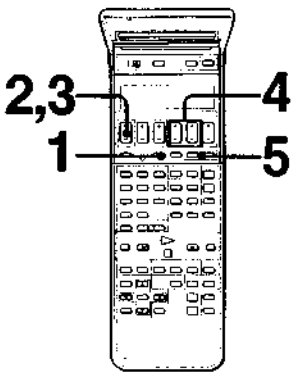
Presetting of the active channels and fine tuning of a weak station can be performed in this menu. For the actual operation, refer to the "Presetting the Active Channels" on page 26

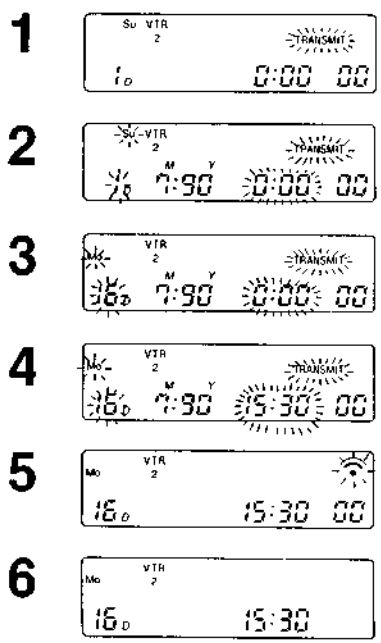


FUNCTION MEMORY

A desired operational sequence of the VTR can be assigned to the FUNCTION MEMORY button on the Commander. With a press of the FUNCTION MEMORY button, the selected sequence will begin. Refer to "Assigning an Auto Menu Mode to the FUNCTION MEMORY Button" on page 47

Date and Clock Setting





Before You Begin

The time and date between the years 1990 and 2004 can be set with the Commander.

Operation

Example: To set to 15:30, Monday, July 16, 1990.

1 **Open the cover and press CLOCK SET.**

2 **Press the D (day) button until 7 M 90 Y is displayed.**
The day will be advanced slowly up to 30 days ahead and then the month will be advanced.

3 **Press the + side or - side of the D (day) button until 16 D is displayed.**
The day of the week appears automatically

4 **Press the H (hour) and M (minute) buttons under TURN OFF to set to 15:30.**

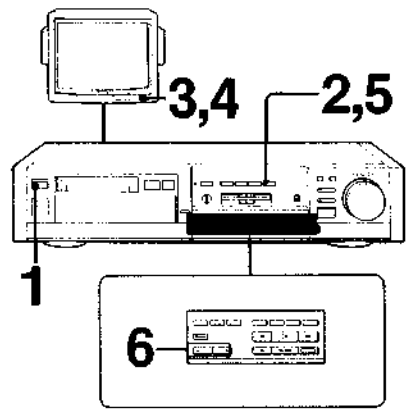
5 **Point the Commander at the VTR and press TRANSMIT.**
A beep sound confirms that the date and clock setting is registered in the VTR as well.

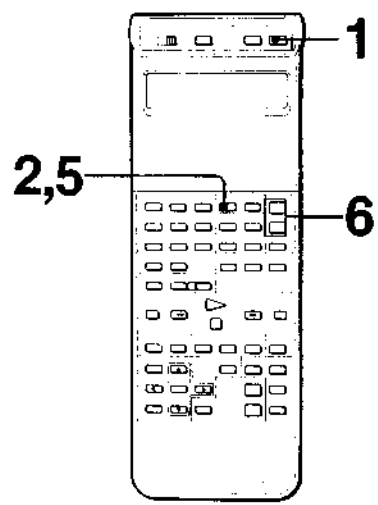
6 **Check the display window on the unit and close the cover.**

When 0:00 is blinking on the unit
Any time power is interrupted for more than one hour, you will see 0:00 blinking when power is restored. You will have to re-set the date and clock again.

When a short beep sounds repeatedly
The VTR is in the timer recording or quick timer recording mode and the setting cannot be transmitted.

Adjusting the TV





Before You Begin

If you have connected your VTR and TV using the AERIAL OUT on the VTR, one of the television programme positions must be adjusted to receive the VTR's playback signal. If TV — VTR connection is made by other means, skip this step.

Operation

1 **Make connections referring to "Connections" and press ON/STANDBY.**

2 **Press INPUT SELECT to light LINE L2 in the display window.**
Do not connect any equipment to the LINE IN 2 VIDEO jack.

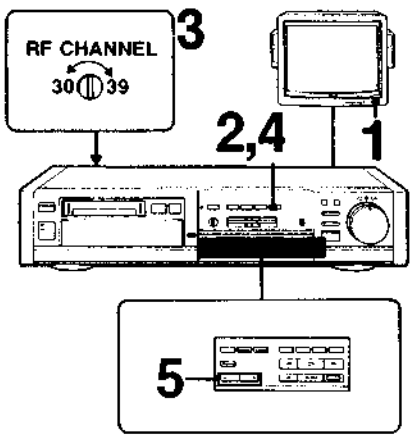
3 **Turn on the TV and select a programme position that is not used to receive a TV station.**

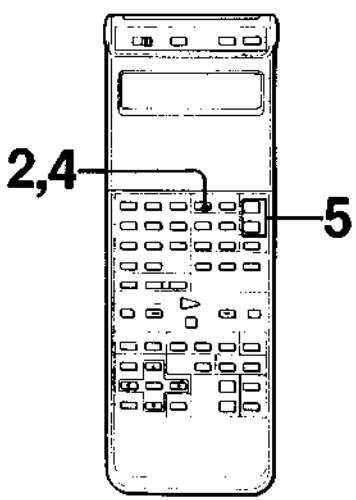
4 **Tune the TV so that a blue screen with time counter and tape speed indication is clearly seen on the TV screen.**

5 **Press INPUT SELECT to light TUNER in the display window.**

6 **Press the PROG (PROGRAM) + / - and check that the screen changes to a different programme.**

Now your TV is tuned to receive the VTR's playback picture. Whenever playing back a tape, select the programme position you chose in step 3. If you are not sure how to tune your TV, refer to the TV's instruction manual or consult your dealer.





When the Playback Picture is not Free of Disturbance

1 **Select a programme position on the TV between UHF channels 30 and 39, so that the TV shows no picture and a steady rustling sound or no sound is heard.**

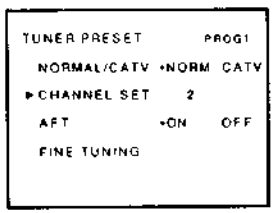
2 **Press INPUT SELECT to light LINE L2 in the display window.**
Do not connect any equipment to the LINE IN 2 VIDEO jack.

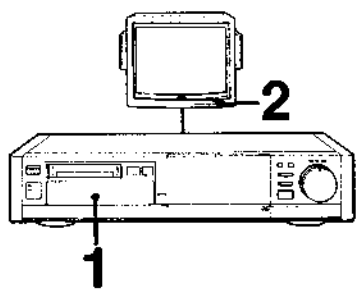
3 **Turn the RF CHANNEL screw with the supplied screwdriver until an undistorted screen is obtained.**

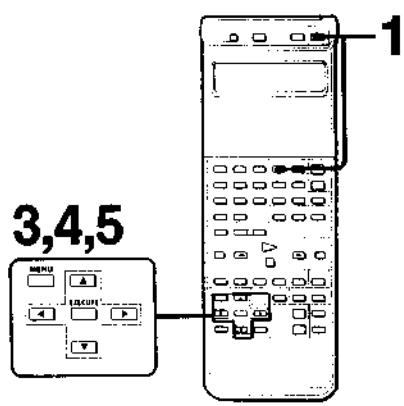
4 **Press INPUT SELECT to light TUNER in the display window.**

5 **Press PROG (PROGRAM) + / – and check that the screen changes to a different programme.**

Presetting the Active Channels







Before You Begin

- Your VTR is capable of receiving the following channels:
  EV-S1000E: VHF channels E2 — E4, E5 — E12, UHF channels E21 — E69, and cable TV channels S01 — S03, S1 — S20 and S21 — S41
  EV-S1000E (UK): UHF channels B21 — B68
- The receivable channels are governed by the TV broadcasting system in your area.
- Up to 60 channels can be allocated to any desired programme position.
- The TUNER PRESET menu can be displayed only when VTR — TV connection is made via the AERIAL OUT socket on the VTR, the MONITOR OUT EURO-AV or S VIDEO.

To Call Up the TUNER PRESET Menu

1 **Turn on the VTR and press INPUT SELECT to light the TUNER indicator and the programme position number in the display window.**

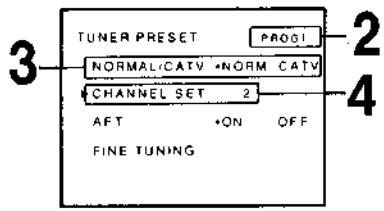
2 **Turn on the TV.**
Set to the programme position for the VTR playback if VTR — TV connection is made via the AERIAL OUT socket on the VTR. Select VTR input if VTR — TV connection is made via MONITOR OUT EURO-AV or S VIDEO.

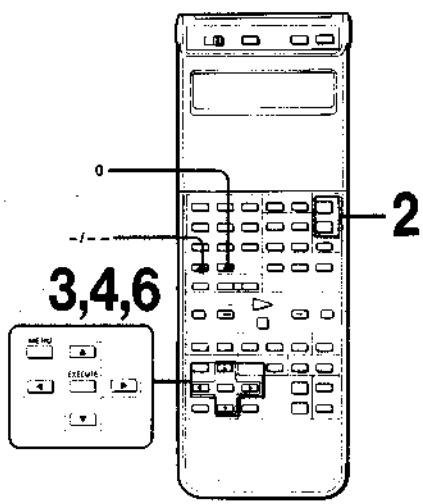
3 **Press MENU while the VTR is in the stop mode.**
The main MENU appears.

4 **Move cursor with ▲ or ▼ to TUNER PRESET.**

5 **Press EXECUTE.**
The TUNER PRESET menu appears.

Note for the users of EV-S1000E (UK)
The TUNER PRESET menu of the EV-S1000E (UK) does not have the NORMAL/CATV selection which is shown in the illustration.





Tuning a Desired Channel

[For EV-S1000E (UK), skip steps 1 and 2.]

1 Call up the TUNER PRESET menu.

2 Select the desired programme position by pressing PROG (PROGRAM) +/–.

3 Move cursor to NORMAL/CATV with ▲ or ▼. Select NORM to receive normal programmes and CATV to receive CATV programmes with ◀ or ▶.

4 **Move cursor to CHANNEL SET with ▲ or ▼ and keep pressing ◀ or ▶.**
The channel number automatically increases with ▶ and decreases with ◀. The number stops changing when the first channel received in your area is detected and that channel will be displayed.

5 **To allocate a channel to the next programme position, repeat steps 2 to 4.**

6 **Press EXECUTE to store the allocated channels and return to original screen.**

To Allocate the Channels Directly

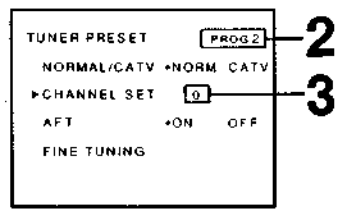
In step 4 in "Tuning a Desired Channel," set the cursor to CHANNEL SET. Enter the desired programme numbers using the programme position number and –/– – buttons. To enter one's digits, press 0 and then the desired number. To enter two-digit numbers, press –/– –, the ten's digit number, and lastly the one's digit number.

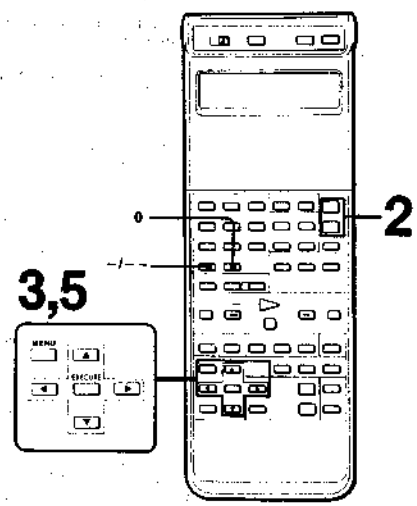
Note

If the picture displayed on the screen in step 4 is so distorted that you cannot identify the menu operation screen, first pull out the aerial cable from the AERIAL IN socket, next repeat step 4, then return the aerial cable to the AERIAL IN socket.

Channel scanning on your VTR

- When ▶ is pressed in steps 4 and 5, the channels are scanned in the following order. When ◀ is pressed the scanning order is reversed.
  VHF (E2-E12) → UHF (E21-S69) → CATV (S1-S20) → HYPER BAND (S21-S41) → CATV (S01-S05).
- The EV-S1000E (UK) only scans UHF channels B21 to B68.
- In Italy, channels 13 to 20 correspond to channels A to H.





Erasing Unwanted Programme Positions

The VTR can be preset so that only the desired programme positions will appear when you press PROG (PROGRAM) +/–.

1 Call up the TUNER PRESET menu.

2 Press PROG (PROGRAM) +/– to call up the unused programme position.

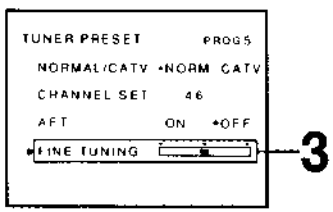
3 Press –/– – and then 0 or keep pressing ◀ or ▶ until 0 is displayed.

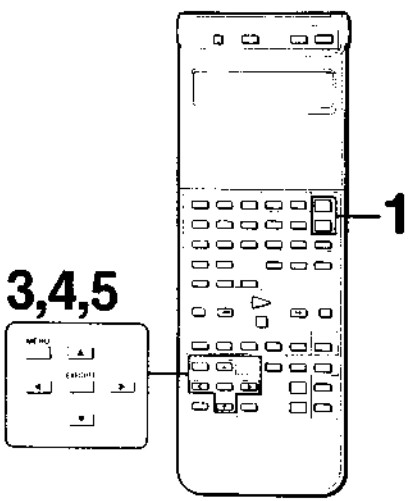
4 Repeat steps 2 and 3 to erase other programme positions.

5 Press EXECUTE.

To enter the erased programme positions again

Follow the procedure in "Tuning a Desired Channel."





Manually Fine-tuning a Weak Station

If AFT ON is selected in the TUNER PRESET menu, the VTR automatically tunes the received channels. However, when the programme received on the VTR is distorted due to signal interference, manual fine tuning may solve the problem.

1 **Select the distorted programme position by pressing PROG (PROGRAM) + / −.**

2 **Call up the TUNER PRESET menu.**

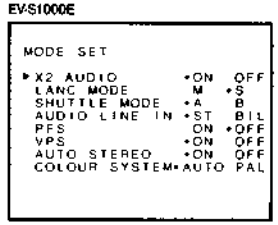
3 **Move cursor to FINE TUNING.**

4 **Press ◄ or ► until the best picture is obtained.**
AFT OFF will be automatically selected. The fine tuning meter appears.

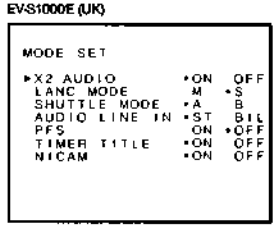
5 **Press EXECUTE to store that position and return to the original screen.**

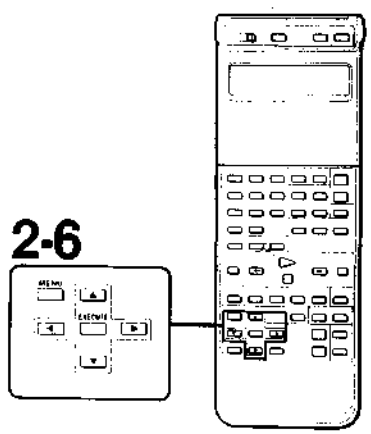
Mode Setting

EV-S1000E



EV-S1000E (UK)





Check the setting in the MODE SET menu before operating this VTR. Make changes depending upon the features you wish to enjoy on this VTR.

Operation

1 **Press MENU.**
The main MENU appears.

2 **Move cursor by using ▲ or ▼ to MODE SET.**

3 **Press EXECUTE.**
The MODE SET menu appears.

4 **Select the mode to be set by using ▲ or ▼.**

5 **Select the desired mode by using ◄ or ►.**

6 **Press EXECUTE.**
The selected mode will be stored and the MODE SET menu will be erased.

Details of the MODE SET Menu

X2 AUDIO ON/OFF
Select ON if you wish to hear the sound during ×2 speed playback. The playback sound will automatically be switched to monaural. Select OFF if you do not wish to hear the sound during ×2 speed playback.

LANC MODE M/S
This selection is necessary when remotely controlling other video equipment with this VTR, or when controlling this VTR with other video equipment via the CONTROL L connector. Select M to control other video equipment with this VTR. Select S to control this VTR with other video equipment.

Note that the VTR will automatically enter the LANC MODE M mode in the following cases:
1) When the PLAYER control button is pressed and the button is turned on.
2) When the EDIT STANDBY button is pressed and the indicator is turned on.

SHUTTLE MODE A/B
Change the setting depending upon the type of video equipment you wish to control with this VTR. Select A when a remote commander with JOG/SHUTTLE function cannot be used for the other video equipment. Select B when a remote commander with JOG/SHUTTLE function can be used for the other video equipment.

AUDIO LINE IN ST(stereo)/BIL(bilingual)
Select ST to receive stereo programme sources from the AUDIO LINE IN jacks.
Select BIL to receive bilingual programme sources from the AUDIO LINE IN jacks.

PFS (picture fine select)
If the picture is distorted or has streaks, switch to ON or OFF whichever provides a better picture. Normally, select OFF.

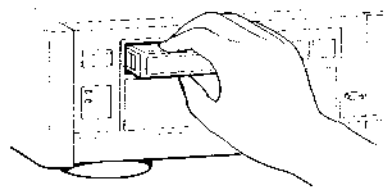
VPS ON/OFF [not available for EV-S1000E (UK)]
Select ON to record a TV programme using the VPS function. Select OFF otherwise. See "VPS Function" on page 65 for details.

TIMER TITLE ON/OFF [for EV-S1000E (UK) only]
Select ON to start timer recording with a timer title. Select OFF otherwise. See "Recording a Timer Title" on page 64 for details.

AUTO STEREO [not available for EV-S1000E (UK)]
Normally set to ON to receive and record the stereo/bilingual broadast programmes automatically.
Select OFF if there is too much interference in the stereo sound. The broadcast will be received in monaural.

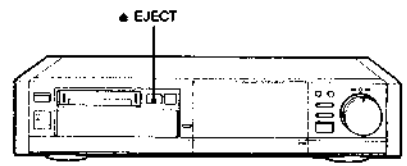
NICAM ON/OFF [for EV-S1000E (UK) only]
Select ON to receive and record the stereo/bilingual programmes based on the "NICAM" system adopted in the United Kingdom. Otherwise, select OFF.

COLOUR SYSTEM AUTO/PAL [not available for EV-S1000E (UK)]
Normally set to AUTO. According to the TV programme, the colour system will automatically be switched to PAL or DDR SECAM. Select PAL if the signal is too weak or the picture is distorted. DDR SECAM programmes may not be displayed properly.



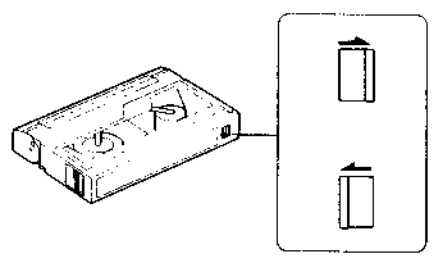
Cassette Insertion

Insert the cassette by slowly pressing it with the window facing upwards. When a cassette is inserted, the power will be turned on automatically.



Cassette Ejection

Press ▲ EJECT on the unit. When the VTR is turned off, pressing the ▲ EJECT button will turn on the unit, eject the cassette, and turn it off again. ▲ EJECT will not function during recording or recording pause mode.



Erase Protection

When recording is made on a pre-recorded tape, the previous recording will be erased. To avoid unintentional erasure, slide out the red tab on the cassette to cover the opening.

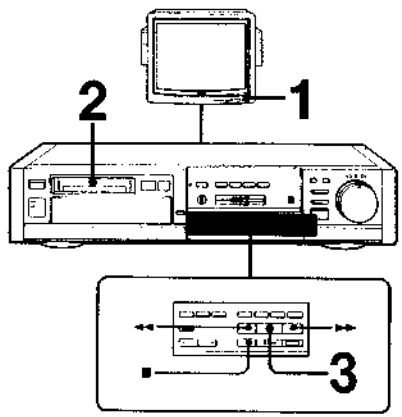
Recording/playback Time

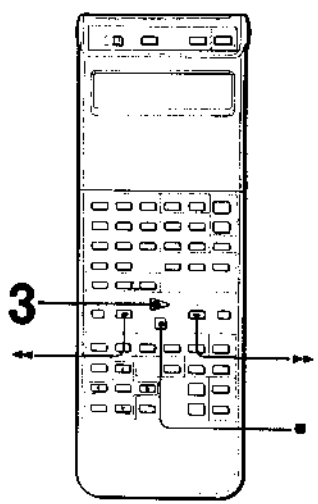
The recording time of a cassette in the LP mode is twice as long as that in the SP mode. However, to obtain better quality picture, use of SP mode is recommended. The recording speed can be selected with the REC MODE button. The playback speed will automatically be detected.

Type of Cassette	SP mode	LP mode
P5-15MP	15 min	30 min.
P5-30MP/E5-30HME	30 min	1 hour
P5-60MP/E5-60HME	60 min	2 hours
P5-90MP/E5-90HME	90 min.	3 hours

Notes on cassettes

- Never insert anything in the small holes at the rear of the cassette as the VTR distinguishes between Hi8 cassette tapes and standard 8 mm cassette tapes by the shape of the holes.
- Store cassettes in their cases and keep them in an upright position to prevent intrusion of dust and uneven winding.
- To record from the beginning of the tape, run the VTR for about 15 seconds at the beginning of the cassette before recording. It will avoid missing the starting point during playback on a video cassette recorder.
- When the VTR is not in use, remove the cassette.





Playing a Tape

1 **Turn on the TV and select the programme position for the VTR.**
If VTR-TV connection is made via the MONITOR OUT EURO-AV or VIDEO LINE OUT jacks on the VTR, select the input for the VTR.

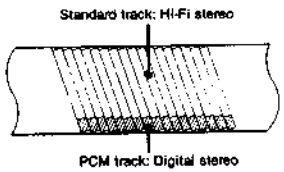
2 **Insert a cassette.**
The VTR will be turned on.

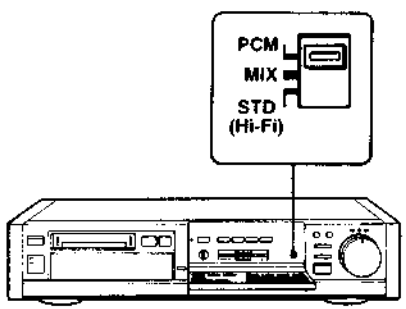
3 Press ▷.
Playback starts.

To stop playback
Press ■.

To rewind the tape
Press ◀◀.

To advance the tape rapidly
Press ▶▶.





Selecting the Monitor Sound

Audio recording pattern on the video tape

Selecting the playback track
Choose the desired track to be played back by setting the AUDIO MONITOR switch.

PCM
To playback the digital stereo signals recorded on the PCM track. When nothing is recorded on the PCM track, Hi-Fi stereo track will automatically be played back.

MIX
To playback the mixed sound of the PCM track and the standard track.

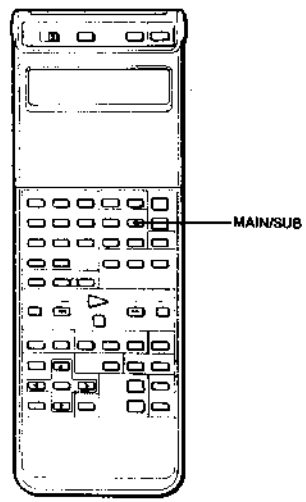
STD (Hi-Fi)
To playback the Hi-fi stereo track recorded on the standard track.

Selecting the playback sound after dubbing additional sounds
Set the AUDIO MONITOR switch in the following manner.

PCM
To playback the additionally dubbed sound (PCM track) only.

MIX
To playback both the additionally dubbed sound (PCM track) and the original sound (standard track).

Notes
- Normally set the AUDIO MONITOR switch to PCM to enjoy high quality playback sound.
- The additionally dubbed sound cannot be heard if the AUDIO MONITOR switch is set to STD (Hi-Fi).

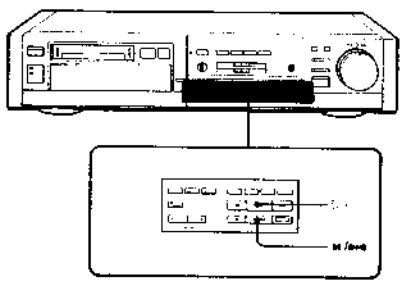


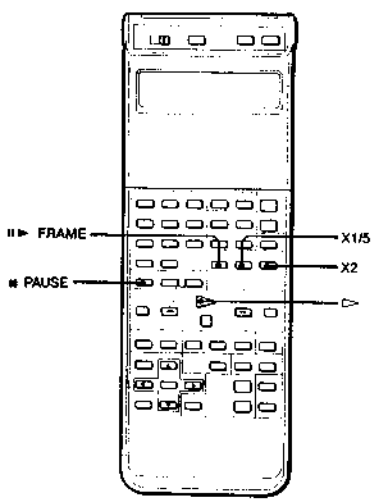
Selecting the playback sound of a stereo/bilingual tape
Choose the desired sound to be played back with the MAIN/SUB button on the Commander.

Type of tape	MAIN/SUB button and indicator
Stereo	**Each press changes the playback sound to:** STEREO (stereo sound) → L (left channel) → R (right channel) →
Bilingual	**Each press changes the playback sound to:** MAIN/ (main sound) → SUB/ (sub sound) → MAIN/SUB/ (main/left channel and sub/right channel) →

If the sound is not heard or heard only intermittently
When a tape which has been recorded on a video camera recorder or a video cassette recorder without the PCM function is played back on this unit, set the AUDIO MONITOR selector to STD. The PCM indicator may blink, but it will not affect the sound.

When connection is made to a TV without video/audio inputs
To monitor the playback sound in stereo, make connection to a stereo system.





Various Playback Modes

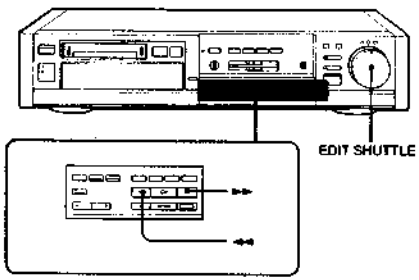
Playback pause/still
Press ■/►► on the unit, or ■ or II► on the Commander during playback. Press ▷ to resume normal playback.

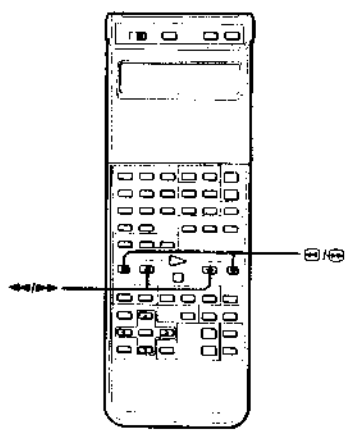
Frame-by-frame playback (Commander only)
Press II► in the playback still mode. Each press of II► will advance the picture one frame. Press ▷ to resume normal playback.

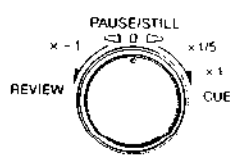
Slow speed playback
Press X1/5 for slow playback at 1/5 times normal speed. The speed setting can be made from any playback mode. Press ▷ to resume normal playback.

Double speed playback
Press X2 for double speed playback. The sound can be heard when X2 AUDIO ON is selected in the MODE SET menu (see page 30). The sound will automatically be switched to monaural when this button is pressed. The speed setting can be made from any playback mode. Press ▷ to resume normal playback.

Note
Slow speed playback will automatically be cancelled after one minute.





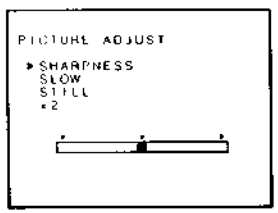


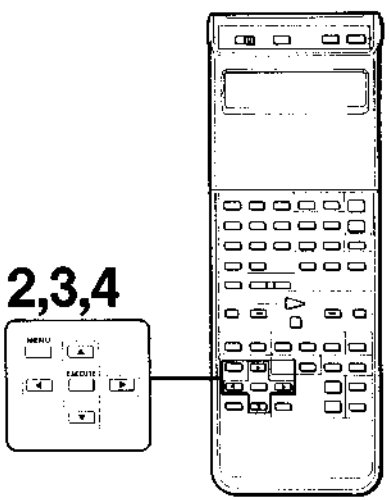
Picture search
Press ◄◄ or ►► during playback. The picture will be scanned in reverse with ◄◄ and forward with ►► as long as they are pressed. Release the button to return to the previous playback mode.

Locked picture search
Press ◄◄ or ►► SEARCH during playback. The picture will keep on scanning in reverse with ◄◄ and in forward with ►► even after the button is released. To resume normal playback, press ▷.

FR picture search
Press ►► during fast-forward or ◄◄ during rewind modes. The fast-forward or rewind mode picture can be viewed while the button is pressed.

Using the EDIT SHUTTLE
Various playback modes can be selected by holding the EDIT SHUTTLE in the position illustrated. Turn it clockwise for forward direction and counterclockwise for reverse direction. Releasing it will make the picture enter the PAUSE/STILL mode. To resume normal playback, press ▷.





Picture Adjustments

The picture can be adjusted as desired using the PICTURE ADJUST menu. Call up the PICTURE ADJUST menu referring to the following procedure:

1 **Press MENU.**
The main MENU appears.

2 **Move cursor to PICTURE ADJUST by using ▲ or ▼.**

3 **Press EXECUTE.**
The PICTURE ADJUST menu appears.

4 **Move cursor to the parameter to be adjusted by using ▲ or ▼.**

5 **Press ◀ or ▶ to adjust the picture.**

6 **Press EXECUTE to store the setting and erase the PICTURE ADJUST menu.**

Details of each parameter

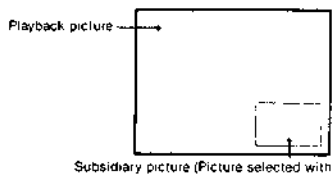
SHARPNESS
Press ▶ for a sharpter picture. Press ◀ for a softer picture. Adjustable only in the playback mode.

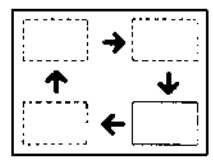
SLOW
Press ◀ or ▶ to clear out the noise bands that may appear during slow speed playback. Adjustable only in the slow speed playback mode.

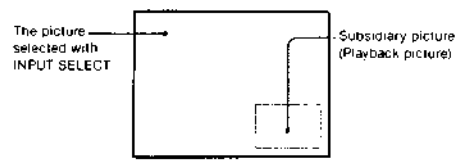
STILL
Press ◀ or ▶ so that the vertical shaking of the picture during the still mode will stop. Adjustable only in the still mode.

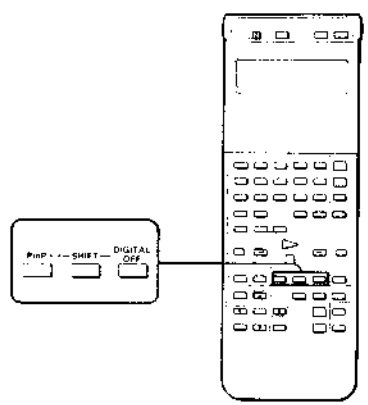
X2
Press ◀ or ▶ to clear out the noise bands that may appear during the ×2 playback mode. Adjustable only in the ×2 mode.

Note
The cursor position will change when the VTR's playback mode changes.









Inserting a Subsidiary Picture in the Playback Picture — P in P

Calling up the subsidiary screen
Press P in P during playback.
When TUNER is selected with INPUT SELECT, the TV picture can be viewed in the subsidiary screen.

Changing the position of the subsidiary picture
Press SHIFT.
The position will be shifted as illustrated.

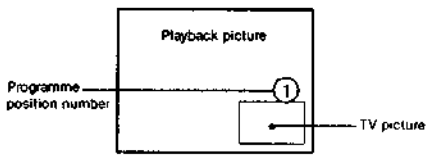
Inverting the position of the subsidiary picture
Press P in P again.

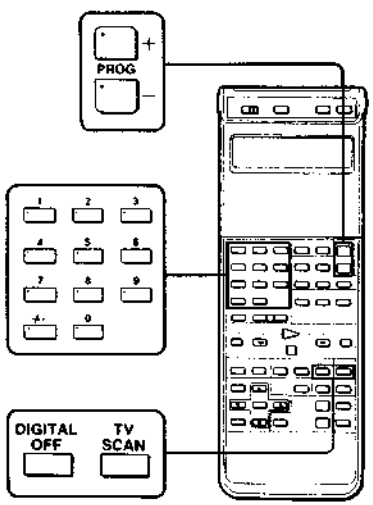
To turn off the subsidiary picture
Press DIGITAL OFF.
The position of the subsidiary picture will be stored in the memory.

Sound during P in P

If VTR-TV connection is made via the MONITOR OUT jacks on the VTR:
The sound of the main picture is output.

If VTR-TV connection is made via the LINE OUT jacks on the VTR:
During playback, the sound of the playback picture of this VTR is output. In other modes, the sound of the input source selected on this VTR is output.





Watching TV Channels in Succession — TV Scan

You can watch each TV programme for a few seconds, in the preset order, while playing back a tape.

Operation

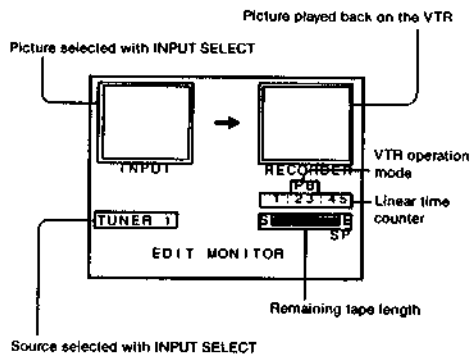
Press TV SCAN during playback.
The TV programme will be displayed in the subsidiary picture for a few seconds with the programme position number. After all of the preset programmes are displayed, the first preset programme position will appear again.

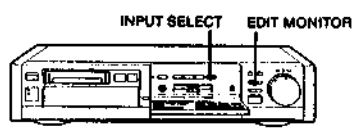
Watching the desired programme position in the subsidiary screen

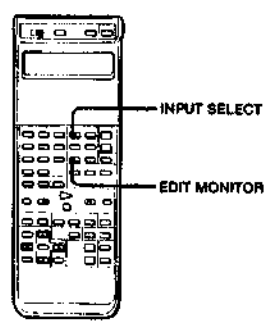
Press the channel number button or press PROG (PROGRAM) + / –.

Turning off the subsidiary picture

After TV scanning is completed, press DIGITAL OFF.
During TV scanning, enter the programme position of the desired programme directly by the programme position number buttons on the Commander or the PROG(PROGRAM) + / – buttons.



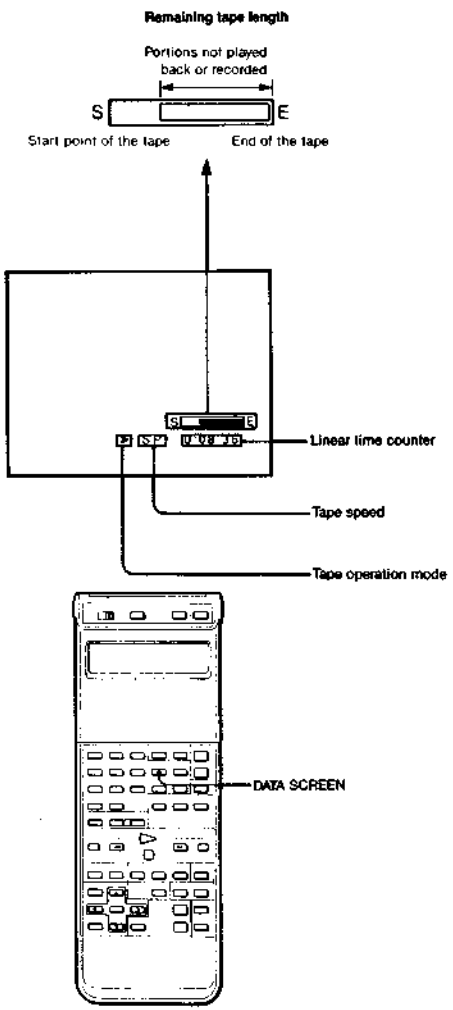




Watching Two Pictures Simultaneously — EDIT MONITOR

Press EDIT MONITOR on the Commander or the VTR.
The playback picture of this VTR and the picture selected by the INPUT SELECT button can be viewed simultaneously in the EDIT MONITOR screen.

Refer to the "Editing" section for the convenient use of EDIT MONITOR screen during editing.

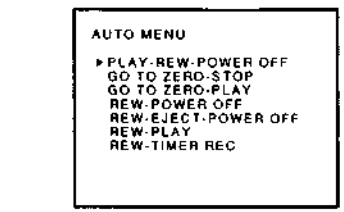


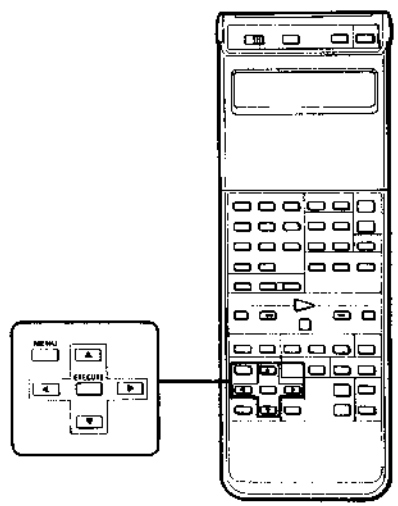
Data Screen

Data screen information illustrated on the left will automatically appear on the screen during playback or recording as a reference. Note, however, that the data screen will not be displayed when VTR — TV connection is made via the VIDEO LINE OUT jack of this unit.

To erase or display the data screen
Press DATA SCREEN on the Commander.

Note on the remaining tape length indicator
The remaining tape length indicator shows the approximate amount of tape left.





Assigning a Desired Operation Mode

Guided by the AUTO MENU, you can make the VTR enter the desired operational sequence automatically.

1 **Press MENU.**
The main MENU appears.

2 **Move cursor by using ▲ or ▼ to AUTO MENU.**

3 **Press EXECUTE.**
The AUTO MENU appears.

4 **Move cursor by using ▲ or ▼ to the desired operational sequence.**

5 **Press EXECUTE.**
The selected operation will begin.
The selected operation will be displayed on the screen for a few seconds.

Auto Menu Modes

PLAY – REW – POWER OFF plays back the tape, rewinds the tape when the end is reached, and turns the power off.

GO TO ZERO – STOP searches for the counter zero point and stops. See page 69.

GO TO ZERO – PLAY searches for the counter zero point and starts playback. See page 70.

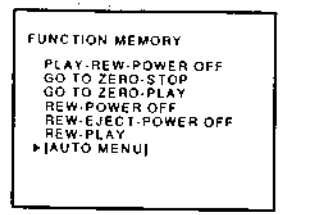
REW – POWER OFF rewinds the tape to the beginning and turns the power off.

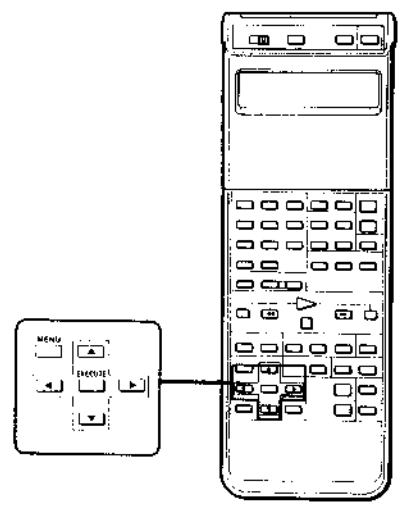
REW – EJECT – POWER OFF rewinds the tape to the beginning, ejects the cassette, and turns the power off.

REW – PLAY rewinds the tape to the beginning and starts playback.

REW – TIMER REC rewinds the tape to the beginning and enters the timer recording standby mode for timer recording. A cassette with its red tab slid out will be ejected.

Note on REW — TIMER REC
If the VTR is in the timer recording standby mode, first press TIMER REC (ON/OFF) to cancel the standby mode, next turn on the power to the unit, then call up the AUTO MENU referring to the procedure on page 45.





Assigning an Auto Menu Mode to the FUNCTION MEMORY Button

One of the AUTO MENU modes can be assigned to the FUNCTION MEMORY button on the Commander.

1 **Press MENU.**
The main MENU appears.

2 **Move cursor with ▲ or ▼ to FUNCTION MEMORY.**

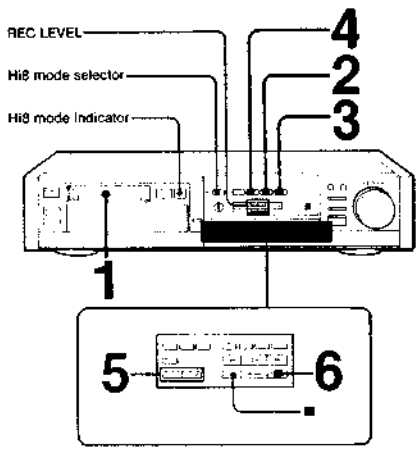
3 **Press EXECUTE.**
The FUNCTION MEMORY menu appears.

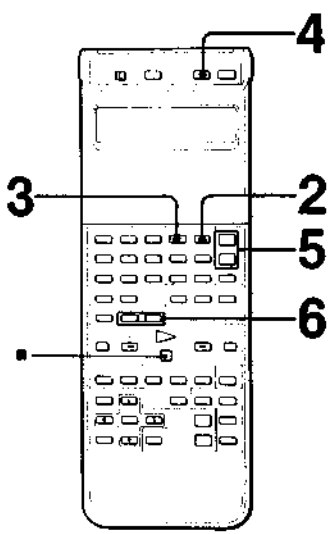
4 **Move cursor to the desired operational sequence.**

5 **Press EXECUTE.**
Now the selected operation is assigned to the FUNCTION MEMORY button. Every time FUNCTION MEMORY is pressed in the stop mode, the selected operation will begin.

If [AUTO MENU] is selected in step 4, AUTO MENU will be displayed immediately when FUNCTION MEMORY is pressed, providing a direct access to the AUTO MENU.

Recording TV Programmes





Before You Begin

- Check that all of the connections are complete.
- Turn on the TV and select the video input on the TV or select the programme position for the recorder.
- Check the Hi8 indicator when using a Hi8 tape. Turn it on to record in the Hi8 mode. Turn it off to record in the standard 8 mm mode.
- Set the REC LEVEL controls to the appropriate level (see page 52).
- Data screen displays will not be recorded.

Operation

1 **Insert a cassette.**
The power will automatically be turned on.

2 **Select the recording speed, SP or LP, with REC MODE.**

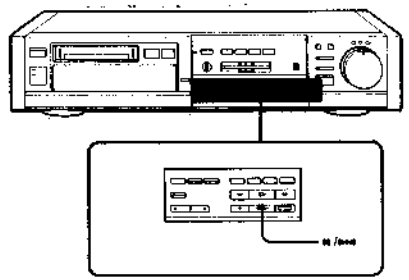
3 **Press INPUT SELECT so that the TUNER indicator appears in the display window.**

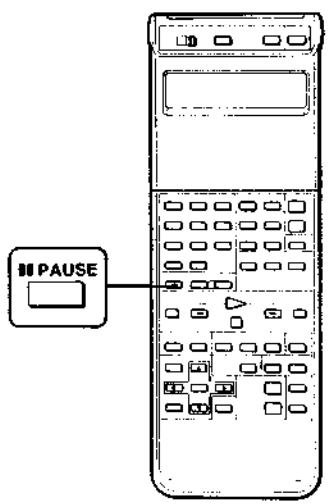
4 **Press TV/VTR so that the VTR indicator is turned on in the display window (only when TV — VTR connection is made via the AERIAL OUT socket on the VTR).**

5 **Select the programme position to be recorded with PROG (PROGRAM) + / –.**

6 **Press the right button while pressing ● REC on the Commander, or press the ● REC button on the unit.**
Recording will begin.

To stop recording
Press ■ STOP.





To Cut Out Scenes by Recording Over It

Overview
Using the recording pause mode, you can stop recording when an unwanted scene appears and then resume recording smoothly. Moreover, utilizing the SHUTTLE EDIT buttons on the Commander or the EDIT SHUTTLE on the VTR, it is possible to cut out unwanted scenes by rewinding and/or advancing the tape, then entering the recording pause mode, and resume recording smoothly.

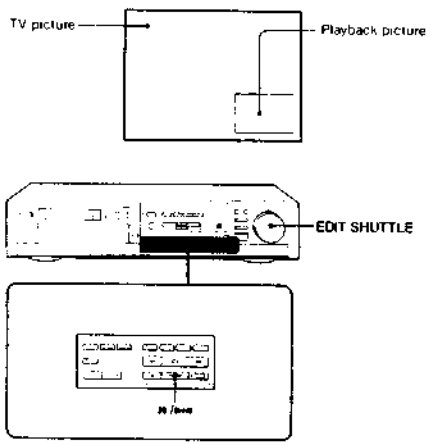
Operation

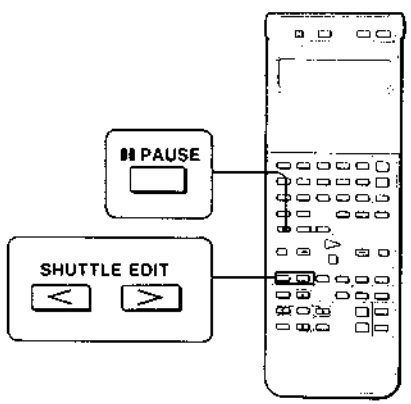
Basic

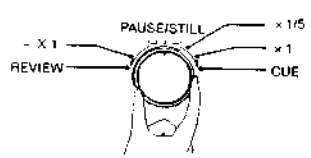
1 **While recording, press II PAUSE on the Commander or II /⏮⏮ PAUSE/STILL on the VTR.**
The VTR will enter the recording pause mode.

2 **Press II PAUSE at the desired point to continue recording.**

Note
To protect the tape and video heads, the pause mode will be automatically released after about 7 minutes and the VTR will enter the stop mode.







Advanced

1 **While recording TV broadcasts, press II PAUSE on the Commander or II /●● PAUSE/STILL on the VTR.**
The VTR will enter the recording pause mode.

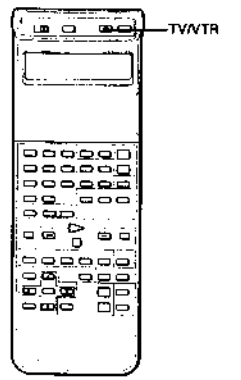
2 **Rewind the tape with SHUTTLE EDIT < or > on the Commander or EDIT SHUTTLE on the VTR to locate the point to resume recording.**
A P in P screen will be appear and the playback picture can be viewed in the subsidiary display.

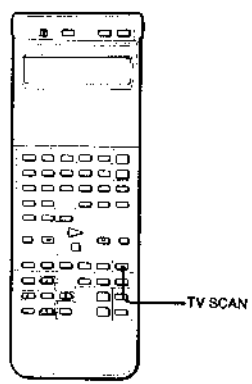
Using the SHUTTLE EDIT < or >:
Press < to reverse the picture (× 1 speed).
Press > to advance the picture (× 1 speed).

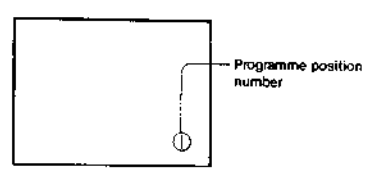
Using the EDIT SHUTTLE:
Turn to the left to search in reverse.
Turn to the right to search in forward.
The playback speed is as indicated in the illustration.

3 **Release the SHUTTLE EDIT button or the EDIT SHUTTLE at the desired point.**
The subsidiary screen will be cleared and the VTR enters the recording pause mode after approximately 2 seconds.

4 **Press II PAUSE on the Commander or II /●● PAUSE/STILL on the unit when you wish to resume recording.**







Watching a TV Broadcast While Recording

If VTR-TV connection is made using the MONITOR OUT EURO-AV
Press TV/VTR to turn off the VTR indicator.
The programme selected on the TV appears on the screen.

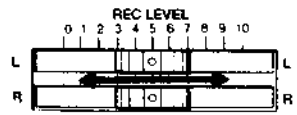
If VTR-TV connection is made using the LINE OUT VIDEO/S VIDEO/AUDIO or MONITOR OUT S VIDEO jacks
Press TV/VTR to turn off the VTR indicator. Select the tuner input on the TV and change the programme position on the TV.

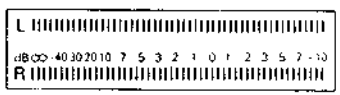
If VTR-TV connection is made using the AERIAL sockets
Press TV/VTR to turn off the VTR indicator and change the programme position using the programme position number buttons on the TV.

To Scan TV Programmes

While viewing TV programmes, press TV SCAN. You can watch each TV programme for a few seconds in the order that you have preset them.

Recording Level Adjustment





Adjust the REC LEVEL controls to record in the appropriate audio level referring to the peak programme meter in the display window.

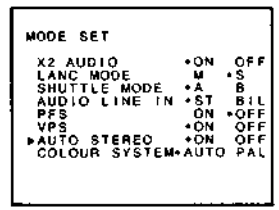
Appropriate Recording Level

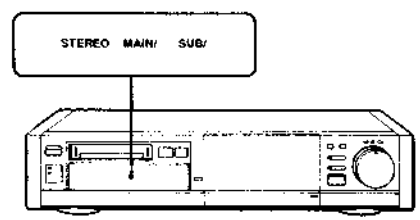
Recording sources with medium or lower frequency signals (e.g. vocals)
Adjust so that the element at the 0dB level lights at the highest signal level

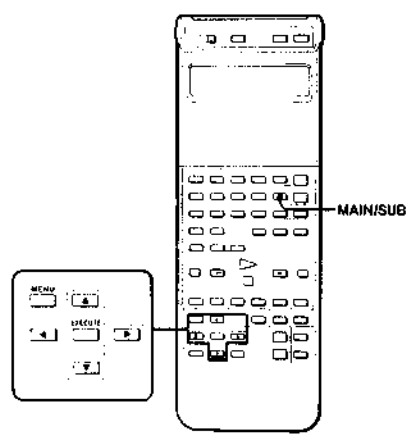
Recording sources with medium or high frequency signals (e.g. trumpets, treble sound of violins)
Adjust so that the element at the −1 to −3dB level lights at the highest level

Notes
- During playback, the peak programme meter shows the peak of the recording sound.
- After recording, it is recommended that the REC LEVEL controls are set to the minimum levels for playback. These controls do not affect the volume during playback but noise may occur when playback is stopped and this may damage the speakers, if connected.

Recording Stereo/Bilingual Programmes







EV-S1000E

The EV-S1000E receives and records stereo/bilingual programmes based on the "Zweiton" system adopted in West Germany. To receive "Zweiton" broadcasts, select AUTO STEREO ON in the MODE SET menu (page 30)

Stereo programmes
When a stereo programme is received, the STEREO indicator appears in the display window. The MAIN/SUB button does not function for the stereo programme of the Zweiton system.

Bilingual programmes
When a bilingual programme is received, MAIN/ appears in the display window. If desired, it is possible to select the monitor sound. Press the MAIN/SUB button repeatedly until the desired sound is heard. The sound is selected cyclically in the following order

Display	Sound to be heard
MAIN/	Main sound
SUB/	Sub sound
MAIN/ SUB/	Main sound on the left channel and sub sound on the right channel

To record

A stereo or bilingual programme will be recorded on the standard track (Hi-Fi stereo) and PCM track as listed below, regardless of the sound being monitored.

Track		Sound to be recorded	
		Stereo	Bilingual
PCM and Standard (Hi-Fi)	Left channel	Left channel	Main
	Right channel	Right channel	Sub

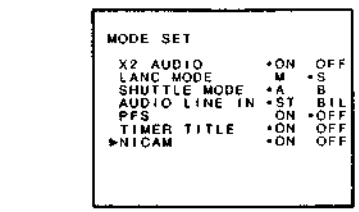
To record

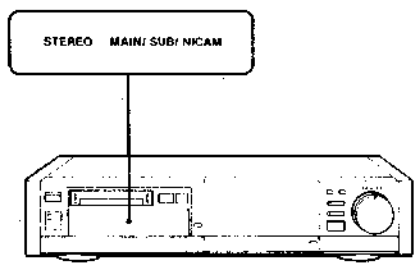
A stereo or bilingual programme will be recorded on the standard track (Hi-Fi stereo) and PCM track as follows, regardless of the sound being monitored.

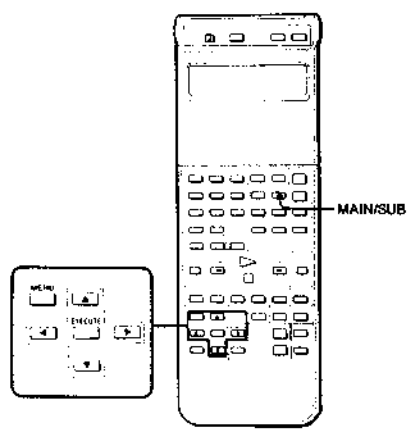
Track		Sound to be recorded	
		Stereo	Bilingual
PCM and Standard (Hi-Fi)	Left channel	Left channel	Main
	Right channel	Right channel	Sub

Understanding the NICAM broadcast

NICAM broadcasting has two-channel digital sounds called NICAM L and R channels in addition to the standard sound. The NICAM L and R are assigned to the stereo left and right channels or the main and sub sounds of a bilingual programme. The standard sound of most NICAM broadcasts is the mixed sound of the left and right channels for a stereo programme, and the main sound for a bilingual programme.







EV-S1000E (UK)

The EV-S1000E (UK) receives and records stereo/ bilingual programmes based on the "NICAM" system adopted in the United Kingdom. To receive "NICAM" broadcasts, select NICAM ON in the MODE SET menu. If you do not wish to record in the NICAM system, select NICAM OFF in the MODE SET menu (page 30).

Stereo programmes

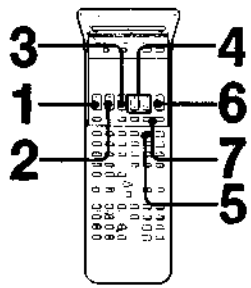
When a stereo programme is received, STEREO and NICAM indicators appear in the display window.

Display	Sound to be heard
STEREO NICAM	Left channel sound on the left channel Right channel sound on the right channel

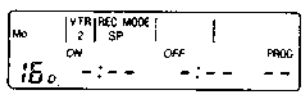
Bilingual programmes

When a bilingual programme is received, NICAM and MAIN/ appears in the display window. If desired, it is possible to select the monitor sound. Press the MAIN/SUB button repeatedly until the desired sound is heard. The sound is selected cyclically in the following order.

Display	Sound to be heard
MAIN/ NICAM	Main sound
SUB/ NICAM	Sub sound
MAIN/ SUB/ NICAM	Main sound on the left channel Sub sound on the right channel



1



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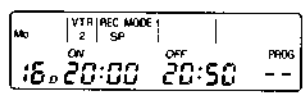

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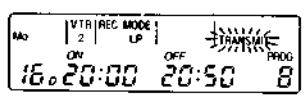

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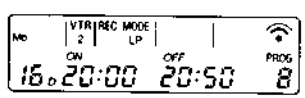

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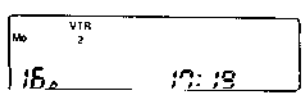


Timer Recording on this VTR

Up to six preselected programmes, can be set on this unit, up to one month in advance.

Before You Begin

- Turn on the TV and adjust it to view the VTR picture.
- Check to see that the clock on the Commander and the VTR show the present time.
- To operate the EV-S1000E read "VPS Function" first.

Operation

Example: To record a programme broadcast from 20:00 to 20:50 on Monday, July 16, 1990 on programme position 8 in the LP mode.

1 **Open the cover of the Commander and press D until 16 appears.**
The day of the week, Mo (Monday), is automatically set

2 **Set the recording start hour with TURN ON H.**

3 **Set the recording start minute with TURN ON M.**

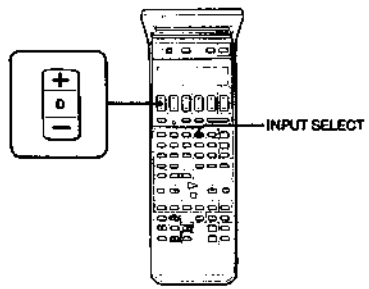
4 **Set the recording end hour and minute with TURN OFF H and M.**

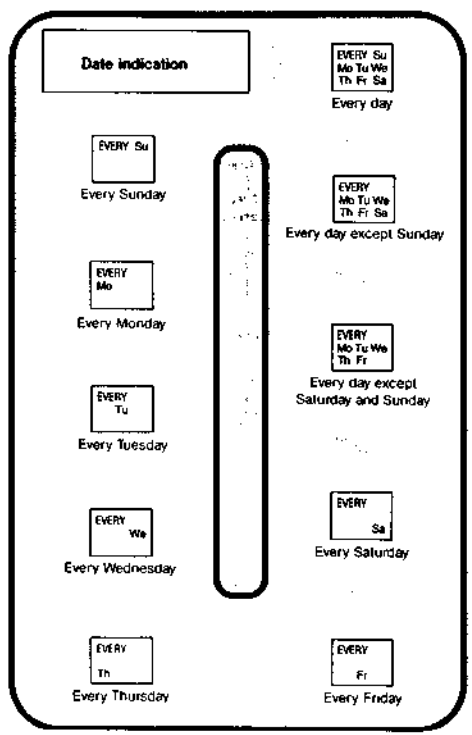
5 **Set the recording mode, SP or LP with the REC MODE button.**

6 **Set the programme position with the PROG button.**
The TRANSMIT indicator blinks to indicate that all of the items are entered.

7 **Point the Commander to the VTR and press TRANSMIT.**
With a beep sound, the VTR enters the recording standby mode. The PROGRAM LIST appears on the screen for a few seconds

8 **Close the cover of the Commander so that the present time appears on the LCD display.**
The VTR turns on, starts recording at the selected time, and turns off after recording ends





To Set Other Programmes

Repeat steps 1 to 6 before step 7.

To record from equipment connected to LINE IN VIDEO/AUDIO/S VIDEO 1 or 2 jacks

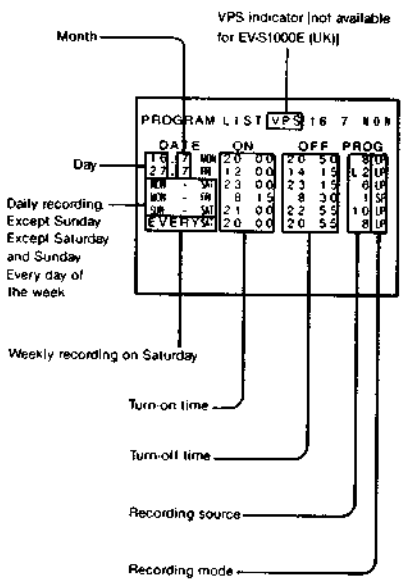
Press INPUT SELECT in step 5 to change the indication from PROG — to LINE L1 or LINE L2

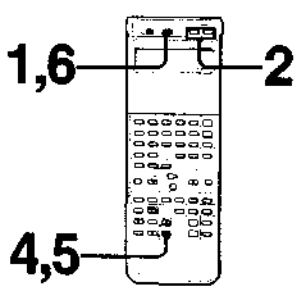
Daily/Weekly Recording

This VTR can be preset to record the same programme each day of the week (daily recording) or the same programme on a specific day of every week.

Instead of step 1 in the "Operation", press D — on the Commander to change the LCD display in the order shown in the illustration. When the desired recording mode is set and transmitted to the VTR, the corresponding indicator lights in the display window

If a short beep sounds repeatedly when TRANSMIT is pressed
A short beep indicates that the transmission is not received by the VTR. Press TRANSMIT again before closing the cover, then check the items below.
- An illogical setting has been made.
- Timer setting can only be performed when the VTR is turned off, or in the stop, or timer recording mode.
- Six timer settings have already been made.
- The tape is at its end





Checking the Timer Settings

The timer settings can be checked by displaying the PROGRAM LIST on the screen. If the power to the VTR turned on, simply press TIMER ON SCREEN. If the VTR is in the timer recording standby mode, follow the procedure below.

1 **Press TIMER REC (ON/OFF) to turn off the TIMER REC indicator in the display window.**

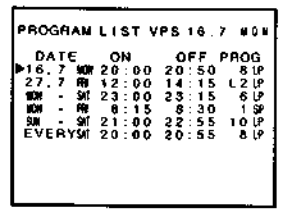
2 **Turn on the VTR and press TV/VTR to light the VTR indicator.**

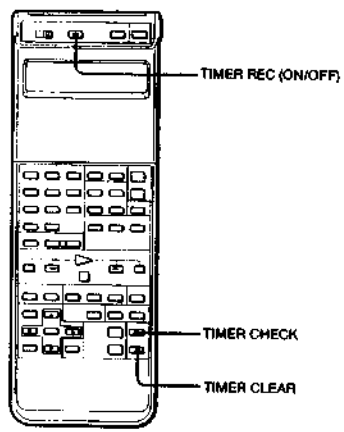
3 **Turn on the TV.**
Set to the programme position for VTR playback if the VTR — TV connection is made via the AERIAL OUT socket on the VTR. Select VTR input on the TV if the VTR — TV connection is made via MONITOR OUT EURO-AV/S VIDEO or LINE OUT VIDEO/AUDIO/S VIDEO jacks.

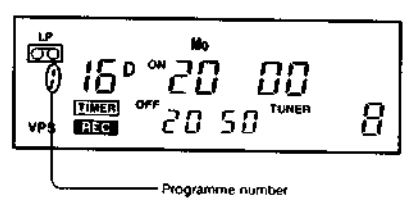
4 **Press TIMER ON SCREEN.**
The PROGRAM LIST display appears on the screen.

5 **Press TIMER ON SCREEN again to return to the original screen.**

6 **Press TIMER REC (ON/OFF) to return to the timer recording standby mode.**







Clearing/Correcting the Timer Setting

Referring to the PROGRAM LIST

1 **Display the PROGRAM LIST referring to steps 1 to 4 in "Checking the Timer Settings."**

2 **Press TIMER CHECK to call up the cursor on the screen and move the cursor to the setting you want to correct or clear.**

3 **To clear the setting, press TIMER CLEAR.**
If there are other timer settings on the PROGRAM LIST display, press TIMER REC ON/OFF to return to the timer recording standby mode.

To correct the setting, re-enter all of the items using the Commander. Refer to "Timer Recording — Operation" steps 1 to 7.
In this case, the VTR automatically enters the timer recording standby mode.

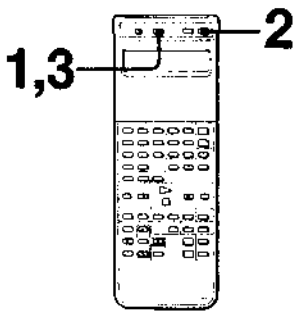
Clearing the setting without the PROGRAM LIST

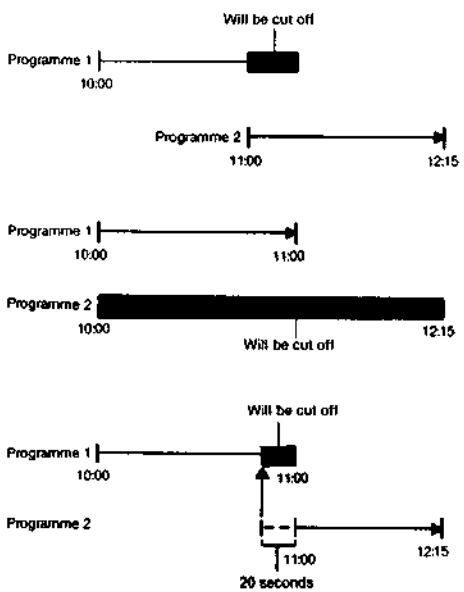
1 **Press TIMER REC (ON/OFF).**

2 **Press TIMER CHECK repeatedly until the desired programme appears.**

3 **Press TIMER CLEAR.**

4 **Press TIMER REC (ON/OFF) to return to the timer recording standby mode if there are other programmes set for timer recording.**





Using the VTR during Timer Recording Standby Mode

1 Press TIMER REC (ON/OFF) to turn off the TIMER REC indicator.

2 Turn on the power of the VTR.
The VTR is ready to be used.

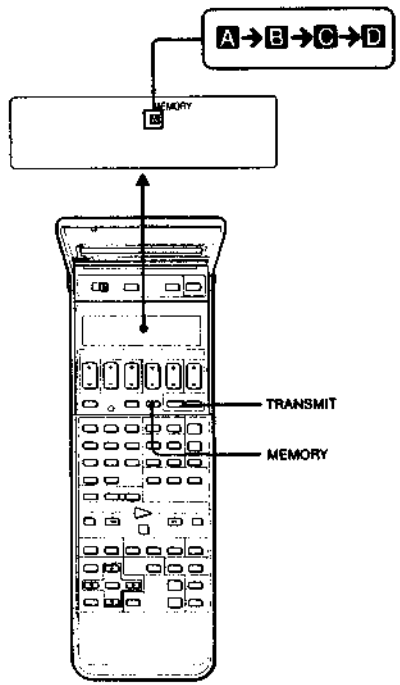
3 After using the VTR, press TIMER REC (ON/OFF) and turn on the TIMER REC indicator to re-enter the standby mode for timer recording.

When the Timer Settings Overlap

If the setting of two programmes overlap
The recording of the following programme will begin automatically before the proceeding programme ends.

If the turn on time of two programmes are the same
The VTR will record the programme with the smaller programme number or listed first on the programme list.
The programme with the larger programme number or listed lower in the list will be cleared from the programme list.

If the recording end time of programme 1 and the recording start time of programme 2 are the same
The last 20 seconds of programme 1 will not be recorded because the VTR will enter the recording pause mode for programme 2 before programme 1 ends.



To Store the Frequently Used Items in the Commander

The items selected for one timer recording programme will be erased from the LCD when the Commander cover is closed. It will be cleared from the programme list when recording is over. However, the turn-on/turn-off time and the programme position of up to four programmes can be stored in the Commander to be recalled later. This enables you to quickly access the most frequently used items, especially your favorite weekly programmes. The recording date will automatically be shifted to the next week after the recording is over.

Operation

Example: To store a timer recording data in MEMORY A.

1 Press MEMORY to indicate MEMORY A.

2 Set all of the items for timer recording referring to "Timer Recording — Operation."

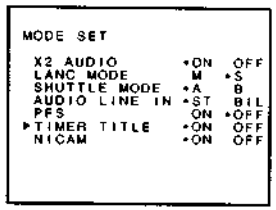
3 Press MEMORY to change the indication to B, C, or D, and repeat step 2 for other programmes.
The items set will be kept in the memory even when the Commander cover is closed.

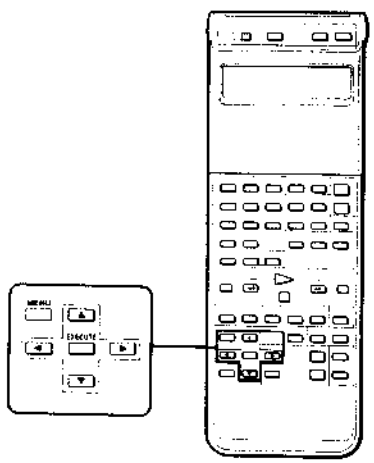
Recalling and changing the items

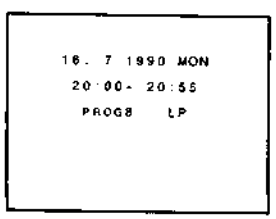
1 Press MEMORY to call up the desired memory indication (A, B, C, or D).

2 Make whatever changes necessary.

3 Press TRANSMIT.
The VTR enters the timer recording standby mode.







Recording a Timer Title

A timer title screen consisting of the recording start/end time, date of recording, and the programme position can be recorded on the tape for 3 seconds before the timer recording. The timer title is convenient for locating the beginning of a desired programme when several programmes are recorded on a single tape. Note that the timer title will be automatically recorded for EV-S1000E but will be turned off when using the VPS function. For EV-S1000E (UK), the timer title recording can be turned on and off by following the procedure below.

1 **Before setting the timer, press MENU.**
The main MENU appears.

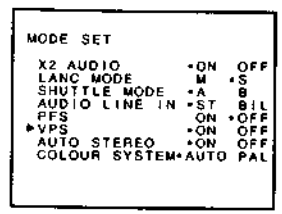
2 **Move cursor with ▲ or ▼ to MODE SET.**

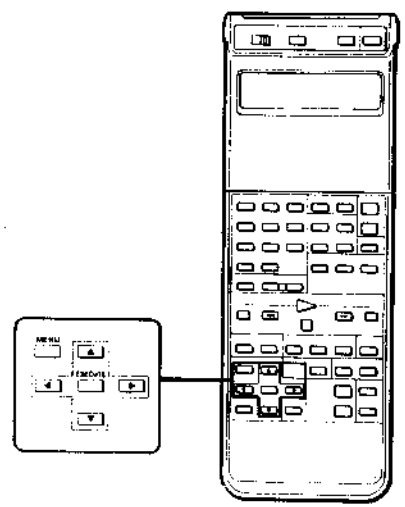
3 **Press EXECUTE.**
The MODE SET menu appears.

4 **Move cursor with ▲ or ▼ to TIMER TITLE.**

5 **Press ◀ or ▶ to select ON to record the timer title, and OFF to record without timer title.**

6 **Press EXECUTE to store the setting.**
If ON is selected in step 5, the timer title will automatically be recorded before the timer recording starts.





VPS (Video Programme System) Function — not available for EV-S1000E (UK)

The German broadcasting system transmits VPS signals with the TV programmes which assures that your timer recording will be performed without missing any portion of it regardless of any changes in broadcasting time, extension, or broadcast interruption which might occur before or during that programme.

Operation

1 **Check whether VPS is transmitted with the programme to be recorded.**

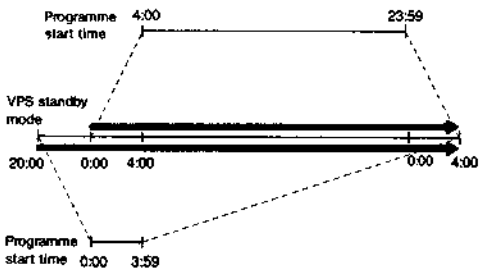
2 **Call up the MODE SET menu referring to "Mode Setting" on page 30.**

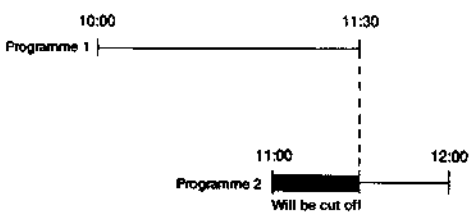
3 **Select VPS ON so that the VPS indicator lights in the display window.**

4 **Set the timer referring to "Timer Recording — Operation."**

Notes

- The VPS function can be turned on only when the TIMER REC indicator is turned off.
- If the VPS signal was not received on the VTR because it was too weak or because the station failed to transmit, timer recording will be performed without the VPS function regardless of the VPS indication.
- The recording will stop when the VTR receives a VPS programme interruption code during recording, for example, when an urgent news bulletin was inserted. As soon as the interrupted programme resumes, recording will continue.





VPS Standby Mode

The VTR will be turned on to standby for VPS recording before the turn-on time and remains turned on past the preset turn-on time until the VPS signal is received to prepare for any change in the actual broadcast time.

When the VPS timer recording is set for a programme which is expected to start between 4:00 and 23:59?

The VTR will be turned on at 0:00 that day and will keep on waiting for the VPS signal until 4:00 of the next day.

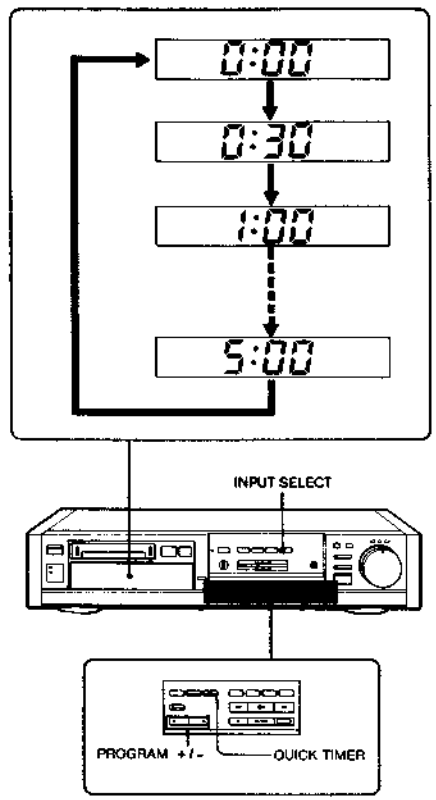
When the VPS timer recording is set for a programme which is expected to start between 0:00 and 3:59?

The VTR will be turned on at 20:00 the day before the recording day and will keep on waiting for the VPS signal until 4:00 on the next day.

If the actual recording time overlaps with the next timer recording programme

There may be cases when the actual broadcast time of two timer recording programmes overlap owing to the shift made by the VPS signal. In this case, the programme that was broadcast first always has priority.

The recording of the second programme will begin only after the first programme is over.



What is Quick Timer Recording?

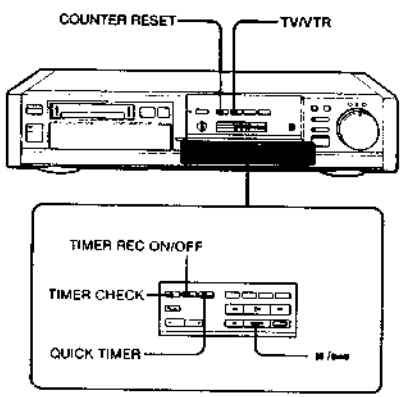
With the quick timer recording function, simple and rough timer recording can be made. The timer can be set to operate within 5 hours in units of 30 minutes.

Operation

If you are recording, skip steps 1 to 3.

1. **Press INPUT SELECT so that TUNER indicator is turned on.**
2. **Insert a cassette.**
3. **Press QUICK TIMER.**
   TIMER indicator lights in the display window.
4. **Select the desired programme position with PROG (PROGRAM) + / - while 0:00 and the programme position number are blinking in the display window.**
5. **Press QUICK TIMER again to start recording.**
6. **Press QUICK TIMER again to set the recording duration.**
   Press within 30 seconds from step 3, otherwise the power will be turned off. Each press of QUICK TIMER changes the indication in the display window in units of 30 minutes.
7. **The recording duration will decrease minute by minute until 0:00 when the VTR will be automatically turned off.**

Quick Timer Recording

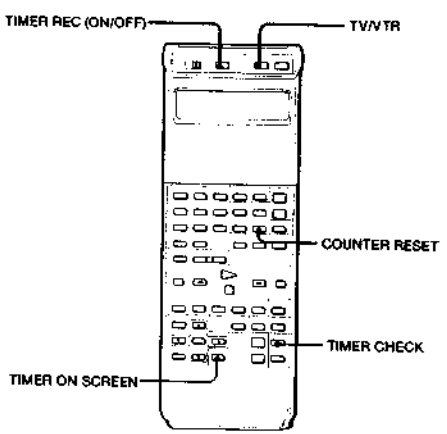


Buttons operable during quick timer recording

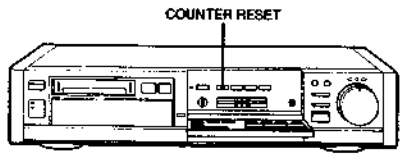
- ■ /●●● stops quick timer recording momentarily.
- **TIMER REC ON/OFF** stops timer recording.
- **QUICK TIMER** changes the recording duration.
- **TIMER ON SCREEN** displays the PROGRAM LIST.
- **TIMER CHECK** moves the cursor in the PROGRAM LIST or changes the programme number in the display window.
- **COUNTER RESET** resets the counter to zero.
- **TV/VTR** switches the screen to another programme received on the TV.

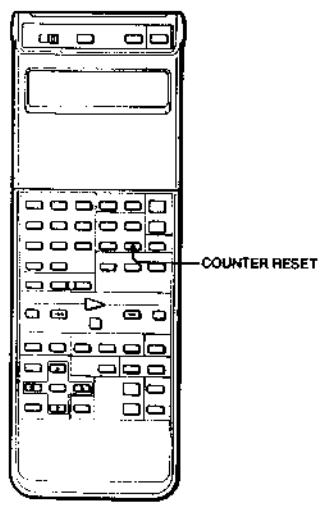
If power interruption occurs during quick timer recording
Recording will stop and the VTR will be turned off. If the power interruption lasted for less than one hour, and if the power recovered within the quick timer duration, recording will resume from that instant.

If the unit is in the time recording standby mode
Press TIMER REC ON/OFF to turn off the TIMER REC indicator, then press QUICK TIMER.



Use of the Tape Counter





AUTO MENU

PLAY-REW-POWER OFF
▶GO TO ZERO-STOP
GO TO ZERO-PLAY
REW-POWER OFF
REW-EJECT-POWER OFF
REW-PLAY
REW-TIMER REC

Understanding Counter Zero Position

The tape counter on this VTR can be used as a reference when you wish to locate a certain scene after recording or playback. Press COUNTER RESET to set the counter to "0H00M00S" (counter zero position) before operation.
The VTR will keep counting the length of tape being played back or recorded.

Tape Return

The VTR can search for the counter zero position and stop. This function is useful for locating a particular scene after recording or playback.

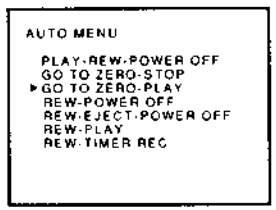
1 **Press COUNTER RESET at the desired scene during recording or playback.**

2 **Press ■ to stop after recording or playback.**

3 **Press MENU and select AUTO MENU.**
See "Assigning a Desired Operation Mode" (page 45) for operation.

4 **Move cursor to "GO TO ZERO – STOP."**

5 **Press EXECUTE.**



Tape Return Play

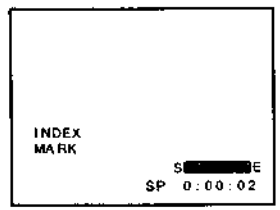
The VTR will even search and start playback from the counter zero position after recording or playback.

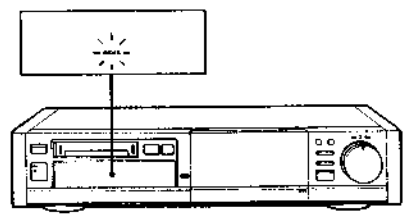
1 Repeat steps 1 to 3 in the "Tape Return" operation.

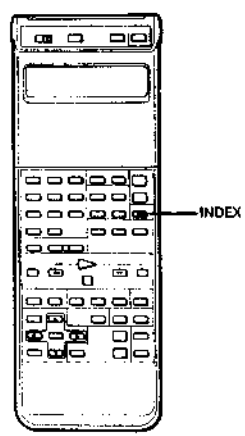
2 Move cursor to "GO TO ZERO — PLAY"

3 Press EXECUTE.

Notes
- The counter reading and the point on the tape may not correspond exactly. Use the counter as a reference.
- There will be a time lag of several seconds on the counter reading after repeated fast-forward or rewind operations.
- There will be a time lag of several seconds when a tape recorded in LP and SP mixed or a tape with blank portion between recordings is played back.
- If tape return or tape return play is operated within ±1 minute, it may take extra time to search for the 0H00M00S point.
- The tape will stop at the approximate "0H00M00S" point during tape return operation.







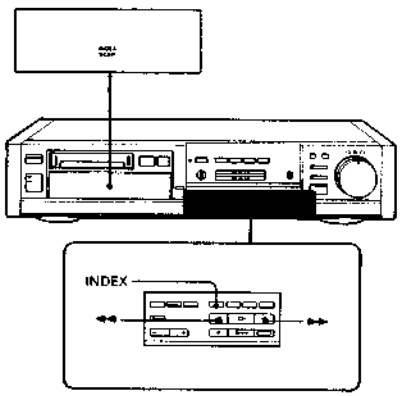
Marking Index Signals

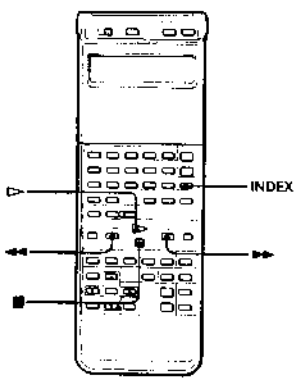
The desired position on a tape can be located easily by detecting the index signals. There are two ways in which to mark index signals, automatic and manual.
When the index signal is being marked, INDEX flashes in the display window and INDEX MARK lights on the TV screen.

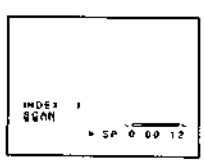
Automatic index mark
An index signal is automatically marked on the tape when the VTR starts recording.

Manual index mark
Index signals can be marked at desired scenes during recording or playback. Press INDEX MARK to mark an index.

Notes
- Leave an interval of more than 2 minutes between two index points so that the VTR can detect each INDEX signal accurately.
- The sound recorded on the tape will not be heard and a black bar appears at the bottom of the picture while the index signal is being marked during playback. However, the recorded signals are not affected.
- When the EDIT indicator is turned on in the display window, marking or erasing of index signals cannot be performed.
- Index signals cannot be marked on a tape whose safety tab is slid out.







To Scan the Index Points — INDEX SCAN

To scan the beginning of each index point while monitoring the picture

1 **Insert a cassette with index signals marked.**

2 **Press INDEX in the playback or playback pause mode.**

3 **Press ►► to advance and ◄◄ to go back to the next index.**
The tape will be scanned forward with ►► and scanned in reverse with ◄◄ to the next index point and will be played back for approximately 10 seconds.

4 **To continue playback, press ▷.**
When no button is pressed, the picture is automatically scanned to the next or previous index

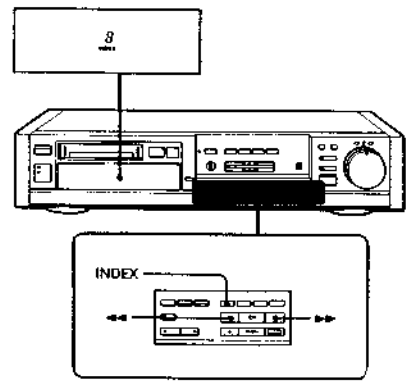
To scan the beginning of each index point without viewing the picture

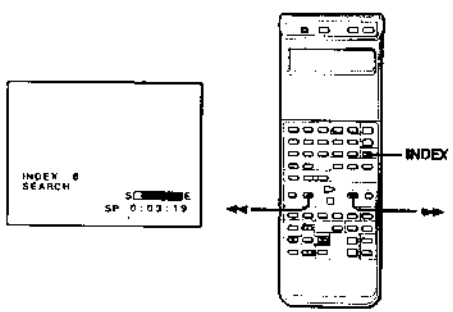
1 **Insert a cassette with index signals.**

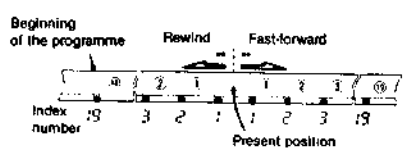
2 **Press INDEX in the stop mode.**

3 **Press ►► to advance and ◄◄ to go back to the next index.**
The tape will be advanced with ►► and rewound with ◄◄ to the index mark point without picture on the screen and then will be played back for approximately 10 seconds.

4 **Press ▷ to continue playback from that index point.**
When no button is pressed, the picture will be automatically scanned to the next or previous index







To Search for the Index Point — INDEX SEARCH

Direct search of the desired index point can be performed by assigning the number of how many indexes ahead or behind it is from the current tape position. Up to 19 indexes from the current position can be searched for.
The VTR counts down how many more indexes should be searched for and displays the number on the TV screen and in the display window.

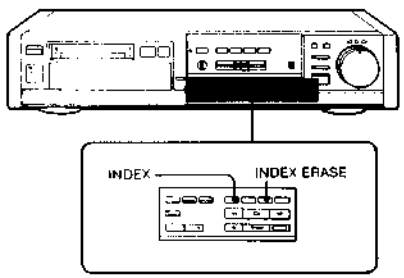
1 **Insert a cassette with index signals.**

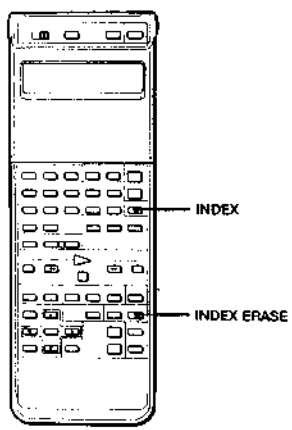
2 **Press INDEX in the stop or playback or playback pause mode.**

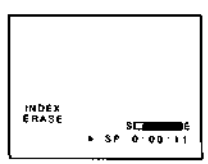
3 **Press INDEX again until the number of indexes that should be counted to reach the desired scene is displayed on the TV screen and the display window.**

4 **Press ◄◄ if the index is behind or ►► if the index is ahead of the current tape position.**
The VTR starts searching and the index number will be counted down to zero. Playback starts.

To correct the index number
Press ■ and repeat steps 2 to 4 above.







Erasing an Index

The index marked on the tape can be erased.

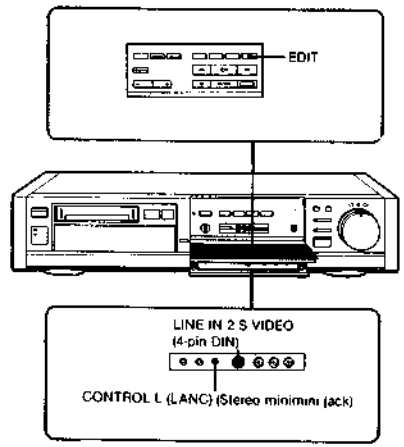
1 **Insert a cassette with index signals.**

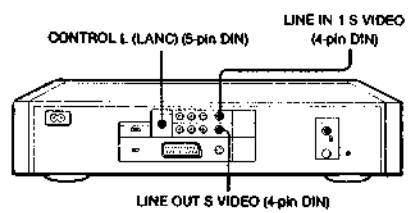
2 **Locate the index to be erased by index scan or index search.**

3 **Within approximately 10 seconds, while the tape is being played back, press INDEX ERASE.**
When the index signal is erased during index scan mode, index scan will resume.
When the index signal is erased during index search mode, normal playback will begin.

Notes

- Press INDEX ERASE more than 2 seconds after the playback starts.
- If the safety tab on the cassette is slid out, the index signal cannot be erased.
- While an index signal is being erased, the original sound recorded on the tape cannot be heard and a black bar appears at the bottom of the playback picture. However, recorded signals are not affected.
- When the EDIT indicator is turned on in the display window, marking or erasing of index signals cannot be performed.
- The index signals marked by a VTR such as the EV-S850 series can be detected with this unit but cannot be erased. The index signals marked by this unit can be detected with a VTR such as the EV-S850 series but cannot be erased.
- When the audio is dubbed in the portion where an index was marked, the index signal may be erased.





You can create your own video programme by editing with other VTRs. Take a look at the following examples to expand your pleasure in video operation.

Use of the EDIT mode

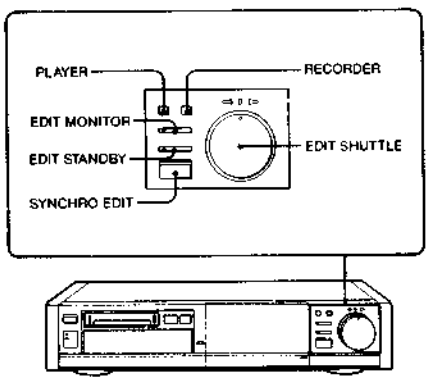
The EDIT mode activated by the EDIT button on the unit enables playback of a higher quality picture during editing. If your other VTR is equipped with this function, turn it on. However, note that even when using the EDIT mode during editing, the quality of the edited tape will have a certain extent of degradation in picture and sound. Avoid using the edited tape for multiple generations of editing.

Use of the CONTROL L (LANC) connector

If your second VTR is equipped with a Sony control terminal LANC CONTROL L connector (stereo minimini jack or 5-pin DIN type), synchronized editing can be performed. The second VTR can be remotely controlled with this VTR by using the editing section on the front panel. Refer to the following example for the actual settings and operation to perform synchronized editing.

Use of the S VIDEO jacks

Check whether your second VTR is equipped with S VIDEO input or output jacks. Use of the S VIDEO jacks will result in higher quality edited picture.



Useful Functions during Synchronized Editing

EDIT SHUTTLE
Enables quick access to the desired scene, both on the recorder and the player.

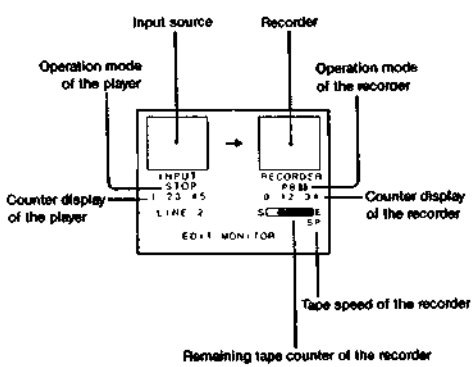
PLAYER/RECORDER buttons and indicator
Turns on to indicate which VTR should be controlled by the EDIT SHUTTLE.

EDIT MONITOR button
Displays the picture of the recorder as well as the input source on the screen.

EDIT STANDBY button
Automatically displays the EDIT MONITOR screen with the recorder in the recording pause mode and the player in the playback pause mode. LINE IN 2 will be automatically be selected as the input source.

Note
When controlling the other VTR with the EDIT SHUTTLE, turn the EDIT SHUTTLE slowly not to go past the desired tape speed position.

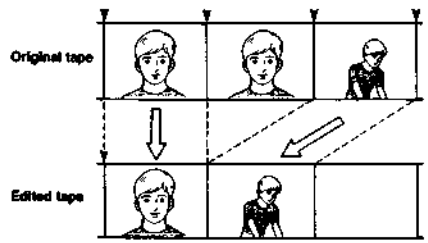
EDIT MONITOR Display during Editing



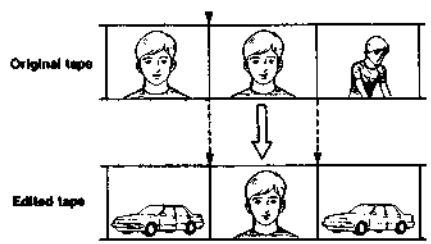
Notes
- The cable with an * (asterisk) is optional.
- The ⇨ mark indicates the signal flow.

Various Tape Editing Methods

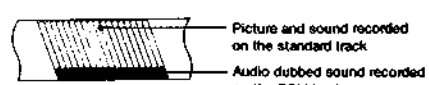
Various methods for easy and accurate tape editing are available with the VTR. Select the method according to your purpose and to the video/audio equipment you are using.



Assemble Editing
Only the desired portions of an original tape can be edited onto another tape, one portion at a time.



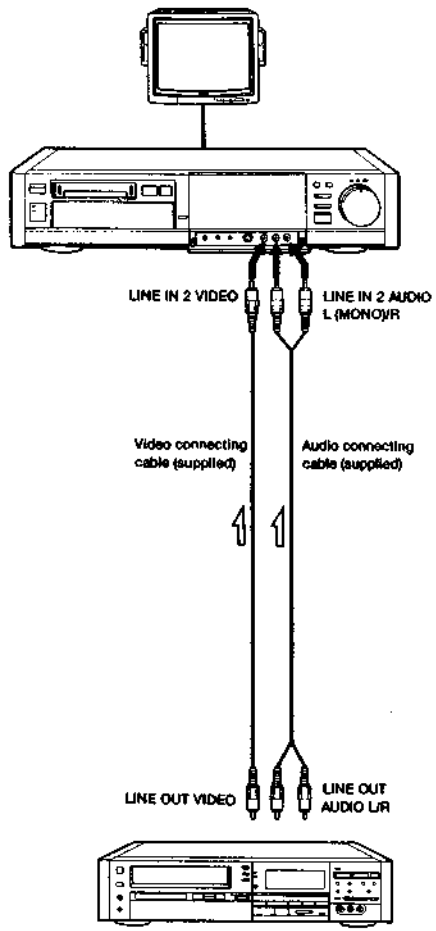
Insert Editing
A prerecorded portion of a tape can be replaced with a new scene. Decide the start point and the end point on the recording VTR.



Audio dubbing
The sound recorded on the PCM audio track can be replaced with a new sound without changing the picture and sound recorded on the standard track.

Notes
- The picture may be distorted at the end point of an insert editing.
- Playback in various speeds may be distorted when edited from or onto another VTR.

Editing Method	P: player R: recorder	Page
Basic Editing	P: VTR R: This VTR	79
	P: This VTR R: VTR	80
Assemble Editing (Using the Synchronized Editing Function)	P: 8 mm camera recorder with REMOTE (stereo minimini) jack R: This VTR	81
	P: 8 mm or VHS VTRs with a CONTROL L (LANC) (5-pin DIN) connector R: This VTR	84
Insert Editing (Using the Synchronized Editing Function)	P: 8 mm camera recorder with REMOTE (stereo minimini) jack R: This VTR	87
Manual Assemble Editing	P: VTR R: This VTR	90
Manual Insert Editing	P: VTR R: This VTR	92
Audio Dubbing	P: a) Audio system b) Microphone R: This VTR	94



(1) Editing a Tape from Another VTR

Connection

- Make connections referring to the illustration.
- If the other VTR is equipped with an S VIDEO output connector, make the connection.
- If the other VTR is a monaural type, connect the white plug to the other VTR's audio output jack and the white plug on the other end to the LINE IN 2 AUDIO L (MONO) jack of this VTR.

Preparation

On the other VTR = player

- Activate the EDIT mode if it is equipped.

On this VTR = recorder

- Select the line input that the player is connected to with INPUT SELECT.
- Select the recording mode SP or LP with REC MODE.
- Adjust the recording level with REC LEVEL (page 52).

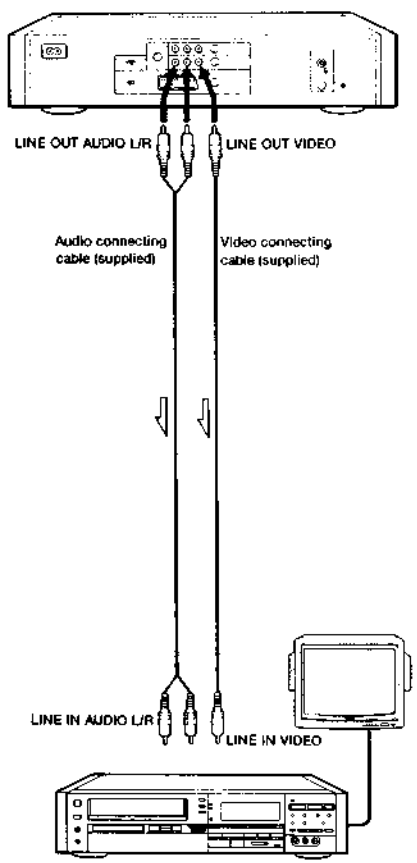
Operation

1 **Turn on the power to both units.**

2 **Insert a source tape into the player. Insert a tape for recording into the recorder.**

3 **Playback with the player and record with the recorder.**

Note
Avoid making both the VIDEO and S VIDEO connection at the same time.



(2) Editing a Tape to Another VTR

Connection

- Make connections referring to the illustration.
- If the other VTR is equipped with an S VIDEO input connector, make the connection.
- If the other VTR is a monaural type, make connections with the optional RK-C71 audio connecting cable.

Preparation

On this VTR = player

- Set AUDIO MONITOR to the appropriate position referring to "Selecting the Monitor Sound" page 36.
- Activate the EDIT mode.

On the other VTR = recorder

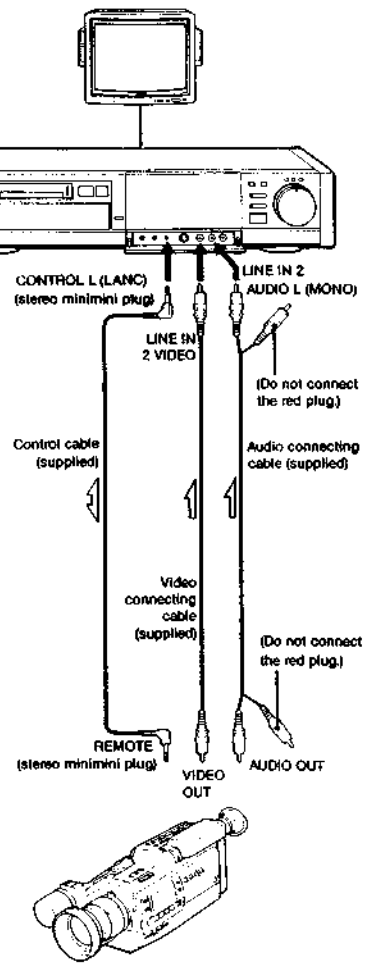
- Select the line input that the player is connected to.
- Activate the EDIT mode if it is equipped.

Operation

1 Turn on the power to both units.

2 Insert a source tape into the player. Insert a tape for recording into the recorder.

3 Playback with the player and record with the recorder.



(1) Editing a Tape from a 6 mm Camera Recorder

Connection

- Make connections referring to the illustration.
- If the camera recorder is equipped with an S VIDEO output connector, make the connection.
- If the other VTR is a monaural type, connect the white plug to the other VTR's audio output jack and the white plug on the other end to the LINE IN 2 AUDIO L (MONO) jack of this VTR.

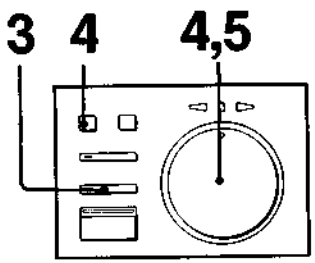
Preparation

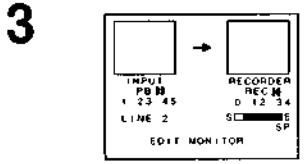
On the other VTR = player

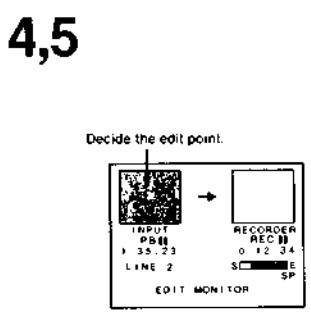
- Activate the EDIT mode if it is available.
- Select LANC MODE S or the equivalent if selection is available.

On this VTR = recorder

- Select LANC MODE M in the MODE SET menu (page 30).
- Select the recording mode SP or LP with REC MODE.
- Adjust the recording level with REC LEVEL (page 52).
- Check the other VTR and select SHUTTLE MODE A or B in the MODE SET menu (page 30).







Operation

1 **Turn on the power to both units.**

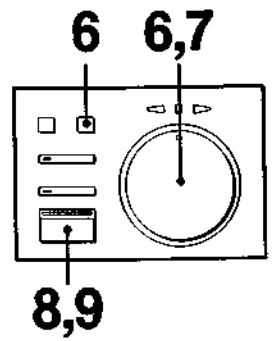
2 **Insert a source tape into the player. Insert a tape for recording into the recorder.**

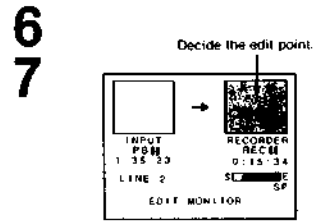
3 **Press EDIT STANDBY on the recorder.**
The EDIT MONITOR screen will be displayed.
LINE IN 2 will automatically be selected for the player.
The PLAYER control button will be turned on.
The recorder enters the recording pause mode.
The player enters the playback pause mode.

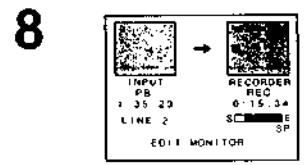
4 **Check that the PLAYER control button is turned on and turn the EDIT SHUTTLE to locate the start point of the player.**
The available playback speeds are: REVIEW, PB ■ (when EDIT SHUTTLE is released), × 1/5 (slow forward), PB (normal speed forward), and CUE.

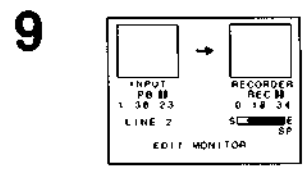
Note
× 1/5 speed playback on the other VTR is controllable if × 1/5 speed playback is available on the other VTR.

5 **Release the EDIT SHUTTLE when the desired point is found.**
The player enters the playback pause mode.









6 **Press RECORDER control button to turn it on and turn the EDIT SHUTTLE to locate the start point of the recorder.**
The available playback speeds are: REVIEW, – × 1 (normal speed reverse), REC ■ (when the EDIT SHUTTLE is released), × 1/5 (slow forward), × 1 (normal speed forward), and CUE.

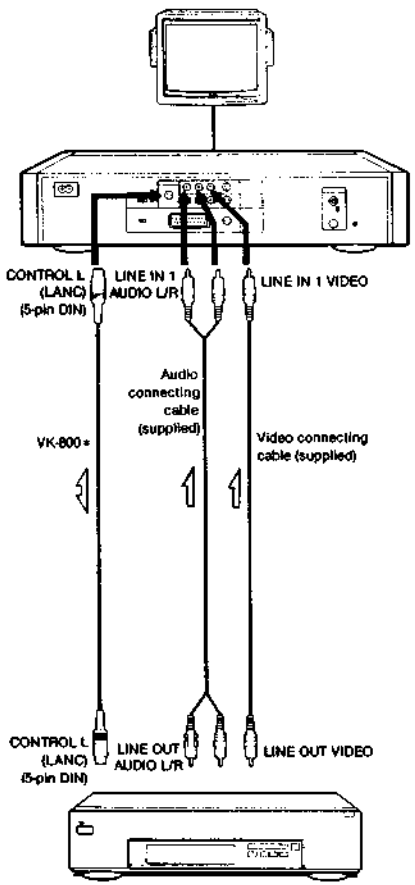
7 **Release the EDIT SHUTTLE when the desired point is found.**
The recorder enters the recording pause mode.

8 **Press SYNCHRO EDIT.**
The player will start playback and the recorder starts recording.

9 **Press SYNCHRO EDIT at the edit end point.**
The player will enter the playback pause mode and the recorder enters the recording pause mode.

To edit more scenes
Repeat steps **4** to **9**.

When editing is completed
Press EDIT STANDBY. Both units will stop and the EDIT MONITOR display will return to the TV programme screen.



(2) Editing a Tape from a 8 mm or VHS VTR

Connection

- Make connections referring to the illustration.
- If the other VTR is equipped with an S VIDEO output connector, make the connection.
- If the player is a monaural type, make connections with the optional RK-C71 audio connecting cable.

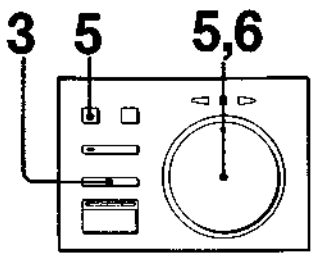
Preparation

On the other VTR = player

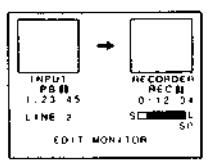
- Activate the EDIT mode if it is available.
- Select LANC MODE S or the equivalent if selection is available.

On this VTR = recorder

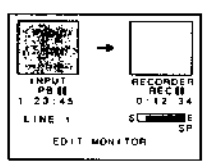
- Select LANC MODE M in the MODE SET menu (page 30).
- Select the recording mode SP or LP with REC MODE
- Adjust the recording level with REC LEVEL (page 52).
- Check the other VTR and select SHUTTLE MODE A or B in the MODE SET menu (page 30).



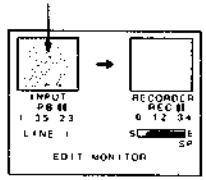
3



4



5
6 Decide the edit point.



Operation

1 **Turn on the power to both units.**

2 **Insert a source tape into the player. Insert a tape for recording into the recorder.**

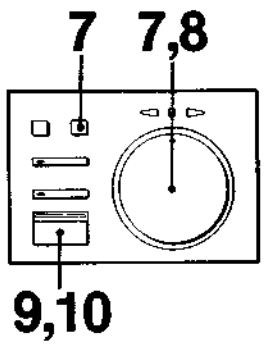
3 **Press EDIT STANDBY on the recorder.**
The EDIT MONITOR screen will be displayed.
The PLAYER control button will be turned on
The recorder enters the recording pause mode.
The player enters the playback pause mode

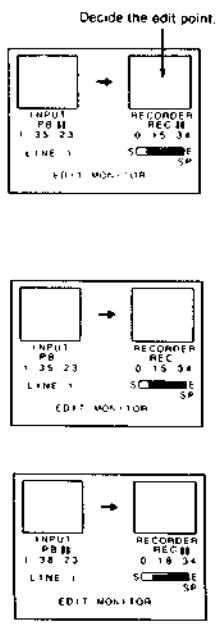
4 **Press INPUT SELECT to change the input source display from LINE 2 to LINE 1.**

5 **Check that the PLAYER control button is turned on and turn the EDIT SHUTTLE to locate the start point of the player.**
The available playback speeds are: REVIEW, PB ⏮ (when EDIT SHUTTLE is released), × 1/5 (slow forward), PB (normal speed forward), and CUE

Note
× 1/5 speed playback on the other VTR is controllable if × 1/5 speed playback is available on the other VTR

6 **Release the EDIT SHUTTLE when the desired point is found.**
The player enters the playback pause mode.





7 **Press RECORDER control button to turn it on and turn the EDIT SHUTTLE to locate the start point of the recorder.**
The available playback speeds are: REVIEW, – x 1 (normal speed reverse), REC II (when the EDIT SHUTTLE is released), x 1/5 (slow forward), x 1 (normal speed forward), and CUE.

8 **Release the EDIT SHUTTLE when the desired point is found.**
The recorder enters the recording pause mode.

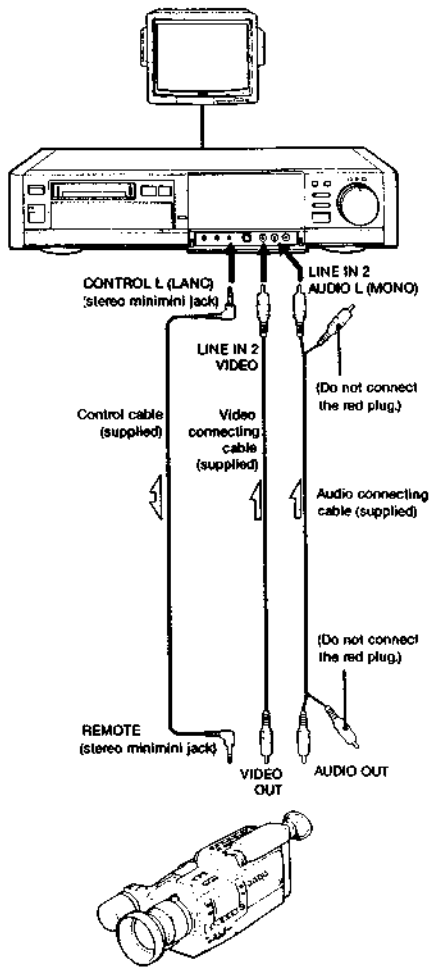
9 **Press SYNCHRO EDIT.**
The player will start playback and the recorder starts recording.

10 **Press SYNCHRO EDIT at the edit end point.**
The player will enter the playback pause mode and the recorder enters the recording pause mode.

To edit more scenes
Repeat steps 4 to 10.

When editing is completed
Press EDIT STANDBY.
Both units will stop and the EDIT MONITOR display will return to the TV programme screen.

To connect the player to LINE IN 2
Use the optional VK-810 connecting cable (5-pin DIN to stereo minimini jack) for the CONTROL L LANC connection. The operation will be the same as that in "(1) Editing a Tape from a 8 mm Camera Recorder."



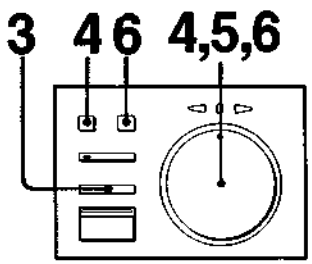
(1) Inserting Scenes from a 8 mm Camera Recorder

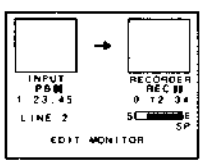
Connection
- Make connections referring to the illustration.
- If the camera recorder is equipped with an S VIDEO output connector, make the connection.
- If the other VTR is a monaural type, connect the white plug to the other VTR's audio output jack and the white plug on the other end to the LINE IN 2 AUDIO L (MONO) jack of this VTR.

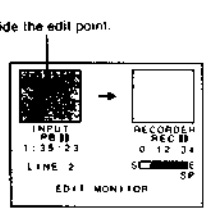
Preparation

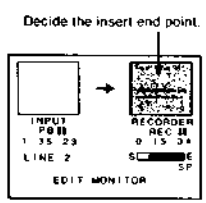
On the other VTR = player
- Activate the EDIT mode if it is available.
- Select LANC MODE S or the equivalent if selection is available.

On this VTR = recorder
- Select LANC MODE M in the "MODE SET menu" (page 30).
- Select the recording mode SP or LP with REC MODE.
- Adjust the recording level with REC LEVEL (page 52).
- Check the other VTR and select SHUTTLE MODE A or B in the MODE SET menu (page 30).









Operation

1 **Turn on the power to both units.**

2 **Insert a source tape into the player. Insert a tape for recording into the recorder.**

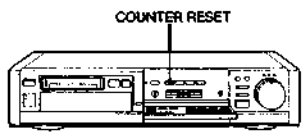
3 **Press EDIT STANDBY on the recorder.**
The EDIT MONITOR screen will be displayed. LINE 2 will automatically be selected for the player. The PLAYER control button will be turned on. The recorder enters the recording pause mode. The player enters the playback pause mode.

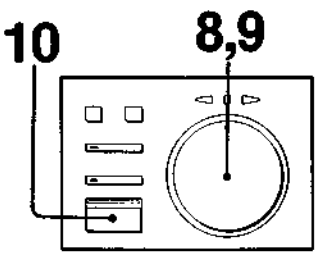
4 **Check that the PLAYER control button is turned on and turn the EDIT SHUTTLE to locate the start point of the player.**
The available playback speeds are; REVIEW, PB II (when EDIT SHUTTLE is released), × 1/5 (slow forward), PB (normal speed forward), and CUE.

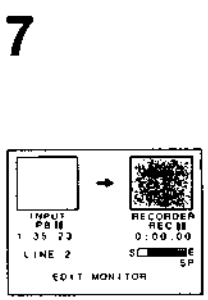
Note
× 1/5 speed playback on the other VTR is controllable if × 1/5 speed playback is available on the other VTR.

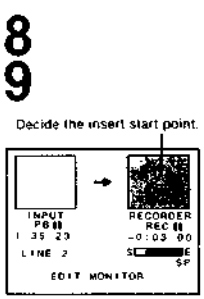
5 **Release the EDIT SHUTTLE when the desired point is found.**
The player enters the playback pause mode.

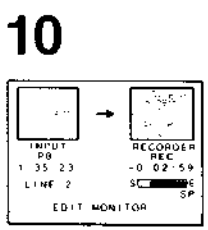
6 **Press RECORDER control button to turn it on and turn the EDIT SHUTTLE to locate where insertion should end.**
The available playback speeds are; REVIEW, × 1 (normal speed reverse), REC II (when the EDIT SHUTTLE is released), × 1/5 (slow forward), × 1 (normal speed forward), and CUE.

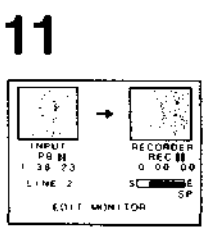












7 **Press COUNTER RESET.**
The tape counter for the recorder will be 0H00M00S.

8 **Turn the EDIT SHUTTLE to rewind the tape to locate where the insertion should start on the recorder.**

9 **Release the EDIT SHUTTLE when the desired point is found.**
The recorder enters the recording pause mode.

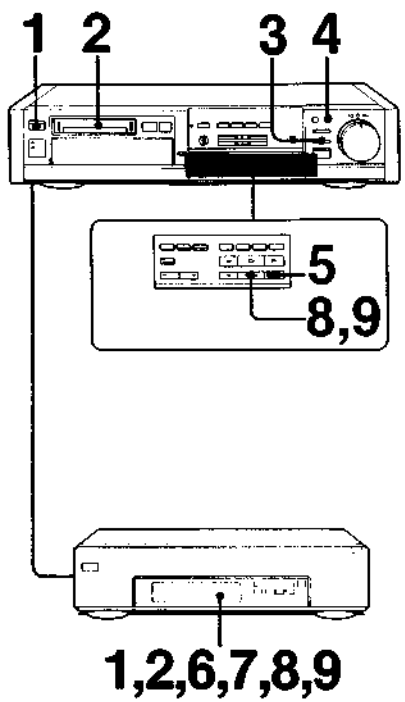
10 **Press SYNCHRO EDIT.**
The player will start playback and the recorder starts recording.

11 **Recording will stop when the counter reaches zero.**
The player will enter the playback pause mode and the recorder enters the recording pause mode.

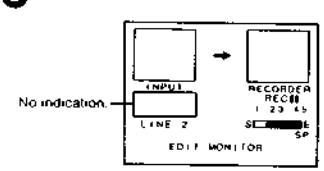
To edit more scenes
Repeat steps 4 to 11.

When editing is completed
Press EDIT STANDBY.
Both units will stop and the EDIT MONITOR display will return to the TV programme screen.

Note during synchronized editing
COUNTER RESET will not function.



3



(1) Editing a Tape from Another VTR

Connection

- Make connections referring to the illustration in "Basic Editing (1) Editing a Tape from Another VTR" (page 79)

Preparation

On the other VTR = player
- Activate the EDIT mode if it is available.

On this VTR = recorder
- Select the recording mode SP or LP with REC MODE.
- Adjust the recording level with REC LEVEL (page 52).
- Select the line input that the player is connected to with INPUT SELECT.

Operation

1 **Turn on the power to both units.**

2 **Insert a source tape into the player. Insert a tape for recording into the recorder.**

3 **Press EDIT MONITOR on the recorder.**
The EDIT MONITOR screen will be displayed.

4 **Press RECORDER control button to turn it on and turn the EDIT SHUTTLE to locate the recording start point of the recorder.**
Releasing the EDIT SHUTTLE makes the recorder enter the playback pause mode.

5 **Press ● REC to make the recorder enter the recording pause mode.**

6 **Playback the player using the controls on the player and locate the playback start point.**

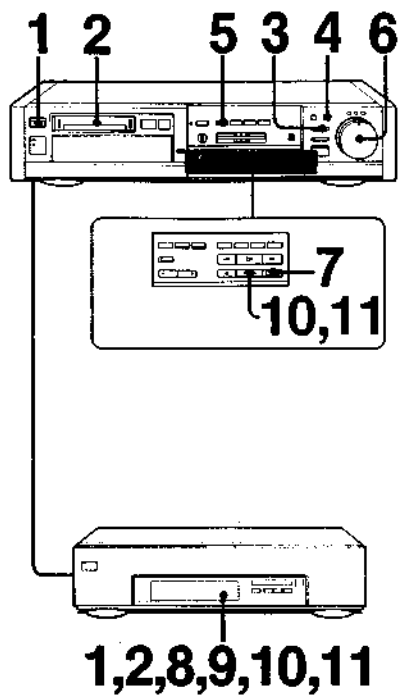
7 **Set the player in the playback pause mode.**

8 **Release the pause mode on both VTRs simultaneously.**
The player starts playback and the recorder starts recording.

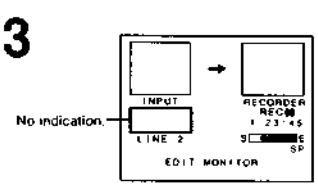
9 **To stop recording, press ■ PAUSE on the recorder and then the player.**

To edit more scenes
Repeat steps 4 to 9.

When editing is completed
Stop both VTRs.



3



(1) Editing a Tape from Another VTR

Connection

- Make connections referring to the illustrations in "Basic Editing (1) Editing a Tape from Another VTR" (page 79)

Preparation

On the other VTR = player
- Activate the EDIT mode if it is available.

On this VTR = recorder
- Select the recording mode SP or LP with REC MODE.
- Adjust the recording level with REC LEVEL (page 52).
- Select the line input that the player is connected to with INPUT SELECT.

Operation

1 **Turn on the power to both units.**

2 **Insert a source tape into the player. Insert a tape for recording into the recorder.**

3 **Press EDIT MONITOR on the recorder.**
The EDIT MONITOR screen will be displayed.

4 **Press RECORDER control button to turn it on and turn the EDIT SHUTTLE to locate where the insertion should end.**

5 **Press COUNTER RESET.**
The tape counter for the recorder will be 0H00M00S.

6 **Turn the EDIT SHUTTLE to rewind the tape to locate where the insertion should start on the recorder.**
Releasing the EDIT SHUTTLE makes the recorder enter the playback pause mode.

7 **Press ● REC to set the recorder in the recording pause mode.**

8 **Playback the player using the controls on the player and locate the playback start point.**

9 **Set the player in the playback pause mode.**

10 **Release the pause mode on both VTRs simultaneously.**
The player starts playback and the recorder starts recording.

11 **Set the recorder in the recording pause mode when the counter reaches zero. Set the player in the playback pause mode.**

To edit more scenes
Repeat steps 4 to 11

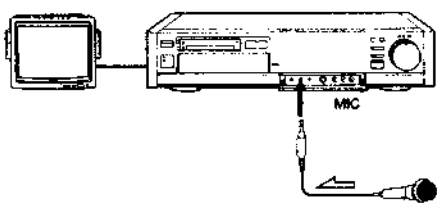
When editing is completed
Stop both VTRs.

Audio Dubbing

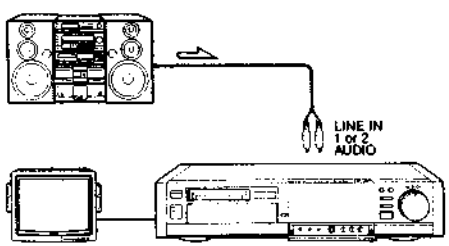
You can additionally record music or narration on a pre-recorded tape while watching the playback picture of the tape. Audio dubbed sound will be recorded on the PCM track.

Connection

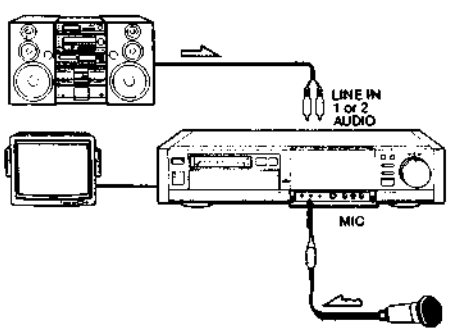
To dub the sound from the microphone



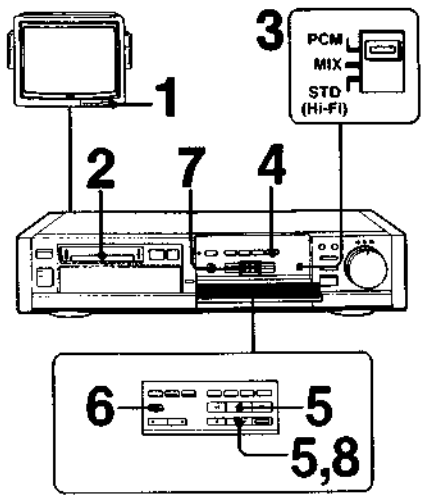
To dub to sound from the audio system

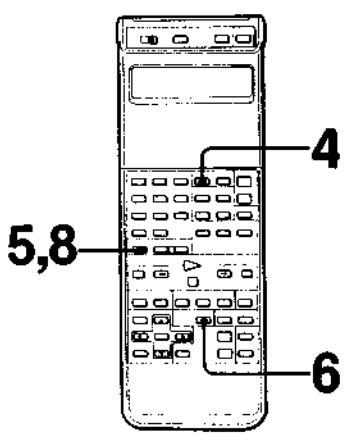


To dub the sound from both the microphone and the audio system



Note
A plug-in power microphone cannot be used with this VTR.





Operation

1 Turn on the TV and select the input for the VTR or select the programme position for the VTR.

2 Insert a cassette.
The power will automatically be turned on.

3 Set the AUDIO MONITOR switch to PCM or MIX.

4 When dubbing the sound from the audio system, select the line input that the audio system is connected to by pressing INPUT SELECT.

5 Playback the tape to locate the point where the audio dubbing should start and press PAUSE/STILL ⏸/⏭ or ⏸ PAUSE.

6 Press AUDIO DUB.
The AUDIO DUB indicator on the VTR will turn on.

7 Playback the audio sources and adjust the REC LEVEL.

8 Press PAUSE/STILL ⏸/⏭ or ⏸ PAUSE again to release the playback pause mode.
Audio dubbing will start.

To stop audio dubbing momentarily
Press PAUSE/STILL ⏸/⏭ or ⏸ PAUSE.

To stop audio dubbing
Press ■ STOP.

To dub the sound from a TV programme
Press INPUT SELECT to display TUNER indicator and select the desired programme position. Then proceed with steps 2 to 5.

Notes
- During dubbing, a black band or picture noise appears in the center and lower portions of the screen, but the recorded picture will not be affected.
- The audio dubbed sound cannot be played back on a VTR or a video camera recorder without the PCM recording/playback function.

SECTION 3
DISASSEMBLY

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

3-1. REMOVAL OF FRONT PANEL, CASE UPPER, PLATE BOTTOM

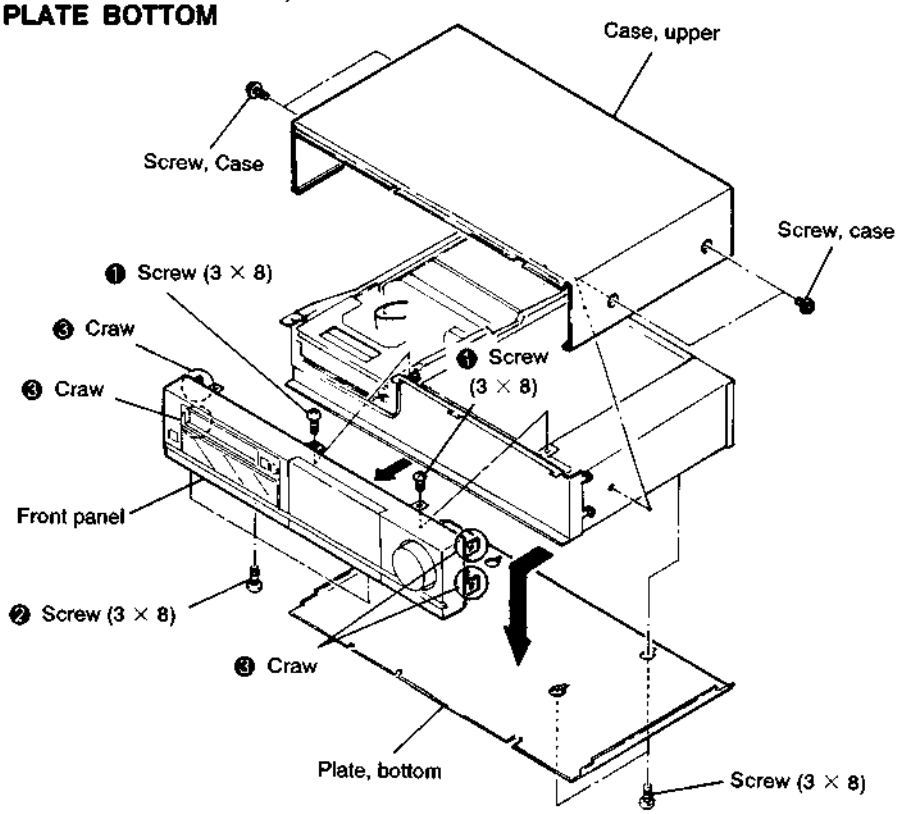


Fig. 3-1.

3-2. REMOVAL OF VI-65, PC-39, YC-64, FR-41, FJ-2 BOARDS

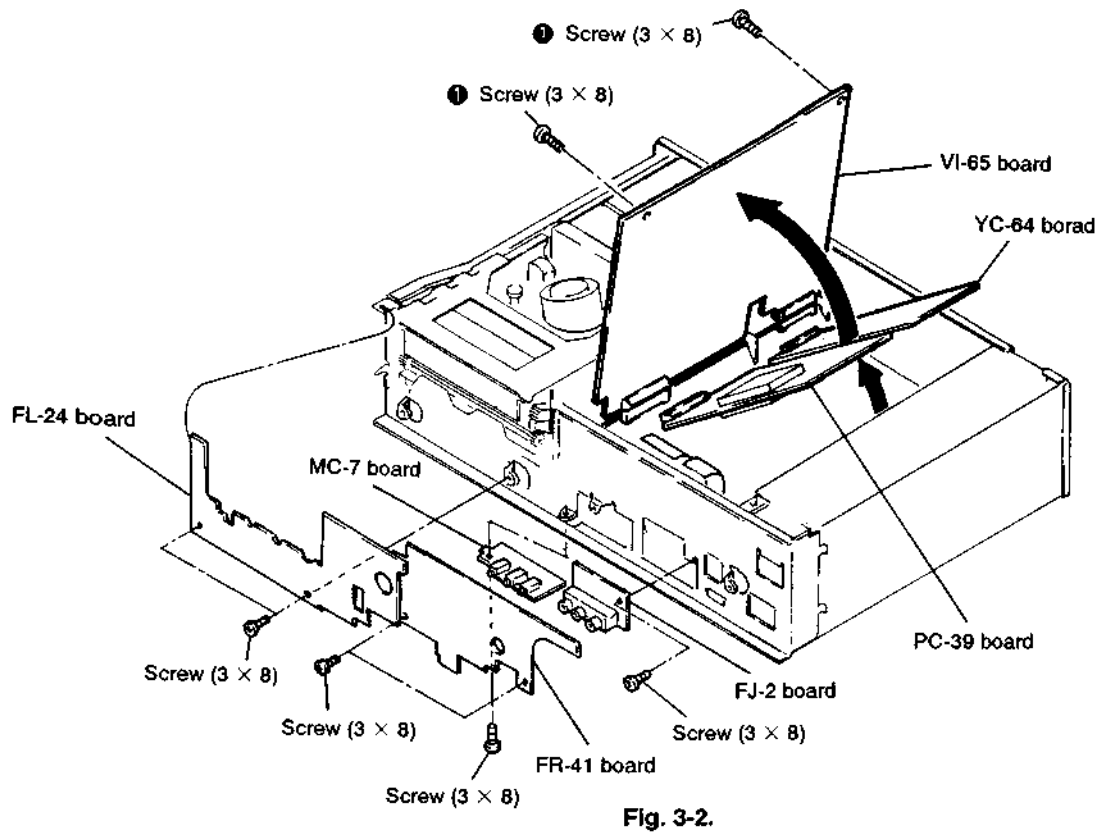


Fig. 3-2.

3-3. REMOVING BOARDS CONNECTED BY A BOARD-TO-BOARD CONNECTOR

Example: Removing the VI-65 board from the IN-24 board.

1) Stand the VI-65 board as shown in Fig. 3-3. Ⓐ.
2) As shown in Fig. 3-3. Ⓑ, pull out the VI-65 board at a 20° angle from the IN-24 board.
3) Remove the PC-39 board, YC-64 board or other board in the same way.
4) To reinstall the board, align the connectors as shown in Fig. 3-3. Ⓒ, then insert the board.

Note: Pulling out the board forcefully may damage the connector or pattern. Therefore use care when removing the board.

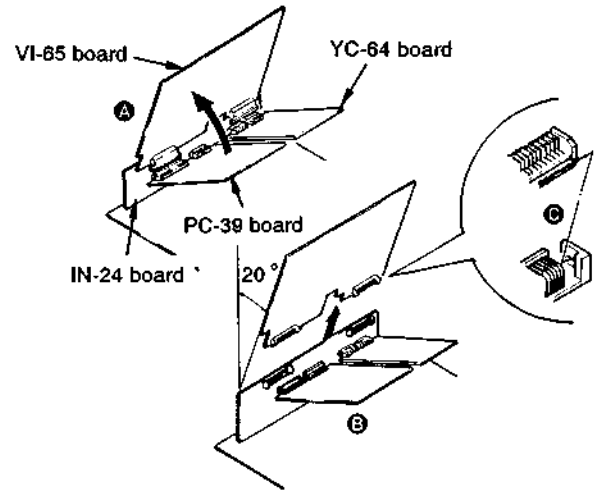


Fig. 3-3.

3-4. REMOVAL OF DS-35, TU-100, RP-74, IN-24, CM-15, PS-196 BOARDS

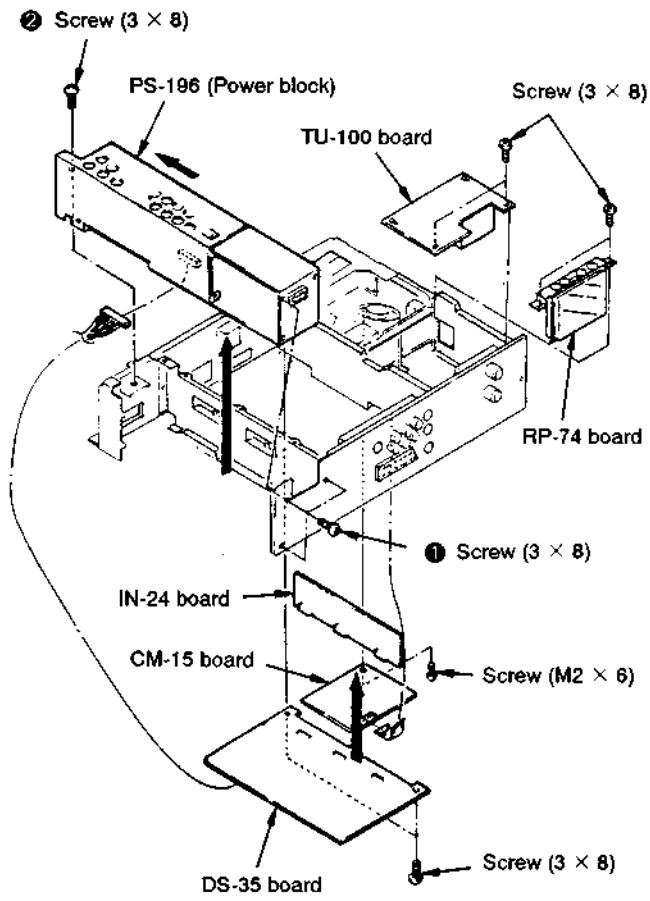


Fig. 3-4.

3-5. REMOVAL OF CC-26 BOARD

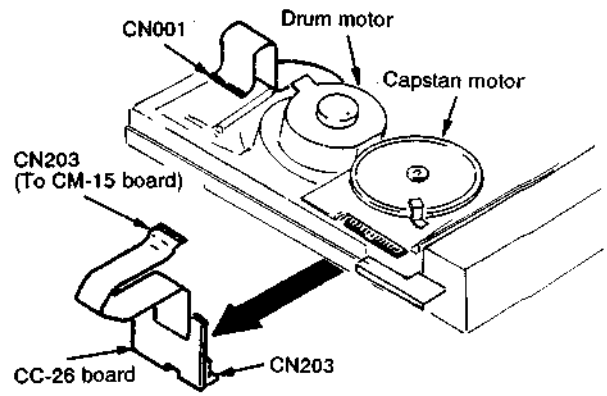


Fig. 3-5.

3-6. REMOVAL OF CM-15, UC-4 BOARDS

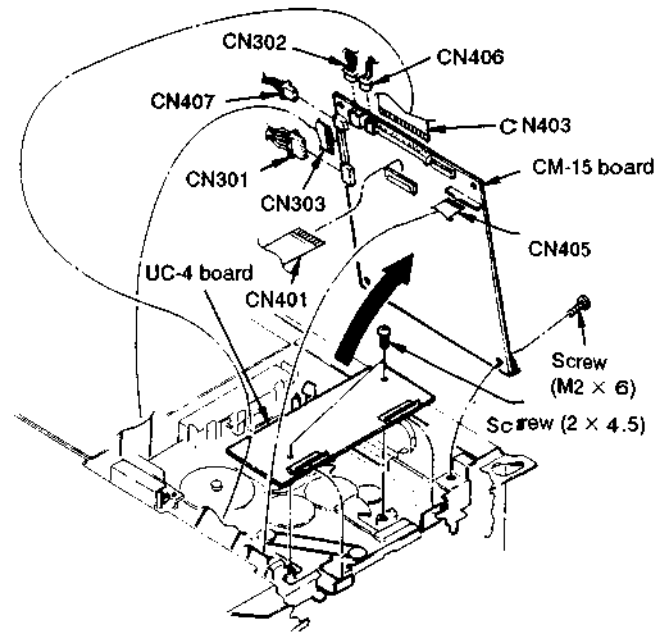


Fig. 3-6.

3-7. REMOVAL OF RJ-5, RJ-6 AND REAR FRAME, RF MODULATOR

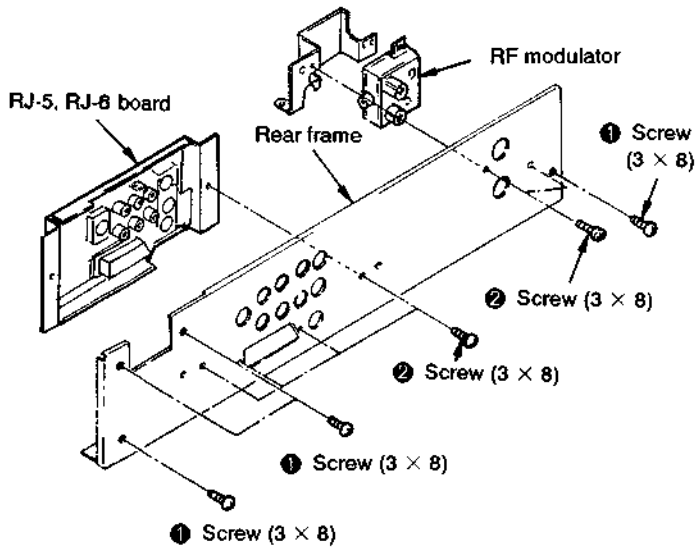


Fig. 3-7.

3-8. REMOVAL OF MD, CASSETTE COMPARTMENT BLOCK

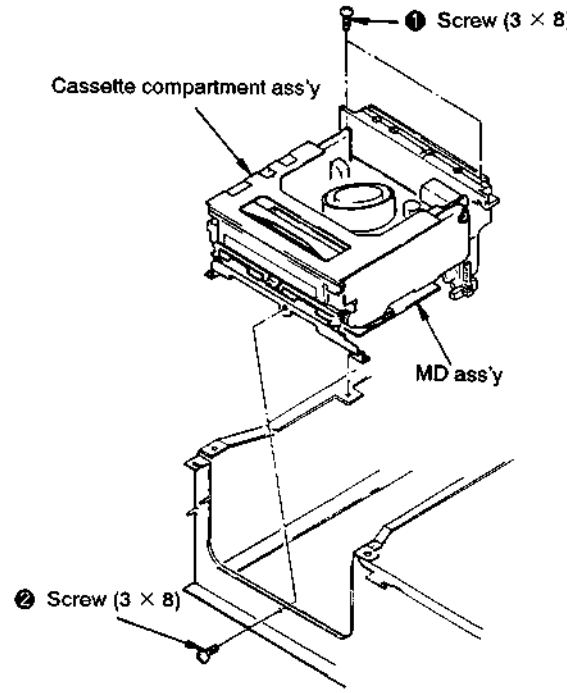


Fig. 3-8.

3-9. REMOVAL OF MD SECTION

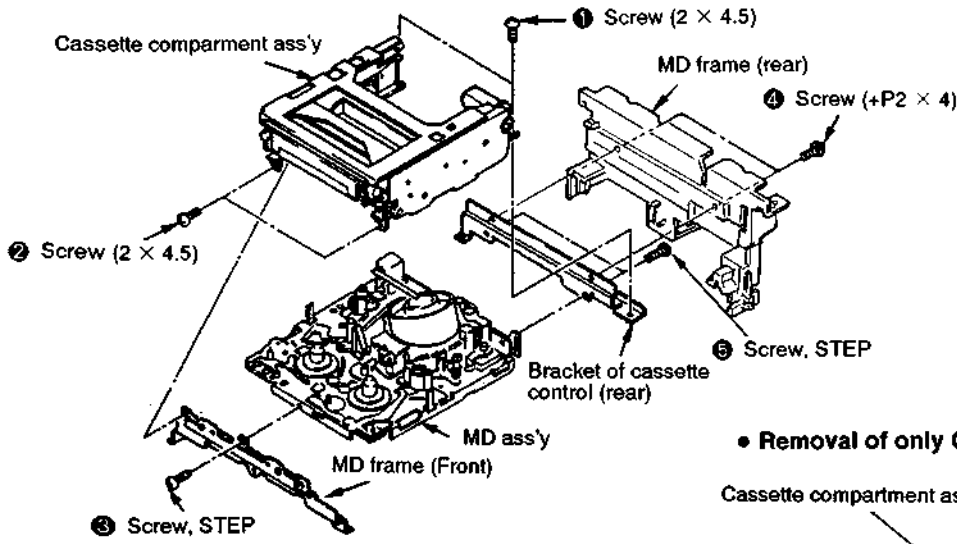
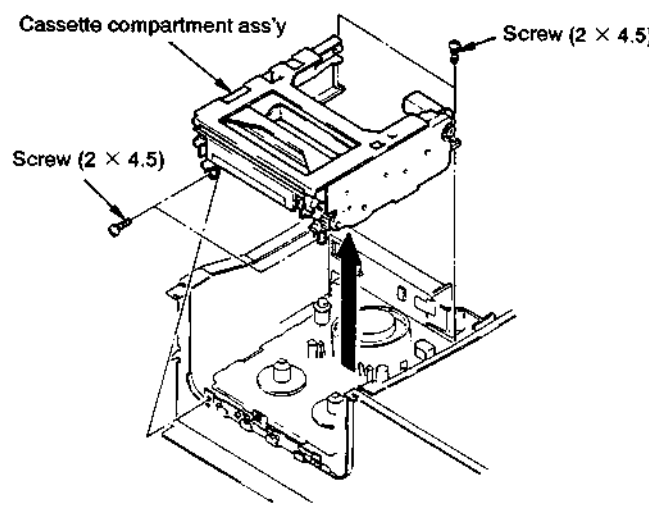


Fig. 3-9.

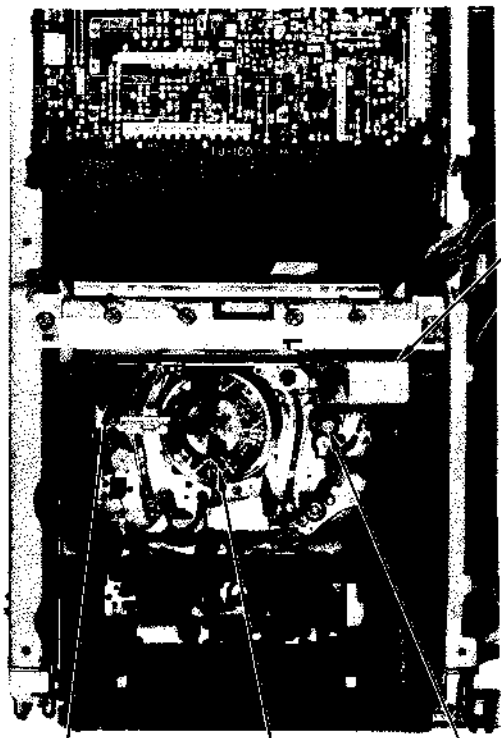
- Notes for cassette compartment ass'y installation.
- For the installation procedure, see page 8.

• Removal of only Cassette Compartment Assy

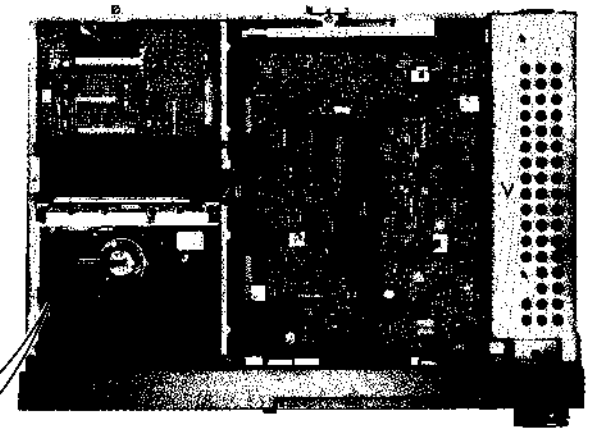


3-10. INTERNAL VIEWS

– Upper Side –



X-3731-108-1
FRONT Loading
motor



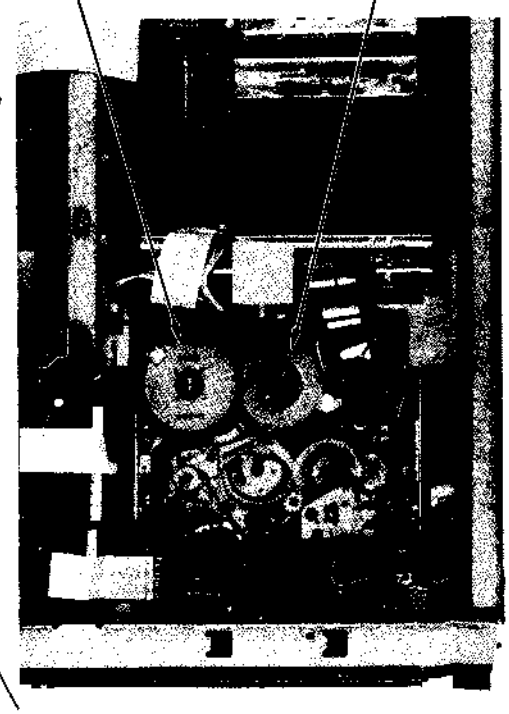
Threading motor
A-7040-160-A

Drum
Drum Ass'y (DGU-58A-R)
A-7048-339-A
Upper Drum Ass'y (DGR-58-R)
A-7049-293-A

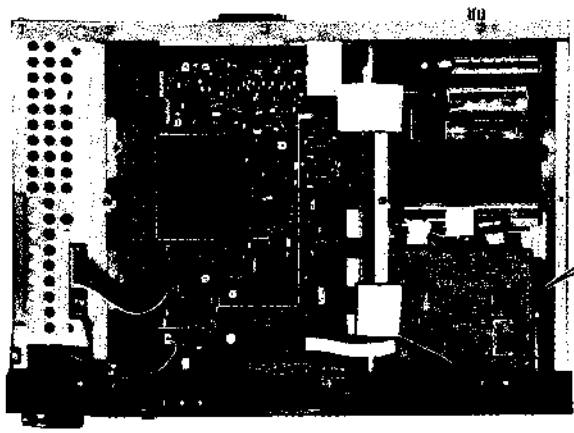
Capstan

8-835-331-01
Capstan motor

Drum motor

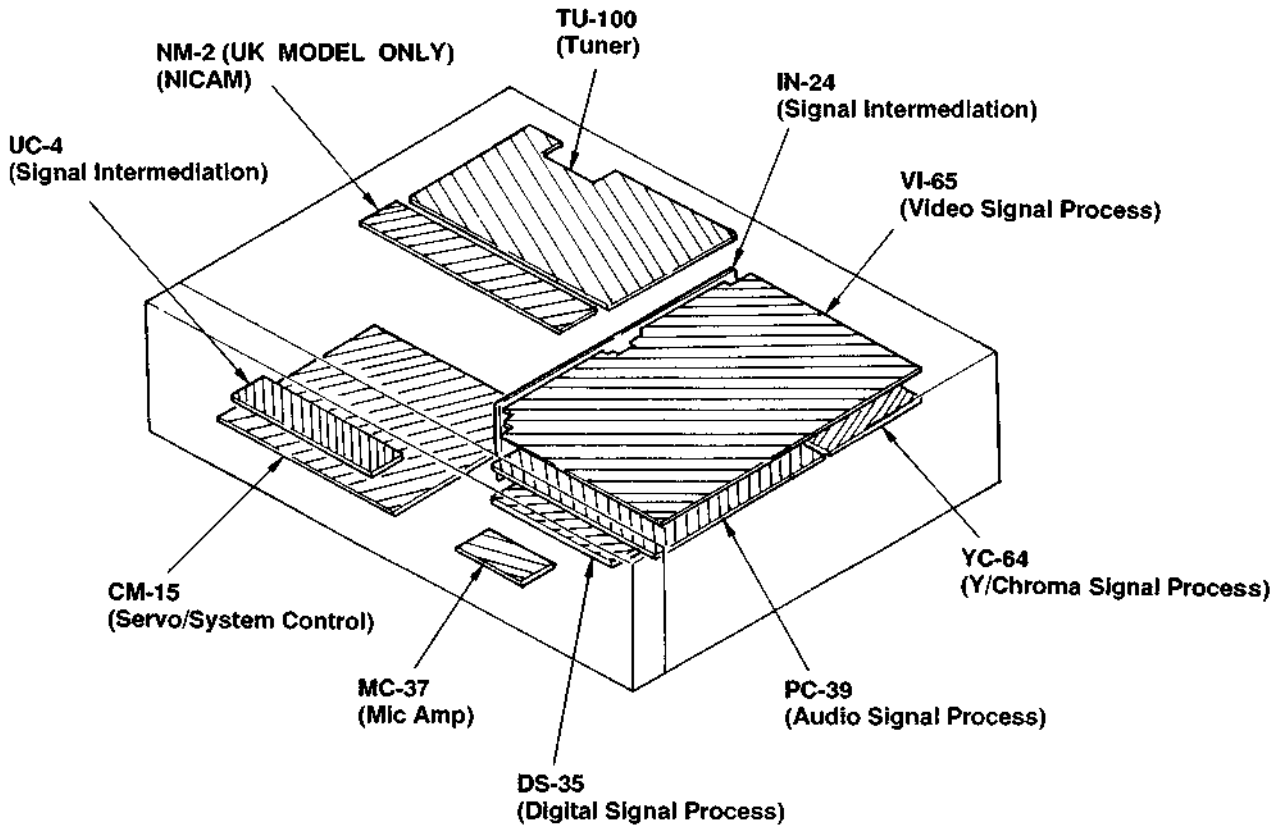


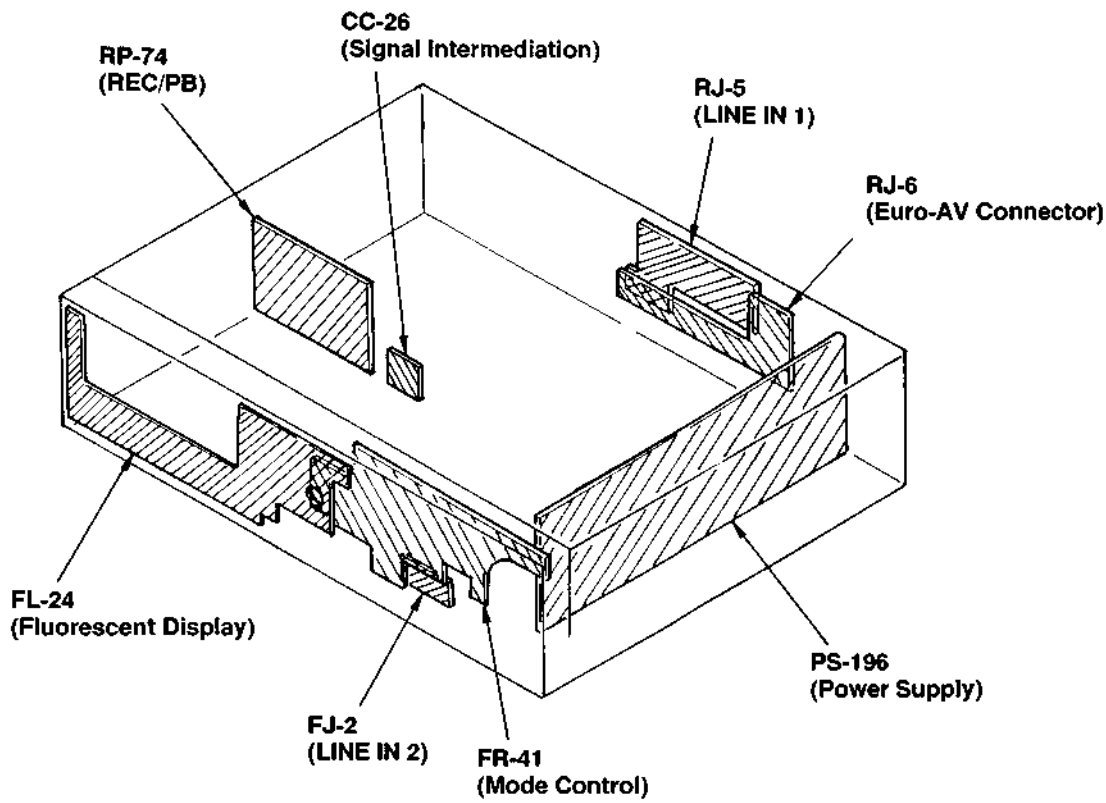
– Bottom Side –



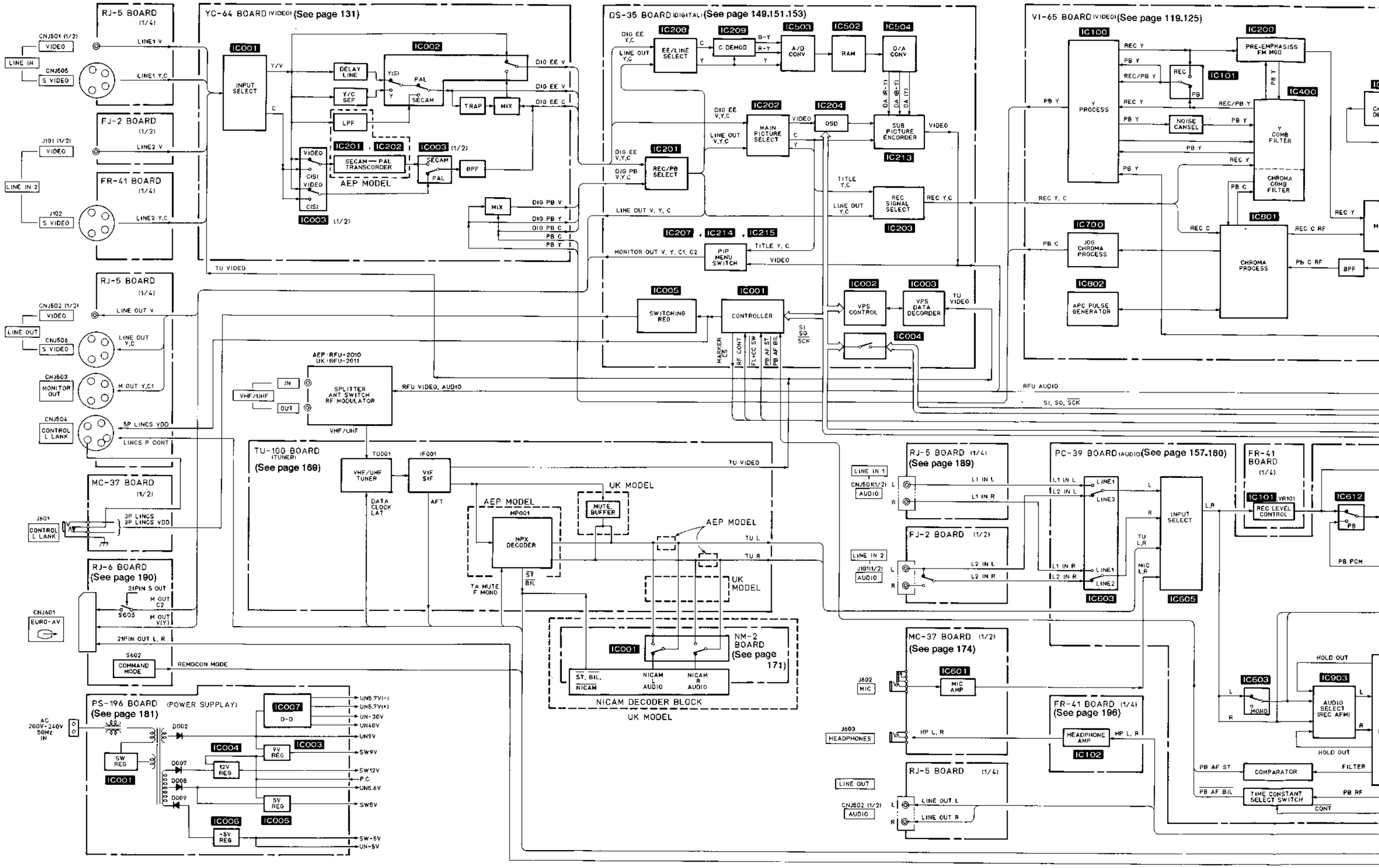
SECTION 4
DIAGRAMS

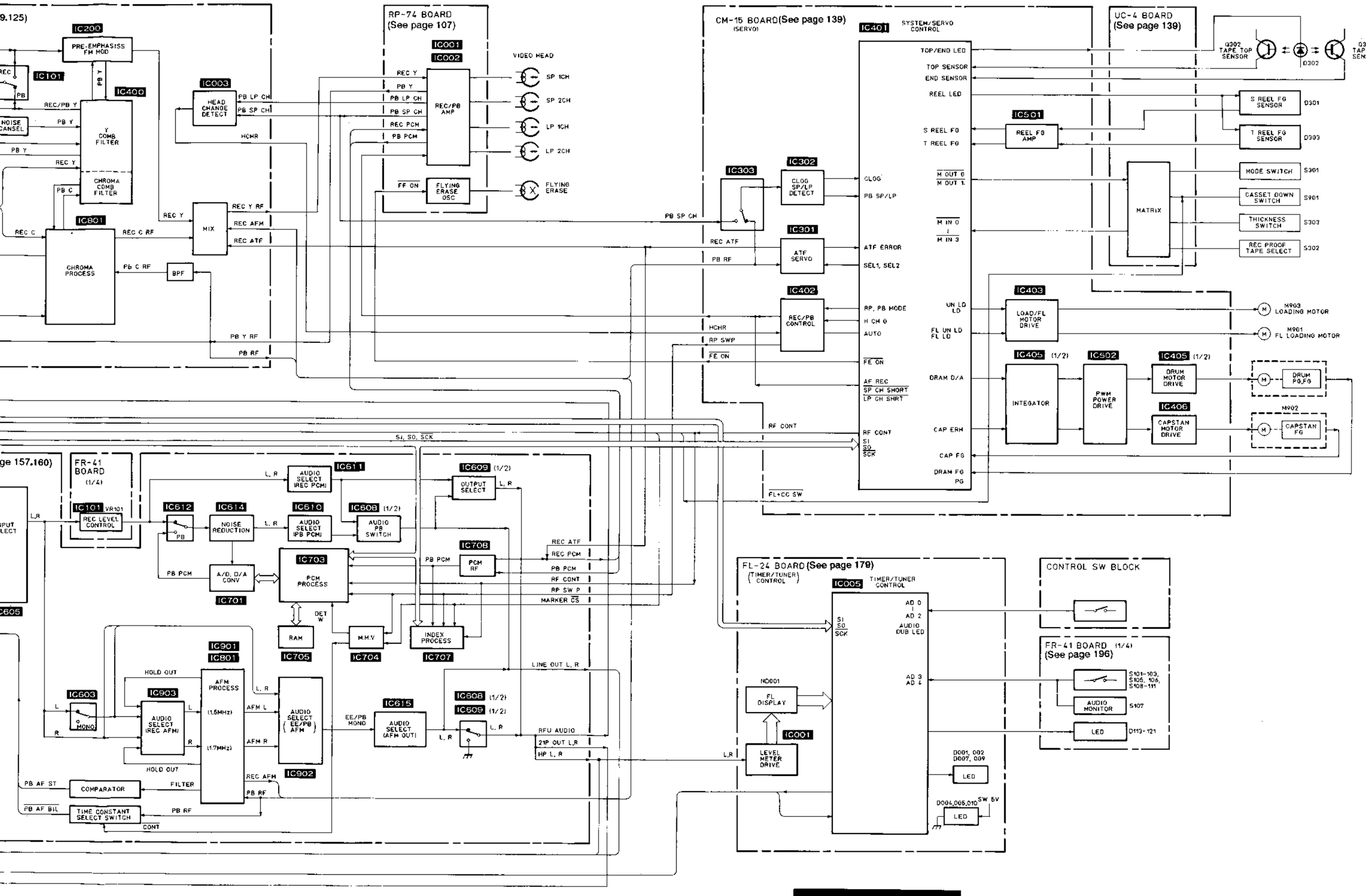
4-1. CIRCUIT BOARDS LOCATION



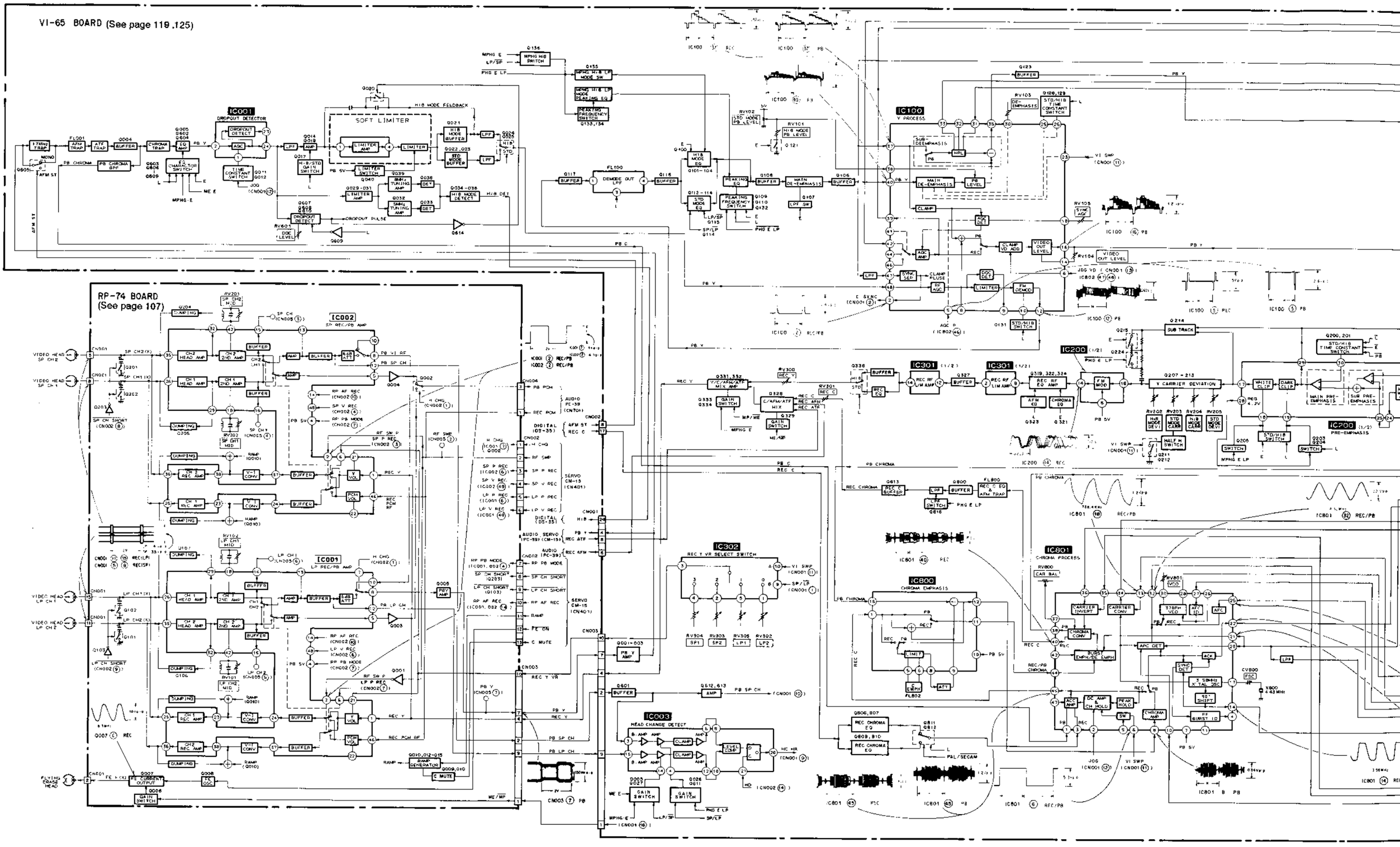


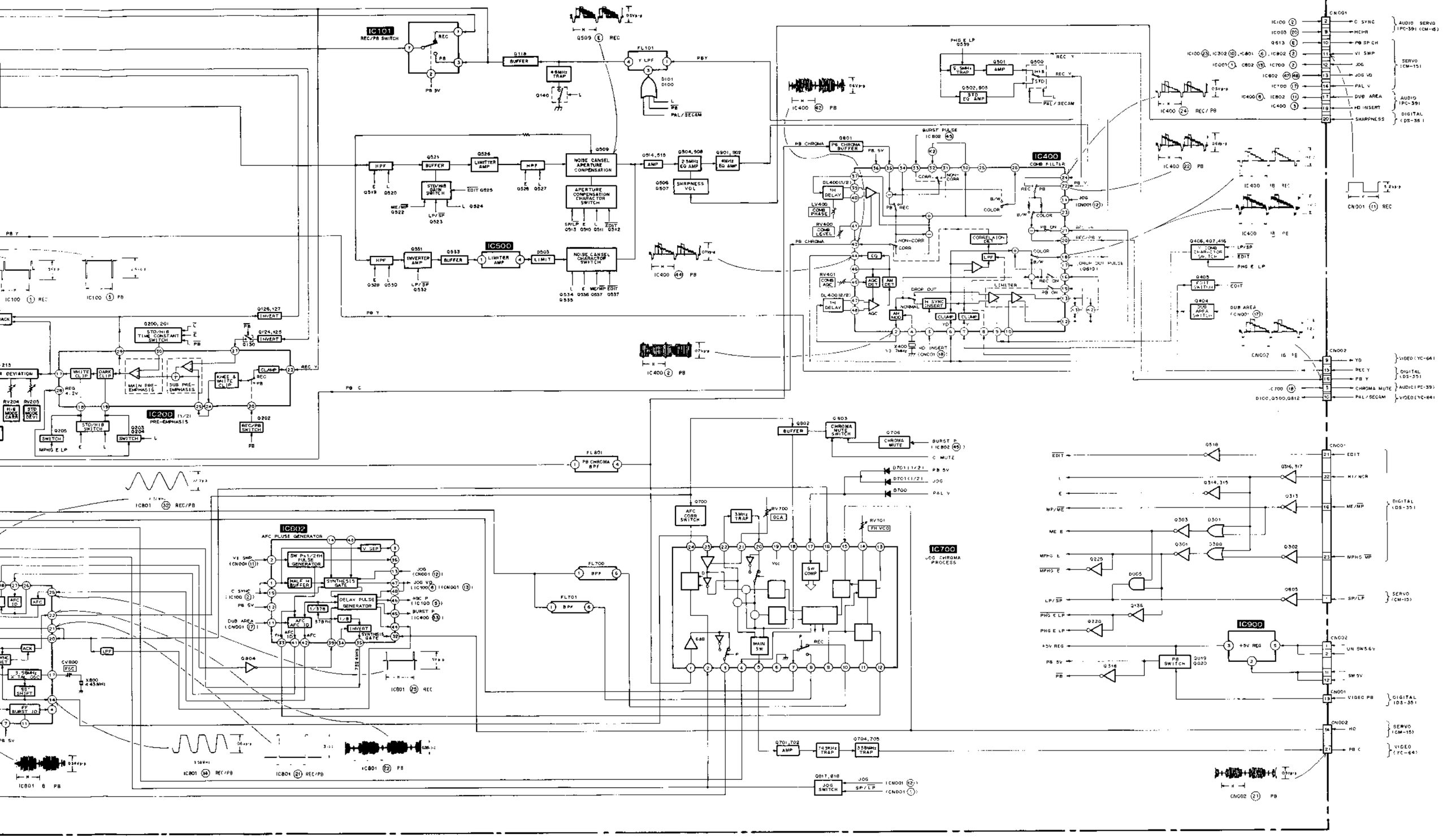
4-2. OVERALL BLOCK DIAGRAM

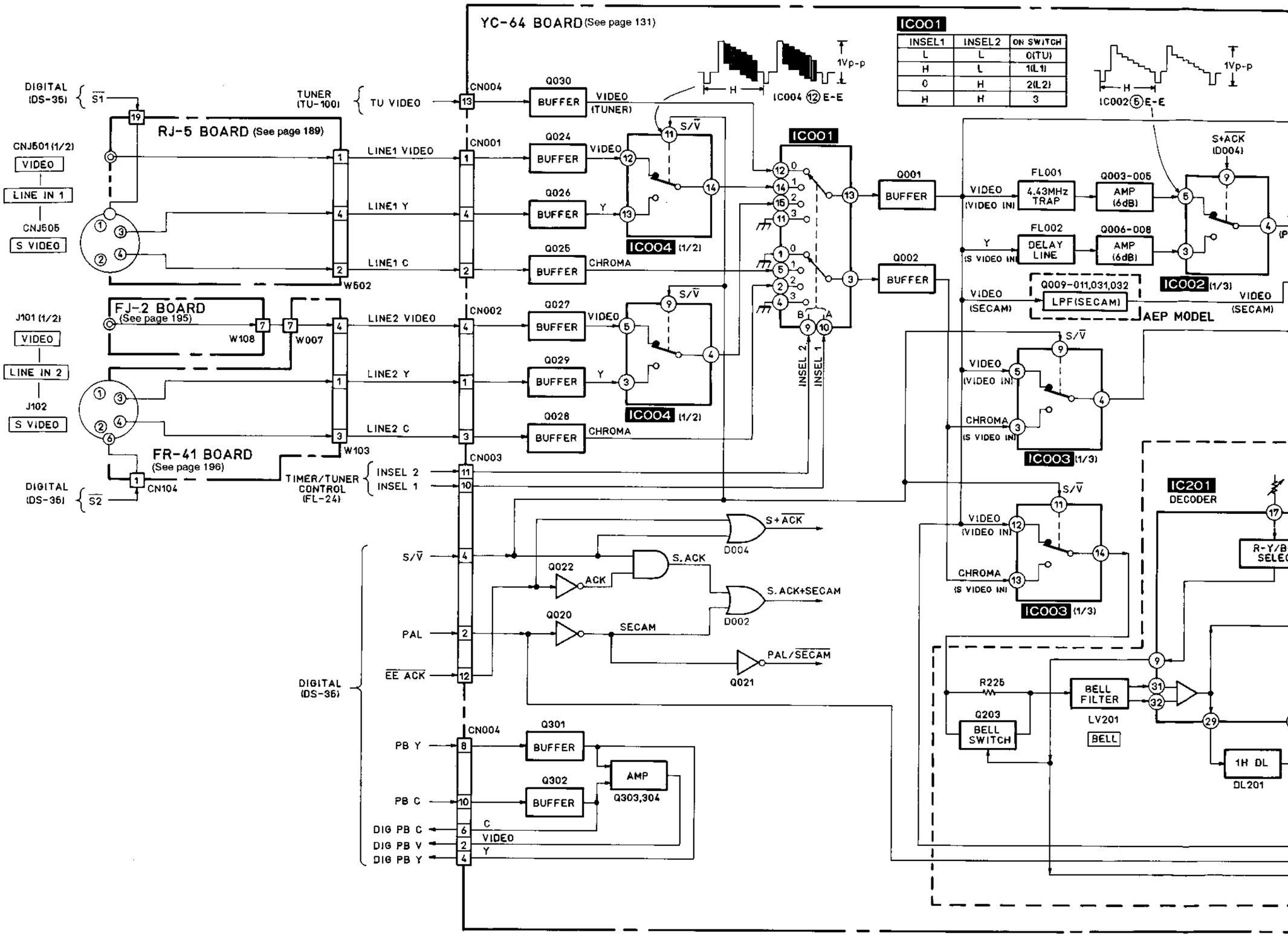


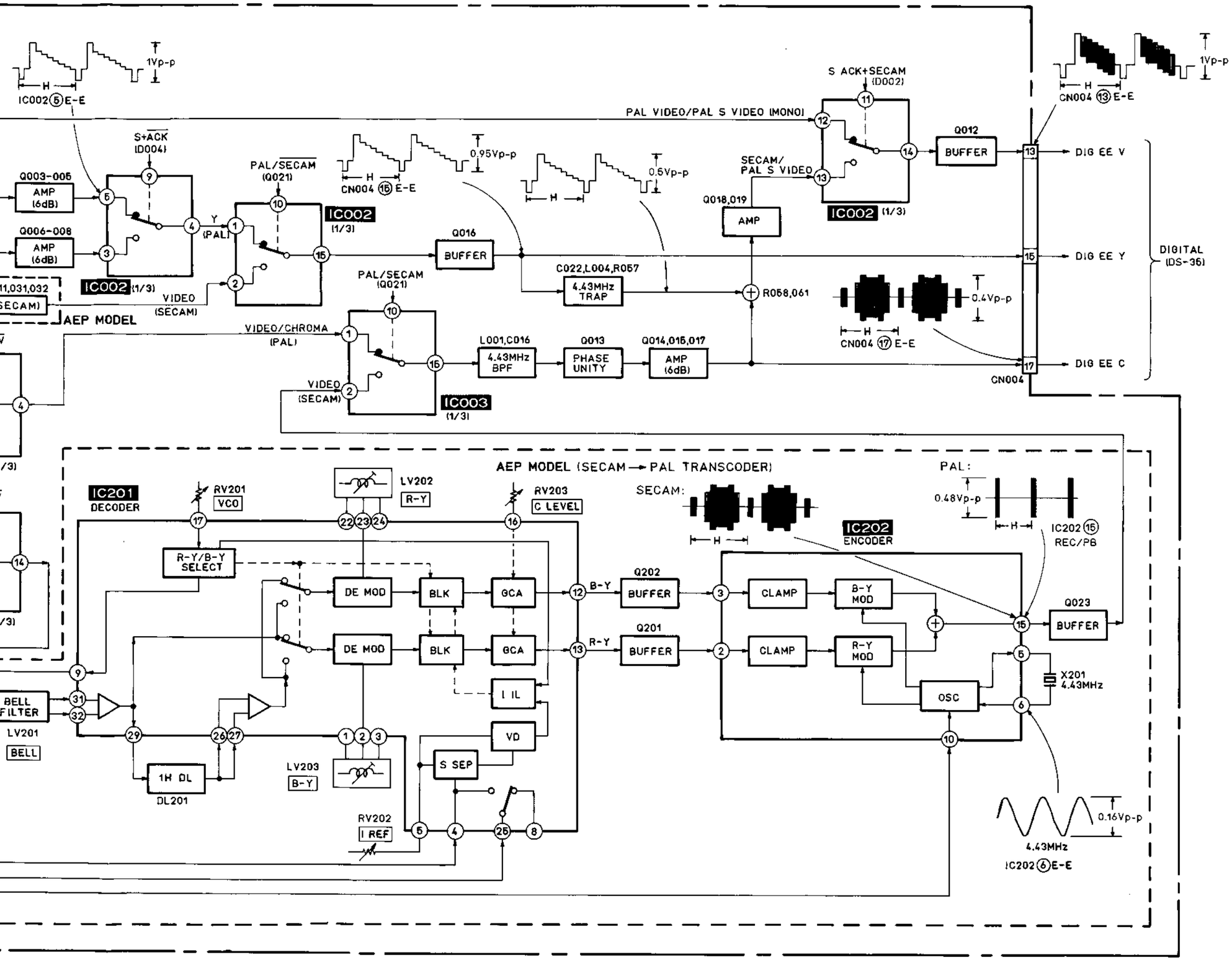

RP-74 BOARD
(See page 107)
IC001
IC002
VIDEO HEAD
SP 1CH
SP 2CH
LP 1CH
LP 2CH
FLYING ERASE
REC Y
PB Y
PB LP CH
PB SP CH
REC PCM
PB PCM
FF ON
REC/PB AMP
FLYING ERASE OSC
CM-15 BOARD(See page 139)
(SERVO)
IC401
SYSTEM/SERVO CONTROL
TOP/END LED
TOP SENSOR
END SENSOR
REEL LED
S REEL FG
T REEL FG
M OUT 0
M OUT 1
M IN 0
M IN 3
CLOG
PB SP/LP
ATF ERROR
SEL1, SEL2
RP, PB MODE
H CH G
AUTO
FE ON
AF REC
SP CH SHORT
LP CH SHRT
RF CONT
SI
SO
SCK
CAP ERR
CAP FG
DRAM FG
PG
FL+CC SW
UC-4 BOARD
(See page 139)
Q302 TAPE TOP SENSOR
Q301 TAPE END SENSOR
D302
IC501
REEL FG AMP
S REEL FG SENSOR
D301
T REEL FG SENSOR
D303
MATRIX
MODE SWITCH
S301
CASSET DOWN SWITCH
S901
THICKNESS SWITCH
S303
REC PROOF TAPE SELECT
S302
IC403
LOAD/FL MOTOR DRIVE
UN LD
LD
FL UN LD
FL LD
M903 LOADING MOTOR
M901 FL LOADING MOTOR
IC405 (1/2)
INTEGATOR
IC502
PWM POWER DRIVE
IC405 (1/2)
DRUM MOTOR DRIVE
DRUM FG,PG
IC406
CAPSTAN MOTOR DRIVE
M902
CAPSTAN FG
IC200
PRE-EMPHASISS FM MOD
IC101
IC400
Y COMB FILTER
CHROMA COMB FILTER
IC003
HEAD CHANGE DETECT
PB LP CH
PB SP CH
HCHR
NOISE CANSEL
REC/PB Y
PB Y
REC Y
PB C
IC801
CHROMA PROCESS
REC C
REC C RF
MIX
REC Y RF
REC AFM
REC ATF
PB C RF
BPF
PB Y RF
PB RF
IC303
IC302
CLOG SP/LP DETECT
IC301
ATF SERVO
IC402
REC/PB CONTROL
REC ATF
PB RF
PB SP CH
HCHR
RP SWP
FE ON
RF CONT
S1, S0, SCK
FR-41 BOARD
(1/4)
IC101 VR101
REC LEVEL CONTROL
IC612
PB
IC614
NOISE REDUCTION
IC611
AUDIO SELECT (REC PCM)
IC610
AUDIO SELECT (PB PCM)
IC608 (1/2)
AUDIO PB SWITCH
IC609 (1/2)
OUTPUT SELECT
L, R
IC708
PCM RF
REC ATF
REC PCM
PB PCM
RF CONT
RP SW P
MARKER CS
IC703
PCM PROCESS
A/D, D/A CONV
IC701
DET W
RAM
IC705
M.M.V
IC704
INDEX PROCESS
IC707
IC901
IC801
AFM PROCESS
(1.5MHz)
(1.7MHz)
HOLD OUT
IC603
MONO
IC903
AUDIO SELECT (REC AFM)
AFM L
AFM R
AUDIO SELECT (EE/PB AFM)
IC902
IC615
AUDIO SELECT (AFM OUT)
EE/PB MONO
LINE OUT L, R
IC608 (1/2)
IC609 (1/2)
RFU AUDIO
2TP OUT L,R
HP L, R
PB AF ST
COMPARATOR
FILTER
REC AFM
PB AF BIL
TIME CONSTANT SELECT SWITCH
CONT
FL-24 BOARD (See page 178)
(TIMER/TUNER CONTROL)
IC005
TIMER/TUNER CONTROL
SI
SO
SCK
AD 0
AD 2
AUDIO DUB LED
AD 3
AD 4
ND001
FL DISPLAY
IC001
LEVEL METER DRIVE
D001, 002
D007, 009
LED
D004,005,010
SW 5V
LED
CONTROL SW BLOCK
FR-41 BOARD (1/4)
(See page 196)
S101-103, S105, 106, S108-111
AUDIO MONITOR
S107
LED
D113-121

4-3. VIDEO BLOCK DIAGRAM (1)

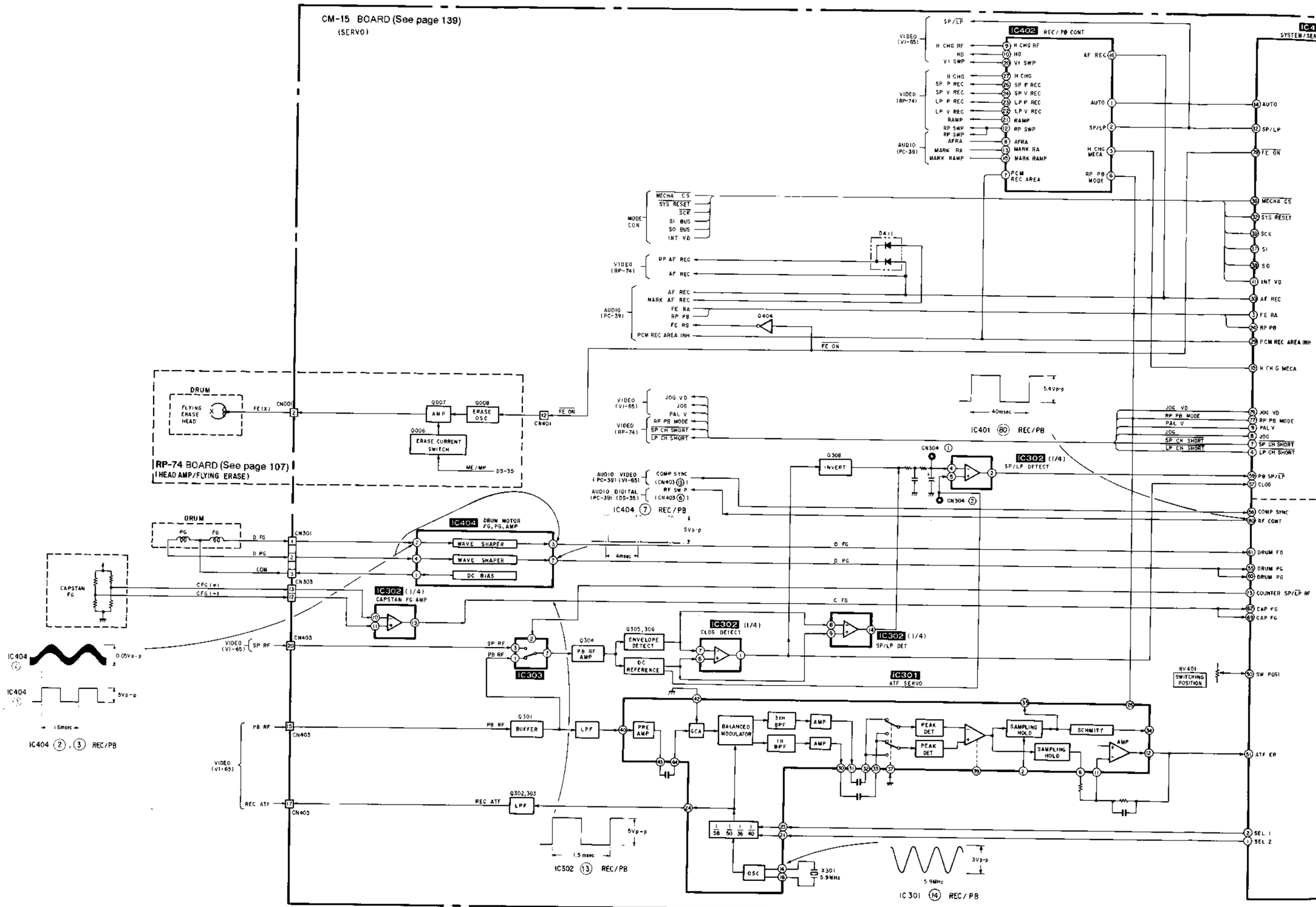


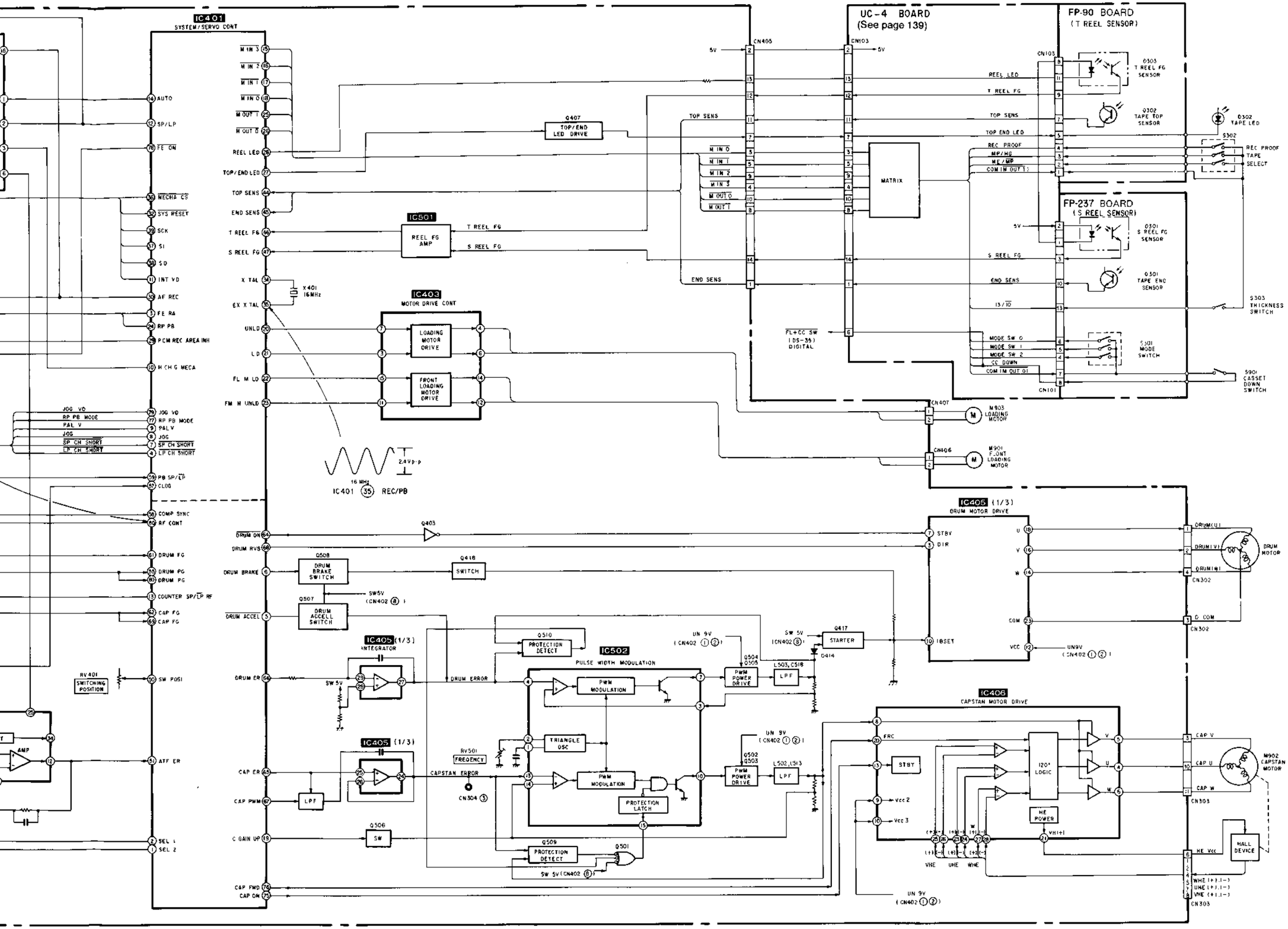

IC101
REC/PB SWITCH
REC
PB
PB 5V
Q118
BUFFER
4.6MHz TRAP
Q140
FL101
Y LPF
D101
D100
PB
PAL/SECAM
Q509
REC
IC400 (42) PB
PHASE LP
Q539
5.5MHz TRAP
Q501
AMP
Q500
HI/S
STD
REC Y
Q502, 503
STD EQ AMP
IC400 (24) REC/PB
IC400 (22) PB
IC400 (18) REC
IC400 (19) PB
CN001
IC100 (2) C SYNC
IC003 (20) HCHR
Q613 (E) PB SP CH
IC100 (23), IC302 (10), IC801 (4), IC802 (2) VI SWP
IC001 (1), C802 (19), IC700 (2) JOG
IC802 (47) (48) JOG VD
IC700 (17) PAL V
IC400 (8), IC802 (11), IC400 (3) DUB AREA
HD INSERT
SHARPNESS
AUDIO SERVO (PC-391 (CM-45))
SERVO (CM-151)
AUDIO (PC-391)
DIGITAL (DS-351)
CN001 (11) REC
HPF
BUFFER
LIMITTER AMP
HPF
NOISE CANSEL APERTURE COMPENSATION
Q509
Q514, 516
AMP
Q504, 508
2.5MHz EQ AMP
Q901, 902
4MHz EQ AMP
Q521
Q526
Q519
Q520
Q528
Q527
STD/HiB GAIN SWITCH
EDIT Q525
ME/MP Q522
L Q524
LP/SP Q523
APERTURE COMPENSATION CHARACTOR SWITCH
SHARPNESS VOL
Q506 Q507
SP/LP E L EDIT
Q513 Q510 Q511 Q512
HPF
INVERTER AMP
BUFFER
IC500
LIMITER AMP
LIMIT
NOISE CANSEL CHARACTOR SWITCH
Q531
Q533
Q503
Q528
Q530
LP/SP Q532
L E ME/MP EDIT
Q534 Q536 Q537 Q537
Q535
IC400 (44) PB
PB Y
PB C
IC100 (1) REC
IC100 (3) PB
Q126, 127
INVERT
Q124, 125
INVERT
Q130
Q200, 201
STD/HiB TIME CONSTANT SWITCH
WHITE CLIP
DARK CLIP
MAIN PRE-EMPHASIS
SUB PRE-EMPHASIS
KNEE & WHITE CLIP
CLAMP
REC
PB
REC Y
IC200 (1/2) PRE-EMPHASIS
Q202
REC/PB SWITCH
PB
Q203
Q204
SWITCH
L
Q205
SWITCH
MP/HS E LP
STD/HiB SWITCH
E
L
RV204
HI-B MODE CARR
RV205
STD MODE DEVI
REF 4.2V
IC400 (2) PB
PB CHROMA
Q801
PB CHROMA BUFFER
PB 5V
BURST PULSE
IC802 (45)
IC400
COMB FILTER
DL400 (1/2)
1H DELAY
LV400
COMB PHASE
RV400
COMB LEVEL
CORR
NON-CORR
CORRELATION DET
B/W
COLOR
LPF
LIMITTER
DROP OUT
H SYNC INSERT
NORMAL
CLAMP
AM MOD
AGC DET
AM DET
AGC
RV401
COMB AGC
DL400 (2/2)
X400
HD INSERT (CN001 (18))
REC ON
PB ON
REC/PB Y
PB Y
JOG (CN001 (12))
Q406, 407, 416
Y COMB CHARACTOR SWITCH
LP/SP
EDIT
PHASE LP
Q405
EDIT SWITCH
EDIT
Q404
DUB AREA SWITCH
DUB AREA (CN001 (17))
CN002
YD
VIDEO (YC-641)
REC Y
PB Y
DIGITAL (DS-351)
IC700 (18)
CHROMA MUTE
AUDIO (PC-391)
D100, Q500, Q812
PAL/SECAM
VIDEO (YC-641)
IC801 (32) REC/PB
IC802
AFC PULSE GENERATOR
SW P.S 1/2H PULSE GENERATOR
HALF H BUFFER
SYNTHESIS GATE
DELAY PULSE GENERATOR
1/378
1/8
INVERT
SYNTHESIS GATE
AFC
AFC ID
V SEP
VS SWP (CN001 (11))
C SYNC (IC100 (2))
PB 5V
DUB AREA (CN001 (17))
JOG (CN001 (12))
JOG VD (IC100 (6) (CN001 (13))
ABC P (IC100 (5))
BURST P (IC400 (33))
Q804
IC801 (25) REC
IC801 (16) REC/PB
IC801 (21) REC/PB
IC801 (22) PB
IC801 (8) PB
FL801
PB CHROMA BPF
FL700
BPF
FL701
BPF
Q802
BUFFER
Q803
CHROMA MUTE SWITCH
Q706
CHROMA MUTE
BURST P (IC802 (45))
C MUTE
Q701 (1/2)
PB 5V
Q701 (1/2)
JOG
Q700
PAL V
Q700
AFC CORR SWITCH
3MHz TRAP
RV700
QCA
RV701
FH VCO
IC700
JOG CHROMA PROCESS
SW COMP
MAIN SW
REC
Vcc
Q701, 702
AMP
743KHz TRAP
Q704, 705
358MHz TRAP
Q817, 818
JOG SWITCH
JOG
SP/LP
(CN001 (12))
(CN001 (1))
CN001
EDIT
Q516
H1/NOR
Q316, 317
Q314, 315
ME/MP
Q313
MP/ME
ME E
Q303
Q301
D301
Q300
Q302
MPHG LP
MPHG EP
Q225
D005
SP/LP
Q305
PHG E LP
Q335
PHG E LP
Q220
+5V REG
PB 5V
PB
Q316
PB SWITCH
Q319
Q320
IC900
+5V REG
CN002
UN SW 5.6V
SW 5V
CN001
VIDEO PB
DIGITAL (DS-351)
CN002
HD
SERVO (CM-151)
PB C
VIDEO (YC-641)
CN002 (21) PB


YC-64 BOARD (See page 131)
IC001
INSEL1 | INSEL2 | ON SWITCH
L | L | 0(TU)
H | L | 1(L1)
0 | H | 2(L2)
H | H | 3
1Vp-p
H
IC004 ⑫ E-E
IC002 ⑤ E-E
DIGITAL (DS-35) S1
TUNER (TU-100) TU VIDEO
RJ-5 BOARD (See page 189)
CNJ501 (1/2) VIDEO
LINE IN 1
CNJ505 S VIDEO
LINE1 VIDEO
LINE1 Y
LINE1 C
W502
FJ-2 BOARD (See page 195)
J101 (1/2) VIDEO
LINE IN 2
J102 S VIDEO
W108
W007
LINE2 VIDEO
LINE2 Y
LINE2 C
W103
FR-41 BOARD (See page 196)
DIGITAL (DS-35) S2
CN104
TIMER/TUNER CONTROL (FL-24)
INSEL 2
INSEL 1
CN004
CN001
CN002
CN003
Q030 BUFFER VIDEO (TUNER)
Q024 BUFFER VIDEO
Q026 BUFFER Y
Q025 BUFFER CHROMA
Q027 BUFFER VIDEO
Q029 BUFFER Y
Q028 BUFFER CHROMA
S/V̄
IC004 (1/2)
IC001
Q001 BUFFER
Q002 BUFFER
INSEL 2
INSEL 1
S+ACK (D004)
FL001 4.43MHz TRAP
Q003-005 AMP (6dB)
FL002 DELAY LINE
Q006-008 AMP (6dB)
IC002 (1/3)
Q009-011,031,032 LPF(SECAM)
AEP MODEL
IC003 (1/3)
IC201 DECODER
R-Y/B SELEC
S/V̄
PAL
EE ACK
DIGITAL (DS-36)
Q022 ACK
S.ACK
D004
S.ACK+SECAM
D002
Q020 SECAM
PAL/SECAM
Q021
R225
Q203 BELL SWITCH
BELL FILTER
LV201
BELL
1H DL
DL201
PB Y
PB C
DIG PB C
DIG PB V
DIG PB Y
Q301 BUFFER
Q302 BUFFER
AMP
Q303,304
C
VIDEO
Y


1Vp-p
H
IC002 (5) E-E
S+ACK (D004)
PAL/SECAM (Q021)
0.95Vp-p
CN004 (15) E-E
0.6Vp-p
PAL VIDEO/PAL S VIDEO (MONO)
S ACK+SECAM (D002)
Q012
BUFFER
CN004 (13) E-E
DIG EE V
Q003-005
AMP (6dB)
Q006-008
AMP (6dB)
IC002 (1/3)
Y (PAL)
VIDEO (SECAM)
Q016
BUFFER
C022,L004,R057
4.43MHz TRAP
SECAM/ PAL S VIDEO
Q018,019
AMP
R058,061
0.4Vp-p
CN004 (17) E-E
DIG EE Y
DIGITAL (DS-35)
DIG EE C
CN004
AEP MODEL
VIDEO/CHROMA (PAL)
L001,C016
4.43MHz BPF
Q013
PHASE UNITY
Q014,015,017
AMP (6dB)
IC003 (1/3)
AEP MODEL (SECAM → PAL TRANSCODER)
IC201 DECODER
RV201 VCO
LV202 R-Y
RV203 C LEVEL
SECAM:
IC202 ENCODER
PAL:
0.48Vp-p
IC202 (15) REC/PB
R-Y/B-Y SELECT
DE MOD
BLK
GCA
B-Y
Q202
BUFFER
CLAMP
B-Y MOD
Q023
BUFFER
R-Y
Q201
BUFFER
CLAMP
R-Y MOD
X201 4.43MHz
OSC
I IL
VD
S SEP
BELL FILTER
LV201 BELL
1H DL
DL201
LV203 B-Y
RV202 I REF
0.16Vp-p
4.43MHz
IC202 (6) E-E

4-5. SYSTEM CONTROL, SERVO BLOCK DIAGRAM




IC401
SYSTEM/SERVO CONT
AUTO
SP/LP
FE ON
MECHA CS
SYS RESET
SCK
SI
SO
INT VD
AF REC
FE RA
RP PB
PCM REC AREA INH
H CH G MECA
JOG VD
RP PB MODE
PAL V
JOG
SP CH SHORT
LP CH SHORT
PB SP/LP
CLOG
COMP SYNC
RF CONT
DRUM FG
DRUM PG
DRUM PG
COUNTER SP/LP RF
CAP FG
CAP FG
SW POSI
ATF ER
SEL 1
SEL 2
RV401
SWITCHING POSITION
M IN 3
M IN 2
M IN 1
M IN 0
M OUT T
M OUT 0
REEL LED
TOP/END LED
TOP SENS
END SENS
T REEL FG
S REEL FG
X TAL
EX X TAL
UNLD
LD
FL M LD
FM M UNLD
X401
16MHz
IC403
MOTOR DRIVE CONT
LOADING MOTOR DRIVE
FRONT LOADING MOTOR DRIVE
IC501
REEL FG AMP
Q407
TOP/END LED DRIVE
16 MHz
2.4Vp-p
IC401 (35) REC/PB
DRUM ON
DRUM RVS
DRUM BRAKE
DRUM ACCEL
DRUM ER
CAP ER
CAP PWM
C GAIN UP
CAP FWD
CAP ON
Q403
Q508
DRUM BRAKE SWITCH
Q418
SWITCH
SW5V (CN402 8)
Q507
DRUM ACCELL SWITCH
IC405 (1/3)
INTEGRATOR
RV501
FREQENCY
CAPSTAN ERROR
CN304 3
LPF
Q506
SW
Q510
PROTECTION DETECT
IC502
PULSE WIDTH MODULATION
PWM MODULATION
TRIANGLE OSC
PROTECTION LATCH
PWM POWER DRIVE
Q504
Q505
Q502
Q503
L503, C518
L502, C513
Q509
Q501
SW 5V (CN402 8)
UN 9V (CN402 1 2)
Q417
STARTER
Q414
CN405
CN103
5V
TOP SENS
M IN 0
M IN 1
M IN 2
M IN 3
M OUT 0
M OUT T
END SENS
MATRIX
FL+CC SW (DS-35) DIGITAL
UC-4 BOARD
(See page 139)
REEL LED
T REEL FG
TOP END LED
REC PROOF
MP/HG
ME/MP
COM IN OUT 1
MODE SW 0
MODE SW 1
MODE SW 2
CC DOWN
COM IN OUT 01
CN101
FP-90 BOARD
(T REEL SENSOR)
Q303
T REEL FG SENSOR
Q302
TAPE TOP SENSOR
Q302
TAPE LED
S302
REC PROOF
TAPE
SELECT
FP-237 BOARD
(S REEL SENSOR)
Q301
S REEL FG SENSOR
Q301
TAPE END SENSOR
S303
THICKNESS SWITCH
S301
MODE SWITCH
S901
CASSET DOWN SWITCH
CN407
M903
LOADING MOTOR
CN406
M901
FRONT LOADING MOTOR
IC405 (1/3)
DRUM MOTOR DRIVE
STBY
DIR
ISET
U
V
W
COM
VCC
DRUM(U)
DRUM(V)
DRUM(W)
CN302
D COM
DRUM MOTOR
IC406
CAPSTAN MOTOR DRIVE
FRC
STBY
Vcc 2
Vcc 3
120° LOGIC
HE POWER
VHE(+)
VHE(-)
UHE(+)
UHE(-)
WHE(+)
WHE(-)
CAP V
CAP U
CAP W
CN303
HE Vcc
HALL DEVICE
M902
CAPSTAN MOTOR

4-6. SYSTEM CONTROL – VIDEO, AUDIO BLOCK INTERFACE (CM-15 BOARD IC401)

SIGNAL	I/O	Pin No.	EJECTED	THREAD-ING	UN THREAD-ING	STOP	FF	REW	CUE	REVIEW	PB	PB・PAUSE	REC	REC・PAUSE	X2	SLOW	AF REC	AF REC P.
SEL 2	O	IC401 ① Pin	H	H	H	H	H	H	*3	*3	*2	H	*1	L	*17	*18	*19	H
SEL 1	O	IC401 ② Pin	H	H	H	H	H	H	*3	*3	*2	H	*1	H	*17	*18	*19	H
$\overline{\text{DRUM ON}}$	O	IC401 ④ Pin	H	L	L	H	L	L	L	L	L	L	L	L	L	L	L	L
INT VD	O	IC401 ⑪ Pin	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4
SW POSI	I	IC401 ⑭ Pin	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5
ATF ERROR	I	IC401 ⑮ Pin	*6	*6	*6	*6	*7	*7	*7	*7	*7	*7	*6	*6	*7	*7	*7	*7
DRUM PG	I	IC401 ⑮, ⑯ Pin	L	*8	*8	L	*8	*8	*8	*8	*8	*8	*8	*8	*8	*8	*8	*8
DRUM FG	I	IC401 ⑰ Pin	H	*9	*9	H	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9
CAP FG	I	IC401 ⑫, ⑬ Pin	H/L	PULSE	PULSE	H/L	*10	*10	*10	*10	*10	H/L	*10	H/L	*10	H/L	*10	H/L
CAP ERH	O	IC401 ⑬ Pin	*11	*11	*11	L	*11	*11	*11	*11	*11	L	*11	L	*11	*11	*11	L
DRUM ERROR	O	IC401 ⑱ Pin	L	*12	*12	L	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12
CAP PWM	O	IC401 ⑰ Pin	L	*13	*13	L	*13	*13	*13	*13	*13	L	*13	L	*13	*13	*13	L
DRUM RVS	O	IC401 ⑱ Pin	"L"	*14	L	L	L	L	L	L	L	L	L	L	L	L	L	L
CAP ON	O	IC401 ⑲ Pin	L	H	H	L	H	H	H	H	H	L	H	L	H	H/L	H	L
CAP FWD	O	IC401 ⑲ Pin	L	L	H	L	H	L	H	L	H	H	H	L	H	H/L	H	L
RF CONT	O	IC401 ⑳ Pin	*16	*16	*16	"H"or "L"	*16	*16	*16	*16	*16	*16	*16	*16	*16	*16	*16	*16

*1. Refer to timing chart 1.
*2. Refer to timing chart 2.
*3. Refer to timing chart 3.
*4. 1V period "H" pulse.
*5. DC voltage set with RV102 (Switching position adjustment).
*6. Approx. 2.5Vdc.
*7. ATF error voltage.
*8. 2V period "H" pulse.
*9. 1.4msec period pulse.
*10. Pulses in proportion to frequency of the tape speed.
*11. Pulse output for rising or falling edges of the capstan.
*12. 6msec period PWM signal (tri-state) of "H", "L" and "HI-Z" (2.5Vdc).
*13. 64 μsec period PWM signal.
*14. Momentariy "H" when threading of full top tape.
*16. 2V period duty 50% pulse.

4-7. SYSTEM CONTROL – SERVO PERIPHERAL CI

SIGNAL	I/O	Pin No.	STOP	FF
SP P REC	O	CN401 ③ Pin	L	L
LP V REC	O	CN401 ④ Pin	L	L
LP P REC	O	CN401 ⑤ Pin	L	L
SP V REC	O	CN401 ⑥ Pin	L	L
$\overline{\text{SP CH SHORT}}$	O	CN401 ⑧ Pin	*13	L
$\overline{\text{LP CH SHORT}}$	O	CN401 ⑨ Pin	*13	H
JOG	O	IC401 ⑧ Pin	L	L
SP/$\overline{\text{LP}}$	O	IC401 ⑫ Pin	H/L	H/L
SYSCON SO (SI)	O	IC401 ㊳ Pin	*9	*9
$\overline{\text{SYSCON SCK}}$ (SCK)	I	IC401 ㊴ Pin	*10	*10
CLOG	I	IC401 ㊲ Pin	H	*5
COMP SYNC	I	IC401 ㊸ Pin	*6	*6
PB SP/$\overline{\text{LP}}$	I	IC401 ㊹ Pin	L	*7
RP PB MODE	O	IC401 ⑰ Pin	L	L
$\overline{\text{FF ON}}$	O	IC401 ⑱ Pin	H	H
JOG VD	O	IC401 ⑲ Pin	L	L
RF CONT*1	O	IC401 ⑳ Pin	1.8Vdc	*11

*1. According to recorded mode of playback tape. (SP..."H", LP..."L")
*2. According to SP/LP selector (S602) setting. (SP..."H", LP..."L")
*3. 1V period "H" pulse.
*5. Non-signal "H" normal "L"
*6. Positive compound synchronizing signal.
*7. SP mode recording tape "H" LP mode recording tape "L"
*9. 1V period "L" pulse train.
*10. 1V p
*11. 2V p
*12. PCM
*13. Acco (SP.
*14. Acco
*15. Acco (SP.
*16. "H"

REC	REC • PAUSE	X2	SLOW	AF REC	AF REC P.
*1	L	*17	*18	*19	H
*1	H	*17	*18	*19	H
L	L	L	L	L	L
*4	*4	*4	*4	*4	*4
*5	*5	*5	*5	*5	*5
*6	*6	*7	*7	*7	*7
*8	*8	*8	*8	*8	*8
*9	*9	*9	*9	*9	*9
*10	H/L	*10	H/L	*10	H/L
*11	L	*11	*11	*11	L
*12	*12	*12	*12	*12	*12
*13	L	*13	*13	*13	L
L	L	L	L	L	L
H	L	H	H/L	H	L
H	L	H	H/L	H	L
*16	*16	*16	*16	*16	*16

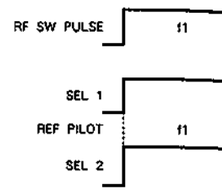
HI-Z" (2.5Vdc).

4-7. SYSTEM CONTROL – SERVO PERIPHERAL CIRCUIT INTERFACE (CM-15 BOARD IC401)

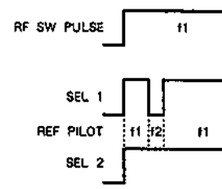
SIGNAL	I/O	Pin No.	STOP	FF	REW	CUE	REVIEW	PB	PB• PAUSE	REC	REC• PAUSE	X2	SLOW	AF REC	AF REC PAUSE
SP P REC	O	CN401 ③ Pin	L	L	L	L	L	L	L	*16	L	L	L	*16	L
LP V REC	O	CN401 ④ Pin	L	L	L	L	L	L	L	*2	L	L	L	L	L
LP P REC	O	CN401 ⑤ Pin	L	L	L	L	L	L	L	*16	L	L	L	*16	L
SP V REC	O	CN401 ⑥ Pin	L	L	L	L	L	L	L	*2	L	L	L	L	L
$\overline{\text{SP CH SHORT}}$	O	CN401 ⑧ Pin	*13	L	H	H	H	*13	*14	*15	*15	*14	*14	*13	*14
$\overline{\text{LP CH SHORT}}$	O	CN401 ⑨ Pin	*13	H	H	H	H	*13	*14	*15	*15	*14	*14	*13	*14
JOG	O	IC401 ⑧ Pin	L	L	L	H	H	L	H	L	L	H	H	L	H
SP/$\overline{\text{LP}}$	O	IC401 ⑫ Pin	H/L	H/L	H/L	*1	*1	*1	*1	*2	*2	*1	*1	*1	*1
SYSCON SO (SI)	O	IC401 ㉘ Pin	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9
$\overline{\text{SYSCON SCK}}$ (SCK)	I	IC401 ㉙ Pin	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
CLOG	I	IC401 ㊲ Pin	H	*5	*5	*5	*5	*5	H	H	H	H	H	H	H
COMP SYNC	I	IC401 ㊳ Pin	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6
PB SP/$\overline{\text{LP}}$	I	IC401 ㊴ Pin	L	*7	*7	*7	*7	L	L	L	L	L	L	L	L
RP PB MODE	O	IC401 ㊼ Pin	L	L	L	H	H	H	H	L	L	H	H	H	H
$\overline{\text{FF ON}}$	O	IC401 ㊽ Pin	H	H	H	H	H	H	H	L	H	H	H	*12	H
JOG VD	O	IC401 ㊾ Pin	L	L	L	*3	*3	L	*3	L	L	*3	*3	*3	*3
RF CONT*1	O	IC401 ㊿ Pin	1.8Vdc	*11	*11	*11	*11	*11	*11	*11	*11	*11	*11	*11	*11

*1. According to recorded mode of playback tape.
(SP…"H", LP…"L")
*2. According to SP/LP selector (S602) setting.
(SP…"H", LP…"L")
*3. 1V period "H" pulse.
*5. Non-signal "H" normal "L"
*6. Positive compound synchronizing signal.
*7. SP mode recording tape "H"
LP mode recording tape "L"
*9. 1V period "L" pulse train.
*10. 1V period "L" pulse train.
*11. 2V period duty 50% pulse.
*12. PCM eria "L" when SP after recording, Normally: "H"
*13. According to recorded mode of playback tape.
(SP…"L", LP…"H")
*14. According to HCHG.
*15. According to SP/LP selector (S602) setting.
(SP…"L", LP…"H")
*16. "H" in PCM area according to REC SP/LP.

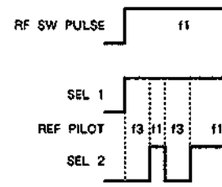
TIMING CHART 1 (REC)



TIMING CHART 2 (PB)



TIMING CHART 3 (CUE/

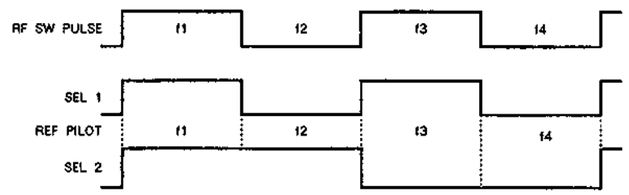


T INTERFACE (CM-15 BOARD IC401)

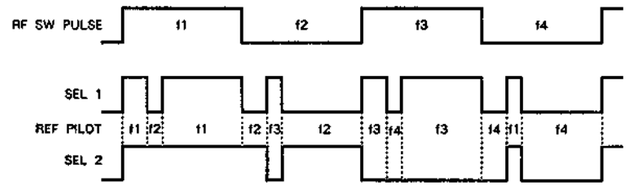
	CUE	REVIEW	PB	PB• PAUSE	REC	REC• PAUSE	X2	SLOW	AF REC	AF REC PAUSE
	L	L	L	L	*16	L	L	L	*16	L
	L	L	L	L	*2	L	L	L	L	L
	L	L	L	L	*16	L	L	L	*16	L
	L	L	L	L	*2	L	L	L	L	L
	H	H	*13	*14	*15	*15	*14	*14	*13	*14
	H	H	*13	*14	*15	*15	*14	*14	*13	*14
	H	H	L	H	L	L	H	H	L	H
	*1	*1	*1	*1	*2	*2	*1	*1	*1	*1
	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9
	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
	*5	*5	*5	H	H	H	H	H	H	H
	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6
	*7	*7	L	L	L	L	L	L	L	L
	H	H	H	H	L	L	H	H	H	H
	H	H	H	H	L	H	H	H	*12	H
	*3	*3	L	*3	L	L	*3	*3	*3	*3
	*11	*11	*11	*11	*11	*11	*11	*11	*11	*11

"L" pulse train.
duty 50% pulse.
"L" when SP after recording, Normally: "H"
to recorded mode of playback tape.
LP..."H")
to HCHG.
to SP/LP selector (S602) setting.
LP..."H")
M area according to REC SP/LP.

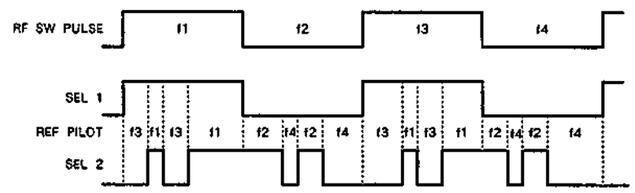
TIMING CHART 1 (REC)



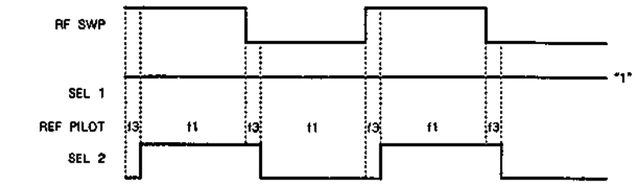
TIMING CHART 2 (PB)



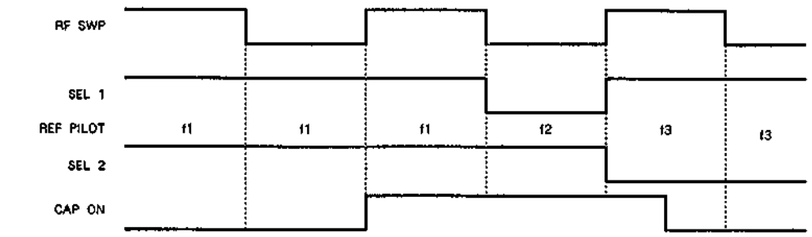
TIMING CHART 3 (CUE/REVIEW)



TIME CHART (×2)

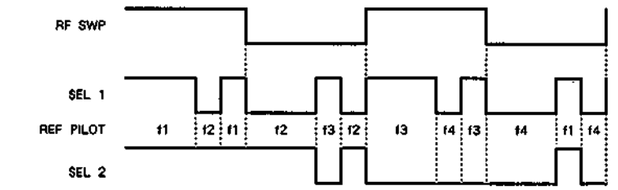


TIME CHART (SLOW)



when f1 still from step.
when from f3 f1⇒f3 f2⇒f4 f3⇒f1

TIME CHART (AF REC)



4-8. SYSTEM CONTROL – SYSTEM CONTROL PERIPHERAL CIRCUIT INTERFACE (CM-15 BOARD IC401)

SIGNAL	I/O	Pin No.	INPUT OUTPUT LEVEL
SYSCON SCK	I	IC401 ㊴ Pin	1V period "L" pulse train
CLOG	I	IC401 ㊼ Pin	Normal playback: "L" ("H" when PB RF signal is not reproduced due to head clog, etc.)
PB SP/LP	I	IC401 ㊾ Pin	Recording speed mode detection signal in FF, REW, CUE or REVIEW ("H" in SP mode, "L" in LP mode)
UNLD	O	IC401 ⑳ Pin	Normally: "L" ("H" in Unthreading, pulse is output in Mechanical mode transition)
LD	O	IC401 ㉑ Pin	Normally: "L" ("H" in Threading,"H" pulse is output in Mechanical mode transition)
FL UNLD	O	IC401 ㉓ Pin	Normally: "L" ("H" in Front roading)
LD	O	IC401 ㉒ Pin	Normally: "L" ("H" in Front unroading)
FERA	O	IC401 ③ Pin	Normally: "L" ("H" in After recording mask eria)
DRUM ACCELL	O	IC401 ⑤ Pin	Normally: "L" (An instant "L" in slow)
DRUM BRAKE	O	IC401 ⑥ Pin	Normally: "L" (An instant "H" in LP slow)
H CHG MECHA	O	IC401 ⑩ Pin	Normally: "L", when slow, × 2 and STILL is unphase ("H":SP head side, "L": LP head side)
C GAIN UP	O	IC401 ⑲ Pin	Normally: "L" ("H" in FF/REW)
REEL LED	O	IC401 ㉘ Pin	Reel led flicker pulse
PCM REC INH	O	IC401 ㉙ Pin	Normally: "H" ("L" in PCM REC)
AF REC	O	IC401 ㉚ Pin	Normally: "L" ("H" in After recording)
LP CH SHORT	O	IC401 ④ Pin	"L" during SP head playback, "H" during LP head playback.
SP CH SHORT	O	IC401 ⑦ Pin	"L" during LP head playback, "H" during SP head playback.
PAL V	O	IC401 ⑨ Pin	20 msec cycle pulse. "H" for 1 msec.
COUNTER SP/LP RF	O	IC401 ⑬ Pin	Normally "L". "H" when C/R, FF/REW.
PCM PB	O	IC401 ㉔ Pin	"H" during PCM playback.

4-9. SYSTEM CONTROL – MECHANISM BLOCK INTERFACE (CM-15 BOARD IC401, CN4

SIGNAL	I/O	Pin No.	INPUT OUTPUT LEVEL
S REEL FG	I	CM-15 CN405 ⑫ Pin	Pulse (5.0Vp-p) that is generated by S-reel rotation. It is approx. 1sec period in REC/PB (SP) mode.
MODE SW 2	I	UC-4 CN001 ④ Pin	Pins are connected to mode switch for mechanical posit
MODE SW 1	I	UC-4 CN001 ⑤ Pin	
MODE SW 0	I	UC-4 CN001 ⑥ Pin	
M OUT 0 (COM)	O	UC-4 CN001 ⑦ Pin	
CC DOWN	I	UC-4 CN001 ⑧ Pin	It is connected to cassette compartment down detection switch. When cassette compartment comes down, Pins ⑧ and circuited. When cassette compartment comes up, connection bet and ⑦ open.
M OUT 0 (COM)	O	UC-4 CN001 ⑦ Pin	
END SENS	I	CM-15 CN405 ① Pin	Normally: "L" ("H" pulse is output in tape end or cassett
13/10	I	UC-4 CN001 ⑬ Pin	"L" pulse when a thick tape using.
M OUT 1 (COM)	O	CM-15 CN405 ⑧ Pin	13/10, MP, COM of REC PROOF SW. Always "L" pulse.
MP HG	I	CM-15 CN405 ⑫ Pin	"L" pulse (20msec period) is output when normal MP ta
TOP END LED	I	CM-15 CN405 ⑦ Pin	"L" pulse (approx. 1Vp-p) (pulse period is changed from according to operation mode.)
TOP SENS	O	CM-15 CN405 ⑪ Pin	Normally: "L" ("H" pulse is output in tape or cassette unl
ME/MP	I	UC-4 CN002 ② Pin	"H" in MP tape ("L" pulse (20msec period) in cassette u
REC PROOF	I	UC-4 CN002 ④ Pin	"H" when recording possible cassette is loaded "L" pulse (20msec period) is output, when recording inh is loaded.
T REEL FG	I	CM-15 CN405 ⑫ Pin	Pulse (5.0Vp-p) that is generated by T-reel rotation, in mode, it is approx. 1sec period.

I/O	EJECTED	THREADING UNTHREADING	STOP
MODE SW 2(④–⑦)	O	×	×
MODE SW 1(⑤–⑦)	O	O	O
MODE SW 0(⑥–⑦)	×	×	O

M BLOCK INTERFACE (CM-15 BOARD IC401, CN405, UC-4 BOARD)

	INPUT OUTPUT LEVEL
	Pulse (5.0Vp-p) that is generated by S-reel rotation. It is approx. 1sec period in REC/PB (SP) mode.
	Pins are connected to mode switch for mechanical position detection. EJECTED / THREADING UNTHREADING / STOP / REC/PB/FF/ REW/CUE/ REVIEW/PAUSE MODE SW 2(④−⑦): ○ × × ○ MODE SW 1(⑤−⑦): ○ ○ ○ × MODE SW 0(⑥−⑦): × × ○ ○ ×···Open ○···Short
	It is connected to cassette compartment down detection (CC DOWN) switch. When cassette compartment comes down, Pins ⑧ and ⑦ are short-circuited. When cassette compartment comes up, connection between Pins ⑧ and ⑦ open.
	Normally: "L" ("H" pulse is output in tape end or cassette unloaded)
	"L" pulse when a thick tape using.
	13/10, MP, COM of REC PROOF SW. Always "L" pulse.
	"L" pulse (20msec period) is output when normal MP tape is used.
	"L" pulse (approx. 1Vp-p) (pulse period is changed from 12 to 170msec according to operation mode.)
	Normally: "L" ("H" pulse is output in tape or cassette unloaded)
	"H" in MP tape ("L" pulse (20msec period) in cassette unloaded)
	"H" when recording possible cassette is loaded "L" pulse (20msec period) is output, when recording inhibiting cassette is loaded.
	Pulse (5.0Vp-p) that is generated by T-reel rotation, in REC/PB (SP) mode, it is approx. 1sec period.

4-10. MODE CONTROL PERIPHERAL CIRCUIT INTERFACE (IC001 ON DS-35 BOARD)

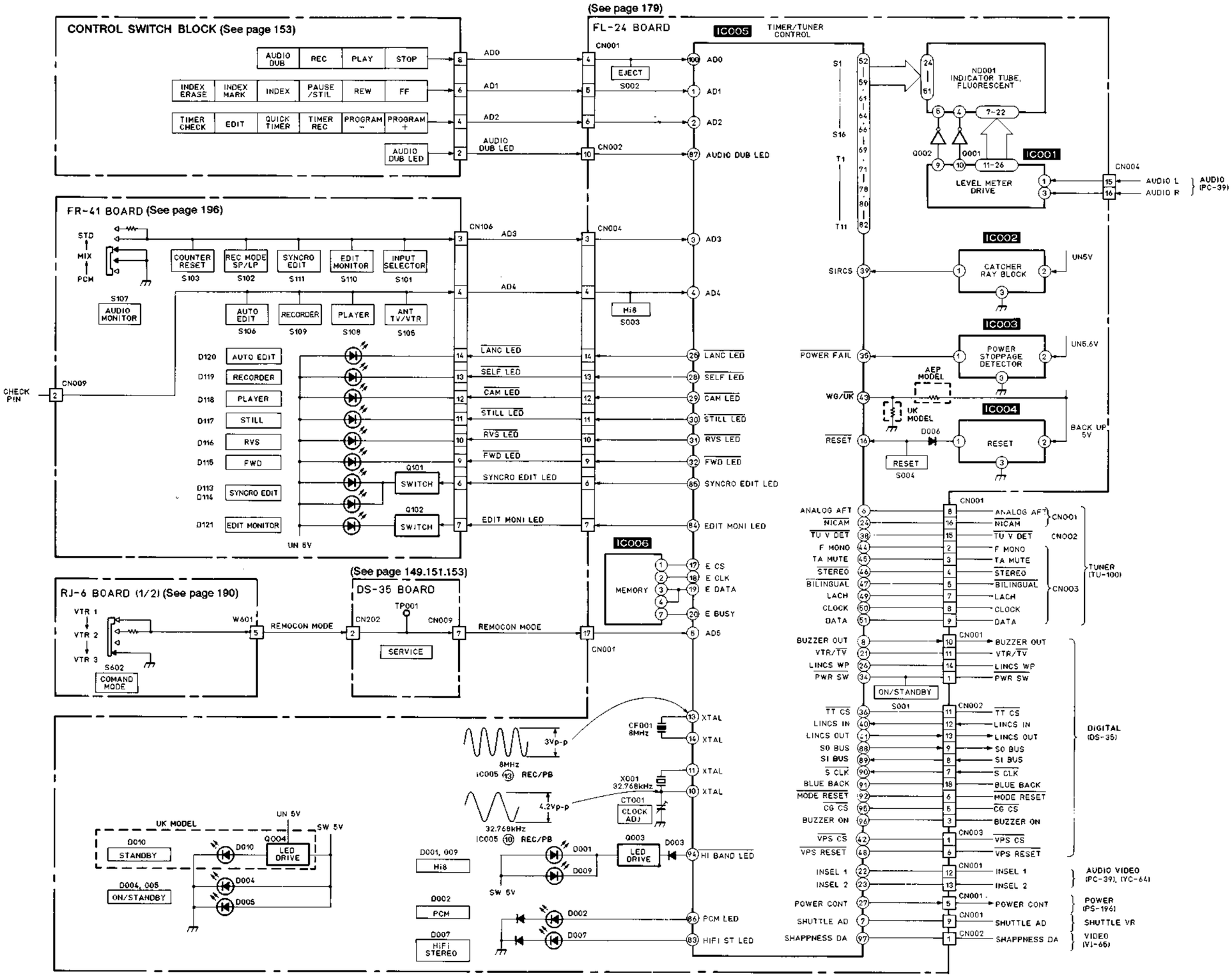
SIGNAL	I/O	Pin No.	INPUT OUTPUT LEVEL
AFM MUTE 1	O	① Pin	"L" when AUDIO MONITOR switch is PCM.
AFM MUTE 2	O	② Pin	"L" when AUDIO MONITOR switch is PCM.
OUTPUT SEL 1	O	③ Pin	"H" when AUDIO MONITOR switch is PCM. However, MONO STEREO.
OUTPUT SEL 2	O	④ Pin	"H" when AUDIO MONITOR switch is PCM. However, MONO STEREO.
OUTPUT SEL 3	O	⑤ Pin	"H" when AUDIO MONITOR switch is PCM. However, MONO STEREO.
OUTPUT SEL 4	O	⑥ Pin	"H" when AUDIO MONITOR switch is PCM. However, MONO STEREO.
PCM ACT	I	⑩ Pin	"H" during PCM recorded tape playback.
$\overline{\text{AF ST}}$	O	⑪ Pin	"L" during AFM STEREO recorded tape playback.
TIMER TITLE	O	⑮ Pin	"H" during TIMER TITLE recording.
$\overline{\text{AF BIL DET}}$	I	㉓ Pin	"L" during AFM BILINGUAL recorded tape playback.
AF ST DET	I	㉔ Pin	"H" during AFM STEREO recorded tape playback.
$\overline{\text{S1}}$	I	㉛ Pin	"L" when S terminal is connected on the rear side.
$\overline{\text{S2}}$	I	㉜ Pin	"L" when S terminal is connected on the front side.
HI BAND	I	㉞ Pin	"H" during HI BAND recorded tape playback.
$\overline{\text{MAKER CS}}$	O	㊲ Pin	1V cycle "L" pulse (only when the power is on).
$\overline{\text{PCM RAM CS}}$	O	㊳ Pin	1V cycle "L" pulse (only when the power is on).
$\overline{\text{TT CS}}$	O	㊴ Pin	1V cycle "L" pulse.
$\overline{\text{MECHA CS}}$	O	㊵ Pin	1V cycle "L" pulse (only when the power is on).
LINCS P COST	O	㊼ Pin	"H" when the power is on and LANC M/S=S.
PAL	O	㊽ Pin	"H" when COLOUR SYSTEM SELECT SW is PAL.
V MUTE	O	㊾ Pin	"H" during VIDEO MUTE.
$\overline{\text{SYS RESET}}$	O	㊷ Pin	"H" when the power is on.
MPHG/$\overline{\text{MP}}$	O	㊸ Pin	"H" when MPHG cassette is in.
ME/$\overline{\text{MP}}$	O	㊹ Pin	"H" when ME cassette is in.
HI/$\overline{\text{NOR}}$	O	㊺ Pin	"H" during HI BAND recorded tape playback.
OUT PB	O	㊾ Pin	"H" during playback.
VIDEO PB	O	㊿ Pin	"H" during playback.
AUDIO PB	O	㊶ Pin	"H" during playback. (However, "L" when AUDIO INCERT.)
AF $\overline{\text{BIL}}$	O	㊷ Pin	"L" during AFM BILINGUAL recorded tape playback.
$\overline{\text{AUDIO ATT}}$	O	㊸ Pin	"L" during INDEX MARK on playback.
X2	O	㊹ Pin	X2

4-11. TIMER/TUNER CONTROL PERIPHERAL CIRCUIT INTERFACE (IC005 ON FL-24 BOARD)

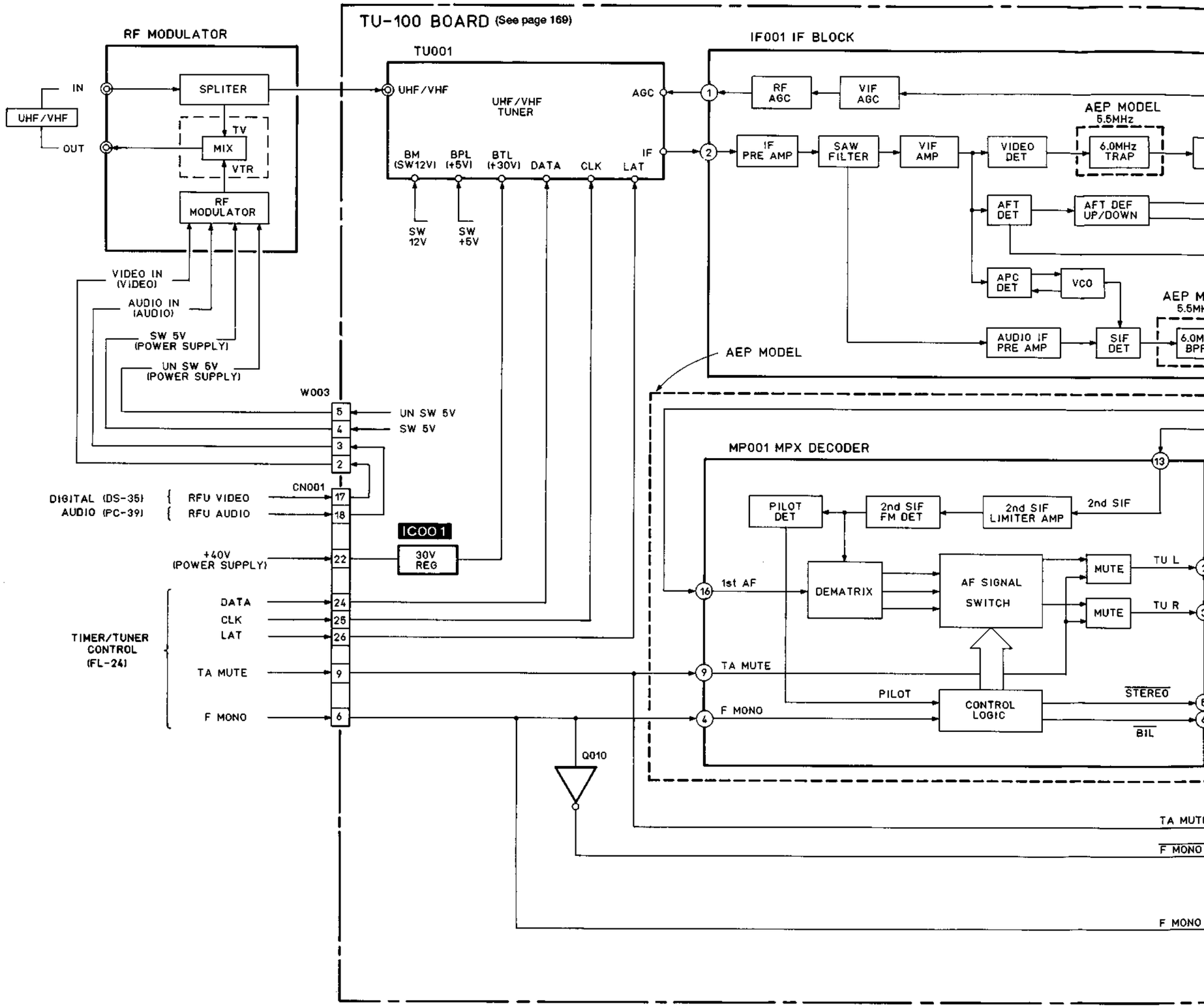
<table>
<tr><th>SIGNAL</th><th>I/O</th><th>Pin No.</th><th>INPUT OUTPUT LEVEL</th></tr>
<tr><td>AD0</td><td>I</td><td>㊿ Pin</td><td rowspan="6">
<table>
<tr><th></th><th>0V</th><th>1</th><th>1.6</th><th>2.3</th><th>2.9</th><th>3.6</th><th>4.3</th></tr>
<tr><td>AD0</td><td>EJECT</td><td>STOP</td><td>PB</td><td>REC</td><td>A INS</td><td></td><td></td></tr>
<tr><td>AD1</td><td>FF</td><td>REW</td><td>PAUSE</td><td>INDEX</td><td>MARK</td><td>ERASE</td><td></td></tr>
<tr><td>AD2</td><td>CH +</td><td>CH –</td><td>T. REC</td><td>QUICK TIMER</td><td>EDIT</td><td>TIMED CHECK</td><td>TEST 2</td></tr>
<tr><td>AD3</td><td>INPUT SELECT</td><td>EDIT MONITOR</td><td>SYNCRO EDIT</td><td>SP/LP</td><td>COUNTER RESET</td><td>AUDIO M1</td><td>AUDIO M2</td></tr>
<tr><td>AD4</td><td>H.8</td><td>TV/VTR</td><td>PLAYER</td><td>RECORDER</td><td>EDIT STANBY</td><td>X120</td><td>TEST 1</td></tr>
<tr><td>AD5</td><td>SERVICE</td><td></td><td></td><td></td><td></td><td>REMOCON 1</td><td>REMOCON 2</td></tr>
</table>
<table>
<tr><th></th><th>PCM</th><th>MIX</th><th>STD</th></tr>
<tr><td>AUDIO M1</td><td>×</td><td>○</td><td>×</td></tr>
<tr><td>AUDIO M2</td><td>×</td><td>×</td><td>○</td></tr>
</table>
<table>
<tr><th></th><th>VTR1</th><th>VTR2</th><th>VTR3</th></tr>
<tr><td>REMOCON 1</td><td>○</td><td>×</td><td>×</td></tr>
<tr><td>REMOCON 2</td><td>×</td><td>○</td><td>×</td></tr>
</table>
</td></tr>
<tr><td>AD1</td><td>I</td><td>① Pin</td></tr>
<tr><td>AD2</td><td>I</td><td>② Pin</td></tr>
<tr><td>AD3</td><td>I</td><td>③ Pin</td></tr>
<tr><td>AD4</td><td>I</td><td>④ Pin</td></tr>
<tr><td>AD5</td><td>I</td><td>⑤ Pin</td></tr>
<tr><td>E CS</td><td>O</td><td>⑰ Pin</td><td>“H” pulse on the channel selection.</td></tr>
<tr><td>E CLK</td><td>O</td><td>⑱ Pin</td><td>Pulse train when Pin ⑰ is “H”.</td></tr>
<tr><td>E DATA</td><td>I/O</td><td>⑲ Pin</td><td>Pulse train I/O when Pin ⑰ is “H”.</td></tr>
<tr><td>E BUSY</td><td>I</td><td>⑳ Pin</td><td>“L” pulse during Data writing.</td></tr>
<tr><td>VTR/$\overline{TV}$</td><td>O</td><td>㉑ Pin</td><td>“L” when the antenna selector is TV.</td></tr>
<tr><td>IN SEL 1</td><td>O</td><td>㉒ Pin</td><td>“H” when selecting LINE input on rear.</td></tr>
<tr><td>IN SEL 2</td><td>O</td><td>㉓ Pin</td><td>“H” when selecting LINE input on front.</td></tr>
<tr><td>POWER CONT</td><td>O</td><td>㉗ Pin</td><td>“H” when the power is on.</td></tr>
<tr><td>$\overline{POWER\ FAIL}$</td><td>I</td><td>㉟ Pin</td><td>“L” when UN 5V is 4.0 – 4.3V or less.</td></tr>
<tr><td>$\overline{TT\ CS}$</td><td>I</td><td>㊱ Pin</td><td>1V cycle “L” pulse.</td></tr>
<tr><td>$\overline{TU\ V\ DET}$</td><td>I</td><td>㊳ Pin</td><td>“L” during TUNER VIDEO receiving.</td></tr>
<tr><td>$\overline{VPS\ CS}$</td><td>O</td><td>㊷ Pin</td><td>1V cycle “L” pulse.</td></tr>
<tr><td>WG/$\overline{UK}$</td><td>I</td><td>㊸ Pin</td><td>“H” for AEP model, “L” for UK model.</td></tr>
<tr><td>TA MUTE</td><td>O</td><td>㊺ Pin</td><td>“H” pulse when the channel selection.</td></tr>
<tr><td>$\overline{STEREO}$</td><td>I</td><td>㊻ Pin</td><td>“L” during TUNER STEREO receiving.</td></tr>
<tr><td>$\overline{BILINGUAL}$</td><td>I</td><td>㊼ Pin</td><td>“L” during TUNER BILINGUAL receiving.</td></tr>
<tr><td>LATCH</td><td>O</td><td>㊾ Pin</td><td>“H” pulse when the channel selection.</td></tr>
<tr><td>CLOCK</td><td>O</td><td>㊿ Pin</td><td>Pulse train when Pin ㊾ is “H”.</td></tr>
<tr><td>DATA</td><td>O</td><td>㊶ Pin</td><td>Pulse train when Pin ㊾ is “H”.</td></tr>
</table>

MEMO

4-12. CONTROL DISPLAY BLOCK DIAGRAM



4-13. TUNER BLOCK DIAGRAM

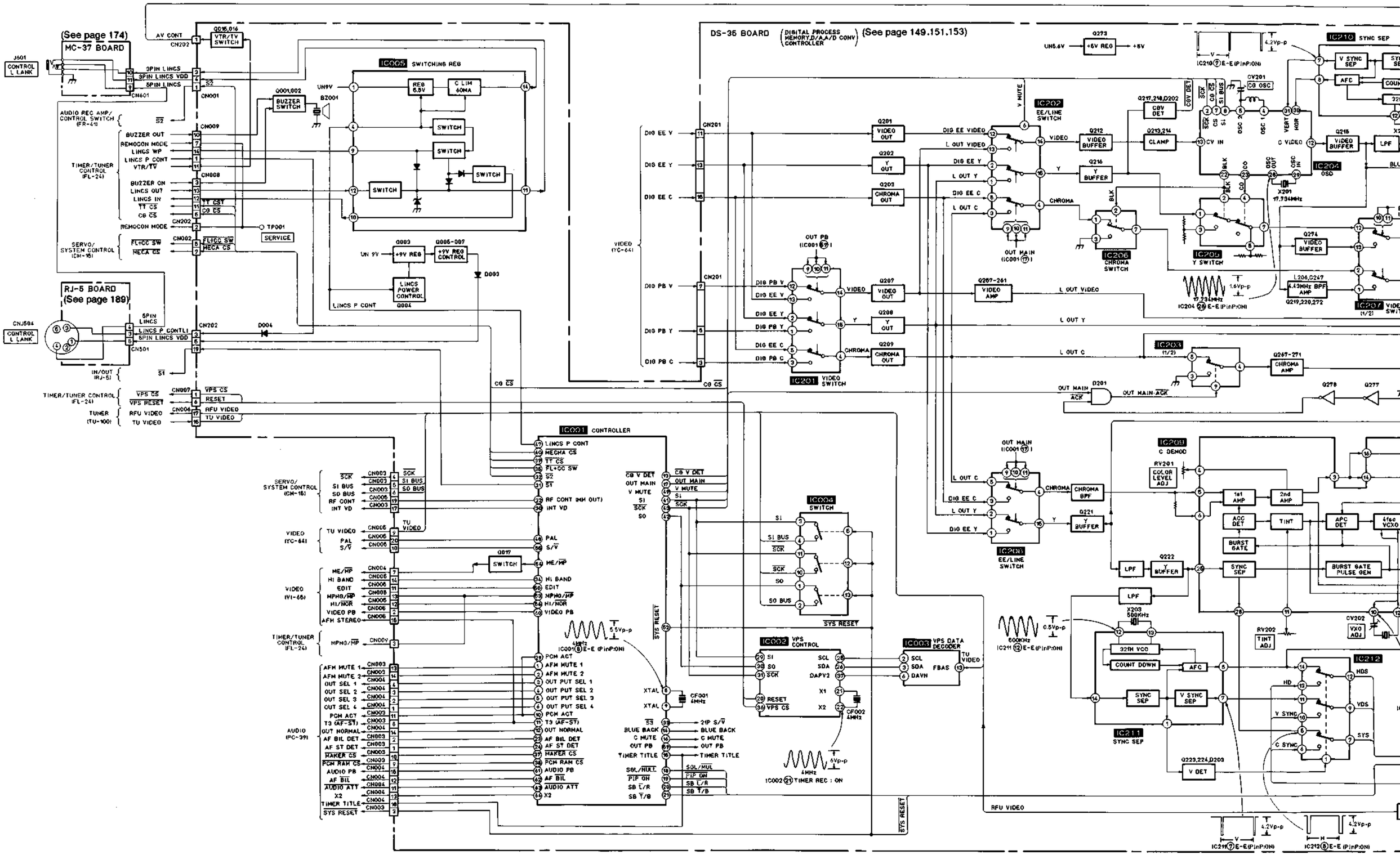


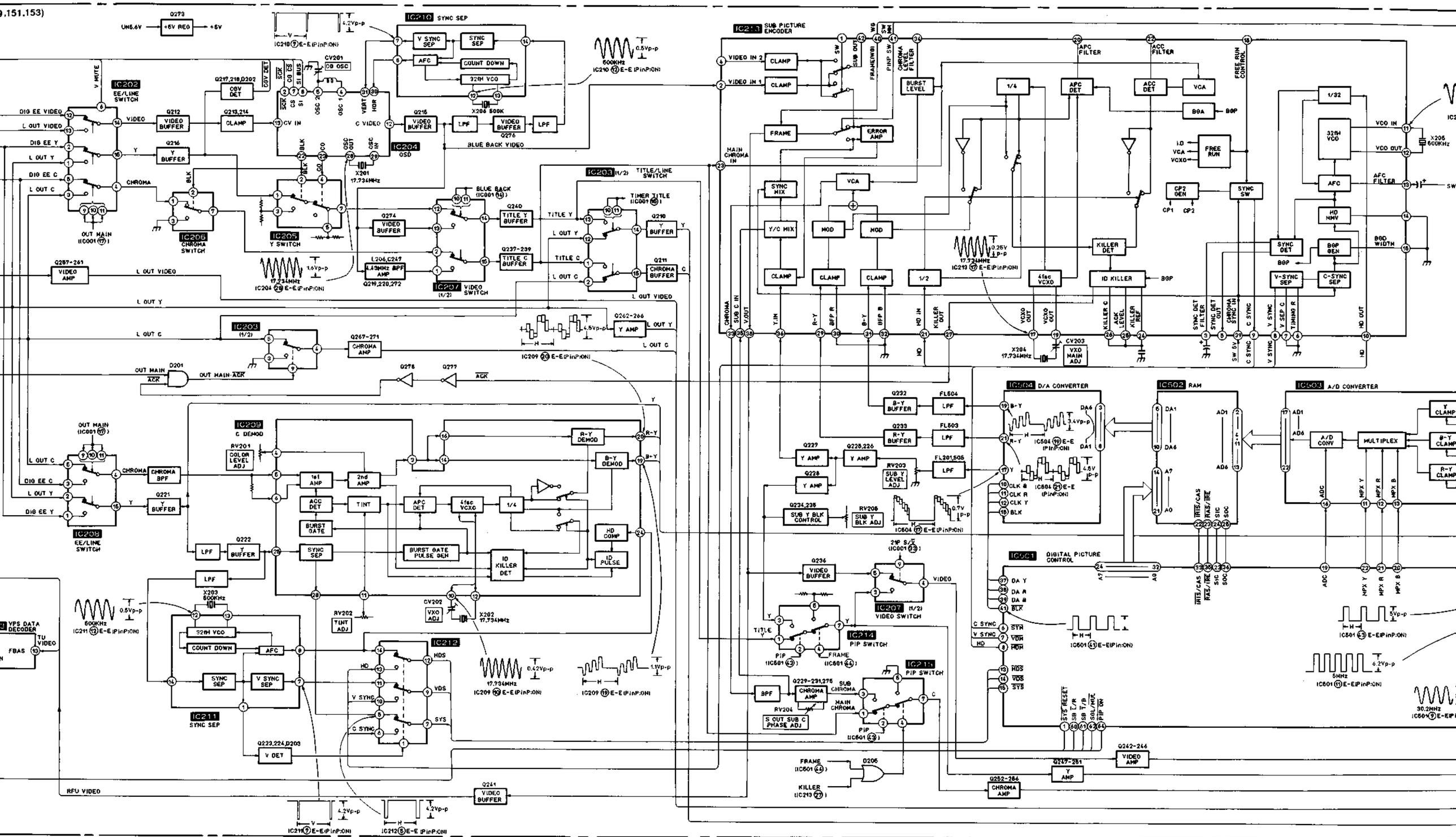
IF001 IF BLOCK

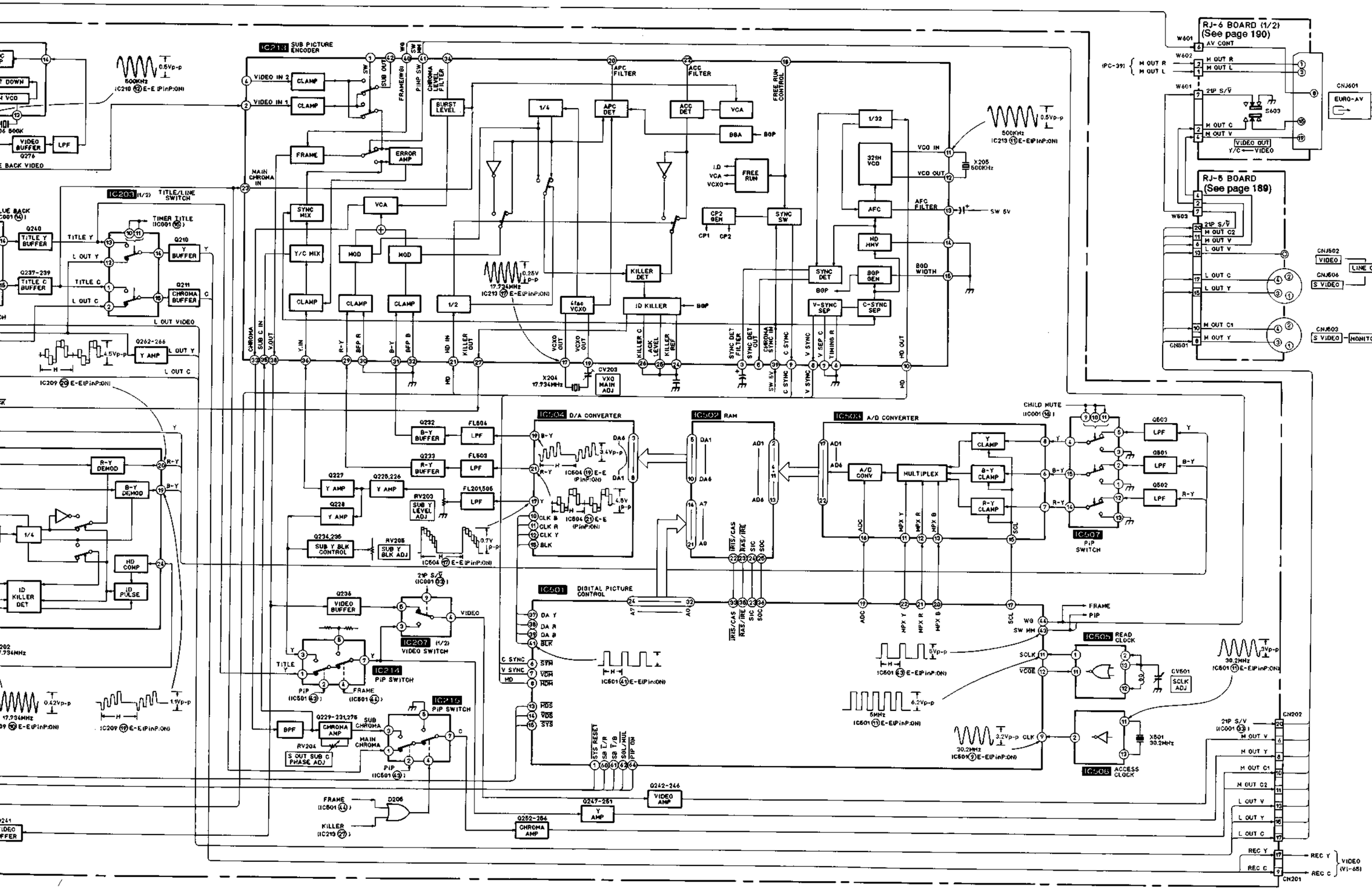
RF AGC
VIF AGC
IF PRE AMP
SAW FILTER
VIF AMP
VIDEO DET
AEP MODEL 5.5MHz
6.0MHz TRAP
BNC
DET OUT
12
Q001
EQUALIZER
UK MODEL
AEP MODEL
Q014
BUFFER
Q003, 004
SYNC DET
Q006
BUFFER
CN001
16
TU VIDEO (VIDEO)
DIGITAL (DS-35)
16
TU V DET
AFT DET
AFT DEF UP/DOWN
UP
DOWN
4
5
AFT
6
13
AFT
APC DET
VCO
2nd IF
9
AEP MODEL 5.5MHz
AUDIO IF PRE AMP
SIF DET
6.0MHz BPF
LIMITER
SOUND DET
AF
10
UK MODEL
AEP MODEL
RV001
MPX
AEP MODEL
TIMER/TUNER CONTROL (FL-24)

MP001 MPX DECODER
13
PILOT DET
2nd SIF FM DET
2nd SIF LIMITER AMP
2nd SIF
UK MODEL
MUTE
Q007
BUFFER
Q008
2
NICAM
7
STEREO
8
BIL
AEP MODEL
AEP MODEL
st AF
DEMATRIX
AF SIGNAL SWITCH
MUTE
TU L
2
MUTE
TU R
3
3
TU L OUT
5
TU R OUT
AUDIO (PC-39)
TA MUTE
PILOT
CONTROL LOGIC
STEREO
5
MONO
6
BIL
W001
UK MODEL
1
W002
2 10 11 4 5 7 8
UK MODEL
CN002
W002
CN002
2 10 11 4 5 7 8
NM-2 BOARD
(See page 171)
TA MUTE
12
12
13 14 3 4
F MONO
3
3
11
9
IC001
12 5
F MONO
9
9
CN001
1
2nd IF
5 4 3 10 8 14
NICAM
ST
BIL
NICAM L AUDIO
NICAM R AUDIO
2nd IF
NICAM DECODER BLOCK

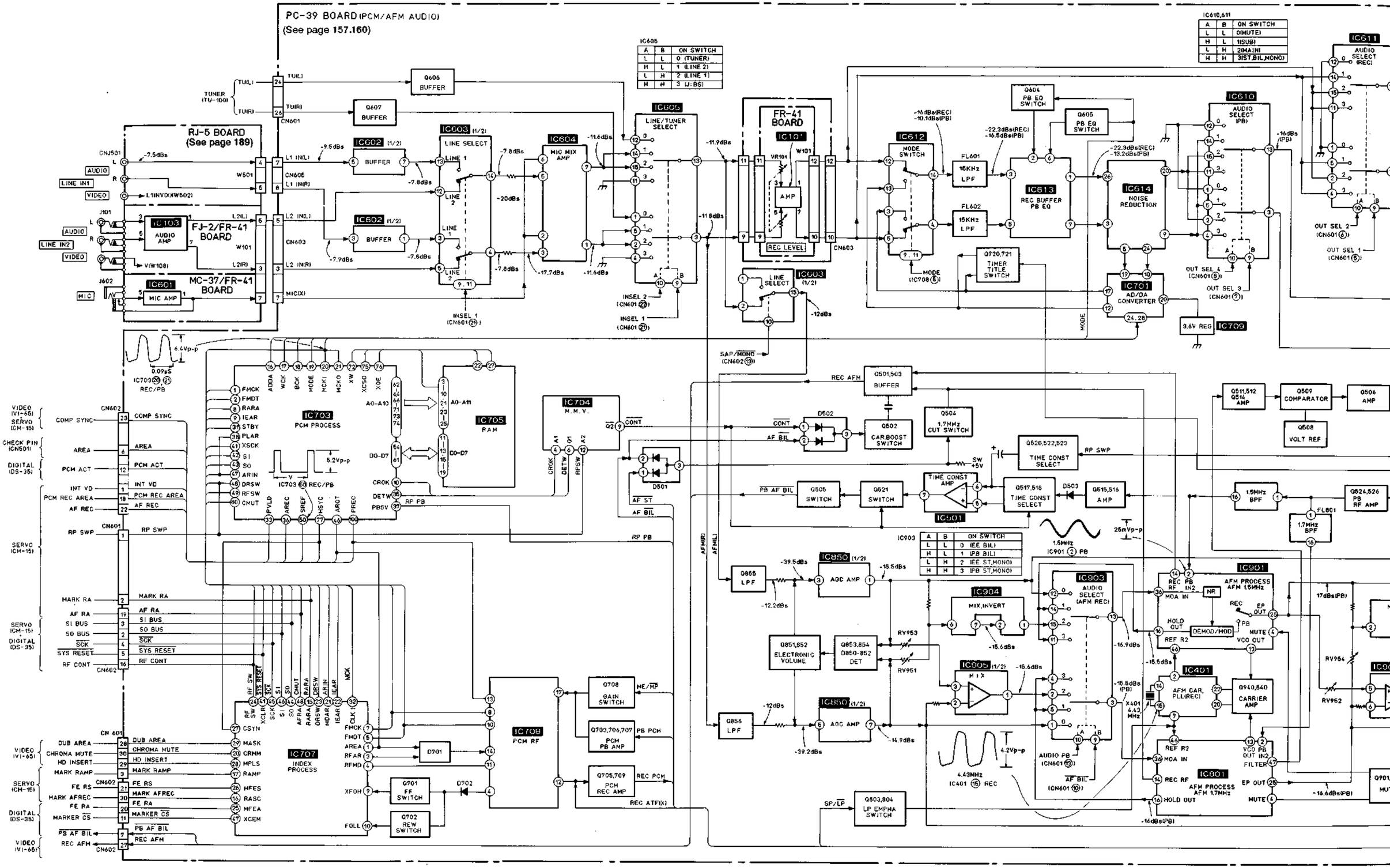
4-14. DIGITAL BLOCK DIAGRAM

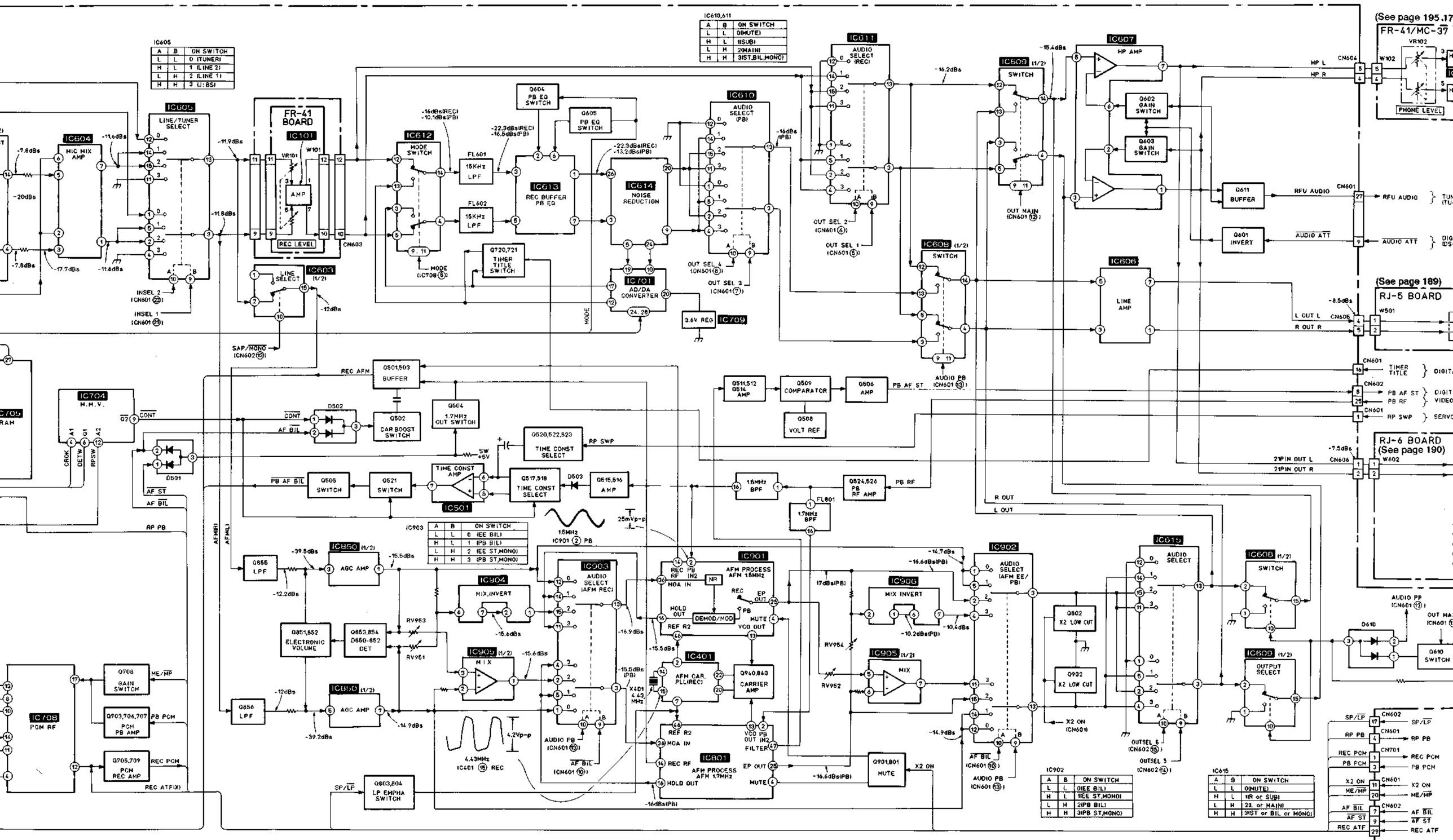



Q273
UN5.6V
+5V REG
+5V
IC210 SYNC SEP
V SYNC SEP
SYNC SEP
AFC
COUNT DOWN
32fH VCO
CV201
OSC
X206 600K
4.2Vp-p
IC210 (7) E-E (PinP:ON)
600KHz
0.5Vp-p
IC210 (12) E-E (PinP:ON)
IC202
EE/LINE SWITCH
V MUTE
DIG EE VIDEO
L OUT VIDEO
DIG EE Y
L OUT Y
DIG EE C
L OUT C
VIDEO
Y
CHROMA
OUT MAIN (IC001 (17))
Q212
VIDEO BUFFER
Q213,214
CLAMP
Q216
Y BUFFER
Q217,218,D202
C6V DET
C6V
SCK
CS
SI
SI BUS
OSC 2
OSC 1
VERT
HOR
CV IN
C VIDEO
Q215
VIDEO BUFFER
LPF
Q276
VIDEO BUFFER
LPF
BLUE BACK VIDEO
IC204
OSD
BLK
CO
OSC OUT
OSC IN
X201
17.734MHz
IC205
Y SWITCH
IC206
CHROMA SWITCH
BLUE BACK (IC001 (14))
Q240
TITLE Y BUFFER
Q274
VIDEO BUFFER
Q237-239
TITLE C BUFFER
L206,C247
4.43MHz BPF AMP
Q219,220,272
IC207 (1/2)
VIDEO SWITCH
IC203 (1/2) TITLE/LINE SWITCH
TIMER TITLE (IC001 (16))
Q210
Y BUFFER
Q211
CHROMA BUFFER
TITLE Y
L OUT Y
TITLE C
L OUT C
L OUT VIDEO
1.6Vp-p
17.734MHz
IC204 (28) E-E (PinP:ON)
Q257-261
VIDEO AMP
L OUT VIDEO
L OUT Y
L OUT C
IC203 (1/2)
Q267-271
CHROMA AMP
Q262-266
Y AMP
L OUT Y
L OUT C
4.5Vp-p
IC209 (20) E-E (PinP:ON)
OUT MAIN
ACK
D201
OUT MAIN·ACK
Q278
Q277
ACK
IC209
C DEMOD
RV201
COLOR LEVEL ADJ
CHROMA
CHROMA BPF
Q221
Y BUFFER
1st AMP
2nd AMP
ACC DET
TINT
BURST GATE
APC DET
4fsc VCXO
1/4
R-Y DEMOD
B-Y DEMOD
HD COMP
HD PULSE
ID KILLER DET
BURST GATE PULSE GEN
SYNC SEP
Q222
Y BUFFER
LPF
IC208
EE/LINE SWITCH
X203
600KHz
32fH VCO
COUNT DOWN
AFC
SYNC SEP
V SYNC SEP
IC211
SYNC SEP
RV202
TINT ADJ
CV202
VXO ADJ
X202
17.734MHz
IC212
HDS
VDS
SYS
HD
V SYNC
C SYNC
Q223,224,D203
V DET
RFU VIDEO
Q241
VIDEO BUFFER
4.2Vp-p
IC211 (7) E-E (PinP:ON)
4.2Vp-p
IC212 (5) E-E (PinP:ON)
0.42Vp-p
17.734MHz
IC209 (18) E-E (PinP:ON)
1.1Vp-p
IC209 (19) E-E (PinP:ON)
IC213 SUB PICTURE ENCODER
VIDEO IN 2
VIDEO IN 1
CLAMP
FRAME
ERROR AMP
MAIN CHROMA IN
SYNC MIX
Y/C MIX
CLAMP
VCA
MOD
MOD
CLAMP
CLAMP
1/2
SUB OUT
FRAME WB
PINP SW
CHROMA LEVEL FILTER
BURST LEVEL
APC FILTER
APC DET
ACC FILTER
ACC DET
VCA
B@A
B@P
1/4
I.D
VCA
VCXO
FREE RUN
FREE RUN CONTROL
CP2 GEN
CP1 CP2
SYNC SW
KILLER DET
ID KILLER
B@P
4fsc VCXO
1/32
32fH VCO
AFC
HD MMV
B@P GEN
SYNC DET
V-SYNC SEP
C-SYNC SEP
B@P WIDTH
VCO IN
VCO OUT
AFC FILTER
X205
600KHz
0.25V
17.734MHz
IC213 (17) E-E (PinP:ON)
X204
17.734MHz
CV203
VXO MAIN ADJ
CHROMA
SUB C IN
V OUT
Y IN
B-Y
B@P B
R-Y
B@P R
HD IN
KILLER OUT
VCXO OUT
VCXO OUT
KILLER C
ACK LEVEL
KILLER REF
SYNC DET FILTER
SYNC DET OUT
CHROMA SYNC IN
C SYNC
V SYNC
V SEP C
TIMING R
HD OUT
HD
IC504 D/A CONVERTER
IC502 RAM
IC503 A/D CONVERTER
Q232
B-Y BUFFER
FL504
LPF
Q233
R-Y BUFFER
FL503
LPF
Q227
Y AMP
Q225,226
Y AMP
Q228
Y AMP
RV203
SUB Y LEVEL ADJ
FL201,505
LPF
Q234,235
SUB Y BLK CONTROL
RV205
SUB Y BLK ADJ
B-Y
R-Y
Y
CLK B
CLK R
CLK Y
BLK
DA6
DA1
A7
A0
AD1
AD6
A/D CONV
MULTIPLEX
ADC
MPX Y
MPX R
MPX B
Y CLAMP
B-Y CLAMP
R-Y CLAMP
3.4Vp-p
IC504 (19) E-E (PinP:ON)
4.8V
IC504 (21) E-E (PinP:ON)
0.7V
IC504 (17) E-E (PinP:ON)
IC501 DIGITAL PICTURE CONTROL
DA Y
DA R
DA B
BLK
C SYNC
V SYNC
HD
SYN
VDH
HDH
HDS
VDS
SYS
IRIS/CAS
RAS/IRE
SIC
SOC
IC501 (41) E-E (PinP:ON)
5Vp-p
IC501 (43) E-E (PinP:ON)
6.2Vp-p
5MHz
IC501 (11) E-E (PinP:ON)
30.2MHz
IC501 (9) E-E (PinP:ON)
SYS RESET
SB T/R
SB T/B
SBL/HDZ
PIP ON
21P S/V (IC001 (33))
Q236
VIDEO BUFFER
VIDEO
IC207 (1/2) VIDEO SWITCH
TITLE
IC214 PIP SWITCH
PIP (IC601 (43))
FRAME (IC601 (44))
IC215 PIP SWITCH
BPF
Q229-231,275
CHROMA AMP
SUB CHROMA
MAIN CHROMA
RV204
S OUT SUB C PHASE ADJ
PIP (IC601 (43))
FRAME (IC601 (44))
D206
KILLER (IC213 (27))
Q242-246
VIDEO AMP
Q247-251
Y AMP
Q252-256
CHROMA AMP
VPS DATA DECODER
TU VIDEO
FBAS

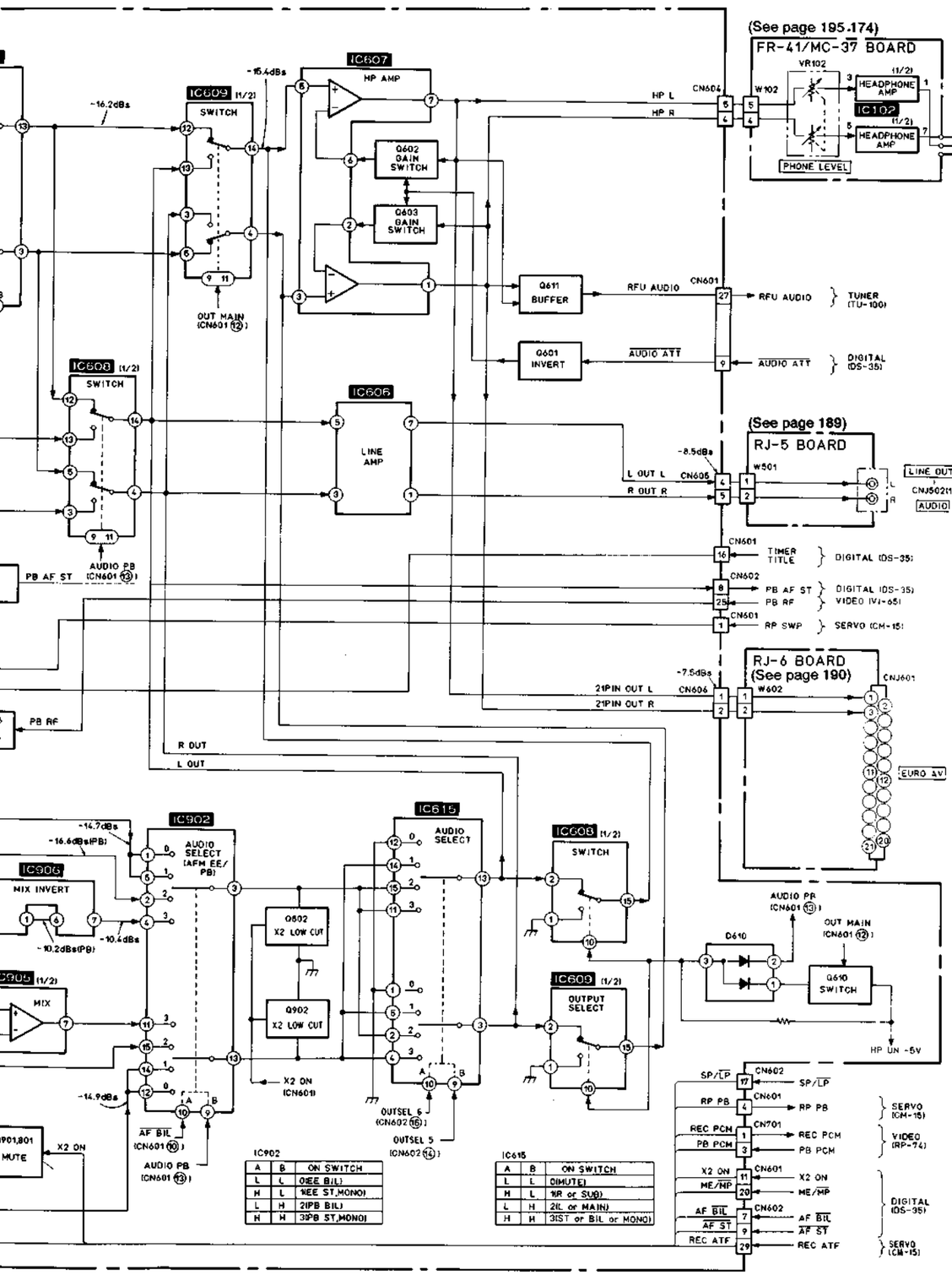

IC213 SUB PICTURE ENCODER
VIDEO IN 2
VIDEO IN 1
CLAMP
SW
SUB OUT
FRAME/WG
PINP SW
CHROMA LEVEL FILTER
BURST LEVEL
APC FILTER
ACC FILTER
FREE RUN CONTROL
APC DET
ACC DET
VCA
BGA
BGP
1/4
FRAME
ERROR AMP
MAIN CHROMA IN
FREE RUN
LD
VCA
VCXO
CP2 GEN
CP1
CP2
SYNC SW
SYNC MIX
Y/C MIX
MOD
KILLER DET
1/2
4fsc VCXO
LD KILLER
1/32
32fH VCO
AFC
AFC FILTER
HD HWV
SYNC DET
BGP GEN
BGD WIDTH
V-SYNC SEP
C-SYNC SEP
VCO IN
VCO OUT
X205 500KHz
SW 5V
0.5Vp-p 500KHz IC213 (11) E-E (PinP:ON)
0.25V p-p 17.734MHz IC213 (17) E-E (PinP:ON)
X204 17.734MHz
CV203 VXO MAIN ADJ
CHROMA SUB C IN
V.OUT
Y.IN
R-Y
B-Y
BPF R
BPF B
HD IN
KILLER OUT
VCXO OUT
KILLER C
ACK LEVEL
KILLER REF
SYNC DET FILTER
SYNC DET OUT
CHROMA SYNC IN
C SYNC
V SYNC
V SEP C
TIMING R
HD OUT
IC203 (1/2) TITLE/LINE SWITCH
TIMER TITLE (IC001 (15))
Q240 TITLE Y BUFFER
Q237-239 TITLE C BUFFER
Q210 Y BUFFER
Q211 CHROMA BUFFER
TITLE Y
L OUT Y
TITLE C
L OUT C
L OUT VIDEO
Q262-266 Y AMP
4.5Vp-p
IC209 (20) E-E (PinP:ON)
R-Y DEMOD
B-Y DEMOD
1/4
HD COMP
ID PULSE
ID KILLER DET
17.734MHz
0.42Vp-p
1.1Vp-p
IC209 (19) E-E (PinP:ON)
Q232 B-Y BUFFER
FL604 LPF
Q233 R-Y BUFFER
FL603 LPF
Q227 Y AMP
Q225,226 Y AMP
Q228 Y AMP
RV200 SUB Y LEVEL ADJ
FL201,505 LPF
Q234,235 SUB Y BLK CONTROL
RV205 SUB Y BLK ADJ
0.7V p-p
IC604 (17) E-E (PinP:ON)
IC604 D/A CONVERTER
IC502 RAM
IC503 A/D CONVERTER
3.4Vp-p
IC604 (19) E-E (PinP:ON)
4.8V p-p
IC604 (21) E-E (PinP:ON)
DA6
DA1
A7
A0
AD1
AD6
A/D CONV
MULTIPLEX
Y CLAMP
B-Y CLAMP
R-Y CLAMP
ADC
MPX Y
MPX R
MPX B
SCL
CHILD MUTE (IC001 (14))
Q503 LPF
Q501 LPF
Q502 LPF
IC507 PiP SWITCH
IC401 DIGITAL PICTURE CONTROL
IRES/CAS
RAS/IRE
SIC
SOC
DA Y
DA R
DA B
BLK
C SYNC
V SYNC
HD
SYN
VDM
HDM
HDS
VDS
SYS
STS RESET
SSB T/R
SSB T/B
SQL/NUL
PIP ON
IC601 (41) E-E (in:ON)
6Vp-p
IC601 (43) E-E (PinP:ON)
5MHz IC601 (11) E-E (PinP:ON)
6.2Vp-p
3.2Vp-p CLK
30.2MHz IC601 (9) E-E (PinP:ON)
FRAME
PIP
WG
SW MM
IC505 READ CLOCK
SCLK
VCOE
CV501 SCLK ADJ
3Vp-p
30.2MHz IC601 (11) E-E (PinP:ON)
X501 30.2MHz
IC506 ACCESS CLOCK
21P S/V (IC001 (33))
M OUT Y
M OUT C1
M OUT C2
L OUT V
L OUT Y
L OUT C
REC Y
REC C
CN202
CN201
VIDEO (V1-65)
IC207 (1/2) VIDEO SWITCH
VIDEO BUFFER
Q236
PiP (IC501 (43))
FRAME (IC501 (44))
IC214 PiP SWITCH
IC215 PiP SWITCH
BPF
Q229-231,275 CHROMA AMP
SUB CHROMA
MAIN CHROMA
RV204 S OUT SUB C PHASE ADJ
Q242-246 VIDEO AMP
Q247-251 Y AMP
Q252-254 CHROMA AMP
D206
KILLER (IC215 (27))
RJ-6 BOARD (1/2) (See page 190)
RJ-6 BOARD (See page 189)
W601
W602
AV CONT
M OUT R
M OUT L
M OUT C
M OUT V
21P S/V
VIDEO OUT Y/C ← VIDEO
S603
CNJ601 EURO-AV
CNJ502 VIDEO
LINE OUT
CNJ506 S VIDEO
CNJ503 S VIDEO
MONITOR OUT
CN501
IPC-391

4-15. AUDIO BLOCK DIAGRAM

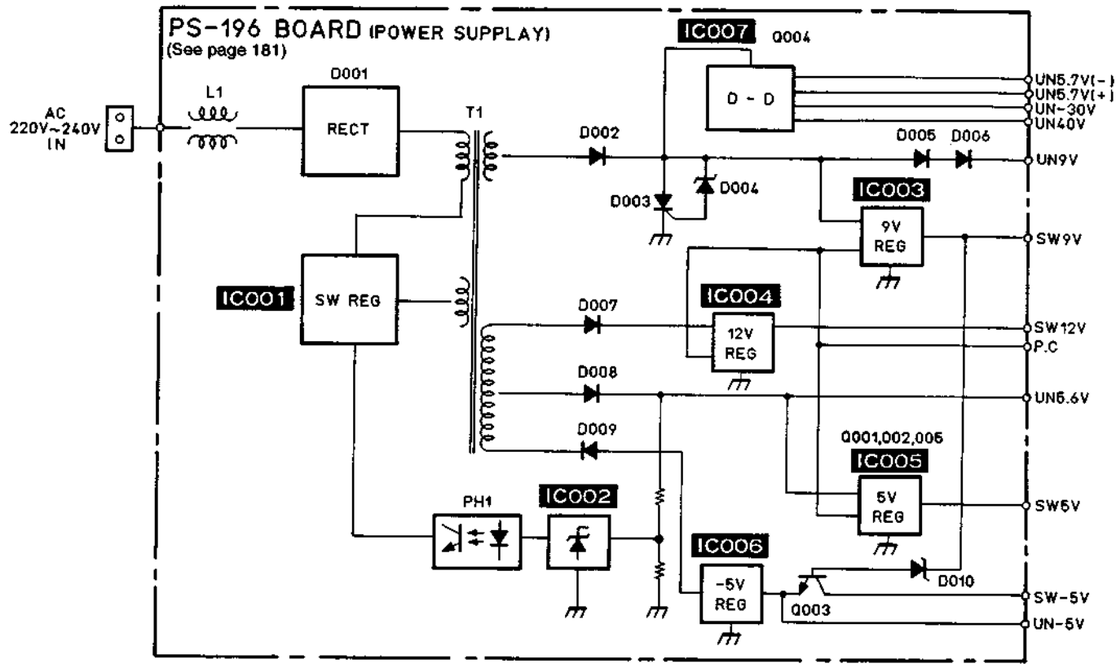




(See page 195.17)
(See page 189)
(See page 190)



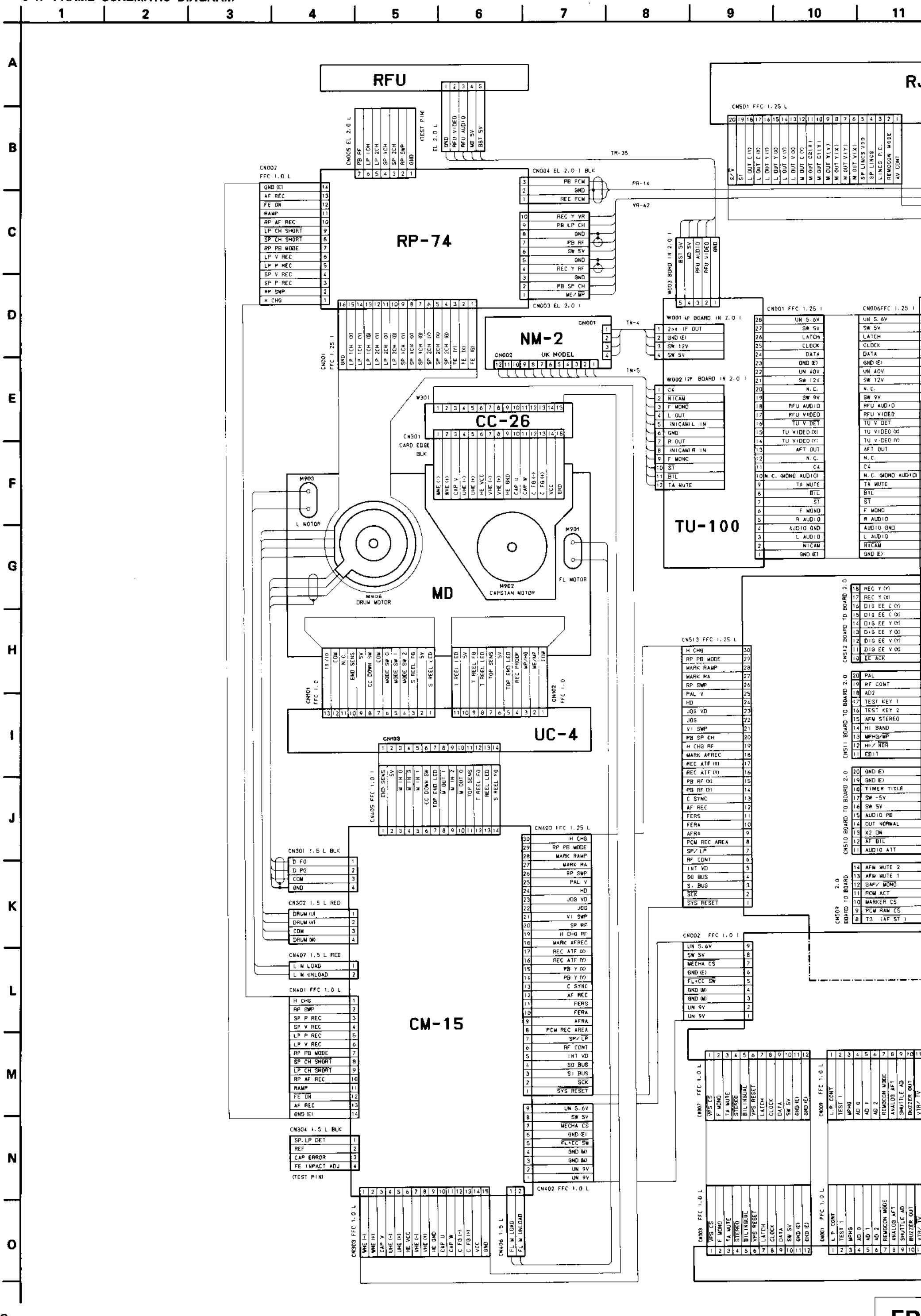
4-16. POWER BLOCK DIAGRAM



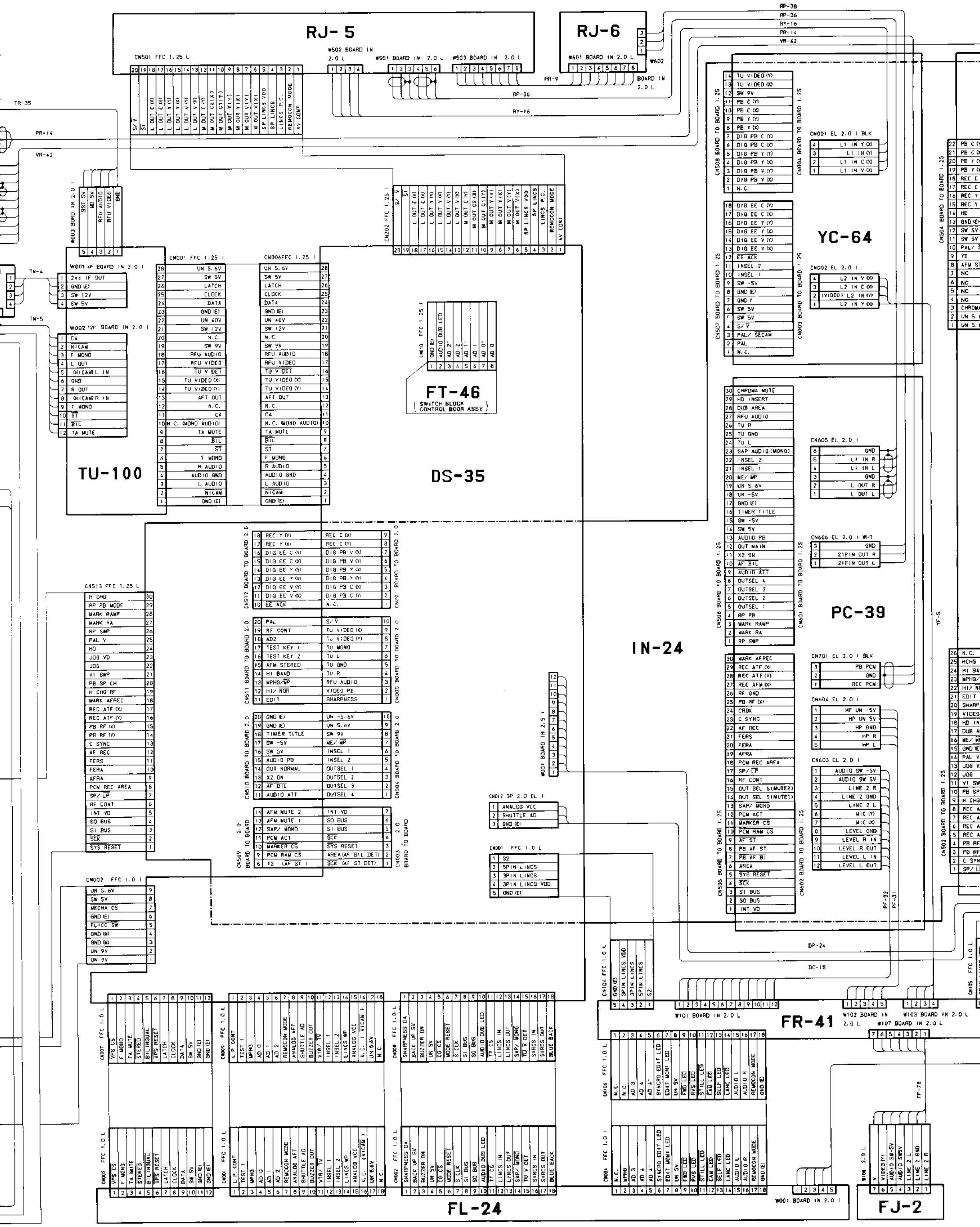
SECTION 5

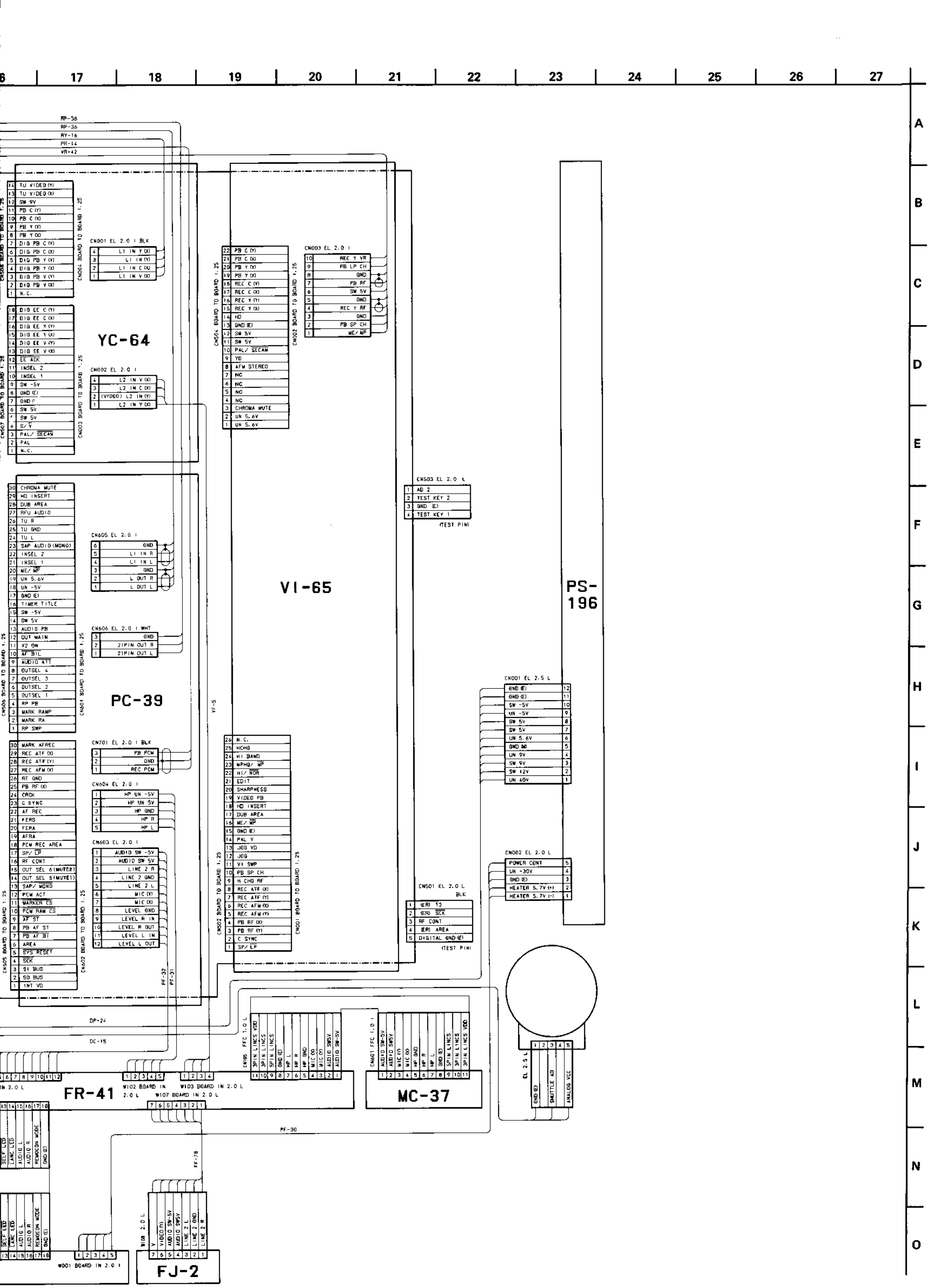
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

5-1. FRAME SCHEMATIC DIAGRAM



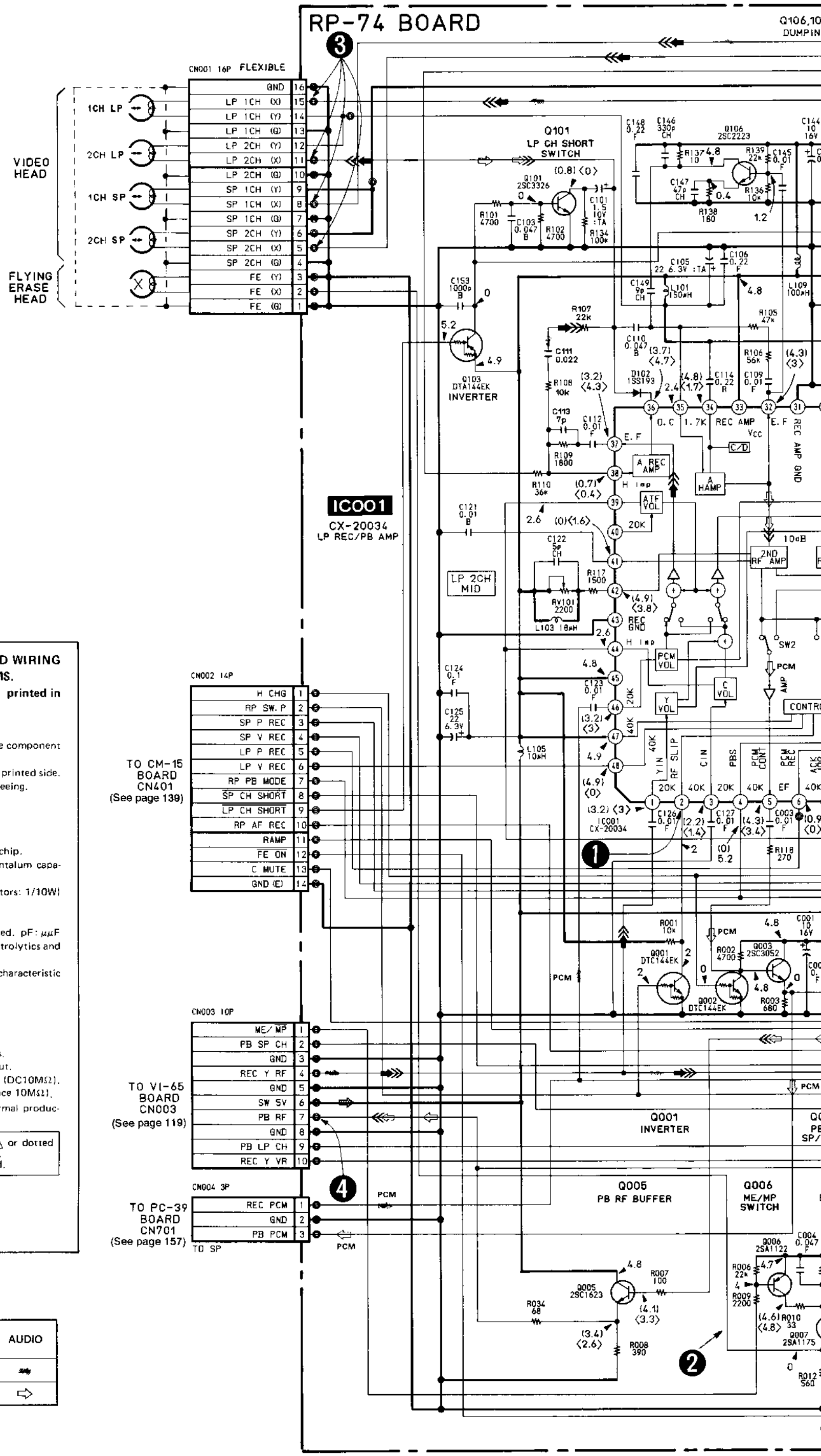
FR


RJ-5
RJ-6
CN501 FFC 1.25 L
W502 BOARD IN 2.0 L
W501 BOARD IN 2.0 L
W503 BOARD IN 2.0 L
W601 BOARD IN 2.0 L
W602 BOARD IN 2.0 L
RP-38
RP-36
RY-16
RR-14
VR-42
RR-9
TR-35
PR-14
VR-42
W003 BORD IN 2.0 L
BST 5V
WD 5V
RFU AUDIO
RFU VIDEO
GND
CN202 FFC 1.25 L
W001 4P BOARD IN 2.0 L
2nd IF OUT
GND (E)
SW 12V
SW 5V
TN-4
TN-5
W002 12P BOARD IN 2.0 L
C4
NICAM
F MONO
L OUT
(NICAM) L IN
GND
R OUT
(NICAM) R IN
F MONO
ST
BIL
TA MUTE
TU-100
CN001 FFC 1.25 L
CN006FFC 1.25 L
UN 5.6V
SW 5V
LATCH
CLOCK
DATA
GND (E)
UN 40V
SW 12V
N.C.
SW 9V
RFU AUDIO
RFU VIDEO
TU V DET
TU VIDEO (X)
TU VIDEO (Y)
AFT OUT
N.C.
C4
N.C. (MONO AUDIO)
TA MUTE
BIL
ST
F MONO
R AUDIO
AUDIO GND
L AUDIO
NICAM
GND (E)
DS-35
CN010 FFC 1.25 L
GND (E)
AUDIO DUB LED
AD 2'
AD 2
AD 1'
AD 1
AD 0'
AD 0
FT-46
SWITCH BLOCK CONTROL BOOR ASSY
CN512 BOARD TO BOARD 2.0
CN511 BOARD TO BOARD 2.0
CN510 BOARD TO BOARD 2.0
CN509 BOARD TO BOARD 2.0
CN513 FFC 1.25 L
H CHG
RP PB MODE
MARK RAMP
MARK RA
RP SWP
PAL V
HD
JOG VD
JOG
V1 SWP
PB SP CH
H CHG RF
MARK AFREC
REC ATF (X)
PB RF (X)
PB RF (Y)
C SYNC
AF REC
FERS
FERA
AFRA
PCM REC AREA
SP/ LP
RF CON1
INT VD
SO BUS
SI BUS
SCK
SYS RESET
CN002 FFC 1.0 L
UN 5.6V
SW 5V
MECHA CS
GND (E)
FL+CC SW
GND (M)
GND (M)
UN 9V
UN 9V
IN-24
CN004 BOARD TO BOARD 2.0
CN005 BOARD TO BOARD 2.0
CN002 BOARD TO BOARD 2.0
CN003 BOARD TO BOARD 2.0
W001 BOARD IN 2.5 L
CN012 3P 2.0 EL I
ANALOG VCC
SHUTTLE AD
GND (E)
CN001 FFC 1.0 L
S2
5PIN LINCS
3PIN LINCS
3PIN LINCS VDD
GND (E)
CN507 BOARD TO BOARD 1.25
CN508 BOARD TO BOARD 1.25
CN504 BOARD TO BOARD 1.25
CN503 BOARD TO BOARD 1.25
CN001 EL 2.0 I BLK
CN002 EL 2.0 I
CN003 BOARD TO BOARD 1.25
CN004 BOARD TO BOARD 1.25
YC-64
CN505 BOARD TO BOARD 1.25
CN601 BOARD TO BOARD 1.25
CN602 BOARD TO BOARD 1.25
PC-39
CN605 EL 2.0 I
CN606 EL 2.0 I WHT
CN701 EL 2.0 I BLK
CN604 EL 2.0 I
CN603 EL 2.0 I
CN502 BOARD TO BOARD 1.25
PF-32
PF-31
DP-24
DC-15
CN104 FFC 1.0 L
3PIN LINCS VDD
3PIN LINCS
3PIN LINCS
S2
W101 BOARD IN 2.0 L
W102 BOARD IN 2.0 L
W103 BOARD IN 2.0 L
W107 BOARD IN 2.0 L
FR-41
CN007 FFC 1.0 L
CN009 FFC 1.0 L
CN001 FFC 1.0 L
CN002 FFC 1.0 L
CN003 FFC 1.0 L
CN004 FFC 1.0 L
CN006 FFC 1.0 L
VPS CS
F MONO
TA MUTE
STEREO
BIL/NIGUAL
VPS RESET
LATCH
CLOCK
DATA
SW 5V
GND (E)
L.P. CONT
TEST 1
WPHG
AD 0
AD 1
AD 2
REMOCON MODE
ANALOG AFT
SHUTTLE AD
BUZZER OUT
V1A/ TV
INSEL 1
INSEL 2
LINCS WP
ANALOG VCC
N.C. (NICAM)
UN 5.6V
N.C.
SHARPNESS DA
BACK UP 5V
BUZZER ON
UN 5V
CG CS
MODE RESET
S CLK
SI BUS
SO BUS
AUDIO DUB LED
TF CS
LINCS IN
LINCS OUT
SAP/ MONO
TU V DET
SIRCS IN
SIRCS OUT
BLUE BACK
N.C.
WPHG
AD 3
AD 4
AD 4'
SYNCRO EDIT LED
EDIT MONI LED
UN 5V
FWD LED
RVS LED
STILL LED
CAM LED
SELF LED
LANC LED
AUDIO L
AUDIO R
REMOCON MODE
GND (E)
W004 BOARD IN 2.0 L
W108 2.0 L
V
VIDEO (Y)
AUDIO SW -5V
AUDIO SW 5V
LINE 2 L
LINE 2 GND
LINE 2 R
FL-24
FJ-2
FF-78


17
18
19
20
21
22
23
24
25
26
27
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
RP-38
RP-36
RY-16
PR-14
VR-42
YC-64
CN001 EL 2.0 I BLK
CN002 EL 2.0 I
CN003 BOARD TO BOARD 1.25
CN004 BOARD TO BOARD 1.25
PC-39
CN605 EL 2.0 I
CN606 EL 2.0 I WHT
CN701 EL 2.0 I BLK
CN604 EL 2.0 I
CN603 EL 2.0 I
CN601 BOARD TO BOARD 1.25
CN602 BOARD TO BOARD 1.25
CN505 BOARD TO BOARD 1.25
CN506 BOARD TO BOARD 1.25
CN507 BOARD TO BOARD 1.25
VI-65
YF-5
CN504 BOARD TO BOARD 1.25
CN002 BOARD TO BOARD 1.25
CN003 EL 2.0 I
CN502 BOARD TO BOARD 1.25
CN001 BOARD TO BOARD 1.25
CN503 EL 2.0 L
(TEST PIN)
CN501 EL 2.0 L BLK
(TEST PIN)
PS-196
CN001 EL 2.5 L
CN002 EL 2.0 L
EL 2.5 L
SHUTTLE AD
ANALOG VCC
PF-32
PF-31
PF-30
PF-78
DP-24
DC-15
CN105 FFC 1.0 L
CN601 FFC 1.0 I
FR-41
W102 BOARD IN 2.0 L
W103 BOARD IN 2.0 L
W107 BOARD IN 2.0 L
MC-37
W001 BOARD IN 2.0 I
W108 2.0 L
FJ-2

RP-74 (REC/PB AMP) SCHEMATIC DIAGRAM

– Ref. No.: RP-74 Board; 1,000 series –



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

For printed wiring boards:

- ○– : indicates a lead wire mounted on the component side.
- ●– : indicates a lead wire mounted on the printed side.
- ▒▒ : Pattern from the side which enables seeing.
- ▒▒ : Pattern of the rear side.

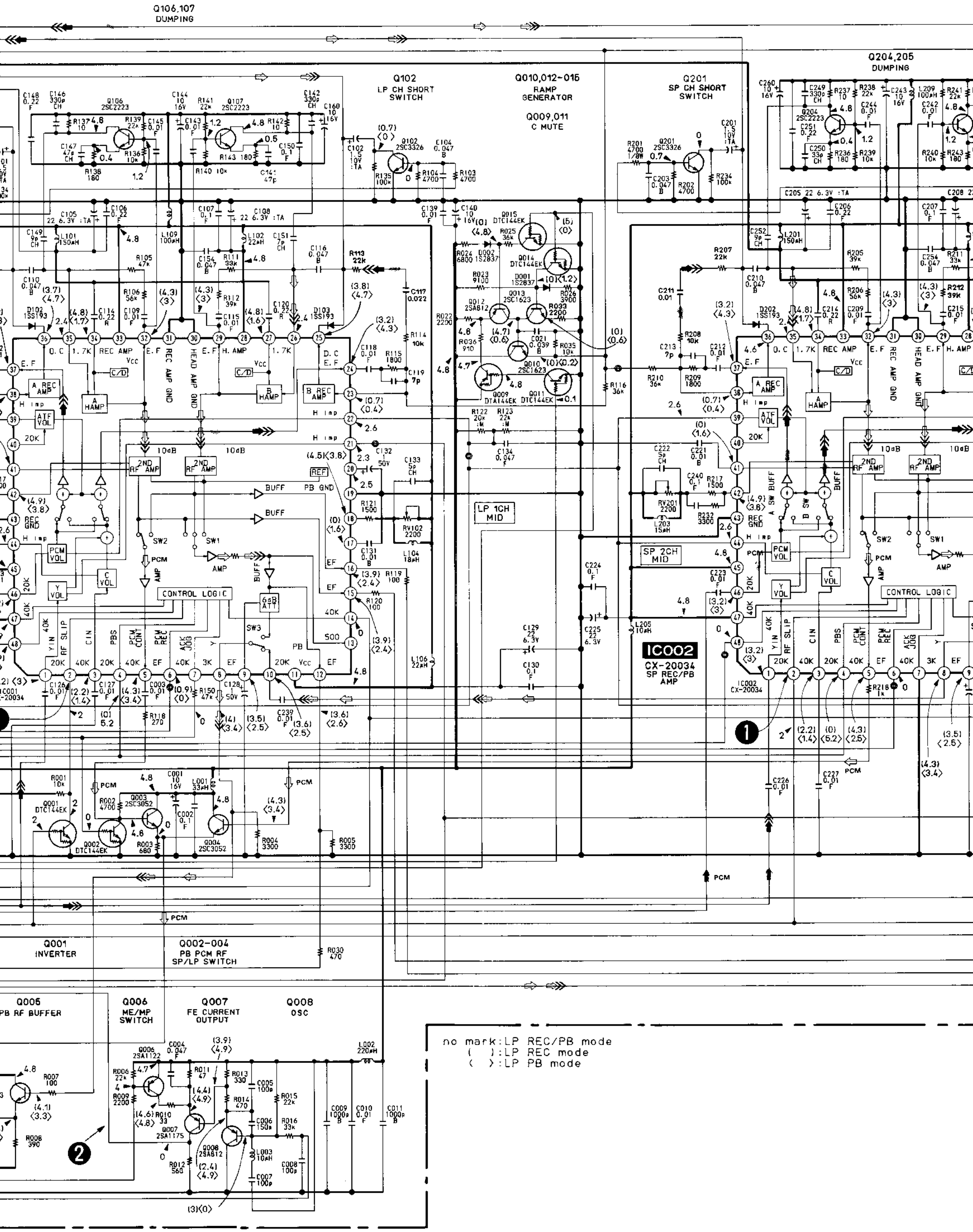
For schematic diagram:

- 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.
- All resistors are in ohms, 1/4W (Chip resistors: 1/10W) unless otherwise noted.
  kΩ: 1000Ω, MΩ: 1000kΩ.
- All capacitors are in µF unless otherwise noted. pF: µµF
  50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- ▭ : panel designation.
- △ : internal component.
- Voltages are dc between measurement points.
- Readings are taken with a color-bar signal input.
- Readings are taken with a digital multimeter (DC10MΩ). Voltage are taken with aVOM (Input impedance 10MΩ).
- Voltage variations may be noted due to normal production tolerances.

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

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

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


Q106,107
DUMPING
Q102
LP CH SHORT
SWITCH
Q010,012~015
RAMP
GENERATOR
Q009,011
C MUTE
Q201
SP CH SHORT
SWITCH
Q204,205
DUMPING
LP 1CH
MID
SP 2CH
MID
IC002
CX-20034
SP REC/PB
AMP
CONTROL LOGIC
REC AMP
HEAD AMP GND
REC AMP GND
E. F
H. AMP
D. C
E. F
1.7K
Vcc
A REC AMP
B REC AMP
A HAMP
B HAMP
2ND RF AMP
10dB
BUFF
PB GND
REF
SW1
SW2
PCM AMP
6dB ATT
A SW
B SW
PCM VOL
Y VOL
C VOL
ATF VOL
H Imp
REC GND
Y IN
RF SLIP
C IN
PBS
PCM CONT
PCM REC
ACK JOG
Q001
INVERTER
Q002~004
PB PCM RF
SP/LP SWITCH
Q005
PB RF BUFFER
Q006
ME/MP
SWITCH
Q007
FE CURRENT
OUTPUT
Q008
OSC
no mark:LP REC/PB mode
( ):LP REC mode
< >:LP PB mode

Q204,205
DUMPING

Q201
SP CH SHORT
SWITCH

Q202
SP CH SHORT
SWITCH

Q203
INVERTER

IC002
CX-20034
SP REC/PB
AMP

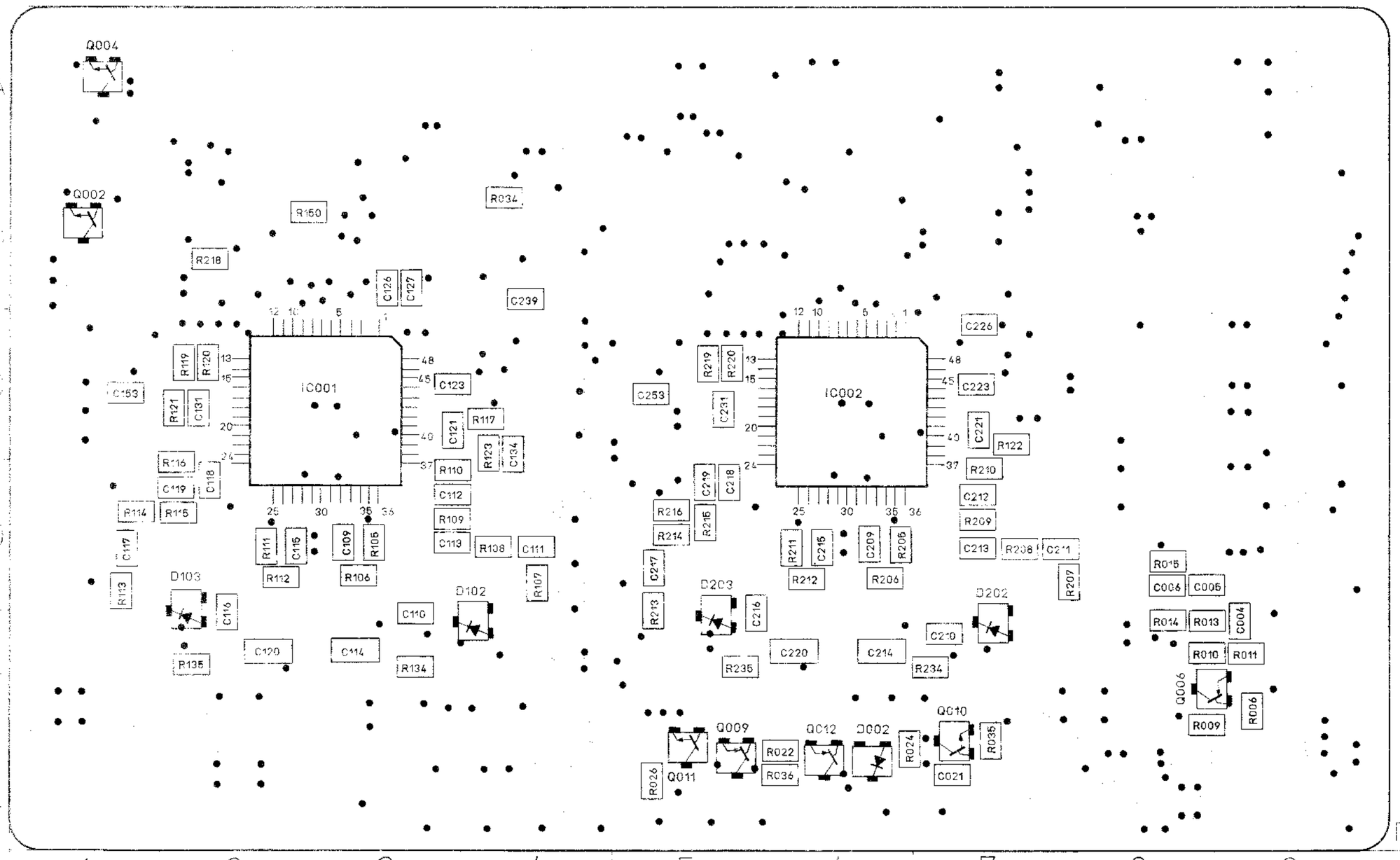
CN005 7P

1	GND
2	RP SW. P
3	SP 2CH
4	SP 1CH
5	LP 2CH
6	LP 1CH
7	PB RF

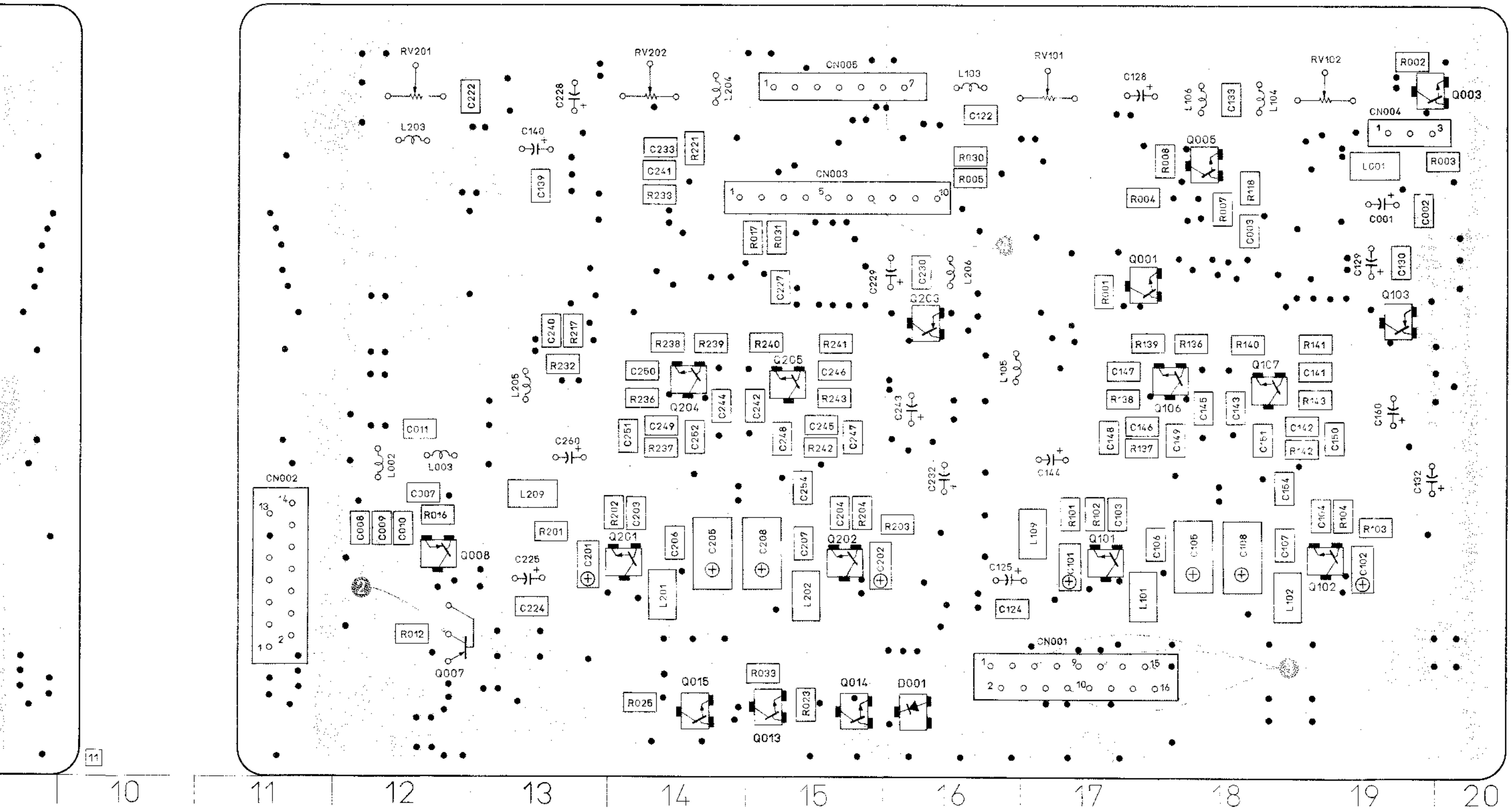
CHECK
PIN

HEAD AMP HEAD AMP

RP-74 BOARD (COMPONENT SIDE)



RP-74 BOARD (CONDUCTOR SIDE)

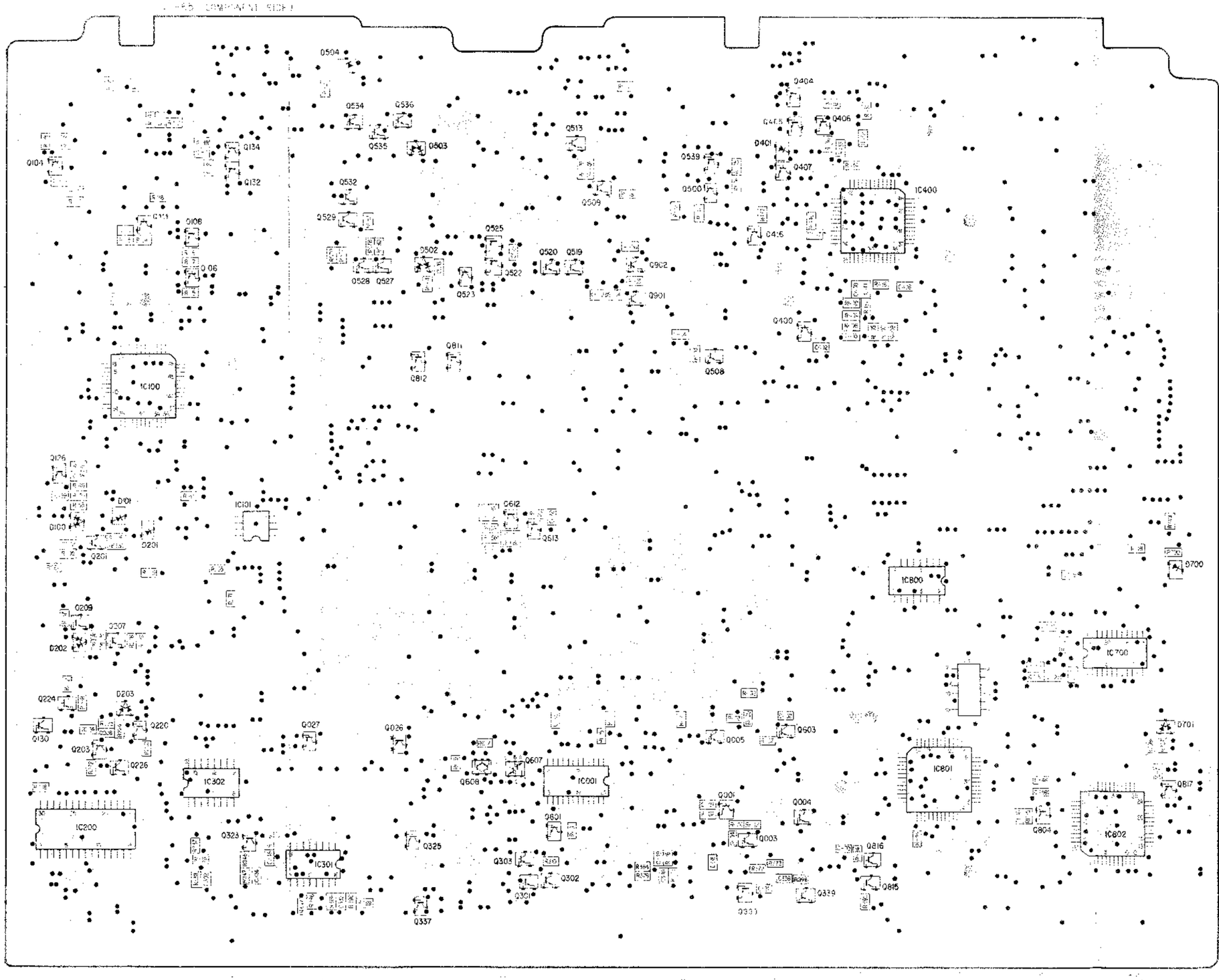


VI-65 (VIDEO SIGNAL PROCESS) PRINTED WIRING BOARD

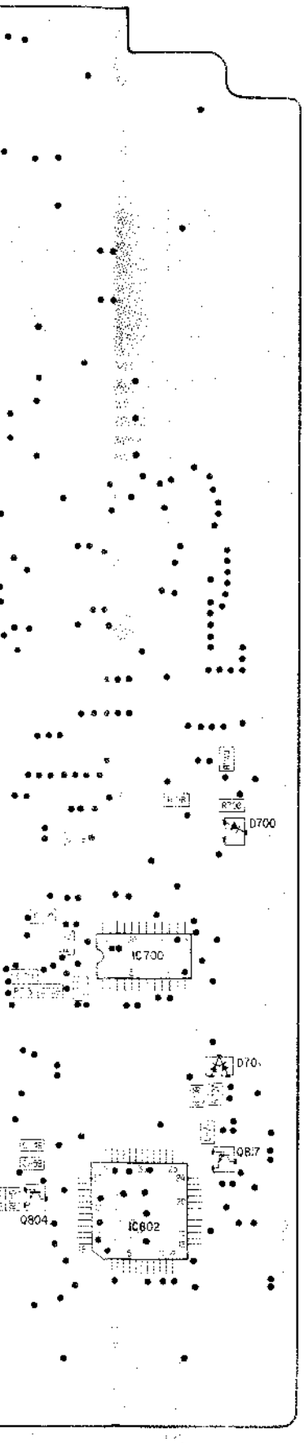
- Ref. No.: VI-65 Board: 2,000 series

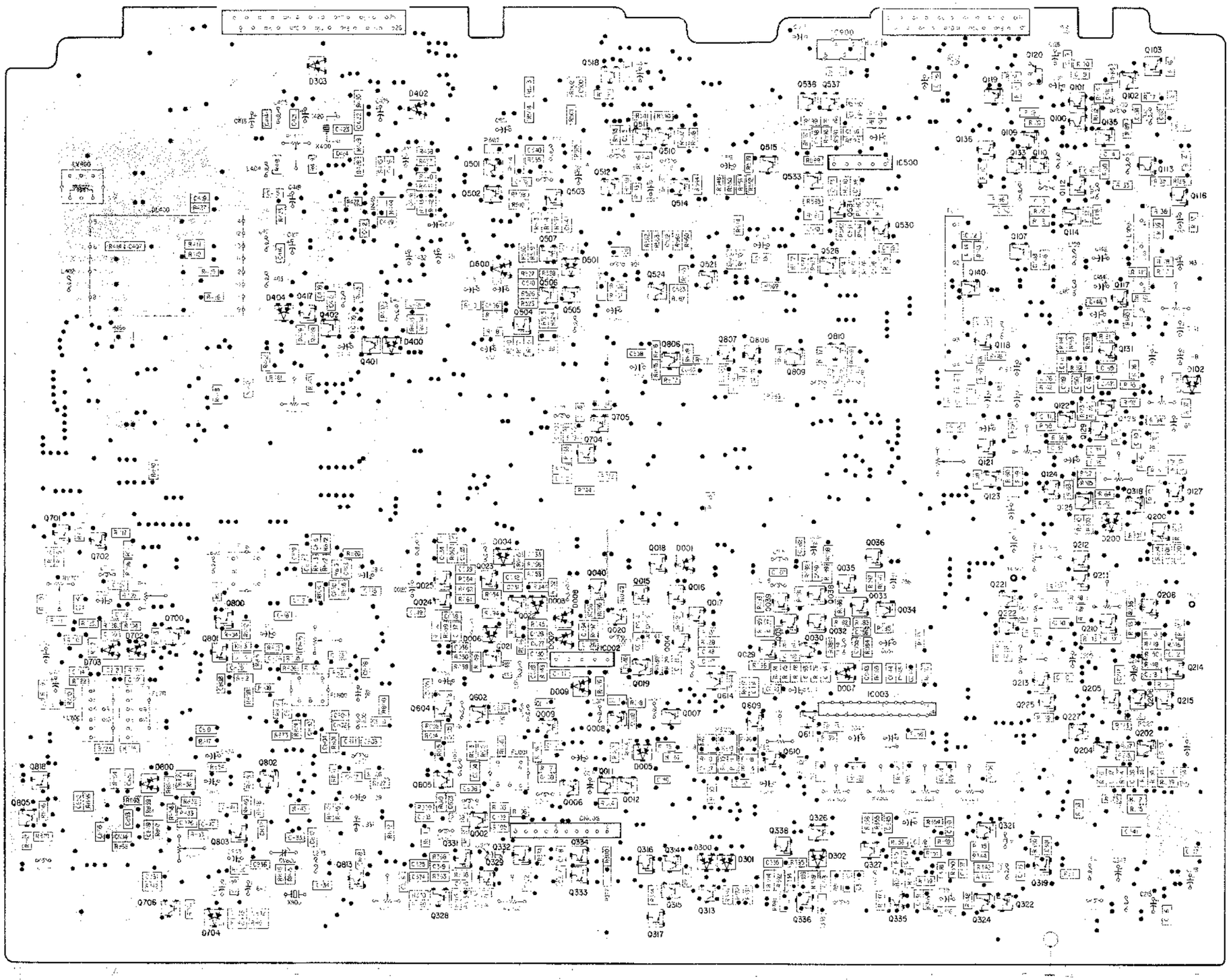
PC-65 BOARD

D001	F-22	Q106	C-3	Q501	B-26
D002	G-21	Q107	C-26	Q502	C-26
D003	G-21	Q108	C-3	Q503	C-21
D004	F-26	Q109	B-26	Q504	D-21
D005	I-22	Q110	B-26	Q505	D-21
D006	G-20	Q111	C-2	Q506	D-21
D007	H-24	Q112	B-27	Q507	C-21
D008	G-21	Q113	B-28	Q508	D-8
D009	H-21	Q114	C-27	Q509	C-7
D100	F-2	Q116	C-28	Q510	B-22
D101	F-2	Q117	D-27	Q511	B-22
D102	D-26	Q118	D-26	Q512	B-21
D200	F-27	Q119	A-26	Q513	B-7
D201	F-2	Q120	A-26	Q514	C-22
D202	G-1	Q121	E-26	Q515	B-23
D203	H-2	Q122	E-26	Q518	A-21
D300	J-23	Q123	F-26	Q519	C-7
D301	J-23	Q124	F-26	Q520	C-7
D302	J-24	Q125	F-27	Q521	C-23
D303	A-18	Q126	E-1	Q522	C-6
D400	D-19	Q127	F-28	Q523	D-6
D401	B-9	Q128	E-27	Q524	C-22
D402	A-19	Q129	E-27	Q525	C-6
D404	D-18	Q130	H-1	Q526	C-24
D500	C-20	Q131	D-27	Q527	C-5
D501	C-21	Q132	B-3	Q528	C-4
D502	C-5	Q133	B-26	Q529	C-4
D503	B-5	Q134	B-3	Q530	C-25
D504	A-4	Q135	B-27	Q531	C-24
D700	G-14	Q136	B-26	Q532	B-4
D701	H-14	Q140	C-26	Q533	B-24
D702	G-16	Q200	F-28	Q534	B-4
D703	H-16	Q201	F-2	Q535	B-5
D704	J-17	Q202	H-27	Q536	B-5
D800	H-17	Q203	I-1	Q537	A-24
		Q204	I-27	Q538	A-24
IC001	I-7	Q205	H-27	Q539	B-8
IC002	H-21	Q206	H-27	Q601	I-7
IC003	H-24	Q207	G-2	Q602	H-20
IC100	E-2	Q208	G-28	Q603	H-9
IC101	F-3	Q209	G-1	Q604	H-19
IC200	I-2	Q210	G-27	Q605	I-19
IC301	J-4	Q211	G-27	Q607	I-6
IC302	I-3	Q212	F-27	Q608	I-6
IC400	C-10	Q213	H-26	Q609	H-23
IC500	B-24	Q214	H-28	Q610	I-23
IC700	H-13	Q215	H-28	Q611	H-24
IC800	G-11	Q220	H-2	Q612	F-6
IC801	I-11	Q221	G-26	Q613	F-6
IC802	J-13	Q222	G-26	Q614	H-23
IC900	A-24	Q224	H-1	Q700	G-17
		Q225	H-26	Q701	F-15
Q001	I-9	Q226	I-2	Q702	G-16
Q002	J-20	Q227	H-27	Q704	E-21
Q003	J-9	Q301	J-6	Q705	E-22
Q004	I-9	Q302	J-7	Q706	J-16
Q005	H-9	Q303	J-6	Q800	G-17
Q006	I-21	Q313	J-23	Q801	G-17
Q007	H-22	Q314	J-22	Q802	I-18
Q008	H-21	Q315	J-22	Q803	J-17
Q009	H-21	Q316	J-22	Q804	I-12
Q011	I-21	Q317	J-22	Q805	I-15
Q012	I-22	Q318	F-27	Q806	D-22
Q014	G-22	Q319	J-26	Q807	D-23
Q015	G-22	Q321	I-26	Q808	D-23
Q016	G-22	Q322	J-26	Q809	D-24
Q017	G-23	Q323	J-3	Q810	D-24
Q018	F-22	Q324	J-26	Q811	D-5
Q019	H-22	Q325	J-5	Q812	D-5
Q020	G-22	Q326	I-24	Q813	J-19
Q021	H-20	Q327	J-24	Q815	J-10
Q022	G-21	Q328	J-20	Q816	J-10
Q023	G-20	Q329	J-20	Q817	I-14
Q024	G-20	Q330	J-9	Q818	I-15
Q025	G-20	Q331	J-20	Q901	D-8
Q026	H-5	Q332	J-20	Q902	C-8
Q027	H-4	Q333	J-21		
Q029	H-23	Q334	J-21		
Q030	G-24	Q335	J-25		
Q031	G-23	Q336	J-24		
Q032	G-24	Q337	J-5		
Q033	G-24	Q338	J-23		
Q034	G-25	Q339	J-10		
Q035	G-24	Q400	D-9		
Q036	F-24	Q401	D-18		
Q038	G-24	Q402	D-18		
Q039	G-23	Q404	A-9		
Q040	G-21	Q405	B-9		
Q100	B-26	Q406	B-10		
Q101	A-27	Q407	B-9		
Q102	A-27	Q416	C-9		
Q103	A-27	Q417	D-19		
Q104	B-1	Q500	B-8		



V - 65 (CONDUCTOR SIDE)

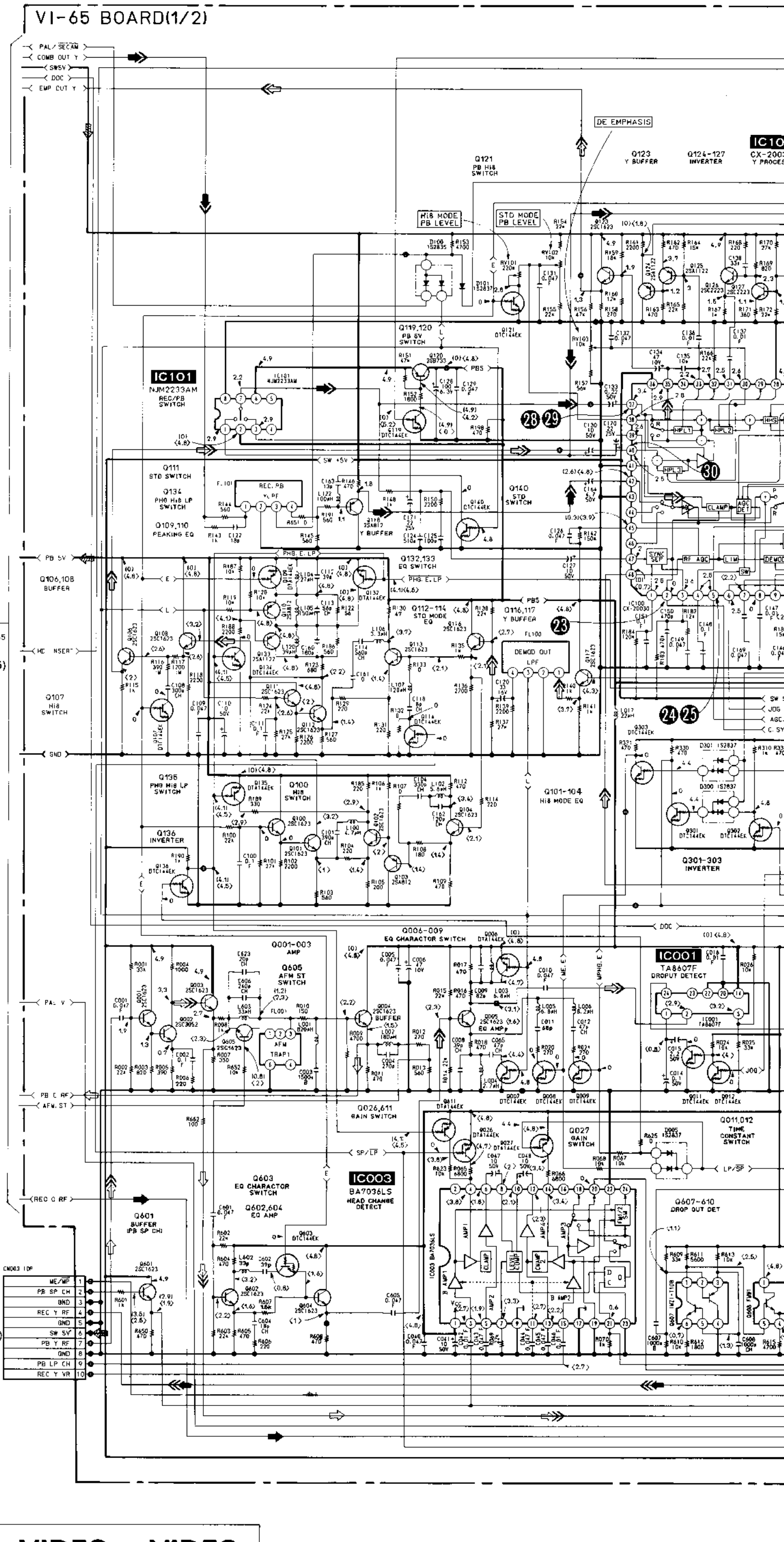




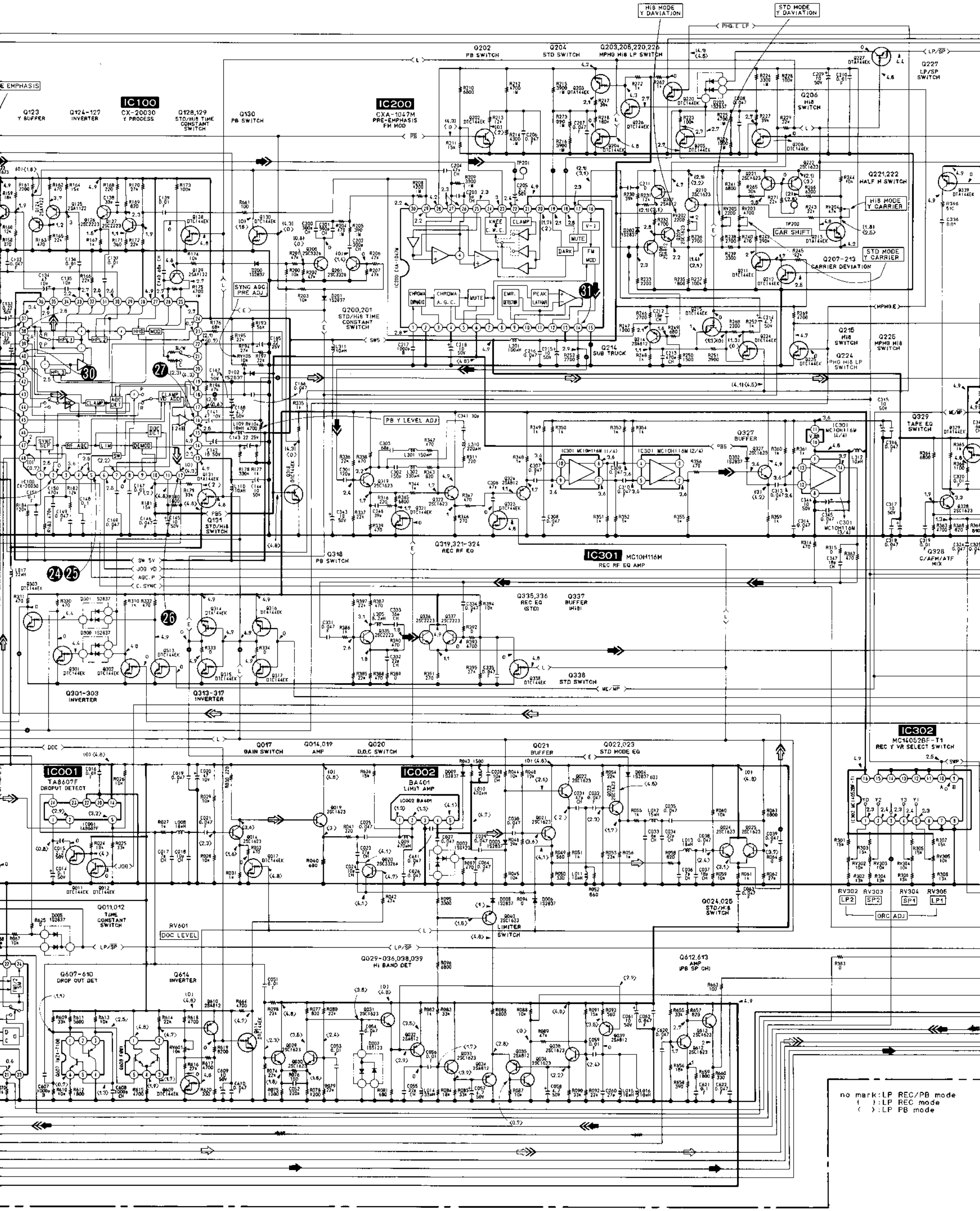
VIDEO VIDEO

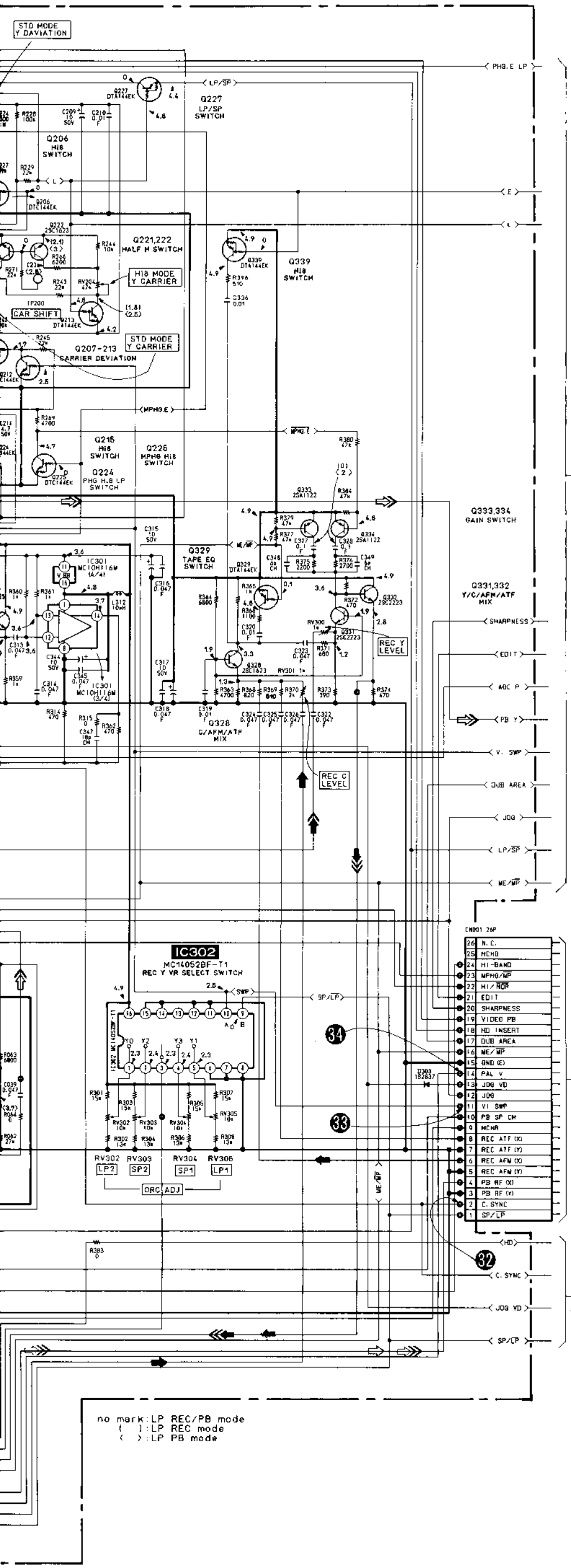
VI-65 (VIDEO SIGNAL PROCESS) SCHEMATIC DIAGRAMS (1/2)

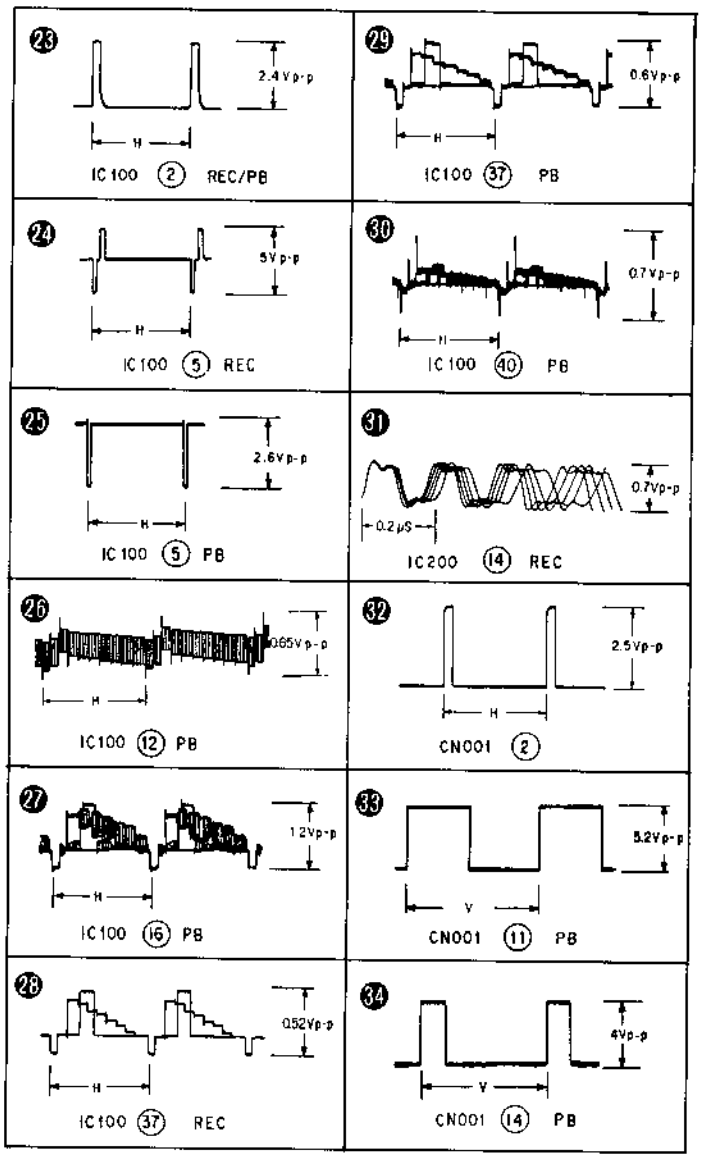
– Ref. No.: VI-65 Board; 2,000 series –



VIDEO VIDEO


IC100
CX-20030
Y PROCESS
IC200
CXA-1047M
PRE-EMPHASIS FM MOD
IC301 MC10H116M
REC RF EQ AMP
IC001
TA8607F
DROPOUT DETECT
IC002
BA401
LIMIT AMP
IC302
MC14052BF-T1
REC Y VR SELECT SWITCH
Q123 Y BUFFER
Q124-127 INVERTER
Q128,129 STD/HI8 TIME CONSTANT SWITCH
Q130 PB SWITCH
Q131 STD/HI8 SWITCH
Q200,201 STD/HI8 TIME CONSTANT SWITCH
Q202 PB SWITCH
Q204 STD SWITCH
Q203,206,220,226 MPHG HI8 LP SWITCH
Q206 HI8 SWITCH
Q207-213 CARRIER DEVIATION
Q214 SUB TRUCK
Q215 HI8 SWITCH
Q224 MPHG HI8 LP SWITCH
Q225 MPHG HI8 SWITCH
Q227 LP/SP SWITCH
Q221,222 HALF H SWITCH
Q301-303 INVERTER
Q313-317 INVERTER
Q318 PB SWITCH
Q319,321-324 REC RF EQ
Q327 BUFFER
Q328 C/AFM/ATF MIX
Q329 TAPE EQ SWITCH
Q335,336 REC EQ (STD)
Q337 BUFFER (HI8)
Q338 STD SWITCH
Q607-610 DROP OUT DET
Q611 INVERTER
Q612,613 AMP (PB SP CH)
Q011,012 TIME CONSTANT SWITCH
Q017 GAIN SWITCH
Q014,019 AMP
Q020 D.O.C SWITCH
Q021 BUFFER
Q022,023 STD MODE EQ
Q024,025 STD/HI8 SWITCH
Q029-036,038,039 Hi BAND DET
Q040 LIMITER SWITCH
HI8 MODE Y DEVIATION
STD MODE Y DEVIATION
HI8 MODE Y CARRIER
STD MODE Y CARRIER
CAR SHIFT
SYNG AGC PRE ADJ
PB Y LEVEL ADJ
DOC LEVEL
RV302 LP2
RV303 SP2
RV304 SP1
RV305 LP1
DRC ADJ
no mark:LP REC/PB mode
( ):LP REC mode
< >:LP PB mode

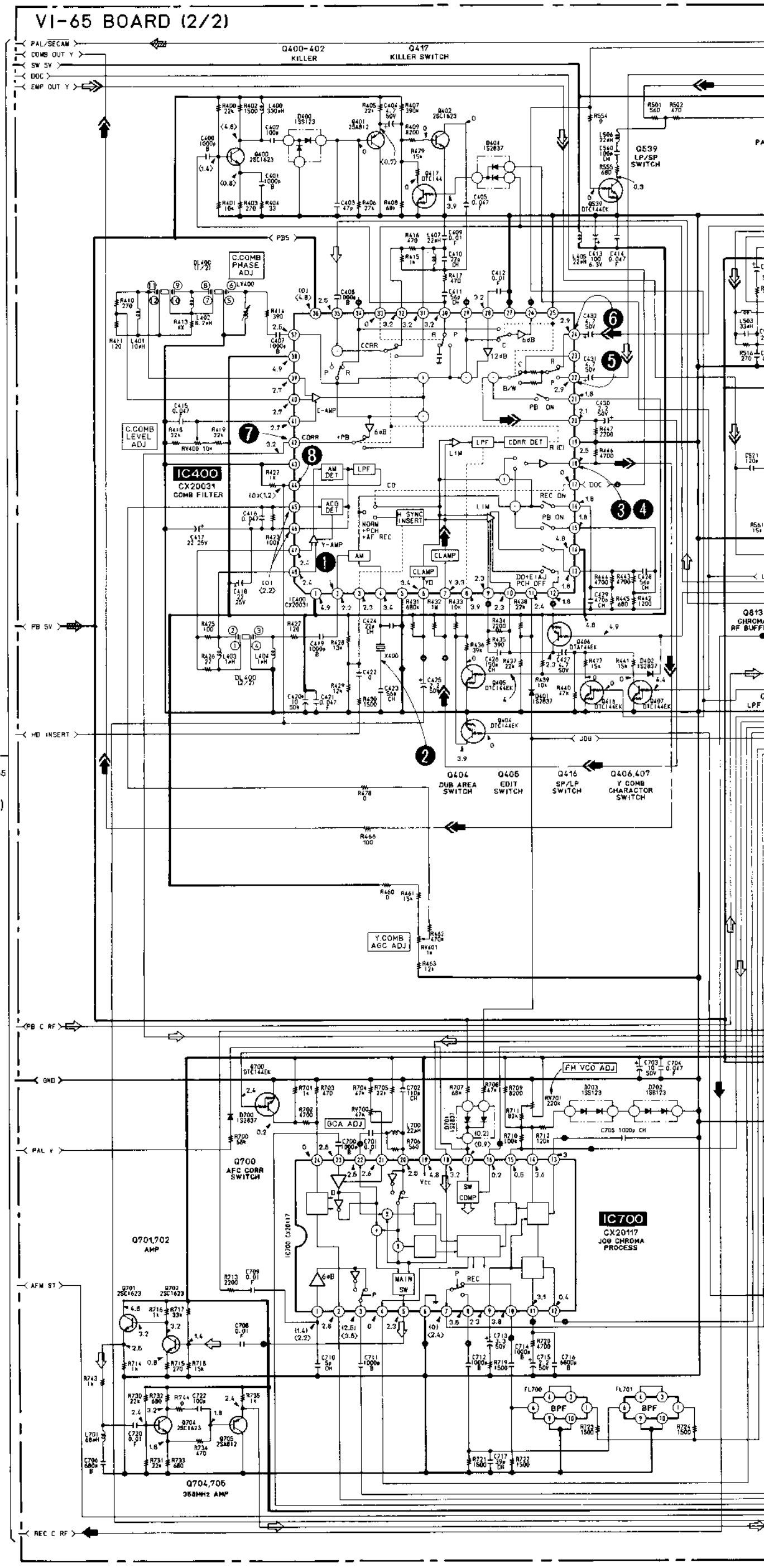


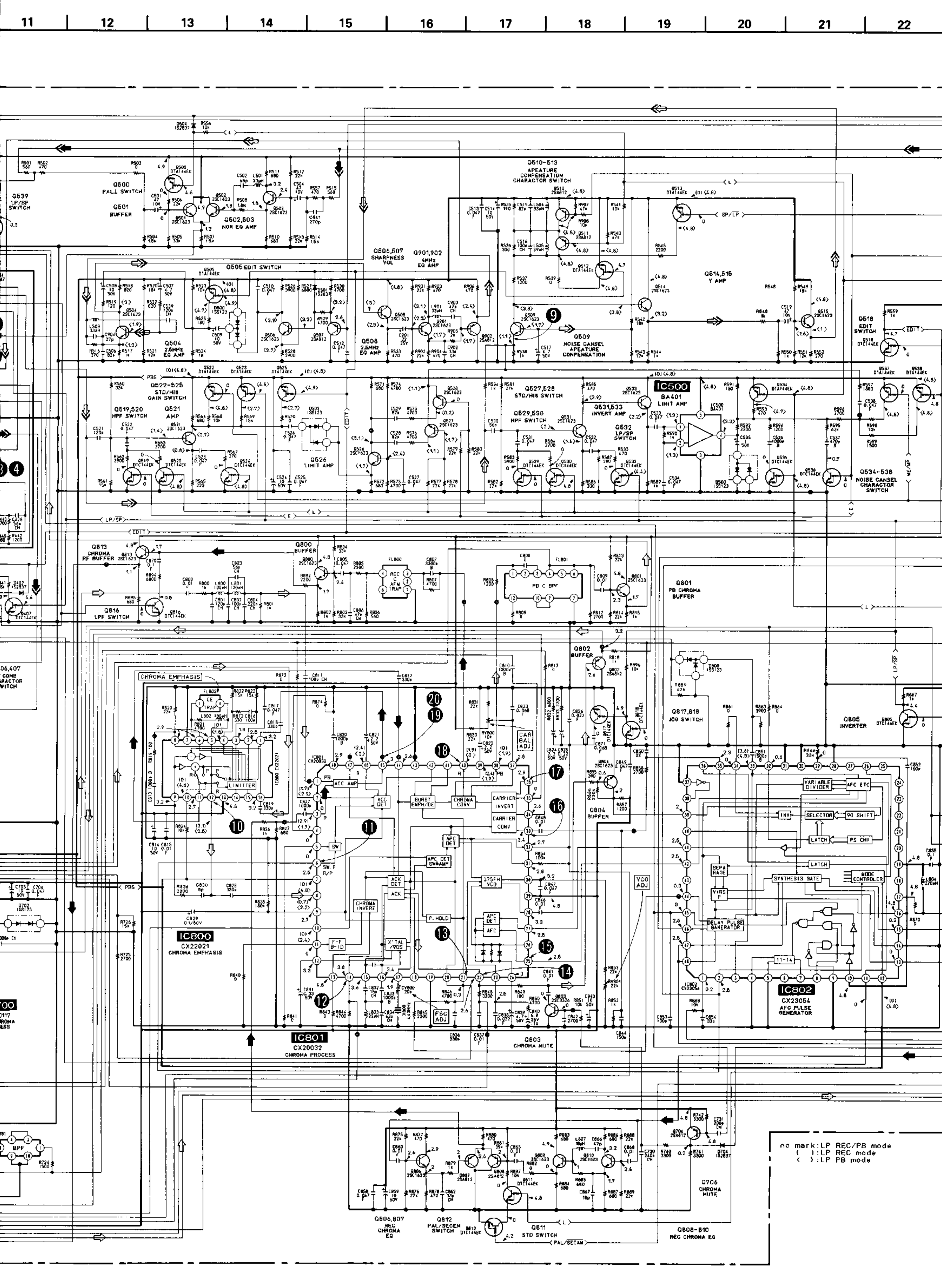


	VIDEO SIGNAL			AUDIO
	CHROMA	Y	Y/CHROMA	
REC	➡	➡	➡	➡
PB	⇨	⇨	⇨	⇨

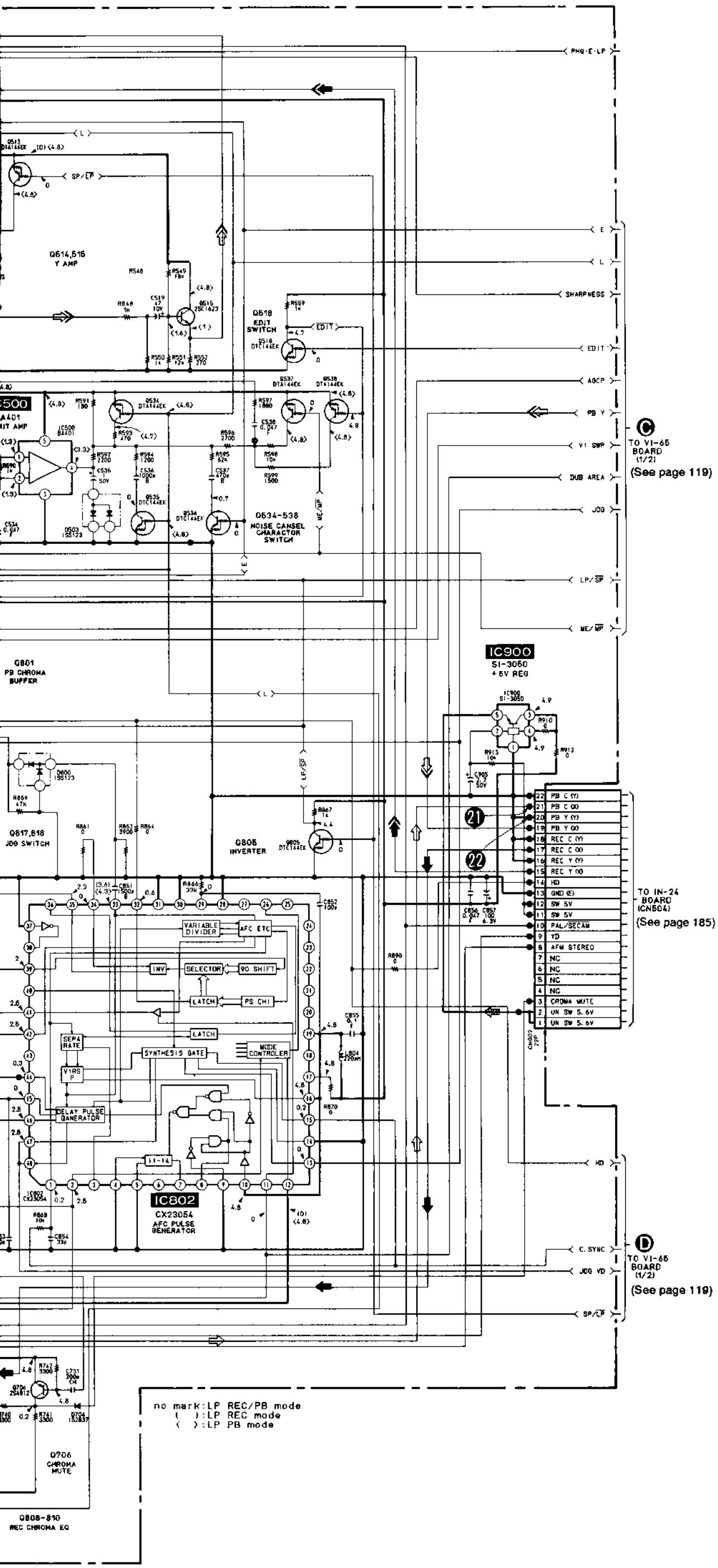
VI-65 (VIDEO SIGNAL PROCESS) SCHEMATIC DIAGRAMS (2/2)

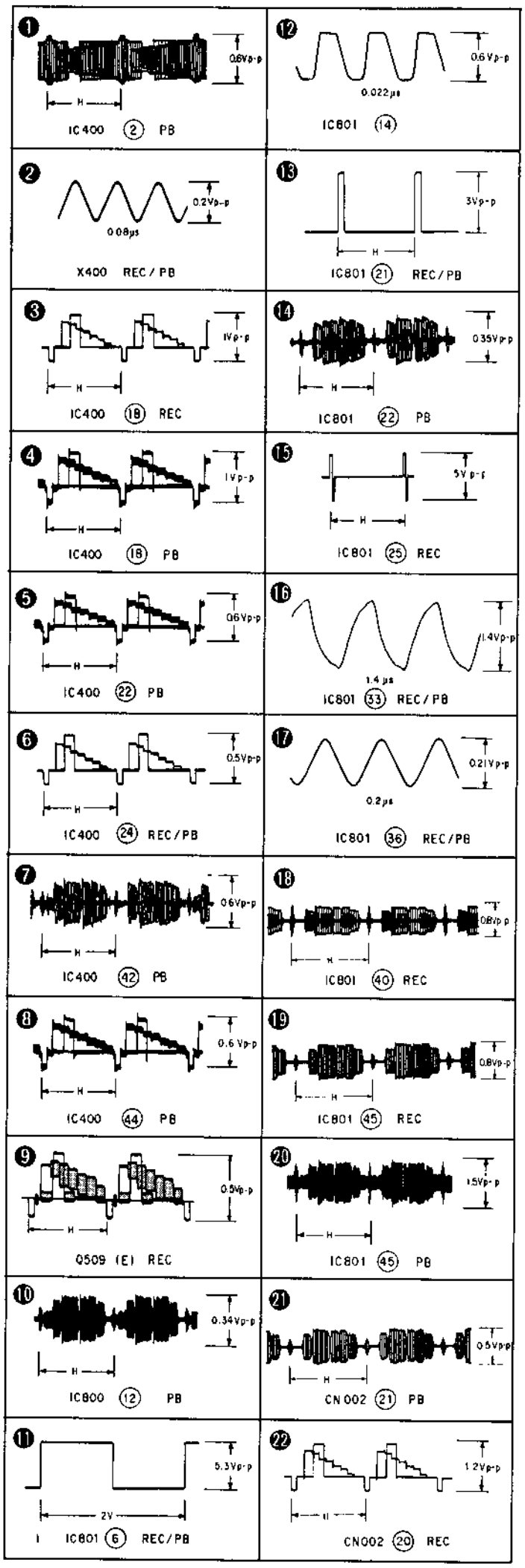
– Ref. No.: VI-65 Board; 2,000 series –





11
12
13
14
15
16
17
18
19
20
21
22
Q500 PALL SWITCH
Q501 BUFFER
Q502,503 NOR EQ AMP
Q539 LP/SP SWITCH
Q505 EDIT SWITCH
Q504 2.6MHz EQ AMP
Q506,507 SHARPNESS VOL
Q901,902 4MHz EQ AMP
Q508 2.5MHz EQ AMP
Q510-513 APEATURE CONPENSATION CHARACTOR SWITCH
Q509 NOISE CANSEL APEATURE CONPENSATION
Q514,515 Y AMP
Q518 EDIT SWITCH
Q622-625 STD/HI8 GAIN SWITCH
Q519,520 HPF SWITCH
Q521 AMP
Q526 LIMIT AMP
Q527,528 STD/HI8 SWITCH
Q529,530 HPF SWITCH
Q631,633 INVERT AMP
Q532 LP/SP SWITCH
IC500 BA401 LIMIT AMP
Q534-538 NOISE CANSEL CHARACTOR SWITCH
Q813 CHROMA RF BUFFER
Q816 LPF SWITCH
Q800 BUFFER
REC C AFM TRAP
PB C BPF
Q801 PB CHROMA BUFFER
Q802 BUFFER
Q804 BUFFER
Q817,818 JOG SWITCH
Q806 INVERTER
CHROMA EMPHASIS
CE TRAP
LIMITTER
IC800 CX22021 CHROMA EMPHASIS
ACC AMP
ACC DET
BURST EMPH/DE
CHROMA CONV
CARRIER INVERT
CARRIER CONV
CAR BAL ADJ
APC DET
APC DET SW&AMP
ACK DET
ACK
CHROMA INVERT
P. HOLD
F-F B-ID
X'TAL /90S
375FH VCO
AFC
FSC ADJ
VCO ADJ
IC801 CX20032 CHROMA PROCESS
Q803 CHROMA MUTE
VARIABLE DIVIDER
AFC ETC
INV
SELECTOR
90 SHIFT
LATCH
PS CHI
SEPA RATE
SYNTHESIS GATE
MODE CONTROLER
VIRS P
DELAY PULSE GANERATOR
11-14
IC802 CX23054 AFC PULSE GENERATOR
Q806,807 REC CHROMA EQ
Q812 PAL/SECEM SWITCH
Q811 STD SWITCH
Q808-810 REC CHROMA EQ
Q706 CHROMA MUTE
no mark: LP REC/PB mode
( ): LP REC mode
⟨ ⟩: LP PB mode



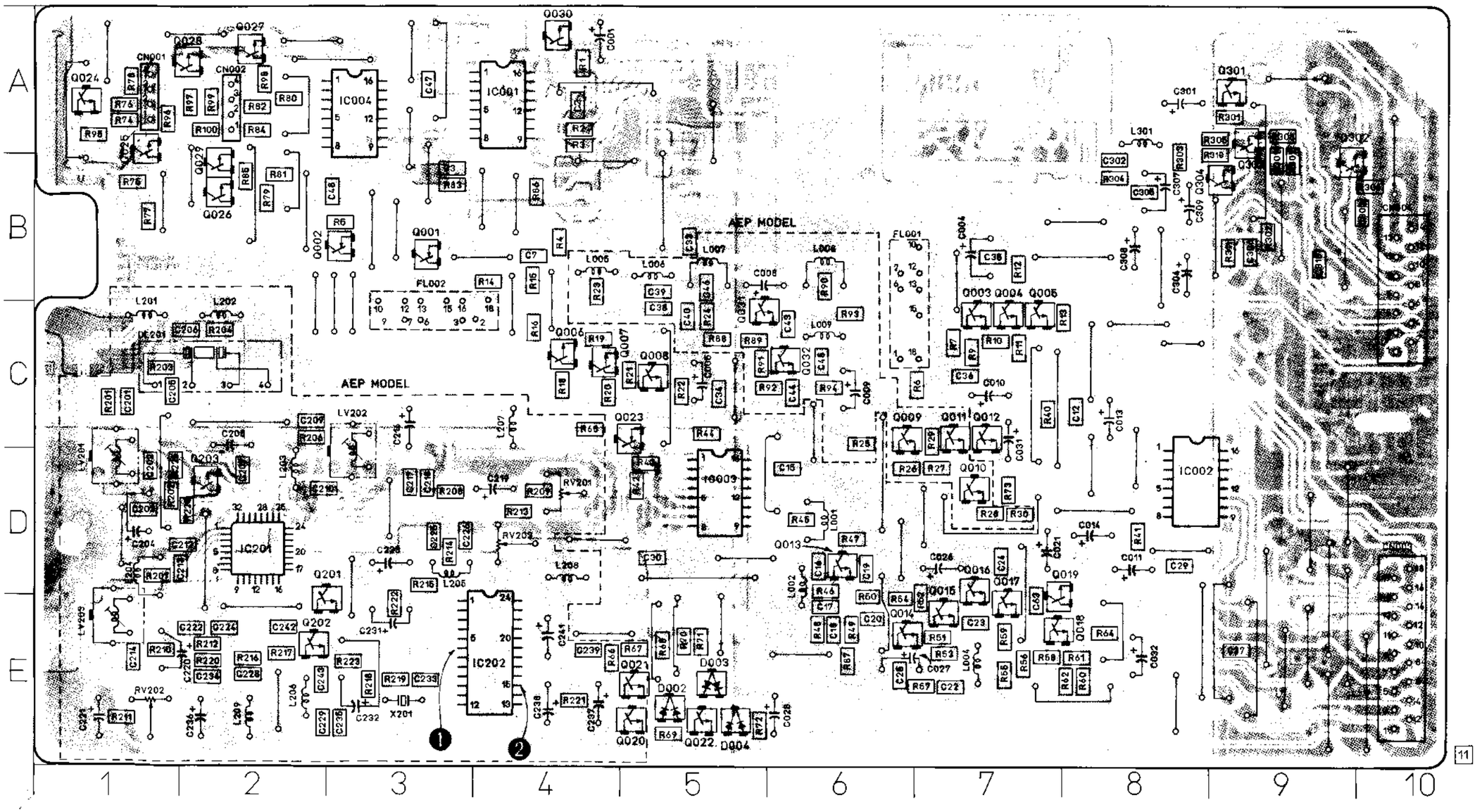


	VIDEO SIGNAL			
	CHROMA	Y	Y/CHROMA	
REC	➡	➡		
PB	⇨	⇨		

VIDEO VIDEO

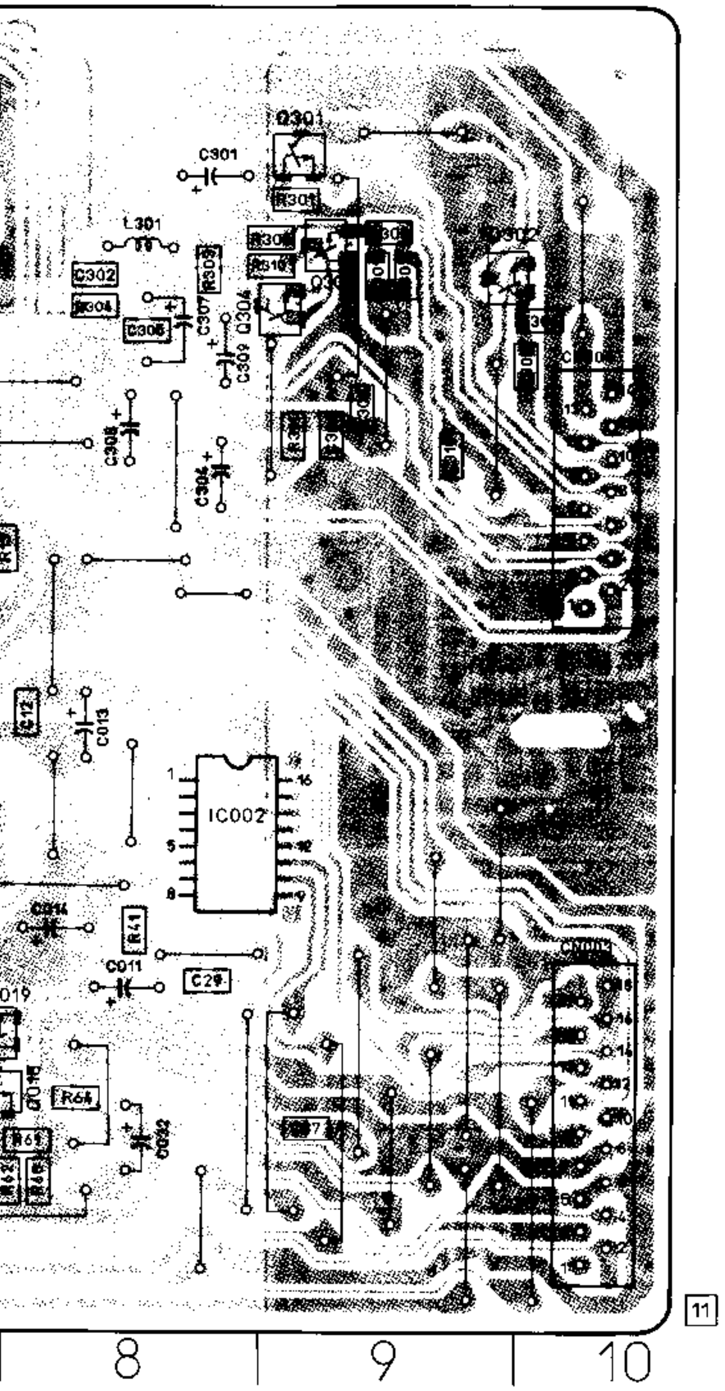
YC-64 BOARD

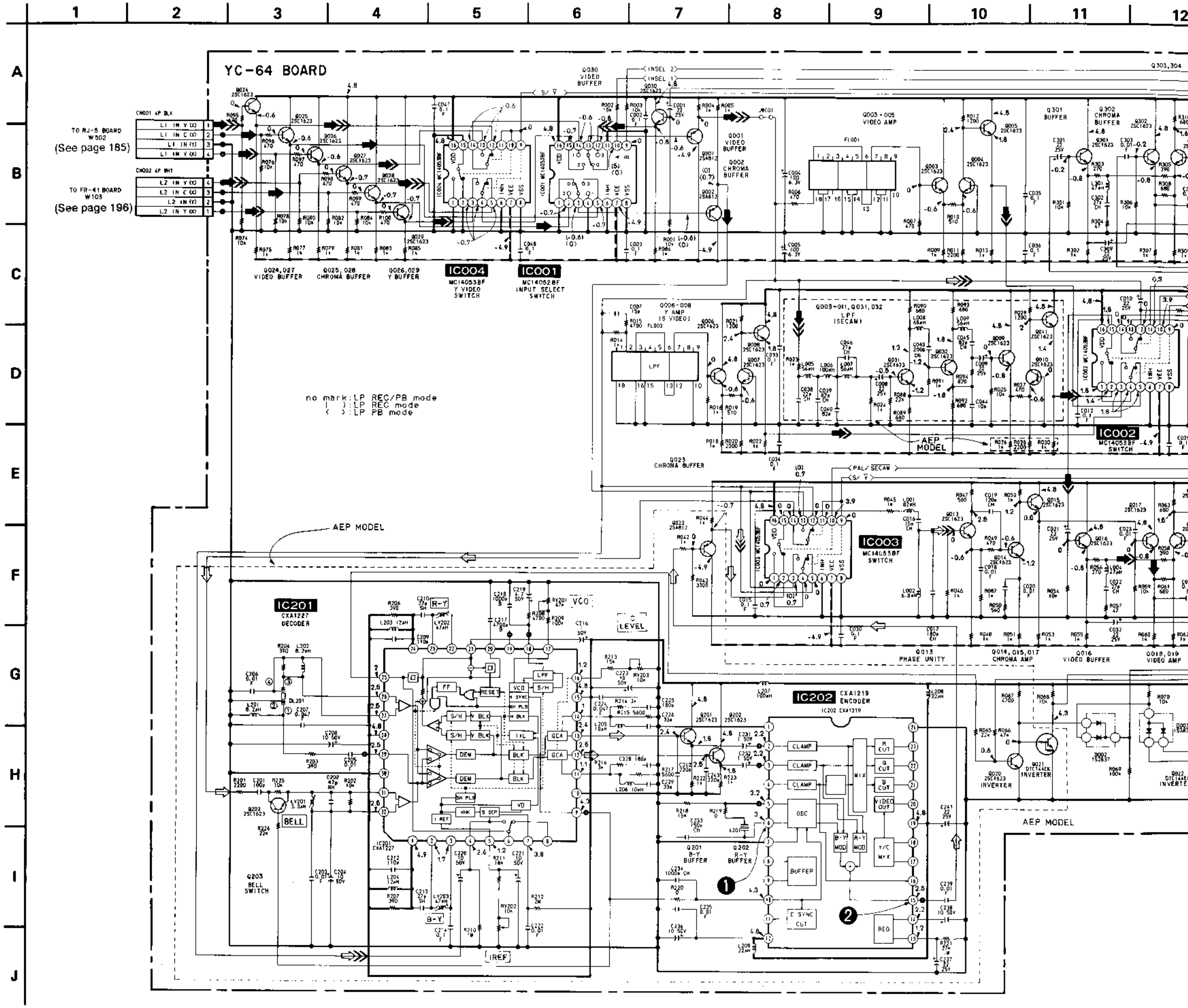
D002	E-5
D003	E-5
D004	E-5
IC001	A-4
IC002	D-8
IC003	D-5
IC004	A-3
IC201	D-2
IC202	E-4
Q001	B-3
Q002	B-3
Q003	C-7
Q004	C-7
Q005	C-7
Q006	C-4
Q007	C-4
Q008	C-5
Q009	C-6
Q010	D-7
Q011	C-7
Q012	C-7
Q013	D-6
Q014	E-6
Q015	E-7
Q016	D-7
Q017	E-7
Q018	E-8
Q019	D-8
Q020	E-5
Q021	E-5
Q022	E-5
Q023	C-5
Q024	A-1
Q025	A-1
Q026	B-2
Q027	A-2
Q028	A-2
Q029	B-2
Q030	A-4
Q031	C-5
Q032	C-6
Q201	E-2
Q202	E-2
Q203	D-2
Q301	A-1
Q302	B-9
Q303	A-1
Q304	B-9



YC-64 (Y/CHROMA SIGNAL PROCESS) SCHEMATIC DIAGRAM

– Ref. No.: YC-64 Board; 3,000 series –





VIDEO VIDEO

2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

YC-64 BOARD

CN001 4P BLK
L1 IN Y (V) 1
L1 IN C (U) 2
L1 IN (Y) 3
L1 IN Y 4

CN002 4P BLK
L2 IN Y (V) 4
L2 IN C (U) 3
L2 IN (Y) 2
L2 IN Y 1

Q024, 027 VIDEO BUFFER
Q025, 028 CHROMA BUFFER
Q026, 029 Y BUFFER

IC004 MC14053BF Y VIDEO SWITCH

IC001 MC14052BF INPUT SELECT SWITCH

Q030 VIDEO BUFFER

Q001 VIDEO BUFFER
Q002 CHROMA BUFFER

Q003 – 005 VIDEO AMP

Q301 BUFFER

Q302 CHROMA BUFFER

Q303, 304 VIDEO AMP

CN004 16P
14 TU VIDEO (Y)
13 TU VIDEO (U)
12
11 PB C (Y)
10 PB C (U)
9 PB Y (Y)
8 PB Y (U)
7 DIG PB C (Y)
6 DIG PB C (U)
5 DIG PB Y (Y)
4 DIG PB Y (U)
3 DIG PB V (Y)
2 DIG PB Y (U)
1 N.C.

TO IN-24 BOARD CN508
(See page 185)

1 1.8 Vp-p 0.24μs IC202 (6) PB

2 0.4Vp-P H IC202 (15) REC/PB

no mark : LP REC/PB mode
( ) : LP REC mode
< > : LP PB mode

Q006 – 008 Y AMP (S VIDEO)

Q009 – 011, Q031, 032 LPF (SECAM)

IC002 MC14053BF SWITCH

AEP MODEL

Q023 CHROMA BUFFER

IC003 MC14C53BF SWITCH

Q013 PHASE UNITY

Q014, 015, 017 CHROMA AMP

Q016 VIDEO BUFFER

Q018, 019 VIDEO AMP

CN003 18P
16 DIG EE C (Y)
17 DIG EE C (U)
16 DIG EE Y (Y)
15 DIG EE Y (U)
14 DIG EE Y (Y)
13 DIG EE Y (U)
12 EE ACK
11 INSEL 2
10 INSEL 1
9 SW -5V
8 GND (E)
7 GND (E)
6 SW 5V
5 SW 5V
4 S/V
3 PAL/SECAM
2 PAL
1 N.C.

TO IN-24 BOARD CN507
(See page 185)

IC201 CXA1227 DECODER

Q203 BELL SWITCH

IC202 CXA1219 ENCODER

Q201 B-Y BUFFER

Q202 R-Y BUFFER

Q020 2SC1623 INVERTER

Q021 DTC144EK INVERTER

Q022 DTC144EK INVERTER

AEP MODEL

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

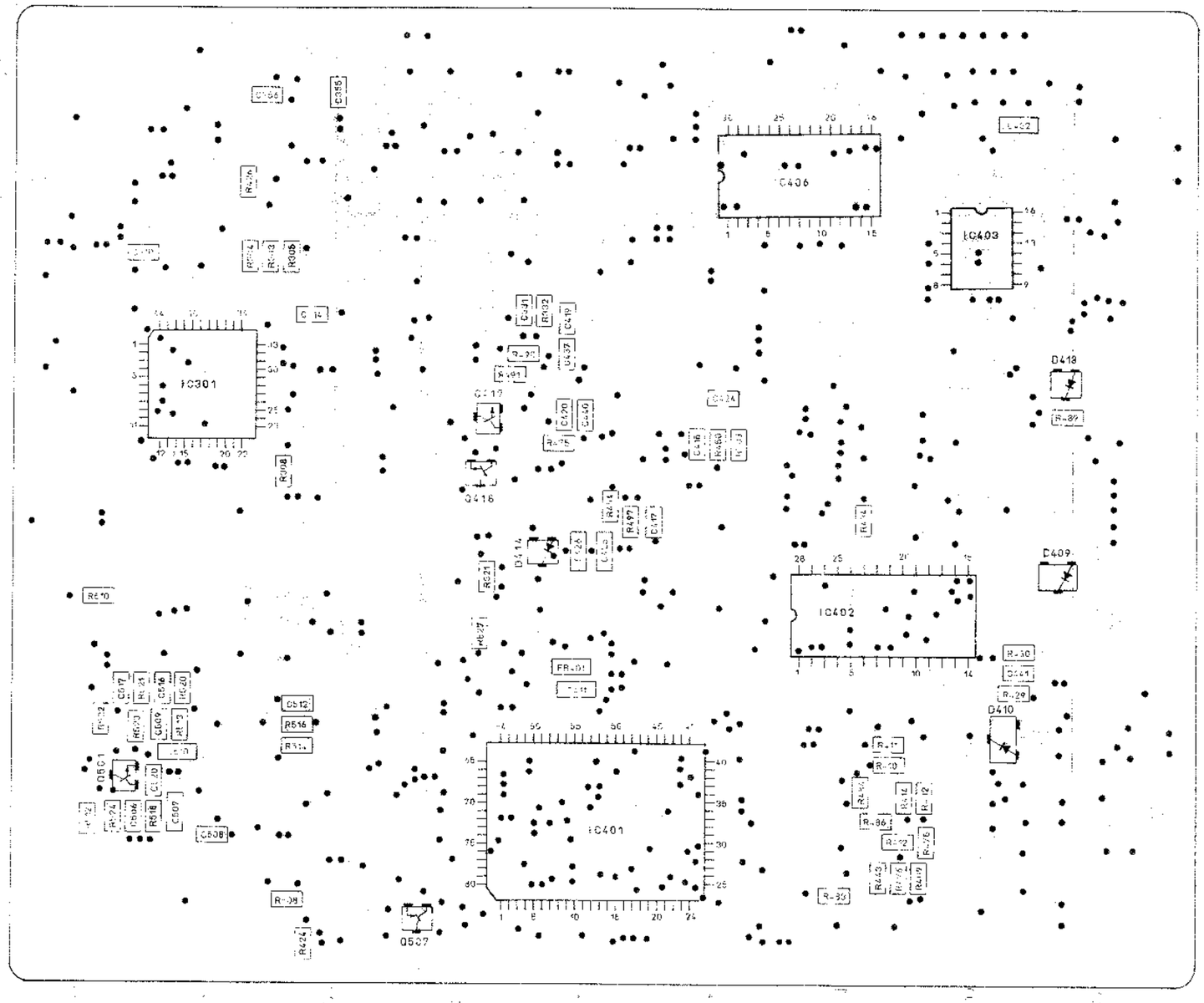
CM-15 (SERVO/SYSTEM CONTROL), UC-4, CC-26 (SIGNAL INTERMEDIATION) PRINTED WIRING BOARDS

– Ref. No.: CN-15, UC-4, CC-26 Boards: 4,000 series

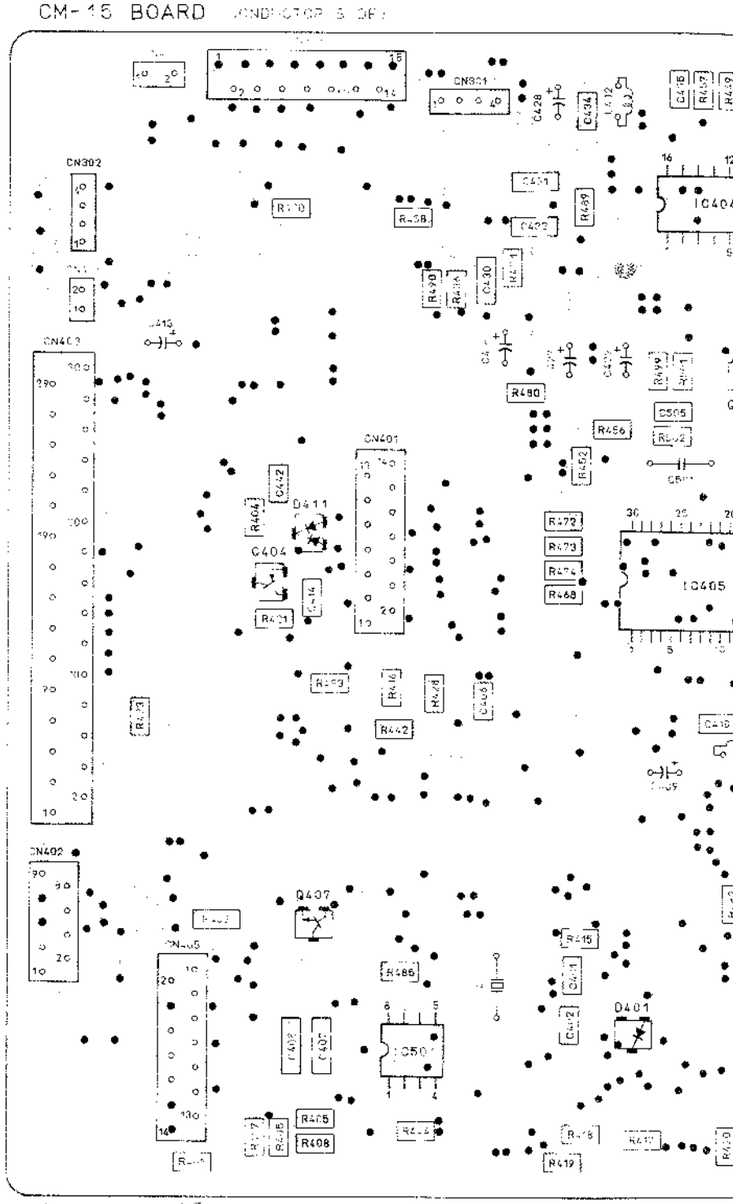
CM-15 BOARD

D401	G-15
D409	E-9
D410	F-8
D411	D-13
D413	C-9
D414	E-5
D501	E-18
D502	F-18
D503	E-17
IC301	C-2
IC302	B-17
IC303	A-18
IC401	G-5
IC402	E-7
IC403	B-8
IC404	B-15
IC405	D-15
IC406	B-7
IC501	G-13
IC502	F-19
Q301	C-18
Q302	D-17
Q303	F-17
Q304	C-17
Q305	C-17
Q306	C-16
Q306	A-16
Q403	F-16
Q404	D-13
Q407	F-13
Q417	D-4
Q418	D-4
Q501	F-1
Q502	F-18
Q503	F-16
Q504	E-18
Q505	F-16
Q506	H-16
Q507	H-4
Q508	H-16
Q509	F-17
Q510	F-16

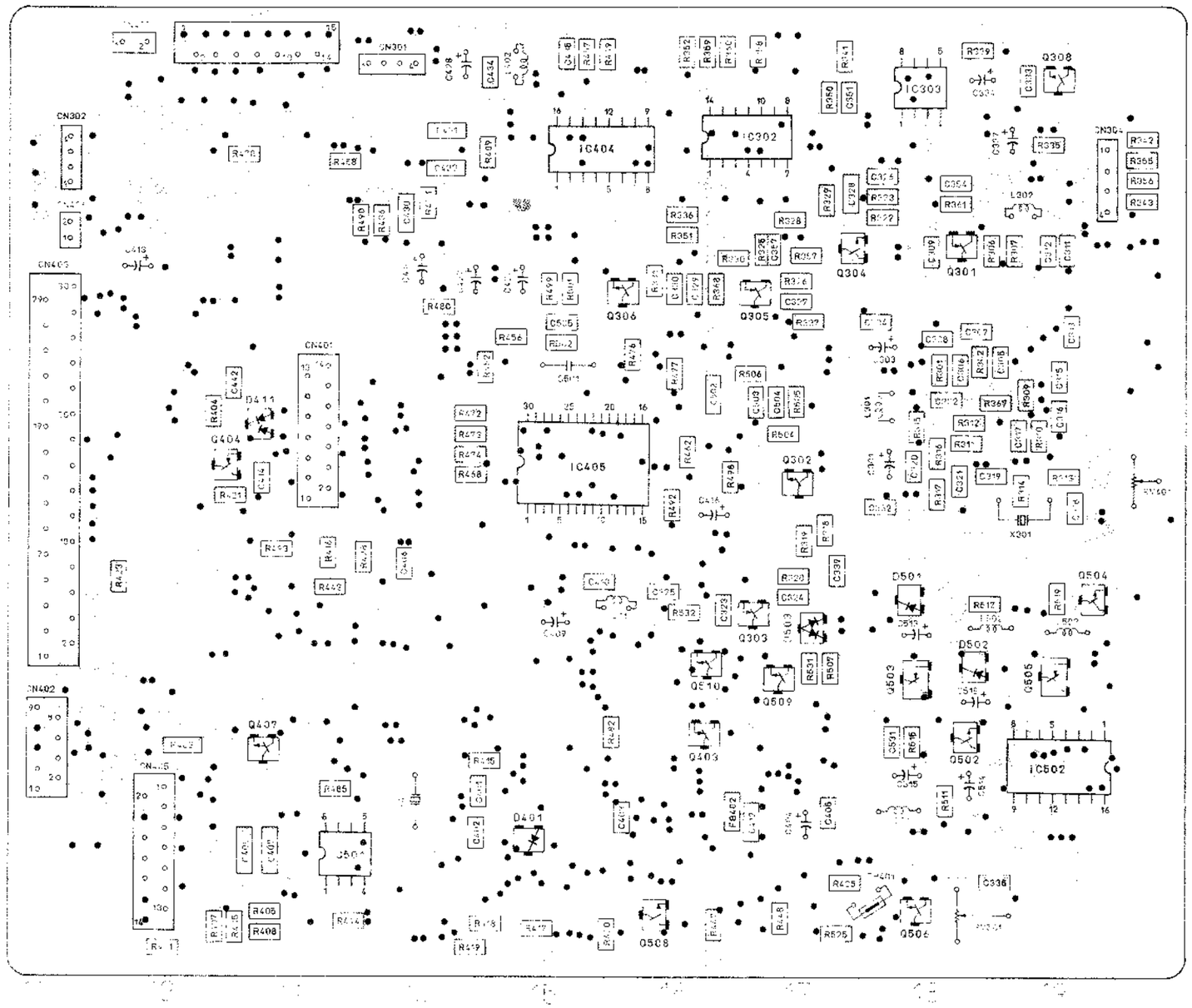
CM-15 BOARD (COMPONENT SIDE)



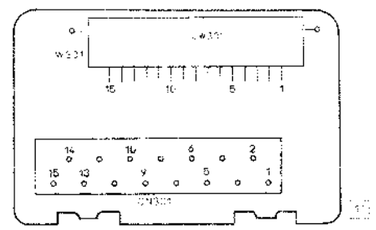
CM-15 BOARD (CONDUCTOR SIDE)



CM-15 BOARD (CONDUCTOR SIDE)

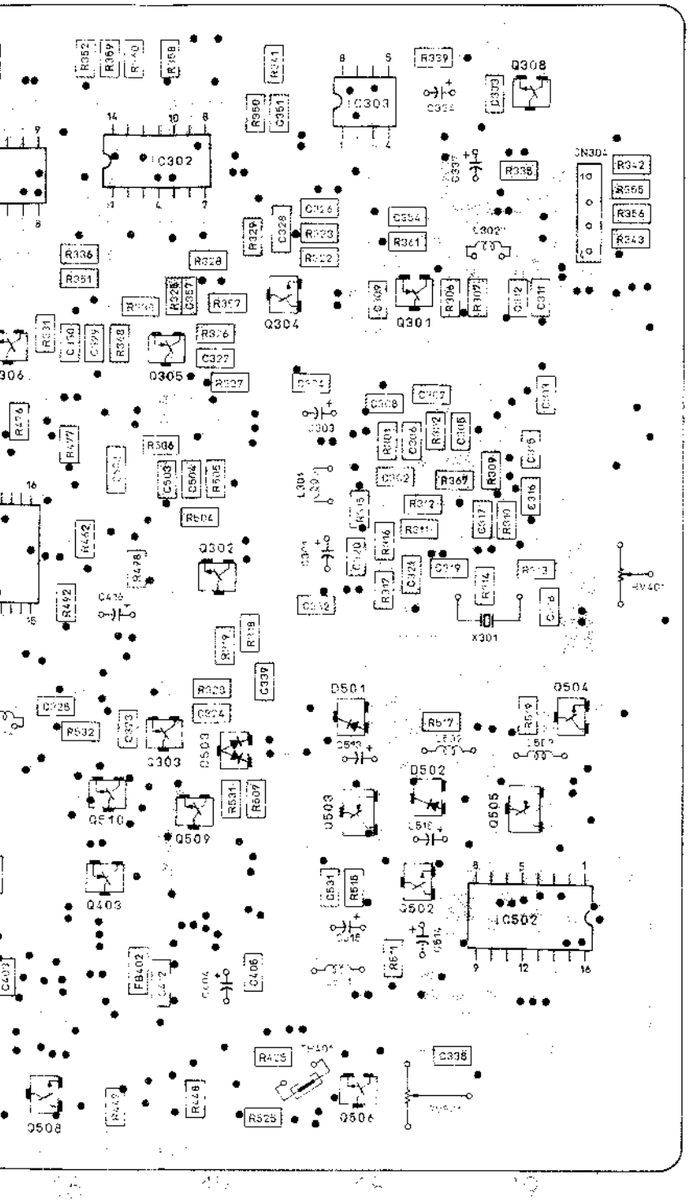


CC-26 BOARD

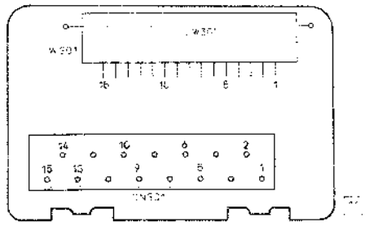


FP-237 BOA

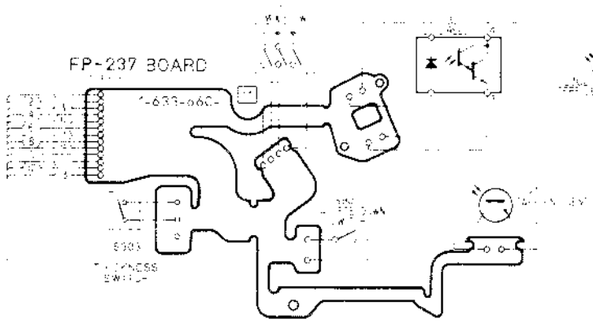
UC-4 BOAR



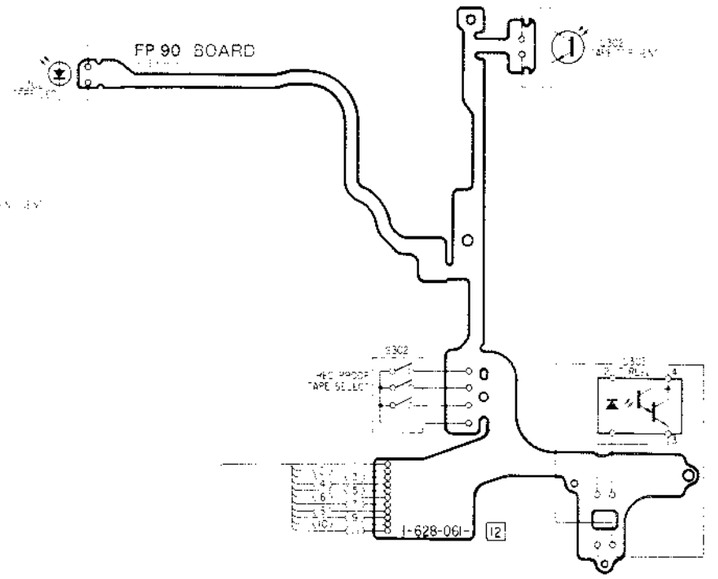
CC-26 BOARD



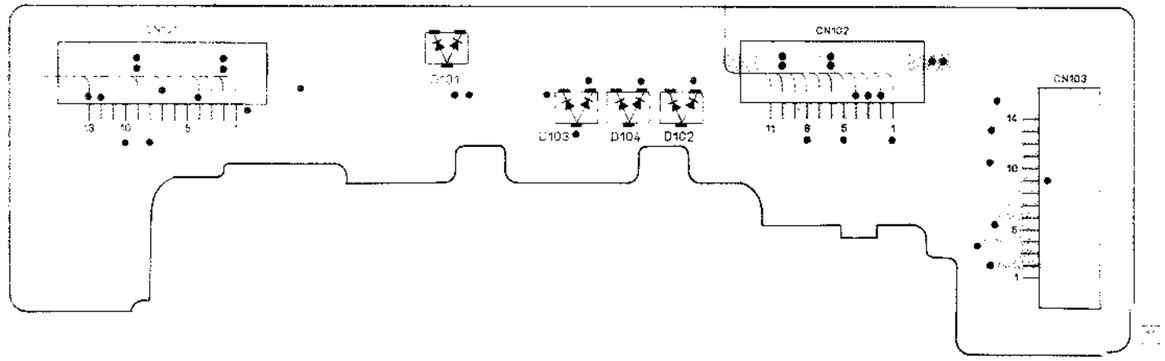
FP-237 BOARD



FP 90 BOARD

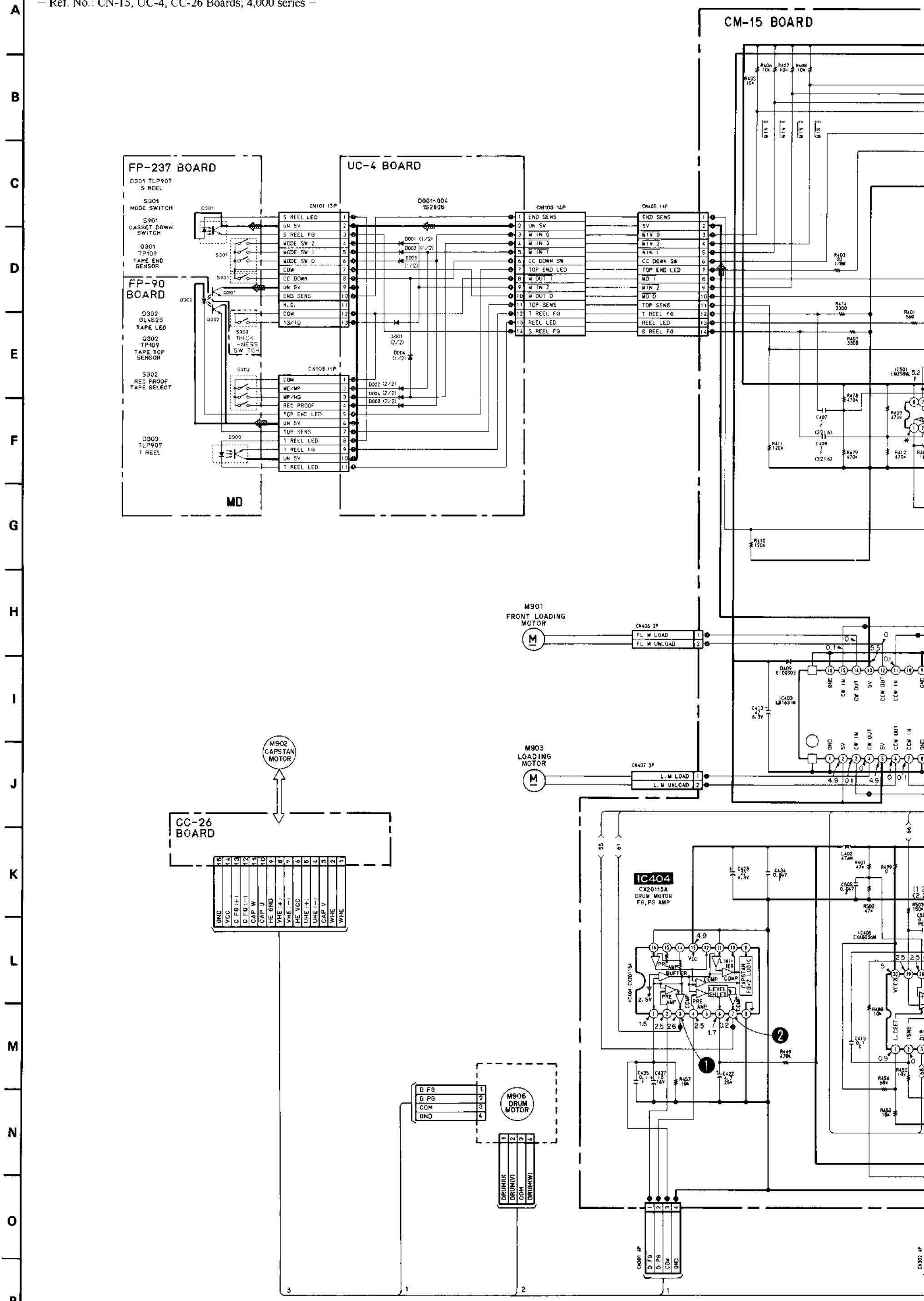


LC-4 BOARD



CM-15 (SERVO/SYSTEM CONTROL), UC-4, CC-26 (SIGNAL INTERMEDIATION) SCHEMATIC DIAGRAM

– Ref. No.: CN-15, UC-4, CC-26 Boards; 4,000 series –



SERVO SERVO

IC501
LM358ML
REEL FG
AMP

IC403
LB1631M
MOTOR DRIVE
CONTROL

IC405
CXA8006M
DRUM MOTOR
DRIVE

IC406
CXA1127M
CAPSTAN MOTOR
DRIVE

IC401
CXP80316
SYSTEM/SERVO
CONTROL

IC502
MB3775PF
PULSE WIDTH
MODULATOR

Q407
LED DRIVE

Q403
INVERTER

Q404
INVERTER

Q418
SWITCH

Q507
DRUM ACCELL
SWITCH

Q508
DRUM
BRAKE
SWITCH

Q509
PROTECTION
DETECT

Q510
PROTECTION
DETECT

Q506
SWITCH

Q501
PROTECTION
SWITCH

Q502–505
PWM POWER DRIVE

Q417
STARTER

SWITCHING
POSITION ADJ

TO DS-35 BOARD CN002 (See page 149)
TO RP-74 BOARD CN002 (See page 107)
TO IN-24 BOARD CN513 (See page 185)

CN402 9P: UN 9V, UN 9V, GND (M), GND (M), GND (M), FL-ECC SW, GND (E), MECHA CS, SW 5V, UN 5.6V

CN401 16P: H CHG, RP SWP, SP P REC, SP V REC, LP P REC, LP V REC, MP PB MODE, SP CM SHORT, LP CM SHORT, RF AFREC, RAMP, FEDM, AF REC, GND (E)

CN403 30P: SYS RESET, SCK, SI BUS, SO BUS, INIT VD, RF CONT, SP/LP, PCM REC AREA, AFRA, FERA, FERS, AF REC, COMP SYNC, PB Y (Y), PB Y (M), REC ATF (Y), REC ATF (M), MARK AFREC, H CHG RF, SP RF, V I SWP, JOG, JOG VD, MD, PAL V /Y DEX, RP SWP, MARK RA, MARK RAMP, PCM PB, H CHG

D410 E1008S2

IC402 BU5726F — REC/PB CONTROL

IC303 NJM2233A — SP/LP SWITCH

IC302 μPC339G2 — CLOG SP/LP DETECT

CN304 4P: 1 SP/LP DET, 2 REF, 3 CAP ERROR, 4 FE IMPACT ADJ — CHECK PIN

IC502 MB3775PF — PULSE WIDTH MODULATOR

IC301 CXA1449Q — ATF SERVO

Q506 SWITCH

SHEALD CASE

SHEALD CASE

Q502-505 PWM POWER DRIVE

Q301 BUFFER

Q302, 303 LPF

Q304 PB RF AMP

Q305, 306 ENVELOPE DETECT

no mark: LP REC/PB mode
( ): LP REC mode
< >: LP PB mode
* : Impossible to measure the voltage at the marked points

❶ 5Vp-P, 17ms — IC404 (3) REC/PB

❷ 5Vp-P, 4ms — IC404 (7) REC/PB

❸ 2.4Vp-P, 0.066μs — IC401 (35) REC/PB

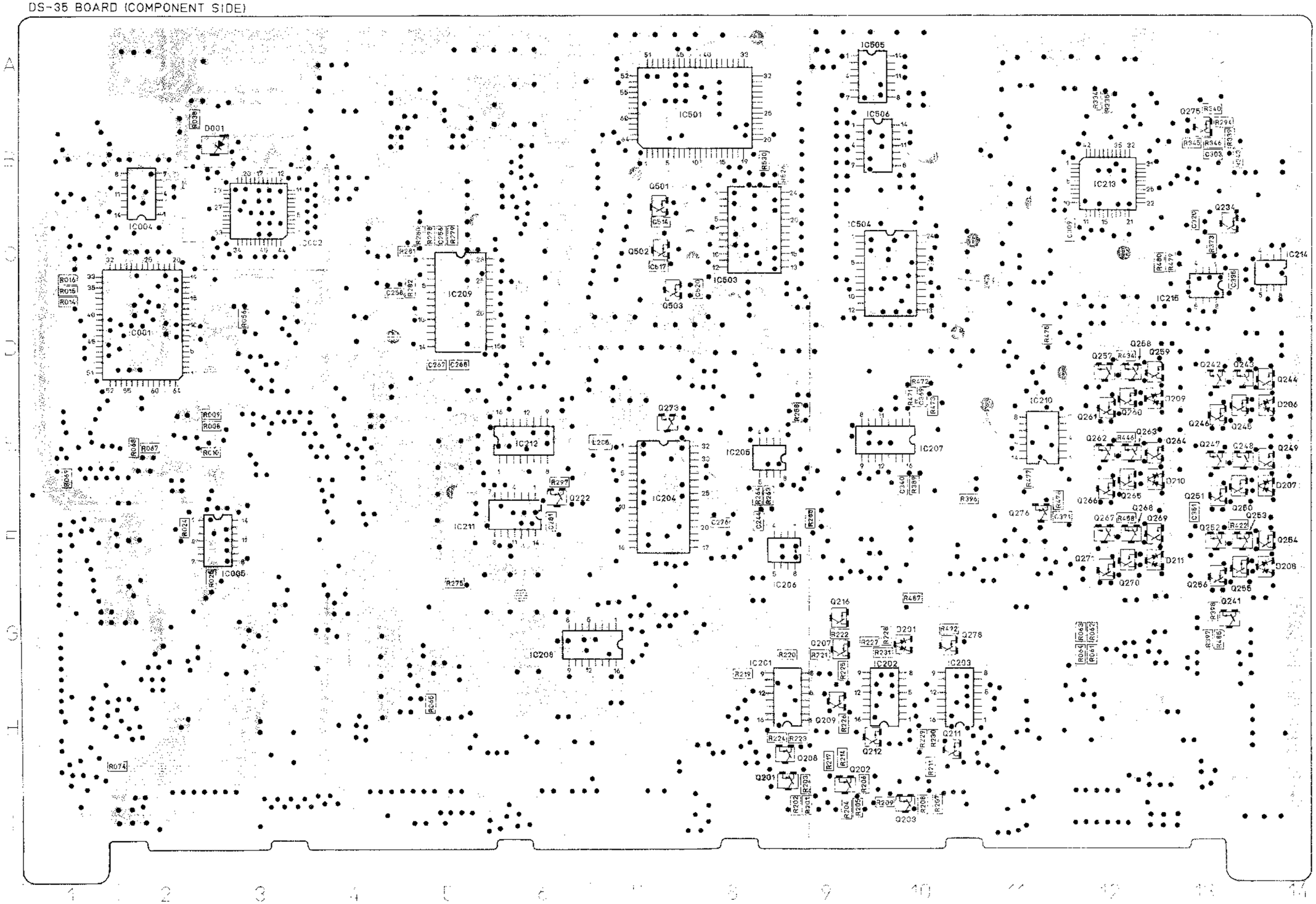
❹ 3Vp-P, 0.18μs — IC301 (14) REC/PB

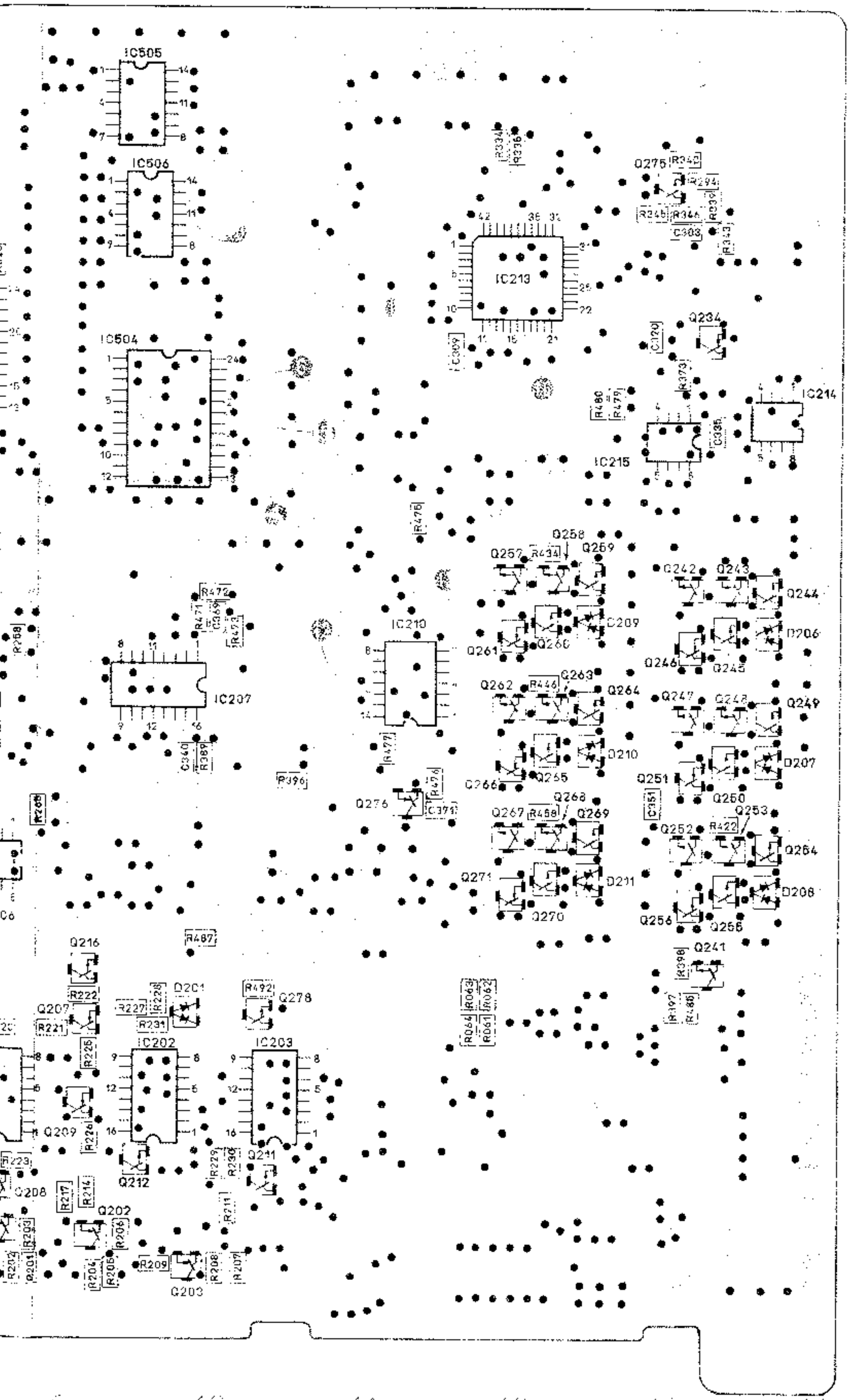
	VIDEO SIGNAL			
	CHROMA	Y	Y/CHROMA	
REC				
PB			⇨	

DS-35 (DIGITAL SIGNAL PROCESS) PRINTED WIRING BOARD

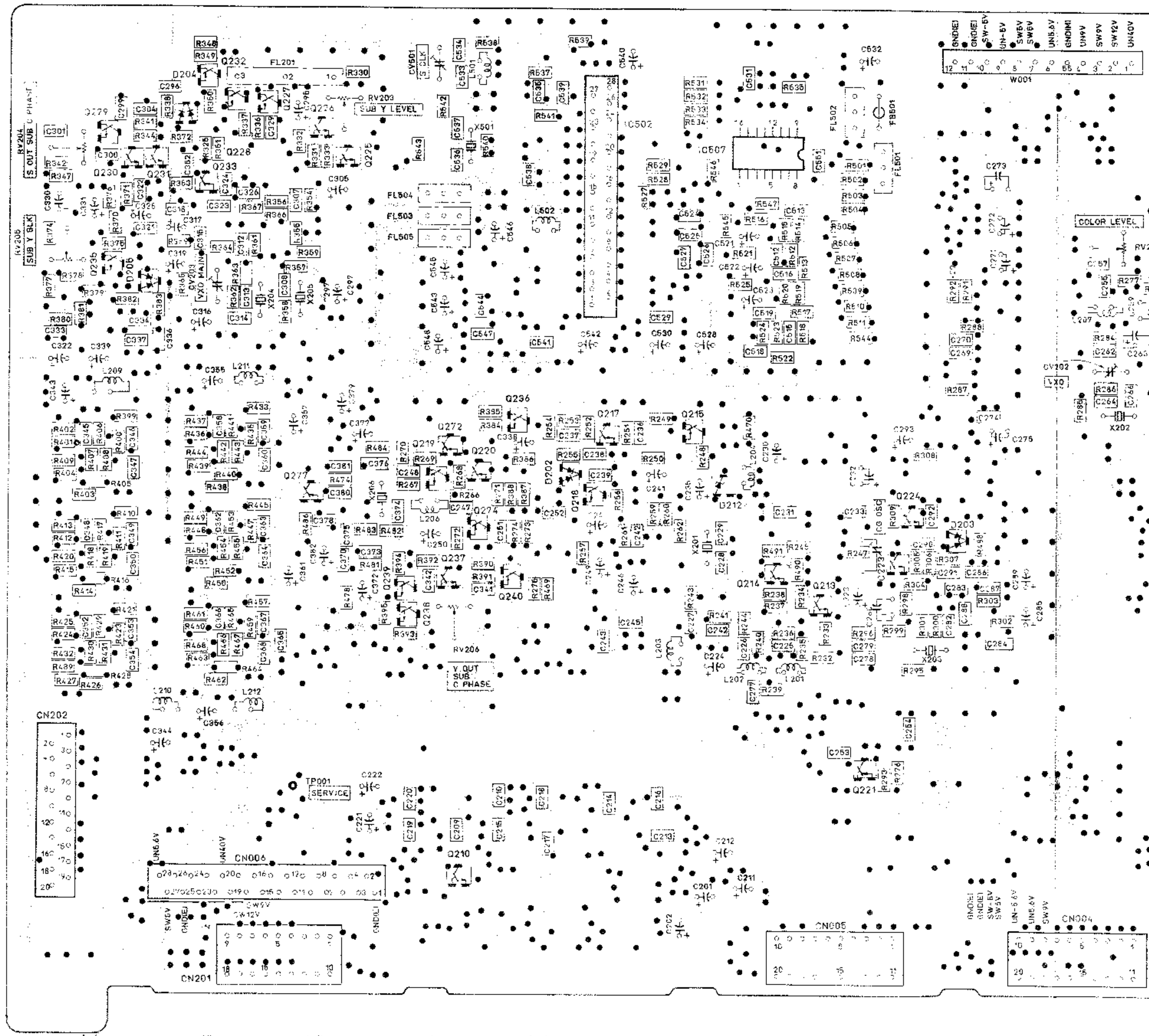
- Ref. No.: DS-35 Board: 5,000 series

DS-35 BOARD (COMPONENT SIDE)

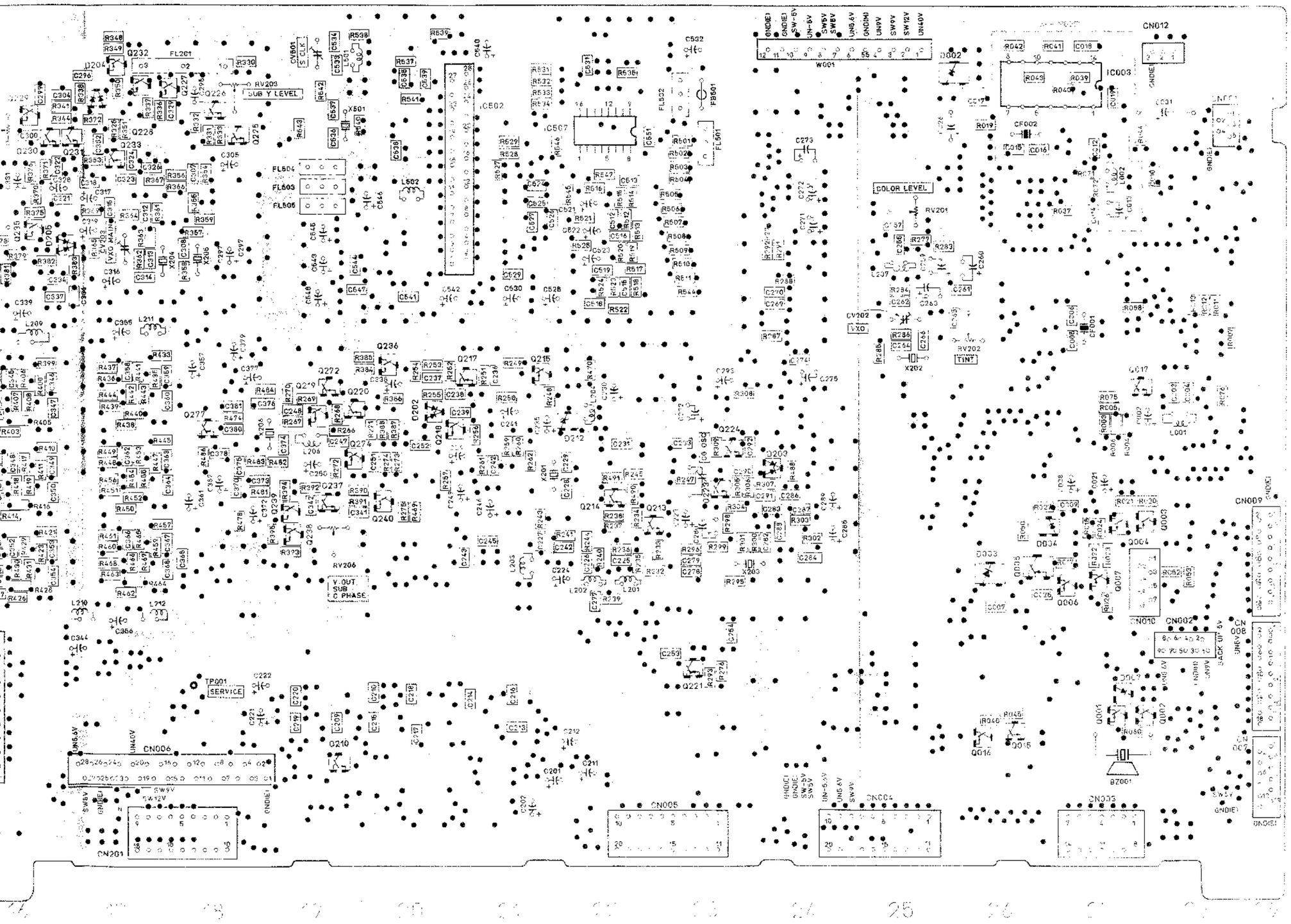




DS-35 BOARD (CONDUCTOR SIDE)

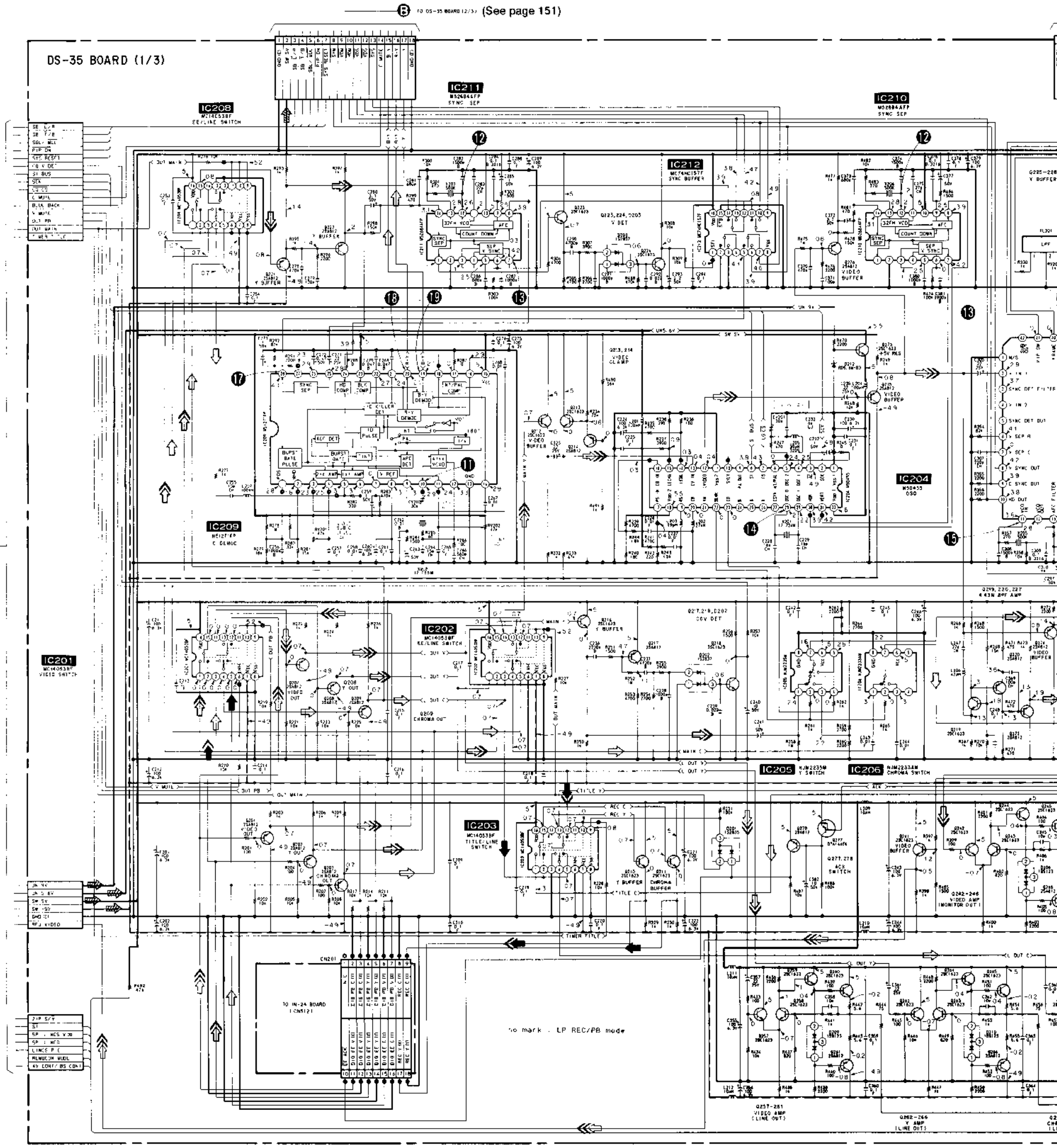


BOARD (CONDUCTOR SIDE)



DS-35 (DIGITAL SIGNAL PROCESS) SCHEMATIC DIAGRAMS (1/3), (2/3)

– Ref. No.: DS-35 Board; 5,000 series –



(See page 151)
(See page 153)

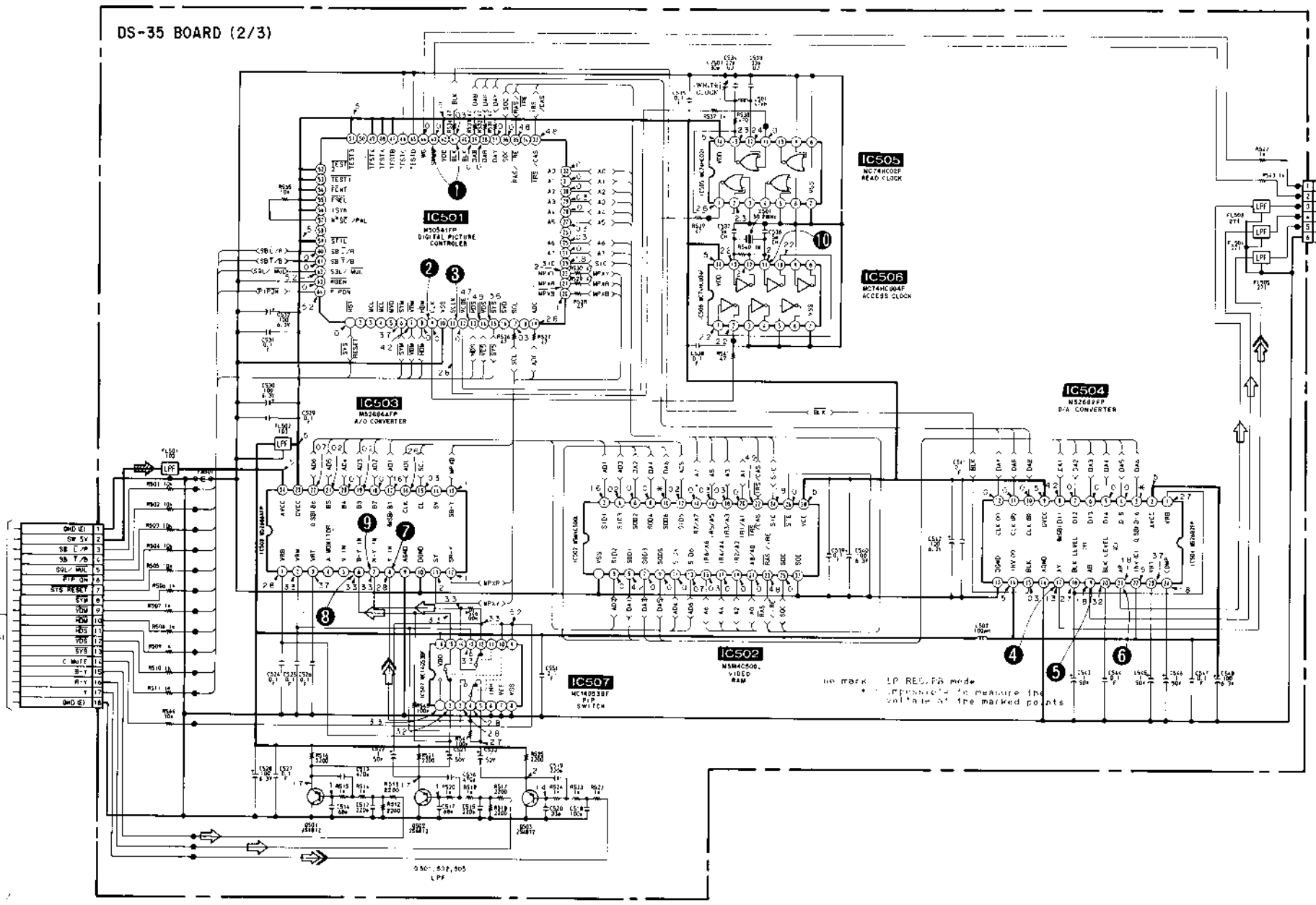
TO DS-35 BOARD (2/3)
(See page 151)

DS-35 BOARD (2/3)

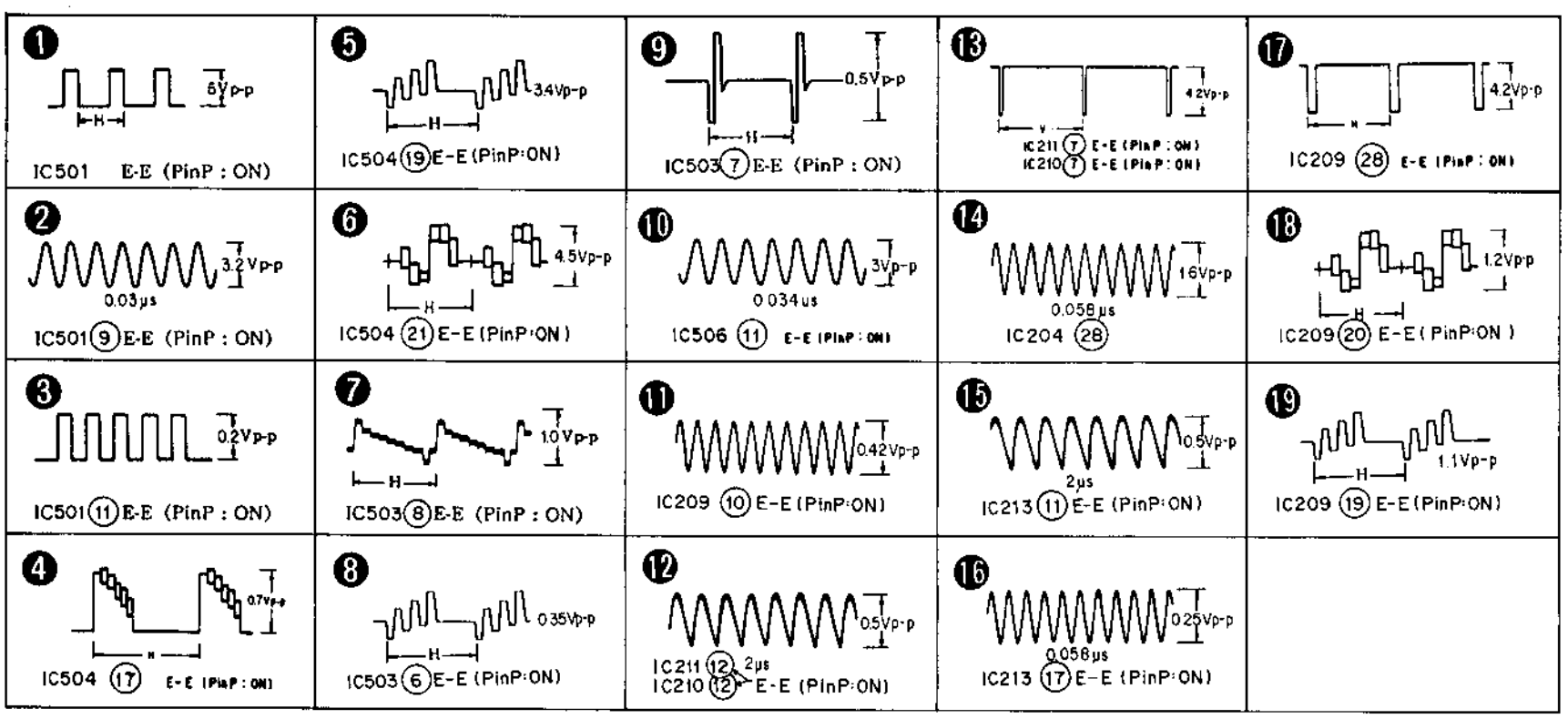
TO DS-35 BOARD (1/3)
(See page 149)

TO RJ-5 BOARD (CN501)

DS-35 BOARD (2/3)

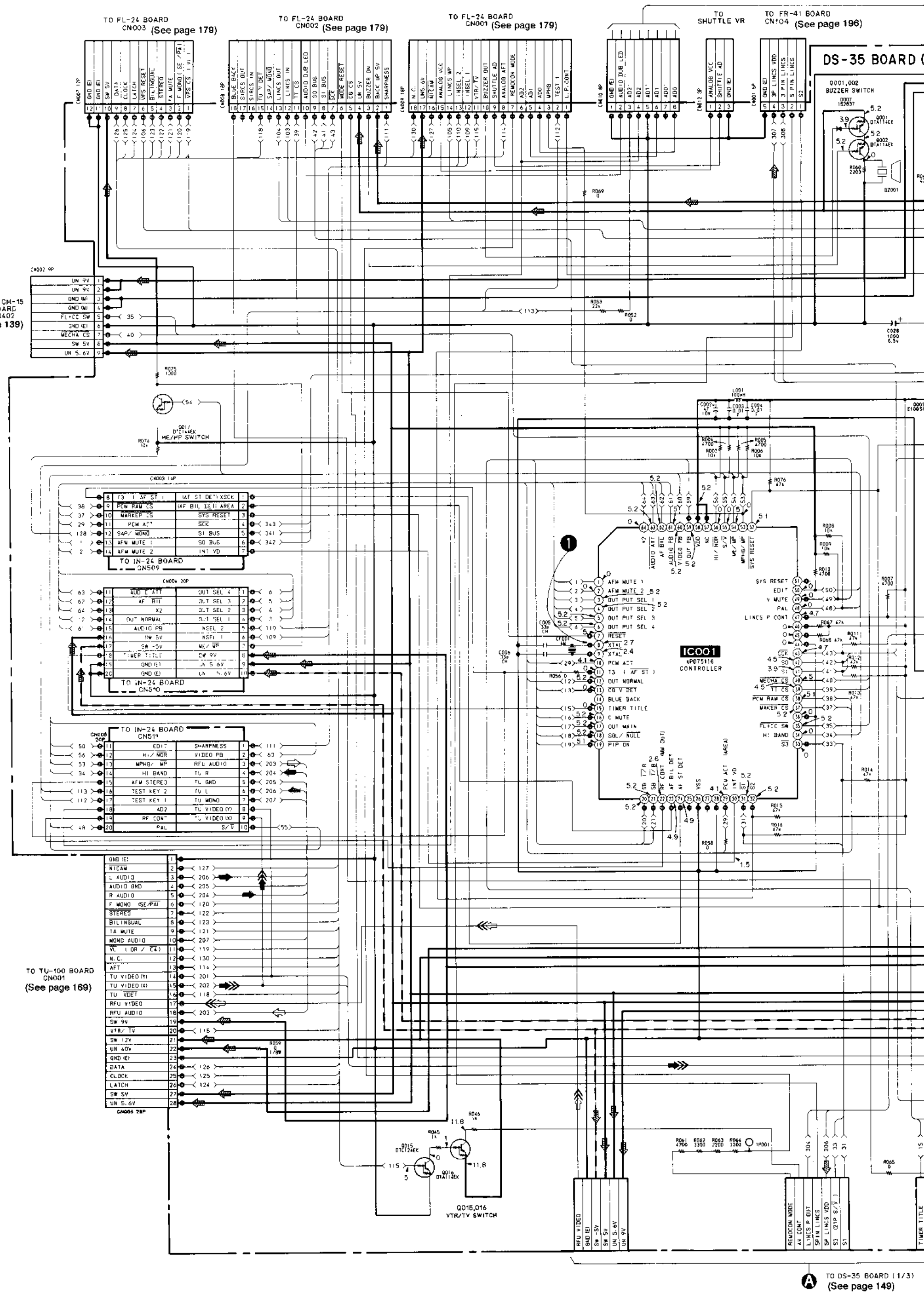


	VIDEO SIGNAL			
	CHROMA	Y	Y/CHROMA	
REC	➡	➡		
PB	⇨	⇨	⇨	



DS-35 (DIGITAL SIGNAL PROCESS) SCHEMATIC DIAGRAMS (3/3)

– Ref. No.: DS-35 Board; 5,000 series –



TO FR-41 BOARD
CN104 (See page 196)

DS-35 BOARD (3/3)

Q001,002
BUZZER SWITCH

IC005
TL1596
SWITCHING REG

Q003
+9V REG

Q005-007
+9V REG
CONTROL

LINCS
POWER
SWITCH

IC004
MC14066BF
SWITCH

IC002
μPD75004
VPS CONTROL

IC003
SDA5642
VPS DATA
DECODER

AEP MODEL

SYS RESET
EDIT
V MUTE
PAL
LINCS P CONT
SCK
SO
SI
MECHA CS
TT CS
PCM RAM CS
MAKER CS
FL+CC SW / HI BAND
S3

THESE PINS WILL BE CONNECTED TO GROUND FROM THE END OF DS-35 BOARD PART NO.-14 AND LATER.

no mark : LP REC/PB mode

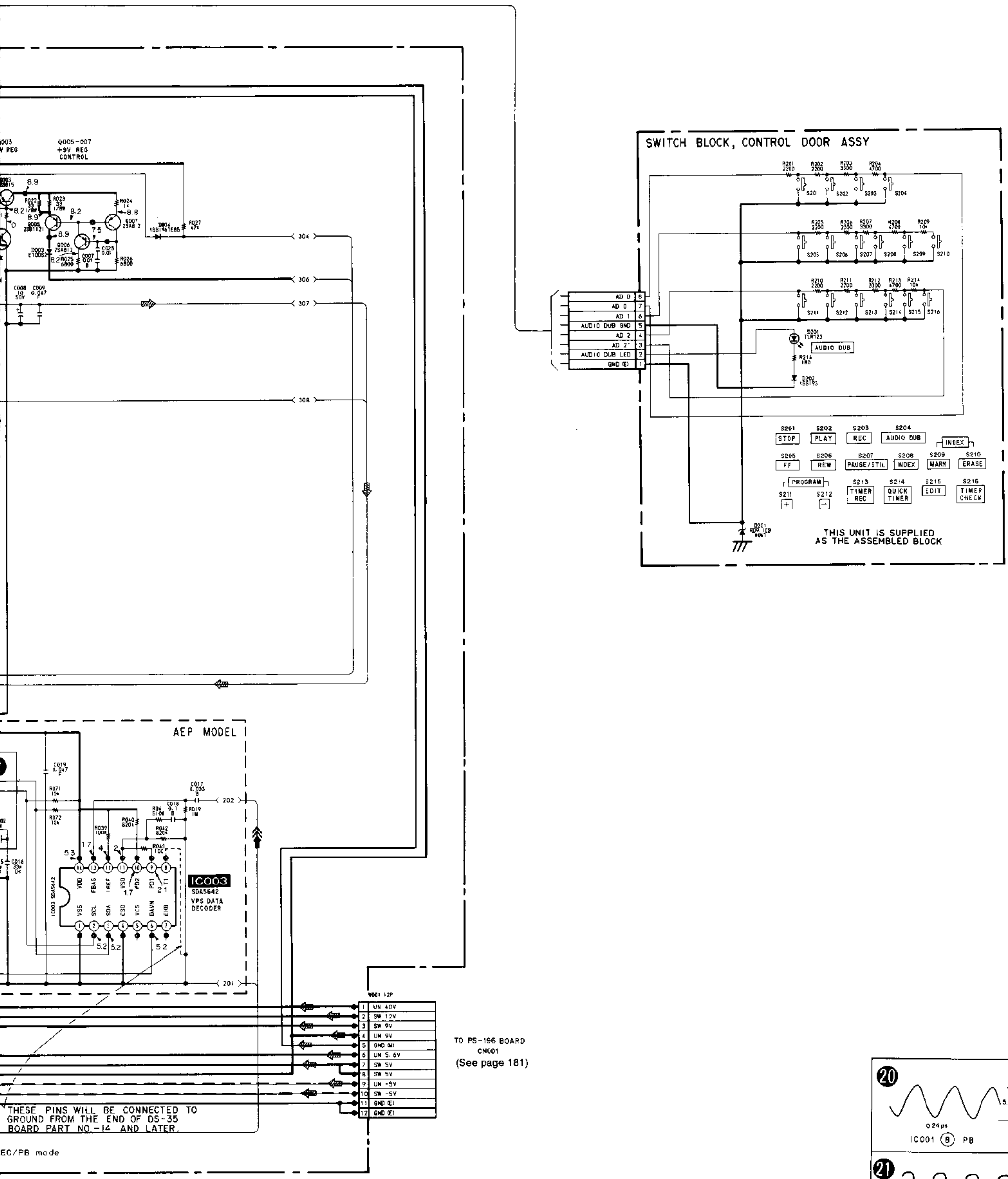
W001 12P

1	UN 40V
2	SW 12V
3	SW 9V
4	UN 9V
5	GND 0V
6	UN 5.6V
7	SW 5V
8	SW 5V
9	UN -5V
10	SW -5V
11	GND 0V
12	GND 0V

REMOCON MODE
AV CONT
LINCS P OUT
SPIN LINCS
SP LINCS VOD
S3 (21P S/V)
S1

TIMER TITLE
OUT MAIN
OUT PB
V MUTE
BLU BACK
C MUTE
CB CS
SCK
S1 BUS
SYS RESET
CD V DET
PIP ON
SDL / NULL
SB T/B
SB L/A

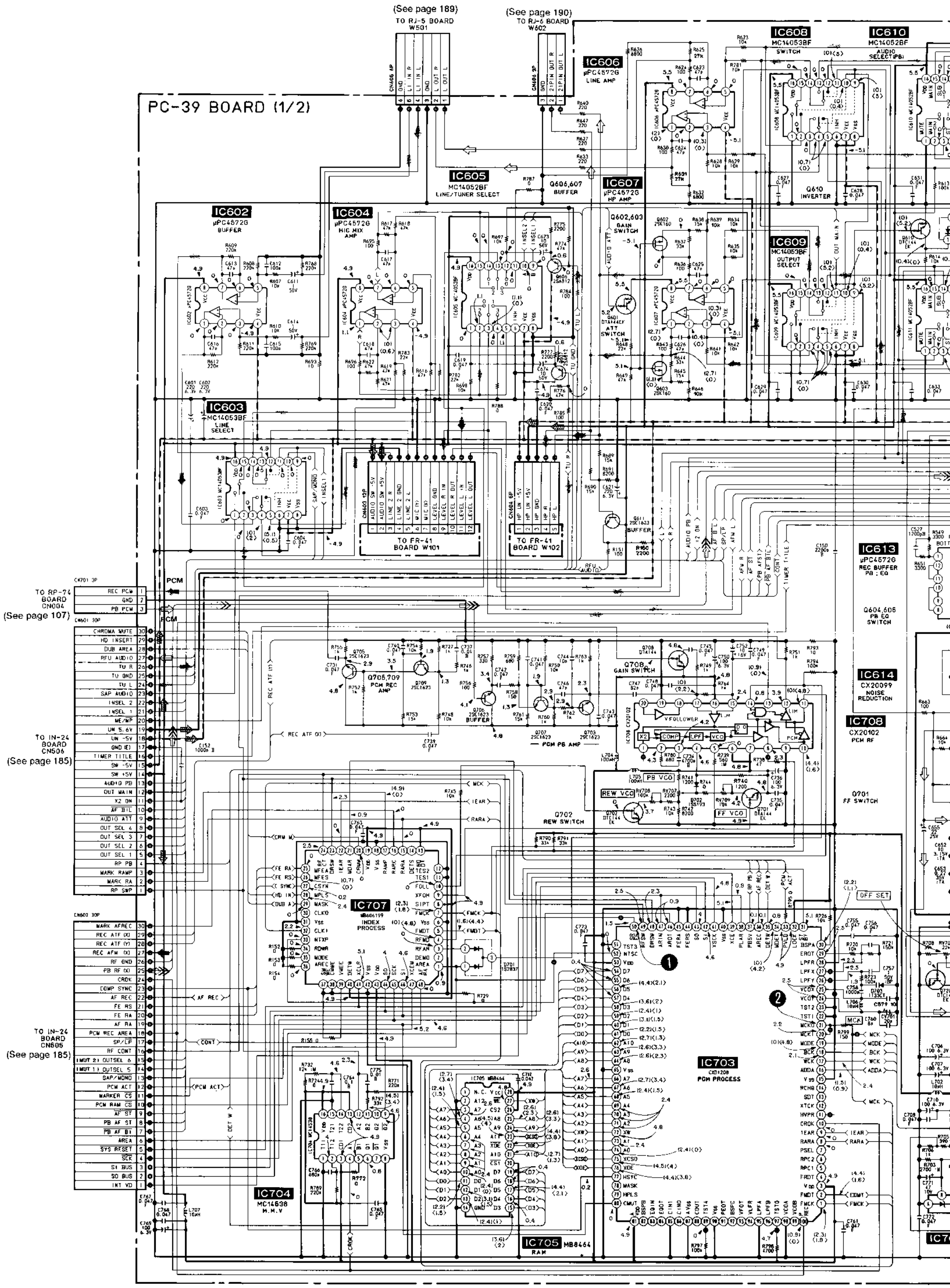
Ⓐ TO DS-35 BOARD (1/3)
(See page 149)



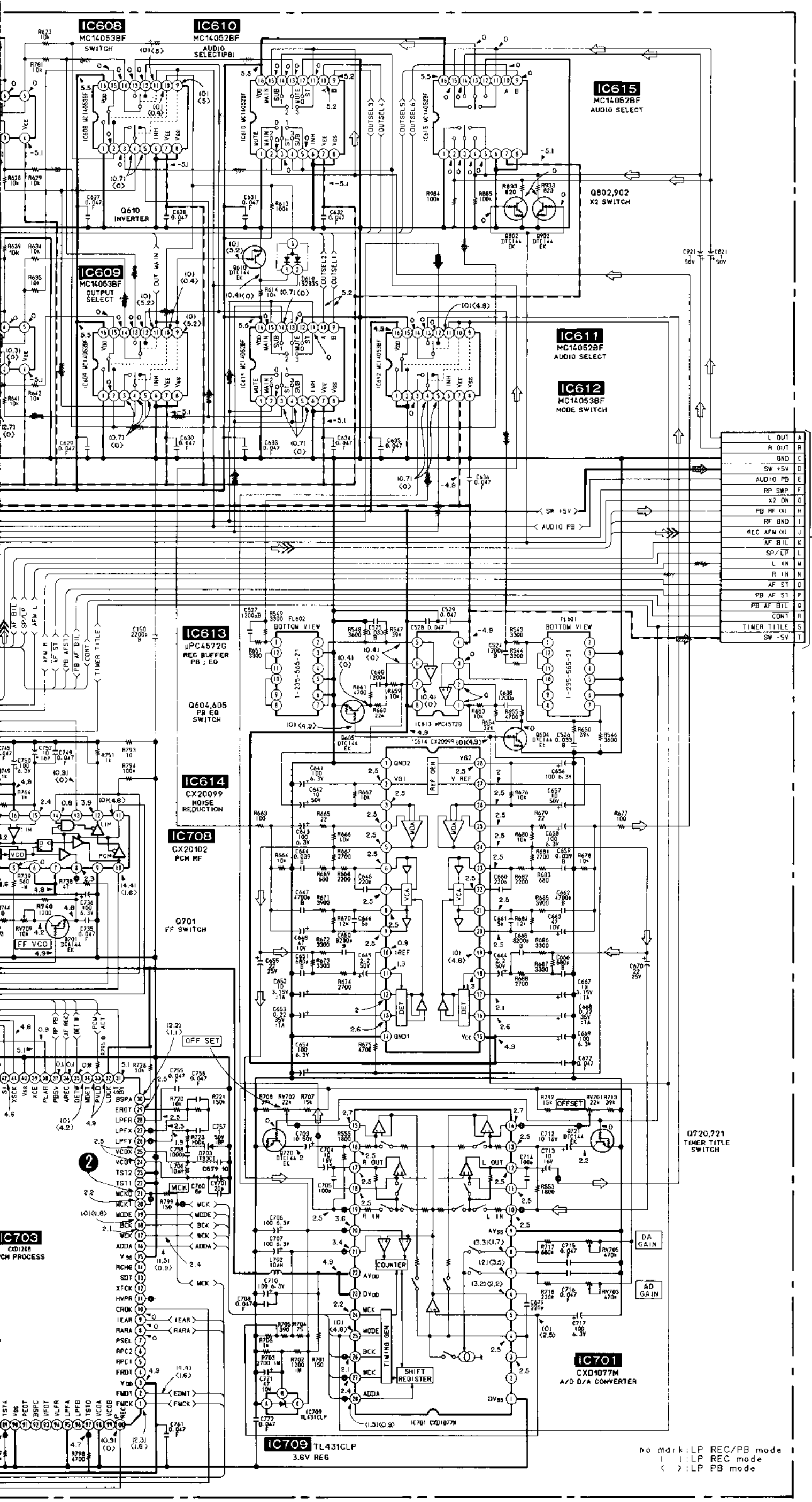
	VIDEO SIGNAL			AUDIO
	CHROMA	Y	Y/CHROMA	
REC			➡⋙	➡
PB			⇨⋙	⇨

PC-39 (AUDIO SIGNAL PROCESS) SCHEMATIC DIAGRAMS (1/2)

– Ref. No.: PC-39 Board; 6,000 series –



AUDIO AUDIO



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

PC-39 (AUDIO SIGNAL PROCESS) SCHEMATIC DIAGRAMS (2/2)

– Ref. No.: PC-39 Board; 6,000 series –

PC-39 BOARD (2/2)

IC501 μPC39362-T1 T.C.AMP

Q506,508 AMP

Q509 COMPARATOR

Q511,512 AMP

Q514 AMP

Q505,521 SWITCH

Q515,516 AMP

Q517,518,520,522,523 TIME CONSTAN SELECT SWITCH

A	L OUT
B	R OUT
C	GND
D	SW +5V
E	AUDIO PB
F	RF SWP
G	X2 ON
H	PB RF (X)
I	RF GND
J	REC AFM (X)
K	AF BTL
L	SP/LP
M	L IN
N	R IN
O	AF ST
P	PB AF ST
Q	PB AF BTL
R	CONT
S	TIMER TITLE
T	SW-5V

E TO PC-39 BOARD (1/2)

(See page 157)

Q524,526 PB RF AMP

Q501,503 AFM REC AMP

Q602 CARRIER BOOST SWITCH

Q504 1.7MHz CUT SWITCH

IC902 MC14052BF AUDIO SELECT (AFM EE/PB)

IC906 μPC45726 MIX INVERTER

Q851,852 ELECTRONIC VOLUME

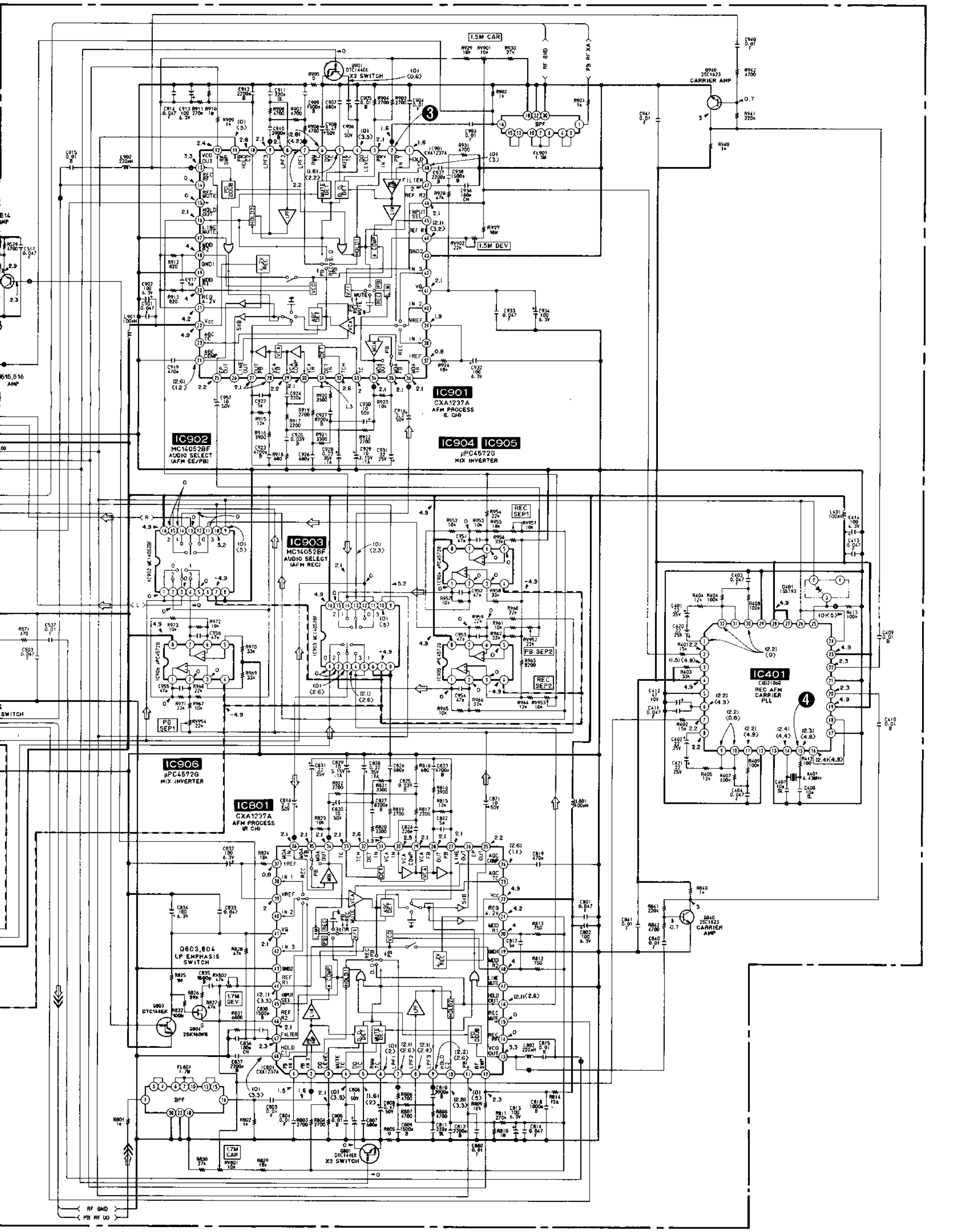
IC850 μPC45728 AGC

Q853,854 AMP

Q855,856 LPF

Q603,604 LP EMPHASIS SWITCH

no mark:LP REC/PB mode
( ):LP REC mode
< >:LP PB mode



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

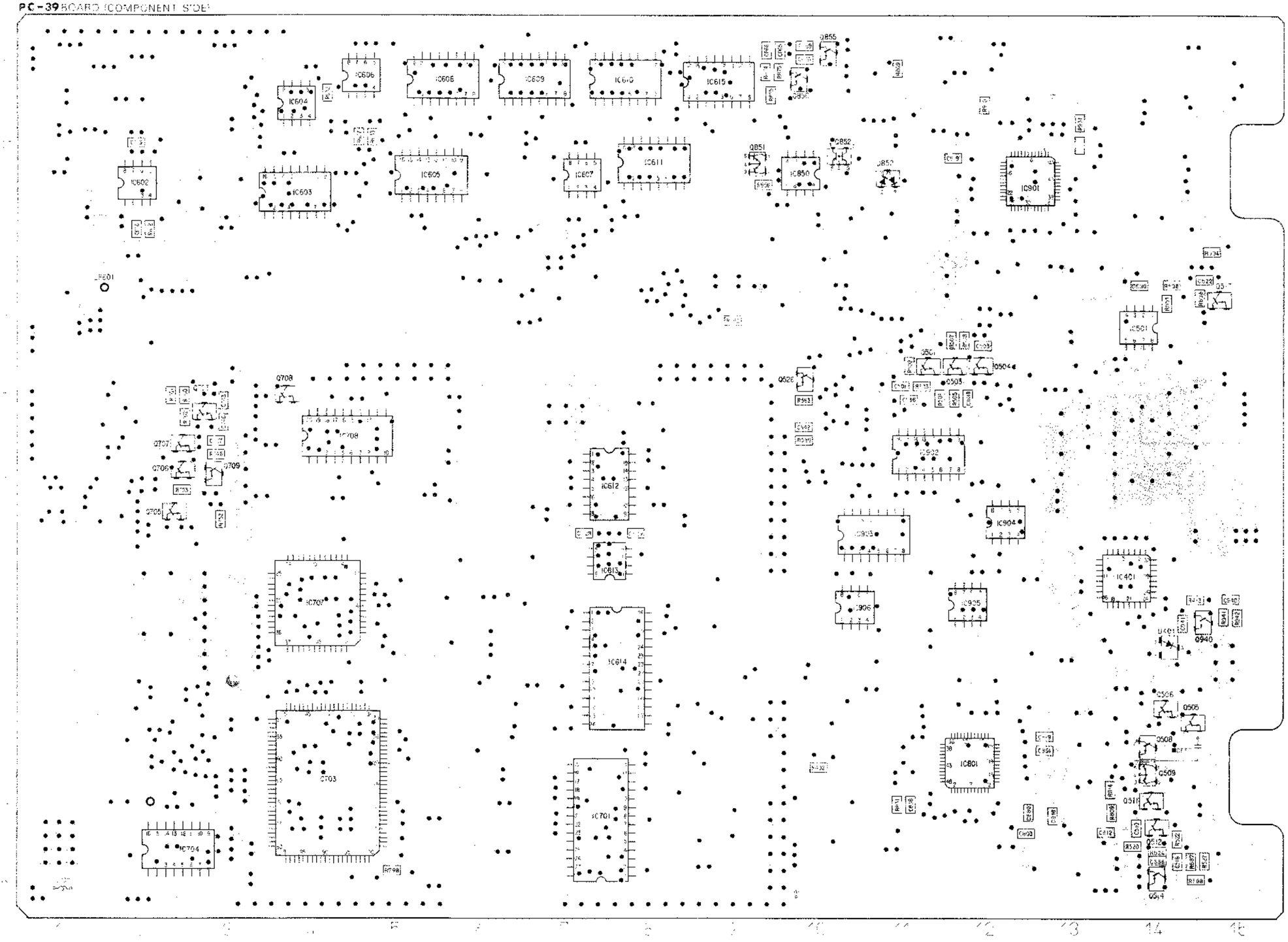
PC-39 (AUDIO SIGNAL PROCESS) SCHEMATIC DIAGRAMS (1/2)

Ref. No. [illegible] are in Boards.

PC-39 BOARD

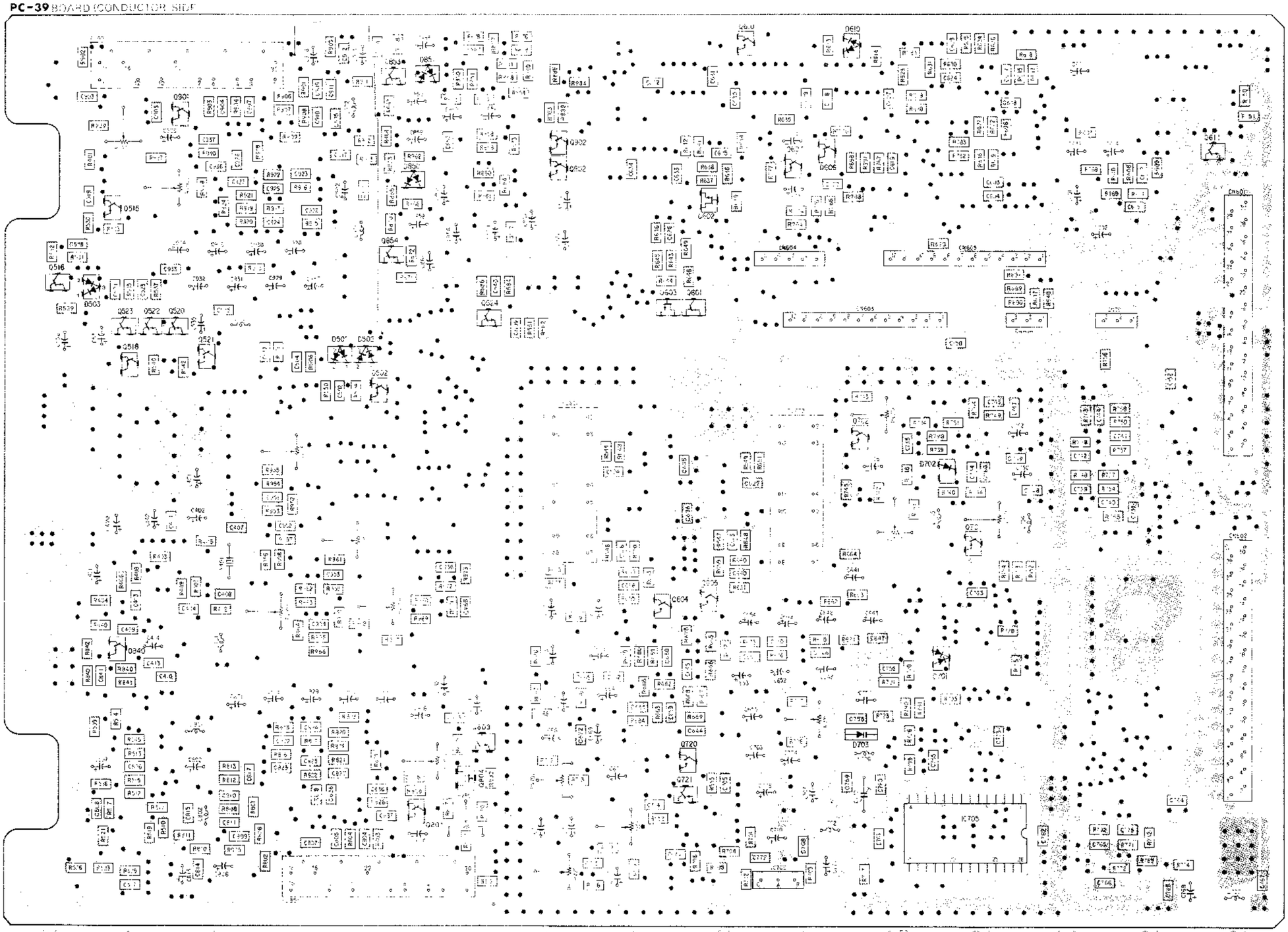
D401	H-26	Q506	K-14
D501	G-26	Q508	J-14
D506	D-21	Q509	J-14
D508	D-18	Q511	J-14
D510	A-26	Q512	J-14
D701	H-27	Q514	K-14
D702	H-28	Q515	C-16
D703	I-27	Q516	D-17
D850	B-21	Q517	D-15
D851	A-21	Q518	E-18
D852	B-11	Q520	D-18
		Q521	D-19
IC401	G-14	Q522	D-18
IC501	D-14	Q523	D-18
IC602	C-2	Q524	D-22
IC603	C-4	Q526	E-10
IC604	B-4	Q601	D-25
IC605	B-5	Q602	C-25
IC606	A-5	Q603	D-24
IC607	B-7	Q604	G-24
IC608	A-6	Q605	G-25
IC609	A-7	Q606	B-26
IC610	A-8	Q607	B-26
IC611	B-8	Q610	A-25
IC612	F-8	Q611	B-31
IC613	G-8	Q701	G-28
IC614	H-8	Q702	E-27
IC615	A-9	Q703	E-3
IC701	J-7	Q705	F-2
IC703	J-4	Q706	F-2
IC704	J-2	Q707	F-2
IC705	J-28	Q708	J-25
IC707	G-4	Q709	E-1
IC708	F-4	Q710	J-25
IC709	K-26	Q721	J-24
IC801	I-12	Q801	J-23
IC850	B-10	Q802	B-23
IC901	C-13	Q843	H-18
IC902	F-11	Q851	B-9
IC903	G-11	Q852	B-10
IC904	G-12	Q853	A-2
IC905	H-12	Q854	C-21
IC906	H-10	Q855	A-10
		Q856	A-10
Q501	F-11	Q901	D-14
Q502	E-21	Q902	B-23
Q503	E-12	Q940	H-15
Q504	E-17		
Q505	H-14		

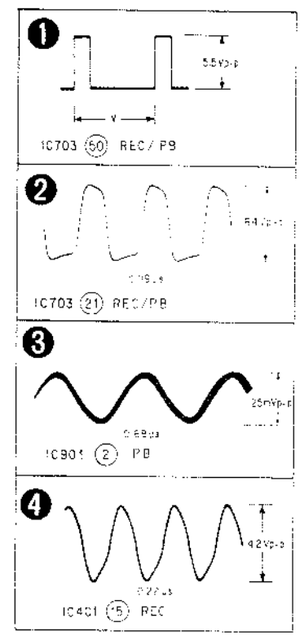
PC-39 BOARD (COMPONENT SIDE)



PC-39 BOARD

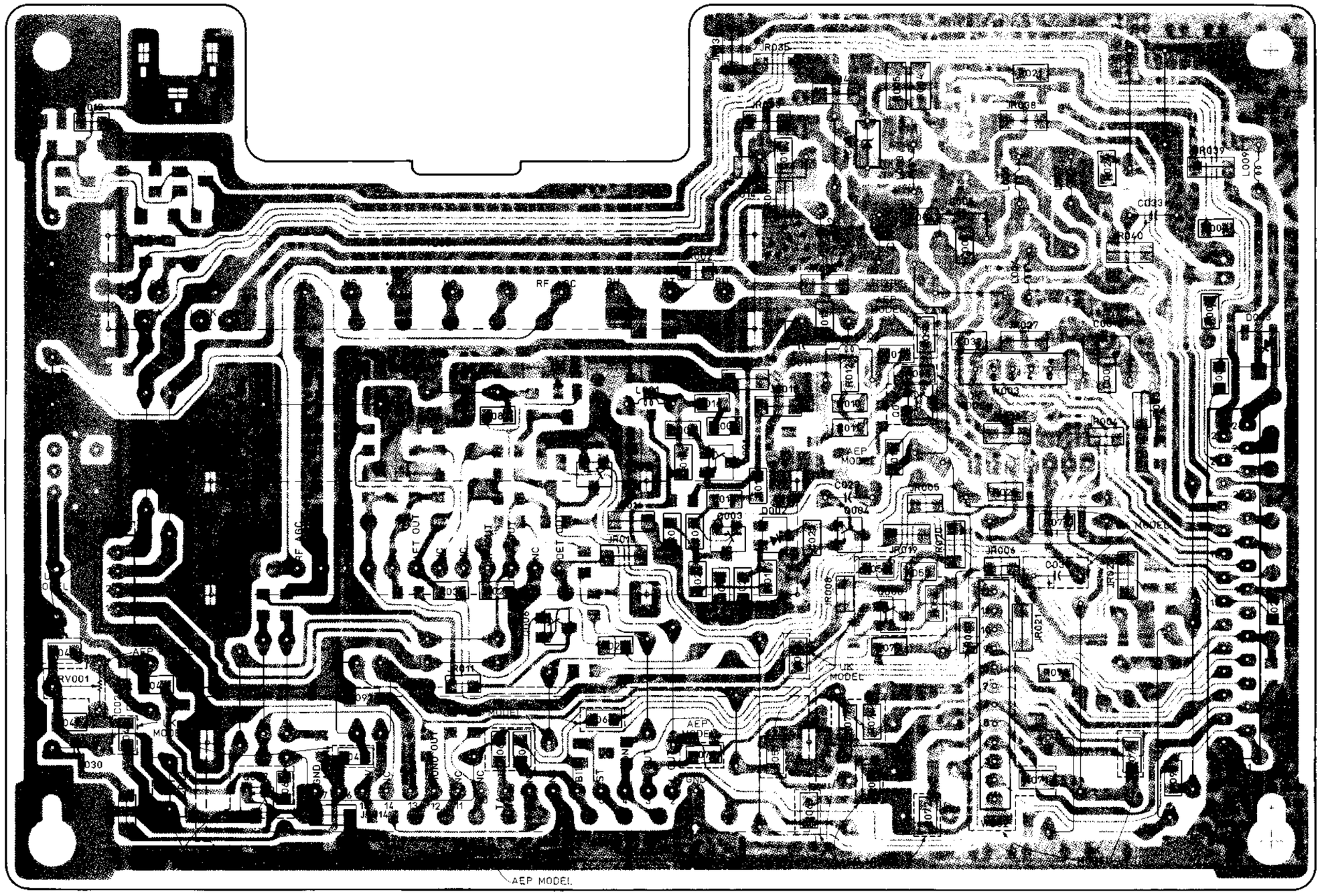
PC-39 BOARD (CONDUCTOR SIDE)



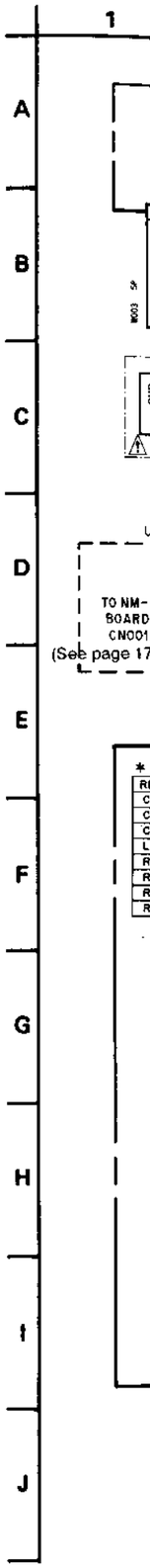


TU-100 (TUNER) PRINTED WIRING BOARD
– Ref. No.: TU-100 Board; 7,000 series –

TU-100 BOARD

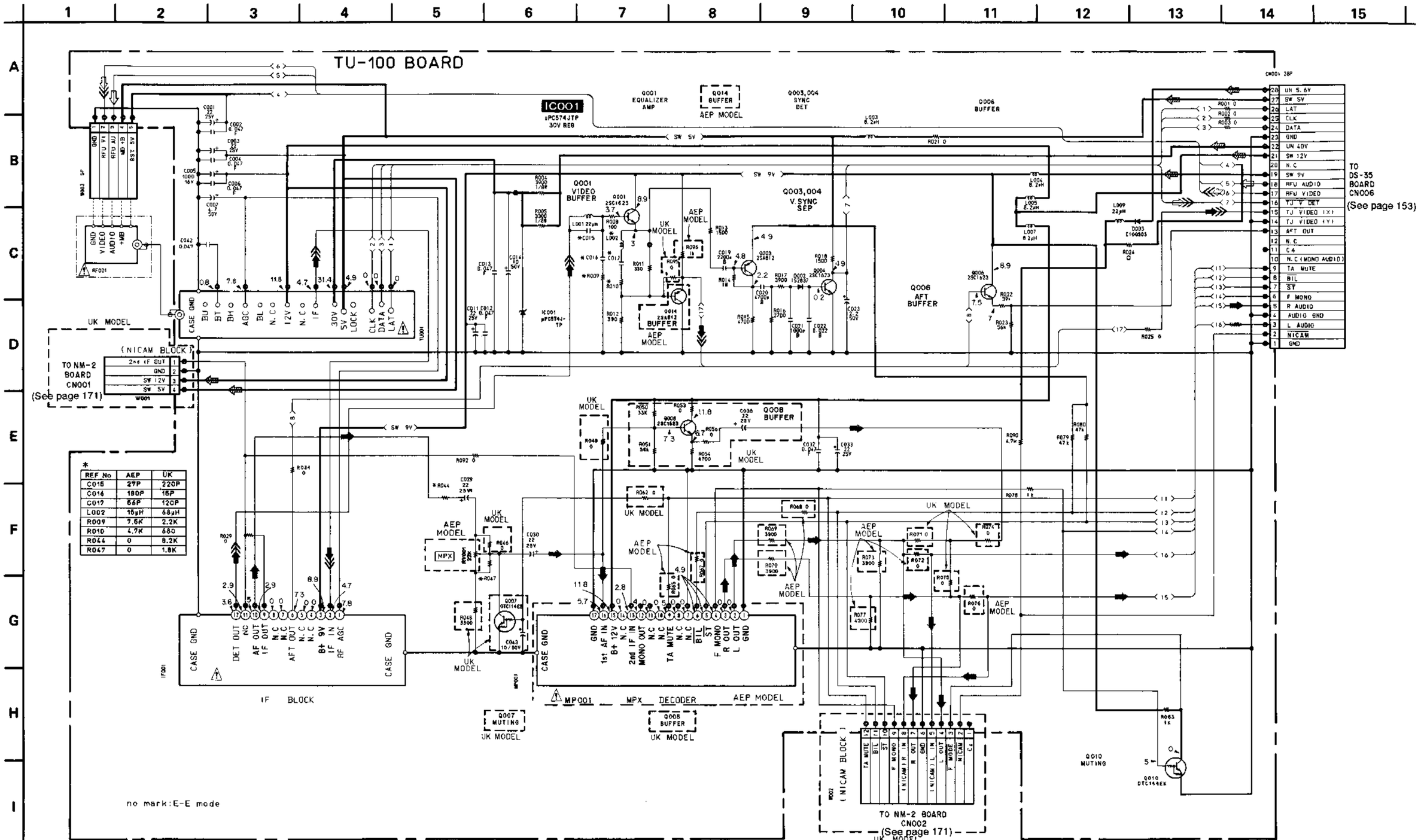


TU-100 (TU
– Ref. No.: T



TU-100 (TUNER) SCHEMATIC DIAGRAM

– Ref. No.: TU-100 Board; 7,000 series –



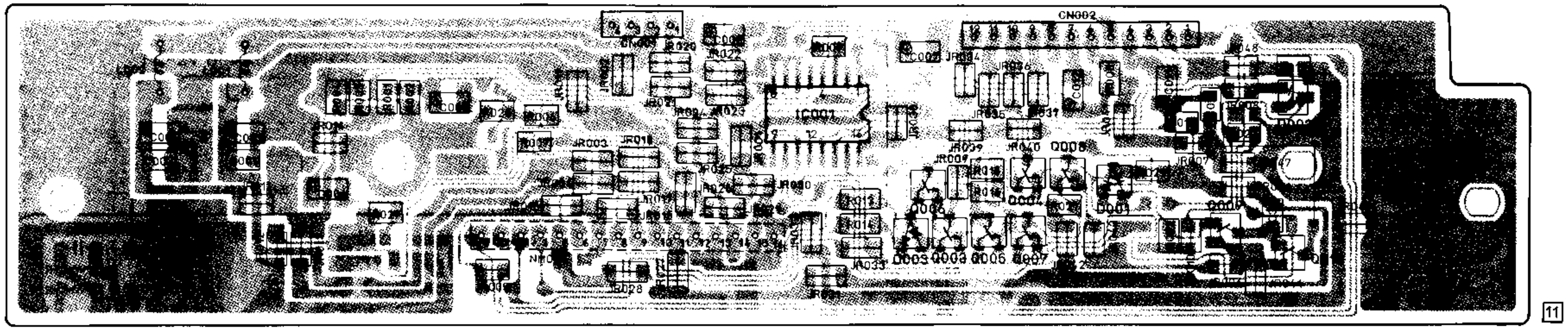
*

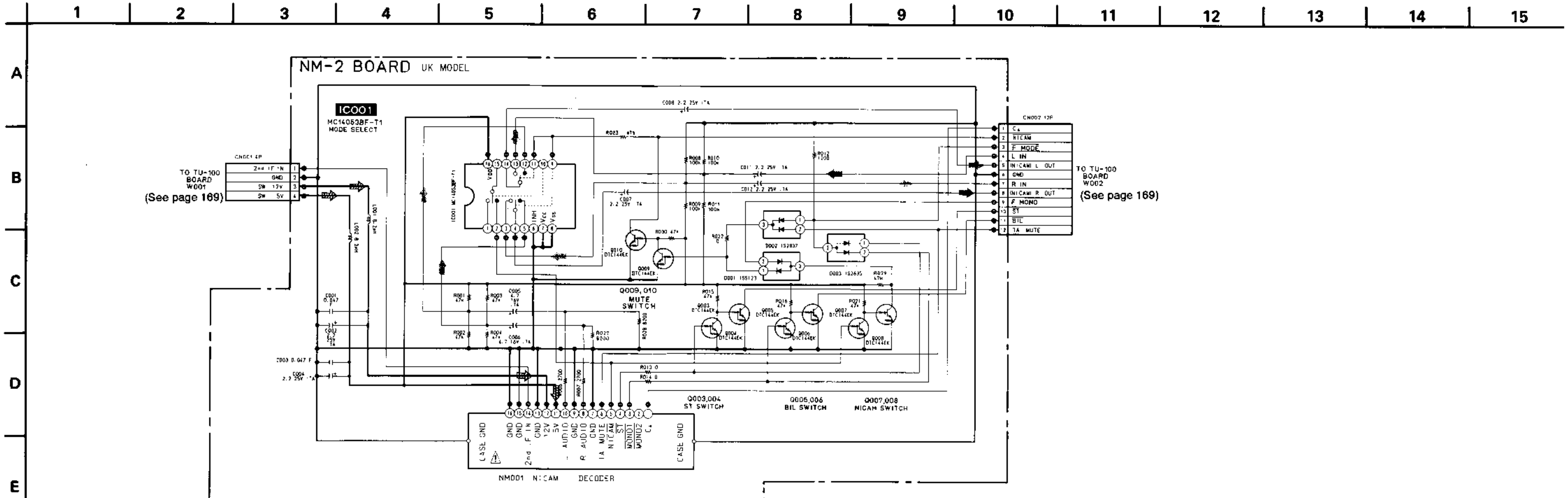
REF No	AEP	UK
C015	27P	220P
C016	180P	15P
C017	56P	120P
L002	15μH	68μH
R009	7.5K	2.2K
R010	4.7K	680
R044	0	8.2K
R047	0	1.8K

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

– Ref. No.: NM-2 Board; 9,000 series –

NM-2 BOARD UK MODEL





• NICAM BROADCASTING MODE

① L R (STEREO)

② MONO1 (M1) + DATA (BILINGUAL)

③ MONO1 (M1) + MONO2 (M2) (TRILINGUAL)

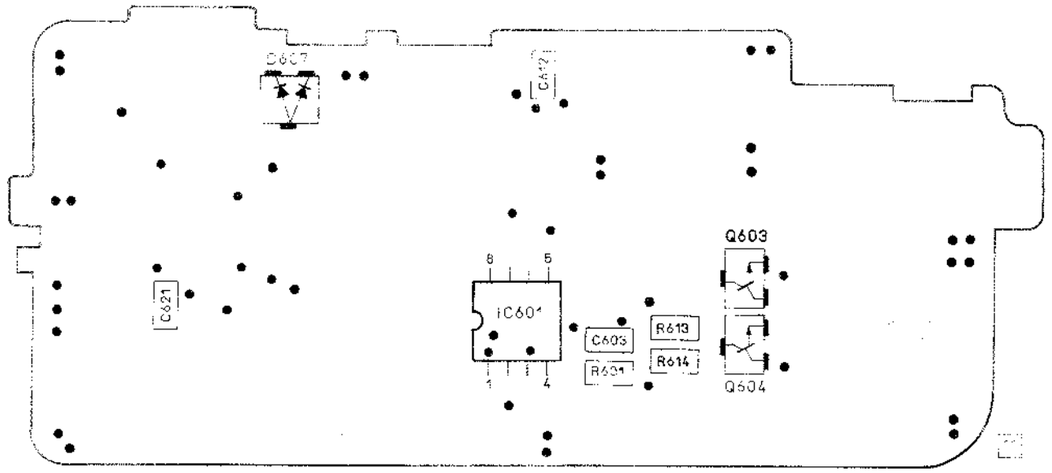
④ DATA + DATA

PCM >> NICAM • A TABLE OF HITHERTO FM SOUND OUT SELECT

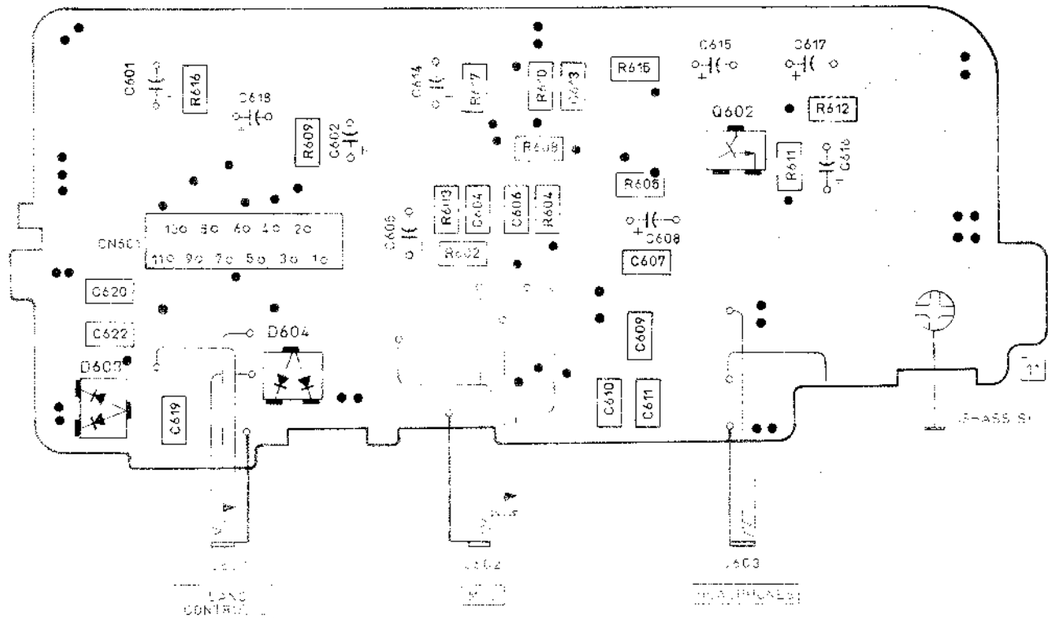
$\overline{\text{NICAM}}$	$\overline{\text{ST}}$	$\overline{\text{BIL}}$	PCM L	PCM R
0	0	1	NICAM L	NICAM R
1	1	1	L+R	L+R
0	1	0	NICAM M1	NICAM M1
1	1	1	L+R	L+R
0	1	0	NICAM M1	NICAM M2
1	1	1	L+R	L+R

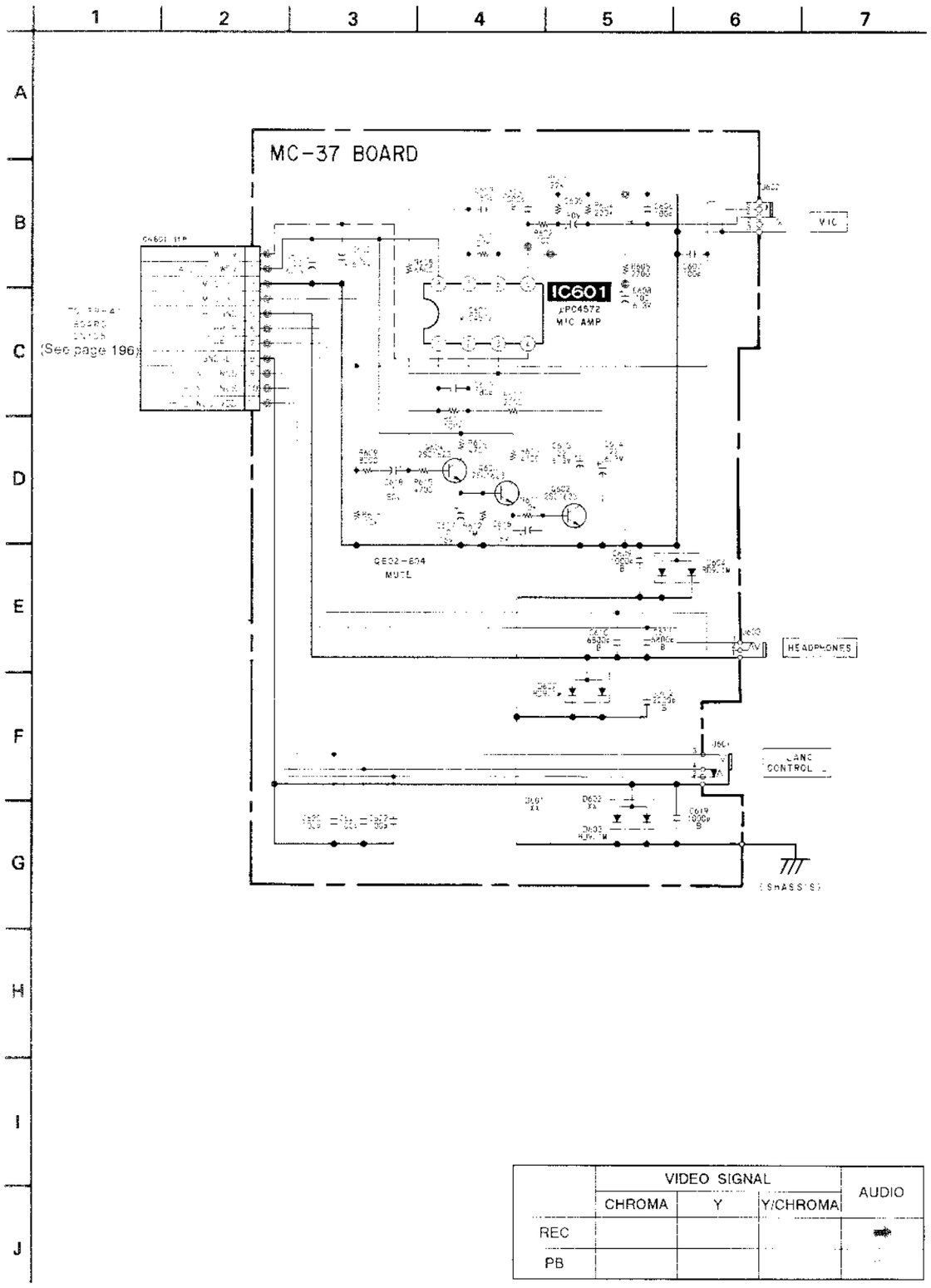
	VIDEO SIGNAL			AUDIO
	CHROMA	Y	Y/CHROMA	
REC				➡
PB				

MC-37 BOARD (COMPONENT SIDE)



MC-37 BOARD (CONDUCTOR SIDE)





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

FL-24 (FLUORESCENT DISPLAY) PRINTED WIRING BOARD

– Ref. No. : FL-24 Board : Unit –

FL-24 BOARD

FL-24 BOARD

D001	I-10
D002	H-1
D003	G-1
D004	I-1
D005	I-1
D006	H-12
D007	G-1
D008	H-1
D009	I-11
D010	H-1
	(UK model)
IC001	D-3
IC002	G-1
IC003	B-12
IC004	B-12
IC005	C-10
IC006	F-7
Q001	G-3
Q002	F-3
Q003	H-1
Q004	B-1
	(UK model)

PS-196

– Ref.

PS-196 BOARD

D1	A-7
D2	A-6
D3	A-6
D4	A-6
D5	A-5
D6	B-8
D7	A-7
D8	B-8
D9	B-9
D10	B-7
D11	B-7
D12	B-10
D13	B-10
D14	B-5
D15	C-9
D16	B-8
IC1	B-4
IC2	C-5
IC3	B-8
IC4	A-9
IC5	B-7
IC6	C-7
IC7	A-10
PH1	C-5
Q1	C-5
Q2	A-7
Q3	C-7
Q4	B-9
Q5	A-8

FLUORESCENT DISPLAY

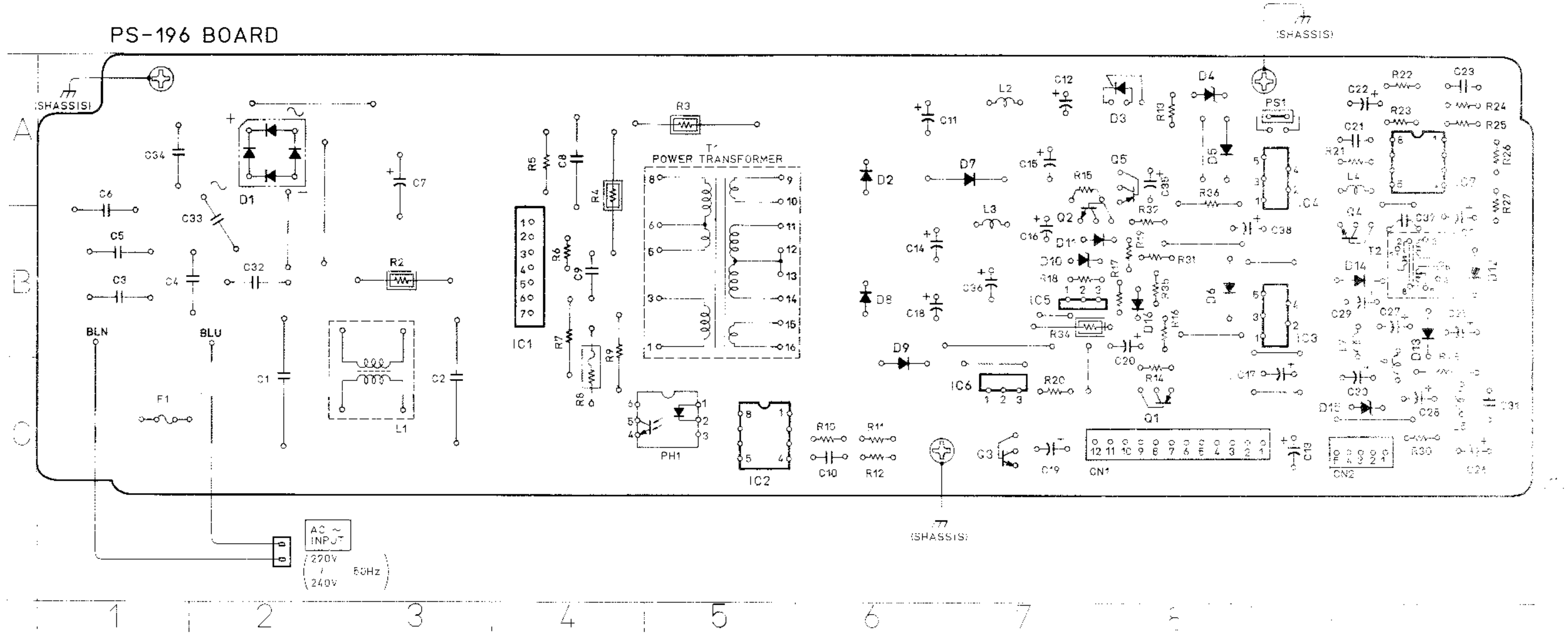
FLUORESCENT DISPLAY

PS-196 (POWER SUPPLY) PRINTED WIRING BOARD

Ref. No : PS-196 Board, 12,000 series --

PS-196 BOARD

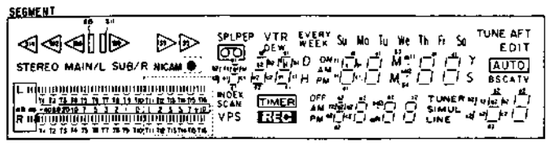
D1	A-2
D2	A-5
D3	A-8
D4	A-8
D5	A-8
D6	B-8
D7	A-7
D8	B-6
D9	B-9
D10	B-7
D11	B-7
D12	B-10
D13	B-10
D14	B-9
D15	C-9
D16	B-8
IC1	B-4
IC2	C-5
IC3	B-9
IC4	A-9
IC5	B-7
IC6	C-7
IC7	A-10
PH1	C-5
Q1	C-8
Q2	A-7
Q3	C-7
Q4	B-9
Q5	A-8

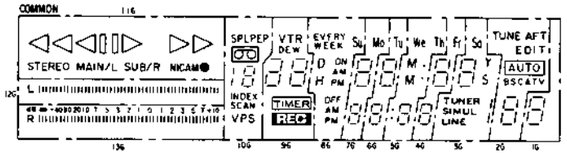


POWER SUPPLY POWER SUPPLY

FL-24 (FLUORESCENT DISPLAY) SCHEMATIC DIAGRAM

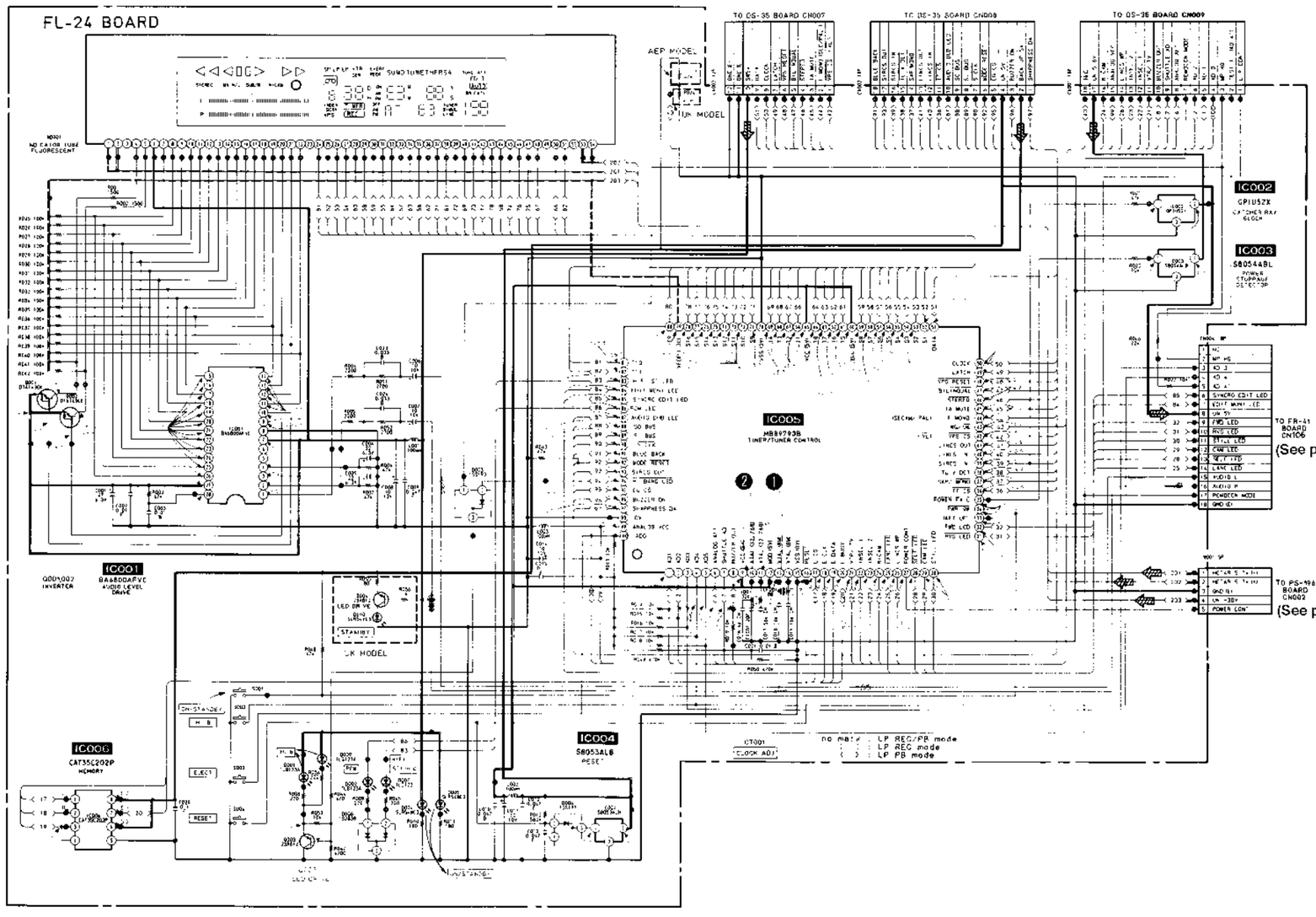
– Ref. No.: FL-24 Board; 11,000 series –

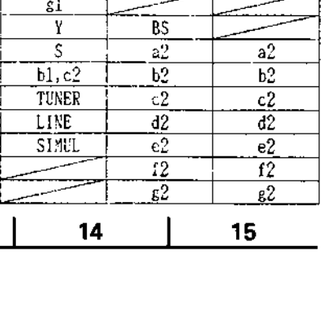




INTERNAL CONNECTION

	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
S1	STEREO	EP	VTR	EVERY WEEK	Mo	Tu	We	Fr	Sa	TUNE	
S2	MAIN	a1	a1	Su	a1	a1	Th	a1	a1	APT	
S3	L	b1	b1	D	b1	b1	M Up	b1	b1	EDIT	
S4	NICAM	c1	c1	H	c1	c1	M Down	c1	c1		
S5	▷ R	d1	d1		d1	d1	· col4	d1	d1	CATV	
S6	●	e1	e1	PM	e1	e1	· col3	e1	e1	AUTO	
S7	SUB	f1	f1	ON	f1	f1	· col1	f1	f1		
S8	R	g1	g1	AM	g1	g1	· col2	g1	g1		
S9	▷ M								Y	BS	
S10	▷ L	CTD	g2		a2	a2	a2	a2	S	a2	a2
S11	□ R	SP	b2		b2	b2	b2	b2	b1, c2	b2	b2
S12	◁ M	VPS	c2	OFF	c2	c2	c2	c2	TUNER	c2	c2
S13		LP	DEW	PM	d2	d2	d2	d2	LINE	d2	d2
S14	◁ L	b2, c2	e2	AM	e2	e2	e2	e2	SIMUL	e2	e2
S15	□ L	INDEX	TIMER		f2	f2	f2	f2		f2	f2
S16	◁ R	SCAN	REC		g2	g2	g2	g2		g2	g2





	VIDEO SIGNAL			AUDIO
	CHROMA	Y	Y/CHROMA	
REC				➡
PB				

PS-196 (POWER SUPPLY) SCHEMATIC DIAGRAM

– Ref. No.: PS-196 Board; 12,000 series –

PS-196 BOARD

IC007 FA7610P DC-DC CONVERTER

IC001 MA2820 CONVERTER

IC003 SI-3090CA +9V REG

IC004 SI-3120C +12V REG

IC006 M6F79M05 -6V REG

IC005 M5237L +5V REG

IC002 IR9431 REF VOLTAGE DET

Q003 VOLTAGE DET

Q001 +5V REG

Q002,005 SWITCHING

AC ~ INPUT (220V 50Hz / 240V 60Hz) AC IN

(SHASSIS)

T1 POWER TRANSFORMER

DC-DC CONV OUT

CN2 5P
1 UN5.7V (-)
2 UN5.7V (+)
3 GND (T)
4 UN-30V
5 P.C

TO FL-24 BOARD (W001) (See page 179)

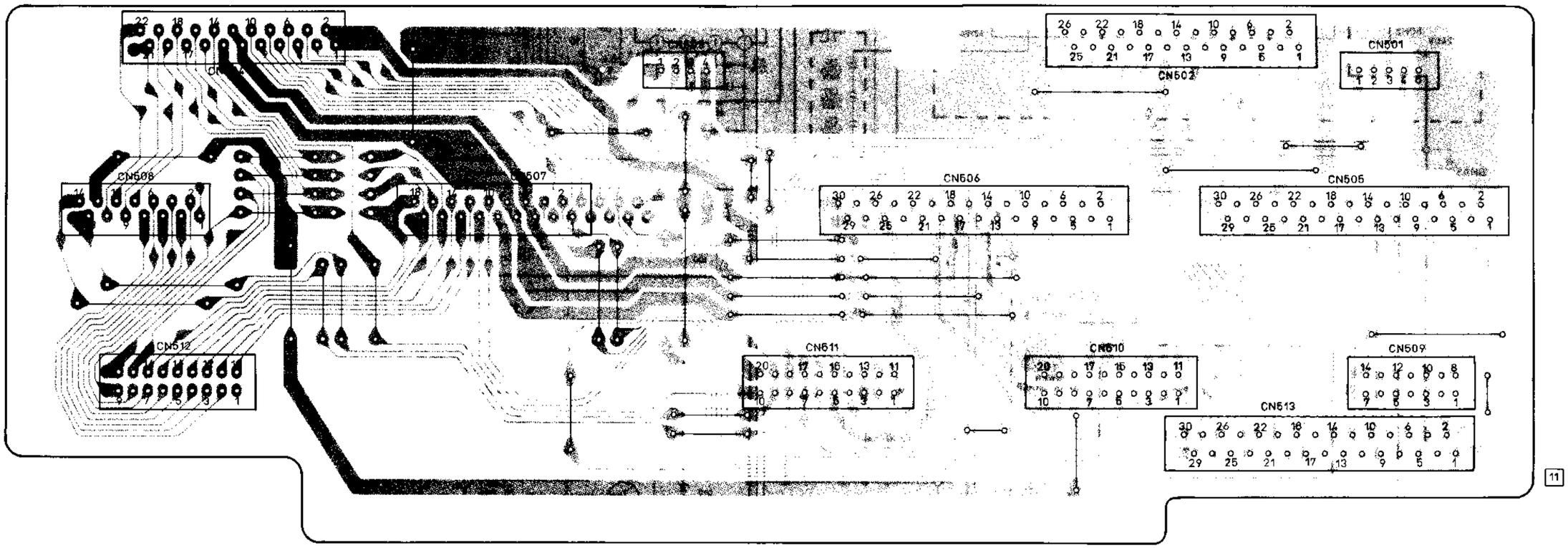
CN1 12P
1 UN40V
2 SW12V
3 SW9V
4 UN9V
5 GND (M)
6 UN5.6V
7 SW5V
8 SW5V
9 UN-5V
10 SW-5V
11 GND (E)
12 GND (E)

TO DS-35 BOARD (W001) (See page 153)

no mark : LP REC/PB mode

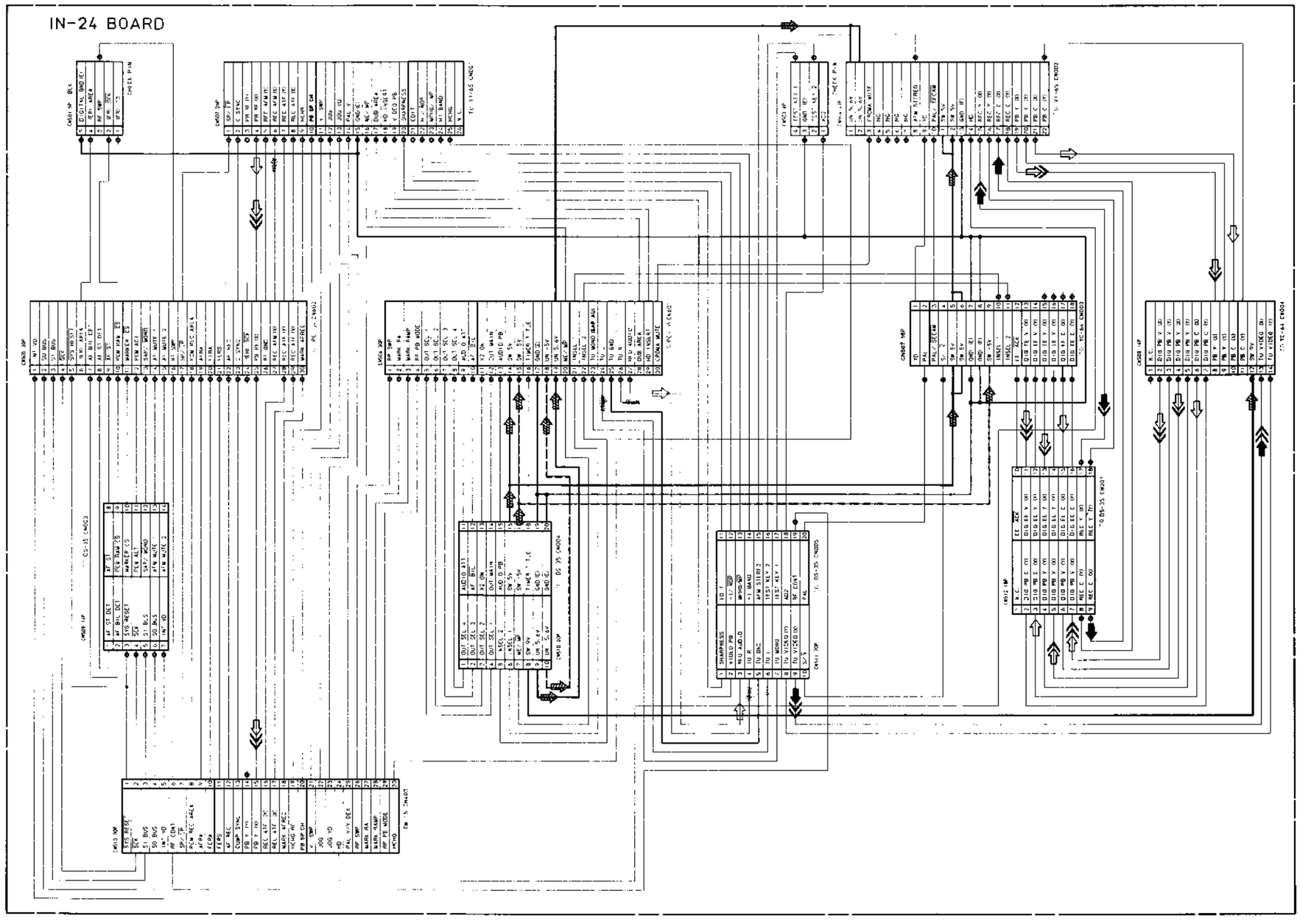
IN-24 (SIGNAL INTERMEDIATION) PRINTED WIRING BOARD
– Ref. No.: IN-24 Board; 13,000 series –

IN-24 BOARD



IN-24 (SIGNAL INTERMEDIATION) SCHEMATIC DIAGRAM

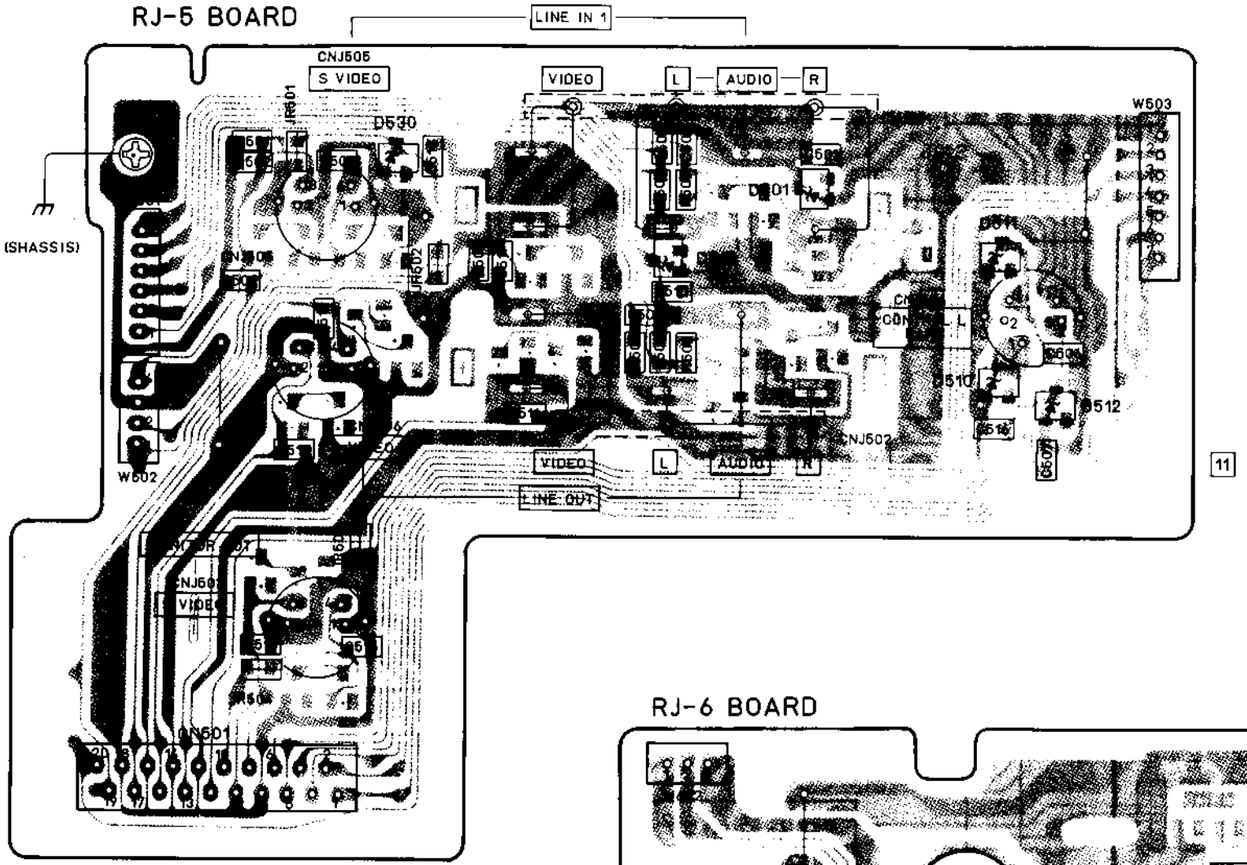
– Ref. No.: IN-24 Board; 13,000 series –

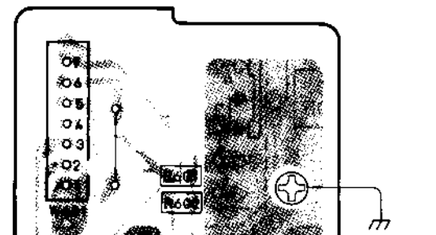


	VIDEO SIGNAL			AUDIO
	CHROMA	Y	Y/CHROMA	
REC	➡	➡	➡	➡
PB	⇨	⇨	⇨	⇨

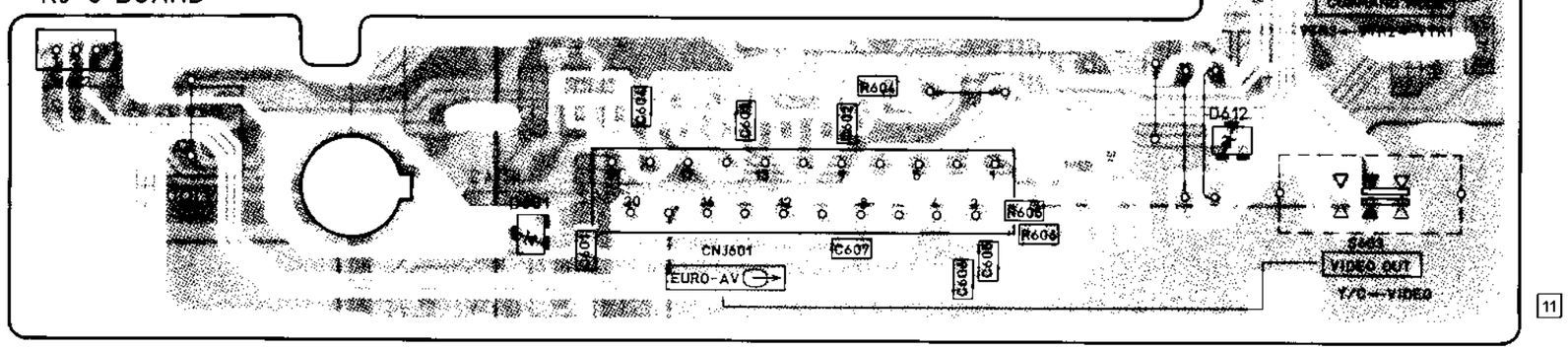
RJ-5 (LINE IN 1), RJ-6 (EURO-AV CONNECTOR) PRINTED WIRING BOARDS
– Ref. No.: RJ-5, RJ-6 Boards; 14,000 series –

RJ-5 BOARD



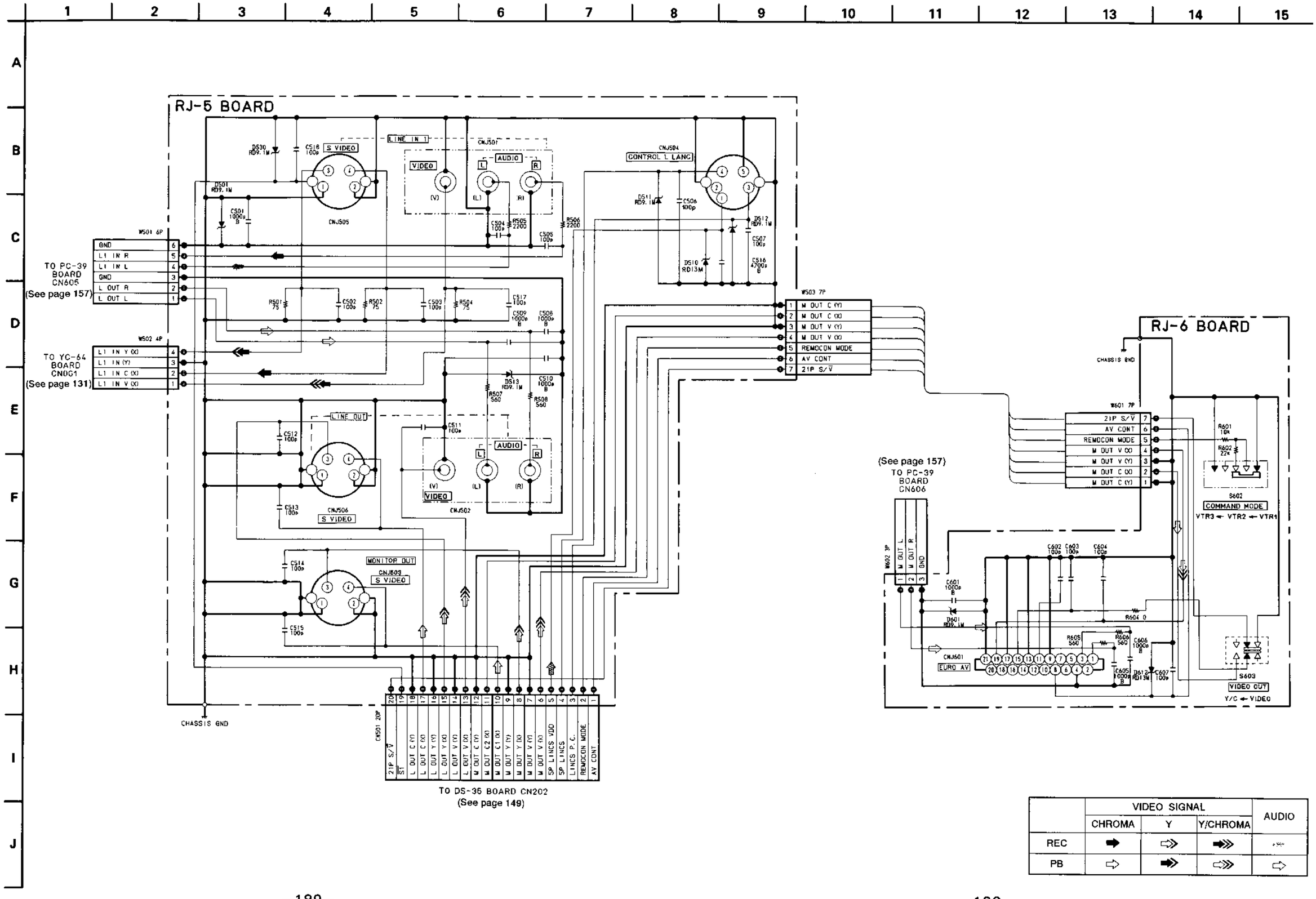


RJ-6 BOARD



RJ-5 (LINE IN 1), RJ-6 (EURO-AV CONNECTOR) SCHEMATIC DIAGRAM

– Ref. No.: RJ-5, RJ-6 Boards; 14,000 series –

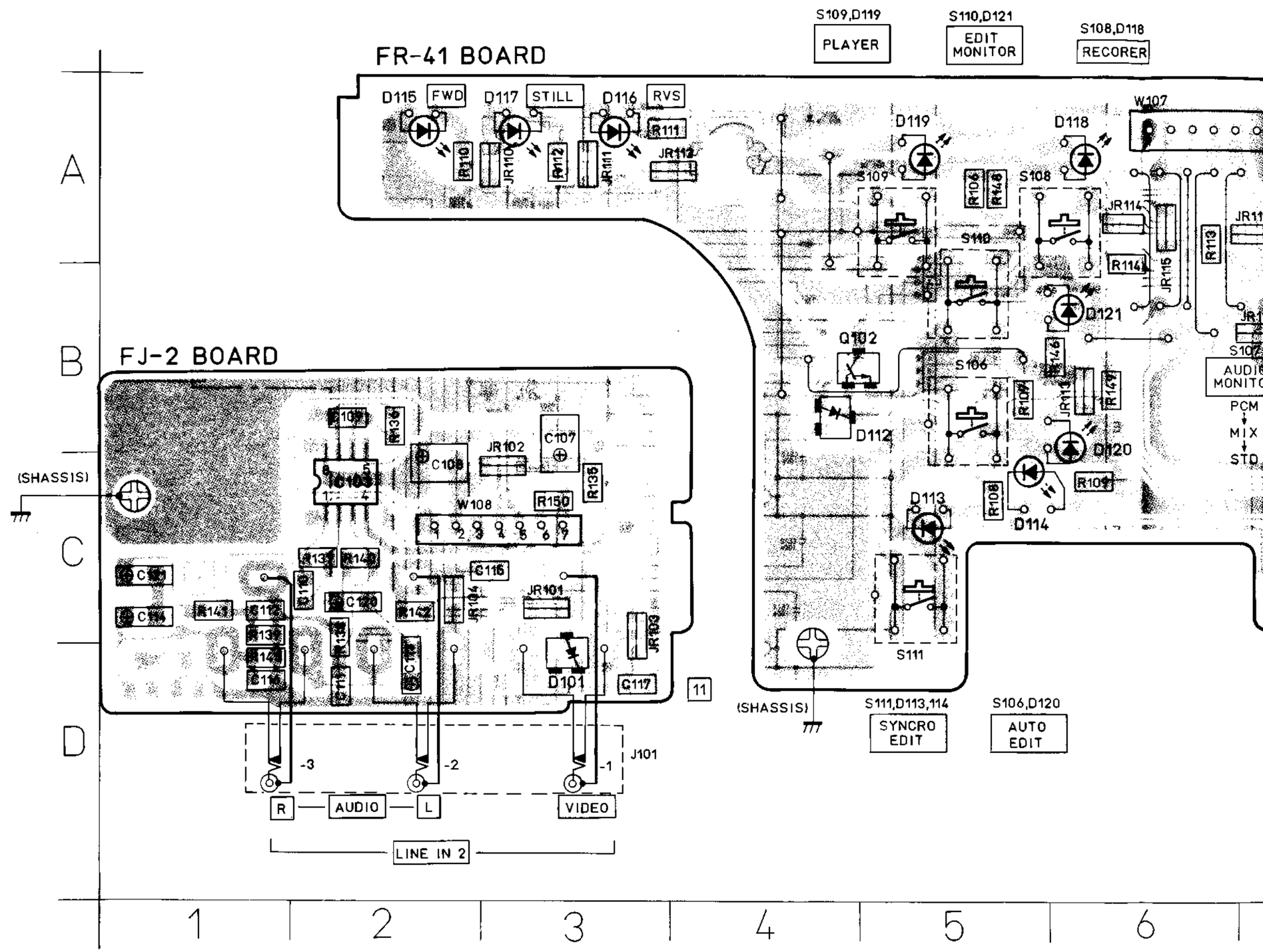


	VIDEO SIGNAL			AUDIO
	CHROMA	Y	Y/CHROMA	
REC	➡	⇨	⋙	⇢
PB	⇨	➡	⋙	⇨

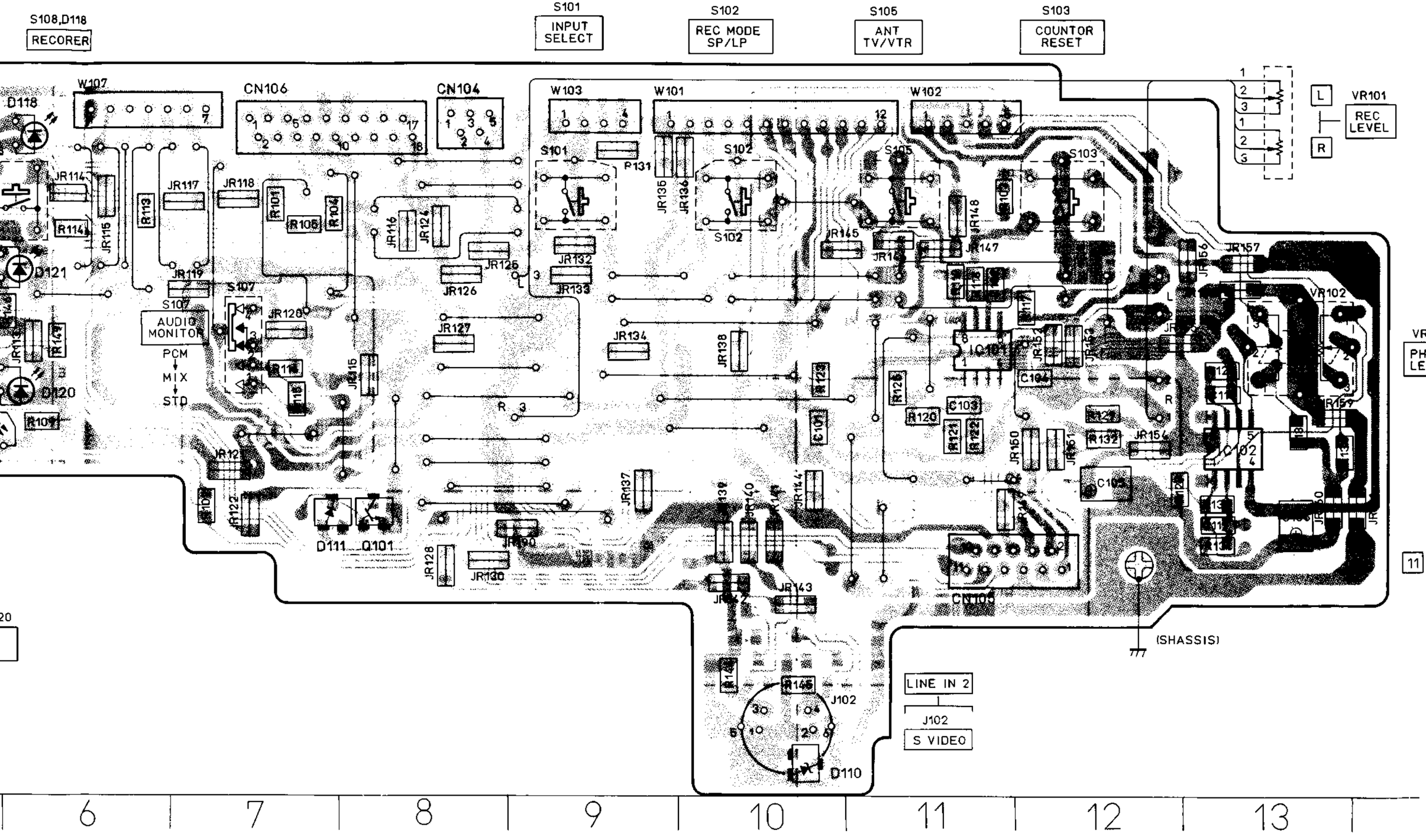
FR-41 (MODE CONTROL), FJ-2 (LINE IN 2) PRINTED WIRING BOARDS
– Ref. No.: FR-41, FJ-2 Boards; 15,000 series –

FR-41 BOARD

D110	D-10
D111	C-7
D112	B-4
D113	C-5
D114	C-5
D115	A-2
D116	A-3
D117	A-3
D118	A-6
D119	A-5
D120	B-6
D121	B-6
IC101	B-11
IC102	C-13
Q101	C-8
Q102	B-4



MODE CONTROL MODE CONTROL


S108,D118
RECORER
S101
INPUT SELECT
S102
REC MODE SP/LP
S105
ANT TV/VTR
S103
COUNTOR RESET
W107
CN106
CN104
W103
W101
W102
D118
S101
S102
S105
S103
VR101
REC LEVEL
L
R
JR114
JR117
JR118
JR119
JR120
JR121
JR122
JR123
JR124
JR125
JR126
JR127
JR128
JR129
JR130
JR131
JR132
JR133
JR134
JR135
JR136
JR137
JR138
JR139
JR140
JR141
JR142
JR143
JR144
JR145
JR146
JR147
JR148
JR149
JR150
JR151
JR152
JR153
JR154
JR155
JR156
JR157
R101
R102
R103
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R105
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R110
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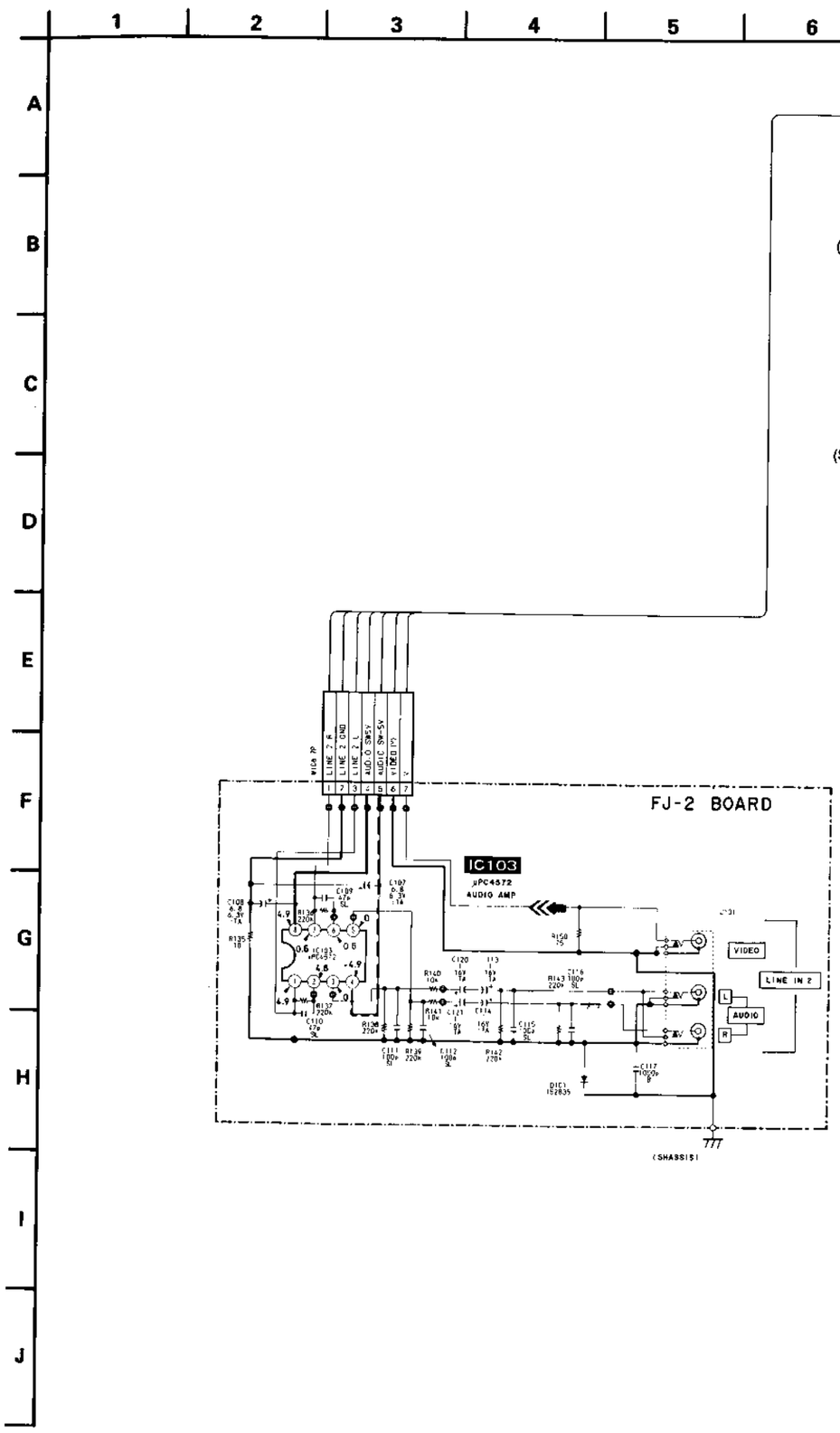
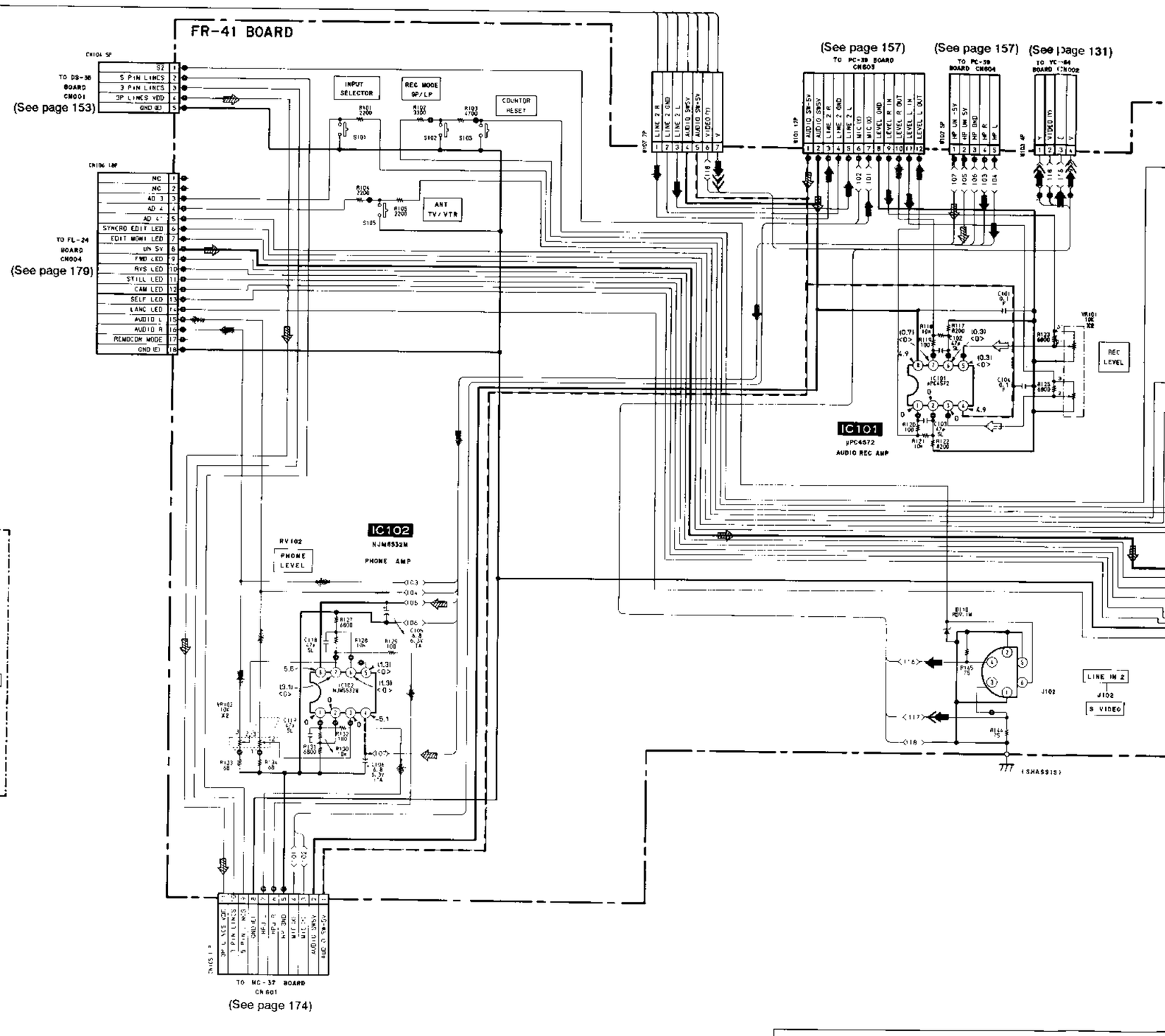
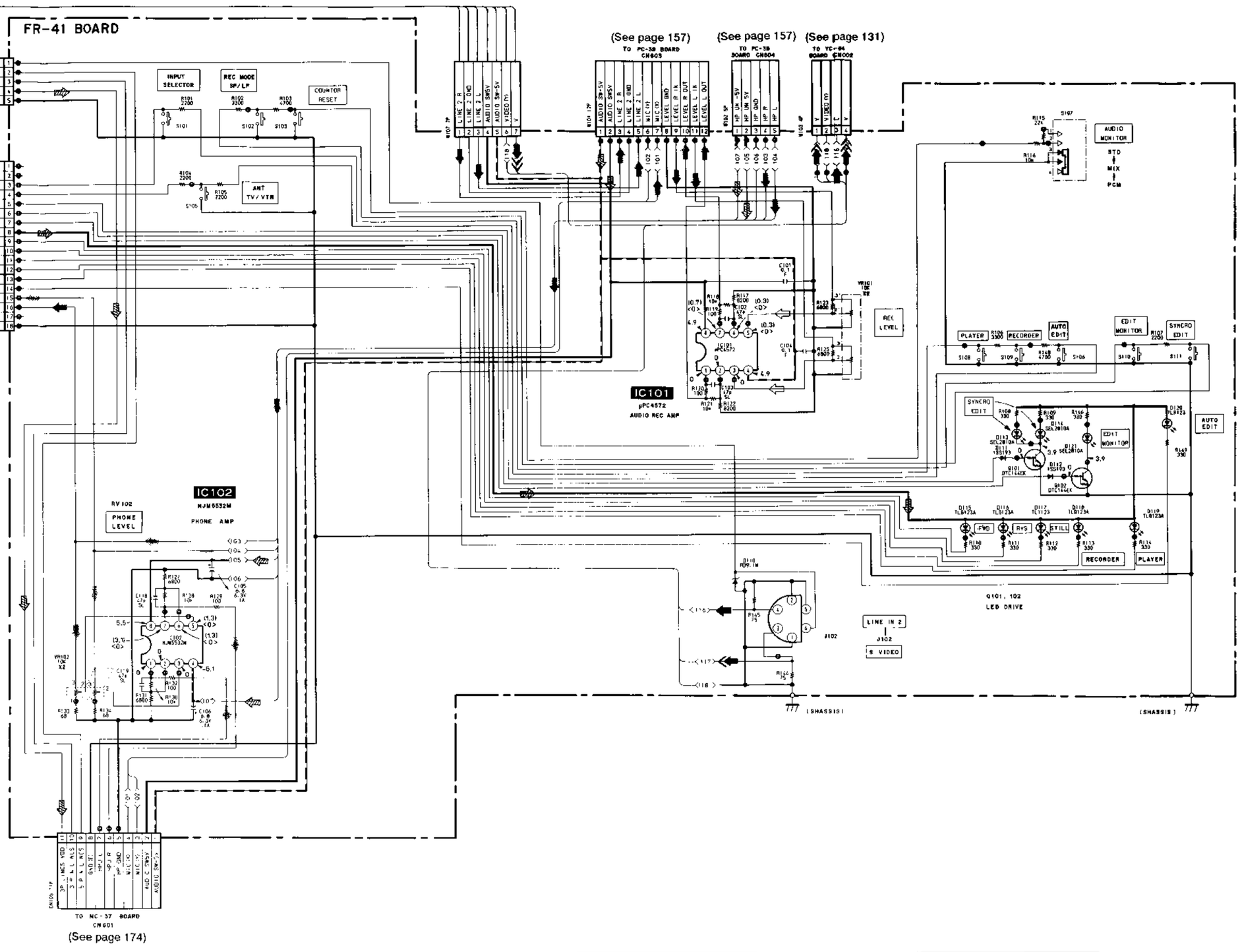
R118
R119
R120
R121
R122
R123
R124
R125
R126
R127
R128
R129
R130
R131
R132
S107
AUDIO MONITOR
PCM
MIX
STD
D120
D121
D111
Q101
D110
IC101
IC102
C101
C102
C103
C104
C105
VR102
PHONE LEVEL
CN105
J102
S VIDEO
LINE IN 2
(SHASSIS)
11
6
7
8
9
10
11
12
13

FR-41 (MODE CONTROL), FJ-2 (LINE IN 2) SCHEMATIC DIAGRAM

– Ref. No.: FR-41, FJ-2 Boards; 15,000 series –



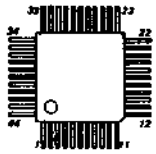




	VIDEO SIGNAL			AUDIO
	CHROMA	Y	Y/CHROMA	
REC	➡	➡	➡	
PB				⇨

5-3. SEMICONDUCTORS

CXA1449Q



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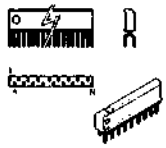

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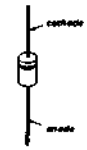
RU-3AM



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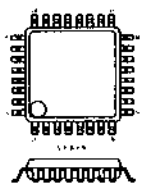

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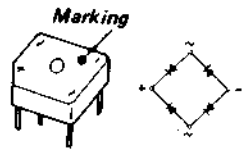
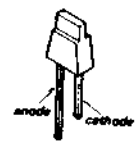
2SC2655

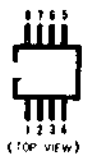
S2VB60-03L10



PY5504S-1



FA7610P



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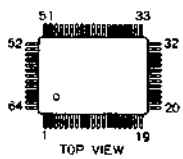
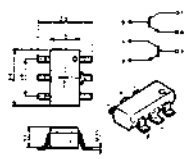


IMZ1



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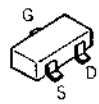

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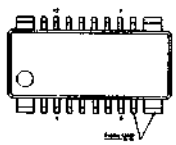
SEL2810A

LB1631M



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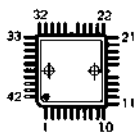

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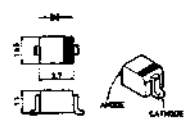

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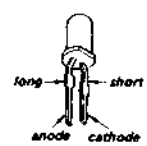
TLY123



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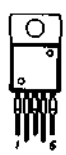

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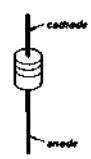
ERA82-004
RD11ES-B2
RD7.5ES-B2
1SS119



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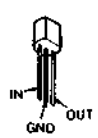
TLP907-0

M5F79M05



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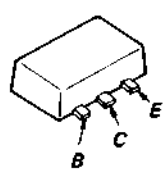
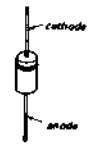
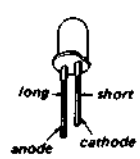


RD9.1M-B1
1SS83
20E2H



EBR5534S



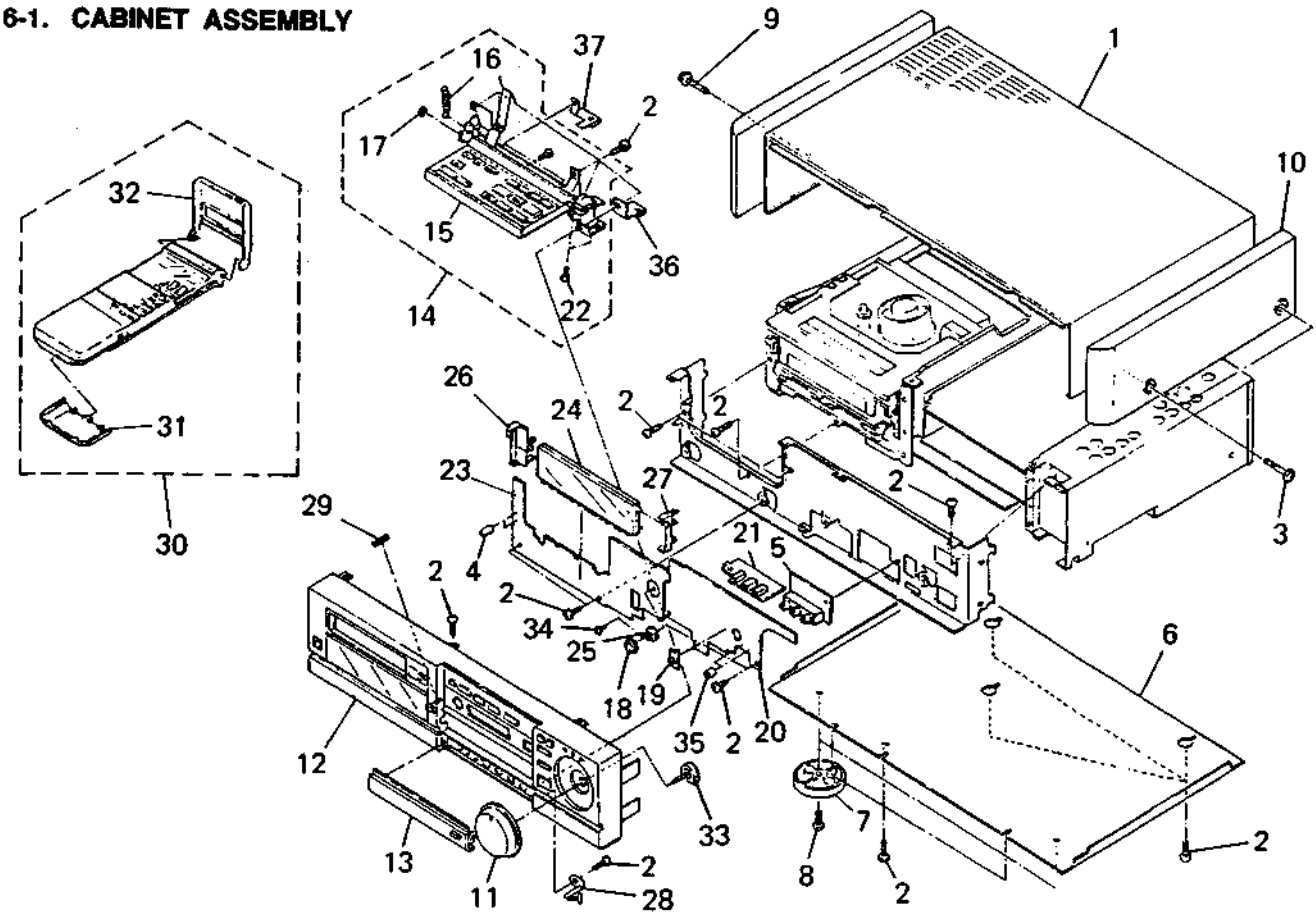
SECTION 6
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.

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

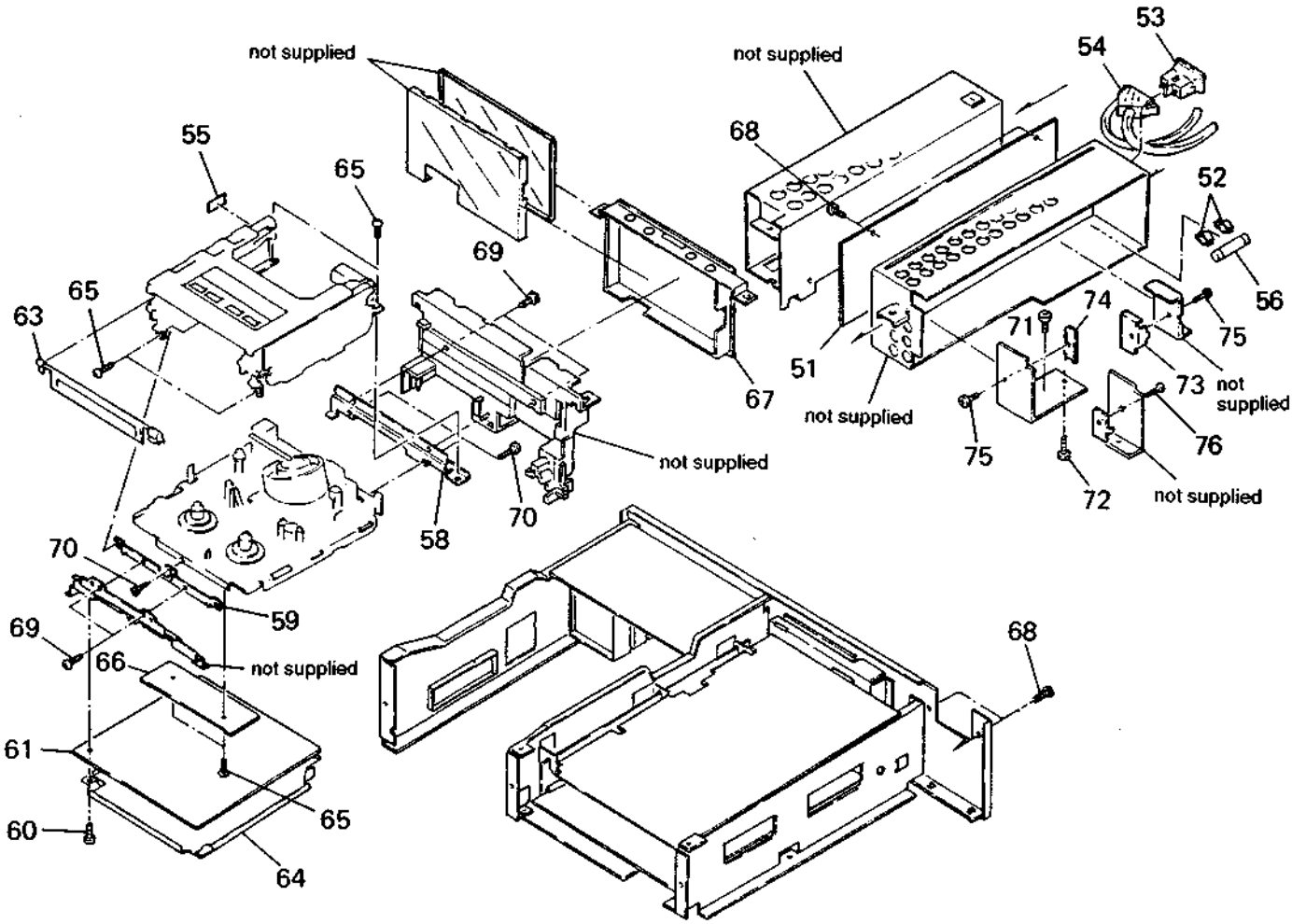
6-1. CABINET ASSEMBLY



No.	Part No.	Description	Remark
1	X-3742-504-1	CASE ASSY, UPPER (AEP)	
	X-3742-516-1	CASE ASSY, UPPER (UK)	
2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
3	3-721-342-11	SCREW (3), SIDE WOOD (AEP)	
	4-886-821-01	SCREW, M3 CASE (UK)	
4	*3-697-607-01	HOLDER, (SU), LED	
5	*A-7061-890-A	FJ-2 BOARD, COMPLETE	
6	*3-742-559-01	PLATE, BOTTOM	
7	X-3713-423-1	FOOT ASSY (G) (AEP)	
	X-4922-508-1	FOOT ASSY (UK)	
	4-922-942-01	FOOT (FELT)	
8	3-721-343-01	SCREW, FIXED, M4X7	
9	X-3742-505-1	PLATE (L) ASSY, SIDE (AEP)	
10	X-3742-506-1	PLATE (R) ASSY, SIDE (AEP)	
11	X-3742-501-1	DIAL BLOCK ASSY (AEP)	
	X-3742-514-1	DIAL BLOCK ASSY (UK)	
12	X-3742-509-1	PANEL ASSY, FRONT (AEP)	
	X-3742-517-1	PANEL ASSY, FRONT (UK)	
13	X-3742-502-1	DOOR ASSY, JACK (AEP)	
	X-3742-512-1	DOOR ASSY, JACK (UK)	
14	A-7091-072-A	DOOR ASSY (AEP)	
	A-7091-194-A	DOOR ASSY (UK)	
15	1-466-292-11	SWITCH BLOCK, CONTROL (AEP)	
	1-466-292-21	SWITCH BLOCK, CONTROL (UK)	

No.	Part No.	Description	Remark
16	3-571-823-00	SPRING, TENSION	
17	7-624-105-04	STOP RING 2.3, TYPE -E	
18	3-742-501-01	KNOB, HP	
19	3-742-502-01	KNOB, SLIDE	
20	*A-7061-812-A	FR-41 (A) BOARD, COMPLETE	
21	*A-7061-813-A	MC-37 BOARD, COMPLETE	
22	7-621-772-30	SCREW +B 2X6	
23	*A-7061-811-A	FL-24 BOARD, COMPLETE (AEP)	
	A-7062-055-A	FL-24(C) BOARD, COMPLETE (UK)	
24	1-519-507-31	INDICATOR TUBE, FLUORESCENT (ND001)	
25	3-731-123-01	BASE, VOLUME	
26	*3-742-524-01	HOLDER (LEFT), INDICATION TUBE	
27	*3-742-548-01	HOLDER (RIGHT), INDICATION TUBE	
28	3-742-513-01	SPRING, LEAF	
29	3-554-017-00	SPRING, COMPRESSION	
30	A-6768-153-A	COMMANDER ASSY	
31	2-181-766-01	COVER, BATTERY	
32	2-181-770-11	COVER, TIMER	
33	1-238-738-11	RES, VAR, CARBON 10K	
34	7-627-552-38	SCREW, PRECISION +P 1.7X3	
35	*3-689-521-01	HOLDER, LED, ROUND	
36	*3-742-574-01	PLATE (R), GROUND, DOOR	
37	*3-742-575-01	PLATE (L), GROUND, DOOR	

6-2. MAIN CHASSIS ASSEMBLY

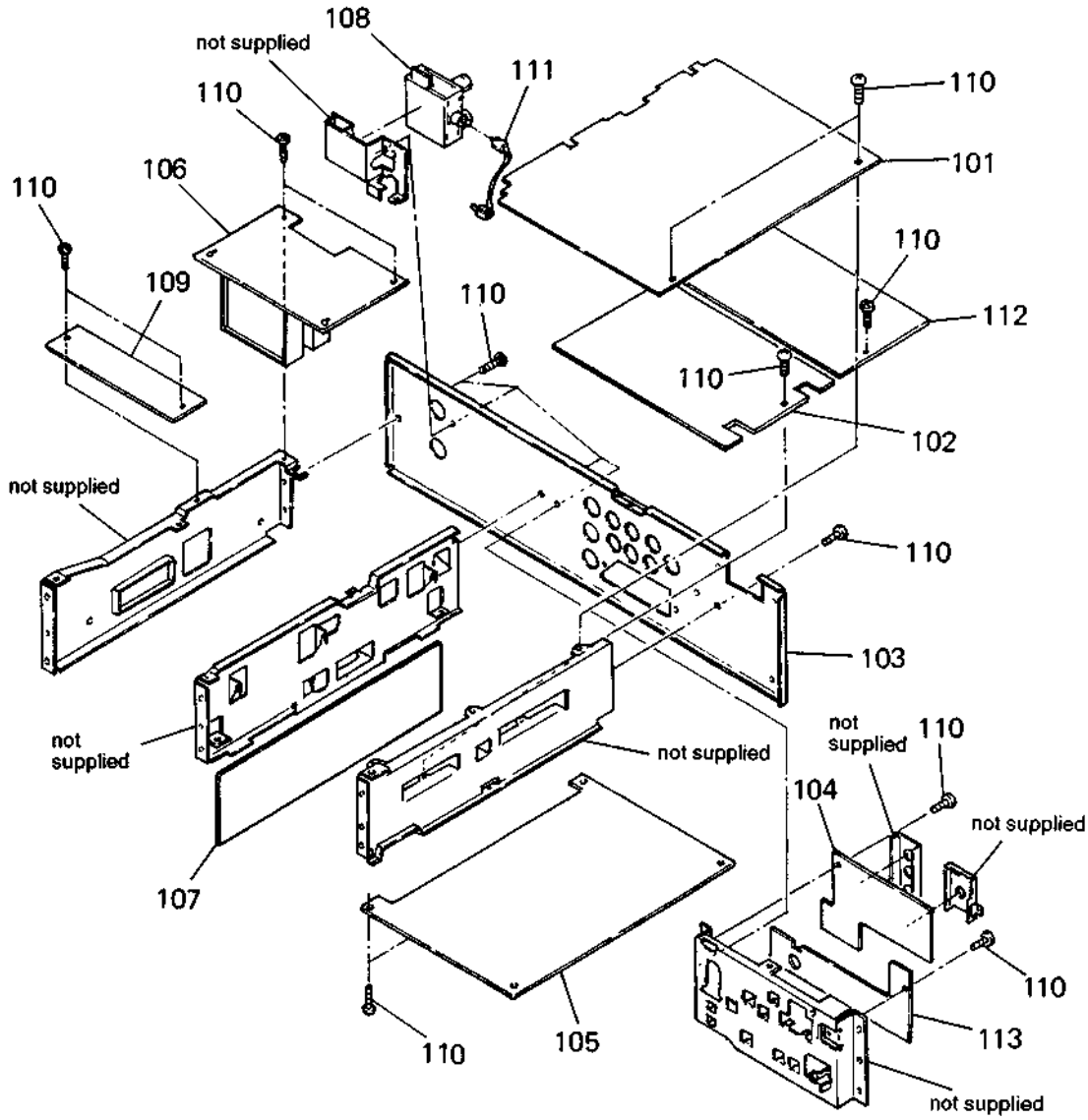


No.	Part No.	Description	Remark
51	*A-7061-815-A	PS-196 (A) BOARD, COMPLETE (AEP)	
	*A-7061-898-A	PS-196 (B) BOARD, COMPLETE (UK)	
52	⚠1-533-183-11	HOLDER, FUSE	
53	⚠1-540-054-11	INLET, AC	
54	⚠3-742-521-01	COVER, 2P INLET	
55	*3-730-176-11	SHEET, MD	
56	⚠1-532-259-00	FUSE, TIMER-LAG (1.6A 250V)	
58	*3-732-811-01	BRACKET (REAR)	
59	*3-732-810-02	BRACKET (FRONT)	
60	3-713-790-01	SCREW (M2X6), TAPPING, P3	
61	*A-7061-807-A	CM-15 (A) BOARD, COMPLETE	
63	X-3742-507-1	DOOR ASSY, CASSETTE COMPARTMENT	
64	*3-742-576-01	PLATE, SHIELD, MD	

No.	Part No.	Description	Remark
65	3-732-817-01	SCREW (2X4.5), TAPPING	
66	*1-633-519-11	UC-4 BOARD	
67	*A-7061-808-A	RP-74 (A) BOARD, COMPLETE	
68	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
69	7-627-553-47	PRECISION SCREW +P 2X4 TYPE 3	
70	3-732-816-01	SCREW, STEP	
71	7-685-647-79	SCREW +BVTP 3X10	
72	*3-714-460-01	RETAINER, TRANSISTOR	
73	3-731-146-01	RETAINER, (B), PS	
74	3-731-147-01	RETAINER, (A), PS	
75	7-628-253-40	SCREW +PS 2X10	
76	7-621-555-60	SCREW +K 2X10	

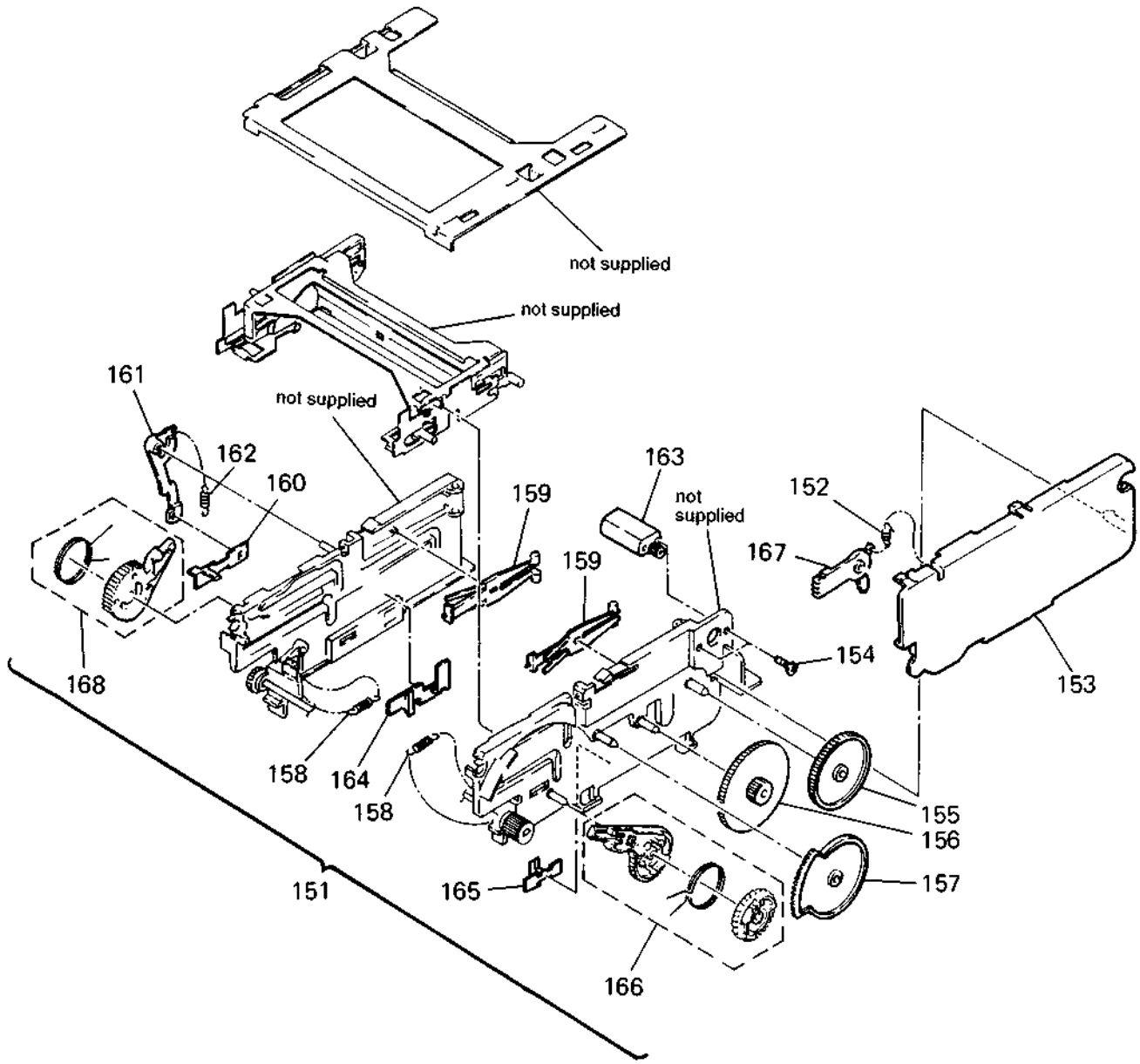
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

6-3. MAIN BOARD ASSEMBLY



No.	Part No.	Description	Remark
101	*A-7061-810-A	YI-65 (A) BOARD, COMPLETE	
102	*A-7061-940-A	PC-39 (A) BOARD, COMPLETE	
103	3-742-564-01	FRAME, REAR (AEP)	
104	*A-7061-805-A	RJ-5 BOARD, COMPLETE	
105	*A-7061-816-A	DS-35 (A) BOARD, COMPLETE (AEP)	
	*A-7061-892-A	DS-35 (B) BOARD, COMPLETE (UK)	
106	*A-7061-814-A	TU-100 BOARD, COMPLETE (AEP)	
	*A-7061-897-A	TU-100 (C) BOARD, COMPLETE (UK)	
107	*1-633-526-11	IN-24 BOARD	
108	1-466-199-11	MODULATOR, RF (RFU-2010) (AEP)	
	1-466-206-11	MODULATOR, RF (RFU-2011) (UK)	
109	*A-7061-899-A	NM-2 (A) BOARD, COMPLETE (UK)	
110	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
111	1-555-110-00	CABLE, PIN	
112	*A-7061-896-A	YC-64 (B) BOARD, COMPLETE (UK)	
	*A-7061-900-A	YC-64 (A) BOARD, COMPLETE (AEP)	
113	*A-7061-806-A	RJ-6 BOARD, COMPLETE	

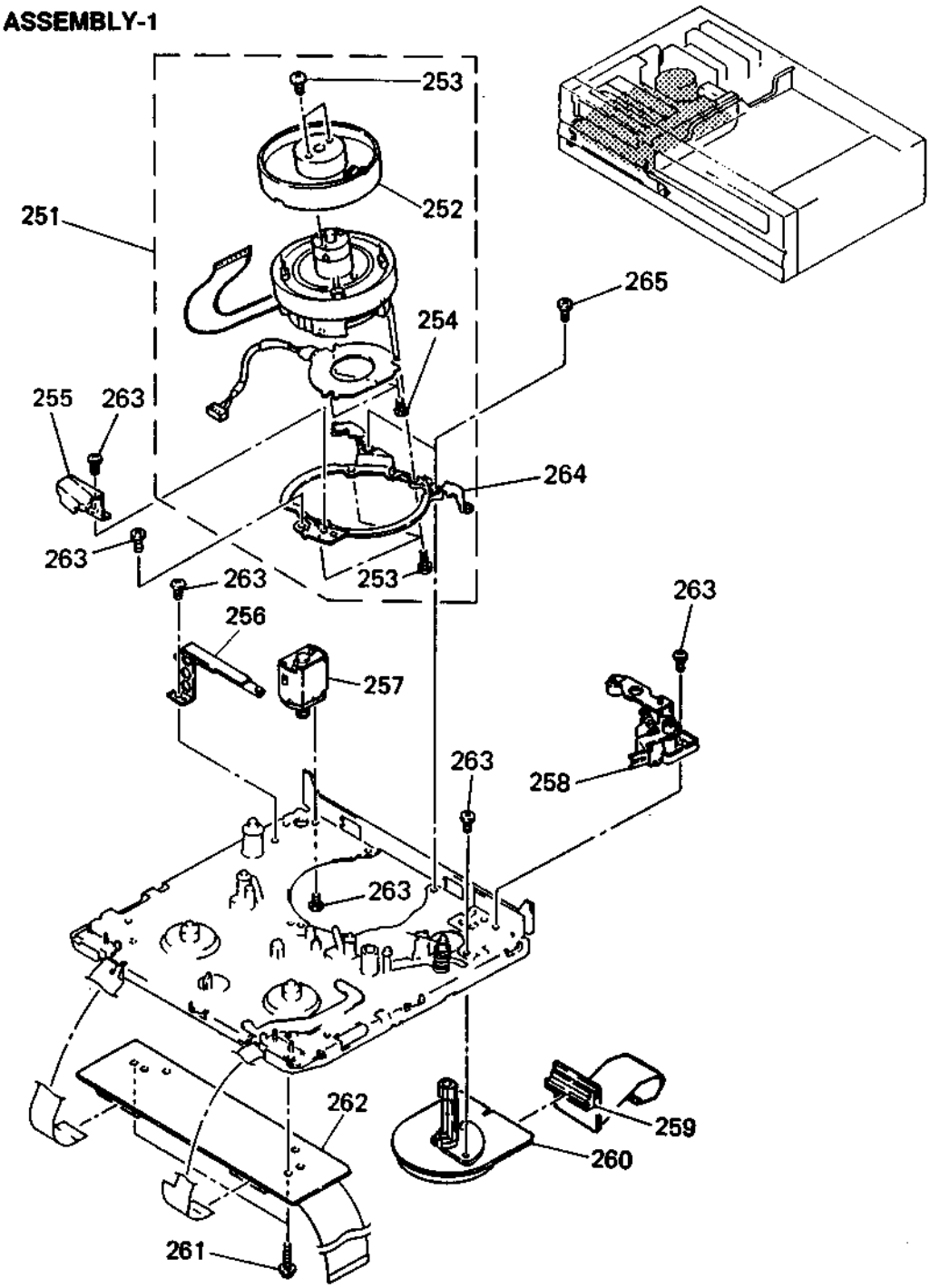
6-4. CASSETTE COMPARTMENT ASSEMBLY



No.	Part No.	Description	Remark
151	A-7090-892-A	CASSETTE COMPARTMENT ASSY, FL	
152	3-731-175-02	SPRING, TENSION	
153	3-732-804-03	COVER, GEAR	
154	3-730-141-01	SCREW (PSW) (2X4)	
155	3-731-182-01	GEAR (B), DECELERATION	
156	3-731-181-01	GEAR (A), DECELERATION	
157	3-731-192-01	GEAR, MIDWAY	
158	3-731-176-02	SPRING, TENSION	
159	3-731-184-02	HOLDER LOCK	

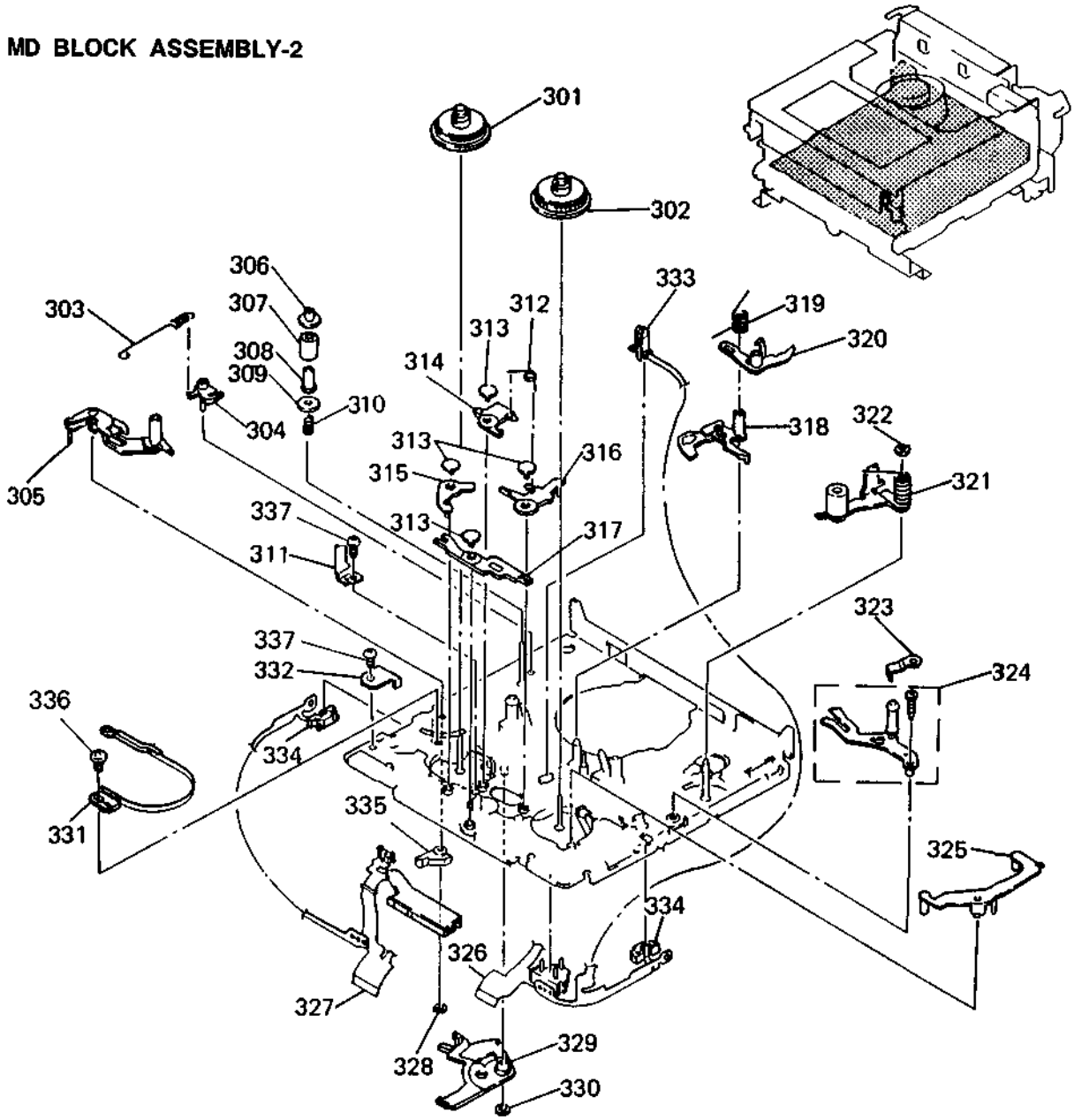
No.	Part No.	Description	Remark
160	3-731-189-01	SLIDER, LOCK	
161	3-731-188-01	ARM LOCK, DRIVING	
162	3-731-174-01	SPRING, TENSION	
163	X-3731-108-1	MOTOR ASSY	
164	X-3726-867-1	PRISM (LEFT) ASSY	
165	X-3726-866-1	PRISM (RIGHT) ASSY	
166	X-3731-109-2	ARM (RIGHT) ASSY, DRIVING	
167	3-731-185-01	LINK, SWITCHING, DOOR	
168	X-3731-111-1	ARM (LEFT) ASSY, DRIVING	

6-5. MD BLOCK ASSEMBLY-1



No.	Part No.	Description	Remark
251	A-7048-339-A	DRUM ASSY (DGU-58A-R)	
252	A-7049-293-A	DRUM ASSY, UPPER, ROTARY (DGR-58-R)	
253	3-686-493-01	SCREW (M2X5), P1	
254	3-686-458-02	SCREW (P1.4X2.5) TAPPING	
255	3-728-868-01	GUARD, GUIDE	
256	1-535-739-12	TERMINAL, SHAFT EARTH	
257	A-7040-160-A	MOTOR ASSY, THREADING	
258	A-7040-161-B	ROLLER BLOCK ASSY, HC	
259	*1-633-518-11	CC-26 BOARD	
260	8-835-331-01	MOTOR, DC U-22A	
261	3-732-817-01	SCREW (2X4.5), TAPPING	
262	*1-633-519-11	UC-4 BOARD	
263	3-728-998-01	SCREW (M2X3), SPECIAL HEAD	
264	X-3686-474-4	BASE ASSY, DRUM	
265	3-736-406-01	SCREW (3) (M2X10)	

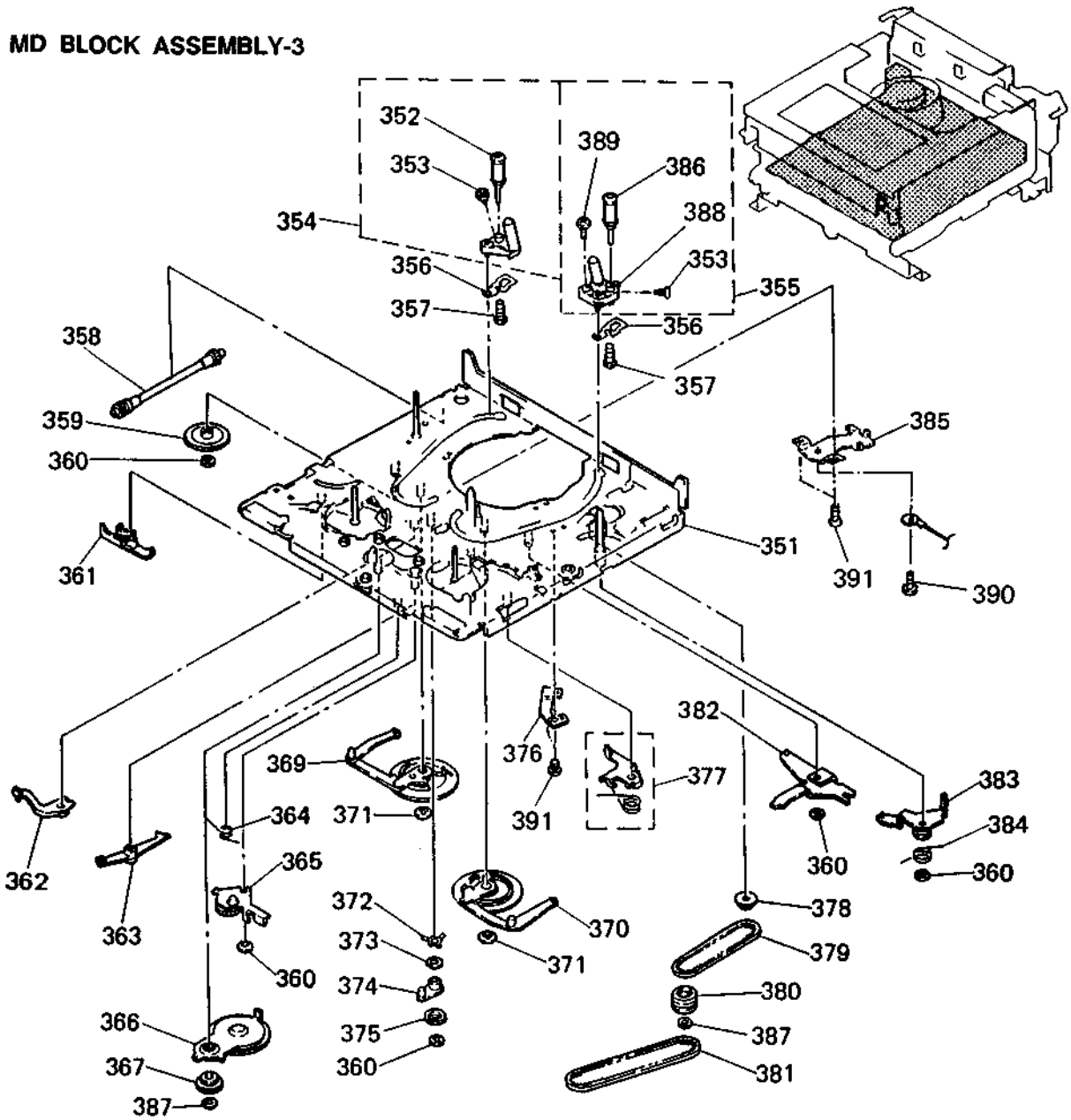
6-6. MD BLOCK ASSEMBLY-2



No.	Part No.	Description	Remark
301	X-3728-851-1	TABLE ASSY, REEL, S	
302	X-3728-855-1	TABLE ASSY, REEL, T	
303	3-736-414-01	SPRING, TENSION	
304	3-728-855-03	ARM, ADJUSTMENT	
305	X-3728-867-1	ARM ASSY (S), TENSION REGULATOR	
306	3-726-884-01	FLANGE, UPPER, TG2	
307	3-726-883-01	ROLLER, TG2	
308	3-726-885-01	SLEEVE, TG2	
309	3-726-882-02	FLANGE, LOWER, TG2	
310	3-726-886-01	SPRING, COMPRESSION	
311	3-726-848-01	RETAINER, TL	
312	3-726-866-01	SPRING (ST), TORSION	
313	3-726-858-01	PIN, SHAFT RETAINER	
314	3-728-849-01	BRAKE, S	
315	3-726-852-01	BRAKE, LB	
316	3-728-850-01	BRAKE, T	
317	3-726-853-01	LEVER, LB	
318	3-728-875-01	STOPPER, RK	
319	3-726-864-01	SPRING (RK), TORSION	

No.	Part No.	Description	Remark
320	3-728-852-02	ARM, RK STOPPER	
321	A-7040-163-B	ARM BLOCK ASSY, PINCH	
322	3-669-465-00	WASHER (1.5), STOPPER	
323	3-728-808-01	SPRING, LEAF	
324	X-3726-822-1	ARM ASSY, TG7	
325	3-728-848-01	ARM, LB RELEASE	
326	1-628-061-12	FP-90 FLEXIBLE BOARD	
327	1-633-660-11	FP-237 FLEXIBLE BOARD	
328	3-321-393-11	WASHER, STOPPER	
329	X-3728-863-1	LEVER ASSY, SW	
330	3-726-829-01	WASHER, STOPPER	
331	X-3726-809-2	BAND ASSY, TENSION REGULATOR	
332	3-730-125-01	RETAINER, SW	
333	3-728-837-01	HOLDER, LED	
334	3-728-869-02	HOLDER, SENSOR	
335	X-3728-857-1	STOPPER ASSY, TENSION REGULATOR	
336	3-728-998-01	SCREW (M2X3), SPECIAL HEAD	
337	7-627-555-88	SCREW (M1.4X1.8)	

6-7. MD BLOCK ASSEMBLY-3



No.	Part No.	Description	Remark
351	*X-3728-801-1	CHASSIS ASSY, MECHANICAL	
352	X-3728-808-1	ROLLER ASSY (U) (SUS), GUIDE	
353	3-726-822-01	SCREW (M1.4X2) (STEP), HEAD	
354	A-7040-204-A	COASTER (LEFT) BLOCK ASSY	
355	A-7040-215-A	COASTER (RIGHT)BLOCK ASSY(N1S)	
	A-7040-220-A	COASTER (RIGHT) BLOCK ASSY-N1P	
356	3-736-485-01	SPRING, LEAF, COSTER	
357	3-726-830-01	SCREW (M1.4X4) (THREE LOCK)	
358	X-3726-807-1	WORM ASSY	
359	3-726-826-01	GEAR, WHEEL	
360	3-726-829-01	WASHER, STOPPER	
361	3-728-842-01	LEVER, EJECT	
362	3-728-851-01	BRAKE, UL	
363	3-726-854-01	ARM, BRAKE RELEASE	
364	3-726-865-01	SPRING (LB), TORSION	
365	A-7040-130-A	GEAR BLOCK ASSY, LB	
366	X-3726-802-2	GEAR ASSY, RK	
367	X-3726-812-1	GEAR ASSY, RC	
369	X-3728-842-1	GEAR (LEFT) ASSY, DRIVE	
370	X-3728-843-1	GEAR (RIGHT) ASSY, DRIVE	
371	3-669-465-00	WASHER (1.5), STOPPER	

No.	Part No.	Description	Remark
372	3-726-867-01	SPRING, LEAF	
373	3-701-436-21	WASHER, POLYEHTHYLENE	
374	3-726-857-02	ARM, UL	
375	3-726-856-02	GEAR, UL	
376	*3-726-805-01	REINFORCEMENT (TT)	
377	X-3726-808-2	BRAKE ASSY, TS	
378	X-3726-805-1	GEAR ASSY, JOINT	
379	3-728-866-11	BELT (S), TIMING	
380	X-3726-838-1	PULLEY (UPPER) ASSY, MIDWAY	
381	3-728-865-11	BELT (L), TIMING	
382	X-3728-846-1	LEVER ASSY, LOADING	
383	X-3726-824-1	ARM ASSY, PINCH SUB	
384	3-726-895-01	SPRING	
385	X-3726-841-1	REINFORCEMENT (SS) ASSY	
386	X-3728-810-1	ROLLER ASSY (U)(PLATING), GUIDE	
387	3-321-393-11	WASHER, STOPPER	
388	X-3728-852-1	COASTER (RIGHT) ASSY	
389	3-736-473-01	SCREW (M2X0.25) (THREE LOCK)	
390	3-703-502-01	SCREW (1.4X1.6)	
391	7-627-555-88	SCREW (M1.4X1.8)	

EV-S1000E

RJ-5 RJ-6 CM-15

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

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

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.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- SEMICONDUCTORS
  In each case, U: μ, for example:
  UA...: μA..., UPA...: μPA...,
  UPB...: μPB..., UPC...: μPC...,
  UPD...: μPD...
- CAPACITORS
  MF: μF, PF: μμF
- COILS
  MMH: mH, UH: μH

Ref.No	Part No.	Description			Remark
	*A-7061-805-A	RJ-5 BOARD, COMPLETE **********			
		CAPACITOR			
C501	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C502	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C503	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C504	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C505	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C506	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C507	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C508	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C509	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C510	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C511	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C512	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C513	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C514	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C515	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C516	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V	
C517	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C518	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
		CONNECTOR			
CN501	1-563-623-11	CONNECTOR, FLEXIBLE 20P			
		JACK			
CNJ501	1-568-212-11	JACK 3P (LINE IN 1)			
CNJ502	1-568-212-11	JACK 3P (LINE OUT)			
CNJ503	1-566-850-31	CONNECTOR, (S) TERMINAL 4P (MONITOR OUT)			
CNJ504	1-562-589-11	SOCKET, DIN (SMALL TYPE) 5P (CONTROL L LANC)			
CNJ505	1-566-850-31	CONNECTOR, (S) TERMINAL 4P (LINE IN 1/S VIDEO)			
CNJ506	1-566-850-31	CONNECTOR, (S) TERMINAL 4P (LINE OUT/S VIDEO)			
		DIODE			
D501	8-719-106-43	DIODE RD9.1M-B1			
D510	8-719-106-43	DIODE RD9.1M-B1			
D511	8-719-106-43	DIODE RD9.1M-B1			
D512	8-719-106-43	DIODE RD9.1M-B1			
D513	8-719-106-43	DIODE RD9.1M-B1			
D530	8-719-106-43	DIODE RD9.1M-B1			
		JUMPER RESISTOR			
JR501	1-216-295-00	METAL GLAZE 0	5%	1/10W	
JR502	1-216-295-00	METAL GLAZE 0	5%	1/10W	
JR503	1-216-295-00	METAL GLAZE 0	5%	1/10W	
JR504	1-216-295-00	METAL GLAZE 0	5%	1/10W	
		RESISTOR			
R501	1-216-022-00	METAL GLAZE 75	5%	1/10W	
R502	1-216-022-00	METAL GLAZE 75	5%	1/10W	
R504	1-216-022-00	METAL GLAZE 75	5%	1/10W	
R505	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W	
R506	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W	
R507	1-216-043-00	METAL GLAZE 560	5%	1/10W	
R508	1-216-043-00	METAL GLAZE 560	5%	1/10W	
	*A-7061-806-A	RJ-6 BOARD, COMPLETE **********			
		CAPACITOR			
C601	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C602	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C603	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C604	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C605	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C606	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C607	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
		JACK			
CNJ601	1-561-534-41	SOCKET 21P			
		DIODE			
D601	8-719-106-43	DIODE RD9.1M-B1			
D612	8-719-106-80	DIODE RD13M-B2			
		RESISTOR			
R601	1-216-073-00	METAL GLAZE 10K	5%	1/10W	
R602	1-216-081-00	METAL GLAZE 22K	5%	1/10W	
R604	1-216-295-00	METAL GLAZE 0	5%	1/10W	
R605	1-216-043-00	METAL GLAZE 560	5%	1/10W	
R606	1-216-043-00	METAL GLAZE 560	5%	1/10W	
		SWITCH			
S602	1-572-210-11	SWITCH, SLIDE (COMMAND MODE)			
S603	1-554-481-00	SWITCH, SLIDE (VIDEO OUT)			
	*A-7061-807-A	CM-15 (A) BOARD, COMPLETE **********			
		CAPACITOR			
C301	1-126-157-11	ELECT 10MF	20%	16V	
C302	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C303	1-126-157-11	ELECT 10MF	20%	16V	
C304	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C305	1-163-009-11	CERAMIC CHIP 0.001MF		50V	
C306	1-163-009-11	CERAMIC CHIP 0.001MF		50V	
C307	1-163-035-00	CERAMIC CHIP 0.047MF		50V	
C308	1-163-035-00	CERAMIC CHIP 0.047MF		50V	
C309	1-164-232-11	CERAMIC CHIP 0.01MF		50V	
C310	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V	
C311	1-164-182-11	CERAMIC CHIP 0.0033MF	10%	50V	

Ref.No	Part No.	Description		Remark
C312	1-163-129-00	CERAMIC CHIP 330PF	5%	50V
C313	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C314	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V
C315	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C316	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C317	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C318	1-163-105-00	CERAMIC CHIP 33PF	5%	50V
C319	1-163-105-00	CERAMIC CHIP 33PF	5%	50V
C320	1-163-005-11	CERAMIC CHIP 470PF	10%	50V
C321	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C322	1-163-109-00	CERAMIC CHIP 47PF	5%	50V
C323	1-163-011-11	CERAMIC CHIP 0.0015MF	10%	50V
C324	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C325	1-163-035-00	CERAMIC CHIP 0.047MF		50V
C326	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C327	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C328	1-162-638-11	CERAMIC CHIP 1MF		16V
C329	1-163-005-11	CERAMIC CHIP 470PF	10%	50V
C330	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V
C331	1-163-035-00	CERAMIC CHIP 0.047MF		50V
C333	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V
C334	1-126-094-11	ELECT 4.7MF	20%	25V
C337	1-126-162-11	ELECT 3.3MF	20%	50V
C338	1-136-017-00	CERAMIC CHIP 0.0047MF		50V
C339	1-136-017-00	CERAMIC CHIP 0.0047MF		50V
C351	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
C354	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C355	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C356	1-163-035-00	CERAMIC CHIP 0.047MF		50V
C357	1-163-227-00	CERAMIC CHIP 10PF	5%	50V
C401	1-163-095-00	CERAMIC CHIP 12PF	5%	50V
C402	1-163-095-00	CERAMIC CHIP 12PF	5%	50V
C403	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C404	1-126-154-11	ELECT 47MF	20%	6.3V
C405	1-163-035-00	CERAMIC CHIP 0.047MF		50V
C406	1-163-035-00	CERAMIC CHIP 0.047MF		50V
C407	1-162-638-11	CERAMIC CHIP 1MF		16V
C408	1-162-638-11	CERAMIC CHIP 1MF		16V
C409	1-126-154-11	ELECT 47MF	20%	6.3V
C410	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C411	1-162-638-11	CERAMIC CHIP 1MF		16V
C412	1-162-638-11	CERAMIC CHIP 1MF		16V
C413	1-126-154-11	ELECT 47MF	20%	6.3V
C414	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V
C415	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C416	1-126-094-11	ELECT 4.7MF	20%	25V
C417	1-163-035-00	CERAMIC CHIP 0.047MF		50V
C418	1-124-438-00	ELECT 1MF	20%	50V
C419	1-164-182-11	CERAMIC CHIP 0.0033MF	10%	50V
C420	1-164-182-11	CERAMIC CHIP 0.0033MF	10%	50V
C422	1-126-094-11	ELECT 4.7MF	20%	25V
C424	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
C425	1-164-330-21	CERAMIC CHIP 0.22MF	10%	16V

Ref.No	Part No.	Description		Remark
C426	1-164-330-21	CERAMIC CHIP 0.22MF	10%	16V
C427	1-126-157-11	ELECT 10MF	20%	16V
C428	1-124-638-11	ELECT 22MF	20%	6.3V
C430	1-164-330-21	CERAMIC CHIP 0.22MF	10%	16V
C431	1-164-330-21	CERAMIC CHIP 0.22MF	10%	16V
C432	1-164-330-21	CERAMIC CHIP 0.22MF	10%	16V
C433	1-164-330-21	CERAMIC CHIP 0.22MF	10%	16V
C434	1-163-035-00	CERAMIC CHIP 0.047MF		50V
C435	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C436	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C437	1-164-182-11	CERAMIC CHIP 0.0033MF	10%	50V
C440	1-163-035-00	CERAMIC CHIP 0.047MF		50V
C441	1-163-011-11	CERAMIC CHIP 0.0015MF	10%	50V
C442	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V
C501	1-130-495-00	MYLAR 0.1MF	5%	50V
C502	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V
C503	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C504	1-163-019-00	CERAMIC CHIP 0.0068MF	10%	50V
C505	1-163-035-00	CERAMIC CHIP 0.047MF		50V
C506	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C507	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V
C508	1-163-035-00	CERAMIC CHIP 0.047MF		50V
C509	1-163-123-00	CERAMIC CHIP 180PF	5%	50V
C510	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V
C511	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C512	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C513	1-127-491-00	ELECT(SOLID) 22MF	20%	10V
C514	1-124-589-11	ELECT 47MF	20%	16V
C515	1-127-499-81	ELECT(SOLID) 22MF	20%	16V
C516	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C517	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C518	1-127-491-00	ELECT(SOLID) 22MF	20%	10V
C520	1-163-038-00	CERAMIC CHIP 0.1MF		25V

CONNECTOR

CN301	*1-566-183-61	PIN, CONNECTOR (PC BOARD) 4P
CN302	*1-566-183-21	PIN, CONNECTOR (PC BOARD) 4P
CN303	1-574-346-12	CONNECTOR, FPC/FFC 15P
CN304	1-506-483-21	PIN, CONNECTOR 4P
CN401	1-566-514-11	CONNECTOR, FPC (ZIF) 14P
CN401	1-575-389-11	CABLE, FLAT (1.0MM PITCH) 14P
CN402	1-575-361-11	CONNECTOR, FPC/FFC 9P
CN402	1-575-388-11	CABLE, FLAT (1.0MM PITCH) 9P
CN403	*1-563-633-11	CONNECTOR, FLEXIBLE 30P
CN403	1-575-455-11	WIRE, FLAT TYPE (30 CORE)
CN405	1-575-368-11	CONNECTOR, FPC/FFC 14P
CN406	*1-566-181-61	PIN, CONNECTOR (PC BOARD) 2P
CN407	*1-566-181-21	PIN, CONNECTOR (PC BOARD) 2P

DIODE

D401	8-719-400-18	DIODE MA152WK
D409	8-719-200-36	DIODE E10QS04
D410	8-719-200-27	DIODE E10DS2

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

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Ref.No	Part No.	Description	Remark
D411	8-719-400-18	DIODE MA152WK	
D413	8-719-400-18	DIODE MA152WK	
D414	8-719-400-18	DIODE MA152WK	
D501	8-719-938-75	DIODE SB05-05CP	
D502	8-719-938-75	DIODE SB05-05CP	
D503	8-719-104-34	DIODE 1S2836	
		FERRITE BEAD	
FB401	1-543-256-11	BEAD, FERRITE	
FB402	1-543-256-11	BEAD, FERRITE	
		IC	
IC301	8-752-050-54	IC CXA1449Q	
IC302	8-759-100-97	IC UPC339G2	
IC303	8-759-710-07	IC NJM2234M	
IC401	8-752-810-99	IC CXP80116-643Q	
IC402	8-759-990-41	IC BU5725F	
IC403	8-759-804-72	IC LB1631M	
IC404	8-759-107-68	IC CX20115A	
IC405	8-759-990-55	IC CXA8006M	
IC406	8-759-805-06	IC CXA1127M	
IC501	8-759-013-24	IC LM358ML	
IC502	8-759-945-17	IC MB3775PF	
		COIL	
L301	1-407-169-XX	INDUCTOR 100UH	
L302	1-408-987-21	INDUCTOR 330UH	
L401	1-408-978-21	INDUCTOR 47UH	
L402	1-408-978-21	INDUCTOR 47UH	
L501	1-424-104-11	COIL, CHOKE 10UH	
L502	1-424-106-11	COIL, CHOKE 47UH	
L503	1-424-106-11	COIL, CHOKE 47UH	
		TRANSISTOR	
Q301	8-729-216-22	TRANSISTOR 2SA1162	
Q302	8-729-100-66	TRANSISTOR 2SC1623	
Q303	8-729-216-22	TRANSISTOR 2SA1162	
Q304	8-729-100-66	TRANSISTOR 2SC1623	
Q305	8-729-216-22	TRANSISTOR 2SA1162	
Q306	8-729-100-66	TRANSISTOR 2SC1623	
Q308	8-729-901-01	TRANSISTOR DTC144EK	
Q403	8-729-901-06	TRANSISTOR DTA144EK	
Q404	8-729-901-06	TRANSISTOR DTA144EK	
Q407	8-729-100-66	TRANSISTOR 2SC1623	
Q417	8-729-216-22	TRANSISTOR 2SA1162	
Q418	8-729-901-01	TRANSISTOR DTC144EK	
Q501	8-729-901-01	TRANSISTOR DTC144EK	
Q502	8-729-100-66	TRANSISTOR 2SC1623	
Q503	8-729-805-25	TRANSISTOR 2SB1121	
Q504	8-729-100-66	TRANSISTOR 2SC1623	
Q505	8-729-805-25	TRANSISTOR 2SB1121	
Q506	8-729-901-01	TRANSISTOR DTC144EK	
Q507	8-729-901-06	TRANSISTOR DTA144EK	
Q508	8-729-901-01	TRANSISTOR DTC144EK	
Q509	8-729-100-66	TRANSISTOR 2SC1623	
Q510	8-729-100-66	TRANSISTOR 2SC1623	
		RESISTOR	
R301	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R302	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R303	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R304	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R305	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R306	1-216-035-00	METAL GLAZE 270 5% 1/10W	
R307	1-216-031-00	METAL GLAZE 180 5% 1/10W	
R308	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
R309	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R310	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R311	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W	
R312	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R313	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R314	1-216-047-00	METAL GLAZE 820 5% 1/10W	
R315	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R316	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R317	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R318	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R319	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R320	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R321	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R322	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R323	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R325	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R326	1-216-021-00	METAL GLAZE 68 5% 1/10W	
R327	1-216-029-00	METAL GLAZE 150 5% 1/10W	
R328	1-216-093-00	METAL GLAZE 68K 5% 1/10W	
R329	1-216-119-00	METAL GLAZE 820K 5% 1/10W	
R330	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R331	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	
R332	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R335	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R336	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R339	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R341	1-216-115-00	METAL GLAZE 560K 5% 1/10W	
R342	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W	
R343	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
R350	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R351	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R352	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R355	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R356	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R357	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R358	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R359	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R360	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R361	1-216-295-00	METAL GLAZE 0 5% 1/10W	

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

Ref.No	Part No.	Description				Remark
R367	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R368	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R401	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R402	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R403	1-216-172-00	METAL GLAZE	82	5%	1/8W	
R404	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R405	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R406	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R407	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R408	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R409	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R410	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R411	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R412	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R414	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R415	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R416	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R417	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R418	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R419	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R420	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R421	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R423	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R424	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R425	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R426	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R428	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R429	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R430	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R442	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R443	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R444	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R447	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R448	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R449	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R450	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R452	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R454	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R456	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R457	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R458	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R462	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R466	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R468	1-217-671-11	METAL GLAZE	1	5%	1/10W	
R469	1-216-304-11	METAL GLAZE	3.3	5%	1/10W	
R470	1-216-304-11	METAL GLAZE	3.3	5%	1/10W	
R471	1-216-304-11	METAL GLAZE	3.3	5%	1/10W	
R472	1-217-671-11	METAL GLAZE	1	5%	1/10W	
R473	1-217-671-11	METAL GLAZE	1	5%	1/10W	
R474	1-217-671-11	METAL GLAZE	1	5%	1/10W	
R475	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R476	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R477	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R478	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R479	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R480	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R482	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R483	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R484	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R485	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R486	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R489	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R490	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R491	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R492	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R493	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R494	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R497	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R498	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R499	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R501	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R502	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R503	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R504	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R505	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R506	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R507	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R508	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R510	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R511	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R512	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R513	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R514	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R515	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R516	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R517	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R518	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R519	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R520	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R521	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R522	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R523	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R524	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R525	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R527	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R531	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R532	1-216-089-00	METAL GLAZE	47K	5%	1/10W	

VARIABLE RESISTOR

RV401	1-230-499-11	RES, ADJ, CARBON 100K
RV501	1-228-993-00	RES, ADJ, CARBON 4.7K

THERMISTOR

TH401	1-800-200-00	THERMISTOR

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

CM-15 RP-74

Ref.No	Part No.	Description			Remark
		CRYSTAL			
X301	1-567-699-11	VIBRATOR, CRYSTAL (5.86MHz)			
X401	1-577-116-11	VIBRATOR, CRYSTAL (16MHz)			
**********					
	*A-7061-808-A	RP-74 (A) BOARD, COMPLETE **********			
		CAPACITOR			
C001	1-126-157-11	ELECT	10MF	20%	16V
C002	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C003	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C004	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C005	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C006	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C007	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C008	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C009	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C010	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C011	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C021	1-162-587-11	CERAMIC CHIP	0.039MF	10%	25V
C101	1-135-148-21	TANTAL. CHIP	1.5MF	20%	10V
C102	1-135-148-21	TANTAL. CHIP	1.5MF	20%	10V
C103	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C104	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C105	1-135-161-21	TANTAL. CHIP	22MF	20%	6.3V
C106	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C107	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C108	1-135-161-21	TANTAL. CHIP	22MF	20%	6.3V
C109	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C110	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C111	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C112	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C113	1-163-090-00	CERAMIC CHIP	7PF	0.25PF	50V
C114	1-164-330-21	CERAMIC CHIP	0.22MF	10%	16V
C115	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C116	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C117	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C118	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C119	1-163-090-00	CERAMIC CHIP	7PF	0.25PF	50V
C120	1-164-330-21	CERAMIC CHIP	0.22MF	10%	16V
C121	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C122	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V
C123	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C124	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C125	1-124-638-11	ELECT	22MF	20%	6.3V
C126	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C127	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C128	1-124-438-00	ELECT	1MF	20%	50V
C129	1-124-638-11	ELECT	22MF	20%	6.3V
C130	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C131	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V

Ref.No	Part No.	Description			Remark
C132	1-124-438-00	ELECT	1MF	20%	50V
C133	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V
C134	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C139	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C140	1-126-157-11	ELECT	10MF	20%	16V
C141	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C142	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C143	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C144	1-126-157-11	ELECT	10MF	20%	16V
C145	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C146	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C147	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C148	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C149	1-163-092-00	CERAMIC CHIP	9PF	0.25PF	50V
C150	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C151	1-163-090-00	CERAMIC CHIP	7PF	0.25PF	50V
C153	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C154	1-163-075-00	CERAMIC CHIP	0.047MF	10%	25V
C160	1-126-157-11	ELECT	10MF	20%	16V
C201	1-135-148-21	TANTAL. CHIP	1.5MF	20%	10V
C202	1-135-148-21	TANTAL. CHIP	1.5MF	20%	10V
C203	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C204	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C205	1-135-161-21	TANTAL. CHIP	22MF	20%	6.3V
C206	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C207	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C208	1-135-161-21	TANTAL. CHIP	22MF	20%	6.3V
C209	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C210	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C211	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C212	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C213	1-163-090-00	CERAMIC CHIP	7PF	0.25PF	50V
C214	1-164-330-21	CERAMIC CHIP	0.22MF	10%	16V
C215	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C216	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C217	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C218	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C219	1-163-090-00	CERAMIC CHIP	7PF	0.25PF	50V
C220	1-164-330-21	CERAMIC CHIP	0.22MF	10%	16V
C221	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C222	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V
C223	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C224	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C225	1-124-638-11	ELECT	22MF	20%	6.3V
C226	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C227	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C228	1-124-438-00	ELECT	1MF	20%	50V
C229	1-124-638-11	ELECT	22MF	20%	6.3V
C230	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C231	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C232	1-124-438-00	ELECT	1MF	20%	50V
C233	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V
C239	1-164-232-11	CERAMIC CHIP	0.01MF		50V

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

Ref.No	Part No.	Description			Remark
C240	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C241	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C242	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C243	1-126-157-11	ELECT	10MF	20%	16V
C244	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C245	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C246	1-163-241-11	CERAMIC CHIP	39PF	5%	50V
C247	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C248	1-163-090-00	CERAMIC CHIP	7PF	0.25PF	50V
C249	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C250	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C251	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C252	1-163-092-00	CERAMIC CHIP	9PF	0.25PF	50V
C253	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C254	1-163-075-00	CERAMIC CHIP	0.047MF	10%	25V
C260	1-126-157-11	ELECT	10MF	20%	16V
		CONNECTOR			
CN001	1-565-073-11	SOCKET, CONNECTOR 16P			
CN002	1-575-364-11	CONNECTOR, FPC/FFC 14P			
CN003	1-506-475-11	PIN, CONNECTOR 10P			
CN004	1-506-468-11	PIN, CONNECTOR 3P			
CN005	1-506-486-11	PIN, CONNECTOR 7P			
		DIODE			
D001	8-719-400-18	DIODE MA152WK			
D002	8-719-400-18	DIODE MA152WK			
D102	8-719-400-18	DIODE MA152WK			
D103	8-719-400-18	DIODE MA152WK			
D202	8-719-400-18	DIODE MA152WK			
D203	8-719-400-18	DIODE MA152WK			
		IC			
IC001	8-752-003-44	IC CX20034			
IC002	8-752-003-44	IC CX20034			
		COIL			
L001	1-410-387-11	INDUCTOR CHIP	33UH		
L002	1-408-948-00	INDUCTOR	220UH		
L003	1-408-970-21	INDUCTOR	10UH		
L101	1-410-656-11	INDUCTOR CHIP	150UH		
L102	1-410-385-11	INDUCTOR CHIP	22UH		
L103	1-408-973-21	INDUCTOR	18UH		
L104	1-408-973-21	INDUCTOR	18UH		
L105	1-408-970-21	INDUCTOR	10UH		
L106	1-408-974-21	INDUCTOR	22UH		
L109	1-410-393-11	INDUCTOR CHIP	100UH		
L201	1-410-656-11	INDUCTOR CHIP	150UH		
L202	1-410-385-11	INDUCTOR CHIP	22UH		
L203	1-408-972-21	INDUCTOR	15UH		
L204	1-408-972-21	INDUCTOR	15UH		
L205	1-408-970-21	INDUCTOR	10UH		

Ref.No	Part No.	Description			Remark
L206	1-408-974-21	INDUCTOR	22UH		
L209	1-410-393-11	INDUCTOR CHIP	100UH		
		TRANSISTOR			
Q001	8-729-901-01	TRANSISTOR DTC144EK			
Q002	8-729-901-01	TRANSISTOR DTC144EK			
Q003	8-729-100-66	TRANSISTOR 2SC1623			
Q004	8-729-100-66	TRANSISTOR 2SC1623			
Q005	8-729-100-66	TRANSISTOR 2SC1623			
Q006	8-729-216-22	TRANSISTOR 2SA1162			
Q007	8-729-119-76	TRANSISTOR 2SA1175TP-HFE			
Q008	8-729-216-22	TRANSISTOR 2SA1162			
Q009	8-729-901-06	TRANSISTOR DTA144EK			
Q010	8-729-100-66	TRANSISTOR 2SC1623			
Q011	8-729-901-01	TRANSISTOR DTC144EK			
Q012	8-729-216-22	TRANSISTOR 2SA1162			
Q013	8-729-100-66	TRANSISTOR 2SC1623			
Q014	8-729-901-01	TRANSISTOR DTC144EK			
Q015	8-729-901-01	TRANSISTOR DTC144EK			
Q101	8-729-202-38	TRANSISTOR 2SC3326N			
Q102	8-729-202-38	TRANSISTOR 2SC3326N			
Q103	8-729-901-06	TRANSISTOR DTA144EK			
Q106	8-729-102-06	TRANSISTOR 2SC2223			
Q107	8-729-102-06	TRANSISTOR 2SC2223			
Q201	8-729-202-38	TRANSISTOR 2SC3326N			
Q202	8-729-202-38	TRANSISTOR 2SC3326N			
Q203	8-729-901-06	TRANSISTOR DTA144EK			
Q204	8-729-102-06	TRANSISTOR 2SC2223			
Q205	8-729-102-06	TRANSISTOR 2SC2223			
		RESISTOR			
R001	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R002	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R003	1-216-045-00	METAL GLAZE	680	5%	1/10W
R004	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R005	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R006	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R007	1-216-025-00	METAL GLAZE	100	5%	1/10W
R008	1-216-039-00	METAL GLAZE	390	5%	1/10W
R009	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R010	1-216-013-00	METAL GLAZE	33	5%	1/10W
R011	1-216-017-00	METAL GLAZE	47	5%	1/10W
R012	1-216-043-00	METAL GLAZE	560	5%	1/10W
R013	1-216-037-00	METAL GLAZE	330	5%	1/10W
R014	1-216-041-00	METAL GLAZE	470	5%	1/10W
R015	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R016	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R017	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R022	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R023	1-216-072-00	METAL GLAZE	9.1K	5%	1/10W
R024	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R025	1-216-086-00	METAL GLAZE	36K	5%	1/10W
R026	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W

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

RP-74 VI-65

Ref.No	Part No.	Description				Remark
R030	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R031	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R033	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R034	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R035	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R036	1-216-048-00	METAL GLAZE	910	5%	1/10W	
R101	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R102	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R103	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R104	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R105	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R106	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R107	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R108	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R109	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R110	1-216-086-00	METAL GLAZE	36K	5%	1/10W	
R111	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R112	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R113	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R114	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R115	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R116	1-216-086-00	METAL GLAZE	36K	5%	1/10W	
R117	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R118	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R119	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R120	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R121	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R122	1-216-682-11	METAL CHIP	20K	0.50%	1/10W	
R123	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R134	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R135	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R136	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R137	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R138	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R139	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R140	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R141	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R142	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R143	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R150	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R201	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R202	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R203	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R204	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R205	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R206	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R207	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R208	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R209	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R210	1-216-086-00	METAL GLAZE	36K	5%	1/10W	
R211	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R212	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R213	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R214	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R215	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R216	1-216-086-00	METAL GLAZE	36K	5%	1/10W	
R217	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R218	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R219	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R220	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R221	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R232	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R233	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R234	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R235	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R236	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R237	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R238	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R239	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R240	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R241	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R242	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R243	1-216-031-00	METAL GLAZE	180	5%	1/10W	

VARIABLE RESISTOR

RV101	1-230-719-11	RES, ADJ, CARBON	2.2K
RV102	1-230-719-11	RES, ADJ, CARBON	2.2K
RV201	1-230-719-11	RES, ADJ, CARBON	2.2K
RV202	1-230-719-11	RES, ADJ, CARBON	2.2K

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*A-7061-810-A VI-65 (A) BOARD, COMPLETE

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CAPACITOR

C001	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C002	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C003	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C004	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C005	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C006	1-124-446-11	ELECT	47MF	20%	10V
C008	1-163-241-11	CERAMIC CHIP	39PF	5%	50V
C009	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C010	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C011	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C012	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C014	1-124-463-00	ELECT	0.1MF	20%	50V
C015	1-124-904-71	ELECT	2.2MF	20%	50V
C016	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C017	1-163-090-00	CERAMIC CHIP	7PF	0.25PF	50V
C018	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C019	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C020	1-124-446-11	ELECT	47MF	20%	10V
C021	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C023	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C024	1-163-093-00	CERAMIC CHIP	10PF	5%	50V

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

Ref.No	Part No.	Description			Remark
C025	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C026	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C027	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C028	1-163-093-00	CERAMIC CHIP 10PF		5%	50V
C029	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C030	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C031	1-163-109-00	CERAMIC CHIP 47PF		5%	50V
C032	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C033	1-163-089-00	CERAMIC CHIP 6PF		0.5PF	50V
C034	1-163-101-00	CERAMIC CHIP 22PF		5%	50V
C035	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C036	1-163-090-00	CERAMIC CHIP 7PF		0.25PF	50V
C037	1-163-099-00	CERAMIC CHIP 18PF		5%	50V
C038	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C039	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C040	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C041	1-123-875-11	ELECT 10MF		20%	50V
C042	1-164-232-11	CERAMIC CHIP 0.01MF			50V
C043	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C044	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C045	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C046	1-164-232-11	CERAMIC CHIP 0.01MF			50V
C047	1-123-875-11	ELECT 10MF		20%	50V
C048	1-123-875-11	ELECT 10MF		20%	50V
C051	1-164-232-11	CERAMIC CHIP 0.01MF			50V
C052	1-163-125-00	CERAMIC CHIP 220PF		5%	50V
C053	1-164-232-11	CERAMIC CHIP 0.01MF			50V
C054	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C055	1-163-101-00	CERAMIC CHIP 22PF		5%	50V
C056	1-164-232-11	CERAMIC CHIP 0.01MF			50V
C057	1-124-927-11	ELECT 4.7MF		20%	50V
C058	1-124-927-11	ELECT 4.7MF		20%	50V
C059	1-164-232-11	CERAMIC CHIP 0.01MF			50V
C060	1-163-103-00	CERAMIC CHIP 27PF		5%	50V
C061	1-123-875-11	ELECT 10MF		20%	50V
C062	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C063	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C064	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C065	1-163-109-00	CERAMIC CHIP 47PF		5%	50V
C100	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C101	1-163-131-00	CERAMIC CHIP 390PF		5%	50V
C104	1-163-129-00	CERAMIC CHIP 330PF		5%	50V
C108	1-163-128-00	CERAMIC CHIP 300PF		5%	50V
C109	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C110	1-123-875-11	ELECT 10MF		20%	50V
C111	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C112	1-163-241-11	CERAMIC CHIP 39PF		5%	50V
C113	1-163-111-00	CERAMIC CHIP 56PF		5%	50V
C114	1-163-135-00	CERAMIC CHIP 560PF		5%	50V
C118	1-163-091-00	CERAMIC CHIP 8PF		0.25PF	50V
C120	1-124-896-71	ELECT 33MF		20%	16V
C122	1-163-099-00	CERAMIC CHIP 18PF		5%	50V
C124	1-163-134-00	CERAMIC CHIP 510PF		5%	50V

Ref.No	Part No.	Description			Remark
C125	1-163-117-00	CERAMIC CHIP 100PF		5%	50V
C126	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C127	1-123-875-11	ELECT 10MF		20%	50V
C128	1-124-443-00	ELECT 100MF		20%	6.3V
C129	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C130	1-123-875-11	ELECT 10MF		20%	50V
C131	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C132	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C133	1-124-464-11	ELECT 0.22MF		20%	50V
C134	1-124-446-11	ELECT 47MF		20%	10V
C135	1-163-093-00	CERAMIC CHIP 10PF		5%	50V
C136	1-164-232-11	CERAMIC CHIP 0.01MF			50V
C137	1-164-232-11	CERAMIC CHIP 0.01MF			50V
C138	1-163-105-00	CERAMIC CHIP 33PF		5%	50V
C139	1-164-232-11	CERAMIC CHIP 0.01MF			50V
C140	1-163-113-00	CERAMIC CHIP 68PF		5%	50V
C141	1-124-446-11	ELECT 47MF		20%	10V
C142	1-123-875-11	ELECT 10MF		20%	50V
C143	1-126-233-11	ELECT 22MF		20%	25V
C144	1-123-875-11	ELECT 10MF		20%	50V
C145	1-123-875-11	ELECT 10MF		20%	50V
C146	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C147	1-164-232-11	CERAMIC CHIP 0.01MF			50V
C148	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C149	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C150	1-163-133-00	CERAMIC CHIP 470PF		5%	50V
C151	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C160	1-163-123-00	CERAMIC CHIP 180PF		5%	50V
C161	1-216-295-00	METAL GLAZE 0	5%	1/10W	
C162	1-163-119-00	CERAMIC CHIP 120PF		5%	50V
C163	1-163-096-00	CERAMIC CHIP 13PF		5%	50V
C164	1-124-927-11	ELECT 4.7MF		20%	50V
C165	1-126-233-11	ELECT 22MF		20%	25V
C166	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C167	1-124-927-11	ELECT 4.7MF		20%	50V
C168	1-124-927-11	ELECT 4.7MF		20%	50V
C169	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C170	1-126-233-11	ELECT 22MF		20%	25V
C171	1-126-233-11	ELECT 22MF		20%	25V
C200	1-163-128-00	CERAMIC CHIP 300PF		5%	50V
C201	1-163-131-00	CERAMIC CHIP 390PF		5%	50V
C202	1-163-128-00	CERAMIC CHIP 300PF		5%	50V
C203	1-163-088-00	CERAMIC CHIP 5PF		0.25PF	50V
C204	1-163-109-00	CERAMIC CHIP 47PF		5%	50V
C205	1-124-904-71	ELECT 2.2MF		20%	50V
C206	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C207	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C208	1-163-035-00	CERAMIC CHIP 0.047MF			50V
C209	1-123-875-11	ELECT 10MF		20%	50V
C210	1-164-232-11	CERAMIC CHIP 0.01MF			50V
C211	1-216-295-00	METAL GLAZE 0	5%	1/10W	
C212	1-163-099-00	CERAMIC CHIP 18PF		5%	50V
C213	1-163-133-00	CERAMIC CHIP 470PF		5%	50V

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

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Ref.No	Part No.	Description			Remark
C214	1-124-927-11	ELECT	4.7MF	20%	50V
C215	1-123-875-11	ELECT	10MF	20%	50V
C216	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C217	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C218	1-123-875-11	ELECT	10MF	20%	50V
C301	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C302	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C303	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C306	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C307	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C308	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C309	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C310	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C313	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C314	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C315	1-123-875-11	ELECT	10MF	20%	50V
C316	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C317	1-123-875-11	ELECT	10MF	20%	50V
C318	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C319	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C320	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C321	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C322	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C323	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C324	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C325	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C326	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C327	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C328	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C331	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C332	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C333	1-163-106-00	CERAMIC CHIP	36PF	5%	50V
C334	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C335	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C336	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C341	1-163-104-00	CERAMIC CHIP	30PF	5%	50V
C343	1-123-875-11	ELECT	10MF	20%	50V
C344	1-123-875-11	ELECT	10MF	20%	50V
C345	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C346	1-163-241-11	CERAMIC CHIP	39PF	5%	50V
C347	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C348	1-163-089-00	CERAMIC CHIP	6PF	0.5PF	50V
C349	1-163-089-00	CERAMIC CHIP	6PF	0.5PF	50V
C400	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C401	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C402	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C403	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C404	1-124-927-11	ELECT	4.7MF	20%	50V
C405	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C407	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C408	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C409	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C410	1-163-101-00	CERAMIC CHIP	22PF	5%	50V

Ref.No	Part No.	Description			Remark
C411	1-163-111-00	CERAMIC CHIP	56PF	5%	50V
C412	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C413	1-124-443-00	ELECT	100MF	20%	6.3V
C414	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C415	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C416	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C417	1-126-233-11	ELECT	22MF	20%	25V
C418	1-126-233-11	ELECT	22MF	20%	25V
C419	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C420	1-123-875-11	ELECT	10MF	20%	50V
C421	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C422	1-216-295-00	METAL GLAZE	0	5% 1/10W	
C423	1-163-111-00	CERAMIC CHIP	56PF	5%	50V
C424	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C425	1-124-925-11	ELECT	2.2MF	20%	50V
C426	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C427	1-124-927-11	ELECT	4.7MF	20%	50V
C428	1-163-111-00	CERAMIC CHIP	56PF	5%	50V
C429	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C430	1-124-925-11	ELECT	2.2MF	20%	50V
C431	1-124-927-11	ELECT	4.7MF	20%	50V
C432	1-124-927-11	ELECT	4.7MF	20%	50V
C500	1-163-096-00	CERAMIC CHIP	13PF	5%	50V
C501	1-124-446-11	ELECT	47MF	20%	10V
C502	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C504	1-124-446-11	ELECT	47MF	20%	10V
C506	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C507	1-124-927-11	ELECT	4.7MF	20%	50V
C508	1-123-875-11	ELECT	10MF	20%	50V
C509	1-123-875-11	ELECT	10MF	20%	50V
C510	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C512	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C513	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C514	1-123-875-11	ELECT	10MF	20%	50V
C515	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C516	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C517	1-124-927-11	ELECT	4.7MF	20%	50V
C519	1-124-446-11	ELECT	47MF	20%	10V
C521	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C522	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C523	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C524	1-123-875-11	ELECT	10MF	20%	50V
C525	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C526	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C527	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C528	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C529	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C530	1-163-111-00	CERAMIC CHIP	56PF	5%	50V
C531	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C532	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C533	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C534	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C535	1-124-791-11	ELECT	1MF	20%	50V

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Ref.No	Part No.	Description			Remark
C536	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C537	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C538	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C539	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C540	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C541	1-163-261-00	CERAMIC CHIP	270PF	5%	50V
C601	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C602	1-163-241-11	CERAMIC CHIP	39PF	5%	50V
C604	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C605	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C606	1-163-126-00	CERAMIC CHIP	240PF	5%	50V
C607	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C608	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C609	1-123-875-11	ELECT	10MF	20%	50V
C610	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C611	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C620	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C621	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C622	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C623	1-163-100-00	CERAMIC CHIP	20PF	5%	50V
C700	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C701	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C702	1-163-118-00	CERAMIC CHIP	110PF	5%	50V
C703	1-123-875-11	ELECT	10MF	20%	50V
C704	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C705	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C706	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C708	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C709	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C710	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V
C711	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C712	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C713	1-123-382-00	ELECT	3.3MF	20%	50V
C714	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C715	1-124-925-11	ELECT	2.2MF	20%	50V
C716	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V
C717	1-163-241-11	CERAMIC CHIP	39PF	5%	50V
C720	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C722	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C730	1-163-126-00	CERAMIC CHIP	240PF	5%	50V
C731	1-163-124-00	CERAMIC CHIP	200PF	5%	50V
C800	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C801	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C802	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C803	1-163-111-00	CERAMIC CHIP	56PF	5%	50V
C804	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C805	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C806	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C807	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V
C808	1-216-295-00	METAL GLAZE	0	5%	1/10W
C809	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C810	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C811	1-163-117-00	CERAMIC CHIP	100PF	5%	50V

Ref.No	Part No.	Description			Remark
C812	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C813	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C814	1-123-875-11	ELECT	10MF	20%	50V
C815	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C816	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C817	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C818	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C819	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C820	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C821	1-124-925-11	ELECT	2.2MF	20%	50V
C822	1-124-925-11	ELECT	2.2MF	20%	50V
C823	1-163-036-00	CERAMIC CHIP	0.068MF		50V
C824	1-124-925-11	ELECT	2.2MF	20%	50V
C825	1-124-464-11	ELECT	0.22MF	20%	50V
C826	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C827	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C828	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C829	1-124-463-00	ELECT	0.1MF	20%	50V
C830	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V
C831	1-124-252-00	ELECT	0.33MF	20%	50V
C832	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C833	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C834	1-163-108-00	CERAMIC CHIP	43PF	5%	50V
C836	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C837	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C838	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C839	1-124-927-11	ELECT	4.7MF	20%	50V
C840	1-131-358-00	TANTALUM	6.8MF	10%	25V
C841	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C842	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
C843	1-123-875-11	ELECT	10MF	20%	50V
C844	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C846	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C847	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C848	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C849	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C851	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C852	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C853	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C854	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C855	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C856	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C857	1-124-443-00	ELECT	100MF	20%	6.3V
C858	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C859	1-123-875-11	ELECT	10MF	20%	50V
C860	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C863	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C866	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C867	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C868	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C869	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C870	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C871	1-163-036-00	CERAMIC CHIP	0.068MF		50V

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Ref.No	Part No.	Description			Remark
C901	1-126-233-11	ELECT	22MF	20%	25V
C902	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C903	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C904	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C905	1-124-925-11	ELECT	2.2MF	20%	50V
		CONNECTOR			
CN001	1-568-082-11	CONNECTOR (RECEPTALE) 26P			
CN002	1-568-080-11	CONNECTOR (RECEPTALE) 22P			
CN003	1-506-475-11	PIN, CONNECTOR 10P			
		TRIMMER			
CV800	1-141-227-00	CAP, CERAMIC TRIMMER			
		DIODE			
D001	8-719-400-18	DIODE MA152WK			
D002	8-719-800-76	DIODE 1SS226			
D003	8-719-400-18	DIODE MA152WK			
D004	8-719-400-18	DIODE MA152WK			
D005	8-719-400-18	DIODE MA152WK			
D006	8-719-400-18	DIODE MA152WK			
D007	8-719-800-76	DIODE 1SS226			
D008	8-719-400-18	DIODE MA152WK			
D009	8-719-400-18	DIODE MA152WK			
D100	8-719-104-34	DIODE 1S2836			
D101	8-719-400-18	DIODE MA152WK			
D102	8-719-400-18	DIODE MA152WK			
D200	8-719-400-18	DIODE MA152WK			
D201	8-719-400-18	DIODE MA152WK			
D202	8-719-400-18	DIODE MA152WK			
D203	8-719-400-18	DIODE MA152WK			
D300	8-719-400-18	DIODE MA152WK			
D301	8-719-400-18	DIODE MA152WK			
D302	8-719-400-18	DIODE MA152WK			
D303	8-719-400-18	DIODE MA152WK			
D400	8-719-800-76	DIODE 1SS226			
D401	8-719-400-18	DIODE MA152WK			
D402	8-719-400-18	DIODE MA152WK			
D404	8-719-400-18	DIODE MA152WK			
D500	8-719-800-76	DIODE 1SS226			
D501	8-719-400-18	DIODE MA152WK			
D502	8-719-800-76	DIODE 1SS226			
D503	8-719-800-76	DIODE 1SS226			
D504	8-719-400-18	DIODE MA152WK			
D700	8-719-400-18	DIODE MA152WK			
D701	8-719-400-18	DIODE MA152WK			
D702	8-719-800-76	DIODE 1SS226			
D703	8-719-800-76	DIODE 1SS226			
D704	8-719-400-18	DIODE MA152WK			
D800	8-719-800-76	DIODE 1SS226			
		DELAY LINE			
DL400	1-415-517-31	DELAY LINE, DUAL 1H-2H			

Ref.No	Part No.	Description		Remark
DL400	1-415-518-31	DELAY LINE, DUAL 1H-2H		
		FILTER		
FL001	1-409-397-11	TRAP		
FL100	1-236-540-11	LPF (DEMOD OUT)		
FL101	1-236-539-11	LPF (REC Y)		
FL700	1-235-633-11	BPF		
FL701	1-235-632-11	BPF		
FL800	1-409-396-11	REC C TRAP		
FL801	1-236-538-11	BPF		
FL802	1-409-394-11	TRAP, CHROMA EMPHASIS		
		IC		
IC001	8-759-209-17	IC TA8607F		
IC002	8-759-925-60	IC BA401		
IC003	8-759-927-52	IC BA7036LS		
IC100	8-752-003-00	IC CX20030		
IC101	8-759-710-09	IC NJM2233AM		
IC200	8-752-031-01	IC CXA1047M		
IC301	8-759-012-00	IC MC10H116M		
IC302	8-759-009-06	IC MC14052BF		
IC400	8-752-003-12	IC CX20031		
IC500	8-759-925-60	IC BA401		
IC700	8-759-202-67	IC CX20117		
IC800	8-752-924-94	IC CX22021		
IC801	8-752-003-22	IC CX20032		
IC802	8-759-914-56	IC CX23054		
IC900	8-749-920-43	IC SI-3050CA		
		COIL		
L001	1-410-072-21	INDUCTOR	820UH	
L002	1-408-985-21	INDUCTOR	180UH	
L003	1-408-968-21	INDUCTOR	6.8UH	
L004	1-408-963-11	INDUCTOR	2.7UH	
L005	1-408-968-21	INDUCTOR	6.8UH	
L006	1-408-969-21	INDUCTOR	8.2UH	
L008	1-408-973-21	INDUCTOR	18UH	
L009	1-408-989-21	INDUCTOR	470UH	
L010	1-408-989-21	INDUCTOR	470UH	
L011	1-408-970-21	INDUCTOR	10UH	
L012	1-408-972-21	INDUCTOR	15UH	
L013	1-408-973-21	INDUCTOR	18UH	
L014	1-408-976-21	INDUCTOR	33UH	
L015	1-408-970-21	INDUCTOR	10UH	
L016	1-408-970-21	INDUCTOR	10UH	
L017	1-408-974-21	INDUCTOR	22UH	
L100	1-408-966-21	INDUCTOR	4.7UH	
L102	1-408-967-21	INDUCTOR	5.6UH	
L104	1-408-975-21	INDUCTOR	27UH	
L105	1-408-984-21	INDUCTOR	150UH	
L106	1-408-964-21	INDUCTOR	3.3UH	
L107	1-408-983-21	INDUCTOR	120UH	
L109	1-408-970-21	INDUCTOR	10UH	

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

Ref.No	Part No.	Description		Remark
L110	1-408-970-21	INDUCTOR	10UH	
L120	1-408-977-21	INDUCTOR	39UH	
L122	1-407-169-XX	INDUCTOR	100UH	
L201	1-407-169-XX	INDUCTOR	100UH	
L301	1-408-984-21	INDUCTOR	150UH	
L302	1-408-987-21	INDUCTOR	330UH	
L305	1-408-969-21	INDUCTOR	8.2UH	
L310	1-408-948-00	INDUCTOR	220UH	
L311	1-408-970-21	INDUCTOR	10UH	
L312	1-408-970-21	INDUCTOR	10UH	
L400	1-408-987-21	INDUCTOR	330UH	
L401	1-408-970-21	INDUCTOR	10UH	
L402	1-408-969-21	INDUCTOR	8.2UH	
L403	1-408-958-21	INDUCTOR	1UH	
L404	1-408-958-21	INDUCTOR	1UH	
L405	1-408-974-21	INDUCTOR	22UH	
L407	1-408-974-21	INDUCTOR	22UH	
L501	1-408-976-21	INDUCTOR	33UH	
L503	1-408-976-21	INDUCTOR	33UH	
L504	1-408-976-21	INDUCTOR	33UH	
L505	1-408-977-21	INDUCTOR	39UH	
L506	1-408-974-21	INDUCTOR	22UH	
L601	1-408-976-21	INDUCTOR	33UH	
L603	1-408-976-21	INDUCTOR	33UH	
L700	1-408-974-21	INDUCTOR	22UH	
L701	1-408-980-21	INDUCTOR	68UH	
L800	1-407-169-XX	INDUCTOR	100UH	
L801	1-408-983-21	INDUCTOR	120UH	
L802	1-408-985-21	INDUCTOR	180UH	
L803	1-408-974-21	INDUCTOR	22UH	
L804	1-408-948-00	INDUCTOR	220UH	
L807	1-408-973-21	INDUCTOR	18UH	
L901	1-408-976-21	INDUCTOR	33UH	
		VARIABLE COIL		
LV400	1-408-512-00	COIL (VARIABLE)		
		TRANSISTOR		
Q001	8-729-100-66	TRANSISTOR 2SC1623		
Q002	8-729-620-06	TRANSISTOR 2SC3052EF		
Q003	8-729-100-66	TRANSISTOR 2SC1623		
Q004	8-729-100-66	TRANSISTOR 2SC1623		
Q005	8-729-100-66	TRANSISTOR 2SC1623		
Q006	8-729-901-06	TRANSISTOR DTA144EK		
Q007	8-729-901-01	TRANSISTOR DTC144EK		
Q008	8-729-901-01	TRANSISTOR DTC144EK		
Q009	8-729-901-01	TRANSISTOR DTC144EK		
Q011	8-729-901-01	TRANSISTOR DTC144EK		
Q012	8-729-901-01	TRANSISTOR DTC144EK		
Q014	8-729-100-66	TRANSISTOR 2SC1623		
Q015	8-729-216-22	TRANSISTOR 2SA1162		
Q016	8-729-216-22	TRANSISTOR 2SA1162		
Q017	8-729-901-01	TRANSISTOR DTC144EK		
Q018	8-729-901-01	TRANSISTOR DTC144EK		
Q019	8-729-100-66	TRANSISTOR 2SC1623		
Q020	8-729-202-38	TRANSISTOR 2SC3326N		
Q021	8-729-100-66	TRANSISTOR 2SC1623		
Q022	8-729-100-66	TRANSISTOR 2SC1623		
Q023	8-729-100-66	TRANSISTOR 2SC1623		
Q024	8-729-100-66	TRANSISTOR 2SC1623		
Q025	8-729-100-66	TRANSISTOR 2SC1623		
Q026	8-729-901-06	TRANSISTOR DTA144EK		
Q027	8-729-901-06	TRANSISTOR DTA144EK		
Q029	8-729-100-66	TRANSISTOR 2SC1623		
Q030	8-729-100-66	TRANSISTOR 2SC1623		
Q031	8-729-100-66	TRANSISTOR 2SC1623		
Q032	8-729-216-22	TRANSISTOR 2SA1162		
Q033	8-729-100-66	TRANSISTOR 2SC1623		
Q034	8-729-216-22	TRANSISTOR 2SA1162		
Q035	8-729-216-22	TRANSISTOR 2SA1162		
Q036	8-729-100-66	TRANSISTOR 2SC1623		
Q038	8-729-100-66	TRANSISTOR 2SC1623		
Q039	8-729-216-22	TRANSISTOR 2SA1162		
Q040	8-729-100-66	TRANSISTOR 2SC1623		
Q100	8-729-100-66	TRANSISTOR 2SC1623		
Q101	8-729-100-66	TRANSISTOR 2SC1623		
Q102	8-729-100-66	TRANSISTOR 2SC1623		
Q103	8-729-216-22	TRANSISTOR 2SA1162		
Q104	8-729-100-66	TRANSISTOR 2SC1623		
Q106	8-729-100-66	TRANSISTOR 2SC1623		
Q107	8-729-901-01	TRANSISTOR DTC144EK		
Q108	8-729-100-66	TRANSISTOR 2SC1623		
Q109	8-729-901-06	TRANSISTOR DTA144EK		
Q110	8-729-216-22	TRANSISTOR 2SA1162		
Q111	8-729-100-66	TRANSISTOR 2SC1623		
Q112	8-729-100-66	TRANSISTOR 2SC1623		
Q113	8-729-100-66	TRANSISTOR 2SC1623		
Q114	8-729-901-01	TRANSISTOR DTC144EK		
Q116	8-729-100-66	TRANSISTOR 2SC1623		
Q117	8-729-100-66	TRANSISTOR 2SC1623		
Q118	8-729-216-22	TRANSISTOR 2SA1162		
Q119	8-729-901-01	TRANSISTOR DTC144EK		
Q120	8-729-113-31	TRANSISTOR 2SB733-2		
Q121	8-729-901-01	TRANSISTOR DTC144EK		
Q122	8-729-901-01	TRANSISTOR DTC144EK		
Q123	8-729-100-66	TRANSISTOR 2SC1623		
Q124	8-729-216-22	TRANSISTOR 2SA1162		
Q125	8-729-216-22	TRANSISTOR 2SA1162		
Q126	8-729-102-07	TRANSISTOR 2SC2223-F13		
Q127	8-729-102-07	TRANSISTOR 2SC2223-F13		
Q128	8-729-901-01	TRANSISTOR DTC144EK		
Q129	8-729-216-22	TRANSISTOR 2SA1162		
Q130	8-729-901-01	TRANSISTOR DTC144EK		
Q131	8-729-901-06	TRANSISTOR DTA144EK		
Q132	8-729-901-06	TRANSISTOR DTA144EK		
Q133	8-729-216-22	TRANSISTOR 2SA1162		

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

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Ref.No	Part No.	Description	Remark
Q134	8-729-901-01	TRANSISTOR DTC144EK	
Q135	8-729-901-06	TRANSISTOR DTA144EK	
Q136	8-729-901-01	TRANSISTOR DTC144EK	
Q140	8-729-901-01	TRANSISTOR DTC144EK	
Q200	8-729-202-38	TRANSISTOR 2SC3326N	
Q201	8-729-202-38	TRANSISTOR 2SC3326N	
Q202	8-729-901-01	TRANSISTOR DTC144EK	
Q203	8-729-901-06	TRANSISTOR DTA144EK	
Q204	8-729-901-01	TRANSISTOR DTC144EK	
Q205	8-729-901-01	TRANSISTOR DTC144EK	
Q206	8-729-901-01	TRANSISTOR DTC144EK	
Q207	8-729-216-22	TRANSISTOR 2SA1162	
Q208	8-729-216-22	TRANSISTOR 2SA1162	
Q209	8-729-100-66	TRANSISTOR 2SC1623	
Q210	8-729-100-66	TRANSISTOR 2SC1623	
Q211	8-729-901-01	TRANSISTOR DTC144EK	
Q212	8-729-901-01	TRANSISTOR DTC144EK	
Q213	8-729-901-06	TRANSISTOR DTA144EK	
Q214	8-729-216-22	TRANSISTOR 2SA1162	
Q215	8-729-901-01	TRANSISTOR DTC144EK	
Q220	8-729-901-01	TRANSISTOR DTC144EK	
Q221	8-729-100-66	TRANSISTOR 2SC1623	
Q222	8-729-100-66	TRANSISTOR 2SC1623	
Q224	8-729-901-01	TRANSISTOR DTC144EK	
Q225	8-729-901-01	TRANSISTOR DTC144EK	
Q226	8-729-901-01	TRANSISTOR DTC144EK	
Q227	8-729-901-06	TRANSISTOR DTA144EK	
Q301	8-729-901-01	TRANSISTOR DTC144EK	
Q302	8-729-901-01	TRANSISTOR DTC144EK	
Q303	8-729-901-01	TRANSISTOR DTC144EK	
Q313	8-729-901-01	TRANSISTOR DTC144EK	
Q314	8-729-901-06	TRANSISTOR DTA144EK	
Q315	8-729-901-01	TRANSISTOR DTC144EK	
Q316	8-729-901-06	TRANSISTOR DTA144EK	
Q317	8-729-901-01	TRANSISTOR DTC144EK	
Q318	8-729-901-01	TRANSISTOR DTC144EK	
Q319	8-729-100-66	TRANSISTOR 2SC1623	
Q321	8-729-901-01	TRANSISTOR DTC144EK	
Q322	8-729-100-66	TRANSISTOR 2SC1623	
Q323	8-729-901-01	TRANSISTOR DTC144EK	
Q324	8-729-216-22	TRANSISTOR 2SA1162	
Q325	8-729-901-01	TRANSISTOR DTC144EK	
Q326	8-729-901-01	TRANSISTOR DTC144EK	
Q327	8-729-100-66	TRANSISTOR 2SC1623	
Q328	8-729-100-66	TRANSISTOR 2SC1623	
Q329	8-729-901-06	TRANSISTOR DTA144EK	
Q330	8-729-901-06	TRANSISTOR DTA144EK	
Q331	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q332	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q333	8-729-216-22	TRANSISTOR 2SA1162	
Q334	8-729-216-22	TRANSISTOR 2SA1162	
Q335	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q336	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q337	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q338	8-729-901-01	TRANSISTOR DTC144EK	
Q339	8-729-901-06	TRANSISTOR DTA144EK	
Q400	8-729-100-66	TRANSISTOR 2SC1623	
Q401	8-729-216-22	TRANSISTOR 2SA1162	
Q402	8-729-100-66	TRANSISTOR 2SC1623	
Q404	8-729-901-01	TRANSISTOR DTC144EK	
Q405	8-729-901-01	TRANSISTOR DTC144EK	
Q406	8-729-901-06	TRANSISTOR DTA144EK	
Q407	8-729-901-01	TRANSISTOR DTC144EK	
Q416	8-729-901-01	TRANSISTOR DTC144EK	
Q417	8-729-901-01	TRANSISTOR DTC144EK	
Q418	8-729-901-01	TRANSISTOR DTC144EK	
Q419	8-729-901-06	TRANSISTOR DTA144EK	
Q500	8-729-901-06	TRANSISTOR DTA144EK	
Q501	8-729-100-66	TRANSISTOR 2SC1623	
Q502	8-729-100-66	TRANSISTOR 2SC1623	
Q503	8-729-100-66	TRANSISTOR 2SC1623	
Q504	8-729-100-66	TRANSISTOR 2SC1623	
Q505	8-729-901-06	TRANSISTOR DTA144EK	
Q506	8-729-100-66	TRANSISTOR 2SC1623	
Q507	8-729-216-22	TRANSISTOR 2SA1162	
Q508	8-729-100-66	TRANSISTOR 2SC1623	
Q509	8-729-100-66	TRANSISTOR 2SC1623	
Q510	8-729-216-22	TRANSISTOR 2SA1162	
Q511	8-729-216-22	TRANSISTOR 2SA1162	
Q512	8-729-901-06	TRANSISTOR DTA144EK	
Q513	8-729-901-06	TRANSISTOR DTA144EK	
Q514	8-729-100-66	TRANSISTOR 2SC1623	
Q515	8-729-100-66	TRANSISTOR 2SC1623	
Q518	8-729-901-01	TRANSISTOR DTC144EK	
Q519	8-729-901-01	TRANSISTOR DTC144EK	
Q520	8-729-901-01	TRANSISTOR DTC144EK	
Q521	8-729-100-66	TRANSISTOR 2SC1623	
Q522	8-729-901-06	TRANSISTOR DTA144EK	
Q523	8-729-901-06	TRANSISTOR DTA144EK	
Q524	8-729-901-01	TRANSISTOR DTC144EK	
Q525	8-729-901-06	TRANSISTOR DTA144EK	
Q526	8-729-100-66	TRANSISTOR 2SC1623	
Q527	8-729-100-66	TRANSISTOR 2SC1623	
Q528	8-729-100-66	TRANSISTOR 2SC1623	
Q529	8-729-901-01	TRANSISTOR DTC144EK	
Q530	8-729-901-01	TRANSISTOR DTC144EK	
Q531	8-729-100-66	TRANSISTOR 2SC1623	
Q532	8-729-901-01	TRANSISTOR DTC144EK	
Q533	8-729-100-66	TRANSISTOR 2SC1623	
Q534	8-729-901-06	TRANSISTOR DTA144EK	
Q535	8-729-901-01	TRANSISTOR DTC144EK	
Q536	8-729-901-01	TRANSISTOR DTC144EK	
Q537	8-729-901-06	TRANSISTOR DTA144EK	
Q538	8-729-901-06	TRANSISTOR DTA144EK	
Q539	8-729-901-01	TRANSISTOR DTC144EK	
Q601	8-729-100-66	TRANSISTOR 2SC1623	

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

Ref.No	Part No.	Description	Remark
Q602	8-729-100-66	TRANSISTOR 2SC1623	
Q603	8-729-901-01	TRANSISTOR DTC144EK	
Q604	8-729-100-66	TRANSISTOR 2SC1623	
Q605	8-729-100-66	TRANSISTOR 2SC1623	
Q607	8-729-907-46	TRANSISTOR IMZ1	
Q608	8-729-903-10	TRANSISTOR FMW1	
Q609	8-729-901-01	TRANSISTOR DTC144EK	
Q610	8-729-216-22	TRANSISTOR 2SA1162	
Q611	8-729-901-06	TRANSISTOR DTA144EK	
Q612	8-729-100-66	TRANSISTOR 2SC1623	
Q613	8-729-100-66	TRANSISTOR 2SC1623	
Q614	8-729-901-01	TRANSISTOR DTC144EK	
Q700	8-729-901-01	TRANSISTOR DTC144EK	
Q701	8-729-100-66	TRANSISTOR 2SC1623	
Q702	8-729-100-66	TRANSISTOR 2SC1623	
Q704	8-729-100-66	TRANSISTOR 2SC1623	
Q705	8-729-216-22	TRANSISTOR 2SA1162	
Q706	8-729-216-22	TRANSISTOR 2SA1162	
Q800	8-729-100-66	TRANSISTOR 2SC1623	
Q801	8-729-100-66	TRANSISTOR 2SC1623	
Q802	8-729-216-22	TRANSISTOR 2SA1162	
Q803	8-729-202-38	TRANSISTOR 2SC3326N	
Q804	8-729-100-66	TRANSISTOR 2SC1623	
Q805	8-729-901-01	TRANSISTOR DTC144EK	
Q806	8-729-100-66	TRANSISTOR 2SC1623	
Q807	8-729-216-22	TRANSISTOR 2SA1162	
Q808	8-729-216-22	TRANSISTOR 2SA1162	
Q809	8-729-100-66	TRANSISTOR 2SC1623	
Q810	8-729-100-66	TRANSISTOR 2SC1623	
Q811	8-729-901-01	TRANSISTOR DTC144EK	
Q812	8-729-901-01	TRANSISTOR DTC144EK	
Q813	8-729-100-66	TRANSISTOR 2SC1623	
Q815	8-729-901-01	TRANSISTOR DTC144EK	
Q816	8-729-901-01	TRANSISTOR DTC144EK	
Q817	8-729-901-01	TRANSISTOR DTC144EK	
Q818	8-729-901-01	TRANSISTOR DTC144EK	
Q901	8-729-100-66	TRANSISTOR 2SC1623	
Q902	8-729-216-22	TRANSISTOR 2SA1162	

RESISTOR

Ref.No	Part No.	Description				Remark
R001	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R002	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R003	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R004	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R005	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R006	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R007	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R008	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R009	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R010	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R011	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R012	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R013	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R014	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R015	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R016	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R017	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R018	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R020	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R021	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R024	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R025	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R026	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R027	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R028	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R029	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R030	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R031	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R032	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R040	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R041	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R042	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R043	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R044	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R045	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R046	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R048	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R049	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R050	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R051	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R052	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R053	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R054	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R055	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R056	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R058	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R059	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R060	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R061	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R062	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R063	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R064	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R065	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R066	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R067	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R068	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R069	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R070	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R074	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R075	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R076	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R077	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R078	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R079	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R080	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R081	1-216-045-00	METAL GLAZE	680	5%	1/10W	

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

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Ref.No	Part No.	Description				Remark
R082	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R083	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R084	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R085	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R086	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R087	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R088	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R089	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R090	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R091	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R092	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R093	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R094	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R095	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R096	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R097	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R098	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R100	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R101	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R102	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R103	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R104	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R105	1-216-032-00	METAL GLAZE	200	5%	1/10W	
R106	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R107	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R108	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R109	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R111	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R112	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R114	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R115	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R116	1-218-140-11	METAL GLAZE	390	1%	1/10W	
R117	1-218-150-11	METAL GLAZE	1.2K	1%	1/10W	
R118	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R119	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R120	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R122	1-216-019-00	METAL GLAZE	56	5%	1/10W	
R123	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R124	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R125	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R126	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R127	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R129	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R130	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R131	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R132	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R133	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R135	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R136	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R137	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R138	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R139	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R140	1-216-049-00	METAL GLAZE	1K	5%	1/10W	

Ref.No	Part No.	Description				Remark
R141	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R142	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R143	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R144	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R145	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R146	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R148	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R150	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R151	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R152	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R153	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R154	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R155	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R156	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R157	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R158	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R159	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R160	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R161	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R162	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R163	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R164	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R165	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R166	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R167	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R168	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R169	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R170	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R171	1-216-038-00	METAL GLAZE	360	5%	1/10W	
R172	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R173	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R174	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R175	1-218-132-11	METAL GLAZE	4.7K	1%	1/10W	
R176	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R177	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R178	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R179	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R180	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R181	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R182	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R183	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R184	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R185	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R186	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R187	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R188	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R189	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R190	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R191	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R193	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R194	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R195	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R196	1-216-089-00	METAL GLAZE	47K	5%	1/10W	

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

Ref.No	Part No.	Description				Remark
R197	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R198	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R200	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R201	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R202	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R203	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R204	1-218-142-11	METAL GLAZE	470	1%	1/10W	
R205	1-218-140-11	METAL GLAZE	390	1%	1/10W	
R206	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R207	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R208	1-218-150-11	METAL GLAZE	1.2K	1%	1/10W	
R209	1-216-061-00	METAL GLAZE	3.3K	1%	1/10W	
R210	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R211	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R212	1-218-132-11	METAL GLAZE	4.7K	1%	1/10W	
R213	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R214	1-216-328-11	METAL GLAZE	4.3K	1%	1/10W	
R215	1-218-155-11	METAL GLAZE	3.9K	1%	1/10W	
R216	1-218-155-11	METAL GLAZE	3.9K	1%	1/10W	
R217	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R218	1-216-103-00	METAL GLAZE	180K	5%	1/10W	
R223	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R224	1-216-061-00	METAL GLAZE	3.3K	1%	1/10W	
R225	1-218-132-11	METAL GLAZE	4.7K	1%	1/10W	
R226	1-218-152-11	METAL GLAZE	1.5K	1%	1/10W	
R227	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R228	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R229	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R230	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R231	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R232	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R233	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R235	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R236	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R237	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R238	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R239	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R240	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R241	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R242	1-216-111-00	METAL GLAZE	390K	5%	1/10W	
R243	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R244	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R245	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R246	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R247	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R248	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R249	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R250	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R251	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R252	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R253	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R262	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R265	1-216-084-00	METAL GLAZE	30K	5%	1/10W	
R266	1-216-068-00	METAL GLAZE	6.2K	5%	1/10W	
R268	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R269	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R271	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R272	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R273	1-218-140-11	METAL GLAZE	390	1%	1/10W	
R301	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R302	1-216-076-00	METAL GLAZE	13K	5%	1/10W	
R303	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R304	1-216-076-00	METAL GLAZE	13K	5%	1/10W	
R305	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R306	1-216-076-00	METAL GLAZE	13K	5%	1/10W	
R307	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R308	1-216-076-00	METAL GLAZE	13K	5%	1/10W	
R310	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R311	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R314	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R315	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R316	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R330	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R331	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R332	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R333	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R334	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R335	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R336	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R337	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R338	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R339	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R342	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R343	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R344	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R345	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R346	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R347	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R348	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R349	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R350	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R351	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R352	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R353	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R354	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R355	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R356	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R359	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R360	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R361	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R362	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R363	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R364	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R365	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R366	1-216-050-00	METAL GLAZE	1.1K	5%	1/10W	
R368	1-216-047-00	METAL GLAZE	820	5%	1/10W	

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

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Ref.No	Part No.	Description				Remark
R369	1-216-042-00	METAL GLAZE	510	5%	1/10W	
R370	1-216-056-00	METAL GLAZE	2K	5%	1/10W	
R371	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R372	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R373	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R374	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R375	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R376	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R377	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R379	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R380	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R383	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R384	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R385	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R386	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R387	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R388	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R389	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R390	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R391	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R392	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R393	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R394	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R395	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R397	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R400	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R401	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R402	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R403	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R404	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R405	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R406	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R407	1-216-111-00	METAL GLAZE	390K	5%	1/10W	
R408	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R409	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R410	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R411	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R414	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R415	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R416	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R417	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R418	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R419	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R422	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R423	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R425	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R426	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R427	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R428	1-216-076-00	METAL GLAZE	13K	5%	1/10W	
R429	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R430	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R431	1-216-117-00	METAL GLAZE	680K	5%	1/10W	
R432	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R433	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R434	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R435	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R436	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R437	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R438	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R439	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R440	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R441	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R442	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R443	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R444	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R445	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R446	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R447	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R460	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R461	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R462	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R463	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R466	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R477	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R478	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R479	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R501	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R502	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R503	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R504	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R505	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R506	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R507	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R508	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R510	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R511	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R512	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R513	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R514	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R515	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R516	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R517	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R518	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R519	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R520	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R521	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R522	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R523	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R524	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R525	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R526	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R527	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R528	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R529	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R530	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R533	1-216-041-00	METAL GLAZE	470	5%	1/10W	

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

Ref.No	Part No.	Description				Remark
R534	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R535	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R536	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R537	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R538	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R539	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R540	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R541	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R542	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R543	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R544	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R545	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R548	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R549	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R550	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R551	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R552	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R554	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R555	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R556	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R557	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R559	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R560	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R561	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R562	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R563	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R564	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R565	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R567	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R568	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R569	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R570	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R571	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R572	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R573	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R574	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R575	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R576	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R577	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R578	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R579	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R580	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R581	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R582	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R583	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R584	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R585	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R586	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R587	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R589	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R590	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R591	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R592	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R593	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R594	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R595	1-216-092-00	METAL GLAZE	62K	5%	1/10W	
R596	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R597	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R598	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R599	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R601	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R602	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R603	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R604	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R605	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R606	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R607	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R608	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R609	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R610	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R611	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R612	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R613	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R614	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R615	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R616	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R617	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R618	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R619	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R620	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R623	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R625	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R626	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R650	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R651	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R652	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R655	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R656	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R657	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R658	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R659	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R660	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R661	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R662	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R663	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R664	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R700	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R701	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R702	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R703	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R704	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R705	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R706	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R707	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R708	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R709	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	

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

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Ref.No	Part No.	Description				Remark
R710	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R711	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R712	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R713	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R714	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R715	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R716	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R717	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R718	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R719	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R720	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R721	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R722	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R723	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R724	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R725	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R726	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R730	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R731	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R732	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R733	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R734	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R735	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R740	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R741	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R742	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R743	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R744	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R800	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R801	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R802	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R803	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R804	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R805	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R806	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R807	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R808	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R809	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R812	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R813	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R814	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R815	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R817	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R818	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R819	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R820	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R821	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R822	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R823	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R824	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R826	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R827	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R830	1-216-081-00	METAL GLAZE	22K	5%	1/10W	

Ref.No	Part No.	Description				Remark
R831	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R832	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R833	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R835	1-216-103-00	METAL GLAZE	180K	5%	1/10W	
R836	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R840	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R841	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R843	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R844	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R845	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R846	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R848	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R849	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R850	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R851	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R852	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R853	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R854	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R855	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R856	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R857	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R858	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R859	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R861	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R863	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R864	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R866	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R867	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R868	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R870	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R872	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R873	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R874	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R875	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R876	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R877	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R878	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R879	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R880	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R881	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R883	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R884	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R885	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R886	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R887	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R888	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R889	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R890	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R892	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R894	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R895	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R896	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R897	1-216-073-00	METAL GLAZE	10K	5%	1/10W	

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

Ref.No	Part No.	Description				Remark
R901	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R902	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R903	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R904	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R905	1-216-056-00	METAL GLAZE	2K	5%	1/10W	
R906	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R907	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R908	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R910	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R912	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R913	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
		VARIABLE RESISTOR				
RV101	1-228-998-00	RES, ADJ, CARBON 220K				
RV102	1-228-994-00	RES, ADJ, CARBON 10K				
RV103	1-228-994-00	RES, ADJ, CARBON 10K				
RV104	1-228-993-00	RES, ADJ, CARBON 4.7K				
RV105	1-228-994-00	RES, ADJ, CARBON 10K				
RV202	1-228-991-00	RES, ADJ, CARBON 2.2K				
RV203	1-228-993-00	RES, ADJ, CARBON 4.7K				
RV204	1-228-996-00	RES, ADJ, CARBON 47K				
RV205	1-228-991-00	RES, ADJ, CARBON 2.2K				
RV300	1-228-990-00	RES, ADJ, CARBON 1K				
RV301	1-228-990-00	RES, ADJ, CARBON 1K				
RV302	1-228-994-00	RES, ADJ, CARBON 10K				
RV303	1-228-994-00	RES, ADJ, CARBON 10K				
RV304	1-228-994-00	RES, ADJ, CARBON 10K				
RV305	1-228-994-00	RES, ADJ, CARBON 10K				
RV400	1-228-994-00	RES, ADJ, CARBON 10K				
RV401	1-228-994-00	RES, ADJ, CARBON 10K				
RV601	1-228-994-00	RES, ADJ, CARBON 10K				
RV700	1-228-996-00	RES, ADJ, CARBON 47K				
RV701	1-228-998-00	RES, ADJ, CARBON 220K				
RV800	1-228-994-00	RES, ADJ, CARBON 10K				
RV801	1-228-995-00	RES, ADJ, CARBON 22K				
		CRYSTAL				
X400	1-567-442-11	VIBRATOR, CRYSTAL (13.3MHz)				
X800	1-567-504-11	OSCILLATOR, CRYSTAL (4.43MHz)				

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Ref.No	Part No.	Description				Remark
	*A-7061-811-A	FL-24 BOARD, COMPLETE (AEP MODEL) **********				
	*A-7062-055-A	FL-24 (C) BOARD, COMPLETE (UK MODEL) **********				
	*3-697-607-01	HOLDER (SU), LED				
	*3-742-524-01	HOLDER (LEFT), INDICATION TUBE				
	*3-742-548-01	HOLDER (RIGHT), INDICATION TUBE				
		CAPACITOR				
C001	1-126-154-11	ELECT	47MF	20%	6.3V	
C002	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C003	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C004	1-126-153-11	ELECT	22MF	20%	6.3V	
C005	1-126-153-11	ELECT	22MF	20%	6.3V	
C006	1-126-157-11	ELECT	10MF	20%	10V	
C007	1-126-157-11	ELECT	10MF	20%	10V	
C008	1-126-157-11	ELECT	10MF	20%	10V	
C009	1-163-035-00	CERAMIC CHIP	0.047MF		50V	
C010	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V	
C011	1-126-157-11	ELECT	10MF	20%	10V	
C012	1-163-035-00	CERAMIC CHIP	0.047MF		50V	
C013	1-163-035-00	CERAMIC CHIP	0.047MF		50V	
C014	1-126-157-11	ELECT	10MF	20%	10V	
C015	1-163-038-00	CERAMIC CHIP	0.1MF		25V	
C016	1-163-089-00	CERAMIC CHIP	6PF	0.5PF	50V	
C017	1-163-111-00	CERAMIC CHIP	56PF	5%	50V	
C018	1-163-098-00	CERAMIC CHIP	16PF	5%	50V	
C019	1-163-098-00	CERAMIC CHIP	16PF	5%	50V	
C020	1-163-038-00	CERAMIC CHIP	0.1MF		25V	
C021	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C023	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V	
C024	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V	
		FILTER				
CF001	1-567-132-00	VIBLATOR, CERAMIC				
		CONNECTOR				
CN001	1-575-365-11	CONNECTOR, FPC/FFC 18P				
CN002	1-575-365-11	CONNECTOR, FPC/FFC 18P				
CN003	1-575-363-11	CONNECTOR, FPC/FFC 12P				
CN004	1-575-365-11	CONNECTOR, FPC/FFC 18P				
CN004	1-575-386-11	CABLE, FLAT (1.0MM PITCH) 18P				
		TRIMMER				
CT001	1-141-311-11	CAP, VAR, TRIMMER (CHIP)				
		DIODE				
D001	8-719-920-05	DIODE SLP281C-50				
D002	8-719-920-05	DIODE SLP281C-50				
D003	8-719-400-18	DIODE MA152WK				
D004	8-719-955-04	DIODE PY5504S-1				
D005	8-719-955-04	DIODE PY5504S-1				

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

FL-24 FR-41

Ref.No	Part No.	Description	Remark
D006	8-719-400-18	DIODE MA152WK	
D007	8-719-918-96	DIODE AA3422S	
D008	8-719-400-18	DIODE MA152WK	
D009	8-719-920-05	DIODE SLP281C-50	
D010	8-719-921-01	DIODE EBR5534S (UK MODEL)	
		IC	
IC001	8-759-942-05	IC BA6800AFVC	
IC002	1-466-131-11	CATCHER RAY BLOCK (GP1U52X)	
IC003	8-759-937-56	IC S-8054ALB-LM-S	
IC004	8-759-941-78	IC S-8053ALB	
IC005	8-759-989-50	IC MB89793B-GDX401	
IC006	8-759-748-54	IC CAT35C202P	
		COIL	
L001	1-407-169-XX	INDUCTOR 100UH	
L002	1-407-169-XX	INDUCTOR 100UH	
L003	1-407-169-XX	INDUCTOR 100UH	
		INDICATOR TUBE	
ND001	1-519-507-31	INDICATOR TUBE, FLUORESCENT	
		TRANSISTOR	
Q001	8-729-901-47	TRANSISTOR DTA143EK	
Q002	8-729-901-47	TRANSISTOR DTA143EK	
Q003	8-729-216-22	TRANSISTOR 2SA1162	
Q004	8-729-216-22	TRANSISTOR 2SA1162 (UK MODEL)	
		RESISTOR	
R001	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R002	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R003	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R004	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R005	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R006	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R007	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R008	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R009	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R010	1-216-031-00	METAL GLAZE 180 5% 1/10W	
R011	1-216-031-00	METAL GLAZE 180 5% 1/10W	
R012	1-216-115-00	METAL GLAZE 560K 5% 1/10W	
R013	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R014	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R015	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R016	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R017	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R018	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R019	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R020	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R021	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R022	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R024	1-216-089-00	METAL GLAZE 47K 5% 1/10W (UK MODEL)	
R025	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R026	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R027	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R028	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R029	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R030	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R031	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R032	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R033	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R034	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R035	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R036	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R037	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R038	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R039	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R040	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R041	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R042	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R043	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R044	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R045	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R046	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R047	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R048	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R049	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R050	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R051	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R052	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R053	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R054	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R055	1-216-031-00	METAL GLAZE 180 5% 1/10W (UK MODEL)	
R056	1-216-049-00	METAL GLAZE 1K 5% 1/10W (UK MODEL)	
R058	1-216-089-00	METAL GLAZE 47K 5% 1/10W (AEP MODEL)	
		SWITCH	
S001	1-554-174-00	SWITCH, KEY BOARD (ON/STANDBY)	
S002	1-554-174-00	SWITCH, KEY BOARD (EJECT)	
S003	1-554-174-00	SWITCH, KEY BOARD (H1 8)	
S004	1-554-174-00	SWITCH, KEY BOARD (RESET)	
		CRYSTAL	
X001	1-567-098-00	VIBRATOR, CRYSTAL (32.768kHz)	
**********			
*A-7061-812-A		FR-41 (A) BOARD, COMPLETE **********	
*3-689-521-01		HOLDER, LED, ROUND	
*3-697-607-01		HOLDER (SU), LED	
3-731-123-01		BASE, VOLUME	
7-627-552-38		SCREW, PRECISION +P 1.7X3	
		CAPACITOR	
C101	1-163-038-00	CERAMIC CHIP 0.1MF 25V	

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

Ref.No	Part No.	Description			Remark
C102	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C103	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C104	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C105	1-135-156-21	TANTAL. CHIP 6.8MF	20%	6.3V	
C106	1-135-156-21	TANTAL. CHIP 6.8MF	20%	6.3V	
C118	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C119	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
		CONNECTOR			
CN104	1-575-360-11	CONNECTOR, FPC/FFC 5P			
CN105	1-575-362-11	CONNECTOR, FPC/FFC 11P			
CN105	1-575-385-11	CABLE, FLAT (1.0MM PITCH) 11P			
CN106	1-575-365-11	CONNECTOR, FPC/FFC 18P			
		DIODE			
D110	8-719-106-45	DIODE RD9.1M-B3			
D111	8-719-400-18	DIODE MA152WK			
D112	8-719-400-18	DIODE MA152WK			
D113	8-719-301-49	DIODE SEL2810A			
D114	8-719-301-49	DIODE SEL2810A			
D115	8-719-920-05	DIODE SLP281C-50			
D116	8-719-920-05	DIODE SLP281C-50			
D117	8-719-812-32	DIODE TLY123			
D118	8-719-920-05	DIODE SLP281C-50			
D119	8-719-920-05	DIODE SLP281C-50			
D120	8-719-812-31	DIODE TLR123			
D121	8-719-301-49	DIODE SEL2810A			
		IC			
IC101	8-759-111-56	IC UPC4572G2			
IC102	8-759-982-04	IC RC5532M			
		JACK			
J102	1-566-850-31	CONNECTOR, (S) TERMINAL 4P (LINE IN 2-S VIDEO)			
		JUMPER RESISTOR			
JR110	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR111	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR112	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR113	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR114	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR115	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR116	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR117	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR118	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR119	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR120	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR121	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR122	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR123	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR124	1-216-296-00	METAL GLAZE	0	5%	1/8W

Ref.No	Part No.	Description			Remark
JR125	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR126	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR127	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR128	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR129	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR130	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR131	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR132	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR133	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR134	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR135	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR136	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR137	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR138	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR139	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR140	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR141	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR142	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR143	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR144	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR145	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR146	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR147	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR148	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR149	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR150	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR151	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR152	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR153	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR154	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR155	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR156	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR157	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR158	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR159	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR160	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR161	1-216-296-00	METAL GLAZE	0	5%	1/8W
		TRANSISTOR			
Q101	8-729-901-01	TRANSISTOR DTC144EK			
Q102	8-729-901-01	TRANSISTOR DTC144EK			
		RESISTOR			
R101	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R102	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R103	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R104	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R105	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R106	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R107	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R108	1-216-037-00	METAL GLAZE	330	5%	1/10W
R109	1-216-037-00	METAL GLAZE	330	5%	1/10W
R110	1-216-037-00	METAL GLAZE	330	5%	1/10W

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

FR-41 MC-37

Ref.No	Part No.	Description				Remark
R111	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R112	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R113	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R114	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R115	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R116	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R117	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R118	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R119	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R120	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R121	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R122	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R123	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R125	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R127	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R128	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R129	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R130	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R131	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R132	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R133	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R134	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R144	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R145	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R146	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R148	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R149	1-216-037-00	METAL GLAZE	330	5%	1/10W	

SWITCH

S101	1-554-174-00	SWITCH, KEY BOARD (INPUT SELECT)
S102	1-554-174-00	SWITCH, KEY BOARD (REC MODE LP/SP)
S103	1-554-174-00	SWITCH, KEY BOARD (COUNTER RESET)
S105	1-554-174-00	SWITCH, KEY BOARD (ANT TV/VTR)
S106	1-554-174-00	SWITCH, KEY BOARD (AUTO EDIT)
S107	1-570-854-11	SWITCH, SLIDE (AUDIO MONITOR)
S108	1-554-174-00	SWITCH, KEY BOARD (RECORDER)
S109	1-554-174-00	SWITCH, KEY BOARD (PLAYER)
S110	1-554-174-00	SWITCH, KEY BOARD (EDIT MONITOR)
S111	1-554-174-00	SWITCH, KEY BOARD (SYNCRO EDIT)

VARIABLE RESISTOR

VR101	1-237-877-11	RES, VAR, SLIDE 10K/10K (REC LEVEL)
VR102	1-238-374-11	RES, VAR, CARBON 10K/10K (PHONE LEVEL)

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*A-7061-813-A MC-37 BOARD, COMPLETE
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CAPACITOR

C601	1-124-225-00	ELECT	100MF	20%	6.3V
C602	1-124-225-00	ELECT	100MF	20%	6.3V
C603	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
C604	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C605	1-126-160-11	ELECT	1MF	20%	50V
C606	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C607	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C608	1-124-225-00	ELECT	100MF	20%	6.3V
C609	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C610	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V
C611	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V
C612	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C613	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
C614	1-126-153-11	ELECT	22MF	20%	6.3V
C615	1-126-153-11	ELECT	22MF	20%	6.3V
C616	1-126-157-11	ELECT	10MF	20%	16V
C617	1-126-157-11	ELECT	10MF	20%	16V
C618	1-126-160-11	ELECT	1MF	20%	50V
C619	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C620	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C621	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C622	1-163-117-00	CERAMIC CHIP	100PF	5%	50V

CONNECTOR

CN601	1-575-367-11	CONNECTOR, FPC/FFC 11P

DIODE

D603	8-719-106-45	DIODE RD9.1M-B3
D604	8-719-106-45	DIODE RD9.1M-B3
D607	8-719-106-45	DIODE RD9.1M-B3

IC

IC601	8-759-111-56	IC UPC4572G2

JACK

J601	1-565-276-31	JACK, ULTRA SMALL 1P (LINCS)
J602	1-563-282-11	JACK, SMALL TYPE (MIC)
J603	1-562-917-11	JACK (SMALL TYPE) (HEADPHONES)

TRANSISTOR

Q602	8-729-100-66	TRANSISTOR 2SC1623
Q603	8-729-100-66	TRANSISTOR 2SC1623
Q604	8-729-100-66	TRANSISTOR 2SC1623

RESISTOR

R601	1-216-083-00	METAL GLAZE	27K	5%	1/10W
R602	1-216-025-00	METAL GLAZE	100	5%	1/10W
R603	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R604	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R605	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R608	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R609	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R610	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R611	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R612	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R613	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W

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

Ref.No	Part No.	Description	Remark
R614	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R615	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R616	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R617	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	

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*A-7061-814-A TU-100 BOARD, COMPLETE (AEP MODEL)
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*A-7061-897-A TU-100 (C) BOARD, COMPLETE (UK MODEL)
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CAPACITOR

C001	1-126-233-11	ELECT	22MF	20%	25V
C002	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C003	1-126-233-11	ELECT	22MF	20%	25V
C004	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C005	1-124-360-00	ELECT	1000MF	20%	16V
C006	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C007	1-124-927-11	ELECT	4.7MF	20%	50V
C011	1-126-233-11	ELECT	22MF	20%	25V
C012	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C013	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C014	1-123-875-11	ELECT	10MF	20%	50V
C015	1-163-101-00	CERAMIC CHIP	220PF	5% 50V	(UK MODEL)
C015	1-163-103-00	CERAMIC CHIP	27PF	5% 50V	(AEP MODEL)
C016	1-163-097-00	CERAMIC CHIP	15PF	5% 50V	(UK MODEL)
C016	1-163-123-00	CERAMIC CHIP	180PF	5% 50V	(AEP MODEL)
C017	1-163-111-00	CERAMIC CHIP	56PF	5% 50V	(AEP MODEL)
C017	1-163-119-00	CERAMIC CHIP	120PF	5% 50V	(UK MODEL)
C019	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C020	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C021	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C022	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C023	1-124-925-11	ELECT	2.2MF	20%	50V
C029	1-126-233-11	ELECT	22MF	20%	25V
C030	1-126-233-11	ELECT	22MF	20%	25V
C032	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C033	1-126-233-11	ELECT	22MF	20%	25V
C035	1-126-233-11	ELECT	22MF	20% 25V	(UK MODEL)
C042	1-136-161-00	MYLAR	0.047MF	10%	50V
C043	1-123-875-11	ELECT	10MF	20% 50V	(UK MODEL)

CONNECTOR

CN001	1-563-605-11	CONNECTOR, FLEXIBLE 28P
CN001	1-575-454-11	WIRE, FLAT TYPE (28 CORE)

DIODE

D002	8-719-400-18	DIODE MA152WK
D003	8-719-200-36	DIODE E10QS04

IC

IC001	8-759-157-40	IC UPC574J

Ref.No	Part No.	Description	Remark

IF BLOCK

IF001⚠	1-466-166-11	IF BLOCK (IFX-395C)	(UK MODEL)
IF001⚠	1-466-167-11	IF BLOCK (IFX-389C)	(AEP MODEL)

JUMPER RESISTOR

JR001	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR002	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR003	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR004	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR005	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR006	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR008	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR011	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR012	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR013	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR014	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR015	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR016	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR017	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR018	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR019	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR020	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR021	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR023	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR025	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR027	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR032	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR033	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR034	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR035	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR036	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR038	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR039	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR040	1-216-296-00	METAL GLAZE	0	5%	1/8W

COIL

L001	1-408-413-00	INDUCTOR	22UH
L002	1-408-411-00	INDUCTOR	15UH (AEP MODEL)
L002	1-408-419-00	INDUCTOR	68UH (UK MODEL)
L003	1-408-408-00	INDUCTOR	8.2UH
L004	1-408-408-00	INDUCTOR	8.2UH
L005	1-408-408-00	INDUCTOR	8.2UH
L007	1-408-408-00	INDUCTOR	8.2UH
L009	1-408-413-00	INDUCTOR	22UH

DECORDER BLOCK

MP001⚠	1-466-144-11	DECORDER BLOCK (MPL-389)	(AEP MODEL)

TRANSISTOR

Q001	8-729-100-66	TRANSISTOR 2SC1623
Q003	8-729-216-22	TRANSISTOR 2SA1162
Q004	8-729-100-66	TRANSISTOR 2SC1623

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

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

TU-100 PS-196

Ref.No	Part No.	Description	Remark
Q006	8-729-100-66	TRANSISTOR 2SC1623	
Q007	8-729-900-53	TRANSISTOR DTC114EK (UK MODEL)	
Q008	8-729-100-66	TRANSISTOR 2SC1623 (UK MODEL)	
Q010	8-729-901-01	TRANSISTOR DTC144EK	
Q014	8-729-216-22	TRANSISTOR 2SA1162 (AEP MODEL)	

RESISTOR

R001	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R002	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R003	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R004	1-216-212-00	METAL GLAZE	3.9K	5%	1/8W	
R005	1-216-210-00	METAL GLAZE	3.3K	5%	1/8W	
R008	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R009	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	(UK MODEL)
R009	1-216-070-00	METAL GLAZE	7.5K	5%	1/10W	(AEP MODEL)
R010	1-216-045-00	METAL GLAZE	680	5%	1/10W	(UK MODEL)
R010	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	(AEP MODEL)
R011	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R012	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R013	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R014	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R015	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R016	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R017	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R018	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R021	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R022	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R023	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R024	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R025	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R029	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R034	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R044	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	(UK MODEL)
R044	1-216-295-00	METAL GLAZE	0	5%	1/10W	(AEP MODEL)
R046	1-216-295-00	METAL GLAZE	0	5%	1/10W	(UK MODEL)
R047	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	(UK MODEL)
R047	1-216-295-00	METAL GLAZE	0	5%	1/10W	(AEP MODEL)
R048	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	(UK MODEL)
R049	1-216-295-00	METAL GLAZE	0	5%	1/10W	(UK MODEL)
R050	1-216-085-00	METAL GLAZE	33K	5%	1/10W	(UK MODEL)
R051	1-216-091-00	METAL GLAZE	56K	5%	1/10W	(UK MODEL)
R053	1-216-295-00	METAL GLAZE	0	5%	1/10W	(UK MODEL)
R054	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	(UK MODEL)
R056	1-216-295-00	METAL GLAZE	0	5%	1/10W	(UK MODEL)
R062	1-216-295-00	METAL GLAZE	0	5%	1/10W	(UK MODEL)
R065	1-216-295-00	METAL GLAZE	0	5%	1/10W	(AEP MODEL)
R067	1-216-295-00	METAL GLAZE	0	5%	1/10W	(AEP MODEL)
R068	1-216-295-00	METAL GLAZE	0	5%	1/10W	(AEP MODEL)
R069	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	(AEP MODEL)
R070	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	(AEP MODEL)
R071	1-216-295-00	METAL GLAZE	0	5%	1/10W	(UK MODEL)
R072	1-216-295-00	METAL GLAZE	0	5%	1/10W	(AEP MODEL)
R073	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	(AEP MODEL)
R074	1-216-295-00	METAL GLAZE	0	5%	1/10W	(UK MODEL)
R075	1-216-295-00	METAL GLAZE	0	5%	1/10W	(UK MODEL)
R076	1-216-295-00	METAL GLAZE	0	5%	1/10W	(AEP MODEL)
R077	1-216-064-00	METAL GLAZE	4.3K	5%	1/10W	(AEP MODEL)
R078	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R079	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R080	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R083	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R090	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R092	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R095	1-216-295-00	METAL GLAZE	0	5%	1/10W	(UK MODEL)
R096	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(AEP MODEL)

VARIABLE RESISTOR

RV001	1-228-995-00	RES, ADJ, CARBON 22K (AEP MODEL)

TUNER

TU001⚠	1-465-260-31	TUNER, ET (BTP-2C401) (AEP MODEL)
TU001⚠	1-465-262-31	TUNER, ET (BTP-2U601) (UK MODEL)

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	*A-7061-815-A	PS-196 (A) BOARD, COMPLETE (AEP MODEL)
		**********
	*A-7061-898-A	PS-196 (B) BOARD, COMPLETE (UK MODEL)
		**********
	1-533-183-11	HOLDER, FUSE
	*3-714-460-01	RETAINER, TRANSISTOR
	3-731-146-01	RETAINER (B), PS
	3-731-147-01	RETAINER (A), PS
	7-621-555-60	SCREW +K 2X10
	7-628-253-40	SCREW +PS 2X10
	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3

CAPACITOR

C001 ⚠	1-136-185-00	FILM	0.22MF	20%	250V
C002 ⚠	1-136-472-11	FILM	0.1MF	20%	250V
C003 ⚠	1-162-578-51	CERAMIC	0.0047MF	20%	400V
C004 ⚠	1-162-578-51	CERAMIC	0.0047MF	20%	400V
C005 ⚠	1-162-578-51	CERAMIC	0.0047MF	20%	400V
C006 ⚠	1-162-578-51	CERAMIC	0.0047MF	20%	400V
C007 ⚠	1-126-538-11	ELECT	100MF	20%	400V
C008	1-136-208-11	FILM	0.068MF	10%	630V
C009	1-162-558-11	CERAMIC	100PF	10%	2KV
C010	1-130-495-00	MYLAR	0.1MF	5%	50V
C011	1-126-589-11	ELECT	2200MF	20%	16V
C012	1-126-587-11	ELECT	330MF	20%	16V
C013	1-123-875-11	ELECT	10MF	20%	50V
C014	1-126-588-11	ELECT	1000MF	20%	16V
C015	1-126-588-11	ELECT	1000MF	20%	16V
C016	1-126-586-11	ELECT	470MF	20%	10V
C017	1-123-875-11	ELECT	10MF	20%	50V

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

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

Ref.No	Part No.	Description			Remark
C018	1-126-586-11	ELECT	470MF	20%	10V
C019	1-123-875-11	ELECT	10MF	20%	50V
C020	1-124-446-11	ELECT	47MF	20%	10V
C021	1-130-473-00	MYLAR	0.0015MF	5%	50V
C022	1-124-446-11	ELECT	47MF	20%	10V
C023	1-161-043-00	CERAMIC	0.0022MF	10%	25V
C024	1-124-570-11	ELECT	220MF	20%	16V
C025	1-126-335-11	ELECT	220MF	20%	10V
C026	1-126-335-11	ELECT	220MF	20%	10V
C027	1-123-875-11	ELECT	10MF	20%	50V
C028	1-123-875-11	ELECT	10MF	20%	50V
C029	1-123-875-11	ELECT	10MF	20%	50V
C030	1-123-875-11	ELECT	10MF	20%	50V
C031	1-161-055-00	CERAMIC	0.022MF	10%	25V
C032 ⚠	1-162-578-51	CERAMIC	0.0047MF	20%	400V
C033 ⚠	1-162-578-51	CERAMIC	0.0047MF	20%	400V
C034 ⚠	1-162-578-12	CERAMIC	0.0047MF	20%	400V
C035	1-123-381-00	ELECT	2.2MF	20%	50V
C036	1-126-588-11	ELECT	1000MF	20%	16V
C037	1-161-039-00	CERAMIC	0.001MF	10%	50V
C038	1-123-382-00	ELECT	3.3MF	20%	50V

CONNECTOR

CN001	*1-564-037-11	PIN, CONNECTOR 12P
CN002	1-506-484-11	PIN, CONNECTOR 5P

DIODE

D001 ⚠	8-719-510-31	DIODE S2VB60-03L10
D002 ⚠	8-719-500-70	DIODE D5S4M
D003 ⚠	8-719-304-50	THYRISTOR TF341M-A
D004	8-719-110-22	DIODE RD11ES-B2
D005	8-719-200-62	DIODE 20E2H
D006	8-719-200-62	DIODE 20E2H
D007 ⚠	8-719-300-33	DIODE RU-3AM
D008 ⚠	8-719-500-70	DIODE D5S4M
D009 ⚠	8-719-913-44	DIODE ERA82-004
D010	8-719-110-03	DIODE RD7.5ES-B2
D011	8-719-911-19	DIODE 1SS119
D012 ⚠	8-719-913-44	DIODE ERA82-004
D013	8-719-901-83	DIODE 1SS83
D014	8-719-901-83	DIODE 1SS83
D015	8-719-110-22	DIODE RD11ES-B2
D016	8-719-911-19	DIODE 1SS119

FUSE

F001 ⚠	1-532-259-00	FUSE, TIME-LAG (1.6A/250V)

IC

IC001 ⚠	8-759-979-49	IC MA2820
IC002	8-759-927-49	IC IR9431
IC003 ⚠	8-749-920-58	IC SI-3090CA
IC004 ⚠	8-749-921-21	IC SI-3120C
IC005	8-759-632-07	IC M5237L
IC006 ⚠	8-759-982-52	IC RC79M05F
IC007 ⚠	8-759-990-33	IC FA7610P

COIL

L001 ⚠	1-424-121-11	TRANSFORMER, LINE FILTER	
L002	1-421-918-11	COIL, CHOKE	10UH
L003	1-421-918-11	COIL, CHOKE	10UH
L004	1-410-794-11	INDUCTOR	330UH
L005	1-410-667-31	INDUCTOR	22UH
L006	1-410-645-31	INDUCTOR	100UH
L007	1-410-645-31	INDUCTOR	100UH

PHOTO TRANSISTOR

PH001 ⚠	8-719-939-00	PC111S

IC LINK

PS001 ⚠	1-532-679-00	LINK, IC

TRANSISTOR

Q001 ⚠	8-729-921-41	TRANSISTOR 2SA1679S
Q002	8-729-900-80	TRANSISTOR DTC114ES
Q003	8-729-177-32	TRANSISTOR 2SD773
Q004 ⚠	8-729-265-52	TRANSISTOR 2SC2655
Q005	8-729-119-76	TRANSISTOR 2SA1175HFE

RESISTOR

R002 ⚠	1-217-294-00	WIREWOUND	4.7	10%	5W	F
R003 ⚠	1-215-926-00	METAL OXIDE	33K	5%	3W	F
R004 ⚠	1-215-926-00	METAL OXIDE	33K	5%	3W	F
R005	1-260-041-00	CARBON	680K	5%	1/2W	
R006	1-249-429-11	CARBON	10K	5%	1/4W	
R007	1-214-834-00	METAL	56	1%	1/2W	
R008 ⚠	1-212-881-11	FUSIBLE	100	5%	1/4W	F
R009	1-214-834-00	METAL	56	1%	1/2W	
R010	1-249-402-11	CARBON	56	5%	1/4W	
R011	1-215-431-00	METAL	2.7K	1%	1/6W	
R012	1-215-429-00	METAL	2.2K	1%	1/6W	
R013	1-249-405-11	CARBON	100	5%	1/4W	
R014	1-249-409-11	CARBON	220	5%	1/4W	
R015	1-249-417-11	CARBON	1K	5%	1/4W	
R016	1-215-447-00	METAL	12K	1%	1/6W	
R017	1-249-431-11	CARBON	15K	5%	1/4W	
R018	1-215-437-00	METAL	4.7K	1%	1/6W	
R019	1-249-417-11	CARBON	1K	5%	1/4W	
R020	1-249-423-11	CARBON	3.3K	5%	1/4W	
R021	1-247-885-00	CARBON	180K	5%	1/4W	
R022	1-247-899-11	CARBON	680K	5%	1/4W	
R023	1-249-436-11	CARBON	39K	5%	1/4W	
R024	1-247-887-00	CARBON	220K	5%	1/4W	
R025	1-215-441-00	METAL	6.8K	1%	1/6W	
R026	1-215-429-00	METAL	2.2K	1%	1/6W	

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

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

PS-196 DS-35

Ref.No	Part No.	Description				Remark
R027	1-215-469-00	METAL	100K	1%	1/6W	
R028	1-214-773-00	METAL	68K	1%	1/4W	
R029	1-249-411-11	CARBON	330	5%	1/4W	
R030	1-249-405-11	CARBON	100	5%	1/4W	
R031	1-249-415-11	CARBON	680	5%	1/4W	
R032	1-249-429-11	CARBON	10K	5%	1/4W	
R034 ⚠	1-247-738-11	CARBON	82	5%	1/2W	F
R035	1-249-423-11	CARBON	3.3K	5%	1/4W	
R036	1-247-725-11	CARBON	10K	5%	1/4W	
		TRANSFORMER				
T001 ⚠	1-449-924-11	TRANSFORMER, RCC CONVERTER				
T002 ⚠	1-449-914-11	TRANSFORMER, CONVERTER				
**********						
	*A-7061-816-A	DS-35 (A) BOARD, COMPLETE (AEP MODEL)				
		**********				
	*A-7061-892-A	DS-35 (B) BOARD, COMPLETE (UK MODEL)				
		**********				
		BUZZER				
BZ001	1-529-070-11	BUZZER				
		CAPACITOR				
C001	1-125-486-11	DOUBLE LAYER	0.22F			5.5V
C002	1-124-446-11	ELECT	47MF		20%	10V
C003	1-164-232-11	CERAMIC CHIP	0.01MF			50V
C004	1-164-232-11	CERAMIC CHIP	0.01MF			50V
C005	1-163-105-00	CERAMIC CHIP	33PF		5%	50V
C006	1-163-105-00	CERAMIC CHIP	33PF		5%	50V
C007	1-164-232-11	CERAMIC CHIP	0.01MF		10%	50V
C008	1-123-875-11	ELECT	10MF		20%	50V
C009	1-163-035-00	CERAMIC CHIP	0.047MF			50V
C010	1-164-232-11	CERAMIC CHIP	0.01MF			50V
C012	1-163-035-00	CERAMIC CHIP	0.047MF		50V	(AEP MODEL)
C013	1-123-875-11	ELECT	10MF	20%	50V	(AEP MODEL)
C014	1-163-035-00	CERAMIC CHIP	0.047MF		50V	(AEP MODEL)
C015	1-163-105-00	CERAMIC CHIP	33PF	5%	50V	(AEP MODEL)
C016	1-163-105-00	CERAMIC CHIP	33PF	5%	50V	(AEP MODEL)
C017	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V	(AEP MODEL)
C018	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V	(AEP MODEL)
C019	1-163-035-00	CERAMIC CHIP	0.047MF		50V	(AEP MODEL)
C021	1-123-875-11	ELECT	10MF		20%	50V
C024	1-163-035-00	CERAMIC CHIP	0.047MF			50V
C025	1-164-232-11	CERAMIC CHIP	0.01MF		10%	50V
C026	1-124-471-00	ELECT	1000MF		20%	6.3V
C201	1-124-443-00	ELECT	100MF		20%	6.3V
C202	1-124-443-00	ELECT	100MF		20%	6.3V
C209	1-163-038-00	CERAMIC CHIP	0.1MF			25V
C210	1-163-038-00	CERAMIC CHIP	0.1MF			25V
C211	1-124-443-00	ELECT	100MF		20%	6.3V
C212	1-124-443-00	ELECT	100MF		20%	6.3V

Ref.No	Part No.	Description			Remark
C213	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C214	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C215	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C216	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C217	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C218	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C219	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C220	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C221	1-124-443-00	ELECT	100MF	20%	6.3V
C222	1-124-443-00	ELECT	100MF	20%	6.3V
C223	1-126-233-11	ELECT	22MF	20%	25V
C224	1-124-443-00	ELECT	100MF	20%	6.3V
C225	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C226	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C227	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C228	1-163-098-00	CERAMIC CHIP	16PF	5%	50V
C229	1-163-098-00	CERAMIC CHIP	16PF	5%	50V
C230	1-124-443-00	ELECT	100MF	20%	6.3V
C231	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C232	1-124-791-11	ELECT	1MF	20%	50V
C233	1-163-089-00	CERAMIC CHIP	6PF	0.25PF	50V
C235	1-126-233-11	ELECT	22MF	20%	25V
C236	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C237	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C238	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C239	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C240	1-123-875-11	ELECT	10MF	20%	50V
C241	1-124-791-11	ELECT	1MF	20%	50V
C242	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C243	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C244	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C245	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C246	1-124-443-00	ELECT	100MF	20%	6.3V
C247	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C248	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C249	1-126-233-11	ELECT	22MF	20%	25V
C250	1-126-233-11	ELECT	22MF	20%	25V
C251	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C252	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C253	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C254	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C255	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C256	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C257	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C258	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C259	1-124-791-11	ELECT	1MF	20%	50V
C260	1-124-443-00	ELECT	100MF	20%	6.3V
C261	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C262	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C263	1-124-791-11	ELECT	1MF	20%	50V
C264	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C265	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C266	1-163-135-00	CERAMIC CHIP	560PF	5%	50V

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

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

Ref.No	Part No.	Description			Remark
C267	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C268	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C269	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C270	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C271	1-126-233-11	ELECT	22MF	20%	25V
C272	1-124-902-00	ELECT	0.47MF	20%	50V
C273	1-124-791-11	ELECT	1MF	20%	50V
C274	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C275	1-124-443-00	ELECT	100MF	20%	6.3V
C278	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C279	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C280	1-123-382-00	ELECT	3.3MF	20%	50V
C281	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C282	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C283	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C284	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V
C285	1-124-791-11	ELECT	1MF	20%	50V
C286	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C287	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C288	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C289	1-124-443-00	ELECT	100MF	20%	6.3V
C290	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C291	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C292	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C293	1-124-925-11	ELECT	2.2MF	20%	50V
C294	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C295	1-123-875-11	ELECT	10MF	20%	50V
C296	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C297	1-124-791-11	ELECT	1MF	20%	50V
C299	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C300	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C301	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C303	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C304	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C305	1-126-233-11	ELECT	22MF	20%	25V
C307	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C308	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C309	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V
C312	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C313	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C314	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C315	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C316	1-124-925-11	ELECT	2.2MF	20%	50V
C317	1-124-443-00	ELECT	100MF	20%	6.3V
C318	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C319	1-124-902-00	ELECT	0.47MF	20%	50V
C320	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C321	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C322	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C323	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C324	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C325	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C326	1-163-038-00	CERAMIC CHIP	0.1MF		25V

Ref.No	Part No.	Description			Remark
C328	1-124-791-11	ELECT	1MF	20%	50V
C329	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C330	1-123-875-11	ELECT	10MF	20%	50V
C331	1-124-791-11	ELECT	1MF	20%	50V
C332	1-124-791-11	ELECT	1MF	20%	50V
C333	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C334	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C335	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C336	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C337	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C338	1-126-233-11	ELECT	22MF	20%	25V
C339	1-126-233-11	ELECT	22MF	20%	25V
C340	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C341	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C342	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C343	1-124-443-00	ELECT	100MF	20%	6.3V
C344	1-124-443-00	ELECT	100MF	20%	6.3V
C345	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C346	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C347	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C348	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C349	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C350	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C351	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C352	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C353	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C354	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C355	1-124-443-00	ELECT	100MF	20%	6.3V
C356	1-124-443-00	ELECT	100MF	20%	6.3V
C357	1-126-233-11	ELECT	22MF	20%	25V
C358	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C359	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C360	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C361	1-126-233-11	ELECT	22MF	20%	25V
C362	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C363	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C364	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C365	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C366	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C367	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C368	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C369	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C370	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C371	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C372	1-123-382-00	ELECT	3.3MF	20%	50V
C373	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C374	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C375	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C376	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V
C377	1-124-791-11	ELECT	1MF	20%	50V
C378	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C379	1-124-443-00	ELECT	100MF	20%	6.3V
C380	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V

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

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Ref.No	Part No.	Description			Remark
C381	1-163-016-00	CERAMIC CHIP	0.0039MF	10% 50V	
C382	1-123-875-11	ELECT	10MF	20% 50V	
C512	1-163-125-00	CERAMIC CHIP	220PF	5% 50V	
C513	1-163-133-00	CERAMIC CHIP	470PF	5% 50V	
C514	1-163-113-00	CERAMIC CHIP	68PF	5% 50V	
C515	1-163-125-00	CERAMIC CHIP	220PF	5% 50V	
C516	1-163-133-00	CERAMIC CHIP	470PF	5% 50V	
C517	1-163-113-00	CERAMIC CHIP	68PF	5% 50V	
C518	1-163-117-00	CERAMIC CHIP	100PF	5% 50V	
C519	1-163-125-00	CERAMIC CHIP	220PF	5% 50V	
C520	1-163-105-00	CERAMIC CHIP	33PF	5% 50V	
C521	1-124-438-00	ELECT	1MF	20% 50V	
C522	1-124-438-00	ELECT	1MF	20% 50V	
C523	1-124-438-00	ELECT	1MF	20% 50V	
C524	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C525	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C526	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C527	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C528	1-126-177-11	ELECT	100MF	20% 6.3V	
C529	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C530	1-126-177-11	ELECT	100MF	20% 6.3V	
C531	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C532	1-126-177-11	ELECT	100MF	20% 6.3V	
C533	1-163-105-00	CERAMIC CHIP	33PF	5% 50V	
C534	1-163-101-00	CERAMIC CHIP	22PF	5% 50V	
C535	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C536	1-163-088-00	CERAMIC CHIP	5PF	0.25PF 50V	
C537	1-163-088-00	CERAMIC CHIP	5PF	0.25PF 50V	
C538	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C539	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C540	1-126-177-11	ELECT	100MF	20% 6.3V	
C541	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C542	1-126-177-11	ELECT	100MF	20% 6.3V	
C543	1-124-438-00	ELECT	1MF	20% 50V	
C544	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C545	1-124-438-00	ELECT	1MF	20% 50V	
C546	1-124-438-00	ELECT	1MF	20% 50V	
C547	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C548	1-126-177-11	ELECT	100MF	20% 6.3V	
C551	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
		FILTER			
CF001	1-567-192-11	OSCILLATOR, CERAMIC (4MHz)			
CF002	1-567-192-11	OSCILLATOR, CERAMIC (4MHz) (AEP MODEL)			
		CONNECTOR			
CN001	1-575-360-11	CONNECTOR, FPC/FFC 5P			
CN001	1-575-391-11	CABLE, FLAT (1.0MM PITCH) 5P			
CN002	1-575-366-11	CONNECTOR, FPC/FFC 9P			
CN004	1-569-239-11	SOCKET, CONNECTOR 20P			
CN005	1-569-239-11	SOCKET, CONNECTOR 20P			
CN006	1-563-605-11	CONNECTOR, FLEXIBLE 28P			
CN007	1-575-363-11	CONNECTOR, FPC/FFC 12P			

Ref.No	Part No.	Description	Remark
CN007	1-575-367-11	CABLE, FLAT (1.0MM PITCH) 12P	
CN008	1-575-365-11	CONNECTOR, FPC/FFC 18P	
CN008	1-575-390-11	CABLE, FLAT (1.0MM PITCH) 18P	
CN009	1-575-365-11	CONNECTOR, FPC/FFC 18P	
CN009	1-575-390-11	CABLE, FLAT (1.0MM PITCH) 18P	
CN010	1-569-264-11	CONNECTOR, FPC (ZIF TYPE) 8P	
CN012	1-506-468-11	PIN, CONNECTOR 3P	
CN201	1-568-099-11	SOCKET, CONNECTOR 18P	
CN202	1-563-597-11	CONNECTOR, FLEXIBLE 20P	
CN202	1-575-456-11	WIRE, FLAT TYPE (20 CORE)	
		TRIMMER	
CV201	1-141-245-00	TRIMMER, CERAMIC	
CV202	1-141-245-00	TRIMMER, CERAMIC	
CV203	1-141-245-00	TRIMMER, CERAMIC	
CV501	1-141-245-00	TRIMMER, CERAMIC	
		DIODE	
D001	8-719-200-27	DIODE E10DS2 (AEP MODEL)	
D001	8-719-202-36	DIODE E10QS03 (UK MODEL)	
D002	8-719-200-27	DIODE E10DS2 (AEP MODEL)	
D002	8-719-202-36	DIODE E10QS03 (UK MODEL)	
D003	8-719-200-27	DIODE E10DS2 (AEP MODEL)	
D003	8-719-200-27	DIODE E10DS2 (UK MODEL)	
D004	8-719-801-41	DIODE 1SS196	
D007	8-719-400-18	DIODE MA152WK	
D201	8-719-104-34	DIODE 1S2836	
D202	8-719-400-18	DIODE MA152WK	
D203	8-719-400-18	DIODE MA152WK	
D204	8-719-400-18	DIODE MA152WK	
D205	8-719-400-18	DIODE MA152WK	
D206	8-719-800-76	DIODE 1SS226	
D207	8-719-800-76	DIODE 1SS226	
D208	8-719-800-76	DIODE 1SS226	
D209	8-719-800-76	DIODE 1SS226	
D210	8-719-800-76	DIODE 1SS226	
D211	8-719-800-76	DIODE 1SS226	
D212	8-719-105-92	DIODE RD5.6MB3	
		FERRITE BEAD INDUCTOR	
FB501	1-410-397-21	FERRITE BEAD INDUCTOR	
		FILTER	
FL201	1-236-054-11	FILTER, LC (LOW PASS)	
FL501	1-236-071-11	ENCAPSULATED COMPONENT	
FL502	1-236-071-11	ENCAPSULATED COMPONENT	
FL503	1-236-129-11	ENCAPSULATED COMPONENT	
FL504	1-236-129-11	ENCAPSULATED COMPONENT	
FL505	1-236-129-11	ENCAPSULATED COMPONENT	
		IC	
IC001	8-759-149-18	IC UPD75116-GF-605-3BE	
IC002	8-759-147-30	IC UPD75004GB-VSX182	

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

Ref.No	Part No.	Description	Remark
IC003	8-759-030-60	IC SDA5642	
IC004	8-759-932-54	IC BU4066BF	
IC005	8-759-990-07	IC TL1596CNS	
IC201	8-759-009-07	IC MC14053BF	
IC202	8-759-009-07	IC MC14053BF	
IC203	8-759-009-07	IC MC14053BF	
IC204	8-759-633-63	IC M50455-137FP	
IC205	8-759-710-29	IC NJM2235M	
IC206	8-759-710-09	IC NJM2233AM	
IC207	8-759-009-07	IC MC14053BF	
IC208	8-759-009-07	IC MC14053BF	
IC209	8-759-603-54	IC M51271FP	
IC210	8-759-631-10	IC M52684AFP	
IC211	8-759-631-10	IC M52684AFP	
IC212	8-759-007-69	IC MC74HC157F	
IC213	8-759-633-XX	IC M51285BFP-V	
IC214	8-759-710-29	IC NJM2235M	
IC215	8-759-710-07	IC NJM2234M	
IC501	8-759-631-06	IC M50541FP	
IC502	8-759-605-15	IC M5M4C500L	
IC503	8-759-633-04	IC M52686AFP	
IC504	8-759-633-96	IC M52682FP	
IC505	8-759-926-72	IC SN74HC02NS	
IC506	8-759-233-64	IC TC74HCU04AF	
IC507	8-759-009-07	IC MC14053BF	
		COIL	
L001	1-407-169-XX	INDUCTOR 100UH	
L002	1-407-169-XX	INDUCTOR 100UH	
L201	1-407-169-XX	INDUCTOR 100UH	
L202	1-408-975-21	INDUCTOR 27UH	
L203	1-408-977-21	INDUCTOR 39UH	
L204	1-407-169-XX	INDUCTOR 100UH	
L205	1-412-143-11	MICRO INDUCTOR (39UH)	
L206	1-408-978-21	INDUCTOR 47UH	
L207	1-407-169-XX	INDUCTOR 100UH	
L209	1-408-970-21	INDUCTOR 10UH	
L210	1-408-970-21	INDUCTOR 10UH	
L211	1-408-970-21	INDUCTOR 10UH	
L212	1-408-970-21	INDUCTOR 10UH	
L213	1-407-169-XX	INDUCTOR 100UH	
L501	1-408-978-21	INDUCTOR 47UH	
L502	1-407-169-XX	INDUCTOR 100UH	
		TRANSISTOR	
Q001	8-729-901-04	TRANSISTOR DTA114EK	
Q002	8-729-901-04	TRANSISTOR DTA114EK	
Q003	8-729-807-87	TRANSISTOR 2SB1295-UL6	
Q004	8-729-901-01	TRANSISTOR DTC144EK	
Q005	8-729-805-25	TRANSISTOR 2SB1121	
Q006	8-729-216-22	TRANSISTOR 2SA1162	
Q007	8-729-216-22	TRANSISTOR 2SA1162	
Q015	8-729-901-00	TRANSISTOR DTC124EK	
Q016	8-729-901-04	TRANSISTOR DTA114EK	
Q017	8-729-901-01	TRANSISTOR DTC144EK	
Q201	8-729-216-22	TRANSISTOR 2SA1162	
Q202	8-729-216-22	TRANSISTOR 2SA1162	
Q203	8-729-216-22	TRANSISTOR 2SA1162	
Q207	8-729-216-22	TRANSISTOR 2SA1162	
Q208	8-729-216-22	TRANSISTOR 2SA1162	
Q209	8-729-216-22	TRANSISTOR 2SA1162	
Q210	8-729-100-66	TRANSISTOR 2SC1623	
Q211	8-729-100-66	TRANSISTOR 2SC1623	
Q212	8-729-100-66	TRANSISTOR 2SC1623	
Q213	8-729-100-66	TRANSISTOR 2SC1623	
Q214	8-729-216-22	TRANSISTOR 2SA1162	
Q215	8-729-216-22	TRANSISTOR 2SA1162	
Q216	8-729-100-66	TRANSISTOR 2SC1623	
Q217	8-729-216-22	TRANSISTOR 2SA1162	
Q218	8-729-100-66	TRANSISTOR 2SC1623	
Q219	8-729-100-66	TRANSISTOR 2SC1623	
Q220	8-729-216-22	TRANSISTOR 2SA1162	
Q221	8-729-216-22	TRANSISTOR 2SA1162	
Q222	8-729-216-22	TRANSISTOR 2SA1162	
Q223	8-729-100-66	TRANSISTOR 2SC1623	
Q224	8-729-100-66	TRANSISTOR 2SC1623	
Q225	8-729-216-22	TRANSISTOR 2SA1162	
Q226	8-729-100-66	TRANSISTOR 2SC1623	
Q227	8-729-100-66	TRANSISTOR 2SC1623	
Q228	8-729-100-66	TRANSISTOR 2SC1623	
Q229	8-729-100-66	TRANSISTOR 2SC1623	
Q230	8-729-100-66	TRANSISTOR 2SC1623	
Q231	8-729-100-66	TRANSISTOR 2SC1623	
Q232	8-729-216-22	TRANSISTOR 2SA1162	
Q233	8-729-216-22	TRANSISTOR 2SA1162	
Q234	8-729-216-22	TRANSISTOR 2SA1162	
Q235	8-729-100-66	TRANSISTOR 2SC1623	
Q236	8-729-100-66	TRANSISTOR 2SC1623	
Q237	8-729-100-66	TRANSISTOR 2SC1623	
Q238	8-729-100-66	TRANSISTOR 2SC1623	
Q239	8-729-100-66	TRANSISTOR 2SC1623	
Q240	8-729-216-22	TRANSISTOR 2SA1162	
Q241	8-729-100-66	TRANSISTOR 2SC1623	
Q242	8-729-100-66	TRANSISTOR 2SC1623	
Q243	8-729-100-66	TRANSISTOR 2SC1623	
Q244	8-729-100-66	TRANSISTOR 2SC1623	
Q245	8-729-100-66	TRANSISTOR 2SC1623	
Q246	8-729-216-22	TRANSISTOR 2SA1162	
Q247	8-729-100-66	TRANSISTOR 2SC1623	
Q248	8-729-100-66	TRANSISTOR 2SC1623	
Q249	8-729-100-66	TRANSISTOR 2SC1623	
Q250	8-729-100-66	TRANSISTOR 2SC1623	
Q251	8-729-216-22	TRANSISTOR 2SA1162	
Q252	8-729-100-66	TRANSISTOR 2SC1623	
Q253	8-729-100-66	TRANSISTOR 2SC1623	
Q254	8-729-100-66	TRANSISTOR 2SC1623	

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

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Ref.No	Part No.	Description	Remark
Q255	8-729-100-66	TRANSISTOR 2SC1623	
Q256	8-729-216-22	TRANSISTOR 2SA1162	
Q257	8-729-100-66	TRANSISTOR 2SC1623	
Q258	8-729-100-66	TRANSISTOR 2SC1623	
Q259	8-729-100-66	TRANSISTOR 2SC1623	
Q260	8-729-100-66	TRANSISTOR 2SC1623	
Q261	8-729-216-22	TRANSISTOR 2SA1162	
Q262	8-729-100-66	TRANSISTOR 2SC1623	
Q263	8-729-100-66	TRANSISTOR 2SC1623	
Q264	8-729-100-66	TRANSISTOR 2SC1623	
Q265	8-729-100-66	TRANSISTOR 2SC1623	
Q266	8-729-216-22	TRANSISTOR 2SA1162	
Q267	8-729-100-66	TRANSISTOR 2SC1623	
Q268	8-729-100-66	TRANSISTOR 2SC1623	
Q269	8-729-100-66	TRANSISTOR 2SC1623	
Q270	8-729-100-66	TRANSISTOR 2SC1623	
Q271	8-729-216-22	TRANSISTOR 2SA1162	
Q272	8-729-216-22	TRANSISTOR 2SA1162	
Q273	8-729-100-66	TRANSISTOR 2SC1623	
Q274	8-729-216-22	TRANSISTOR 2SA1162	
Q275	8-729-100-66	TRANSISTOR 2SC1623	
Q276	8-729-216-22	TRANSISTOR 2SA1162	
Q277	8-729-901-06	TRANSISTOR DTA144EK	
Q278	8-729-216-22	TRANSISTOR 2SA1162	
Q501	8-729-216-22	TRANSISTOR 2SA1162	
Q502	8-729-216-22	TRANSISTOR 2SA1162	
Q503	8-729-216-22	TRANSISTOR 2SA1162	

RESISTOR

R003	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R004	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R005	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R006	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R007	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R008	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R009	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R010	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R011	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R012	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R013	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R014	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R015	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R016	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R017	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R018	1-216-596-11	METAL GLAZE	2.7K	1%	1/10W	
R019	1-216-121-00	METAL GLAZE	1M	5%	1/10W (AEP MODEL)	
R020	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R021	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R022	1-216-162-00	METAL GLAZE	33	5%	1/8W	
R023	1-216-162-00	METAL GLAZE	33	5%	1/8W	
R024	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R025	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R026	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	

Ref.No	Part No.	Description				Remark
R027	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R037	1-216-089-00	METAL GLAZE	47K	5%	1/10W (AEP MODEL)	
R038	1-216-089-00	METAL GLAZE	47K	5%	1/10W (AEP MODEL)	
R039	1-216-097-00	METAL GLAZE	100K	5%	1/10W (AEP MODEL)	
R040	1-216-119-00	METAL GLAZE	820K	5%	1/10W (AEP MODEL)	
R041	1-216-066-00	METAL GLAZE	5.1K	5%	1/10W (AEP MODEL)	
R042	1-216-119-00	METAL GLAZE	820K	5%	1/10W (AEP MODEL)	
R043	1-216-025-00	METAL GLAZE	100	5%	1/10W (AEP MODEL)	
R044	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R045	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R046	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R050	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R052	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R053	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R056	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R058	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R059	1-216-296-00	METAL GLAZE	0	5%	1/8W	
R060	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R061	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R062	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R063	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R064	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R065	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R067	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R068	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R069	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R071	1-216-073-00	METAL GLAZE	10K	5%	1/10W (AEP MODEL)	
R072	1-216-073-00	METAL GLAZE	10K	5%	1/10W (AEP MODEL)	
R074	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R075	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R076	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R201	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R202	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R203	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R204	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R205	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R206	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R207	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R208	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R209	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R211	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R214	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R217	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R219	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R220	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R221	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R222	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R223	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R224	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R225	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R226	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R227	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R228	1-216-073-00	METAL GLAZE	10K	5%	1/10W	

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

Ref.No	Part No.	Description				Remark
R229	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R230	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R231	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R232	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R233	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R234	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R235	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R236	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R237	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R238	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R239	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R240	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R241	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R242	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R243	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R244	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R245	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R247	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R248	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R249	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R250	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R251	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R252	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R253	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R254	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R255	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R256	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R257	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R258	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R259	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R260	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R261	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R262	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R263	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R264	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R265	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R266	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R267	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R268	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R269	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R270	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R271	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R272	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R273	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R274	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R275	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R276	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R277	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R278	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R279	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R280	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R281	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R282	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R283	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R284	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R285	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R286	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R287	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R288	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R291	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R292	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R293	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R294	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R295	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R296	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R297	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R298	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R299	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R300	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R301	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R302	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R303	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R304	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R305	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R306	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R307	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R308	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R309	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R330	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R331	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R332	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R333	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R334	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R335	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R336	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R337	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R338	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R339	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R340	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R341	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R342	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R343	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R344	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R345	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R346	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R347	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R348	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R349	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R350	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R351	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R352	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R353	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R354	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R355	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R356	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R357	1-216-035-00	METAL GLAZE	270	5%	1/10W	

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

DS-35

Ref.No	Part No.	Description				Remark
R358	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R359	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R361	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R362	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R363	1-216-019-00	METAL GLAZE	56	5%	1/10W	
R364	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R365	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R366	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R367	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R369	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R370	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R371	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R372	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R373	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R374	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R375	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R376	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R377	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R378	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R379	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R380	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R381	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R382	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R383	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R384	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R385	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R386	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R387	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R388	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R389	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R390	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R391	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R392	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R393	1-216-048-00	METAL GLAZE	910	5%	1/10W	
R394	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R395	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R396	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R397	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R398	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R399	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R400	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R401	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R402	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R403	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R404	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R405	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R406	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R407	1-216-309-00	METAL GLAZE	5.6	5%	1/10W	
R408	1-216-309-00	METAL GLAZE	5.6	5%	1/10W	
R409	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R410	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R411	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R412	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R413	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R414	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R415	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R416	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R417	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R418	1-216-309-00	METAL GLAZE	5.6	5%	1/10W	
R419	1-216-309-00	METAL GLAZE	5.6	5%	1/10W	
R420	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R421	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R422	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R423	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R424	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R425	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R426	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R427	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R428	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R429	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R430	1-216-309-00	METAL GLAZE	5.6	5%	1/10W	
R431	1-216-309-00	METAL GLAZE	5.6	5%	1/10W	
R432	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R433	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R434	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R435	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R436	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R437	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R438	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R439	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R440	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R441	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R442	1-216-309-00	METAL GLAZE	5.6	5%	1/10W	
R443	1-216-309-00	METAL GLAZE	5.6	5%	1/10W	
R444	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R445	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R446	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R447	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R448	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R449	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R450	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R451	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R452	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R453	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R454	1-216-309-00	METAL GLAZE	5.6	5%	1/10W	
R455	1-216-309-00	METAL GLAZE	5.6	5%	1/10W	
R456	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R457	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R458	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R459	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R460	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R461	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R462	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R463	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R464	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R465	1-216-049-00	METAL GLAZE	1K	5%	1/10W	

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

Ref.No	Part No.	Description				Remark
R466	1-216-309-00	METAL GLAZE	5.6	5%	1/10W	
R467	1-216-309-00	METAL GLAZE	5.6	5%	1/10W	
R468	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R469	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R470	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R471	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R472	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R473	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R474	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R475	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R476	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R477	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R478	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R479	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R480	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R481	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R482	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R483	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R484	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R485	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R486	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R487	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R488	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R489	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R490	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R491	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R492	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R501	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R502	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R503	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R504	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R505	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R506	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R507	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R508	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R509	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R510	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R511	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R512	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R513	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R514	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R515	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R516	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R517	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R518	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R519	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R520	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R521	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R522	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R523	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R524	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R525	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R526	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R527	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R528	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R529	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R530	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R531	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R532	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R533	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R534	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R535	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R537	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R538	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R539	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R540	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R541	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R542	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R543	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R544	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R545	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R546	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R547	1-216-097-00	METAL GLAZE	100K	5%	1/10W	

VARIABLE RESISTOR

RV201	1-228-996-00	RES, ADJ, CARBON 47K
RV202	1-228-996-00	RES, ADJ, CARBON 47K
RV203	1-228-990-00	RES, ADJ, CARBON 1K
RV204	1-228-990-00	RES, ADJ, CARBON 1K
RV205	1-228-993-00	RES, ADJ, CARBON 4.7K
RV206	1-228-990-00	RES, ADJ, CARBON 1K

CRYSTAL

X201	1-577-289-11	VIBRATOR, CRYSTAL (17.7MHz)
X202	1-567-733-11	VIBRATOR, CRYSTAL (17.7MHz)
X203	1-577-165-11	VIBLATOR, CERAMIC (500kHz)
X204	1-567-733-11	VIBRATOR, CRYSTAL (17.7MHz)
X205	1-577-165-11	VIBLATOR, CERAMIC (500kHz)
X206	1-577-165-11	VIBLATOR, CERAMIC (500kHz)
X501	1-577-164-11	VIBLATOR, CERAMIC (30.2MHz)

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*1-633-526-11 IN-24 BOARD
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CONNECTOR

CN501	*1-506-484-11	PIN, CONNECTOR 5P
CN502	1-568-096-11	CONNECTOR (PLUG) 26P
CN503	1-506-483-21	PIN, CONNECTOR 4P
CN504	1-568-094-11	CONNECTOR (PLUG) 22P
CN505	*1-568-098-11	CONNECTOR (PLUG) 30P
CN506	*1-568-098-11	CONNECTOR (PLUG) 30P
CN507	1-568-092-11	CONNECTOR (PLUG) 18P
CN508	1-568-090-11	CONNECTOR (PLUG) 14P
CN509	*1-564-988-11	PIN, CONNECTOR 14P
CN510	*1-566-668-11	PIN, CONNECTOR 20P

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

IN-24 FJ-2 YC-64

Ref.No	Part No.	Description			Remark
CN511	*1-566-668-11	PIN, CONNECTOR 20P			
CN512	*1-566-667-11	PIN, CONNECTOR 18P			
CN513	*1-563-633-11	CONNECTOR, FLEXIBLE 30P			
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	*A-7061-890-A	FJ-2 BOARD, COMPLETE			
		**********			
		CAPACITOR			
C107	1-135-156-21	TANTAL. CHIP 6.8MF	20%	6.3V	
C108	1-135-156-21	TANTAL. CHIP 6.8MF	20%	6.3V	
C109	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C110	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C111	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C112	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C113	1-135-091-00	TANTAL. CHIP 1MF	20%	16V	
C114	1-135-091-00	TANTAL. CHIP 1MF	20%	16V	
C115	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C116	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C117	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	
C120	1-135-091-00	TANTAL. CHIP 1MF	20%	16V	
C121	1-135-091-00	TANTAL. CHIP 1MF	20%	16V	
		DIODE			
D101	8-719-104-34	DIODE 1S2836			
		IC			
IC103	8-759-111-56	IC UPC4572G2			
		JACK			
J101	1-565-735-21	JACK, PIN 3P (LINE IN 2)			
		JUMPER RESISTOR			
JR101	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR102	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR103	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR104	1-216-295-00	METAL GLAZE	0	5%	1/10W
		RESISTOR			
R135	1-216-001-00	METAL GLAZE	10	5%	1/10W
R136	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R137	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R138	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R139	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R140	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R141	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R142	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R143	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R150	1-216-022-00	METAL GLAZE	75	5%	1/10W
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Ref.No	Part No.	Description			Remark
	*A-7061-896-A	YC-64 (B) BOARD, COMPLETE (UK MODEL)			
		**********			
	*A-7061-900-A	YC-64 (A) BOARD, COMPLETE (AEP MODEL)			
		**********			
		CAPACITOR			
C001	1-126-233-11	ELECT	22MF	20% 25V	(AEP MODEL)
C002	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C003	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C004	1-124-443-00	ELECT	100MF	20%	6.3V
C005	1-124-443-00	ELECT	100MF	20%	6.3V
C007	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C008	1-126-233-11	ELECT	22MF	20% 25V	(AEP MODEL)
C009	1-126-233-11	ELECT	22MF	20% 25V	(AEP MODEL)
C010	1-126-233-11	ELECT	22MF	20%	25V
C011	1-126-233-11	ELECT	22MF	20%	25V
C012	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C013	1-124-443-00	ELECT	100MF	20%	6.3V
C014	1-124-443-00	ELECT	100MF	20%	6.3V
C015	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C016	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C017	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
C018	1-164-232-11	CERAMIC CHIP	0.01MF	50V	
C019	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C020	1-164-232-11	CERAMIC CHIP	0.01MF	50V	
C021	1-126-233-11	ELECT	22MF	20%	25V
C022	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C023	1-164-232-11	CERAMIC CHIP	0.01MF	50V	
C024	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C025	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C026	1-124-443-00	ELECT	100MF	20%	6.3V
C027	1-124-443-00	ELECT	100MF	20%	6.3V
C028	1-123-875-11	ELECT	10MF	20%	50V
C029	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C030	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C031	1-126-233-11	ELECT	22MF	20%	25V
C032	1-126-233-11	ELECT	22MF	20%	25V
C033	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C034	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C035	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C036	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C037	1-164-232-11	CERAMIC CHIP	0.01MF	50V	
C038	1-163-101-00	CERAMIC CHIP	22PF	5% 50V	(AEP MODEL)
C039	1-163-115-00	CERAMIC CHIP	82PF	5% 50V	(AEP MODEL)
C040	1-163-115-00	CERAMIC CHIP	82PF	5% 50V	(AEP MODEL)
C043	1-163-124-00	CERAMIC CHIP	200PF	5% 50V	(AEP MODEL)
C044	1-163-093-00	CERAMIC CHIP	10PF	5% 50V	(AEP MODEL)
C045	1-163-115-00	CERAMIC CHIP	82PF	5% 50V	(AEP MODEL)
C046	1-163-103-00	CERAMIC CHIP	27PF	5% 50V	(AEP MODEL)
C047	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C048	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C201	1-163-117-00	CERAMIC CHIP	100PF	5% 50V	(AEP MODEL)

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

Ref.No	Part No.	Description	Remark
C202	1-163-133-00	CERAMIC CHIP 47PF 5% 50V	(AEP MODEL)
C203	1-164-232-11	CERAMIC CHIP 0.01MF 50V	(AEP MODEL)
C204	1-123-875-11	ELECT 10MF 20% 50V	(AEP MODEL)
C205	1-164-232-11	CERAMIC CHIP 0.01MF 50V	(AEP MODEL)
C206	1-164-232-11	CERAMIC CHIP 0.01MF 50V	(AEP MODEL)
C207	1-163-035-00	CERAMIC CHIP 0.047MF 50V	(AEP MODEL)
C208	1-123-875-11	ELECT 10MF 20% 50V	(AEP MODEL)
C209	1-163-118-00	CERAMIC CHIP 110PF 5% 50V	(AEP MODEL)
C210	1-163-103-00	CERAMIC CHIP 27PF 5% 50V	(AEP MODEL)
C212	1-163-118-00	CERAMIC CHIP 110PF 5% 50V	(AEP MODEL)
C213	1-163-103-00	CERAMIC CHIP 27PF 5% 50V	(AEP MODEL)
C214	1-163-038-00	CERAMIC CHIP 0.1MF 25V	(AEP MODEL)
C216	1-124-791-11	ELECT 1MF 20% 50V	(AEP MODEL)
C217	1-163-017-00	CERAMIC CHIP 0.0047MF 10% 50V	(AEP MODEL)
C218	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V	(AEP MODEL)
C219	1-124-927-11	ELECT 4.7MF 20% 50V	(AEP MODEL)
C220	1-123-875-11	ELECT 10MF 20% 50V	(AEP MODEL)
C221	1-123-875-11	ELECT 10MF 20% 50V	(AEP MODEL)
C222	1-164-232-11	CERAMIC CHIP 0.01MF 50V	(AEP MODEL)
C223	1-123-875-11	ELECT 10MF 20% 50V	(AEP MODEL)
C224	1-163-035-00	CERAMIC CHIP 0.047MF 50V	(AEP MODEL)
C225	1-163-123-00	CERAMIC CHIP 180PF 5% 50V	(AEP MODEL)
C226	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	(AEP MODEL)
C228	1-163-123-00	CERAMIC CHIP 180PF 5% 50V	(AEP MODEL)
C229	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	(AEP MODEL)
C231	1-124-791-11	ELECT 1MF 20% 50V	(AEP MODEL)
C232	1-124-791-11	ELECT 1MF 20% 50V	(AEP MODEL)
C233	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	(AEP MODEL)
C234	1-163-141-00	CERAMIC CHIP 0.001MF 5% 50V	(AEP MODEL)
C235	1-164-232-11	CERAMIC CHIP 0.01MF 50V	(AEP MODEL)
C236	1-123-875-11	ELECT 10MF 20% 50V	(AEP MODEL)
C237	1-126-233-11	ELECT 22MF 20% 25V	(AEP MODEL)
C238	1-123-875-11	ELECT 10MF 20% 50V	(AEP MODEL)
C239	1-164-232-11	CERAMIC CHIP 0.01MF 50V	(AEP MODEL)
C241	1-126-233-11	ELECT 22MF 20% 25V	(AEP MODEL)
C242	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	(AEP MODEL)
C243	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	(AEP MODEL)
C301	1-126-233-11	ELECT 22MF 20% 25V	
C302	1-163-103-00	CERAMIC CHIP 27PF 5% 50V	
C303	1-164-232-11	CERAMIC CHIP 0.01MF 50V	
C304	1-126-233-11	ELECT 22MF 20% 25V	
C305	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C306	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C307	1-124-443-00	ELECT 100MF 20% 6.3V	
C308	1-124-443-00	ELECT 100MF 20% 6.3V	
C309	1-126-233-11	ELECT 22MF 20% 25V	
C310	1-164-232-11	CERAMIC CHIP 0.01MF 50V	

CONNECTOR

CN001	1-506-469-11	PIN, CONNECTOR 4P
CN002	1-506-469-11	PIN, CONNECTOR 4P
CN003	1-568-078-11	CONNECTOR (RECEPTALE) 18P
CN004	1-568-076-11	CONNECTOR (RECEPTALE) 14P

Ref.No	Part No.	Description	Remark

DIODE

D002	8-719-400-18	DIODE MA152WK
D003	8-719-104-34	DIODE 1S2836
D004	8-719-400-18	DIODE MA152WK

DELAY LINE

DL201	1-415-313-00	DELAY LINE (1H) (AEP MODEL)

FILTER

FL001	1-409-470-11	FILTER, TRAP
FL002	1-415-719-11	DELAY LINE

IC

IC001	8-759-009-06	IC MC14052BF
IC002	8-759-009-07	IC MC14053BF
IC003	8-759-009-07	IC MC14053BF
IC004	8-759-009-07	IC MC14053BF
IC201	8-752-035-00	IC CXA1227Q (AEP MODEL)
IC202	8-752-034-04	IC CXA1219M (AEP MODEL)

COIL

L001	1-408-420-00	INDUCTOR	82UH
L002	1-408-407-00	INDUCTOR	6.8UH
L004	1-408-417-00	INDUCTOR	47UH
L005	1-408-418-00	INDUCTOR	56UH (AEP MODEL)
L006	1-408-421-00	INDUCTOR	100UH (AEP MODEL)
L007	1-408-418-00	INDUCTOR	56UH (AEP MODEL)
L008	1-408-419-00	INDUCTOR	68UH (AEP MODEL)
L009	1-408-418-00	INDUCTOR	56UH (AEP MODEL)
L201	1-408-408-00	INDUCTOR	8.2UH (AEP MODEL)
L202	1-408-408-00	INDUCTOR	8.2UH (AEP MODEL)
L203	1-408-410-00	INDUCTOR	12UH (AEP MODEL)
L204	1-408-410-00	INDUCTOR	12UH (AEP MODEL)
L205	1-408-409-00	INDUCTOR	10UH (AEP MODEL)
L206	1-408-409-00	INDUCTOR	10UH (AEP MODEL)
L207	1-408-421-00	INDUCTOR	100UH (AEP MODEL)
L208	1-408-413-00	INDUCTOR	22UH (AEP MODEL)
L209	1-408-413-00	INDUCTOR	22UH (AEP MODEL)
L301	1-408-417-00	INDUCTOR	47UH

VARIABLE COIL

LV201	1-408-530-00	COIL, VARIABLE (AEP MODEL)
LV202	1-408-532-00	COIL, VARIABLE (AEP MODEL)
LV203	1-408-532-00	COIL, VARIABLE (AEP MODEL)

TRANSISTOR

Q001	8-729-216-22	TRANSISTOR 2SA1162
Q002	8-729-216-22	TRANSISTOR 2SA1162
Q003	8-729-100-66	TRANSISTOR 2SC1623
Q004	8-729-100-66	TRANSISTOR 2SC1623
Q005	8-729-100-66	TRANSISTOR 2SC1623

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

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Ref.No	Part No.	Description	Remark
Q006	8-729-100-66	TRANSISTOR 2SC1623	
Q007	8-729-100-66	TRANSISTOR 2SC1623	
Q008	8-729-100-66	TRANSISTOR 2SC1623	
Q009	8-729-100-66	TRANSISTOR 2SC1623 (AEP MODEL)	
Q010	8-729-100-66	TRANSISTOR 2SC1623 (AEP MODEL)	
Q011	8-729-100-66	TRANSISTOR 2SC1623 (AEP MODEL)	
Q012	8-729-100-66	TRANSISTOR 2SC1623	
Q013	8-729-100-66	TRANSISTOR 2SC1623	
Q014	8-729-100-66	TRANSISTOR 2SC1623	
Q015	8-729-100-66	TRANSISTOR 2SC1623	
Q016	8-729-100-66	TRANSISTOR 2SC1623	
Q017	8-729-100-66	TRANSISTOR 2SC1623	
Q018	8-729-100-66	TRANSISTOR 2SC1623	
Q019	8-729-100-66	TRANSISTOR 2SC1623	
Q020	8-729-100-62	TRANSISTOR 2SC1623 (AEP MODEL)	
Q021	8-729-901-01	TRANSISTOR DTC144EK (AEP MODEL)	
Q022	8-729-901-01	TRANSISTOR DTC144EK	
Q023	8-729-216-22	TRANSISTOR 2SA1162 (AEP MODEL)	
Q024	8-729-100-66	TRANSISTOR 2SC1623	
Q025	8-729-100-66	TRANSISTOR 2SC1623	
Q026	8-729-100-66	TRANSISTOR 2SC1623	
Q027	8-729-100-66	TRANSISTOR 2SC1623	
Q028	8-729-100-66	TRANSISTOR 2SC1623	
Q029	8-729-100-66	TRANSISTOR 2SC1623	
Q030	8-729-100-66	TRANSISTOR 2SC1623	
Q031	8-729-100-66	TRANSISTOR 2SC1623 (AEP MODEL)	
Q032	8-729-100-66	TRANSISTOR 2SC1623 (AEP MODEL)	
Q201	8-729-100-66	TRANSISTOR 2SC1623 (AEP MODEL)	
Q202	8-729-100-66	TRANSISTOR 2SC1623 (AEP MODEL)	
Q203	8-729-100-66	TRANSISTOR 2SC1623 (AEP MODEL)	
Q301	8-729-100-66	TRANSISTOR 2SC1623	
Q302	8-729-100-66	TRANSISTOR 2SC1623	
Q303	8-729-100-66	TRANSISTOR 2SC1623	
Q304	8-729-100-66	TRANSISTOR 2SC1623	

RESISTOR

Ref.No	Part No.	Description				Remark
R001	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R002	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R003	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R004	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R005	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R006	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R007	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R009	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R010	1-216-042-00	METAL GLAZE	510	5%	1/10W	
R011	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R012	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R013	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R014	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R015	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R016	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R018	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R019	1-216-042-00	METAL GLAZE	510	5%	1/10W	
R020	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R021	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R022	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R023	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(AEP MODEL)
R024	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(AEP MODEL)
R025	1-216-073-00	METAL GLAZE	10K	5%	1/10W	(AEP MODEL)
R026	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(AEP MODEL)
R027	1-216-041-00	METAL GLAZE	470	5%	1/10W	(AEP MODEL)
R028	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	(AEP MODEL)
R029	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	(AEP MODEL)
R030	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(AEP MODEL)
R040	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R041	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R042	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(AEP MODEL)
R043	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	(AEP MODEL)
R044	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(AEP MODEL)
R045	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R046	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R047	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R048	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R049	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R050	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R051	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R052	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R053	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R054	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R055	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R056	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R057	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R058	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R059	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R060	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R061	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R062	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R063	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R064	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R065	1-216-081-00	METAL GLAZE	22K	5%	1/10W	(AEP MODEL)
R066	1-216-089-00	METAL GLAZE	47K	5%	1/10W	(AEP MODEL)
R067	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	(AEP MODEL)
R068	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R069	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R070	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R071	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R072	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R073	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R074	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R075	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R076	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R077	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R078	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R079	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R080	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R081	1-216-049-00	METAL GLAZE	1K	5%	1/10W	

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

Ref.No	Part No.	Description				Remark
R082	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R083	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R084	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R085	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R086	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R087	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R088	1-216-081-00	METAL GLAZE	22K	5%	1/10W	(AEP MODEL)
R089	1-216-045-00	METAL GLAZE	680	5%	1/10W	(AEP MODEL)
R090	1-216-045-00	METAL GLAZE	680	5%	1/10W	(AEP MODEL)
R091	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(AEP MODEL)
R092	1-216-045-00	METAL GLAZE	680	5%	1/10W	(AEP MODEL)
R093	1-216-045-00	METAL GLAZE	680	5%	1/10W	(AEP MODEL)
R094	1-216-047-00	METAL GLAZE	820	5%	1/10W	(AEP MODEL)
R095	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R096	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R097	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R098	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R099	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R100	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R201	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	(AEP MODEL)
R202	1-216-073-00	METAL GLAZE	10K	5%	1/10W	(AEP MODEL)
R203	1-216-039-00	METAL GLAZE	390	5%	1/10W	(AEP MODEL)
R204	1-216-039-00	METAL GLAZE	390	5%	1/10W	(AEP MODEL)
R206	1-216-039-00	METAL GLAZE	390	5%	1/10W	(AEP MODEL)
R207	1-216-039-00	METAL GLAZE	390	5%	1/10W	(AEP MODEL)
R208	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	(AEP MODEL)
R209	1-216-097-00	METAL GLAZE	100K	5%	1/10W	(AEP MODEL)
R210	1-216-121-00	METAL GLAZE	1M	5%	1/10W	(AEP MODEL)
R211	1-216-079-00	METAL GLAZE	18K	5%	1/10W	(AEP MODEL)
R212	1-216-128-11	METAL GLAZE	2M	5%	1/10W	(AEP MODEL)
R213	1-216-077-00	METAL GLAZE	15K	5%	1/10W	(AEP MODEL)
R214	1-216-060-00	METAL GLAZE	3K	5%	1/10W	(AEP MODEL)
R215	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	(AEP MODEL)
R216	1-216-060-00	METAL GLAZE	3K	5%	1/10W	(AEP MODEL)
R217	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	(AEP MODEL)
R218	1-216-077-00	METAL GLAZE	15K	5%	1/10W	(AEP MODEL)
R219	1-216-295-00	METAL GLAZE	0	5%	1/10W	(AEP MODEL)
R220	1-216-295-00	METAL GLAZE	0	5%	1/10W	(AEP MODEL)
R221	1-216-685-11	METAL CHIP	27K	0.5%	1/10W	(AEP MODEL)
R222	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(AEP MODEL)
R223	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(AEP MODEL)
R225	1-216-073-00	METAL GLAZE	10K	5%	1/10W	(AEP MODEL)
R226	1-216-081-00	METAL GLAZE	22K	5%	1/10W	(AEP MODEL)
R301	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R302	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R303	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R304	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R305	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R306	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R307	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R308	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R309	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R310	1-216-045-00	METAL GLAZE	680	5%	1/10W	

Ref.No	Part No.	Description				Remark
R311	1-216-049-00	METAL GLAZE	1K	5%	1/10W	

VARIABLE RESISTOR

RV201	1-228-996-00	RES, ADJ, CARBON 47K	(AEP MODEL)
RV202	1-228-994-00	RES, ADJ, CARBON 10K	(AEP MODEL)
RV203	1-228-994-00	RES, ADJ, CARBON 10K	(AEP MODEL)

CRYSTAL

X201	1-577-117-21	VIBRATOR, CRYSTAL (4.43MHz)	(AEP MODEL)

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*A-7061-940-A PC-39 (A) BOARD, COMPLETE
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CAPACITOR

C150	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C152	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C401	1-126-233-11	ELECT	22MF	20%	25V
C402	1-126-233-11	ELECT	22MF	20%	25V
C403	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C404	1-163-036-00	CERAMIC CHIP	0.047MF		50V
C407	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C408	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C409	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C410	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C411	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C412	1-124-446-11	ELECT	47MF	20%	10V
C413	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C414	1-124-443-00	ELECT	100MF	20%	6.3V
C420	1-126-233-11	ELECT	22MF	20%	25V
C421	1-126-233-11	ELECT	22MF	20%	25V
C501	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C502	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C503	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C504	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C505	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C506	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C507	1-124-239-00	ELECT	6.8MF	20%	25V
C508	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C510	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C516	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C517	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C518	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C519	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C521	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C522	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C523	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C524	1-163-010-11	CERAMIC CHIP	0.0012MF	10%	50V
C525	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
C526	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
C527	1-163-010-11	CERAMIC CHIP	0.0012MF	10%	50V
C528	1-163-035-00	CERAMIC CHIP	0.047MF		50V

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

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Ref.No	Part No.	Description			Remark
C529	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C530	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C531	1-124-927-11	ELECT	4.7MF	20%	50V
C535	1-123-875-11	ELECT	10MF	20%	50V
C536	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C537	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C538	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C539	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C540	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C542	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C556	1-124-927-11	ELECT	4.7MF	20%	50V
C557	1-161-051-00	CERAMIC	0.01MF	10%	25V
C558	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C601	1-126-176-11	ELECT	220MF	20%	6.3V
C602	1-126-176-11	ELECT	220MF	20%	6.3V
C603	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C604	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C611	1-124-791-11	ELECT	1MF	20%	50V
C612	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C613	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C614	1-124-791-11	ELECT	1MF	20%	50V
C615	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C616	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C617	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C618	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C619	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C620	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C621	1-126-176-11	ELECT	220MF	20%	6.3V
C623	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C624	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C625	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C626	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C627	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C628	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C629	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C630	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C631	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C632	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C633	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C634	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C635	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C636	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C638	1-163-010-11	CERAMIC CHIP	0.0012MF	10%	50V
C640	1-163-010-11	CERAMIC CHIP	0.0012MF	10%	50V
C641	1-124-443-00	ELECT	100MF	20%	6.3V
C642	1-123-875-11	ELECT	10MF	20%	50V
C643	1-124-443-00	ELECT	100MF	20%	6.3V
C644	1-162-587-11	CERAMIC CHIP	0.039MF	10%	25V
C645	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C646	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V
C647	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C648	1-124-446-11	ELECT	47MF	20%	10V
C649	1-124-925-11	ELECT	2.2MF	20%	50V

Ref.No	Part No.	Description			Remark
C650	1-163-020-00	CERAMIC CHIP	0.0082MF	10%	50V
C651	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C652	1-131-389-91	TANTALUM	10MF	10%	3.15V
C653	1-131-343-00	TANTALUM	0.22MF	10%	35V
C654	1-124-443-00	ELECT	100MF	20%	6.3V
C655	1-126-233-11	ELECT	22MF	20%	25V
C656	1-124-443-00	ELECT	100MF	20%	6.3V
C657	1-123-875-11	ELECT	10MF	20%	50V
C658	1-124-443-00	ELECT	100MF	20%	6.3V
C659	1-162-587-11	CERAMIC CHIP	0.039MF	10%	25V
C660	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C661	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V
C662	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C663	1-124-446-11	ELECT	47MF	20%	10V
C664	1-124-925-11	ELECT	2.2MF	20%	50V
C665	1-163-020-00	CERAMIC CHIP	0.0082MF	10%	50V
C666	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C667	1-131-389-91	TANTALUM	10MF	10%	3.15V
C668	1-131-343-00	TANTALUM	0.22MF	10%	35V
C669	1-124-443-00	ELECT	100MF	20%	6.3V
C670	1-126-233-11	ELECT	22MF	20%	25V
C671	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C672	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C673	1-123-875-11	ELECT	10MF	20%	50V
C674	1-123-875-11	ELECT	10MF	20%	50V
C703	1-123-875-11	ELECT	10MF	20%	50V
C704	1-126-157-11	ELECT	10MF	20%	16V
C705	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C706	1-124-443-00	ELECT	100MF	20%	6.3V
C707	1-124-443-00	ELECT	100MF	20%	6.3V
C708	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C710	1-124-443-00	ELECT	100MF	20%	6.3V
C712	1-126-157-11	ELECT	10MF	20%	16V
C713	1-126-157-11	ELECT	10MF	20%	16V
C714	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C715	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C716	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C717	1-124-443-00	ELECT	100MF	20%	6.3V
C731	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C734	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C735	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C736	1-124-443-00	ELECT	100MF	20%	6.3V
C737	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C739	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C740	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C741	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C742	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C743	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C744	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C745	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C746	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C747	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C748	1-163-035-00	CERAMIC CHIP	0.047MF		50V

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Ref.No	Part No.	Description			Remark
C749	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C750	1-126-177-11	ELECT	100MF	20%	6.3V
C752	1-126-157-11	ELECT	10MF	20%	16V
C755	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C756	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C757	1-124-499-11	ELECT	1MF	20%	50V
C758	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C759	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C760	1-163-091-00	CERAMIC CHIP	8PF	0.25PF	50V
C761	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C762	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C763	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C764	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C765	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C766	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C767	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C768	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C769	1-124-443-00	ELECT	100MF	20%	6.3V
C771	1-124-446-11	ELECT	47MF	20%	10V
C772	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C773	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C775	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C801	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C802	1-124-443-00	ELECT	100MF	20%	6.3V
C803	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C804	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C805	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C806	1-124-791-11	ELECT	1MF	20%	50V
C807	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C808	1-124-902-71	ELECT	0.47MF	20%	50V
C809	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C810	1-163-016-00	CERAMIC CHIP	0.0039MF	10%	50V
C811	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C812	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C813	1-124-443-00	ELECT	100MF	20%	6.3V
C814	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C815	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C816	1-124-925-11	ELECT	2.2MF	20%	50V
C817	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V
C819	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C821	1-124-791-11	ELECT	1MF	20%	50V
C822	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V
C823	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C824	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C825	1-162-587-11	CERAMIC CHIP	0.039MF	10%	25V
C826	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C827	1-163-020-00	CERAMIC CHIP	0.0082MF	10%	50V
C828	1-131-343-00	TANTALUM	0.22MF	10%	35V
C829	1-131-389-91	TANTALUM	10MF	10%	3.15V
C830	1-123-875-11	ELECT	10MF	20%	50V
C831	1-126-233-11	ELECT	22MF	20%	25V
C832	1-124-443-00	ELECT	100MF	20%	6.3V
C833	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C834	1-124-443-00	ELECT	100MF	20%	6.3V
C836	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
C837	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C838	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C840	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C841	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C850	1-123-875-11	ELECT	10MF	20%	50V
C851	1-123-875-11	ELECT	10MF	20%	50V
C852	1-123-875-11	ELECT	10MF	20%	50V
C854	1-123-875-11	ELECT	10MF	20%	50V
C855	1-123-875-11	ELECT	10MF	20%	50V
C856	1-123-875-11	ELECT	10MF	20%	50V
C857	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C858	1-124-927-11	ELECT	4.7MF	20%	50V
C859	1-124-446-11	ELECT	47MF	20%	10V
C860	1-123-875-11	ELECT	10MF	20%	50V
C861	1-123-875-11	ELECT	10MF	20%	50V
C862	1-124-446-11	ELECT	47MF	20%	10V
C865	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C866	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C867	1-163-016-00	CERAMIC CHIP	0.0039MF	10%	50V
C868	1-163-016-00	CERAMIC CHIP	0.0039MF	10%	50V
C869	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C870	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C871	1-123-875-11	ELECT	10MF	20%	50V
C880	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C901	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C902	1-124-443-00	ELECT	100MF	20%	6.3V
C903	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C904	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C905	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C906	1-124-791-11	ELECT	1MF	20%	50V
C907	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C908	1-124-902-00	ELECT	0.47MF	20%	50V
C909	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C910	1-163-016-00	CERAMIC CHIP	0.0039MF	10%	50V
C911	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C912	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C913	1-124-443-00	ELECT	100MF	20%	6.3V
C914	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C915	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C916	1-124-925-11	ELECT	2.2MF	20%	50V
C917	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V
C919	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C921	1-124-791-11	ELECT	1MF	20%	50V
C922	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V
C923	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C924	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C925	1-162-587-11	CERAMIC CHIP	0.039MF	10%	25V
C926	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C927	1-163-020-00	CERAMIC CHIP	0.0082MF	10%	50V
C928	1-131-343-00	TANTALUM	0.22MF	10%	35V
C929	1-131-389-91	TANTALUM	10MF	10%	3.15V

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Ref.No	Part No.	Description			Remark
C930	1-123-875-11	ELECT	10MF	20% 50V	
C931	1-126-233-11	ELECT	22MF	20% 25V	
C932	1-124-443-00	ELECT	100MF	20% 6.3V	
C933	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
C934	1-124-443-00	ELECT	100MF	20% 6.3V	
C936	1-163-123-00	CERAMIC CHIP	180PF	5% 50V	
C937	1-164-161-11	CERAMIC CHIP	0.0022MF	10% 50V	
C938	1-163-011-11	CERAMIC CHIP	0.0015MF	10% 50V	
C940	1-164-232-11	CERAMIC CHIP	0.01MF	50V	
C941	1-164-232-11	CERAMIC CHIP	0.01MF	50V	
C951	1-163-109-00	CERAMIC CHIP	47PF	5% 50V	
C952	1-163-109-00	CERAMIC CHIP	47PF	5% 50V	
C953	1-163-109-00	CERAMIC CHIP	47PF	5% 50V	
C954	1-163-109-00	CERAMIC CHIP	47PF	5% 50V	
C955	1-163-109-00	CERAMIC CHIP	47PF	5% 50V	
C956	1-163-109-00	CERAMIC CHIP	47PF	5% 50V	
C957	1-123-875-11	ELECT	10MF	20% 50V	
		CONNECTOR			
CN601	1-568-084-11	CONNECTOR (RECEPTALE) 30P			
CN602	1-568-084-11	CONNECTOR (RECEPTALE) 30P			
CN603	1-506-477-11	PIN, CONNECTOR 12P			
CN604	1-506-470-11	PIN, CONNECTOR 5P			
CN605	1-506-471-11	PIN, CONNECTOR 6P			
CN606	1-506-468-11	PIN, CONNECTOR 3P			
CN701	1-506-468-11	PIN, CONNECTOR 3P			
		TRIMMER			
CV701	1-141-227-00	CAP, CERAMIC TRIMMER			
		DIODE			
D401	8-719-400-18	DIODE MA152WK			
D501	8-719-104-34	DIODE 1S2836			
D502	8-719-400-18	DIODE MA152WK			
D503	8-719-800-76	DIODE 1SS226			
D610	8-719-104-34	DIODE 1S2836			
D701	8-719-400-18	DIODE MA152WK			
D702	8-719-400-18	DIODE MA152WK			
D703	8-713-300-88	DIODE 1T33C-01			
D850	8-719-104-34	DIODE 1S2836			
D851	8-719-800-76	DIODE 1SS226			
D852	8-719-800-76	DIODE 1SS226			
		FILTER			
FL601	1-235-565-21	FILTER, LOW PASS			
FL602	1-235-565-21	FILTER, LOW PASS			
FL801	1-236-551-11	BPF			
FL901	1-236-550-11	BPF			
		IC			
IC401	8-752-334-42	IC CXD2106Q			
IC501	8-759-100-93	IC UPC393G2			

Ref.No	Part No.	Description	Remark
IC602	8-759-111-56	IC UPC4572G2	
IC603	8-759-009-07	IC MC14053BF	
IC604	8-759-111-56	IC UPC4572G2	
IC605	8-759-009-06	IC MC14052BF	
IC606	8-759-111-56	IC UPC4572G2	
IC607	8-759-111-56	IC UPC4572G2	
IC608	8-759-009-07	IC MC14053BF	
IC609	8-759-009-07	IC MC14053BF	
IC610	8-759-009-06	IC MC14052BF	
IC611	8-759-009-06	IC MC14052BF	
IC612	8-759-009-07	IC MC14053BF	
IC613	8-759-111-56	IC UPC4572G2	
IC614	8-752-009-90	IC CX20099	
IC615	8-759-009-06	IC MC14052BF	
IC701	8-752-322-57	IC CXD1077M	
IC703	8-752-332-46	IC CXD1208Q	
IC704	8-759-009-51	IC MC14538BF	
IC705	8-759-945-09	IC MB8464-12LLPF	
IC705	8-759-979-96	IC MB8464A-15LLPF	
IC707	8-759-990-94	IC MB606199	
IC708	8-752-010-20	IC CX20102	
IC709	8-759-908-15	IC TL431CLP	
IC801	8-752-033-01	IC CXA1237AR	
IC850	8-759-111-56	IC UPC4572G2	
IC901	8-752-033-01	IC CXA1237AR	
IC902	8-759-009-06	IC MC14052BF	
IC903	8-759-009-06	IC MC14052BF	
IC904	8-759-111-56	IC UPC4572G2	
IC905	8-759-111-56	IC UPC4572G2	
IC906	8-759-111-56	IC UPC4572G2	
		COIL	
L401	1-407-169-XX	INDUCTOR 100UH	
L501	1-408-978-21	INDUCTOR 47UH	
L702	1-408-970-21	INDUCTOR 10UH	
L704	1-407-169-XX	INDUCTOR 100UH	
L705	1-407-169-XX	INDUCTOR 100UH	
L706	1-408-970-21	INDUCTOR 10UH	
L707	1-408-970-21	INDUCTOR 10UH	
L801	1-407-169-XX	INDUCTOR 100UH	
L802	1-408-948-00	INDUCTOR 220UH	
L901	1-407-169-XX	INDUCTOR 100UH	
L902	1-408-948-00	INDUCTOR 220UH	
		TRANSISTOR	
Q501	8-729-100-66	TRANSISTOR 2SC1623	
Q502	8-729-901-01	TRANSISTOR DTC144EK	
Q503	8-729-100-66	TRANSISTOR 2SC1623	
Q504	8-729-902-XX	TRANSISTOR DTC114TK	
Q505	8-729-901-01	TRANSISTOR DTC144EK	
Q506	8-729-216-22	TRANSISTOR 2SA1162	
Q508	8-729-100-66	TRANSISTOR 2SC1623	
Q509	8-729-903-10	TRANSISTOR FMW1	

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

Ref.No	Part No.	Description	Remark
Q510	8-729-100-66	TRANSISTOR 2SC1623 (AEP MODEL)	
Q511	8-729-100-66	TRANSISTOR 2SC1623	
Q512	8-729-100-66	TRANSISTOR 2SC1623	
Q513	8-729-100-66	TRANSISTOR 2SC1623 (AEP MODEL)	
Q514	8-729-216-22	TRANSISTOR 2SA1162	
Q515	8-729-100-66	TRANSISTOR 2SC1623	
Q516	8-729-100-66	TRANSISTOR 2SC1623	
Q517	8-729-100-66	TRANSISTOR 2SC1623	
Q518	8-729-901-06	TRANSISTOR DTA144EK	
Q520	8-729-901-01	TRANSISTOR DTC144EK	
Q521	8-729-901-06	TRANSISTOR DTA144EK	
Q522	8-729-901-01	TRANSISTOR DTC144EK	
Q523	8-729-901-01	TRANSISTOR DTC144EK	
Q524	8-729-100-66	TRANSISTOR 2SC1623	
Q526	8-729-100-66	TRANSISTOR 2SC1623	
Q601	8-729-901-06	TRANSISTOR DTA144EK	
Q602	8-729-116-05	TRANSISTOR 2SK160-K5	
Q603	8-729-116-05	TRANSISTOR 2SK160-K5	
Q604	8-729-901-01	TRANSISTOR DTC144EK	
Q605	8-729-901-01	TRANSISTOR DTC144EK	
Q606	8-729-216-22	TRANSISTOR 2SA1162	
Q607	8-729-216-22	TRANSISTOR 2SA1162	
Q610	8-729-901-01	TRANSISTOR DTC144EK	
Q611	8-729-100-66	TRANSISTOR 2SC1623	
Q701	8-729-901-06	TRANSISTOR DTA144EK	
Q702	8-729-901-01	TRANSISTOR DTC144EK	
Q703	8-729-100-66	TRANSISTOR 2SC1623	
Q705	8-729-100-66	TRANSISTOR 2SC1623	
Q706	8-729-100-66	TRANSISTOR 2SC1623	
Q707	8-729-100-66	TRANSISTOR 2SC1623	
Q708	8-729-901-06	TRANSISTOR DTA144EK	
Q709	8-729-100-66	TRANSISTOR 2SC1623	
Q720	8-729-901-01	TRANSISTOR DTC144EK	
Q721	8-729-901-01	TRANSISTOR DTC144EK	
Q801	8-729-901-01	TRANSISTOR DTC144EK	
Q802	8-729-901-01	TRANSISTOR DTC144EK	
Q840	8-729-100-66	TRANSISTOR 2SC1623	
Q851	8-729-902-96	TRANSISTOR FMS1	
Q852	8-729-904-04	TRANSISTOR FMS2	
Q853	8-729-100-66	TRANSISTOR 2SC1623	
Q854	8-729-100-66	TRANSISTOR 2SC1623	
Q855	8-729-100-66	TRANSISTOR 2SC1623	
Q856	8-729-100-66	TRANSISTOR 2SC1623	
Q901	8-729-901-01	TRANSISTOR DTC144EK	
Q902	8-729-901-01	TRANSISTOR DTC144EK	
Q940	8-729-100-66	TRANSISTOR 2SC1623	

RESISTOR

Ref.No	Part No.	Description				Remark
R150	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R151	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R152	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R153	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R154	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R155	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R401	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R402	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R403	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R404	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R405	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R406	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R407	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R408	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R409	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R412	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R413	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R501	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R502	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R503	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R504	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R505	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R506	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R507	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R508	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R509	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R510	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R511	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R512	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R513	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R514	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R515	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R516	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R517	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R519	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R520	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R521	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R522	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R523	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R524	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R526	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R527	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R529	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R530	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R531	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R532	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R533	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R534	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R535	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R536	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R537	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R538	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R539	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R540	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R542	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R543	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R544	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R545	1-216-089-00	METAL GLAZE	47K	5%	1/10W	

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

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Ref.No	Part No.	Description				Remark
R546	1-216-062-00	METAL GLAZE	3.6K	5%	1/10W	
R547	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R548	1-216-062-00	METAL GLAZE	3.6K	5%	1/10W	
R549	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R550	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R551	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R553	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R555	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R571	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R580	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R581	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R582	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R583	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R584	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R585	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R586	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R587	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R588	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R607	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R608	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R609	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R610	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R611	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R612	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R613	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R614	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R616	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R617	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R618	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R619	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R621	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R622	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R623	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R624	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R625	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R626	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R627	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R628	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R629	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R630	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R631	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R632	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R633	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R634	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R635	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R636	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R637	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R638	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R639	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R640	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R641	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R642	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R643	1-216-025-00	METAL GLAZE	100	5%	1/10W	

Ref.No	Part No.	Description				Remark
R644	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R645	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R646	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R647	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R648	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R649	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R650	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R651	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R653	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R654	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R655	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R659	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R660	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R661	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R662	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R663	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R664	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R665	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R666	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R667	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R668	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R669	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R670	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R671	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R672	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R673	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R674	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R675	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R676	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R677	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R678	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R679	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R680	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R681	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R682	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R683	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R684	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R685	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R686	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R687	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R688	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R689	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R690	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R691	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R693	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R695	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R696	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R697	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R698	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R701	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R702	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R703	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R704	1-216-022-00	METAL GLAZE	75	5%	1/10W	

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

Ref.No	Part No.	Description				Remark
R705	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R706	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R707	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R708	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R712	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R713	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R717	1-216-117-00	METAL GLAZE	680K	5%	1/10W	
R718	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R720	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R721	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R723	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R724	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R726	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R727	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R729	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R732	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R738	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R739	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R740	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R741	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R742	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R743	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R744	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R745	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R746	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R748	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R749	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R750	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R751	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R752	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R753	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R754	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R755	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R756	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R757	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R758	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R759	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R760	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R761	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R762	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R763	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R764	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R768	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R769	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R771	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R772	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R774	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R775	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R776	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R777	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R780	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R781	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R782	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R783	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R784	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R785	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R787	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R788	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R789	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R790	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R791	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R792	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R793	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R794	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R795	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R797	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R798	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R799	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R801	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R802	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R803	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R804	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R805	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R806	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R807	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R808	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R809	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R810	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R811	1-216-107-00	METAL GLAZE	270K	5%	1/10W	
R812	1-216-046-00	METAL GLAZE	750	5%	1/10W	
R813	1-216-046-00	METAL GLAZE	750	5%	1/10W	
R814	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R815	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R816	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R817	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R818	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R819	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R820	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R821	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R822	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R823	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R824	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R827	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R828	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R829	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R830	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R831	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R833	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R840	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R841	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R842	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R850	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R851	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R852	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R853	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R854	1-216-075-00	METAL GLAZE	12K	5%	1/10W	

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

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Ref.No	Part No.	Description				Remark
R855	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R856	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R857	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R858	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R859	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R860	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R861	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R862	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R863	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R864	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R865	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R866	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R867	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R868	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R869	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R870	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R871	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R872	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R873	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R874	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R875	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R876	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R877	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R878	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R879	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R880	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R881	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R885	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R886	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R901	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R902	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R903	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R904	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R905	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R906	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R907	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R908	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R909	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R910	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R911	1-216-107-00	METAL GLAZE	270K	5%	1/10W	
R912	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R913	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R915	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R916	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R917	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R918	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R919	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R920	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R921	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R922	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R923	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R924	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R927	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R928	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R929	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R930	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R931	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R933	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R940	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R941	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R942	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R952	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R953	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R954	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R955	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R956	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R957	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R958	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R959	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R960	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R961	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R962	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R963	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R964	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R965	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R966	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R967	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R968	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R969	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R970	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R971	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R972	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R973	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R984	1-216-097-00	METAL GLAZE	100K	5%	1/10W	

VARIABLE RESISTOR

RV701	1-228-995-00	RES, ADJ, CARBON	22K
RV702	1-228-995-00	RES, ADJ, CARBON	22K
RV703	1-228-999-00	RES, ADJ, CARBON	470K
RV705	1-228-999-00	RES, ADJ, CARBON	470K
RV707	1-228-991-00	RES, ADJ, CARBON	2.2K
RV708	1-228-997-00	RES, ADJ, CARBON	100K
RV709	1-228-994-00	RES, ADJ, CARBON	10K
RV801	1-228-994-00	RES, ADJ, CARBON	10K
RV802	1-228-996-00	RES, ADJ, CARBON	47K
RV901	1-228-994-00	RES, ADJ, CARBON	10K
RV902	1-228-995-00	RES, ADJ, CARBON	22K
RV951	1-228-994-00	RES, ADJ, CARBON	10K
RV952	1-228-995-00	RES, ADJ, CARBON	22K
RV953	1-228-994-00	RES, ADJ, CARBON	10K
RV954	1-228-995-00	RES, ADJ, CARBON	22K

CRYSTAL

X401	1-567-504-11	OSCILLATOR, CRYSTAL (4.43MHz)

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

Ref.No	Part No.	Description	Remark
	*1-633-519-11	UC-4 BOARD **********	
		CONNECTOR	
CN101	1-566-529-11	CONNECTOR, FPC (ZIF) 13P	
CN102	1-566-527-21	CONNECTOR, FPC (ZIF) 11P	
CN103	1-566-530-21	CONNECTOR, FPC (ZIF) 14P	
CN103	1-575-392-11	CABLE, FLAT (1.0MM PITCH) 14P	
		DIODE	
D101	8-719-104-34	DIODE 1S2836	
D102	8-719-104-34	DIODE 1S2836	
D103	8-719-104-34	DIODE 1S2836	
D104	8-719-104-34	DIODE 1S2836	
**********			
	*1-633-518-11	CC-26 BOARD **********	
		CONNECOTR	
CN301	*1-562-880-21	CONNECOTR, CARD EDGE 15P	
		CONNECOTR	
W301	1-575-393-11	CABLE, FLAT (1.0MM PITCH) 15P	
**********			
	1-633-660-11	FP-237 FLEXIBLE BOARD **********	
	3-728-869-02	HOLDER, SENSOR	
		DIODE	
D301	8-719-820-44	PHOTO COUPLER TLP907-0	
		TRANSISTOR	
Q301	8-729-906-48	EE-TP109	
		SWITCH	
S301	1-572-173-11	SWITCH, SLIDE (ENCODER) MODE	
S303	1-570-869-21	SWITCH, PUSH (2 KEY) THICKNESS	
S901	1-571-099-11	SWITCH (CASSETE DOWN)	
**********			
	1-628-061-12	FP-90 FLEXIBLE BOARD **********	
	3-728-837-01	HOLDER, LED	
	3-728-869-02	HOLDER, SENSOR	
		DIODE	
D302	8-719-940-81	DIODE GL452S	
D303	8-719-820-44	PHOTO COUPLER TLP907-0	
		TRANSISTOR	
Q302	8-729-906-48	EE-TP109	
		SWITCH	
S302	1-572-298-21	SWITCH, PUSH(3 KEY)REC PROOF TAPE SELECT	
**********			
	*A-7061-899-A	NM-2 (A) BOARD, COMPLETE (UK MODEL) **********	
		CAPACITOR	
C001	1-163-035-00	CERAMIC CHIP 0.047MF 50V	
C002	1-135-153-21	TANTAL CHIP 2.2MF 10% 25V	
C003	1-163-035-00	CERAMIC CHIP 0.047MF 50V	
C004	1-135-153-21	TANTAL CHIP 2.2MF 10% 25V	
C005	1-135-155-21	TANTAL CHIP 4.7MF 10% 16V	
C006	1-135-155-21	TANTAL CHIP 4.7MF 10% 16V	
C007	1-135-153-21	TANTAL CHIP 2.2MF 10% 25V	
C008	1-135-153-21	TANTAL CHIP 2.2MF 10% 25V	
C011	1-135-153-21	TANTAL CHIP 2.2MF 10% 25V	
C012	1-135-153-21	TANTAL CHIP 2.2MF 10% 25V	
		CONNECTOR	
CN001	1-506-469-11	PIN, CONNECTOR 4P	
CN002	1-506-477-11	PIN, CONNECTOR 12P	
		DIODE	
D001	8-719-800-76	DIODE 1SS126	
D002	8-719-400-18	DIODE MA152WK	
D003	8-719-104-34	DIODE 1S2836	
		IC	
IC001	8-759-009-07	IC MC14053BF	
		JUMPER RESISTOR	
JR001	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR002	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR003	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR004	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR005	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR006	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR007	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR008	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR009	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR010	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR011	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR012	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR013	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR014	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR015	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR016	1-216-296-00	METAL GLAZE 0 5% 1/8W	

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

Ref.No	Part No.	Description				Remark
JR017	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR018	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR019	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR020	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR021	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR022	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR023	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR024	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR025	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR026	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR027	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR028	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR029	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR030	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR031	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR032	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR033	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR034	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR035	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR036	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR037	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR038	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR039	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR040	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR041	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR042	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR043	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR044	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR045	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR046	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR047	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR048	1-216-296-00	METAL GLAZE	0	5%	1/8W	

COIL

L001	1-408-408-00	INDUCTOR	8.2UH
L002	⚠1-408-408-00	INDUCTOR	8.2UH

CASE BLOCK

NM001	*A-6771-194-A	CASE BLOCK ASSY, NA

TRANSISTOR

Q003	8-729-901-01	TRANSISTOR DTC144EK
Q004	8-729-901-01	TRANSISTOR DTC144EK
Q005	8-729-901-01	TRANSISTOR DTC144EK
Q006	8-729-901-01	TRANSISTOR DTC144EK
Q007	8-729-901-01	TRANSISTOR DTC144EK
Q008	8-729-901-01	TRANSISTOR DTC144EK
Q009	8-729-901-01	TRANSISTOR DTC144EK
Q010	8-729-901-01	TRANSISTOR DTC144EK

RESISTOR

Ref.No	Part No.	Description				Remark
R001	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R002	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R003	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R004	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R006	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R007	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R008	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R009	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R010	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R011	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R012	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R013	1-216-296-00	METAL GLAZE	0	5%	1/8W	
R014	1-216-296-00	METAL GLAZE	0	5%	1/8W	
R015	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R016	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R019	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R021	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R022	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R023	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R025	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R027	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R028	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R029	1-216-089-00	METAL GLAZE	47K	5%	1/10W	

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MISCELLANEOUS
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	A-7049-293-A	DRUM ASSY, ROTARY UPPER (DGU-58A)
⚠	1-466-199-11	MODULATOR, RF (RFU-2010) (AEP MODEL)
	1-466-206-11	MODULATOR, RF (RFU-2011) (UK MODEL)
⚠	1-540-054-11	INLET, AC
	1-575-387-11	CABLE, FLAT (1.0MM PITCH) 12P
	1-575-390-11	CABLE, FLAT (1.0MM PITCH) 18P
	1-575-391-11	CABLE, FLAT (1.0MM PITCH) 5P
	1-575-456-11	WIRE, FLAT TYPE (20 CORE)
M901	X-3731-108-1	MOTOR ASSY
M902	8-835-331-01	MOTOR, DC U-22A
M903	A-7040-160-A	MOTOR ASSY, THREADING
M906	A-7048-339-A	DRUM ASSY (DGU-58A-R)

****

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

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

ACCESSORIES AND PACKING MATERIALS

Part No.	Description	Remark
A-6768-153-A	COMMANDER ASSY (RMT-451)	
1-551-086-31	CORD, CONNECTION	
1-551-513-00	CORD ASSY, COAXIAL	
1-551-734-11	CORD, CONNECTION (RK-74H)	
⚠1-558-032-11	CORD, POWER (UK MODEL)	
1-559-533-11	CORD, CONNECTION	
1-574-056-11	CORD, POWER (AEP MODEL)	
1-574-316-11	CORD, CONNECTION	
*1-575-335-21	CORD, CONNECTION	
*3-677-503-00	SHEET, PROTECTION	
*3-742-569-01	INDIVIDUAL CARTON	
*3-742-570-01	CASE, UPPER	
*3-742-571-01	CUSHION (LOWER)	
*3-742-572-02	CUSHION (UPPER)	
3-751-158-41	MANUAL, INSTRUCTION (English)	
3-751-158-51	MANUAL, INSTRUCTION (AEP MODEL) (French, Germans, Spanish)	
3-751-158-61	MANUAL, INSTRUCTION (AEP MODEL) (Dutch, Swedish, Italian)	
8-883-112-29	V8 6CLHSP	

HARDWARE LIST

STOP RING

7-624-105-04	STOP RING 2.3, TYPE -E	

PRECISION SCREW

7-627-555-88	PRECISION SCREW +P 1.4X1.8	
7-627-553-37	PRECISION SCREW +P 2X3 TYPE 3	
7-627-553-47	PRECISION SCREW +P 2X4 TYPE 3	

SCREW

7-621-772-30	SCREW +B 2X6	
7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT	
7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	

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

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

SECTION 8
MECHANICAL ADJUSTMENTS

For mechanical adjustments, refer to the separate "8mm Video Mechanical Adjustments III (U mechanism)"

8-1. Tape pass adjustment
(Track shift)

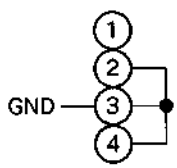
Based on four types of pilot signals, the 8mm video system controls the tape transport speed instantaneously and uses ATF (Automatic Track Finding) to attain high-precision tracking. This makes a tracking adjustment control knob unnecessary. Accurate tracing has also been realized.

However, the ATF system has caused a problem in adjusting the tape pass system. The tape pass cannot be adjusted completely because the ATF automatically compensates even if the head's tracing fluctuates slightly.

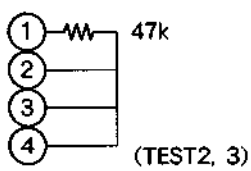
Therefore, to do fine tracking adjustment, first switch to the track shift mode. Since the ATF is forced to operate and the tracking amount (approx. ¼) shifts to a constant amount, fine tracking adjustment can be easily done. A track shift jig is unnecessary.

8-1-1. Setting the track shift mode

1) Ⓐ With the front panel assembly:
   Connect Pins ②, ③, and ④ of CN503.



   Ⓑ Without the front panel assembly:
   First connect 47 kΩ resister to Pin ① of CN503 and to Pins ②, ③ and ④ of CN503.

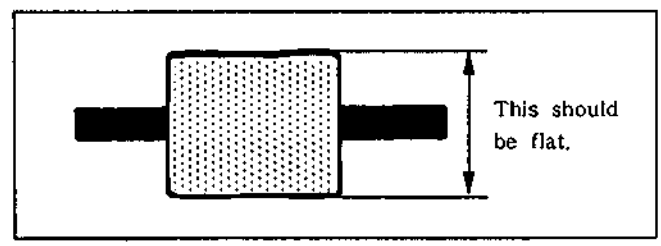


2) Switch to the test mode.

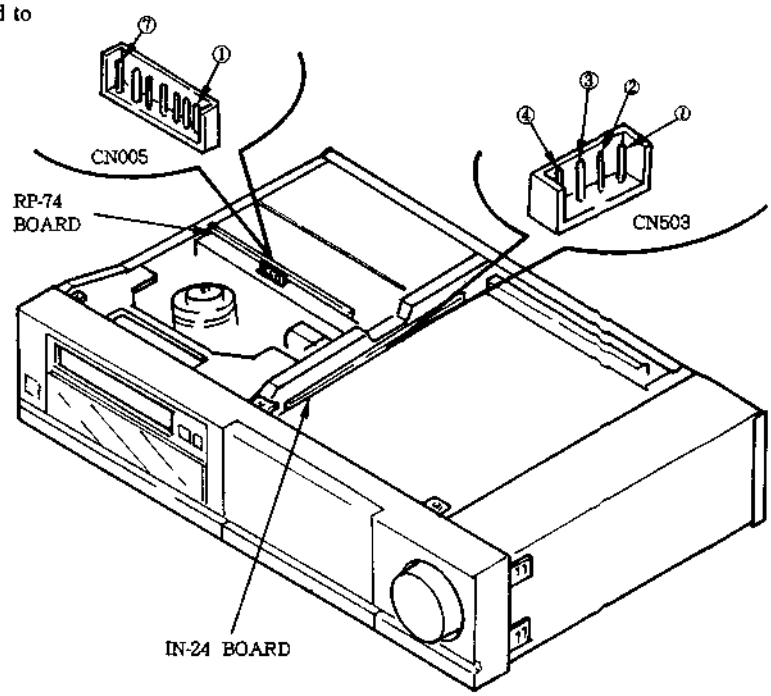
Note: It is possible to select SP/LP manually in the test mode.
When the set becomes to LP mode, select SP mode by SP/LP switch.

8-1-2. Preparation for adjustment

1) Clean the tape transport surfaces (tape guide, drum, capstan, and pinch roller).
2) Connection to an oscilloscope and waveform output.
   1ch : The drum head's RF signal output CN005 pin ⑦ (PB RF OUT)
   Output method : Connect the external trigger output CN005 pin ② (RF SW. P) to CN005 pin ① (GND).
3) Playback the tracking alignment tape (WR-IN) (J-5).
4) Check if the entry and exit sides of the oscilloscope's RF waveform are flat.
   If they are not flat, make the adjustment by following the separately published U mechanical series mechanical adjustment manual.



5) After the adjustment is Remove the from the IN -24 board's CN503.



SECTION 9
ELECTRICAL ADJUSTMENTS

During adjustment, refer to the relevant parts arrangement diagrams beginning on Page 279.

The following measuring equipment is used for electrical adjustments.

[Equipment to be used]

1) Monitor TV
2) Dual trace oscilloscope having band of over 10 MHz, incorporating delay mode. (Use 10:1 probe unless otherwise specified)
3) Frequency counter
4) Pattern generator
   (Equipped with video output terminal: refer to 8-1-1. Connection of Equipment)
5) Digital voltmeter
6) Audio generator
7) Audio level meter
8) Audio distortion meter
9) Audio attenuator
10) Audio multiplex signal generator
11) Alignment tapes
12) Vectorscope

Tracking adjustment (WR5-1CP)
Parts Code: 8-967-995-07

Video frequency response adjustment (WS5-7CE)
Parts Code: 8-967-995-18

Normal mode operation checking
For SP (WR5-5CSP) Parts Code: 8-967-995-46
or (WR5-4CSP) Parts Code: 8-967-995-47
For LP (WR5-4CL) Parts Code: 8-967-995-56

Hi8 mode operation checking (ME Tape)
For SP (WR5-8NCE) Parts Code: 8-967-995-48
For LP (WR5-8NCE) Parts Code: 8-967-995-57

AFM Stereo operation checking
For SP (WRS-9CS) Parts Code: 8-967-995-28

9-1. PREPARATIONS

9-1-1. Connection of Equipment

Adjustment is performed by connection of the measuring equipment shown in Fig. 8-1., according to the input terminal indications (S VIDEO or VIDEO). The input terminal is indicated by ( ) in the signal column. Either input terminal can be used when there is no indication. The S VIDEO IN terminal has priority. When adjusting using the VIDEO IN terminal input, remove the connector from the S VIDEO IN terminal.

Notes: 1) If adjustment is performed by VIDEO input when S VIDEO input is indicated, the product specifications for this unit may not be satisfied. Be sure to follow the indications.
2) When performing adjustment using a VCR equipped with an S video output terminal as the signal source, the performance of this unit may be affected by that VCR. Try to use a pattern generator with a Y/C separation output terminal if possible.

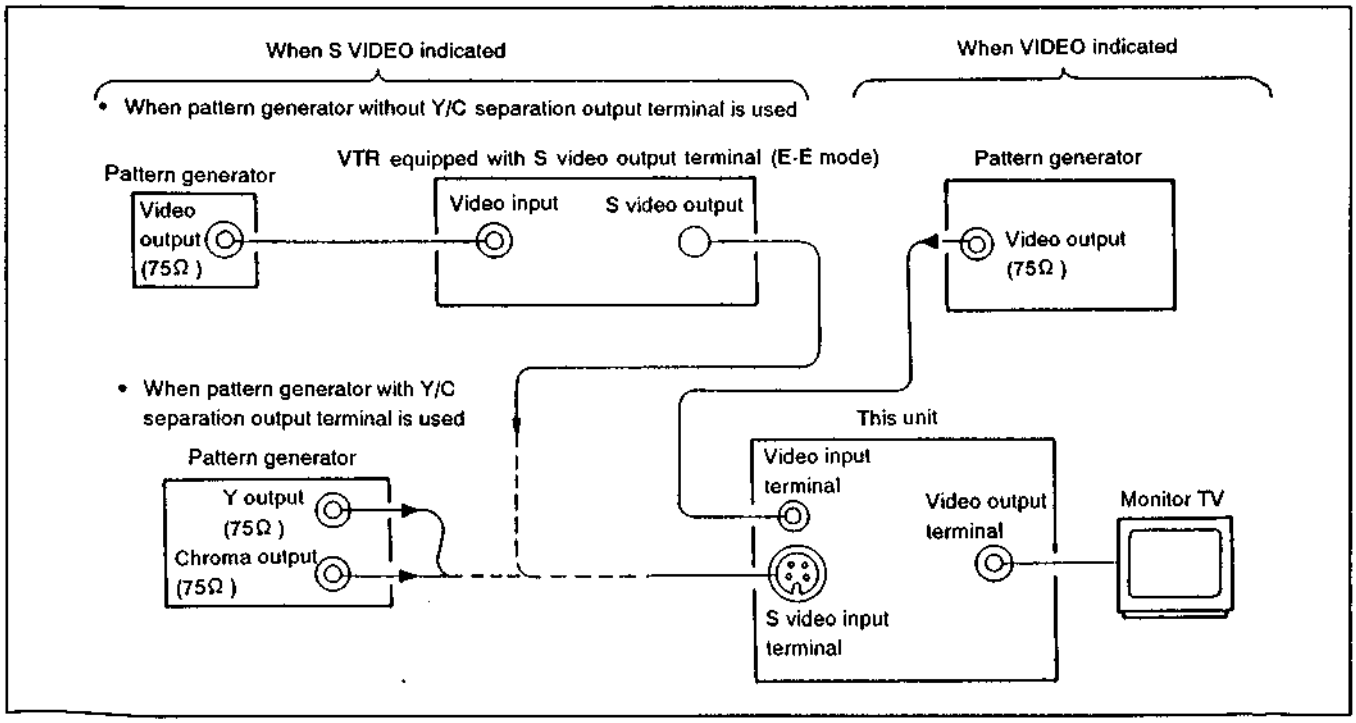


Fig. 9-1.

9-1-2. Confirmation of Input Signal

As adjustment is made using a video signal obtained from a pattern generator as the adjustment signal, it is necessary to confirm that the video output signal is within the required specifications.

1. S VIDEO Input

Connect an oscilloscope to the Y signal terminal of the S video input terminal (CNJ505 on RJ-5 board) and confirm that the sync signal of the Y signal is approximately 0.3 Vp-p and the amplitude of the video section is approximately 0.7 Vp-p. (When using a VCR equipped with an S video output terminal, confirm that there is no residual chroma signal or burst signal.) Next, connect the oscilloscope to the chroma signal terminal of the S video input terminals and confirm that the burst signal amplitude of the chroma signal is approximately 0.3 Vp-p 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 for adjustment are shown in Fig. 9-2.

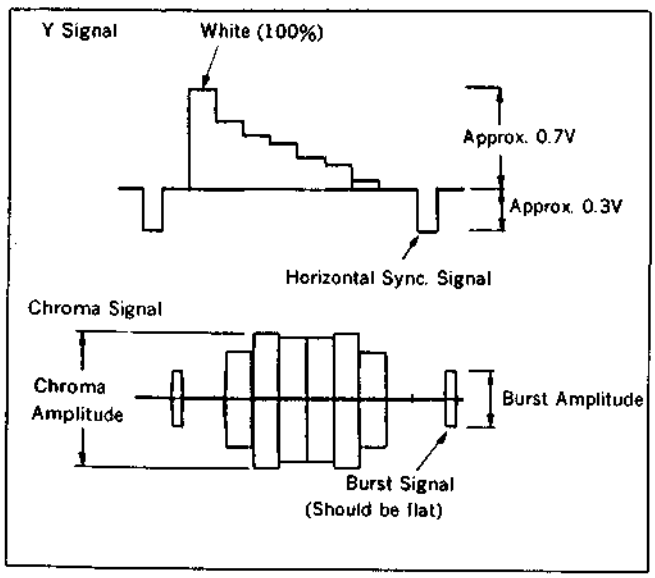


Fig. 9-2. Pattern Generator Color Bar Signals

2. VIDEO Input

Connect an oscilloscope to the video input terminal (CNJ505 on RJ-5 board) and confirm that the amplitude of the sync signal of the video signal is approximately 0.3V and the amplitude of the video section is approximately 0.7V. Confirm that the burst signal amplitude is approximately 0.3V and flat, and that the level ratio of the burst signal and red signal is 0.30:0.66.

The video signal (color bars) used for adjustment are shown in Fig. 9-3.

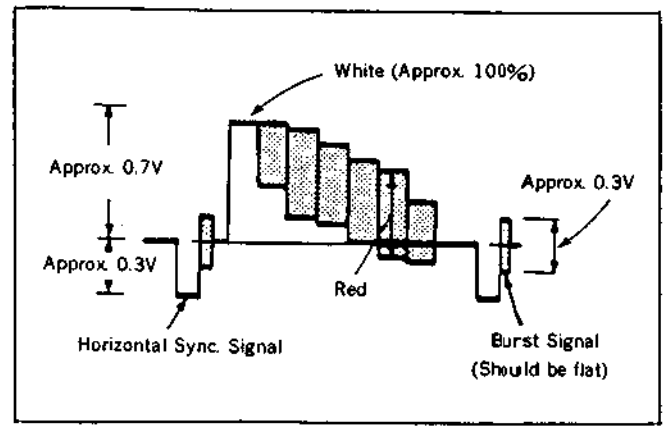


Fig. 9-3. Pattern Generator Color Bar Signal

[Alignment tapes]

The alignment tapes shown in the table below are available. Use the tape indicated in the signal column of each adjustment section.

When a specific name is not given for use of an operation checking tape, any of the operation checking tapes can be used.

Name	Recording Mode	Tape Type	Tape Speed	Contents		Use
				Video Area	PCM Area	
Tracking WR5-1CP	STD	MP	SP	CH2: Signal for 1 MHz tape path adjustment Marker (CH1: 9 MHz) for switching position adjustment		Tape path adjustment Switching position adjustment
Video frequency response WR5-7CE	Hi8	ME	SP	RF sweep 0 to 15 MHz Markers 2, 4.5, 7, 8.5, 10 MHz		Frequency response adjustment
Operation checking WR5-4CSP or WR5-5CSP	STD	MP	SP	• Video signals Color bars 4 minites Monoscope 4 minutes • Audio signal (AFM) 400 Hz, 60% modulation	• Audio signals (PCM) Monoscope section 20 Hz 20 seconds 400 Hz 20 seconds 14 kHz 20 seconds } Repeated four times Color bar section 1 kHz 4 minutes	Operation checking
WR5-8CSE	Hi8	ME	SP		Audio signals (PCM) 400 Hz 8 minutes	
WR5-4CL	STD	MP	LP	• Video signals Color bars 4 minites Monoscope 4 minutes • Audio signal (AFM) 400 Hz, 60% modulation		
WR5-8CLE	Hi8	ME	LP		Audio signals (PCM) 400 Hz 8 minutes	
WR5-9CS	STD	MP	SP	• Video signals Color bars 4 minites Monoscope 4 minutes • Audio signal (AFM) Lch: 400Hz L+R (1.5 MHz ± 60 kHz) Rch: 1 kHz L−R (1.7 MHz ± 30 kHz)	Audio signals (PCM) 400 Hz 8 minutes	

Note: Recording modes
STD ·····Conventional mode
Hi8 ·····High band mode

Tape Types
MP ·····Metal particle tape
ME·····Metal evaporated tape

The 100% color bar signal recorded on the alignment tape is shown in Fig. 9-4.

Note: Measured at VIDEO OUT terminal (terminated at 75Ω)

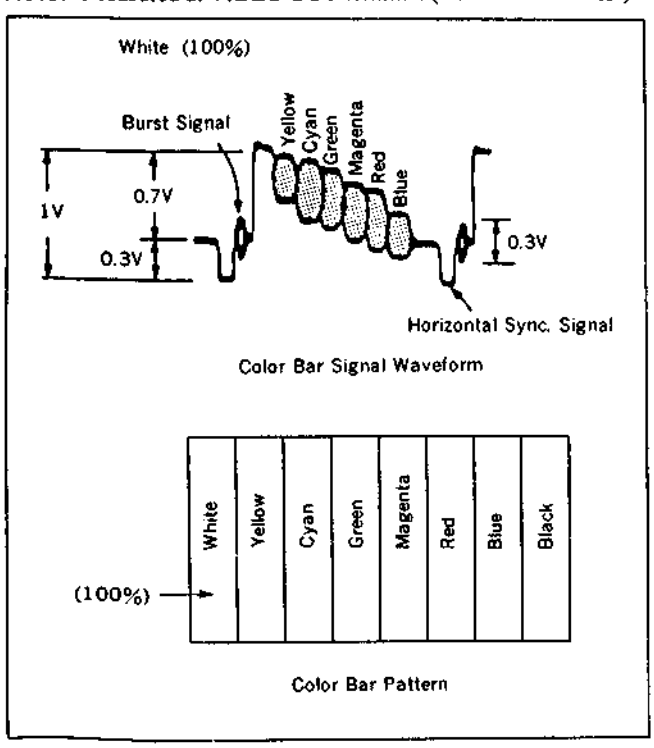


Fig. 9-4. Color bar signal on alignment tape

[I/O level and Impedance]

Video input — Pin jack
Input signal: 1 Vp-p, 75Ω unbalanced, negative SYNC

Video output — Pin jack
Output signal: 1 Vp-p, 75Ω unbalanced, negative SYNC

S video input — (4-pin mini DIN)
Luminance signal: 1 Vp-p, 75Ω unbalanced, negative SYNC
Color signal: 0.3 Vp-p, 75 Ω , unbalanced

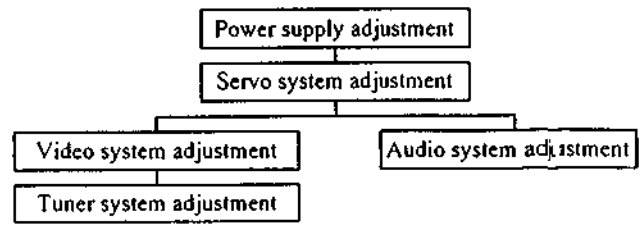
S video output — (4-pin mini DIN)
Luminance signal: 1 Vp-p, 75Ω unbalanced, negative SYNC
Color signal: 0.3 Vp-p, 75 Ω , unbalanced

Audio input — Pin jack
Input level: −7.5 dBs (0 dBs=0.775 Vrms)

Audio output — Pin jack
Rated output: −7.5 dBs (with 47 kΩ load)
Output impedance: Less than 1 kΩ

[Adjustment order]

Perform adjustment in the following order.



9-2. POWER SUPPLY BLOCK ADJUSTMENT

9-2-1. Voltage Check (PS-196 Boards)

Mode	E-E
Measuring Instrument	Digital multimeter
UNSW 5.6 V Check	
Measurement Point	Pin ⑥ of CN001
Specified Value	5.6 ± 0.2 V
UNSW − 5 V Check	
Measurement Point	Pin ⑨ of CN001
Specified Value	− 5 ± 0.2 V
UNSW 9 V Check	
Measurement Point	Pin ④ of CN001
Specified Value	9 ± 0.5 V
UNSW 40 V Check	
Measurement Point	Pin ① of CN001
Specified Value	40 ± 2 V
UNSW − 30 V Check	
Measurement Point	Pin ④ of CN002
Specified Value	− 30 ± 3 V
UNSW 5.7 V Check	
Measurement Point	Pin ② of CN002
Specified Value	5.7 ± 0.6 V
SW 5 V Check	
Measurement Point	Pin ⑧ of CN001
Specified Value	5 ± 0.2 V
SW − 5 V Check	
Measurement Point	Pin ⑩ of CN001
Specified Value	− 5 ± 0.3 V
SW 9 V Check	
Measurement Point	Pin ③ of CN001
Specified Value	9 ± 0.2 V
SW 12 V Check	
Measurement Point	Pin ② of CN001
Specified Value	12 ± 0.5V

Checking method:

1) Confirm that each voltage is at the specified level.

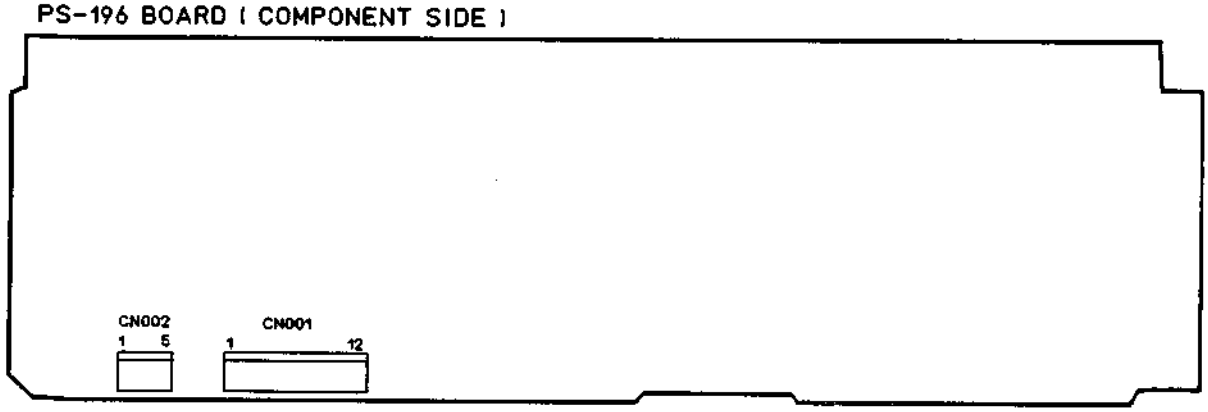


Fig. 9-5.

9-3. SYSTEM CONTROL SYSTEM ADJUSTMENT

9-3-1. Timer Clock Adjustment (FL-24 Board)

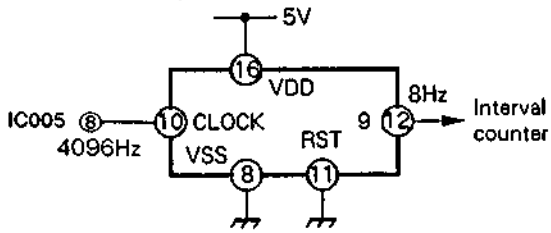
Mode	E-E
Signal	Arbitrary
Measurement Point	Pin ⑧ of IC005
Measuring Instrument	Interval counter
Adjustment Element	CT001
Specified Value	0.125 ± 0.0000005 sec

[Adjustment Method]

1) Pass a 9-state binary counter through pin ⑧ of IC005, to divide the 4096Hz frequency nine times and transform to 8Hz.Measure the cycle.
2) Adjust CT001 so that an 8Hz cycle equals 0.125 ±0.0000005 seconds.

Note : Do not adjust CT001 except when replacing microcomputers.

9 Stage Binary Counter Reference



IC μPD4020B or μPD4040B

Fig. 9-6.

9-4. SERVO SYSTEM ADJUSTMENT

9-4-1. PWM Oscillation Frequency (CM-15 Board)

Mode	REC
Signal	Arbitrary
Measurement Point	Pin ⑦ of IC502
Measuring Instrument	Frequency counter
Adjustment Element	RV501
Specified Value	476.56 ± 5 kHz

Adjustment Method:

1) Adjust to 476.56 ± 5 kHz with RV501.

9-4-2. Switching position Adjustment (CM-15 Board)

Mode	Playback
Signal	Alignment tape: tracking adjustment (WR5-1CP)
Measurement Point	CH1: Pin ③ (RF CH2) of CN005 on RP-74 board CH2: Pin ② (RF SW PLS) of CN005 on RP-74 board
Measuring Instrument	Oscilloscope
Adjustment Element	RV401
Specified Value	0 ± 5 μs

Connection:

1) TEST 1 mode (Pin ③ and Pin ④ with a jumper wire of CN503 on IN-24 board).

Adjustment method:

1) Adjust with RV401 so that the marker of the RF CH 2 waveform is lined up with the falling edge of the RF SWP waveform.

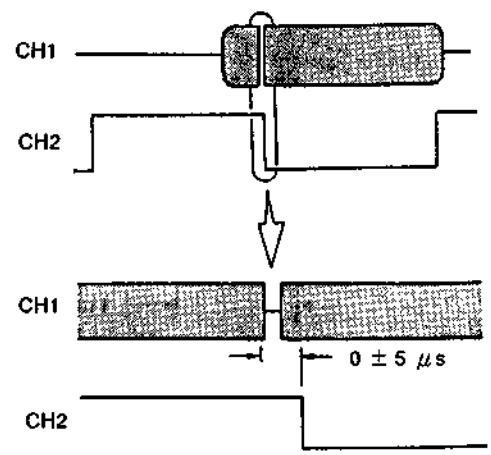


Fig. 9-7. Switching position adjustment

9-5. VIDEO ADJUSTMENT

As a rule, adjustment of the video system is made in the following order.
The color video signal supplied from the pattern generator is used as the video input signal for adjustment of the video system in the recording mode. Confirm that the sync signal and color burst signal satisfy the specifications designated in the adjustment setup shown in Fig. 8-3.

[Adjustment Method]

1) Playback Frequency Characteristics Adjustment
2) Flying Erase Check
3) FSC fo Adjustment
4) ORC SP (LP) Adjustment
5) Y/C Separation Comb-type Filter Adjustment
6) Y Comb-type Filter Adjustment
7) SYNC AGC Adjustment
8) PB Emphasis out Level Adjustment
9) Deemphasis Adjustment
10) STD Mode PB Y Level Adjustment
11) Hi8 Mode PB Y Level Adjustment
12) STD Mode Y FM Carrier Frequency, Y FM Deviation Adjustment
13) Hi8 Mode Y FM Carrier Frequency, Y FM Deviation Adjustment
14) 378 fH VCO Adjustment
15) Chroma Emphasis fo Adjustment
16) Carrier Balance Adjustment
17) fo VCO Adjustment
18) GCA Gain Adjustment
19) REC Y Level Adjustment
20) REC C Lecel Adjustment
21) D. O. C. Level Adjustment

9-5-1. Playback Frequency Characteristics Adjustment (RP-74 Board)

1. SP Playback frequency characteristics adjustment

The adjusting element for CH2 mode is shown within [ ].

Mode	Playback
Signal	Alignment tape: Frequency characteristics adjustment (WR5-7CE)
Measurement Point	Pin ④ of CN005 [Pin ③ of CN005] External trigger: Pin② (RF SWP) of CN005 Trigger slope: – [+]
Measuring Instrument	Oscilloscope
Adjustment Element	RV202 [RV201]
Specified Value	8.5 MHz level is 66% of 4.5 MHz level

Connection:

1) TEST 2 mode (Pin ② and Pin ③ with a jumper wire of CN503 on IN-24 board).

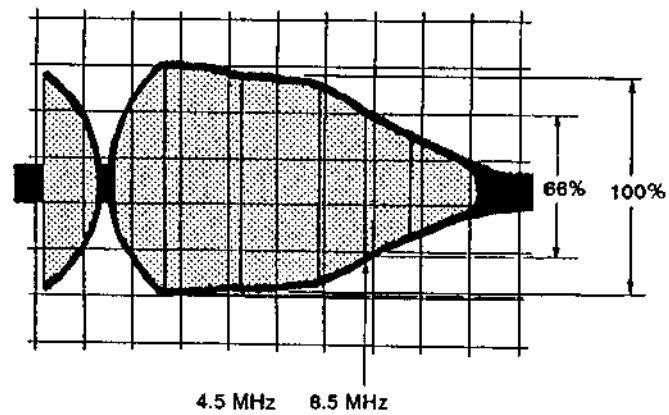


Fig. 9-8.

2. LP playback frequency characteristics adjustment

The adjusting element for CH2 mode is shown within [ ].

Mode	Playback
Signal	Alignment tape: Frequency characteristics adjustment (WR5-7CE)
Measurement Point	Pin ⑥ of CN005 [Pin ⑤ of CN005] External trigger: Pin② (RF SWP) of CN005 Trigger slope: – [+]
Measuring Instrument	Oscilloscope
Adjustment Element	RV102 [RV101]
Specified Value	8.5 MHz level is 66% of 4.5 MHz level

Connection:

1) TEST 2 mode.

9-5-2. Flying Erase Check (RP-74 Board)

Mode	REC
Signal	Arbitrary
Measurement Point	Pin ② of CN001
Frequency Check	
Measuring Instrument	Frequency counter
Measuring	7.6 ± 0.5 MHz
Output Level Check	
Instrument	Oscilloscope
Specified Value	Approx. 8 Vp-p

Notes: 1) Use MP-type tape.
2) Connect the frequency counter through a buffer amplifier (oscilloscope, etc.) having high input impedance (at least 1 MΩ) and low capacitance (less than 10 pF).

Adjustment method:
1) Confirm the frequency and output level are 7.6 ± 0.5 MHz and approximately 8.0 Vp-p respectively.

(7.6 ± 0.5 MHz)

Fig. 9-9.

9-5-3. FSC f₀ Adjustment (VI-65 Board)

Mode	Playback
Signal	Alignment tape: operation checking (WR5-4CSP or WR5-5CSP)
Measurement Point	Pin ⑭ of IC801
Measuring Instrument	Frequency counter
Adjustment Element	CV800
Specified Value	4433619 ± 50 Hz

Note: Connect the frequency counter through a buffer amplifier (oscilloscope, etc.) having high input impedance (at least 1 MΩ) and low capacitance (less than 10 pF).

Adjustment method:
1) Adjust to 4433619 ± 50 Hz using CV800.

(4433619 ± 50 Hz)

Fig. 9-10.

9-5-4. (a) ORC SP Mode adjustment (VI-65 Board)

The adjusting element for CH2 mode is shown within [ ].

Mode	REC Pause (MP type Tape)
Signal	WHITE Signal 50%
Measurement Point	Pin ④ of CN005 [Pin ③ of CN005] on RP-74 Board
Measuring Instrument	Oscilloscope
Adjustment Element	RV304 [RV303]
Specified Value	Maximize Envelope

Connection:
1) TEST 2 mode.

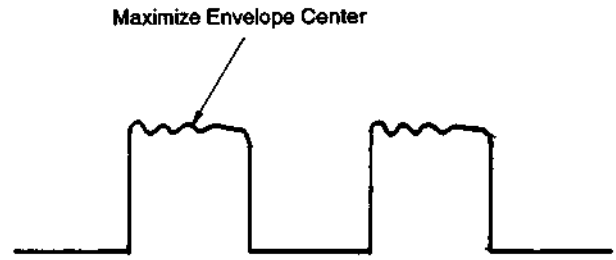


Fig. 9-11.

9-5-4. (b) ORC LP Mode adjustment (VI-65 Board)

The adjusting element for CH2 mode is shown within [ ].

Mode	REC Pause (MP type Tape)
Signal	WHITE Signal 50%
Measurement Point	Pin ⑥ of CN005 [Pin ⑤ of CN005] on RP-74 Board
Measuring Instrument	Oscilloscope
Adjustment Element	RV305 [RV302]
Specified Value	Maximize Envelope

Connection:
1) TEST 2 mode.

9-5-5. Y/C Separation Comb-type Filter Adjustment (VI-65 Board)

Mode	E-E
Signal	Colour bars (Pin ㉔ of IC400) 1 Vp-p
Measurement Point	Pin ㉘ of IC400
Measuring Instrument	Oscilloscope
Adjustment Element	LV400 and RV400
Specified Value	Minimum chroma component (less than 50 m Vp-p)

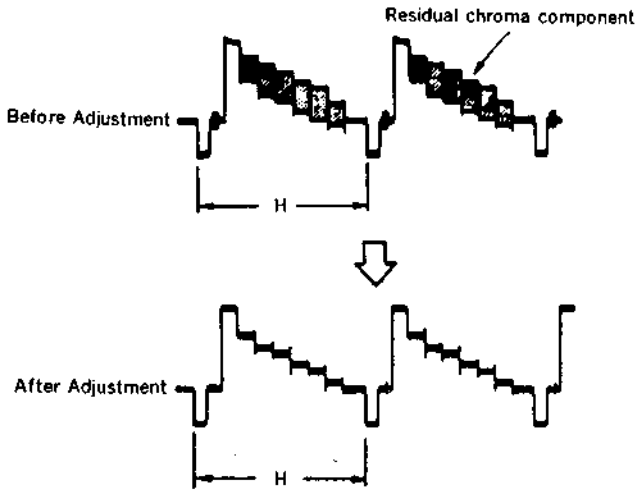


Fig. 9-12.

9-5-6. Y Comb-type Filter Adjustment (VI-65 Board)

Mode	E-E (LP mode)
Signal	Color bars
Measurement Point	Pin ⑫ of IC400
Measuring Instrument	Oscilloscope (1: 1 probe used)
Adjustment Element	RV401
Specified Value	Set amplitude to minimum

Note: Be sure to perform adjustment in LP mode.

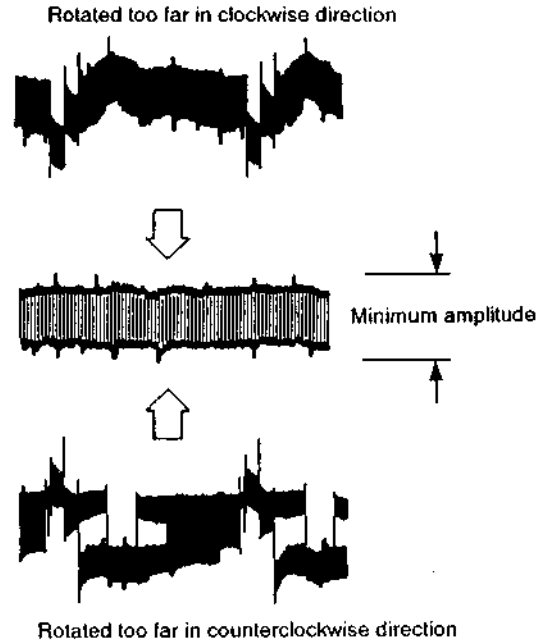


Fig. 9-13.

9-5-7. SYNC AGC Adjustment (VI-65 Board)

Mode	E-E
Signal	Color bars
Measurement Point	C205 ⊕
Measuring Instrument	Oscilloscope
Adjustment Element	RV105
Specified Value	0.50 ± 0.025 Vp-p

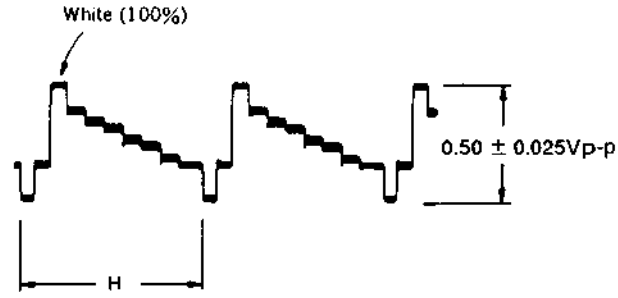


Fig. 9-14.

9-5-8. PB Emphasis out Level Adjustment (VI-65 Board)

Mode	Playback
Signal	Alignment tape: Operation checking (WR5-5CSP or WR5-4CSP) Color bar section
Measurement Point	Q123Ⓔ
Measuring Instrument	Oscilloscope
Adjustment Element	RV102
Specified Value	0.50 ± 0.02 Vp-p

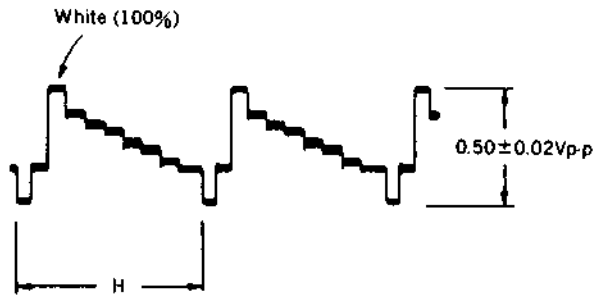


Fig. 9-15.

9-5-9. Deemphasis Adjustment (VI-65 Board)

Mode	Playback
Signal	Alignment tape: Operation checking (WR5-4CSP or WR5-4CSP) Color bar section
Measurement Point	Q123Ⓔ
Measuring Instrument	Oscilloscope
Adjustment Element	RV103
Specified Value	100% white level is flat

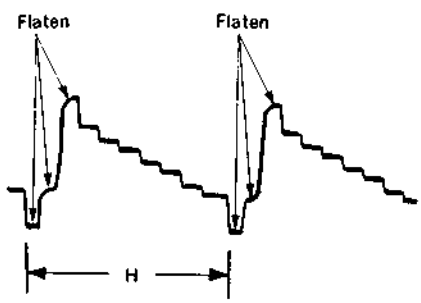


Fig. 9-16.

9-5-10. STD Mode PB Y Level Adjustment (VI-65 Board)

Mode	Playback
Signal	Alignment tape: Operation checking (WR5-4NSP or WR5-4NSP) Color bar section
Measurement Point	Pin ⑲ of CN002
Measuring Instrument	Oscilloscope
Adjustment Element	RV104
Specified Value	1.00 ± 0.05 Vp-p

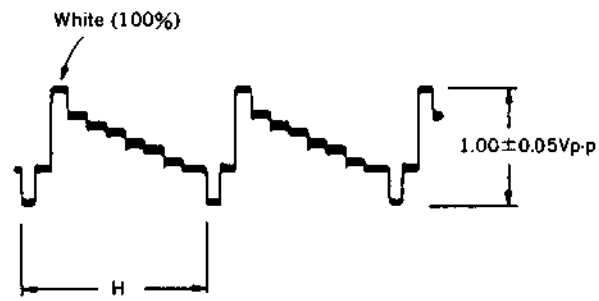


Fig. 9-17.

9-5-11. Hi8 Mode PB Y Level Adjustment (VI-65 Board)

Mode	Playback
Signal	Alignment tape: Operation checking (WR5-8NSE) Color bar section
Measurement Point	Pin ⑲ of CN002
Measuring Instrument	Oscilloscope
Adjustment Element	RV101
Specified Value	1.00 ± 0.05 Vp-p

Note: 1) Set the picture quality adjustment knob to the center click position.
2) Be sure to perform "9-5-10. STD Mode PB Y Level Adjustment" before this adjustment.

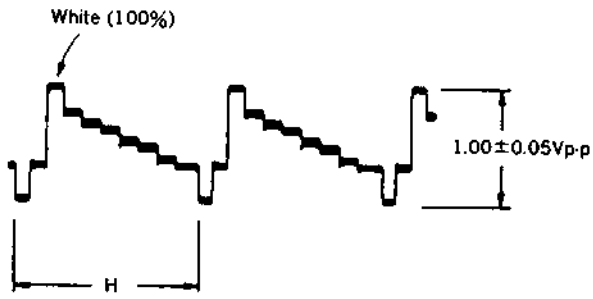


Fig. 9-18.

9-5-12. STD Mode Y FM Carrier Frequency, Y FM Deviation Adjustment

Note: After adjustment, perform "9-5-13. Hi8 Mode Y FM Carrier Frequency, Y FM Deviation Adjustment".

1. STD mode Y FM carrier frequency adjustment (VI-65 board)

Mode	E-E
Signal	No signal
Measurement Point	Pin ④ (REC RF) of CN003
Measuring Instrument	Frequency counter
Adjustment Element	RV203
Specified Value	4.38 ± 0.03 MHz

Adjustment method:
1) Insert an MP-type cassette tape.
2) Adjust to 4.38 ± 0.03 MHz using RV203.
3) Perform "2. STD Mode Y FM Deviation Adjustment".

4.38 ± 0.03 MHz

Fig. 9-19.

2. STD mode Y FM deviation adjustment (VI-57 board)

Mode	REC and playback
Signal	Color bars
Measurement Point	Pin ⑲ of CN002
Measuring Instrument	Oscilloscope
Adjustment Element	RV205
Specified Value	Playback level is 1.00 ± 0.05 Vp-p

Note: Perform this adjustment after confirming that "9-5-10. STD Mode PB Y Level Adjustment", and "9-5-12. 1. STD Mode Y FM Carrier Frequency Adjustment" have been completed.

Adjustment method:
1) Insert an MP type cassette tape.
2) Record the color bar signal.
3) Playback the recorded signal.
4) Check the playback output level.
Specified value: 1.00 ± 0.05 Vp-p
5) If the specified value is not satisfied, rotate RV205 as described below and repeat steps 1) through 3).

	Rotational direction for RV205
Smaller than specified value	Counterclockwise direction (◯)
Larger than specified value	Clockwise direction (◯)

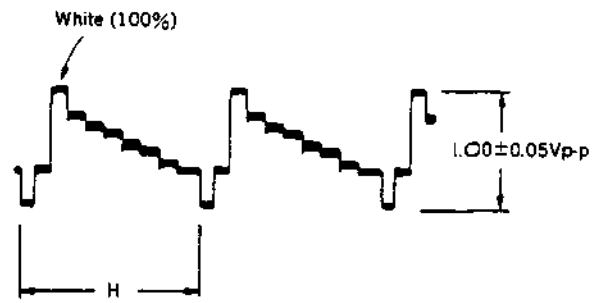


Fig. 9-20.

9-5-13. Hi8 Mode Y FM Carrier Frequency, Y FM Deviation Adjustment

Notes: 1) Perform this adjustment after "9-5-11. STD Mode Y FM Carrier Frequency, Y FM Deviation Adjustment".
2) Before adjustment, confirm that the Hi8 switch (S003 on FL-24 board) is set to the AUTO position, and that the connector is attached to the S video terminal (CNJ505 on RJ-5 board) of the line input (even when there is no signal).

1. Hi8 mode Y FM carrier frequency adjustment (VI-65 board)

Mode	E-E
Signal	No signal
Measurement Point	Pin ④ of CN003
Measuring Instrument	Frequency counter
Adjustment Element	RV204
Specified Value	5.98 ± 0.03 MHz

Adjustment method:
1) Insert an ME-type cassette tape.
2) Adjust to 5.98 ± 0.03 MHz using RV204.
3) Perform "2. Hi8 Mode Y FM Deviation Adjustment".

5.98 ± 0.03 MHz

Fig. 9-21.

2. Hi8 mode Y FM deviation adjustment (VI-65 board)

Mode	REC and playback
Signal	Color bars
Measurement Point	Pin ⑲ of CN002
Measuring Instrument	Oscilloscope
Adjustment Element	RV202
Specified Value	Playback level is 1.00 ± 0.05 Vp-p

Note: Perform this adjustment after confirming that "9-5-11. PB Y Level Adjustment", and "9-5-13. 1. Hi8 Mode Y FM Carrier Frequency Adjustment" have been completed.

Adjustment method:
1) Insert an ME-type cassette tape.
2) Record the color bar signal.
3) Playback the recorded signal.
4) Check the playback output level.
Specified value: 1.00 ± 0.05 Vp-p
5) If the specified value is not satisfied, rotate RV202 as described below and repeat steps 1) through 3).

	Rotational direction for RV202
Larger than specified value	Counterclockwise direction (↺)
Smaller than specified value	Clockwise direction (↻)

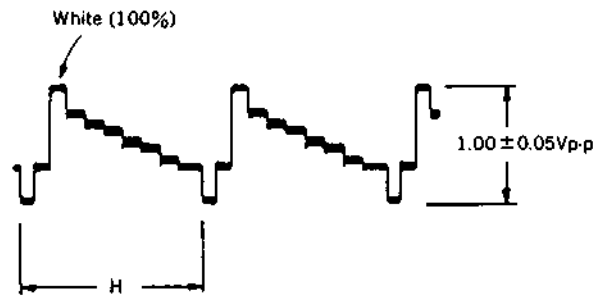


Fig. 9-22.

9-5-14. 378f_H VCO Adjustment (VI-65 Board)

Mode	E-E
Signal	Colour bars
Measurement Point	Pin ㉘ of IC801
Measuring Instrument	Digital voltmeter
Adjustment Element	RV801
Specified Value	3.00 ± 0.05 Vdc

Adjustment method:

1) Adjust to 3.00 ± 0.05 Vdc using RV801

9-5-15. Chroma Emphasis f_0 Adjustment (VI-65 Board)

Mode	E-E
Signal	Colour bars
Measurement Point	Pin ㊹ of IC801
Measuring Instrument	Oscilloscope
Adjustment Element	FL801
Specified Value	Minimum chroma component

Preparations:

1) Connect the following two locations using 10 kΩ resistors.
- Pin ⑦ of IC801 – Pin ㊸ of IC 801 (GND)
- Pin ⑦ of IC801 – Pin ㉙ of IC 801 (SW 5 V)

Adjustment method:

1) Adjust FL802 for minimum chroma component.
2) Remove the 10 kΩ resistors after adjustment.

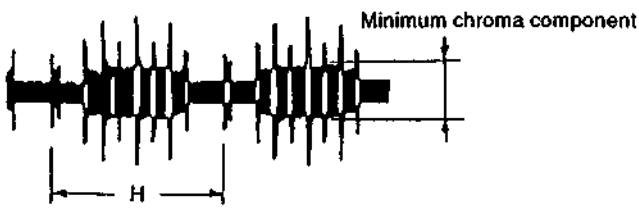


Fig. 9-23.

9-5-16. Carrier Balance Adjustment (VI-65 Board)

Mode	E-E
Signal	Colour bars
Measurement Point	Pin ㊳ of IC801
Measuring Instrument	Oscilloscope
Adjustment Element	RV800
Specified Value	Minimum 5.17 MHz component

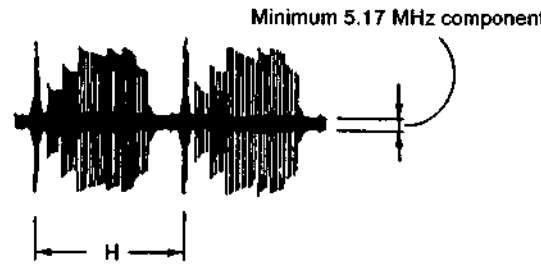


Fig. 9-24.

9-5-17. f_0 VCO Adjustment (VI-65 Board)

Mode	E-E
Signal	Colour bars (VIDEO)
Measurement Point	Pin ⑮ of IC700
Measuring Instrument	Frequency counter
Adjustment Element	RV701
Specified Value	15,625 ± 50 Hz

Connection:

1) Connect the IC700 pins ⑫ and ⑥ (GND) with a jumper wire.

Adjustment method:

1) Adjust to 15,625 ± 50 Hz with RV701.

15,625 ± 50 Hz

Fig. 9-25.

9-5-18. GCA Gain Adjustment (VI-65 Board)

Mode	Playback and STILL, CUE, REVIEW
Signal	Alignment tape for operation checking (WR5-5CSP or WR5-3CSP) Color bar portion
Measurement point	IC700 pin ⑤
Measuring instrument	Oscilloscope
Adjustment element	RV700
Specified value	b=(a−20)±15mVp-p

[Adjustment Method]

1) Playback, and measure the burst level. (this level is ⓐ)
2) Set to the STILL, CUE and REVIEW mode, and measure the burst level once more. (this level is ⓑ)
3) With RV701 adjust the burst level of the STILL, CUE and REVIEW mode to ⓑ=(ⓐ−20)±15mVp-p.

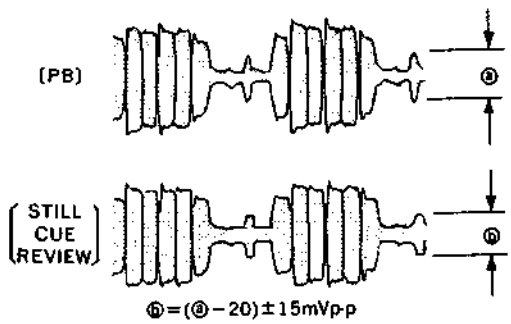


Fig. 9-26.

9-5-19. REC Y Level Adjustment (VI-65 Board)

Mode	E-E
Signal	No signal
Measurement Point	Pin ④ of CN003
Measuring Instrument	Oscilloscope
Adjustment Element	RV300
Specified Value	0.60 ± 0.02 Vp-p

Note: 1) Use MP-type tape.

Adjustment method:

1) Adjust to 0.60 ± 0.02 Vp-p using RV300.

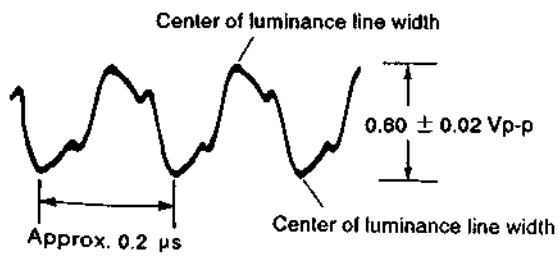


Fig. 9-27.

9-5-20. REC C Level Adjustment (VI-65 Board)

Mode	E-E (Tape: MP) Hi8 mode
Signal	Colour bars
Measurement Point	Collector of Q328
Measuring Instrument	Oscilloscope
Adjustment Element	RV301
Specified Value	0.20 ± 0.01 Vp-p

Note: 1) Use MP-type tape.

Preparations:

1) Use jumper wires to make the following three connections.
   - Pin ⑥ of CN001(REC AFM) − GND
   - Pin ⑧ of CN001(REC ATF) − GND

Adjustment method:

1) Adjust to 0.20 ± 0.01 Vp-p using RV301.

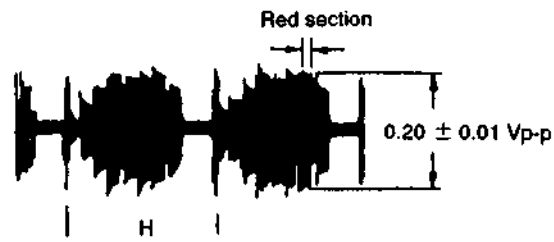


Fig. 9-28.

9-5-21. D. O. C. Level Adjustment (VI-65 Board)

Mode	Playback
Signal	Self-recording and playback of Hi8 in MPHG tape, and colour bars in LP mode.
Measurement Point	Pin ③ of Q608
Measuring Instrument	Digital voltmeter
Adjustment Element	RV601
Specified Value	1.76 ± 0.01 V

9-6. SECAM-PAL CONVERSION SYSTEM ADJUSTMENT (AEP model only)

- Make this adjustment aligning the PAL video system.
- For this adjustment, use the equipment listed below.

[Equipment Required]

(1) PAL Colour Monitor TV
(2) Oscilloscope, Dual-trace, Bandwidth...more than 10MHz with delay mode
(3) SECAM colour-bar generator
(4) PAL vector scope
(5) Frequency counter
(6) Digital voltmeter

Setting up during adjustment

Video signals output by a pattern generator are used as adjustment signals when making the electrical adjustments, and these video output signals should be within the required standard. Connect an oscilloscope to CNJ501 (VIDEO IN) on the RJ-5 Board. Check that the amplitudes of video signal SYNC signals, picture portions, and line ID signals are flat at approximately 0.3, 0.7, and 0.3V, respectively. Fig. 9-29. shows video signals (colour bars) used in making the electrical adjustment.

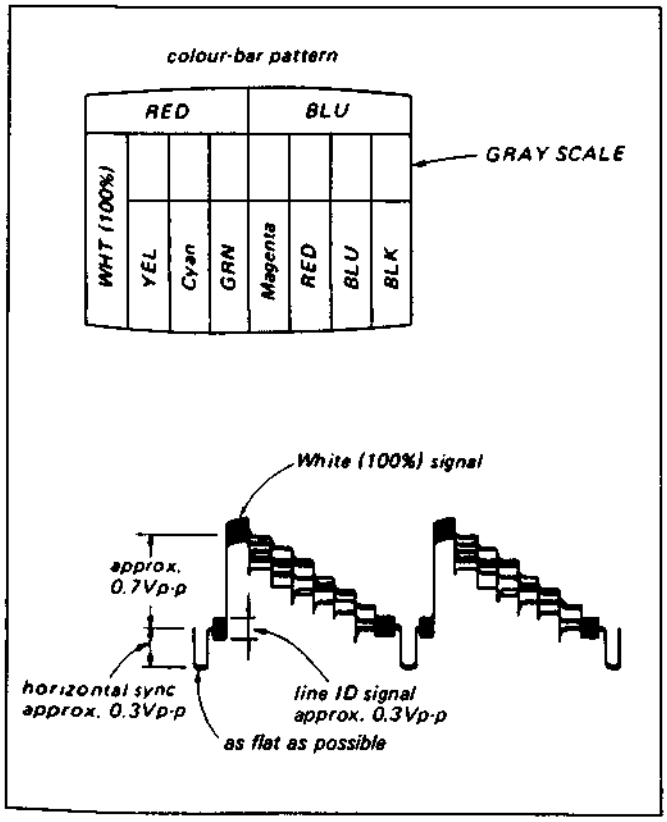


Fig. 9-29.

9-6-1. f_H VCO Adjustment (YC-64 Board)

Mode	E-E
Signal	No signal
Measurement Point	Pin ⑨ of IC201
Measuring Instrument	Frequency counter
Adjustment Element	RV201
Specified Value	15,625 ± 0.01 kHz

[Connection]

Connect between pin ⑱ of IC201 and pin ⑲ of IC201 with a jumper wire.

[Adjustment method]

1) Adjust with RV201 so that it becomes 15.625 ± 0.01 kHz.

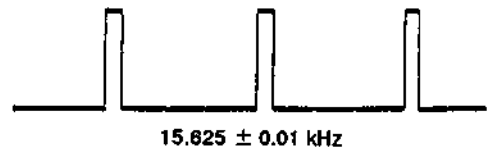


Fig. 9-30.

9-6-2. I REF Adjustment (YC-64 Board)

Mode	E-E
Signal	SECAM colour-bar
Measurement Point	Pin ⑨ of IC201 Pin ① of CN001
Measuring Instrument	Oscilloscope
Adjustment Element	RV202
Specified Value	tr = 4.5 ± 0.1 μs

[Adjustment method]

1) IC201 (⑱−⑲ OPEN)

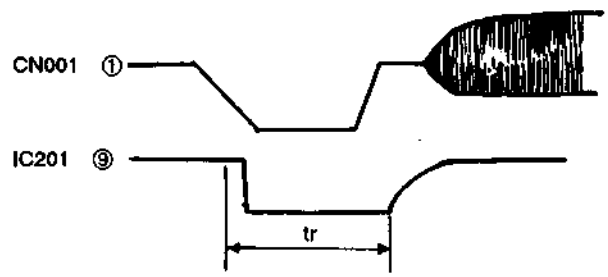


Fig. 9-31.

9-6-3. Bell Filter Adjustment (YC-64 Board)

Mode	E-E
Signal	SECAM colour-bar
Measurement Point	Pin ㉙ of IC201
Measuring Instrument	Oscilloscope
Adjustment Element	LV201
Specified Value	The level variation of the chroma signal amplitude is 0 ± 10%

Note: When performing (Adjustment method 1) be sure to use 1:1 probe as the signal level of IC201 pin ㉙ is extremely small. In addition, when the adjustment is impossible because of the signal level is too small to read, perform (Adjustment method 2).

[Adjustment method 1]

1) Adjust LV201 until the waveform is flat.

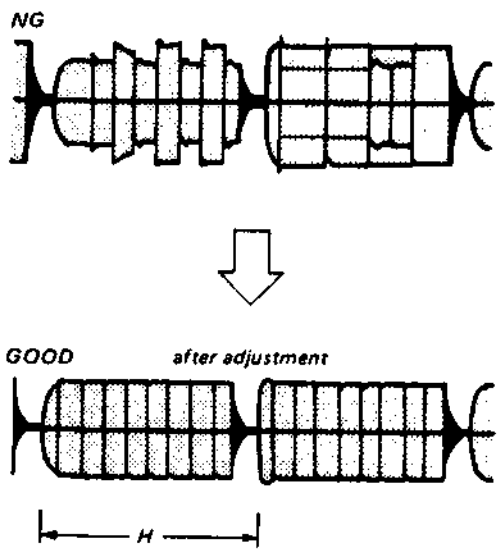


Fig. 9-32.

[Adjustment method 2]

1) Set the picture level of the monitor TV to maximum.
2) Adjust by turning LV201 so that the boarders of the respective colour-bars (especially red and blue) become vivid and stop LV201 at the position where the beat (red and magenta sections) becomes small.

9-6-4. Colour Level Adjustment (YC-64 Board)

Mode	E-E
Signal	SECAM colour-bar
Measurement Point	Pin ③ of IC202
Measuring Instrument	Oscilloscope
Adjustment Element	RV203
Specified Value	0.75 ± 0.05 Vp-p

Note: IC201 (⑲ – ㉑ SHORT)

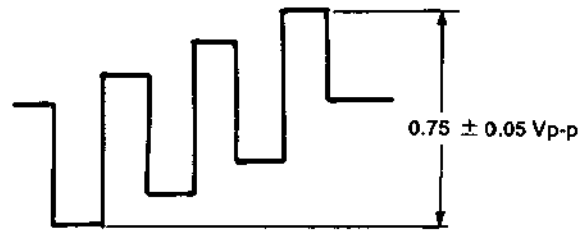


Fig. 9-33.

9-6-5. R-Y fo Adjustment (YC-64 Board)

Mode	E-E
Signal	SECAM colour-bar
Measurement Point	Pin ② of IC202
Measuring Instrument	Oscilloscope
Adjustment Element	LV202
Specified Value	Less than 0.05 V

[Adjustment method]

1) IC201 (⑲ – ㉑ SHORT)

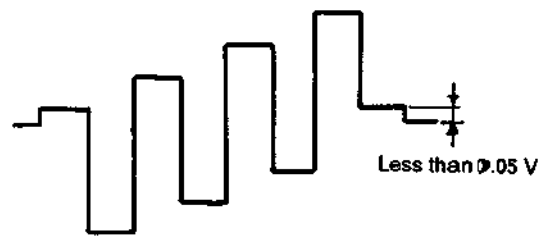


Fig. 9-34.

9-6-6. B-Y fo Adjustment (YC-64 Board)

Mode	E-E
Signal	SECAM colour-bar
Measurement Point	Pin ③ of IC202
Measuring Instrument	Oscilloscope
Adjustment Element	LV203
Specified Value	Less than 0.05 V

[Adjustment method]

1) IC201 (⑲ – ㉑ SHORT)

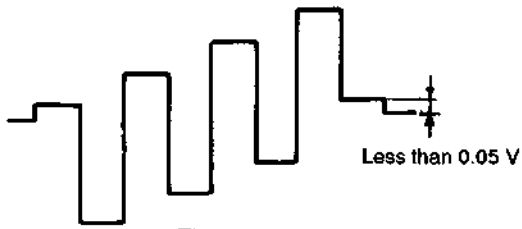


Fig. 9-35.

9-7. DIGITAL ADJUSTMENTS

[Adjustment Sequence]

9-7-1. Decoder-oscillated Free Run Frequency Adjustment
9-7-2. Encoder-oscillated Free Run Frequency Adjustment
9-7-3. TINT Adjustment
9-7-4. V OUT SUB Color Level Adjustment
9-7-5. V OUT SUB C Hue Adjustment
9-7-6. Write Clock Adjustment
9-7-7. S OUT SUB C Hue Adjustment
9-7-8. SUB Y Level Adjustment
9-7-9. Color Level Adjustment
9-7-10. CG OSC Adjustment

9-7-1. Decoder-oscillated Free Run Frequency Adjustment (DS-35 Board)

Mode	E-E
Signal	Monoscope
Measurement Point	IC209 pin ⑱
Measuring Instrument	Frequency counter
Adjustment Element	CV202
Specified Value	4,433,619 ± 25Hz

[Connection]

1) Connect IC209(R121 side) and GND with a jumper wire.

Note : Connect the frequency counter through a buffer amplifier (oscilloscope, etc).of high input impedance (10M Ω or more) and low capacity (10pF or less).

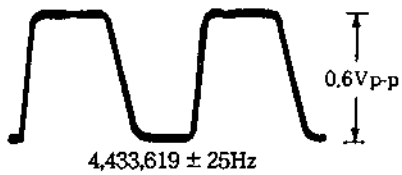


Fig. 9-36.

9-7-2. Encoder-oscillated Free Run Frequency Adjustment (DS-35 Board)

Mode	E-E
Signal	Alignment tape SP monoscope
Measurement Point	IC213 pin ⑲
Measuring Instrument	Frequency counter
Adjustment Element	CV203
Specified Value	17,734,473 ± 100Hz

[Connection]

1) Connect IC213 pin ⑱ and VCC with a jumper wire.

Note : Connect the frequency counter through a buffer amplifier (oscilloscope, etc).of high input impedance (10M Ω or more) and low capacity (10pF or less).

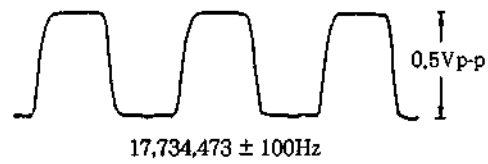


Fig. 9-37.

9-7-3. (a) TINT Adjustment (DS-35 Board)

Mode	E-E (P in P)
Signal	Color bar
Measurement point	Q501 Ⓔ
Measurement equipment	Oscilloscope
Adjustment element	RV202
Specified value	A=B

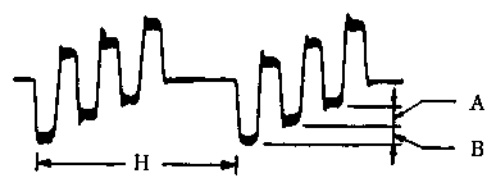


Fig. 9-38.

9-7-3. (b) TINT Adjustment (DS-35 Board)

Mode	E-E (P in P)
Signal	Color bar
Measurement point	RJ-6 board (EURO-AV)
Measurement equipment	Vectorscope
Adjustment element	RV202
Specified value	Adjust the vector phase of the small image so that the double waveforms become one clear waveform.

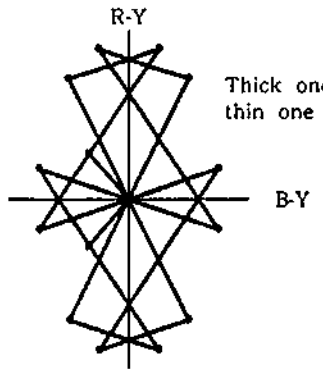


Fig. 9-39.

9-7-4. (a) V OUT SUB Colour Level Adjustment (DS-35 Board)

Mode	E-E (P in P)
Signal	100% Chroma
Measurement Point	Pin ⑥ of CN202
Measuring Instrument	Oscilloscope
Adjustment Element	RV201
Specified Value	700 ± 50mVp-p

[Adjustment Method]

1) Adjust to 700 ± 50mVp-p Using RV201 (Child screens)

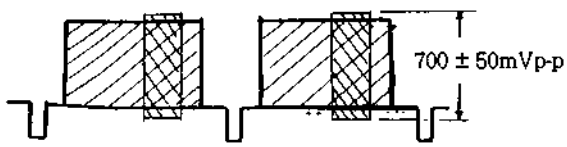


Fig. 9-40.

9-7-4. (b) V OUT SUB Colour Level Adjustment (DS-35 Board)

Mode	E-E (P in P)
Signal	Color bar
Measurement point	RJ-6 board (EURO-AV OUT)
Measurement equipment	Vectorscope
Adjustment element	RV201
Specified value	The phases of the parent and child screens should be the same.

[Adjustment Method]

1) With RV201 match the phases of the parent and child screens.

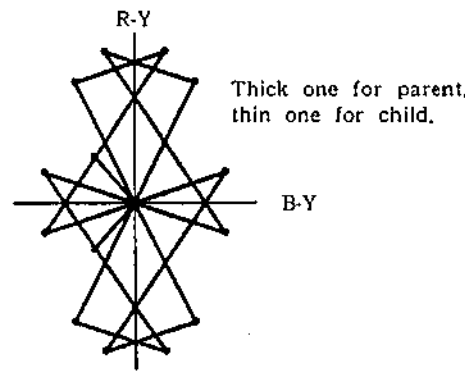


Fig. 9-41.

9-7-5. V OUT SUB C Hue Adjustment (DS-35 Board)

Mode	E-E (P in P)
Signal	Color bar
Measurement point	RJ-6 board (EURO-AV OUT)
Measurement equipment	Vectorscope
Adjustment element	RV206
Specified value	Hue of parent screen = that of child screen

[Adjustment Method]

1) With RV206 match the phases of the parent and child screens.

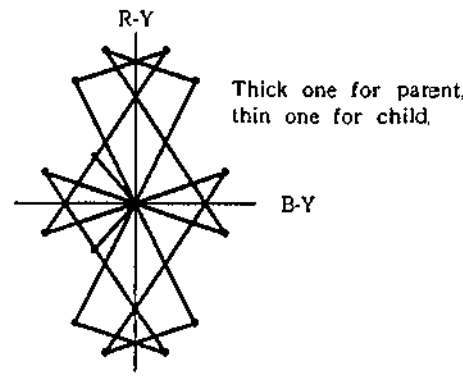


Fig. 9-42.

9-7-6. Write Clock Adjustment (DS-35 Board)

Mode	E-E
Signal	Colour bar
Measurement Point	IC505 pin ①
Measuring Instrument	Frequency counter
Adjustment Element	CV501
Specified Value	5.00 ± 0.01MHz

[Connection]

1) Connect the IC505 pin ⑪ and GND with a jumper wire.

Note : Connect the frequency counter through a buffer amplifier (oscilloscope, etc.) of high input impedance (10MΩ or more) and low capacity (10pF or less).

Fig. 9-43.

9-7-7. S OUT SUB C Hue Adjustment (DS-35 Board)

Mode	E-E (P in P)
Signal	Colour bar
Measurement Point	S VIDEO OUT
Measuring Instrument	Vectorscope
Adjustment Element	RV204
Specified Value	Hue of parent screen = that of child screen

[Adjustment Method]

1) With RV204 match the phases of the parent and child screens.

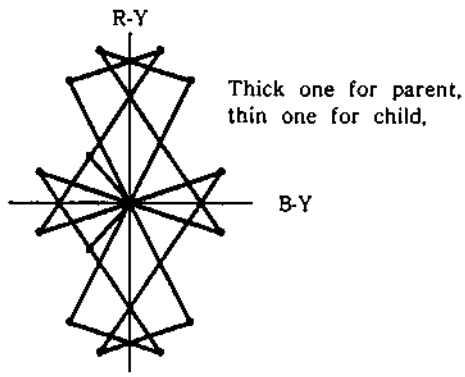


Fig. 9-44.

9-7-8. SUB Y Level Adjustment (DS-35 Board)

Mode	E-E (P in P)
Signal	Colour bar (PAL)
Measurement Point	Pin ⑥ of CN202
Measuring Instrument	Oscilloscope
Adjustment Element	RV203
Specified Value	Less than 0.05V

1) Pin ⑱ of IC213 OPEN.

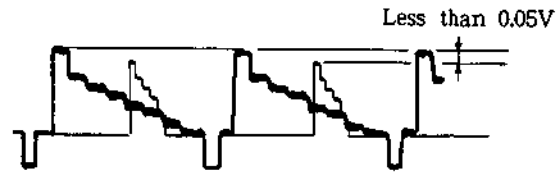


Fig. 9-45.

9-7-9. Color Level Adjustment (DS-35 Board)

Mode	E-E (P in P)
Signal	Colour bar (PAL)
Measurement Point	Pin ⑧ of CN202
Measuring Instrument	Oscilloscope
Adjustment Element	RV205
Specified Value	Less than 0.05V

1) Pin ⑱ of IC213 OPEN.

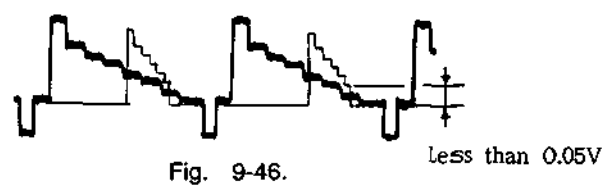


Fig. 9-46.

9-7-10. CG OSC Adjustment (DS-35 Board)

Mode	E-E (P in P)
Signal	Colour bar (PAL)
Measurement Point	Pin ⑤ of CN204
Measuring Instrument	Oscilloscope
Adjustment Element	CV201
Specified Value	6.86 ± 0.01MHz

1) Pin ㉑ of IC204 – Pin ㉒ of IC204 Short.

9-8. AUDIO SYSTEM ADJUSTMENT

- Perform adjustment using the color bar signal as the video signal input.

[Connection of measuring instruments for audio]
In addition to the measuring instruments for the video system, the measuring instruments shown in the figure below are used for the audio system.

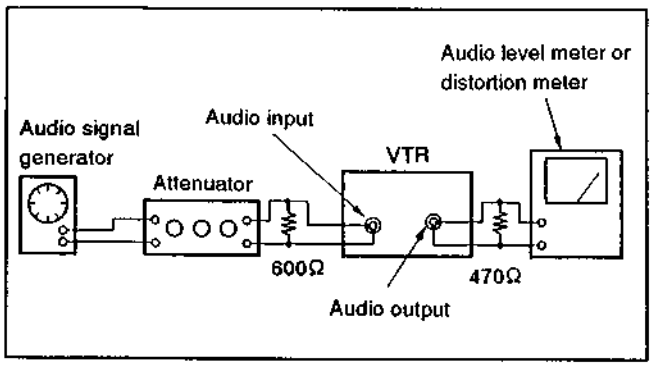


Fig. 9-47.

[Adjustment procedure]
1) PCM Master Clock Oscillation Frequency Adjustment
2) REC PCM Level Check
3) PCM Playback VCO Free Oscillation Frequency Adjustment
4) PCM Playback Level Adjustment
5) E-E Output Level Check
6) PCM Offset Adjustment
7) PCM Recording Level Adjustment
8) Overall Frequency Characteristics Check
9) Overall Distortion Check
10) Overall Noise Level Check

9-8-1. PCM Audio Systen Adjustment

Unless indicated otherwise, set the VTR switches and controls to the following positions for adjustment.
Input select switch ..... LINE
Audio monitor switch (PCM/mix/normal) ..... PCM
REC LEVEL control ..... [5]

Note: The adjusting element for the R channel is indicated in [ ].

1. PCM master clock oscillation frequency adjustment (PC-39 board)

Mode	REC
Signal	No signal
Measurement Point	Pin ⑳ of IC703
Measuring Instrument	Frequency counter
Adjustment Element	CV701
Specified Value	11.50 ± 0.05 MHz

Adjustment method:
1) Connect (Pin ㉘ of IC703) and Pin ㉗ jumper wire.
   - Pin ㉗ of IC703 – GND SHRT
   - Pin ㉘ IC703 – SW 5 V PULL UP by 560 Ω
2) Adjust to 11.50 ± 0.05 MHz using CV701.
3) Remove the jumper wire.

Fig. 9-48.

2. REC PCM level check (PC-39 board)

Mode	REC
Signal	No signal
Measurement Point	Pin ① of CN701
Measuring Instrument	Oscilloscope
Specified Value	Approx. 0.4 Vp-p

Checking method:
1) Confirm that the REC PCM level is approximately 0.4 Vp-p.

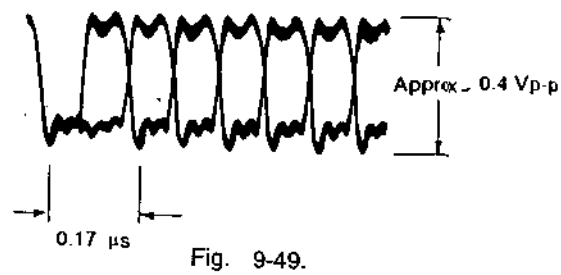


Fig. 9-49.

3. PCM playback VCO free oscillation frequency adjustment (PC-39 board)

Mode	Playback, FF index search, and REW index search
Signal	Any tape
Measurement Point	Pin ⑧ of IC708
Measuring Instrument	Frequency counter
Adjustment Element	RV707 (playback) RV709 (FF index search) RV708 (REW index search)
Specified Value	11.50 ± 0.05 MHz (playback) 10.24 ± 0.05 MHz (FF index search) 12.75 ± 0.05 MHz (REW index search)

Connections:

1) Connect (Pin ① of IC708) and Pin ⑭ (SW 5 V) of CN601 using a jumper wire.
2) Remove CN701 on the PC-39 board.

Adjustment method:

1) Set to the playback mode.
2) Adjust to 11.50 ± 0.05 MHz using RV707.
3) Set to the FF index search mode.
4) Adjust to 10.24 ± 0.05 MHz using RV709.
5) Set to the REW index search mode.
6) Adjust to 12.75 ± 0.05 MHz using RV708.

Fig. 9-50.

4. PCM playback level adjustment (PC-39 board)

Mode	Playback
Signal	Alignment tape: Operation checking (WR5-3CSP or WR4-9CSP) 400 Hz section
Measurement Point	Audio output L and R
Measuring Instrument	Audio level meter
Adjustment Element	RV705
Specified Value	− 7.5 ± 0.5 dBs

Adjustment method:

1) Adjust to − 7.5 ± 0.5 dBs using RV705.

5. E-E output level check

Mode	E-E
Signal	400 Hz, −7.5 dBs: audio input L [R]
Measurement Point	Audio output L [R]
Measuring Instrument	Audio level meter
Specified Value	− 7.5 ± 3 dBs

Checking method:

1) Set the REC LEVEL control to the [5] position.
2) Confirm that −7.5 dB is indicated on the REC LEVEL meter.
3) Confirm that the audio output L [R] level is − 7.5 ± 3 dBs

6. PCM offset adjustment (PC-39 board)

Mode	Self-recording and playback (SP mode)
Signal	400 Hz + 3 dBs
Measurement Point	Pin ⑬ [Pin ③] of IC612
Measuring Instrument	Oscilloscope
Adjustment Element	RV701 [RV702]
Specified Value	Even clipping above and below waveform

Adjustment method:

1) Perform self-recording and playback, then confirm that there is even clipping above and below the waveform.
2) If the amount of clipping is not even, rotate RV701 [RV702] as shown below, and confirm 1) again.

	Rotational direction for RV701 [RV702] as seen from parts side
When amount of upper clipping is smaller	Counterclockwise direction (◯)
When amount of upper clipping is greater	Clockwise direction(◯)

Note: Adjust RCH and LCH alternately as they will affect each other.

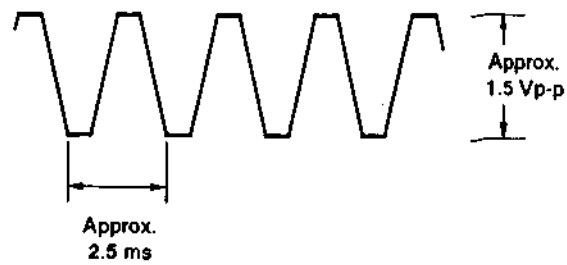


Fig. 9-51.

7. PCM recording level adjustment (PC-39 board)

Mode	Self-recording and playback
Signal	400 Hz, –7.5 dBs: audio input (L and R)
Measurement Point	Audio output
Measuring Instrument	Audio level meter
Adjustment Element	RV703
Specified Value	–7.5 ± 0.5 dBs

Note: Confirm that "PCM Playback Level Adjustment" has been completed.

Adjustment method:
1) Set to the E-E mode.
2) Adjust the REC LEVEL control so that the audio output level is –7.5 dBs. (Both left and right channels)
3) Record the signal.
4) Playback the recorded section.
5) Confirm that the audio output L level is − 7.5 ± 0.5 dB.
6) If the specified value is not satisfied, adjust with RV703 and repeat steps 1) through 5).

8. Overall frequency characteristics check

Mode	Self-recording and playback
Measurement Point	Ⓐ 400 Hz, –7.5 dBs Ⓑ 20 Hz, –7.5 dBs Ⓒ 14 kHz, –7.5 dBs :Audio input L [R]
Measuring Instrument	Audio output L [R]
Adjustment Element	Audio level meter
Specified Value	Confirm that when the 400 Hz playback output level is 0 dB, the 20 Hz playback output level is 0 ± 3 dB and the 14 kHz playback output level is 0^{+3}_{-3} dB.

Checking method:
1) Adjust the REC LEVEL control so that the audio output L [R] level is –7.5 dBs.
2) Record signals Ⓐ through Ⓒ in order.
3) Playback the recorded section.
4) Confirm that when the 400 Hz playback output level is 0 dB, the 20 Hz playback output level is 0 ± 2 dB and the 14 kHz playback output level is 0^{+2}_{-3} dB.

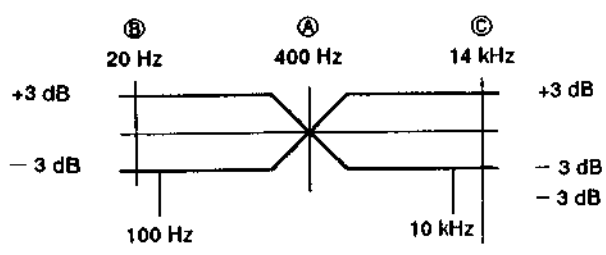


Fig. 9-52.

9. Overall distortion check

Mode	Self-recording and playback
Signal	400 Hz, –7.5 dBs: Audio input L [R]
Measurement Point	Audio output L [R]
Measuring Instrument	Distortion meter
Specified Value	Less than 0.35%

Checking method:
1) Record the signal.
2) Playback the recorded section.
3) Confirm that the distortion is less than 0.35%.

10. Overall noise level check

Mode	Self-recording and playback
Signal	No signal (Shorting plug inserted into both audio input L and R terminals)
Measurement Point	Audio output L [R]
Measuring Instrument	Audio level meter
Specified Value	Less than − 82.0 dBs *2

Checking method:
1) Record the signal.
2) Playback the recorded section.
3) Confirm that the noise level is less than − 82.0 dBs. *2
*2: Value when IHF-A hearing compensation filter is used.

9-8-2. AFM Audio System Adjustment

[Adjustment Procedure]
1) AFM carrier frequency adjustment
2) AFM deviation adjustment
3) AFM matrix (L − R) adjustment
4) AFM matrix (L+R) adjustment
5) E-E output level check
6) Overall level characteristics check
7) Overall frequency characteristics check
8) Overall distortion check
9) Overall noise level check

1-1. AFM carrier frequency adjustment (1.5 MHz) (PC-39 board)

Mode	REC (SP mode)
Signal	No signal
Measurement Point	Pin ⑬ of IC901
Measuring Instrument	Frequency counter and oscilloscope
Adjustment Element	RV901
Specified Value	1500 ± 3 kHz

Connect the IC401 pin ㉕ and Vcc (+5 V) with a 10 kΩ

Adjustment method:

1) Adjust to 1500 ± 3 kHz using RV901.

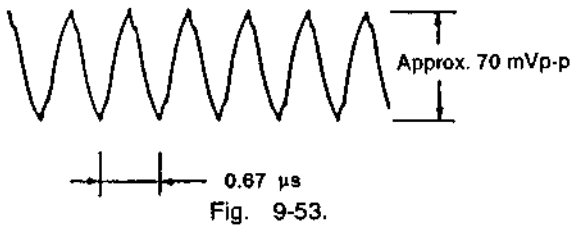


Fig. 9-53.

1-2. AFM carrier frequency adjustment (1.7 MHz) (PC-39 board)

Mode	REC (SP mode)
Signal	No signal
Measurement Point	Pin ⑬ of IC801
Measuring Instrument	Frequency counter and oscilloscope
Adjustment Element	RV801
Specified Value	1700 ± 3 kHz

Connect the IC401 pin ㉕ and Vcc (+5 V) with a 10 kΩ

Adjustment method:

1) Adjust to 1700 ± 3 kHz using RV801.

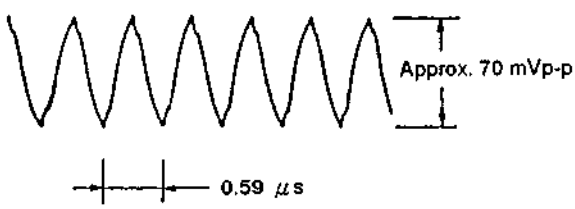


Fig. 9-54.

2-1. AFM deviation adjustment (1.5 MHz) (PC-39 board)

Mode	Playback
Signal	Alignment tape: WR5-9CS Operation checking (AFM Bilingual Tape)
Measurement Point	Audio output L
Measuring Instrument	Audio level meter
Adjustment Element	RV902
Specified Value	− 7.5 ± 0.5 dBs

Adjustment method:

1) Adjust to − 7.5 ± 0.5 dBs using RV902.

2-2. AFM deviation adjustment (1.7 MHz) (PC-39 board)

Mode	Playback
Signal	Alignment tape: WR5-9CS Operation checking (AFM Bilingual Tape)
Measurement Point	Audio output L
Measuring Instrument	Audio level meter
Adjustment Element	RV802
Specified Value	− 7.5 ± 0.5 dBs

Adjustment method:

1) Adjust to − 7.5 ± 0.5 dBs using RV802.

3-1. AFM matrix (L − R) adjustment (PC-39 board)

Mode	REC
Signal	400 Hz, − 7.5 dBs L, R Common phase signal
Measurement Point	IC801 ㊱ pin
Measuring Instrument	Audio level meter
Adjustment Element	RV953
Specified Value	Less than − 60 dBs

3-2. AFM matrix (L − R) adjustment (PC-39 board)

Mode	Playback
Signal	Playback WR5-9CS the 400 Hz, − 7.5 dBs L, R common phase signal
Measurement Point	IC905 ⑦ pin
Measuring Instrument	Audio level meter
Adjustment Element	RV952
Specified Value	Less than − 35 dBs

4-1. AFM matrix (L+R) adjustment (PC-39 board)

Mode	REC
Signal	400 Hz, − 7.5 dBs L, R Unti-phase signal
Measurement Point	IC901 ㊱ pin
Measuring Instrument	Audio level meter
Adjustment Element	RV951
Specified Value	Less than − 60 dBs

4-2. AFM matrix (L+R) adjustment (PC-39 board)

Mode	Playback
Signal	Playback WR5-9CS the 400 Hz, − 7.5 dBs L, R unti-phase signal
Measurement Point	IC906 ① pin
Measuring Instrument	Audio level meter
Adjustment Element	RV954
Specified Value	Less than − 35 dBs

5. E-E output level check

Mode	E-E
Signal	400 Hz, −7.5 dBs: Audio input (Both L and R channels)
Measurement Point	Audio output L [R]
Measuring Instrument	Audio level meter
Specified Value	− 7.5 ± 3 dBs

Checking method:
1) Confirm that the audio output L [R] level is − 7.5 ± 3 dBs.

6. Overall level characteristics check

Mode	Recording (SP mode)
Signal	400 Hz, −7.5 dBs: Audio input (Both L and R channels)
Measurement Point	Audio output L or R
Measuring Instrument	Audio level meter
Specified Value	7.5 ± 3 dBs

Checking method:
1) Record the signal.
2) Playback the recorded section.
3) Confirm that the audio output level is −7.5 ± 3 dBs.

7. Overall frequency characteristics check

Mode	Self-recording and playback
Signal	Ⓐ 400 Hz, −20 dBs Ⓑ 30 Hz, −20 dBs Ⓒ 14 kHz, −20 dBs : Audio input (Both L and R channels)
Measurement Point	Audio output L or R
Measuring Instrument	Audio level meter
Specified Value	Confirm that when the 400 Hz playback output level is 0 dB, the 30 Hz and the 14 kHz playback output level is 0 ± 3 dB.

Checking method:
1) Record signals Ⓐ through Ⓒ in order.
2) Playback the recorded section.
3) Confirm that when the 400 Hz playback output level is 0 dB, the 30 Hz and the 14 kHz playback output level is 0 ± 3 dB.

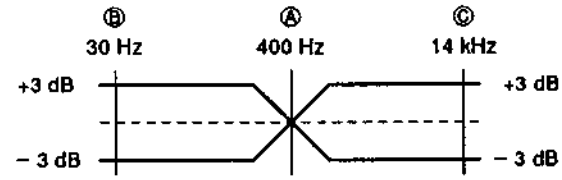


Fig. 9-55. AFM overall frequency response

8. Overall distortion check

The specified value for LP mode is shown in [ ].

Mode	Self-recording and playback
Signal	400 Hz, −7.5 dBs: Audio input (Both L and R channels)
Measurement Point	Audio output L or R
Measuring Instrument	Distortion meter
Specified Value	Less than 0.5% [1.0%] *1

Checking method:
1) Record the signal.
2) Playback the recorded section.
3) Confirm that the distortion is less than 0.5% [1.0%].*1
   *1: Value when the filter for distortion measurement is used (Fig. 8-52.). Distortion should be less than 1.0% [2.0%] when the filter is not used.

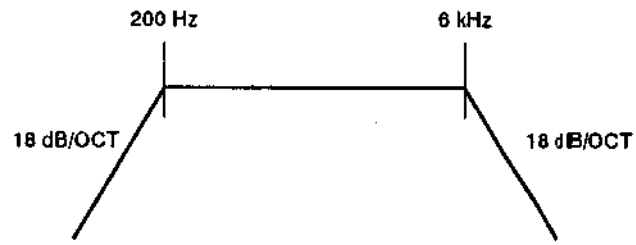


Fig. 9-56. Filter for distortion measurement

9. Overall noise level check

Mode	Self-recording and playback
Signal	No signal (Shorting plug inserted into both audio input L and R terminals)
Measurement Point	Audio output L or R
Measuring Instrument	Audio level meter
Specified Value	Less than –62 dBs *2

Checking method:

1) Record the signal.
2) Playback the recorded section.
3) Confirm that the noise level is less than –62 dBs.*2

*2: Value when IHF-A hearing compensation filter is used.

9-9. TUNER SYSTEM ADJUSTMENT

9-9-1. RF AGC Adjustment (IF001 Unit/TU-100 Board)

Signal	Broadcast TV signal
Adjustment element	VR of IF001 unit

[Adjustment Method]

1) Adjust the monitor TV to a maximum contrast.
2) Turn the VR to make snow noise visible.
3) Turn the VR in an opposite direction and set it to the point where the snow noise disappears.
4) Receive each channel and confirm that there are no beat picture corruption snow noises due to cross modulation.

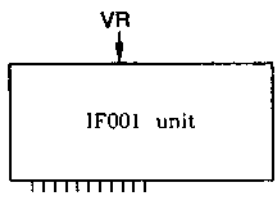


Fig. 8-28.

9-9-2. Receive Separation (MPX) Adjustment (TU-100 Board)

Signal	Stereo (AERIAL IN of RF) Lch : 400 Hz, 100% modulation Rch : No modulation
Connection point	Audio line output: L and R channels
Measurement equipment	Oscilloscope
Adjustment element	RV001

[Setting of The Switch]

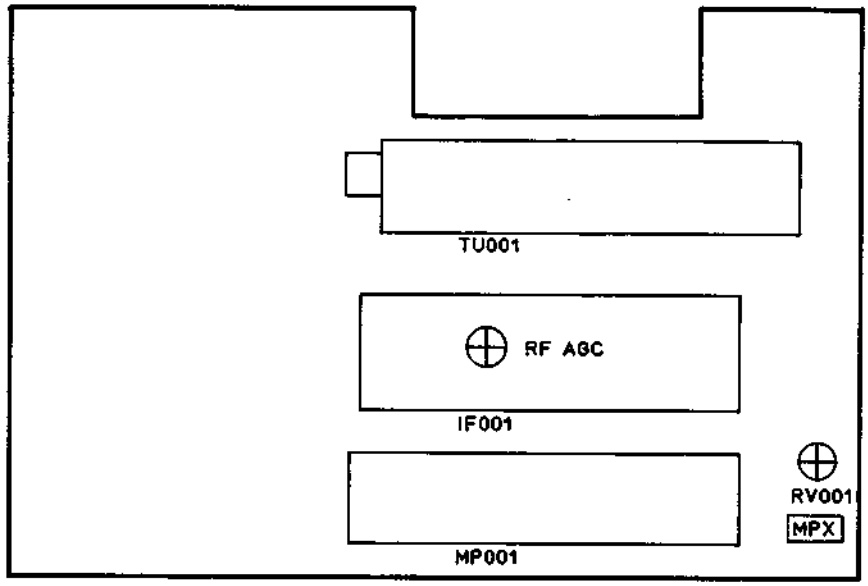
RV101-L (FR-4 board) ··· Center click
RV101-R (FR-4 board) ··· Center click

[Adjustment Method]

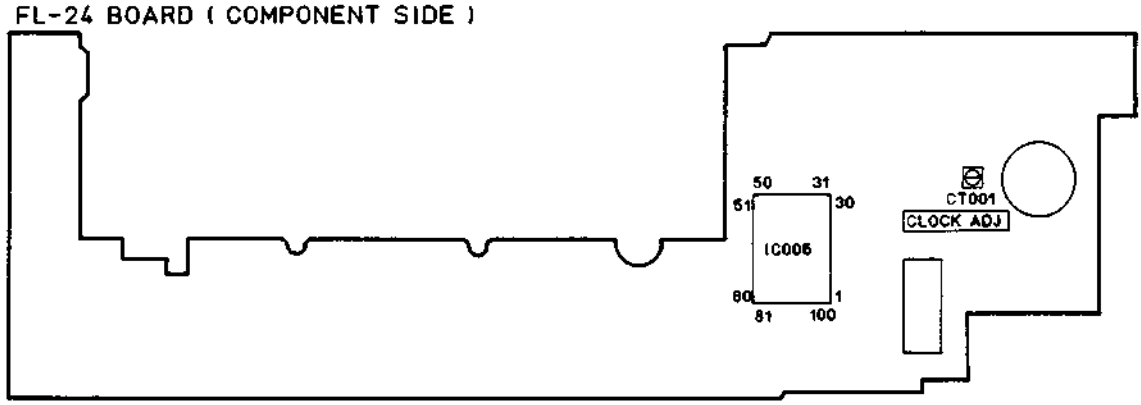
1) Set the sound multiplex signal generator in the Stereo mode, and set only Lch to 400Hz, 100% modulation.
2) Connect the oscilloscope to the Rch of Audio Line Output.
3) Adjust RV001 to minimize Rch output.
   When this is done, do not fully turn RV001.
   (The "STEREO" indicator must be illuminated).

9-10. ARRANGEMENT DIAGRAM FOR ADJUSTMENT PARTS

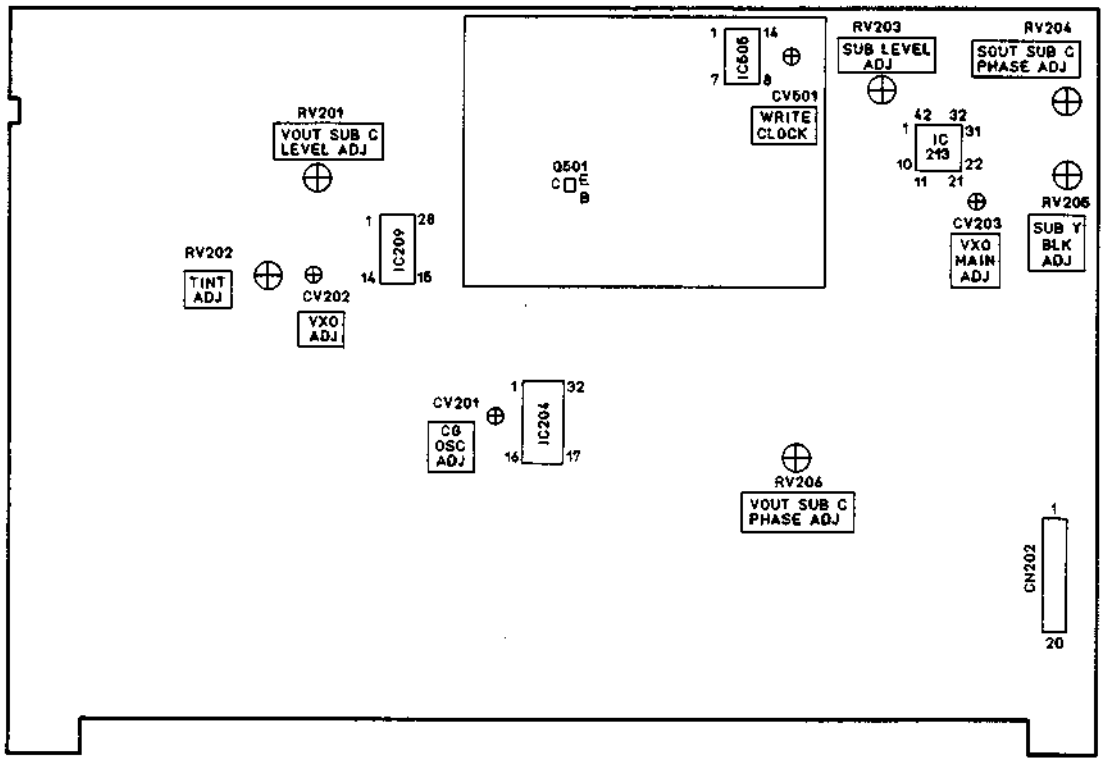
TU-100 BOARD (COMPONENT SIDE)



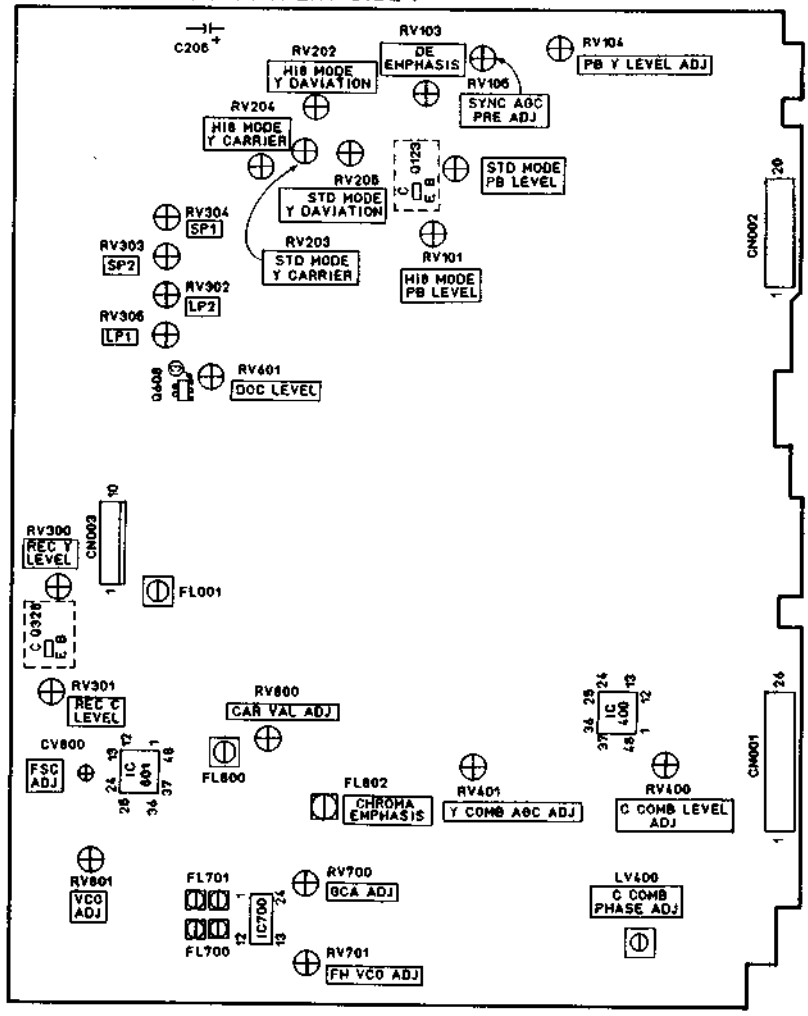
FL-24 BOARD (COMPONENT SIDE)



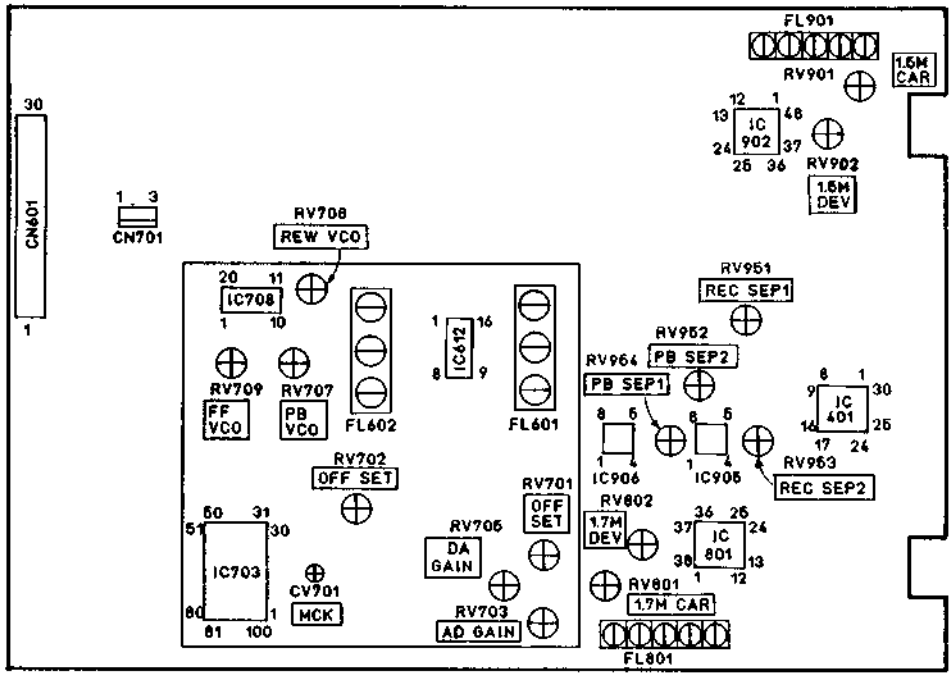
DS-35 BOARD (COMPONENT SIDE)



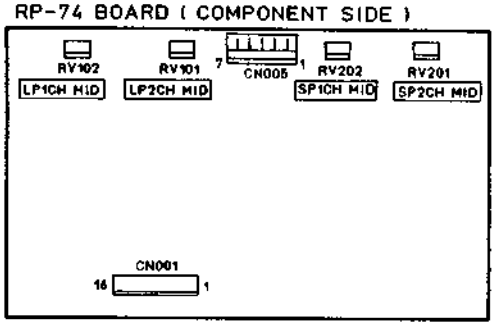
VI-65 BOARD (COMPONENT SIDE)



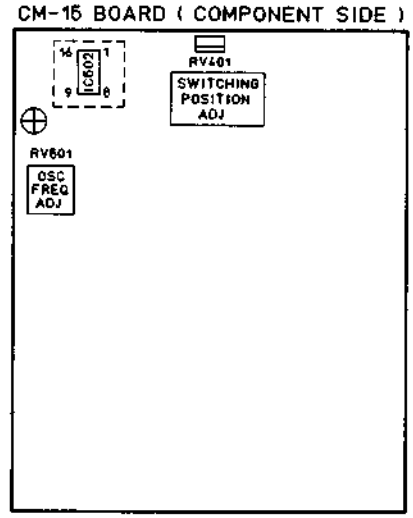
PC-39 BOARD (COMPONENT SIDE)



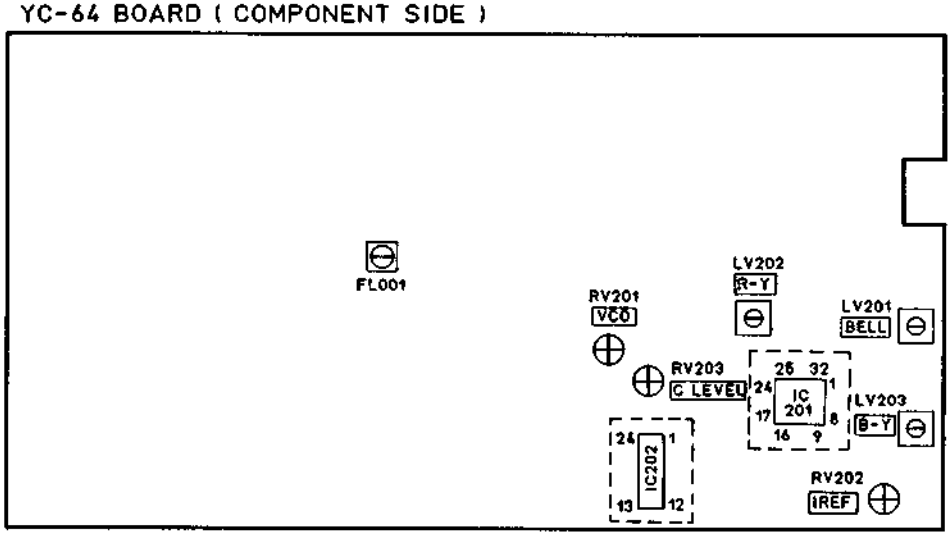
RP-74 BOARD (COMPONENT SIDE)



CM-15 BOARD (COMPONENT SIDE)



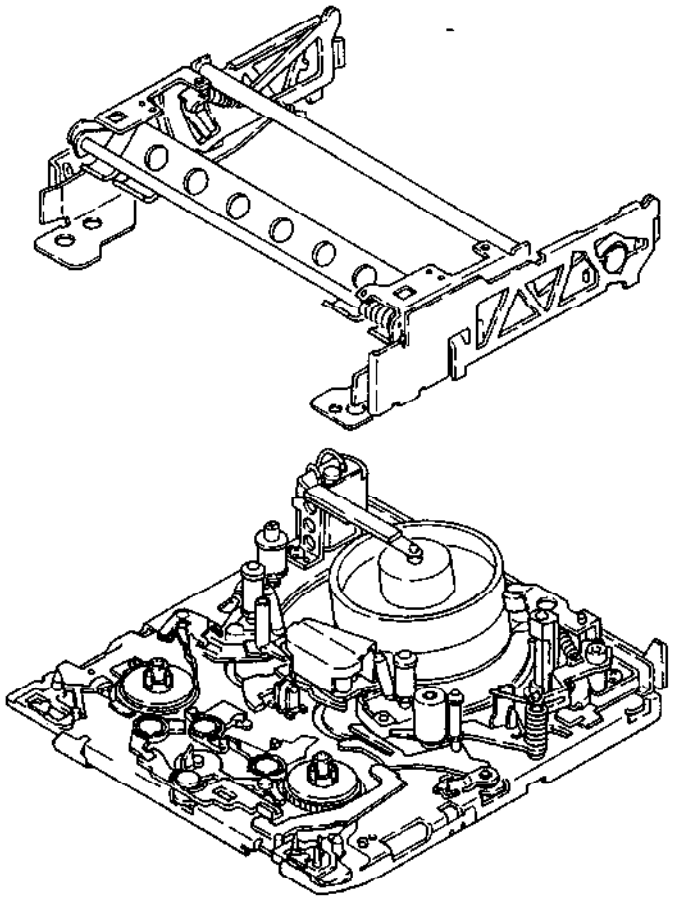
YC-64 BOARD (COMPONENT SIDE)



U MECHANISM

Video 8

Please use in conjunction with the SERVICE MANUAL



8 MECHANISM DECK

SONY

TABLE OF CONTENTS

1. PREPARATIONS FOR MECHANICAL BLOCK CHECK, ADJUSTMENT AND REPLACEMENT

Note: For removal of the cabinet, the boards, the cassette compartment, etc., refer to the service guides.

1-1. OPERATION WITHOUT CASSETTE COMPARTMENT ASSEMBLY AND TAPE

Note: The unit will not work if exposed to a strong light.

1-1-1. How to Trigger the Loading Operation (See Fig. 1-1.)

1) Supply power to the unit after removing the cabinet, the camera block, the cassette compartment assembly, etc., as indicated in the service guides. (This will enable operation of the mechanical deck.)
2) Cover the LED assembly with an opaque cap, etc. ❶.
3) Attach a piece of tape to the RECOG switch ❷ so that the pin is held down.
4) Push the EJECT lever ❸ in the direction of the arrow ❹.

1-1-2. Setting the Playback Mode (See Fig. 1-1.)

1) Follow the procedures in section 1-1-1. above.
2) Put the rubber band ❺ around the S and T reels.
3) Press the PLAY switch of unit, then push the tension regulator arm assembly ❻ in the direction of the arrow ❼ when the T reel starts to rotate (the tension regulator band will be released, and the S reel will start rotating).
4) To stop operation, press the STOP switch.

1-1-3. Eject Operation (See Fig. 1-1.)

1) To eject, turn the EJECT switch on.

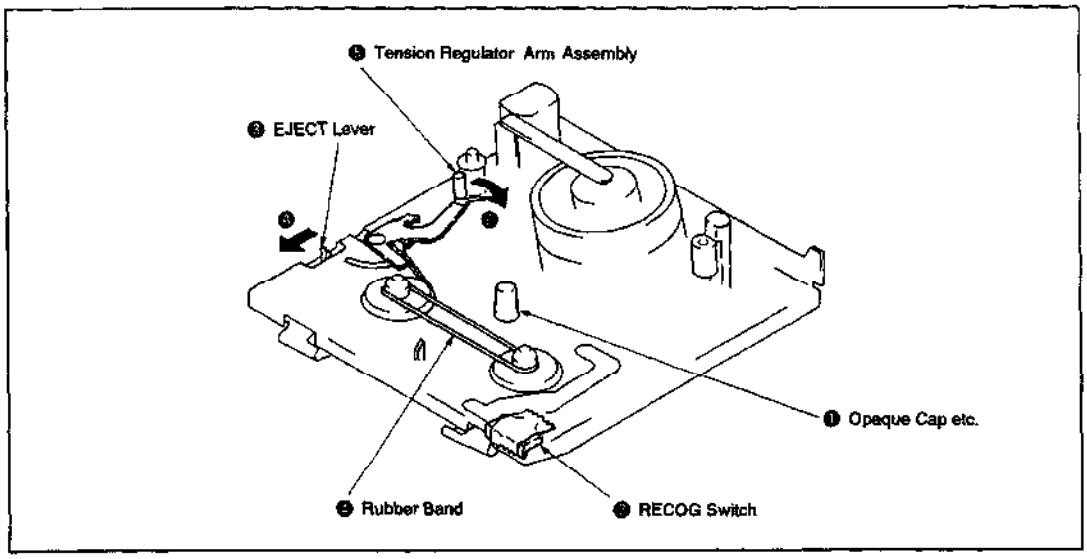


Fig. 1-1.

1-2. THE MODE SELECTOR

1-2-1. Name of Each Part (external) (See Fig. 1-2.)

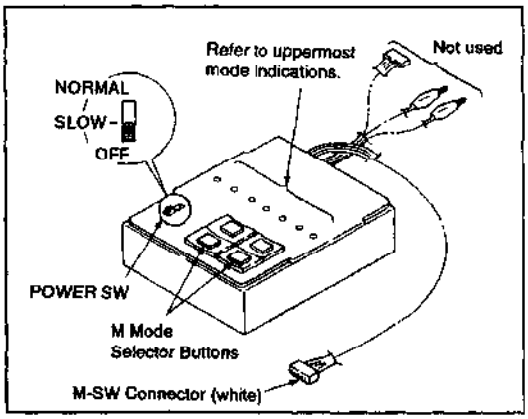


Fig. 1-2.

1-2-2. Connections (See Fig. 1-3.)

1) Mount the MODE SELECTOR III panel (Ref. No. J-9) ❶ onto the mode selector.
2) Attach the conversion connector (Ref. No. J-8) ❸ of MODE SELECTOR III to the 6-pin connector (white) ❷ of the mode selector M-SW.
3) Remove the FP-89 flexible board ❺ from the flexible connector ❹.
4) Attach the FP-89 flexible board ❺ to the flexible connector ❹ of the MODE SELECTOR III conversion connector ❸, then attach the 2-pin connector (white) ❻ of the loading motor to the 2-pin connector (white) ❶.

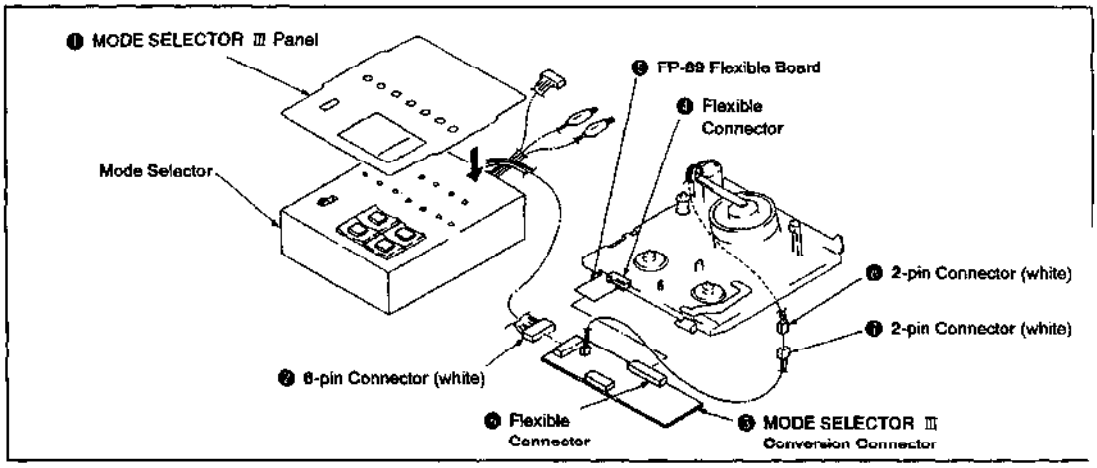


Fig. 1-3.

1-2-3. Handling (See Figs. 1-2. and 1-4.)

- Use only the M mode selector buttons.
- Refer to mode indications on the uppermost part of the MODE SELECTOR III panel.
- If the right M mode selector button is kept pressed, the lit indication will change in the order of EJECT → (1A) → ULD → (1B) → STOP → (1C) → FWD.
- To change modes in the reverse direction (from FWD to EJECT), press the left selector button.

Note: For this U mechanism, the uppermost indicators on the MODE SELECTOR III panel are used. The 1A, 1B and 1C indications light up during mode changes.

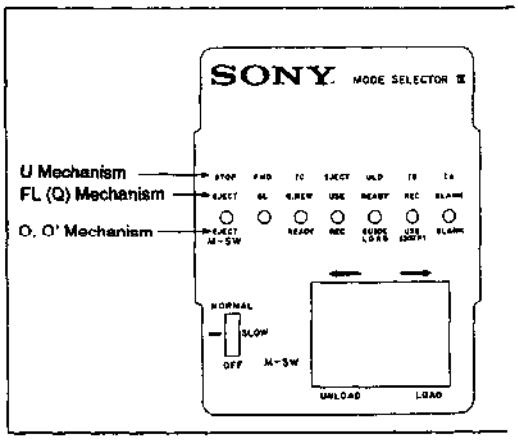


Fig. 1-4.

2. PERIODICAL CHECK AND MAINTENANCE (See Fig. 2-1.)

The following periodical check and maintenance procedures are necessary to ensure proper operation and to protect the tapes as well as the unit, and the following maintenance procedures must be always carried out after repairing regardless of how long the unit has been used.

2-1. ROTARY DRUM ASSEMBLY CLEANING

1) While pressing a piece of chamois leather (Ref. No. J-2) moistened in cleaning fluid (Ref. No. J-1) lightly against the rotary drum, turn the rotary upper drum slowly counter-clockwise with your fingers.

Note: Do not drive the drum with the motor, and do not turn it clockwise.
Do not move the chamois leather vertically against the head tip; this can damage the head tip. Strictly follow the cleaning instructions above.

2-2. TAPE PATH CLEANING

1) Set the cassette compartment assembly to the eject state, or remove it. Then clean the tape path (guides No. 1 to 7, capstan shaft, pinch rollers) with a piece of chamois leather moistened in cleaning fluid (See Fig. 2-1).

2-3. DRIVE SYSTEM CLEANING

1) Clean the drive system (timing belt, reel table surface) with a piece of cloth moistened in cleaning fluid.

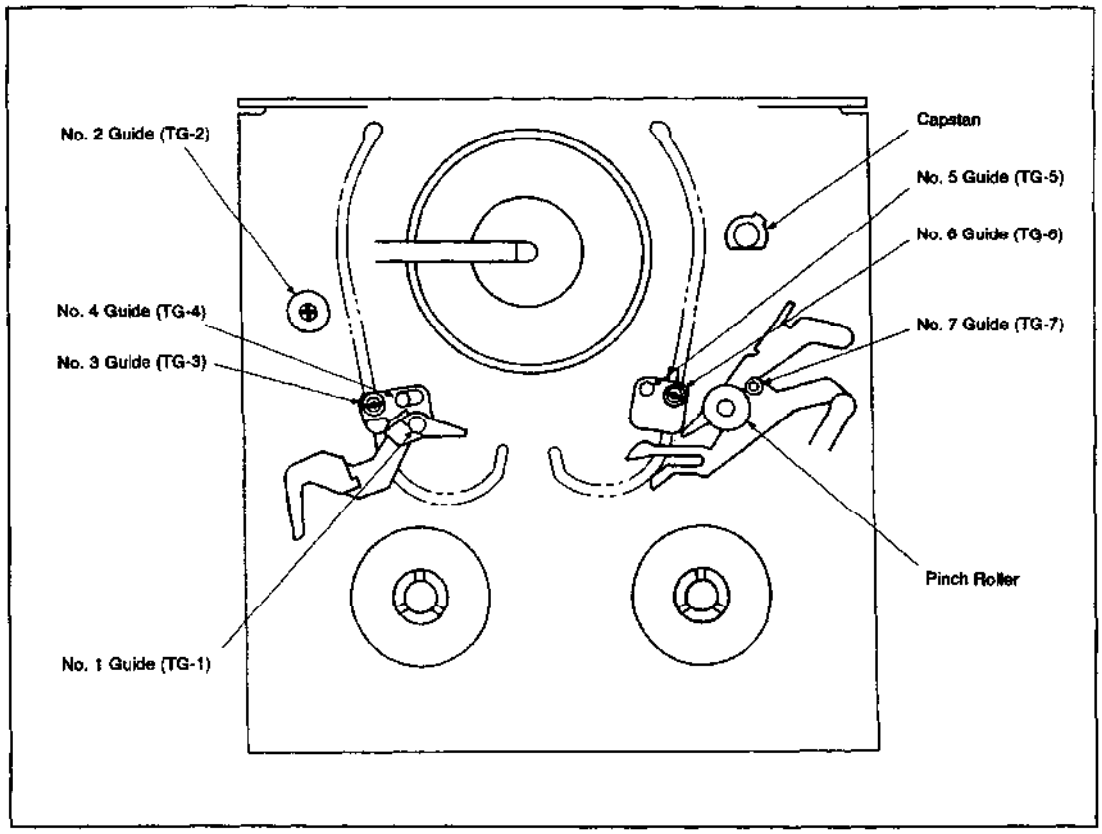


Fig. 2-1.

2-4. PERIODICAL CHECK ITEMS

○Cleaning ◎Lubrication ☆Check

Maintenance and Check Item		Operation time (H)										Remarks
		500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	
Cleaning and Demag-netizing	Tape path surfaces Cleaning	○	○	○	○	○	○	○	○	○	○	Do not oil.
	Rotary drum assembly cleaning and demagnetizing	○	○	○	○	○	○	○	○	○	○	Do not oil.
Drive System	Relay belt (short)	–	☆	–	☆	–	☆	–	☆	–	☆	3-728-866-01
	Relay belt (long)	–	☆	–	☆	–	☆	–	☆	–	☆	3-728-865-01
	Capstan shaft	–	◎	–	◎	–	◎	–	◎	–	◎	Take care that no oil gets on tape path surfaces.
	Idler pulley axle	–	◎	–	◎	–	◎	–	◎	–	◎	
	Loading motor	–	☆	–	☆	–	☆	–	☆	–	☆	1-541-612-11
Perfor-mance Check	Abnormal noise	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	
	Back tension measurement	–	☆	–	☆	–	☆	–	☆	–	☆	
	Brake system	–	☆	–	☆	–	☆	–	☆	–	☆	
	FWD, RVS torque measurement	–	☆	–	☆	–	☆	–	☆	–	☆	

Notes: When overhauling the unit, perform parts replacement referring to the table above.

Regarding Oil:

- Always use the specified oil (using oil of different viscosity, etc. can cause troubles of several kinds) .
  Specified oil: Part No. 7-661-018-01
  (Mitsubishi Diamond Oil Hydrofluid EP56)
- Be sure that no dirt is mixed in the oil to be used on axle bearings. Use of dirty oil can result in bearing wear and burning.
- By "one drop of oil" is meant the quantity of oil adhering to the end of a a 2mm-diameter rod as shown in Fig. 2-2.

On grease:

- Use the specified grease.
  Grease: Part No. 7-662-010-08
  (Sony grease SGL-701)

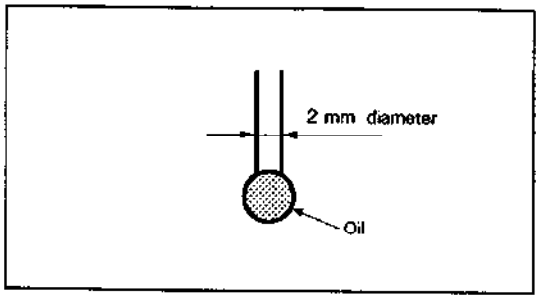
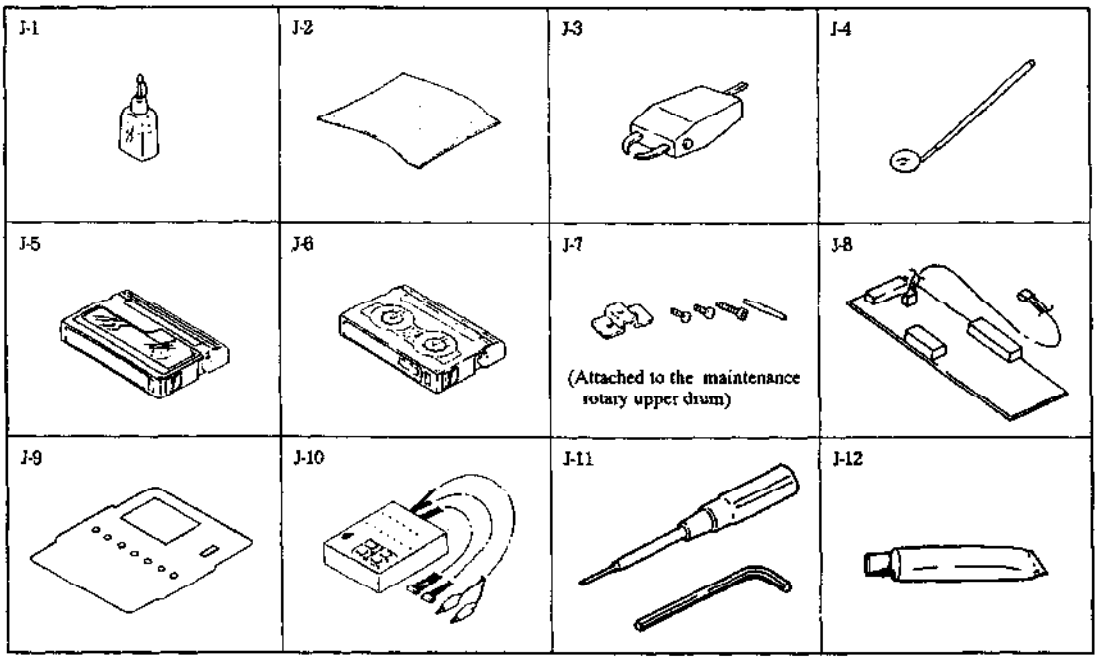


Fig. 2-2.

2-5. SERVICING TOOLS

Ref. No.	Name	Part Code	Marking	Application, etc.
J-1	Cleaning fluid	Y-2031-001-0	–	
J-2	Chamois cloth	2-034-697-00	–	
J-3	Head demagnetizer	Commercially available	–	
J-4	Dental mirror Spare mirror	J-6080-029-A J-6080-030-1	SL-5052	Tape path
J-5	Alignment tape NTSC (WR5-1N) PAL (WR5-1C)	8-967-995-01 8-967-995-06		Tape path
J-6	FWD/RVS takeup torque cassette	J-6080-624-A	GD-2086	
J-7	Rotary drum jig	(Attached to the maintenance rotary upper drum)		
J-8	Mode selector III conversion connector	J-6082-021-A		General
J-9	Mode selector III panel	J-6082-023-A		General
J-10	Mode selector	J-6080-825-A		General
J-11	Hexagonal wrench detection (0.89 mm) or L wrench (0.89 mm)	7-700-766-01 7-700-736-06		Tape path
J-12	Sony grease (SGL-701)	7-662-010-08		

Other devices: Oscilloscope
Analog tester (20 kΩ)



3. MECHANICAL BLOCK CHECK, ADJUSTMENT AND REPLACEMENT

Notes:
- Use the mode selector (Ref. No. J-10) for procedures in this chapter.
- Modes within a frame [ ] are those set by pressing the buttons of the mode selector.

3-1. HC ROLLER ASSEMBLY

1. Removal (See Fig. 3-1.)

1) Remove the screw ❶, then remove the HC roller assembly ❷.

2. Installation (See Fig. 3-1.)

1) Align the two dowels ❸ attached to the HC roller assembly ❷ with the two holes ❹ in the mechanism chassis.
2) Secure the HC roller assembly ❷ with the screw ❶.

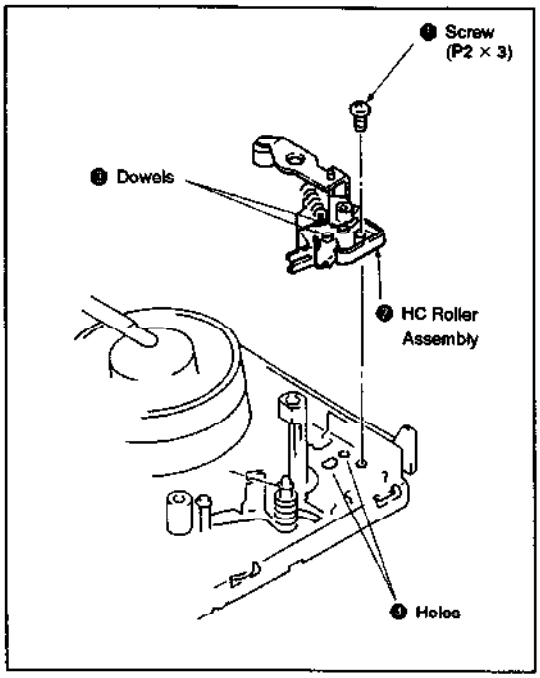


Fig. 3-1.

3-2. GUIDE GUARD ASSEMBLY

1. Removal (See Fig. 3-2.)

Remove the screw ❶, then remove the guide guard assembly ❷.

2. Installation (See Fig. 3-2.)

1) Align the dowel ❸ attached to the guide guard assembly ❷ with the hole ❹.
2) Secure the guide guard assembly ❷ with the screw ❶.

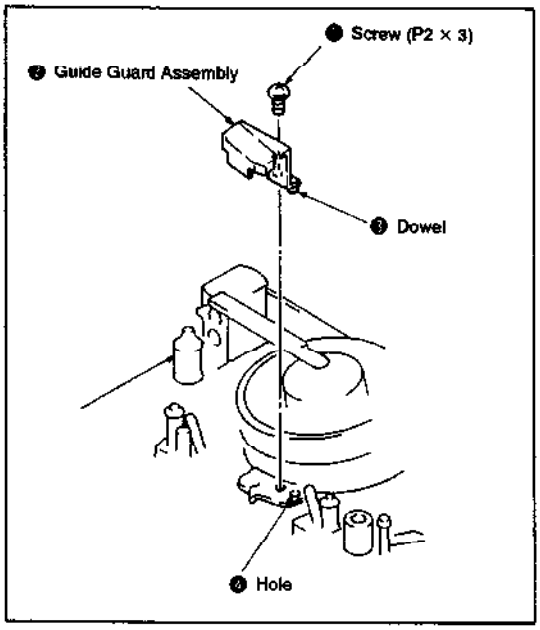


Fig. 3-2.

3-3. DC MOTOR (CAPSTAN MOTOR) ASSEMBLY

1. Removal (See Fig. 3-3.)

1) Set the ULD mode.
2) Turn the stopper ❶ in the direction of the arrow ❹ as far as it will go.
3) Remove the two screws ❷, then remove the DC motor ❸.

2. Installation (See Fig. 3-3.)

1) Align the two screwed dowels ❹ with the two holes ❺, then engage the toothed part ❻ with the connecting gear ❼.
2) Secure the DC motor assembly ❸ with the two screws ❷.
3) Turn the stopper ❶ in the direction of the arrow ❺ as far as it will go.

Note:
- When engaging the gears, take care not to damage their teeth.
- Do not leave any clearance between the DC motor ❸ and the chassis.
- Do not touch the capstan motor axle*, the oil seal* and the rotor*.

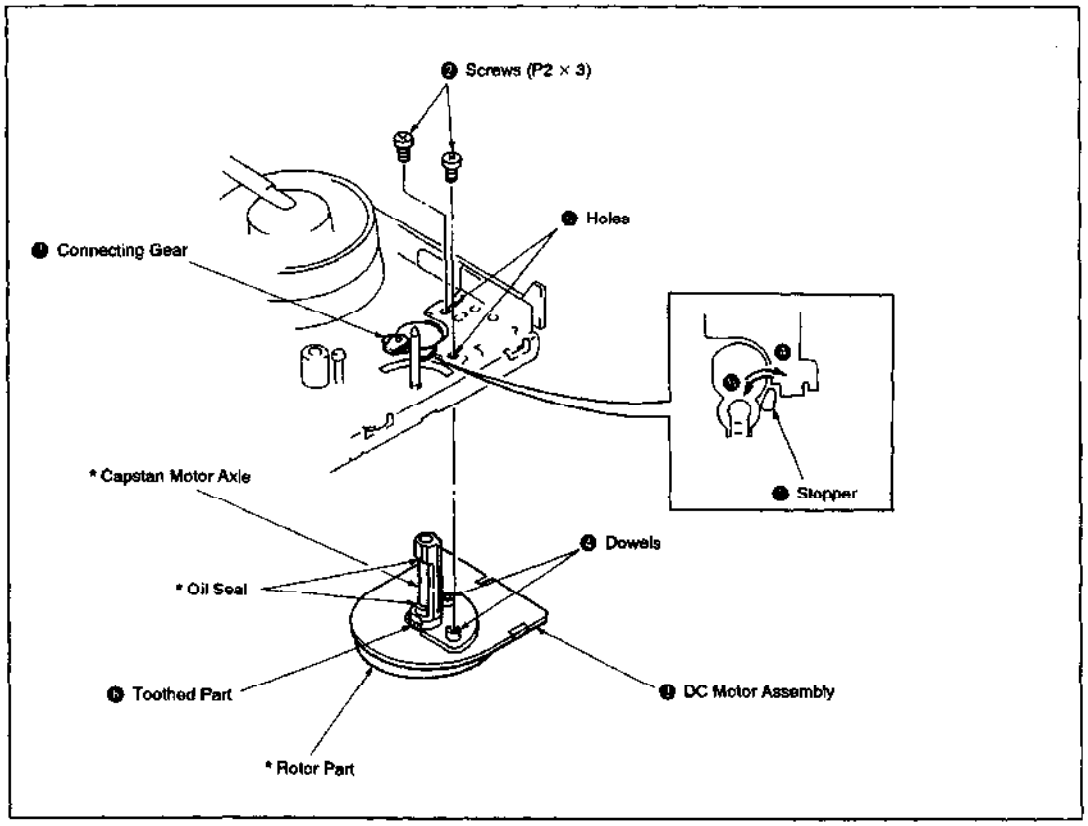


Fig. 3-3.

3-4. S BRAKE, T BRAKE

1. Removal (See Fig. 3-4.)

1) Remove the torsion coil spring (ST) ⑧.
2) Remove the axle holding pin ⑨, then remove the T brake ⑩.
3) Remove the axle holding pin ④, then remove the S brake ⑤.

2. Installation (See Fig. 3-4.)

1) While fitting the toothed part ⑥ into the notch ⑪, mount the S brake ⑤.
2) Insert the axle holding pin ⑨.
3) Insert the axle ⑫ to the S reel side of the brake release arm ⑬ so that the ⑭ part comes closer to the drum than part ⑮, and mount the T brake ⑩.
4) Insert the axle holding pin ⑨.
5) Insert the torsion coil spring (ST) ⑧ below the claw ⑦ of the axle ⑫, then hook it to two claws ⑯.

Note: Confirm that the claws of axle holding pins ⑨ and ④ are not broken before assembling.

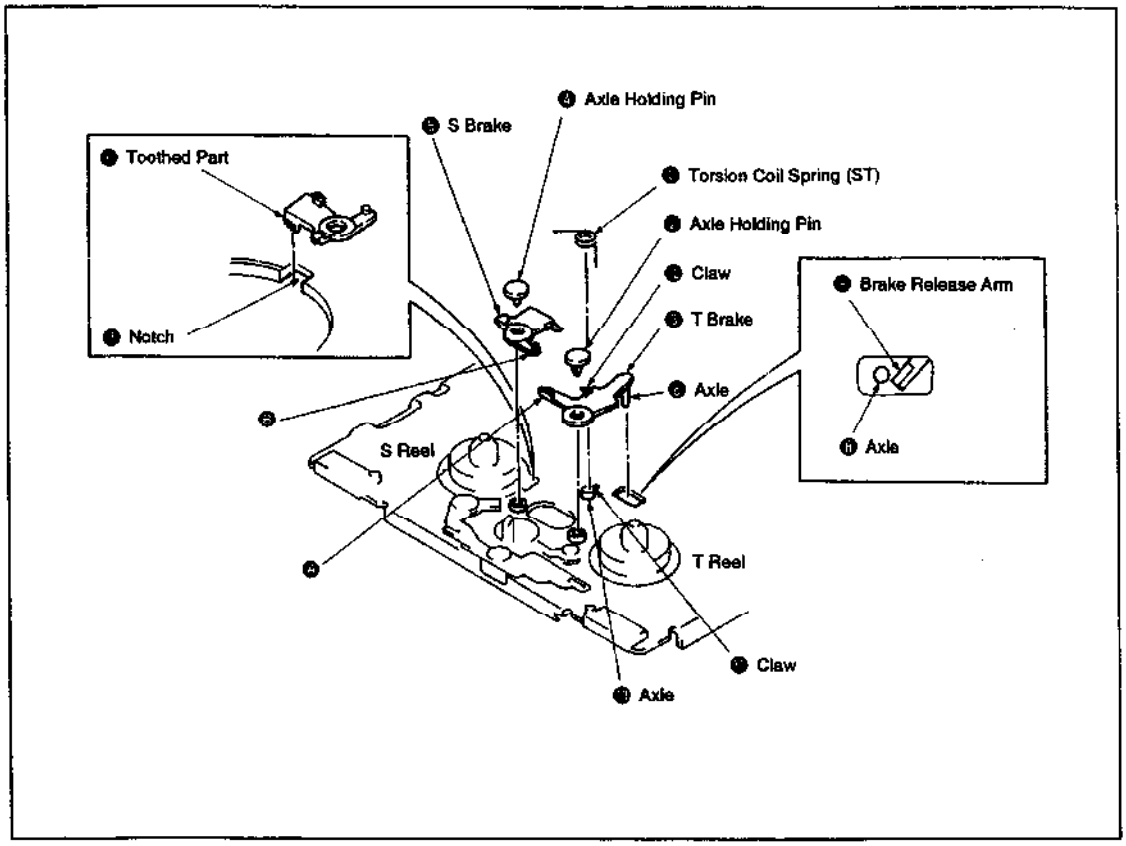


Fig. 3-4.

3-5. LB BRAKE, AXLE HOLDING PINS

1. Removal (See Fig. 3-5.)

1) Remove the screw ❶, then remove the TL holding plate ❷.
2) Remove the axle holding pin ❸, then remove the LB brake ❹.
3) Remove the axle holding pin ❺, then remove the LB lever ❻.

2. Installation (See Fig. 3-5.)

1) Mount the LB lever ❻ matching it to pin ❼ of the LB gear, then secure it with the axle holding pin ❺.
2) Insert the pin ❽ into the notch ❾ of the LB lever ❻, then mount the LB brake ❹ while inserting the toothed part ❿ into the notch ⓫.
3) Insert the axle holding pin ❸.
4) Align the dowel ⓬ with the hole ⓭, then mount the TL holding plate and secure it with the screw ❶.

Note: Confirm that the claws of axle holding pins ❸ and ❺ are not broken before assembling.

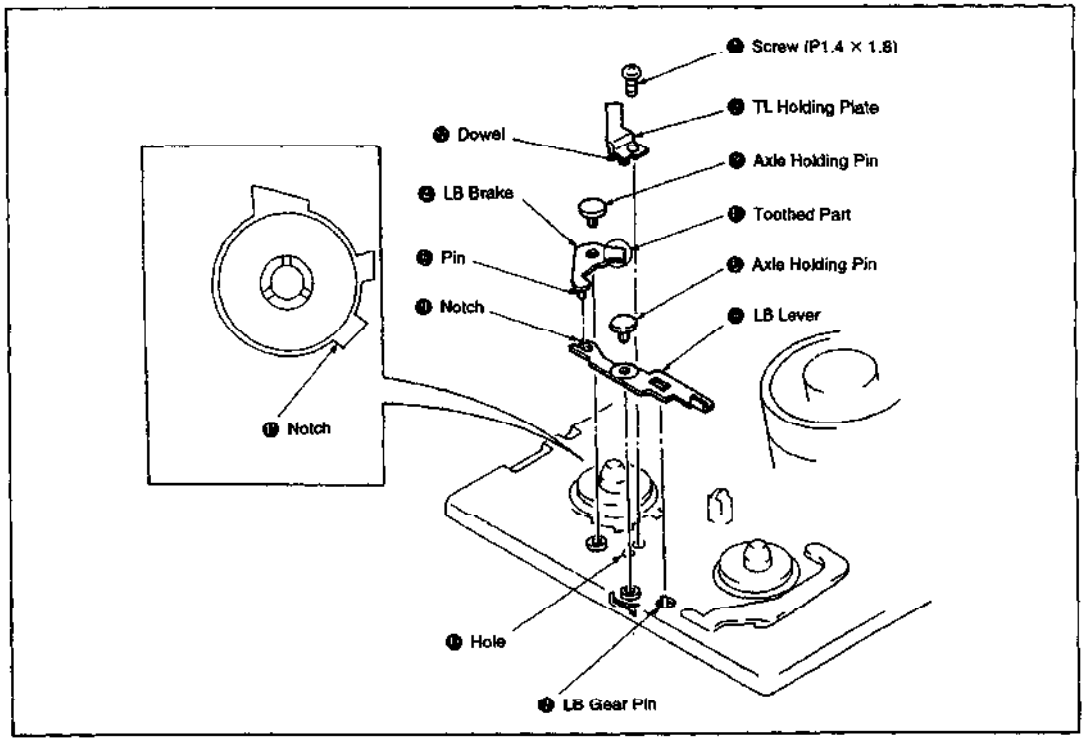


Fig. 3-5.

3-6. LB RELEASE ARM

1. Removal (See Fig. 3-6.)

1) While pushing the claw ❶ in the direction of the arrow, remove the LB release arm ❷.

2. Installation (See Fig. 3-6.)

1) Fit the LB release arm ❷ to the axle ❸, insert protrusions ❶, ❺, ❻, ❼ into the three holes ❹, then secure with the claw ❶.

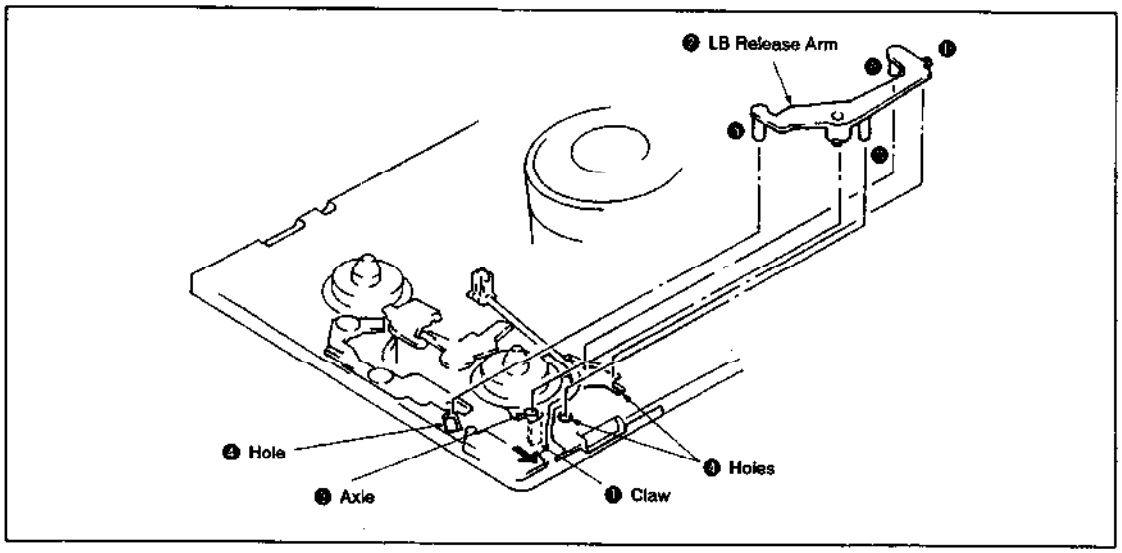


Fig. 3-6.

3-7. RK STOPPER. RK STOPPER ARMS

1. Removal (See Fig. 3-7.)

1) Remove the torsion coil spring (RK) ❶.
2) Open the chassis claw ❽, then remove the RK stopper arm ❼.
3) Remove the RK stopper ❹.

2. Installation (See Fig. 3-7.)

1) Mount the RK stopper ❹ onto the axle ❸.
2) Mount the RK stopper arm ❼ onto the axle ❸, insert Pin ❿ into hole ❾, then hook the claw ❽ of the chassis to the hole ❽.
3) Insert the torsion coil spring (RK) ❶ into the axle ❸, then hook it to claws ❽ and ❾.

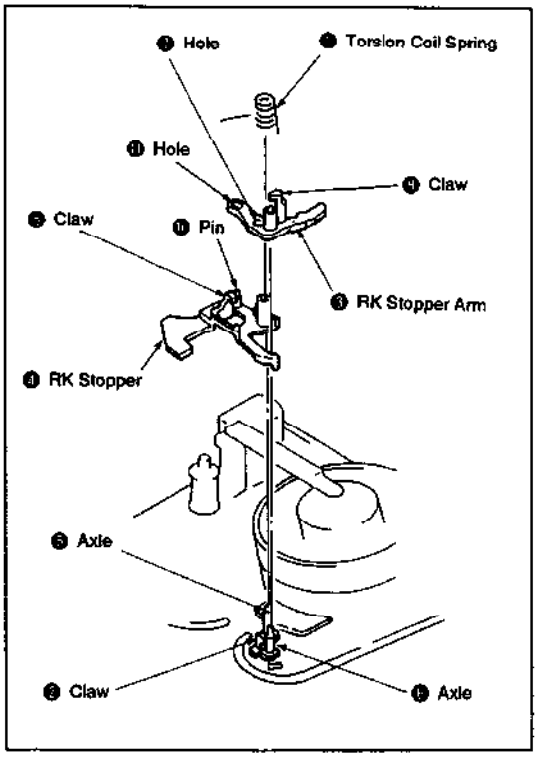


Fig. 3-7.

3-8. PINCH ARM ASSEMBLY, TG-7 ASSEMBLY

1. Removal (See Fig. 3-8.)

1) Set the [PB] mode.
2) Remove the stopper washer ❶, then remove the pinch arm assembly ❷.
3) Bend the claw ❹ inside hole ❸ in the direction of the arrow using a thin screwdriver or the like, then remove the TG-7 plate spring ❺.
4) Remove the TG-7 arm assembly ❻.

2. Installation (See Fig. 3-8.)

1) Grease the inner surfaces of hole ❸ (See Fig. A).
2) Insert the axle ❽ of the TG-7 arm assembly ❻ into the hole ❸.
3) Grease the shaded section ⓫ (See Fig. A).
4) Insert the TG-7 plate spring ❺ into the hole ❸, then secure it with the claw ❹.
5) Apply half a drop of oil to the axle ❽ (See Fig. B).
6) Fit the pinch arm assembly ❷ to the axle ❽ and insert the pinch roller sub arm assembly tab ⓬ into the ⓭ part.
7) Install the stopper washer ❶.

Note:
- Take care not to grease the screw ⓫ of the TG-7 arm assembly ❻ (See Fig. A).
- When fitting the pinch arm assembly ❷ to the axle ❽, make sure that it does not touch the TG-7 guide ❼ or the rubber roller ❾.
- After assembling, be sure to perform tape path adjustment as described in section 4.

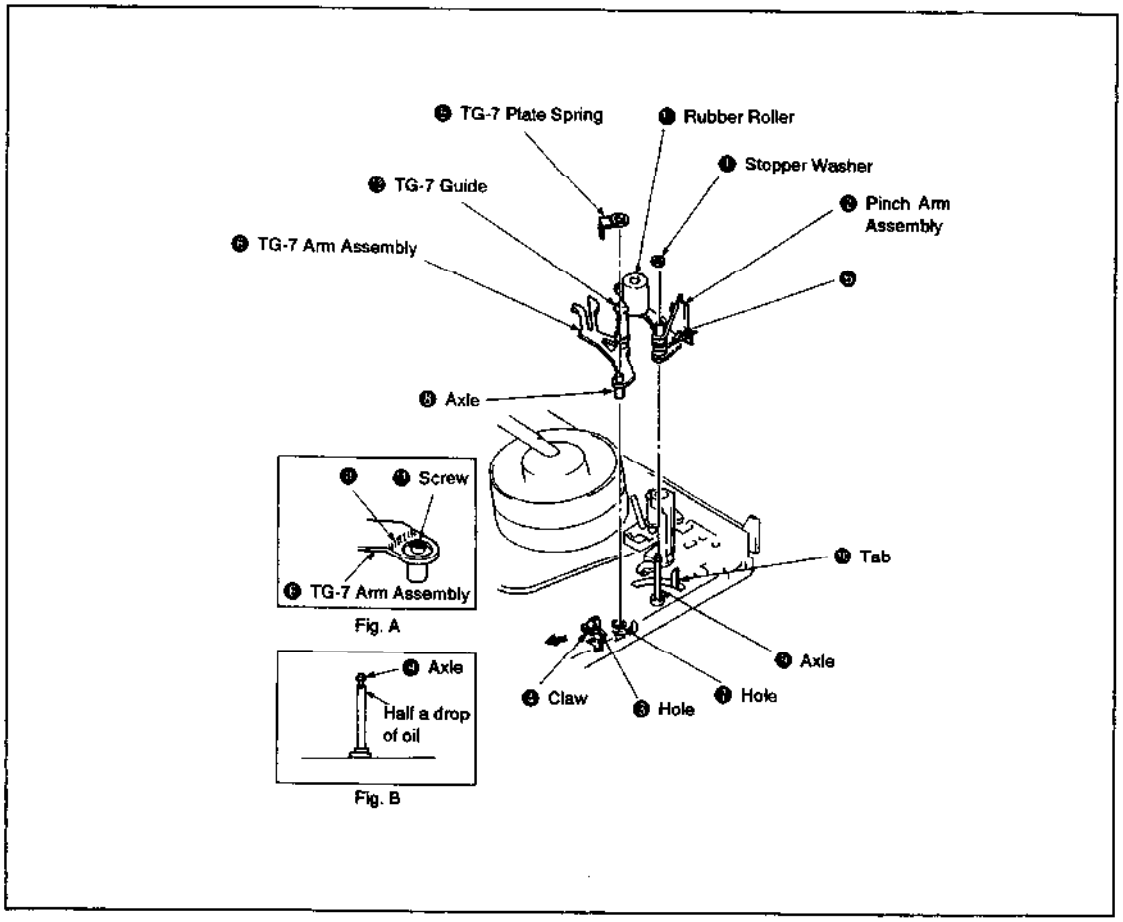


Fig. 3-8.

3-9. TG-2 ASSEMBLY

1. Removal (See Fig. 3-9.)

1) Remove the TG-2 upper flange assembly ❶.
2) Remove the TG-2 roller ❷, the TG-2 sleeve ❸, the TG-2 lower flange ❹ and the compression spring ❺.

2. Installation (See Fig. 3-9.)

1) Mount the compression spring ❺, the TG-2 lower flange ❹, the TG-2 sleeve ❸ and the TG-2 roller ❷ to the axle.
2) Secure the TG-2 upper flange ❶ to the axle by rotating it 4 to 6 turns.

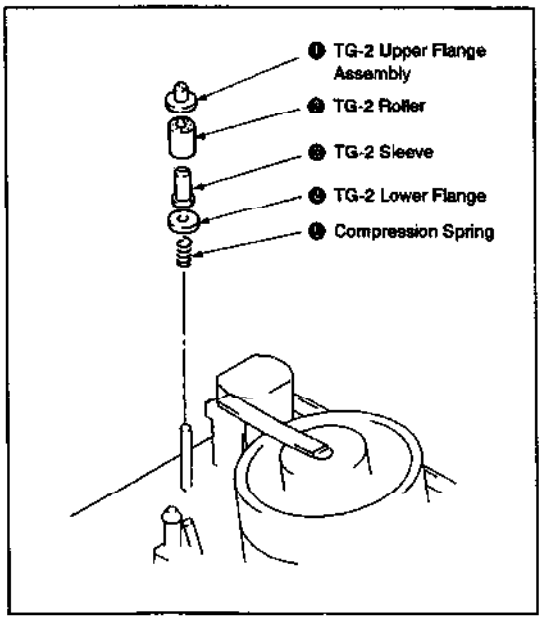


Fig. 3-9.

3. TG-2 Height Preset (see Fig. 3-10.)

1) Adjust height from the mechanism chassis upper surface to the TG-2 upper flange ❶ upper surface to 18.6 mm by turning the TG-2 upper flange ❶.

Note: After adjustment, be sure to perform tape path adjustment as described in section 4.

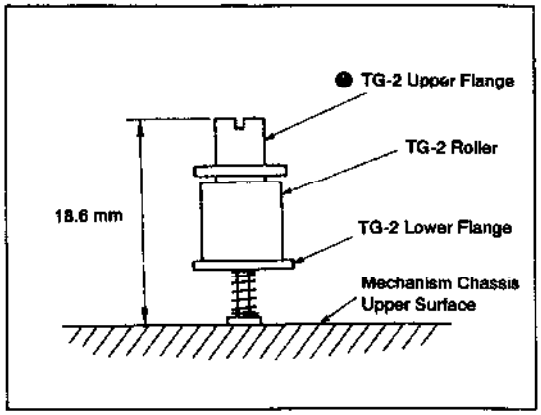


Fig. 3-10.

3-10. S REEL TABLE ASSEMBLY, T REEL TABLE ASSEMBLY

1. Removal (See Fig. 3-11.)

1) Remove the S brake and T brake as described in section 3-4.
2) Remove the TL holding plate as described in section 3-5.
3) Remove the tension regulator band assembly as described in section 3-11.
4) Remove the S reel table assembly ❶.
5) Turn the stopper ❷ approx. 90° in the direction of the arrow ❸.
6) While sliding the LB release arm ❹ in the direction of the arrow ❺, remove the T reel table assembly ❻.

2. Installation (See Fig. 3-11.)

1) Apply half a drop of oil to the axle ❽ (See Fig. A).
2) Move the RK gear ❾ in the direction of the arrow ❿ and the TS brake ⓫ in the direction of the arrow ⓬, putting them out of the way.
3) While sliding the LB release arm ❹ in the direction of the arrow ❺, mount the T reel table assembly ❻ onto the axle ❽, then turn the stopper ❷ in the direction of the arrow ❸ as far as it will go.
4) Apply half a drop of oil to the axle ❽ (See Fig. B).
5) Move the RK gear ❾ in the direction of the arrow ⓭, the UL brake ⓮ in the direction of the arrow ⓯ and the LB brake ⓰ in the direction of the arrow ⓱, putting them out of the way.
6) Mount the S reel table ❶ onto the axle ❽.
7) Mount the tension regulator band assembly as described in section 3-11.
8) Mount the TL holding plate as described in section 3-5.
9) Mount the S brake and T brake assemblies as described in section 3-4.

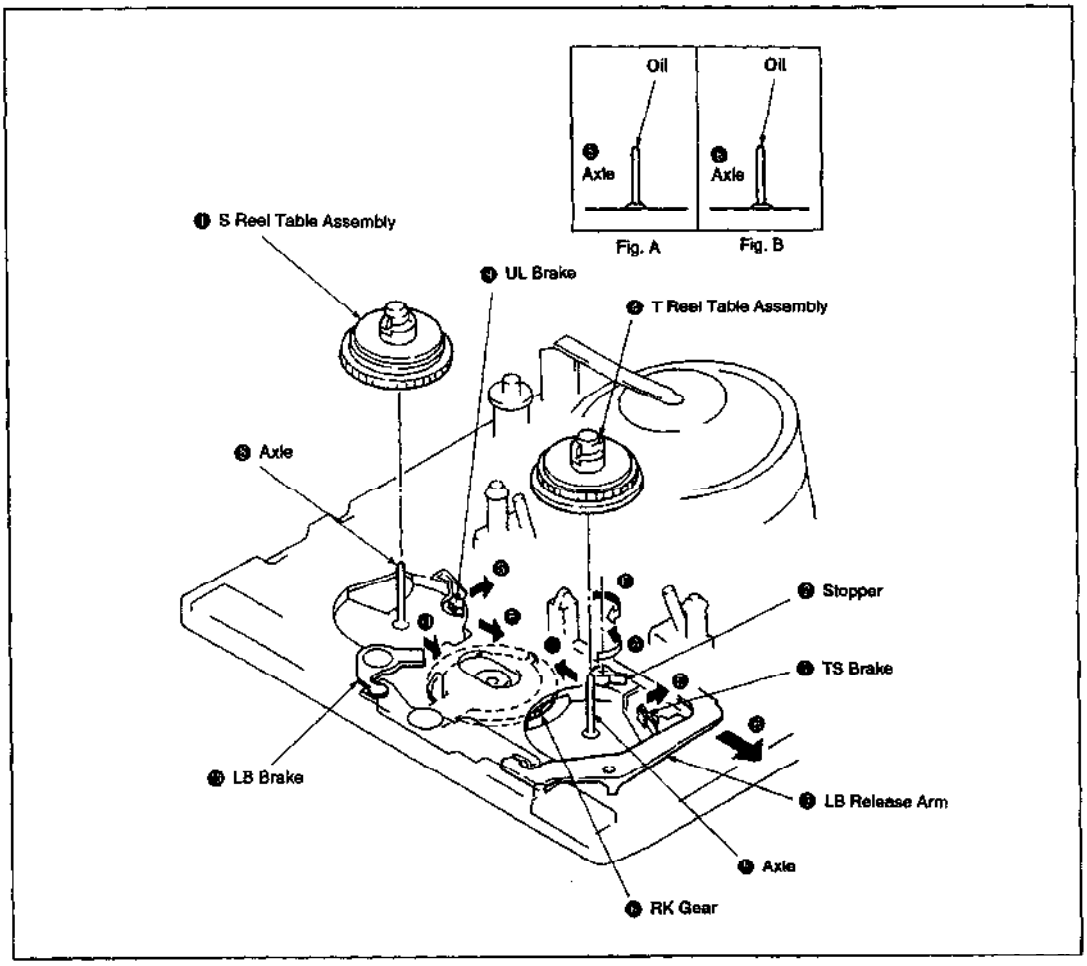


Fig. 3-11.

3-11. TENSION REGULATOR BAND ASSEMBLY, TENSION REGULATOR ARM ASSEMBLY

1. Removal (See Fig. 3-12.)

1) Remove the TL holding plate as described in section 3-5.
2) Remove the screw ❶.
3) Using a thin screwdriver or the like, remove the tension regulator band assembly ❹ from the axle ❸ of tension regulator arm assembly ❷.
4) Remove the tension spring ❺.
5) Remove the stopper washer ❻ from the back of the mechanism chassis, then remove the tension regulator arm assembly ❷.
6) Open the claw ❼, then remove the adjust arm ❽.

Note: When removing the tension regulator band assembly ❹, take care not to twist or bend it, and not to touch the felt surface ❾.

2. Installation (See Fig. 3-12.)

1) Engage the adjust arm ❽ in the position shown in Fig. A, then close the claw ❼.
2) Apply half a drop of oil to the hole ⓰.
3) Mount the tension regulator arm assembly ❷, then insert it into the slot ⓫ so that the ❽ part comes to the arrow Ⓐ side of the switch lever assembly (See Fig. B).
4) While holding the tension regulator arm assembly ❷ from the mechanism chassis front, secure it with the stopper washer ❻ from the back.
5) Hook the R hook of the tension spring ❺ to the adjust arm ❽ as shown in the figure, then hook the opposite end to the tension regulator arm assembly ❷.
6) Mount the tension regulator band assembly ❹ onto the axle ❸ of tension regulator arm assembly ❷, and place it so that the felt surface ❾ comes against the shaded portion of the S reel table assembly ⓯.
7) Mount the tension regulator plate ⓬ of the tension regulator band assembly ❹ so that it is aligned with the dowel ⓭ of the mechanism chassis, then secure it temporarily with the screw ❶.
8) Mount the TL holding plate as described in section 3-5.
9) Adjust tension regulator FWD position as described in section 3-12.
10) Perform adjust arm adjustment as described in section 3-22.

Note: When mounting the tension regulator band assembly ❷, take care not to twist or bend it, and not to touch the felt surface ❾.

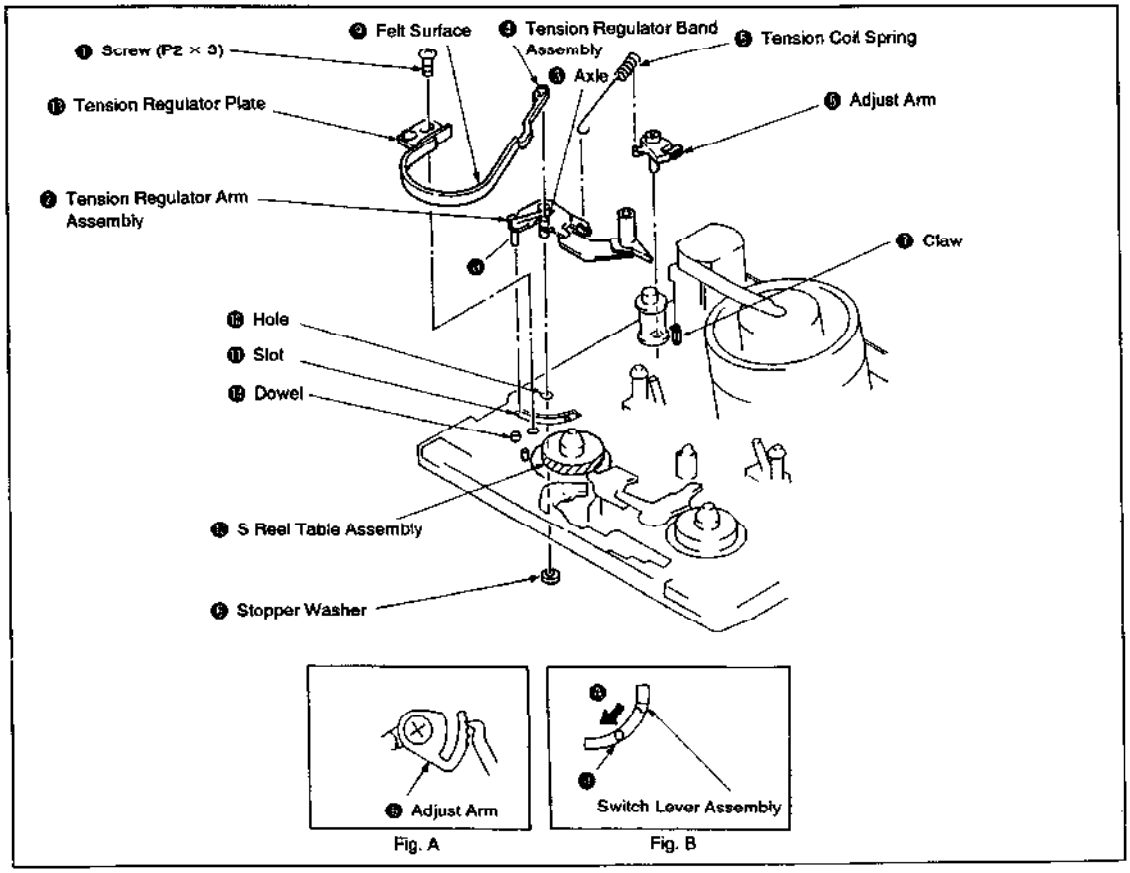


Fig. A Fig. B

Fig. 3-12.

3-12. TENSION REGULATOR FWD POSITION PRESET (See Fig. 3-13.)

1) Load a cassette tape and set the FWD mode.
2) Confirm whether the distance between ❻ part of the tension regulator arm ❶ and the groove ❷ of the chassis is 1.1 ± 0.3 mm. If this distance is not within the specified range, remove the cassette tape and perform the following adjustment.
3) Loosen the fixing screw ❹ of the tension regulator band assembly ❸.
4) Slide the tension regulator plate ❺ in the direction of the arrow ❼ if the measured distance is over the specified range, and in the direction of the arrow ❽ if it is under that range. Then, fix it with the screw ❹.
5) Repeat steps 1) and 2) and confirm that the distance is within the specified range.

Note: Use a cassette with the tape advanced halfway.

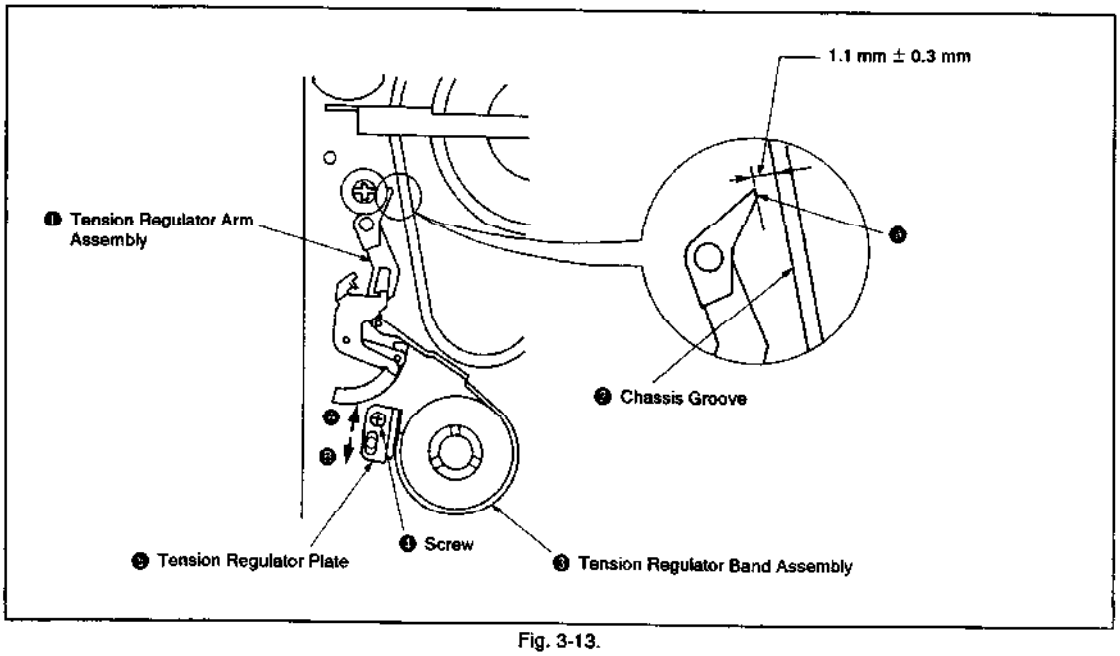


Fig. 3-13.

3-13. DRUM ASSEMBLY, DEW SENSOR

1. Removal (See Fig. 3-14.)

1) Set the EJECT mode.
2) Remove the flexible board ❶ and the two connectors ❷.
3) Remove the guide guard assembly as described in section 3-2.
4) Remove the screw ❸, then remove the axle ground terminal ❹.
5) Remove the three screws ❺, then remove the drum assembly ❻ from the mechanism chassis.
6) Remove the connector ⓬.
7) Remove the screw ❽, then remove the dew sensor ❾.

Note:
- When removing the drum assembly ❻ from the mechanism chassis, take care not to cut the flexible board ❶ or the harness.
- Take care not to touch the head tip ❿.

2. Installation (See Fig. 3-14.)

1) Insert part ❾ of the dew sensor ❾ into the notch ⓫ of the mechanism chassis, then secure it with the screw ❽.
2) Mount the connector ⓬.
3) Clamp the harness ⓭ of the dew sensor ❾ with the reinforcing the claw ⓮ of the plate SS assembly (See Fig. A).
4) Insert the connector ⓬ and the flexible board ❶ into the hole ⓯ of the mechanism chassis, align the drum assembly ❻ with the two dowels ⓰ and secure it with the three screws ❺.
5) Align the axle ground terminal ❹ with the two dowels ⓱ of the mechanism chassis and secure it with the screw ❸.
6) Mount the guide guard assembly as described in section 3-2.
7) Mount the two connectors ❷ and the flexible board ❶.

Note:
- Take care not to cut the flexible board ❶ or the harness ⓭.
- Take care not to touch the head tip ❿.
- After assembling, be sure to perform Tape Path Adjustment following instructions in section 4.

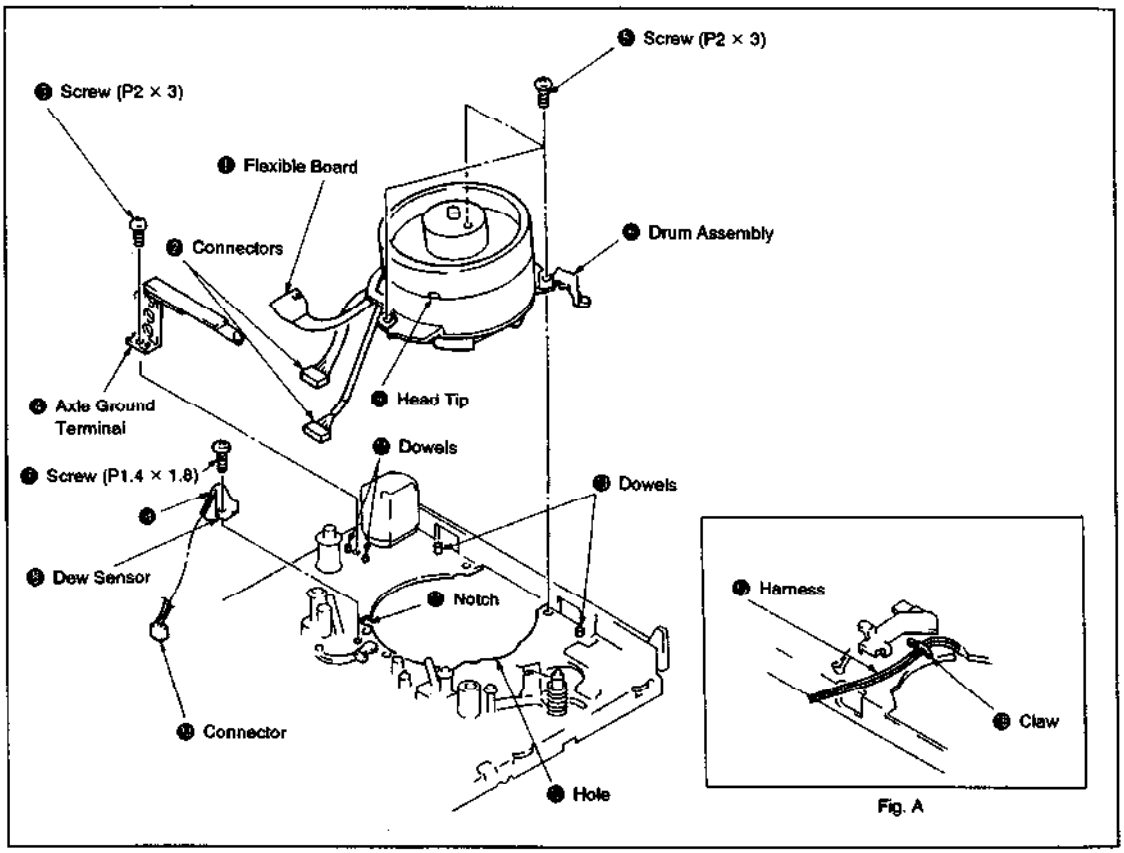


Fig. A

Fig. 3-14.

3-14. EJECT LEVER, SWITCH LEVER ASSEMBLY, PINCH ROLLER SUB ARM ASSEMBLY

1. Removal (See Fig. 3-15.)

1) Remove the DC motor (capstan motor) as described in section 3-3.
2) Set the STOP mode.
3) Remove the claw ❶, then remove the eject lever ❷.
4) Remove the stopper washer ❸, then remove the switch lever assembly ❹.
5) Remove the pinch roller load spring ❺.
6) Remove the stopper washer ❻, then remove the pinch roller sub arm assembly ❼.

2. Installation (See Fig. 3-15.)

1) Grease the axle ❽ (See Fig. A).
2) Assemble by inserting ❾ part of the pinch roller sub arm assembly ❼ into the slot ❿, then insert the pin ⓫ into the loading lever assembly notch ⓬.
3) Secure with the stopper washer ❻.
4) Mount the pinch roller load spring ❺ by catching its ⓭ end between the claw ❶ and the chassis side and its ⓮ end to the claw ❶.
5) Apply half a drop of oil to the axle ⓯ (See Fig. B).
6) Align the groove ⓰ of the switch lever assembly ❹ with the mode detector switch protrusion ⓱, mount it on the axle ⓯, then insert the pin ⓲ into the drive gear (left) assembly ⓳ outer groove.
7) Secure with the stopper washer ❸.
8) Mount the eject lever ❷ and close the claw ❶.
9) Mount the DC motor (capstan motor) as described in section 3-3.

Note: When mounting the switch lever assembly ❹ onto the axle ⓯ with the tension regulator arm assembly installed, set the pin ⓲ to the arrow ⓴ side of the switch lever assembly ❹.

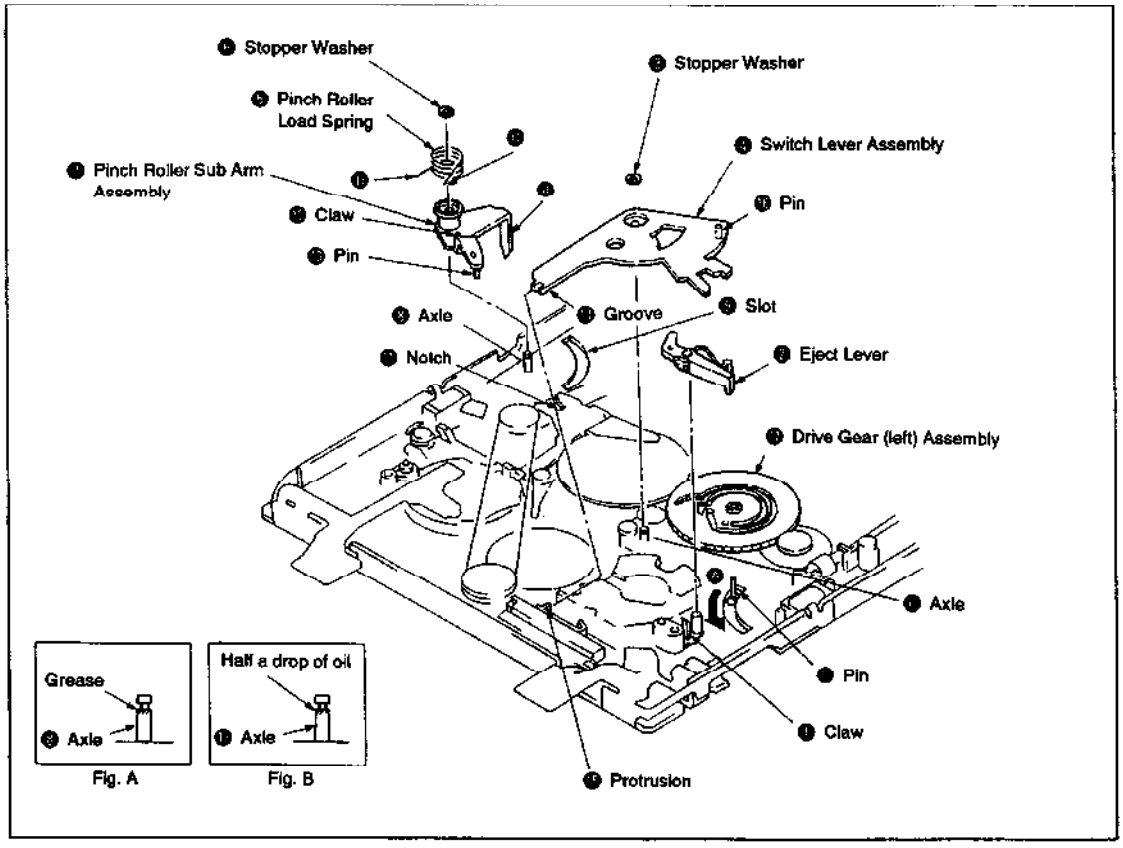


Fig. 3-15.

3-15. TIMING BELT (L) , RC GEAR ASSEMBLY, LOADING LEVER ASSEMBLY, TIMING BELT (S), CONNECTING GEAR ASSEMBLY

1. Removal (See Fig. 3-16.)

1) Remove the DC motor (capstan motor) as described in section 3-3.
2) Remove the pinch roller sub arm assembly as described in section 3-14.
3) Set the STOP mode.
4) Remove the stopper washer ❶ , then remove the RC gear assembly ❷ from the axle ❹ with the timing belt (L) ❸ attached.
5) Remove the timing belt (L) ❸ from the idler pulley assembly ❺ .
6) Remove the stopper washer ❻ and remove the loading lever assembly ❼ while pushing the claw ❽ in the direction of the arrow ❾ .
7) Turn the stopper ❿ approx. 90 ° in the direction of the arrow ⓫ .
8) Remove the connecting gear assembly ⓬ from the axle ⓭ with the timing belt (S) ⓮ attached.
9) Remove the timing belt (S) ⓮ from the idler pulley assembly ⓯ .

Note: When removing the connecting gear ⓬ , take care not touch the flange section ⓰ .

2. Installation (See Fig. 3-16.)

1) Apply half a drop of oil to the axle ⓰ (See Fig. F).
2) Hook one end of the timing belt (S) ⓮ onto the connecting gear assembly ⓬ and the other end onto gear ⓱ of the idler pulley assembly ⓯ . (Refer to the figure.)
3) Mount the connecting gear assembly ⓬ with the timing belt (S) ⓮ attached to the axle ⓭ .
4) Turn the stopper ❿ in the direction of the arrow ⓫ as far as it will go.
5) Apply half a drop of oil to the axle ⓭ (See Fig. A).
6) Fit the loading lever assembly ❼ to the axle ⓭ , secure the ❼ part with the claw ❽ and place the pin ⓲ into the groove of the drive gear (right) assembly ⓳ .
7) Install the stopper washer ❻ .
8) Place the timing belt (L) ❸ around the gears of the RC gear assembly ❷ indicated in Fig. B, and its opposite side around the gear ⓴ of the idler pulley assembly ⓯ . (See Fig. E.)
9) Mount the RC gear assembly ❷ onto the axle ❹ with the timing belt (L) ❸ attached, and engage it with the gear of the RK gear assembly ㉑ .
10) Install the stopper washer ❶ .
11) Grease parts of the loading lever assembly ❼ indicated in Fig. C.
12) Mount the pinch roller sub arm assembly as described in section 3-14.
13) Mount the DC motor (capstan motor) as described in section 3-3.

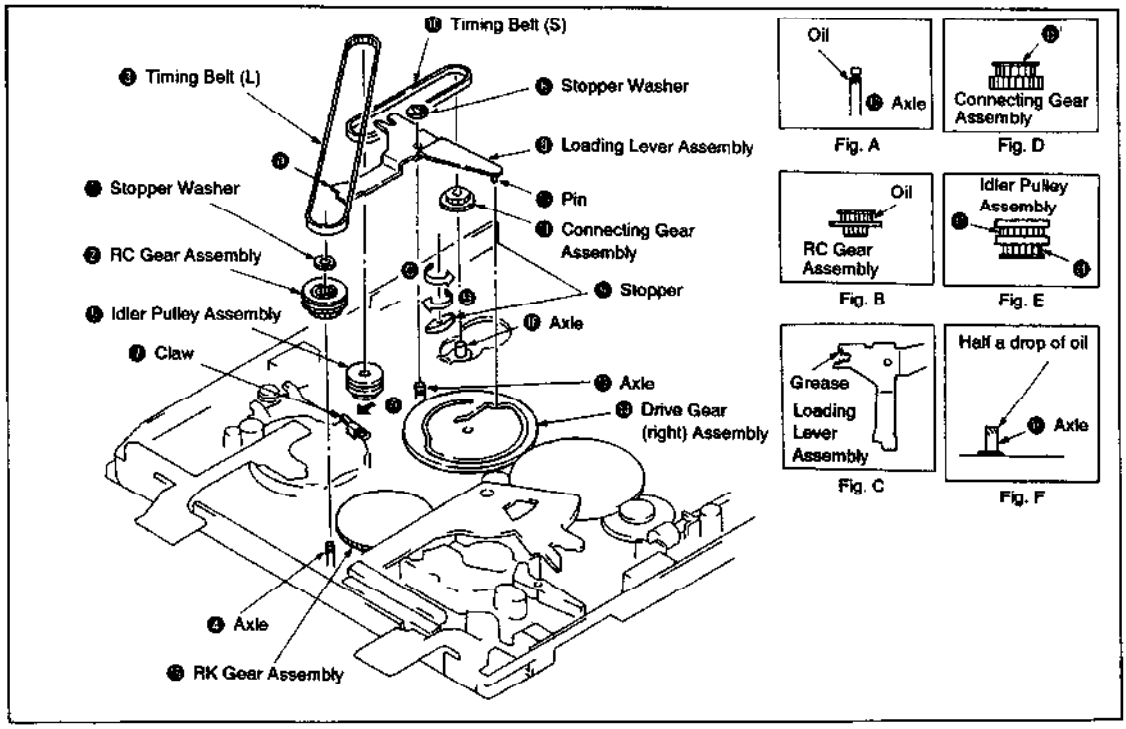


Fig. 3-16.

3-16. IDLER PULLEY, TS BRAKE ASSEMBLY, LB GEAR ASSEMBLY, RK GEAR ASSEMBLY

1. Removal (See Fig. 3-17.)

1) Remove the DC motor (capstan motor) as described in section 3-3.
2) Remove the switch lever assembly as described in section 3-14.
3) Remove the timing belt (L), the RC gear assembly, the loading lever assembly, the timing belt (S) and the connecting gear assembly described in section 3-15.
4) Set the STOP mode.
5) Remove the stopper washer ❶, then remove the idler pulley ❷.
6) Open the claw ❸, then remove the TS brake assembly ❹.
7) Remove the torsion coil spring (LB) ❺.
8) Remove the stopper washer ❻, then remove the LB gear assembly ❼.
9) Remove the RK gear assembly ❽.

Note: When removing the idler pulley ❷, take care not to touch the flange section ❷. (See Fig. C.)

2. Installation (See Fig. 3-17.)

1) Apply half a drop of oil to the axle ❾ (See Fig. A).
2) Mount the RK gear assembly ❽ onto the axle ❾, keeping it in horizontal position.
3) Apply half a drop of oil to the axle ❿ (See Fig. B).
4) Mount the LB gear assembly ❼ onto the axle ⓫ and secure it with the stopper washer ❻.
5) Insert the torsion coil spring (LB) ❺ into the axle ❾, then hook it to the mechanism chassis notch ⓬ and to the tab ⓭.
6) Mount the TS brake assembly ❹ and close the claw ❸.
7) Apply half a drop of oil to the axle ⓮ (See Fig. D).
8) Mount the idler pulley ❷ onto the axle ⓮, then secure it with the stopper washer ❶.
9) Mount the timing belt (L), the RC gear assembly, the loading lever assembly, the timing belt (S) and the connecting gear assembly as described in section 3-15.
10) Mount the switch lever assembly as described in section 3-14.
11) Mount the DC motor (capstan motor) as described in section 3-3.

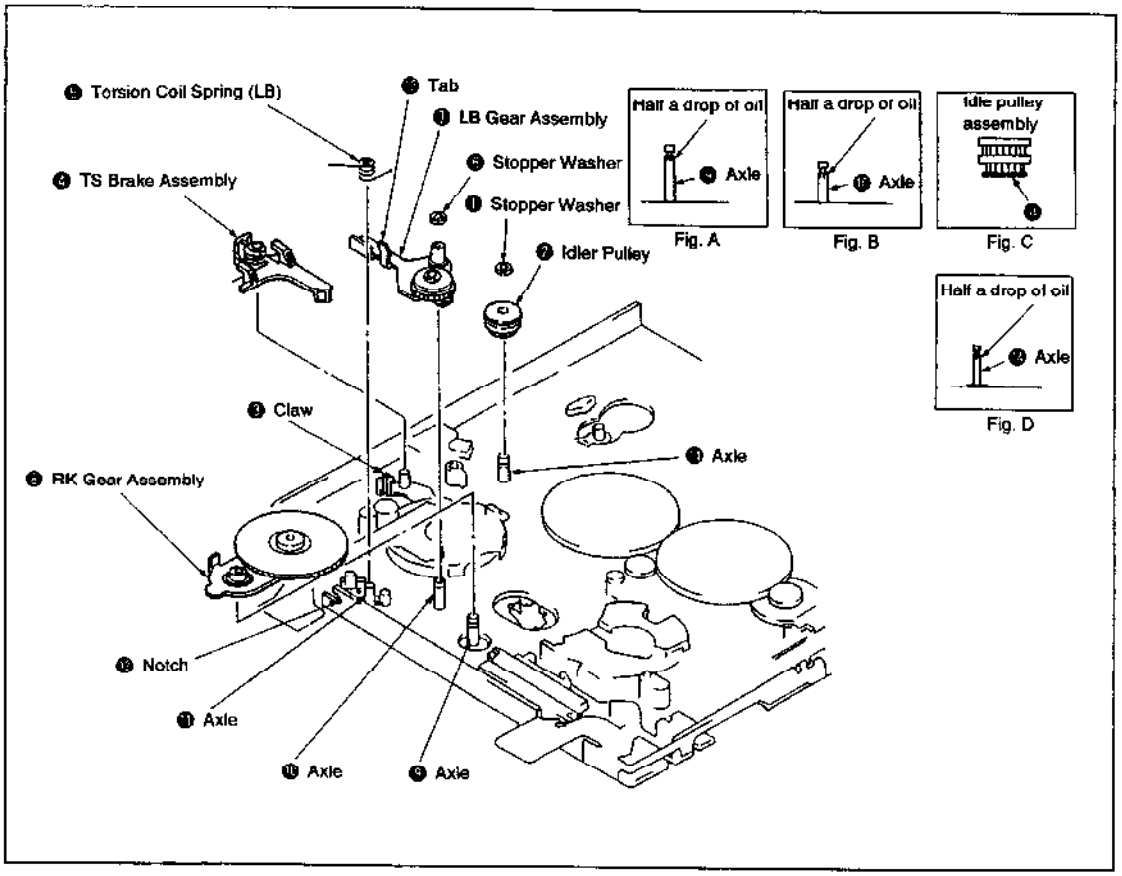


Fig. 3-17.

3-17. UL GEAR, UL BRAKE, UL ARM, LB PLATE SPRING

1. Removal (See Fig. 3-18.)

1) Remove the switch lever assembly as described in section 3-14.
2) Remove the stopper washer ❶, then remove the UL gear ❷.
3) Remove the UL arm ❸, the 1.6 mm-diameter poly washer ❼ and the LB plate spring ❺.
4) Remove the UL brake ❻.

2. Installation (See Fig. 3-18.)

1) Mount the UL brake ❻.
2) Apply half a drop of oil to the axle ❽ (See Fig. A).
3) Mount the LB plate spring ❺ to the axle ❽ as shown in Fig. B, then install the 1.6mm-diameter poly washer ❼.
4) Mount the UL arm ❸ to the axle ❽ so that the protrusion ❹ comes into the groove ❾ of the UL brake ❻.
5) Mount the UL gear ❷ to the axle ❽ and engage it with the gear of the drive gear (left) assembly ❿.
6) Install the stopper washer ❶.
7) Mount the switch lever assembly as described in section 3-14.

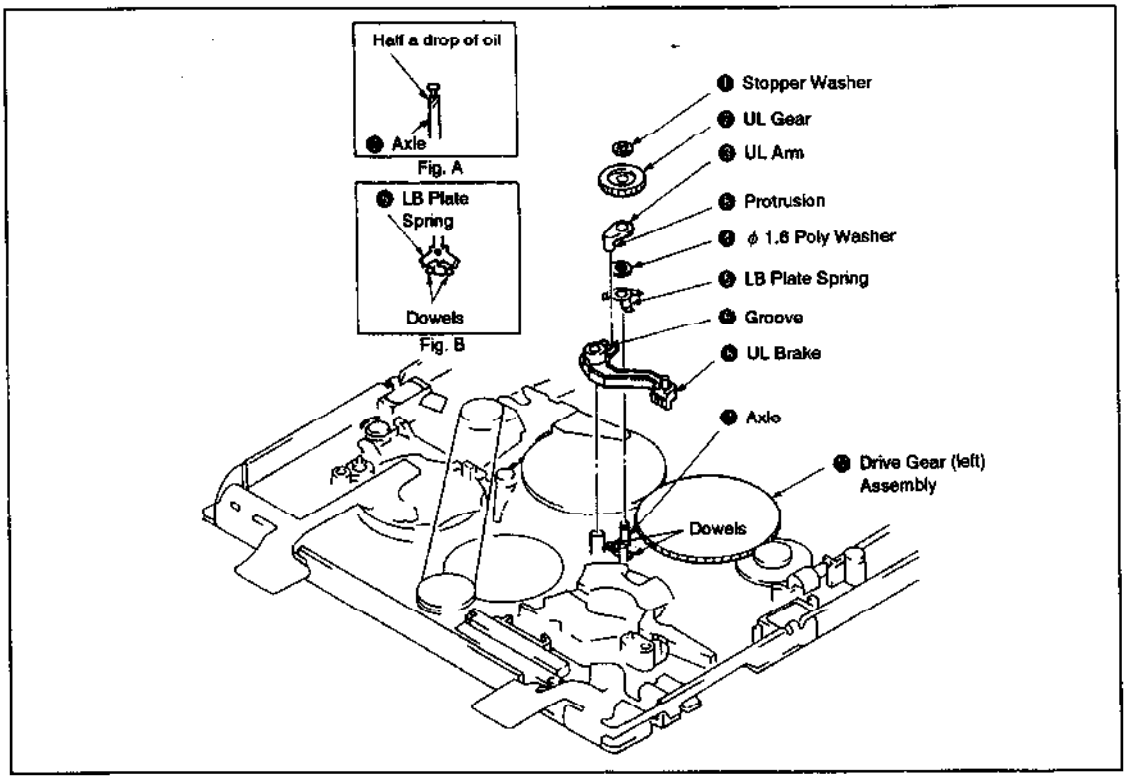


Fig. 3-18.

3-18. COASTER (RIGHT) ASSEMBLY, DRIVE GEAR (RIGHT) ASSEMBLY

1. Removal (See Fig. 3-19.)

1) Remove the DC motor (capstan motor) as described in section 3-3.
2) Remove the drum unit as described in section 3-13.
3) Remove the switch lever assembly as described in section 3-14.
4) Remove the timing belt (L), the RC gear assembly and the loading lever assembly as described in section 3-15.
5) Set the STOP mode.
6) Remove the screw ❶, then remove the coaster plate spring ❷ and the coaster (right) assembly ❸.
7) Remove the two screws ❹, then remove the reinforcing plate TT ❺.
8) Remove the stopper washer 1.5 ❻, then remove the drive gear (right) assembly ❼.

2. Installation (See Fig. 3-19.)

1) Grease the points of the mechanism chassis shown in Fig A.
2) Apply half a drop of oil to the axle ❽ (See Fig. F).
3) Grease pin ❾, axle ❿ and dowel ⓫ of the coaster (right) assembly ⓬ (See Fig. D).
4) Mount by aligning the pin ⓭ and the axle ⓮ with the slot ⓯ of the mechanism chassis.
5) Move the brake release arm ⓰ in the direction of the arrow ⓱ to put it out of the way.
6) Mount the drive gear (right) assembly ❼ to the axle ❽, and engage it with the drive gear (left) assembly ⓲ as shown in Fig. B.
7) Align the ⓳ part with the ⓴ part, and the hole ㉑ with the pin ㉒ of the coaster (right) assembly ❸.
8) Install the stopper washer 1.5 ❻.
9) Mount by aligning the coaster plate spring ❷ with the axle ㉓ of the coaster (right) assembly ❸ and pin ㉔, then secure with the screw ❶.
10) Mount the reinforcing plate TT ❺ aligning it with the dowel ㉕, then tighten the two screws ❹ in the indicated order.
11) Grease the points indicated in Figs. C and E.
12) Mount the timing belt (L), the RC gear assembly and the loading lever assembly as described in section 3-15.
13) Mount the switch lever assembly as described in section 3-14.
14) Mount the drum unit as described in section 3-13.
15) Mount the DC motor (capstan motor) as described in section 3-3.

Note: • Screw ❶ should be tightened with a tightening torque of approx. 500g•cm. If tightened too much, the coaster (right) assembly ❸ and the coaster plate spring ❷ will be deformed.

• After installing, be sure to perform tape path adjustment as described in section 4.

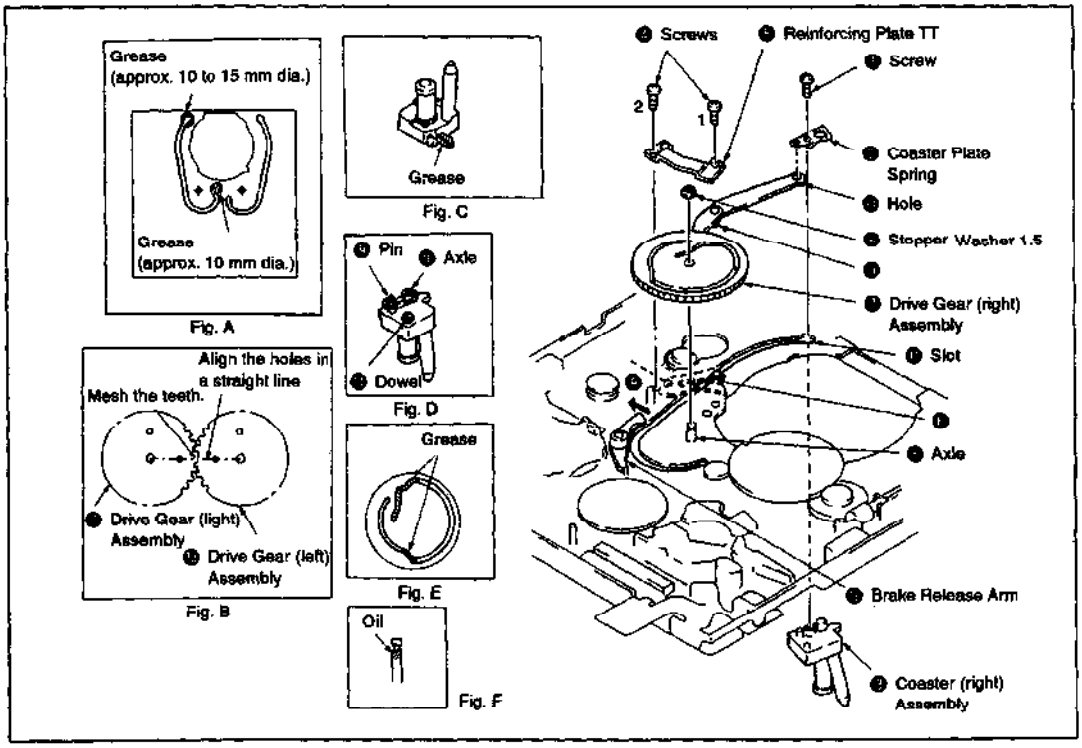


Fig. 3-19.

3-19. COASTER (LEFT) ASSEMBLY, DRIVE GEAR (LEFT) ASSEMBLY

1. Removal (See Fig. 3-20.)

1) Remove the DC motor (capstan motor) as described in section 3-3.
2) Remove the drum assembly as described in section 3-13.
3) Remove the switch lever assembly and the pinch roller sub-arm assembly as described in section 3-14.
4) Remove the timing belt (L), the RC gear assembly and the loading lever assembly as described in section 3-15.
5) Remove the coaster (right) assembly and the drive gear (right)assembly as described in section 3-18.
6) Remove the screw ❶, then remove the coaster plate spring ❷ and the coaster (left) assembly ❸.
7) Remove the two screws ❹, then remove the reinforcing plate SS assembly ❺.
8) Remove the stopper washer 1.5 ❻, then remove the drive gear (left) assembly ❼.

2. Installation (See Fig. 3-20.)

1) Grease the points of the mechanism chassis shown in Fig A.
2) Apply half a drop of oil to the axle ❽ (See Fig. E).
3) Grease pin ❾, axle ❿ and dowel ⓫ of the coaster (left) assembly ❸ (See Fig. B).
4) Mount by aligning the pin ❾ and the axle ❿ with the slot ⓭ of the mechanism chassis.
5) Fit the drive gear (left) assembly ❼ to the axle ❿, and mount so that the gear engages with the wheel gear ⓮ and the UL gear ⓯.
6) Align the ⓬ part with the slot ⓭, and the hole ⓬ with the pin ❾ of the coaster (left) assembly ❸.
7) Install the stopper washer 1.5 ❻.
8) Mount by aligning the coaster plate spring ❷ with the axle ❿ and pin ❾ of the coaster (left) assembly ❸, then secure with the screw ❶.
9) Mount the reinforcing plate SS assembly ❺ aligning it with the dowel ⓫, then tighten the two screws ❹ in the indicated order.
10) Grease points indicated in Figs. C and D.
11) Mount the coaster (right) assembly and the drive gear (right)assembly as described in section 3-18.
12) Mount the timing belt (L), the RC gear assembly and the loading lever assembly as described in section 3-15.
13) Mount the switch lever assembly and the pinch roller sub arm assembly as described in section 3-14.
14) Mount the drum assembly as described in section 3-13.
15) Mount the DC motor (capstan motor) as described in section 3-3.

Note: • Screw ❶ should be tightened with a tightening torque of approx. 500g•cm. If tightened too much, the coaster (right) assembly ❸ and the coaster plate spring ❷ will be deformed.
• After installing, be sure to perform tape path adjustment as described in section 4.

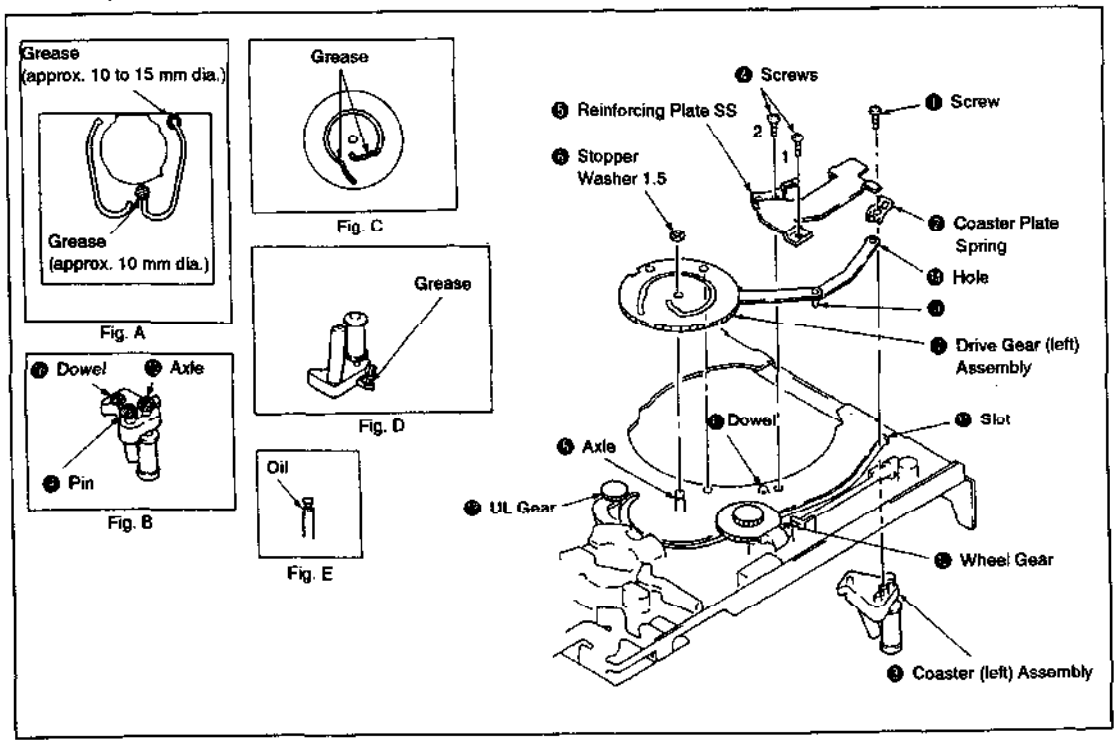


Fig. 3-20.

3-20. LOADING MOTOR, BRAKE RELEASE ARM, WHEEL GEAR, WORM ASSEMBLY

1. Removal (See Fig. 3-21.)

1) Remove the DC motor (capstan motor) as described in section 3-3.
2) Remove the switch lever assembly and the pinch roller sub arm assembly as described in section 3-14.
3) Remove the timing belt (L), the RC gear assembly and the loading lever assembly as described in section 3-15.
4) Remove the drive gear (right) assembly as described in section 3-18.
5) Remove the drive gear (left) assembly as described in section 3-19.
6) Remove the two screws ❽, then remove the loading motor assembly ❼.
7) Remove the brake release arm ❶.
8) Remove the stopper washer ❷, then remove the wheel gear ❸.
9) Remove the worm assembly ❹ from the six claws ❺.

2. Installation (See Fig. 3-21.)

1) Mount the worm assembly ❹, matching it to the six claws ❺.
2) Grease the shaded parts of the worm assembly ❹ (five places) (see Fig A).
3) Apply half a drop of oil to the axle ❻ (See Fig. B).
4) Fit the wheel gear ❸ to the axle ❻ and engage it with the gear of the worm assembly ❹.
5) Mount the brake release arm ❶.
6) Grease the whole perimeter of the gear of the loading motor assembly ❼.
7) Align the loading motor assembly ❼ with the mechanism chassis and secure it with the two screws ❽.
8) Mount the drive gear (left) assembly as described in section 3-19.
9) Mount the drive gear (right) assembly as described in section 3-18.
10) Mount the timing belt (L), the RC gear assembly and the loading lever assembly as described in section 3-15.
11) Mount the switch lever assembly and the pinch roller sub arm assembly as described in section 3-14.
12) Mount the DC motor (capstan motor) as described in section 3-3.

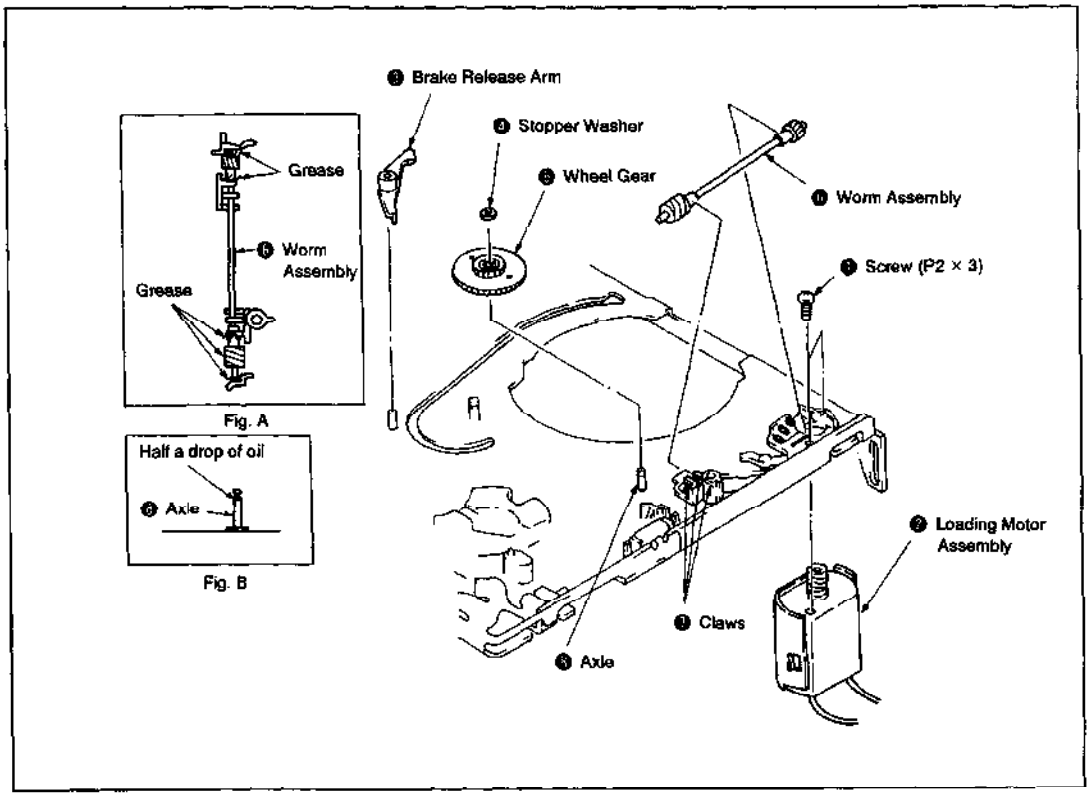


Fig. 3-21.

3-21. ROTARY UPPER DRUM REPLACEMENT

1. Removal

- If possible, make a recording before removal.

1) Detach the six solderings ❶, then use a pair of tweezers or the like to confirm that the terminals passing through the board holes from below can move freely.
2) Remove the two screws ❷ (See Fig. 3-22).
3) Mount the jig ❹ (Ref. No. J-7) with the two supplied screws ❸, then screw the attached hexagon socket screws ❸ to the jig ❹. The rotary upper drum ❺ will move upward and come off (See Fig. 3-23).

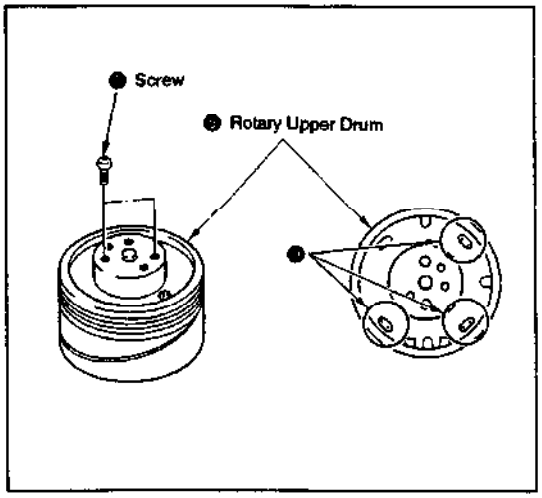


Fig. 3-22.

2. Installation

1) Wipe clean the flange surface and the rotary upper drum ❺ surface that makes contact with it, and confirm that they are free from dirt and scratches.
2) Insert the jig ❹ (Ref. No. J-7) into the drum positioning hole, then set the rotary upper drum ❺ by passing the jig through its positioning hole ❹.
   Note: Confirm that the terminals ❻ protrude slightly from the rotary upper drum board holes (See Fig. 3-24).
3) Remove the jig ❹ and push down the rotary upper drum ❺ gently by hand. If it does not go all the way down, secure it temporarily by tightening the two hexagon socket screws ❸ alternately.
4) Insert the jig ❹ into the positioning hole ❹ again and confirm that it goes in smoothly. If it does not, loosen the two screws ❸, repeat step 3 of the Removal paragraph and restart the setting procedure.
5) Tighten the screws ❶.
6) Solder the terminals ❻ (❻ in Fig. 3-22).
   Note: Take care that no solder flows below the board.

Note: After installing, be sure to perform tape path adjustment as described in section 4.

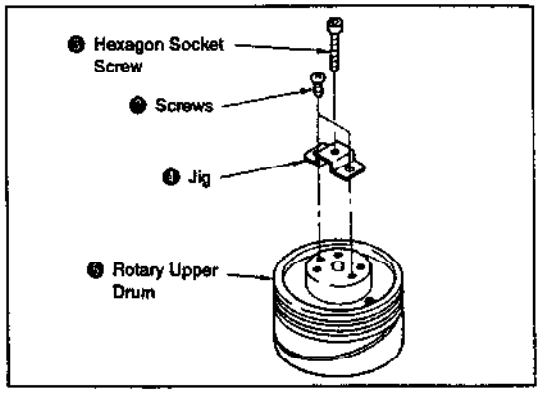


Fig. 3-23.

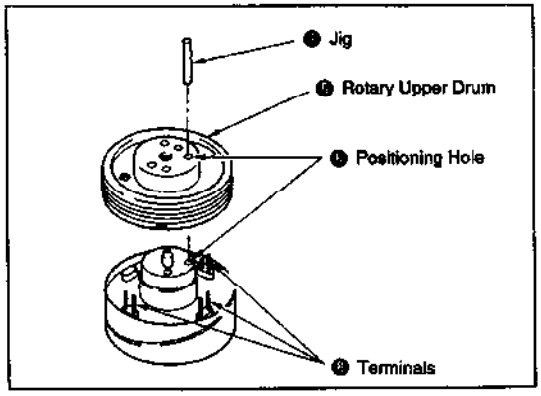


Fig. 3-24.

3-22. FWD BACK TENSION (See Fig. 3-25.)

1) Set the torque cassette (Ref. No. J-6).
2) Set the FWD mode and confirm that S reel table torque value is within 9 to 13 g•cm.
3) If the torque value does not meet the specification, adjust the adjust arm ●.

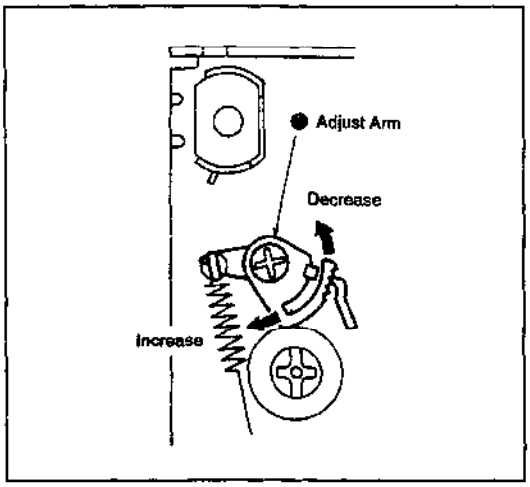


Fig. 3-25.

3-23. REEL TORQUE CHECK

1) Set the torque cassette.
2) Set the FWD mode and confirm that T reel table torque value is within 7 to 15 g•cm.
3) Set the REV mode and confirm that S reel table torque value is within 29 ± 6 g•cm.
4) Set the REV mode and confirm that T reel table torque value is within 13 to 25 g•cm.
5) If a torque value does not meet the specifications above, replace the corresponding reel table.

4. TAPE PATH ADJUSTMENT

[The Track Shift Mode]

In the 8 mm video system, instantaneous tape speed control is performed using four kinds of pilot signals, and high-precision tracking is achieved through the ATF (Automatic Track Finding) system. This makes a tracking control knob unnecessary and allows for precise tracing.

On the other hand, however, tape path adjustment presents some difficulties when the ATF system is used. Namely, since the ATF system will automatically compensate to some degree for head tracing errors, thorough adjustment is not possible.

This can be solved by setting the track shift mode for tracking fine adjustment. ATF will be compulsorily activated, shifting the tracking amount by a fixed amount (approx. 1/4) and thus making tracking fine adjustment easy. Furthermore, no track shift jigs are required.

4-1. TRACK SHIFT MODE SETTING

[Setting Procedure]

* Connect the TEST A and TEST B terminals to the COM terminal.

  Example:

  NTSC ····· GV-8

  PAL ····· GV-8E

  Connect Pins ① and pin ③ of CN017 on the { SV-34 board (GV-8) / SV-35 board (GV-8E) } to pin ② of it. (See Fig. 4-1)

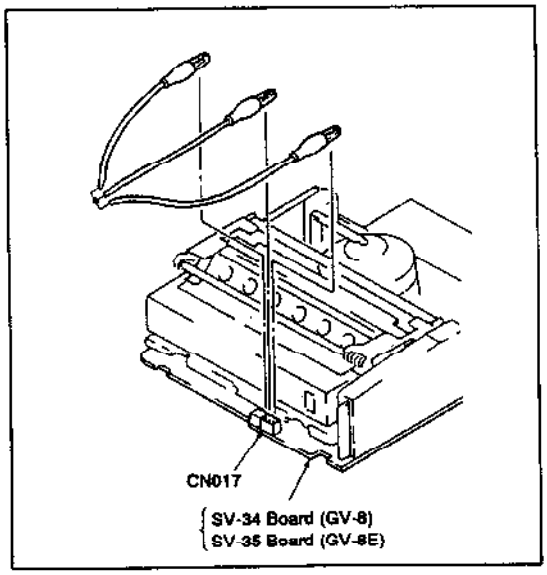
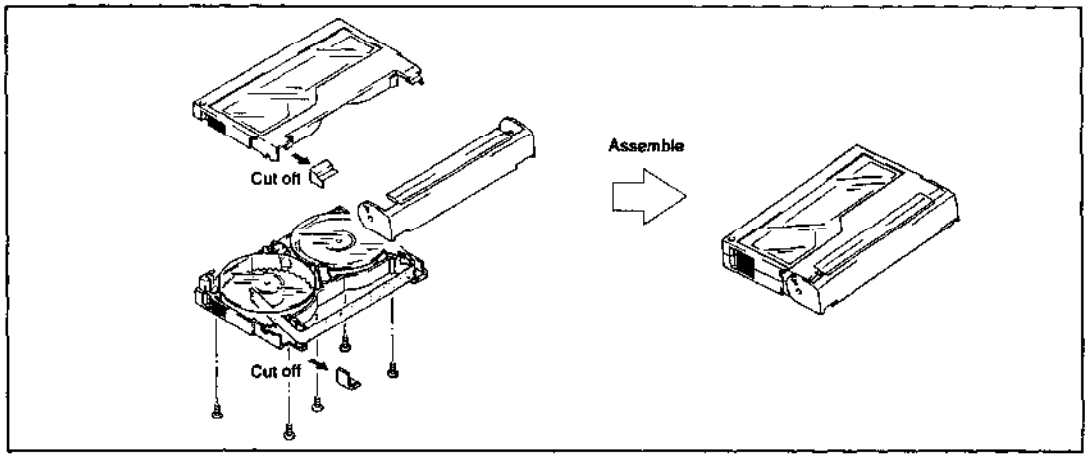


Fig. 4-1.

[Note on Adjustment of No.7 Guide (TG-7)]

The height adjustment screw for No.7 guide (TG-7) is located at some distance from the guide (refer to Fig. 4-2).

Therefore, when performing section 4-6. No.7 Guide (TG-7) Adjustment it is convenient to use the alignment tape for tracking (Ref. No. J-5), modified as follows, and perform adjustment in playback mode.



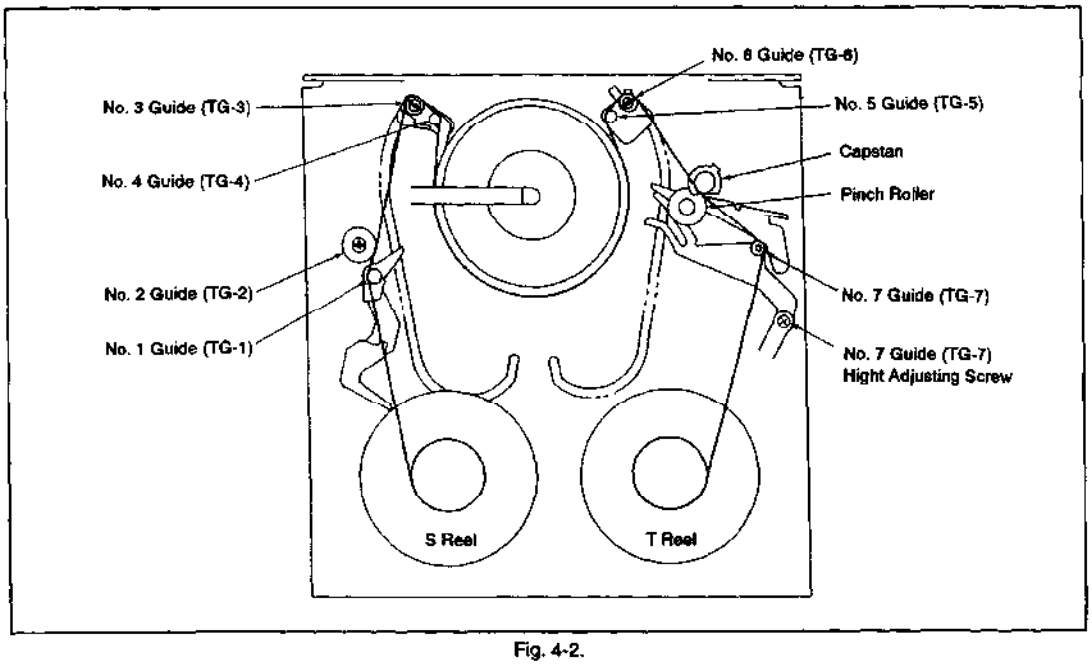


Fig. 4-2.

4-2. PREPARATIONS FOR ADJUSTMENT

1) Clean tape path surfaces (tape guides, drum, capstan shaft, pinch roller) (See Fig. 4-2).
2) Connection of oscilloscope and output method of waveform.
   CH 1: RF signal output of the drum head (V RF OUT)
   Method for signal output:
   Short-circuit the external trigger output (RF SW. P) and GND.

   Example:
   NTSC ····· GV-8
   PAL ····· GV-8E
   CH 1: Pin ③ (V RF OUT) of CN018 on the
   { SV-34 board (GV-8)
   { SV-35 board (GV-8E)
   Method for signal output:
   Short-circuit pin ① (GND) and pin ② (RF SW.P) of CN018 on the
   { SV-34 board (GV-8)
   { SV-35 board (GV-8E)
3) Play back the alignment tape for tracking adjustment (Ref. No. J-5).
4) Confirm that both the entrance and exit side RF waveforms of the oscilloscope are flat (See Fig. 4-4). If they are not, adjust as follows.

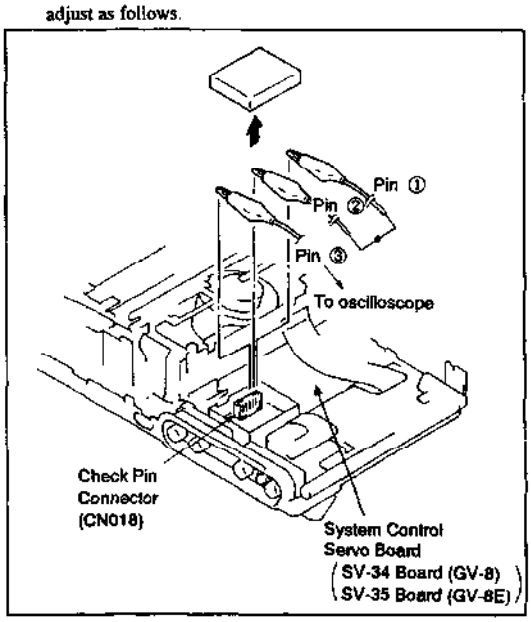


Fig. 4-3.

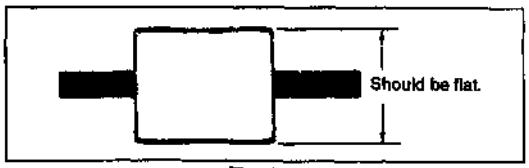


Fig. 4-4.

4-3. TRACKING ADJUSTMENT (See Fig. 4-5.)

1) Play back the alignment tape for tracking adjustment.
2) Pass a hexagonal wrench, screwdriver (Ref. No. J-11) or the like through the hole ❶, loosen the lockscrew ❷ a little, then make the entrance side waveform flat by turning the No. 3 guide (TG-3) ❸.
3) Pass a hexagonal wrench, screwdriver or the like through the hole ❹, loosen the lockscrew ❺ a little, then make the exit side waveform flat by turning the No. 6 guide (TG-6) ❻.

Note: Take care not to loosen lockscrews too much, since guides come loose easily.

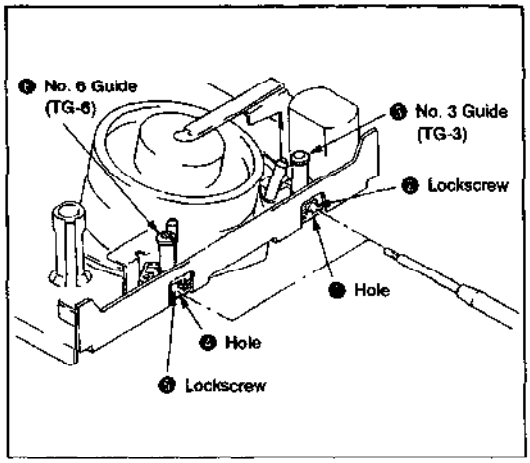


Fig. 4-5.

4-4. TRACKING FINE ADJUSTMENT (See Figs. 4-5. and 4-6.)

1) Play back the alignment tape for tracking adjustment and set the track shift mode.
2) Confirm whether the waveform is flat. If it is not, turn the No. 3 (TG-3) and No. 6 (TG-6) guides so that it becomes flat.
3) Fix the No. 3 guide ❸ by tightening its lockscrew ❼. Then confirm that the entrance side waveform has not changed.
4) Fix the No. 6 guide ❻ by tightening its lockscrew ❽. Then confirm that the exit side waveform has not changed.

Note: The set screws ❼ and ❽ should be tightened with a tightening torgue of approx. 200g•cm ± 10%.
If tightened too much, there is danger of damaging the thread.

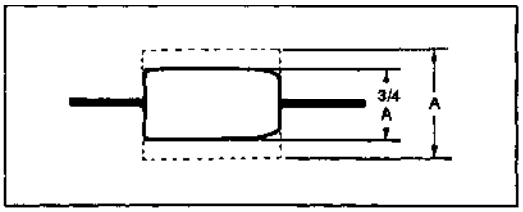


Fig. 4-6.

4-5. No. 2 GUIDE (TG-2) ADJUSTMENT

When the No. 2 guide has been turned or replaced, perform height presetting before this adjustment.

4-5-1. No. 2 Guide (TG-2) Height Presetting (See Fig. 4-7.)

1) Adjust the height from the mechanism chassis upper surface to the TG-2 upper flange ❶ upper surface to 18.6 mm by rotating the TG-2 upper flange ❶.

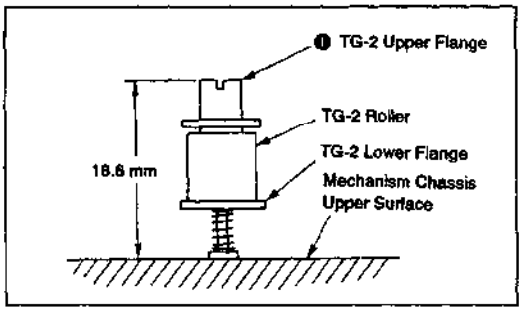


Fig. 4-7.

[Reference]
This U mechanism is equipped with four adjustable guides (TG-2, 3, 6 and 7). To raise or lower the respective guide rotate the corresponding adjustment screw as shown below.

Guide	Guide adjustment	Rotating direction of adjustment screw
TG-2, 3, 6	Raise	Counterclockwise
	Lower	Clockwise
TG-7	Raise	Counterclockwise
	Lower	Clockwise

4-5-2. No. 2 Guide (TG-2) Adjustment (See Figs. 4-8. and 4-9.)

1) Play back a thin tape like the P6-120MP, etc. and set the REV mode.
2) Confirm that the tape is not bent at the lower flange ❷ of the No. 2 guide (TG-2) ❶ (See Fig. 4-8). If it is, turn the upper flange ❸ of the No. 2 guide (TG-2) ❶ clockwise with a screwdriver, lowering it until the tape is straightened.
3) Play back the alignment tape for tracking adjustment.
4) Perform tracking adjustment and tracking fine adjustment as described in sections 4-3. and 4-4.
5) In the track shift mode, CUE/REV the tape, then play it back and confirm that the RF waveform rises flat within 2 seconds.
6) If the waveform is not normal (See Fig. 4-9), turn the upper flange ❸ of the No. 2 guide (TG-2) ❶ 90° counter-clockwise and repeat step 5.
   Repeat steps 5 and 6 until a normal waveform is obtained. Then, confirm that the tracking waveform has not changed. If it has, perform fine adjustment of entrance side tracking and repeat step 5.

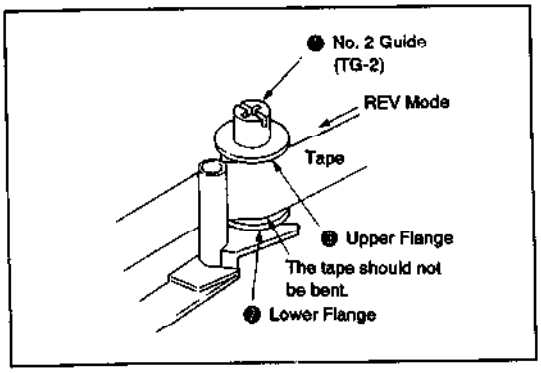


Fig. 4-8.

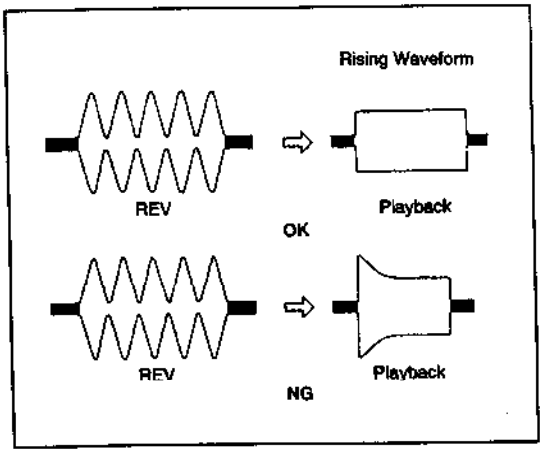


Fig. 4-9.

4-6. No. 7 GUIDE (TG-7) ADJUSTMENT (See Fig. 4-10.)

1) Play back the alignment tape for tracking adjustment and set the REV mode.
2) Confirm that the tape is not bent between the No. 6 guide (TG-6) ❶ and the capstan ❷ . If it is, turn the hight adjusting screw ❹ of the No. 7 guide (TG-7) ❸ until the tape is straightened.
3) Set the playback mode again and confirm that the tape is not bent between the capstan ❷ and the hight adjusting screw ❹ of the No. 7 guide (specification:0.5 mm or less) . If the tape is bent beyond the specification, turn the No. 7 guide (TG-7) ❸ until bending is within the specification (0.5 mm).
   If in the REV mode tape bending between the No. 6 guide (TG-6) ❶ and the capstan ❷ is 0.3 mm or less, adjustment can be considered completed.

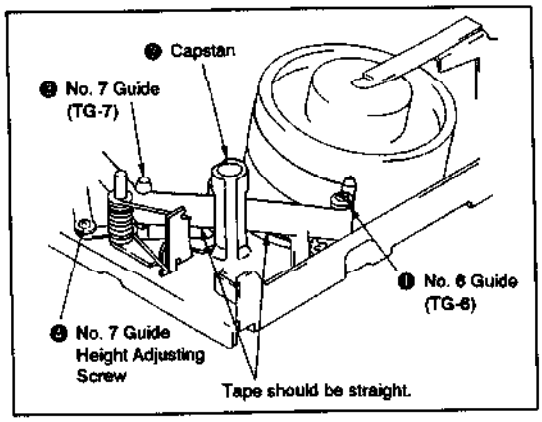


Fig. 4-10.

4-7. CUE AND REV WAVEFORM CHECK (See Fig. 4-11.)

1) Play back the alignment tape for tracking adjustment and set the REV mode. Confirm that waveform peaks maintain a constant pitch of 5 seconds or more (See Fig. 4-11). In case pitch is not constant, perform section 4-4. Tracking Fine Adjustment and section 4-6. No. 7 Guide Adjustment.
2) Set the CUE mode. Confirm that waveform peaks still maintain a constant pitch of 5 seconds or more (See Fig. 4-11). Otherwise, perform section 4-4. Tracking Fine Adjustment.

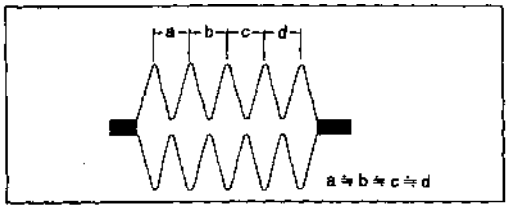


Fig. 4-11.

4-8. CHECK AFTER ADJUSTMENT

4-8-1. Tracking Check

1) Confirm that the amplitude of RF waveform is reduced to approx. 3/4 when the track shift mode is set (See Fig. 4-12).
2) Then, confirm that the minimum amplitude value (EMIN) is 65% of the maximum value (EMAX) or larger (See Fig. 4-13).
3) Confirm that no large fluctuations occur on the waveform (See Fig. 4-14).

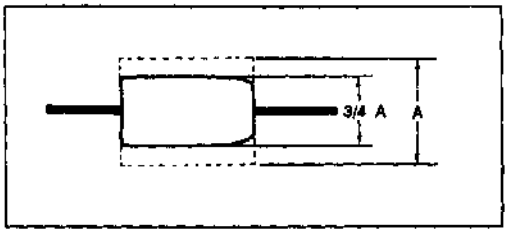


Fig. 4-12.

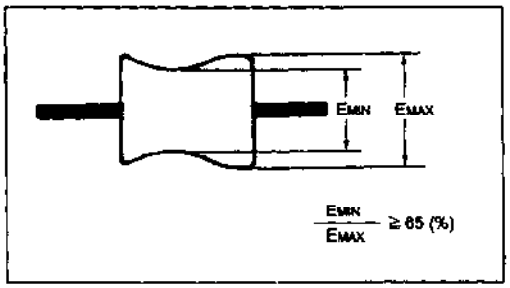


Fig. 4-13.

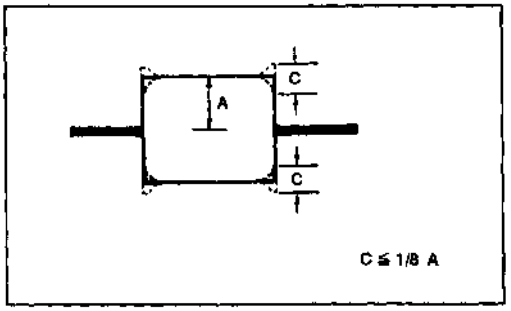


Fig. 4-14.

4-8-2. Rising Check (See Fig. 4-15.)

1) Play back the alignment tape for tracking adjustment.
2) Cancel the track shift mode.
3) Eject the tape, then load it again.
4) Set the playback mode and confirm that the RF waveform rises flat within 2 seconds. Also confirm that the tape is not bent around the pinch roller (See Fig. 4-15).
5) CUE/REV and FF/REW the tape, then play it back and confirm that the RF waveform rises flat within 2 seconds. Also confirm that the tape is not bent around the pinch roller.
6) Repeat steps 3) to 5) once more.

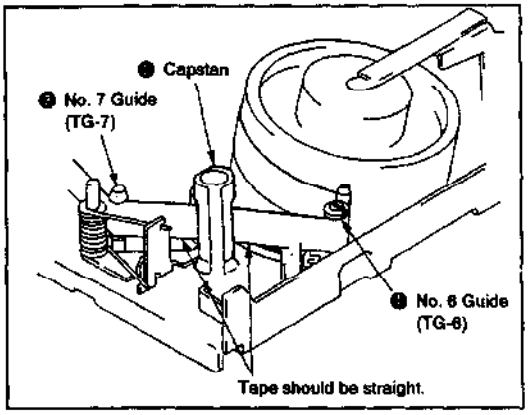


Fig. 4-15.

4-8-3. Tape Path Check (See Fig. 4-16.)

1) Play back a thin tape like the P6-120MP (NTSC) or P5-90MP (PAL), etc. and confirm that no tape rising occurs, and that curling is less than 0.3 mm, at the lower flange of the No. 2 guide, the upper flange of the No. 3 guide, the upper flange of the No. 6 guide and the No. 7 guide upper and lower flanges.
2) Confirm that no tape rising occurs and that curling is less than 0.3 mm at the flanges of all guide when pressing the FF button in the playback mode to set the CUE mode, or the REW button to set the REV mode.

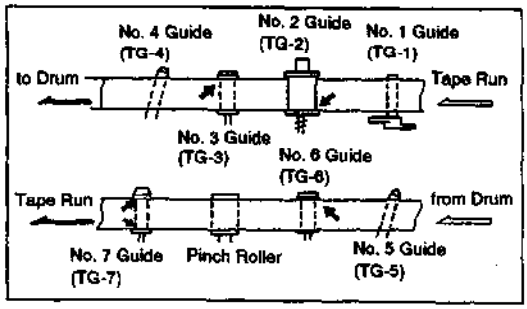


Fig. 4-16.