

# EV-S9000E AE/B/NP/UB/VC

## RMT-138B

## SERVICE MANUAL

*UK(UB) Model*  
*German(VC) Model*  
*Italian(AE) Model*  
*North European(NP) Model*  
*French(B) Model*

Remote commander  
is available as a  
unit. See page 5-1  
for repair parts.



**video Hi8**  
F MECHANISM

For MECHANICAL ADJUSTMENT, refer to the "8mm  
Video MECHANICAL ADJUSTMENT MANUAL V  
(F MECHANISM)" (9-973-445-11).

### System

#### Video recording system

Rotary two-head helical scanning FM  
system

#### Audio recording system

Standard: Rotary head FM system (2  
channels)  
PCM: PCM system (2 channels)

#### Video signal

EV-S9000E AE/NP/VC:  
CCIR standard, PAL colour  
System B/G  
EV-S9000E B:  
CCIR standard, PAL/SECAM colour  
System L and B/G  
EV-S9000E UB:  
CCIR standard, PAL colour  
System I

#### Usable cassettes

8 mm video format cassettes

#### Tape speed

SP: 20.051 mm/sec.  
LP: 10.026 mm/sec.

### SPECIFICATIONS

#### Recording/playback time

SP: 2 hrs., LP: 4 hrs. (using a Sony ES-120 cassette)  
SP: 1.5 hrs., LP: 3 hrs. (using a Sony ES/PS-90 cassette)

#### Fast-forward/rewind time

2 min. 15 sec.  
1 min. (high-speed rewind)  
(using a Sony ES/PS-90 cassette)

#### Channel coverage

EV-S9000E AE/NP/VC and B (system  
B/G):  
VHF E2 - E12 (A - H, Italian model  
only)  
CATV S01 - S03, S1 - S20  
HYPER S21 - S41  
UHF E21 - E69  
EV-S9000E B (system L):  
UHF F2 - F10  
CATV B - Q  
HYPER S21 - S41  
UHF F21 - F69  
EV-S9000E UB:  
UHF B21 - B41

#### RF output signal

EV-S9000E AE/NP/VC/B:  
UHF channels E20 - E39 (variable)  
EV-S9000E UB:  
UHF channels B30 - B39 (variable)

#### Stereo/bilingual system

EV-S9000E AE/NP/VC:  
German two carrier system  
EV-S9000E NP:  
B/G/NICAM  
EV-S9000E UB:  
I/NICAM

--continued on next page--



**Hi8** VIDEO CASSETTE RECORDER  
**SONY**

## Inputs and outputs

### Antenna

75-ohm asymmetrical aerial socket

### EURO-AV: LINE 1

21-pin

Video input: pins 20

Audio input: pins 2 and 6

Video/luminance output: pin 19

Chrominance output: pins 15

Audio output: pins 1 and 3

### CANAL PLUS (EV-S9000E B/M/P)

21-pin

### PAY-TV (EV-S9000E VC)

Video input: pin 20

Audio input: pins 2 and 6

Video output: pin 19

Audio output: pins 1 and 3

### LINE IN 2 and 3

S VIDEO IN (4-pin mini DIN) 1 each

Y: 1 Vp-p, 75 ohms

(unbalanced), sync negative

C: 0.3 Vp-p (colour burst) 75

ohms (unbalanced)

VIDEO IN (phono jack) 1 each

(input signal: 1 Vp-p, 75 ohms

(unbalanced), sync negative

AUDIO IN (phono jack) 2

each

Input level: -7.5 dBs

(0 dBs = 0.775 Vrms)

Input impedance: more than 47 kilohms

### LINE OUT

S VIDEO OUT (4-pin mini DIN)

Y: 1 Vp-p, 75 ohms

(unbalanced), sync negative

C: 0.3 Vp-p (colour burst) 75

ohms (unbalanced)

VIDEO OUT (phono jack)

Output signal: 1 Vp-p, 75 ohms,

(unbalanced), sync negative

AUDIO OUT (phono jack)

Standard output: -7.5 dBs at

load impedance 47 kilohms

Output impedance: less than 10 kilohms

### Microphone input

Minijack -60 dBs, for

low impedance

microphone

### Headphone jack

Stereo minijack -26 dBs,

8 ohms

### CONTROLS IN

Minijack

### LANC ④

Stereo mini-minijack

## General

### Power requirements

220 - 240 V AC, 50 Hz

### Power consumption

38 W

### Operating temperature

5°C to 40°C

### Storage temperature

-20°C to 60°C

### Dimensions

Approx. 466 x 119 x 366

mm (w/h/d)

including projecting

parts and controls

### Weight

Approx. 8.5 kg

### Supplied accessories

Remote commander (1)

B5 (size AA) batteries (2)

Aerial cable (1)

Audio cable (1)

Minis lead (1)

RF screwdriver (1)

S-video cable (1)

LANC cable (1)



Design and specifications are subject to change without notice.

## 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 line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
6. Flexible Circuit Board Repairing
  - Keep the temperature of the soldering iron around 270°C during repairing.
  - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
  - Be careful not to apply force on the conductor when soldering or unsoldering.

### SAFETY-RELATED COMPONENT WARNING!

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

### ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ

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

## TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
<b>SERVICE NOTE</b>			2-10. Removal of Mechanical Block and Cassette Compartment ..... 2-5		
<b>1. DESTINATION DIFFERENCE SCHEMATIC COMPONENT TABLE LIST</b> ..... 5			2-11. Tray Chassis Internal Views ..... 2-6		
<b>2. Removal of Cassette at Failure with Cassette Inserted</b> ..... 5			2-12. Mechanical Internal Views ..... 2-6		
<b>3. Replacement of External Parts</b> ..... 6			2-13. Circuit Boards Location ..... 2-7		
<b>4. Replacement of Cassette Door Assembly</b> ..... 6			<b>3. DIAGRAMS</b>		
<b>5. Cleaning of Video Head and Run System</b> ..... 7			3-1. Overall Block Diagram ..... 3-1		
<b>6. Replacement of Upper Rotary Drum</b> ..... 7			3-2. Head Amp Block Diagram ..... 3-5		
<b>1. GENERAL</b>			3-3. Video I/O Block Diagram ..... 3-6		
• Index to Parts and Controls ..... 1-1			3-4. Video Block Diagram ..... 3-9		
• Welcome! ..... 1-5			3-5. Digital Block Diagram ..... 3-14		
• Checking your Model Name ..... 1-5			3-6. Trancecoder Block Diagram ..... 3-17		
• HI[8] (high eight) Video System ..... 1-5			3-7. Servo System Control Block Diagram ..... 3-20		
• STEP 1-Unpacking ..... 1-6			3-8. Timer, Tuner, MODE Control Block Diagram ..... 3-23		
• STEP 2-Setting up the Remote Commander ..... 1-6			3-9. AFM Audio Block Diagram ..... 3-27		
• STEP 3-Connecting the VCR ..... 1-7			3-10. PCM Audio Block Diagram ..... 3-31		
• STEP 4-Tuning the TV to your VCR ..... 1-8			3-11. Tuner Block Diagram ..... 3-33		
• STEP 5-Tuning the VCR to TV Channels (EV-S900S AE/UB only) ..... 1-9			3-12. Power Block Diagram ..... 3-36		
• STEP 5-Tuning the VCR to TV Channels (EV-S900E NP/VC only) ..... 1-10			<b>4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS</b>		
• STEP 5-Tuning the VCR to TV Channels (EV-S900E B only) ..... 1-11			4-1. Frame Schematic Diagram ..... 4-1		
• STEP 6-Setting the clock ..... 1-12			4-2. Printed wiring Boards and Schematic Diagrams ..... 4-5		
• Setting the Canal Plus/PAY-TV Decoder (EV-S900E B/NP/VC only) ..... 1-13			• This Note is Common for Printed Wiring Boards and Schematic Diagrams ..... 4-5		
• Additional Tuning Instructions ..... 1-14			• RP-165 Board ..... 4-6		
• Playing a Tape ..... 1-14			• VI-121 Board ..... 4-14		
• Recording TV Programmes ..... 1-16			• DI-51 and WC-10 Boards ..... 4-24		
• Recording TV Programmes Using the Tuner ..... 1-19			• MA-173 Board ..... 4-33		
• Checking/Canceling Tuner Settings ..... 1-21			• TC-30 Board ..... 4-57		
• Playing Searching at Various Speeds ..... 1-22			• PC-61 Board ..... 4-63		
• Adjusting the Picture ..... 1-23			• FM-16, TK-26, SW-227 and TM-119 Boards ..... 4-69		
• Searching Using the Index			• Control Switch Block and MD-59 Boards ..... 4-78		
Function-Index Search ..... 1-25			• CS-45 Board ..... 4-86		
Looking at Menu Options ..... 1-27			• FR-82 and FL-57 Boards ..... 4-92		
• Shuttle Editing ..... 1-28			• FJ-13 Board ..... 4-99		
• Editing with Another VCR ..... 1-29			• YP-38 Board ..... 4-103		
• Synchronised Editing ..... 1-30			• TU-145 Board ..... 4-106		
• Assemble Editing ..... 1-32			• PS-316 Board ..... 4-111		
• Using the Edit Monitor Function ..... 1-34			4-3. Semiconductors ..... 4-116		
• Audio Dubbing ..... 1-34			<b>5. REPAIR PARTS LIST</b>		
<b>2. DISASSEMBLY</b>			5-1. EXPLODED VIEWS ..... 5-1		
2-1. Removal of Cabinet Assembly ..... 2-1			5-1-1. Cabinet and Front Panel Assemblies ..... 5-1		
2-2. Removal of FL-57 Board and FR-82 board ..... 2-1			5-1-2. Tray Chassis Complete Assembly ..... 5-3		
2-3. Removal of FJ-13 Board and Bottom Plate ..... 2-2			5-1-3. Main Boards Assembly ..... 5-4		
2-4. Removal of FM-16 Board and Control Switch Block ..... 2-2			5-1-4. Cassette Compartment Assembly ..... 5-6		
2-5. Removal of TC-30 Board ..... 2-3			5-1-5. Mechanical Assembly (1) ..... 5-7		
2-6. Removal of TU-145 Board and DI-51 Board ..... 2-3			5-1-6. Mechanical Assembly (2) ..... 5-8		
2-7. Removal of PS-316 Board and CS-45 Board ..... 2-4			5-1-7. Mechanical Assembly (3) ..... 5-9		
2-8. Removal of PC-61 Board ..... 2-4			5-2. ELECTRICAL PARTS LIST ..... 5-10		
2-9. Removal of VI-121 Board and MA-173 Board ..... 2-5			5-2-1. Hardware List ..... 5-67		
			<b>6. INTERFACE AND IC PIN FUNCTION</b>		
			6-1. System Control—Video-Audio Block Interface ..... 6-1		
			6-2. Mechanical Control—Servo Block Interface ..... 6-2		

<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
6-3.	Mechanical Control Micro Computer CXP87140 (MA-173 Board IC063) Port Function Description	6-3	2-5-15.	Recording Y Level Adjustment	7-22
6-4.	Mode Control Microcomputer MB89096 (MA-173 Board IC002) Port Function Description	6-6	2-5-16.	L Mode Recording Chroma Level Adjustment	7-23
6-5.	Timer/Tuner Control Microcomputer MB89096 (FM-16 Board IC101) Port Function Description	6-6	2-5-17.	E Mode Recording Chroma Level Adjustment	7-22
6-6.	PCM/AFM Audio Output Control	6-7	2-5-18.	Y/Chroma Adjustment	7-23
			2-5-19.	Carrier Leak Adjustment	7-23
<b>7. ADJUSTMENTS</b>			2-6.	SECAM-PAL Conversion System Adjustments	7-24
SERVICE MODE		7-1	2-6-1.	Equipment Required	7-24
1.	Senser Lanc	7-1	2-6-2.	Setting up During Adjustment	7-24
2.	How to Use the RM-95 JIG	7-1	2-6-3.	Bell Filter Adjustment	7-24
3.	How to Change the Service Mode with RM-95	7-1	2-6-4.	VCO Adjustment	7-25
4.	Senser Lanc Memory Map	7-2	2-6-5.	I REF Adjustment	7-25
5.	Eeprom Write Protect	7-2	2-6-6.	B-Y to Adjustment	7-25
6.	Test Mode Setting	7-3	2-6-7.	R-Y to Adjustment	7-25
7.	Emergency Codes	7-3	2-6-8.	Color Level Adjustment	7-26
8.	D Page Memory Map	7-4	2-7.	Digital System Adjustments	7-26
7.1. MECHANICAL ADJUSTMENTS		7-6	2-7-1.	AFC Adjustment	7-26
1-1.	Tape Pass Adjustment	7-6	2-7-2.	APC Adjustment	7-27
1-1-1.	Setting the Track Shift Mode	7-6	2-7-3.	Read Clock (YRCK) Adjustment	7-28
1-1-2.	Preparation before Adjustment	7-6	2-7-4.	Read Clock (CRCK) Adjustment	7-28
1-1-3.	Preparation after Adjustment	7-6	2-7-5.	Y Output Level Adjustment	7-29
2-1.	ELECTRICAL ADJUSTMENTS	7-7	2-8.	Character Generator System Check	7-29
2-1-1.	Preparation before Adjustment	7-7	2-8-1.	CG OSC Check	7-29
2-1-1-1.	Equipment Required	7-7	2-9.	PCM Audio System Adjustments	7-30
2-1-1-2.	Equipment Connection	7-8	2-9-1.	Master Clock Adjustment	7-30
2-1-1-3.	Input Signal Check	7-9	2-9-2.	Recording Level Adjustment	7-30
2-1-1-4.	Alignment Tapes	7-10	2-9-3.	Offset Adjustment	7-31
2-1-6.	Input/Output Levels and Impedance	7-11	2-9-4.	Playback VCO Check	7-31
2-2.	Power Supply Check	7-12	2-9-5.	Playback Level Adjustment	7-32
2-2-1.	Output Voltage Check	7-12	2-9-6.	E-E Output Level Check	7-32
2-3.	System Control System Adjustments	7-12	2-9-7.	Overall Frequency Characteristic Adjustment	7-32
2-3-1.	Timer Clock Adjustment	7-12	2-9-8.	Overall Distortion Factor Check	7-32
2-4.	Servo System Adjustments	7-13	2-9-9.	Overall Noise Level Check	7-33
2-4-1.	PWM Frequency Adjustment	7-13	2-10.	AFM Audio System Adjustments	7-33
2-4-2.	Switching Position Adjustment	7-13	2-10-1.	Carrier Frequency 15MHz	7-34
2-4-3.	CAP Duty Adjustment	7-14	2-10-2.	Carrier Frequency 17MHz	7-34
2-4-4.	SP/LP Discrimination Check	7-14	2-10-3.	15MHz Deviation Adjustment	7-34
2-4-5.	Slow Adjustment	7-15	2-10-4.	17MHz Deviation Adjustment	7-34
2-5.	Video System Adjustments	7-16	2-10-5.	Playback Separation 2 Check	7-34
2-5-1.	Playback Frequency Characteristic	7-16	2-10-6.	Playback Separation 1 Check	7-35
2-5-2.	Sync AGC Adjustment	7-17	2-10-7.	E-E Output Level Check	7-35
2-5-3.	Accel Y Level Adjustment	7-17	2-10-8.	Overall Frequency Characteristic Check	7-35
2-5-4.	Accel C Level Adjustment	7-17	2-10-9.	Overall Distortion Factor Check	7-36
2-5-5.	Chroma Comb Filter Adjustment	7-18	2-10-10.	Overall Noise Level Check	7-36
2-5-6.	Pre-emphasis Input Level Adjustment	7-18	2-11.	Tuner System Adjustments	7-36
2-5-7.	L Mode Y FM Carrier Frequency, Y FM Deviation Adjustment	7-18	2-11-1.	30V Voltage Check	7-36
2-5-8.	E Mode Y FM Carrier Frequency, Y FM Deviation Adjustment	7-19	2-11-2.	AGC Adjustment	7-36
2-5-9.	Chroma Emphasis Adjustment	7-20	2-11-3.	Separation Adjustment	7-37
2-5-10.	L Mode De-emphasis Level Adjustment	7-20	2-12.	Adjustment Parts Location Diagram	7-38
2-5-11.	L Mode Playback Level Adjustment	7-21			
2-5-12.	E Mode De-emphasis Level Adjustment	7-21			
2-5-13.	B Mode Playback Level Adjustment	7-21			
2-5-14.	Recording Chroma Level Pre Adjustment	7-21			

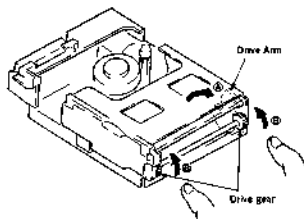
## 1. DESTINATION DIFFERENCE SCHEMATIC COMPONENT TABLE LIST

This manual are for the EV-S9000E AE, EV-S9000E B, EV-9000E NP, EV-S9000E UB, and EV-S9000E VC. Check model number by looking at the rear panel of VCR.

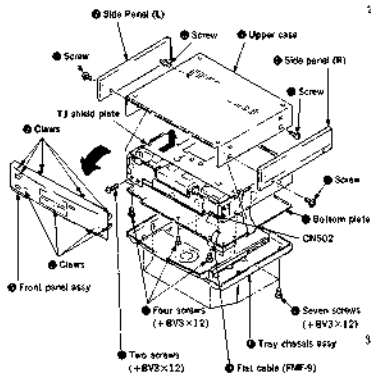
FEATURE	MODEL	AE (Italian)	B (French)	NP (North European)	VC (German)	UB (UK)
CS-45 BOARD (Recording/Playing NICAM broadcasts)		—	—	B/G NICAM	—	I NICAM
CS-45 BOARD Recording Canal+/PAY-TV programmes		—	○	○	○	—
TC-30 BOARD (SECAM → PAL TRANCECODER)		—	○	—	—	—
VP-38 BOARD (Recording with VPS signals)		—	—	—	○	—

## 2. REMOVAL OF CASSETTE AT FAILURE WITH CASSETTE INSERTED

- ⊗ If tape is wound on the drum and it cannot be removed: Rotate the capstan motor wheel in either direction and rotate the S or R reel to house the tape. Then, perform Procedure ②.
- ⊗ If tape is housed in the cassette half and cannot be removed:
  - ① Remove the MD block. (For removal, refer to Section 3-3.)
  - ② Rotate the drive arms at both sides of L frame and cassette compartment in the arrow direction ⊕.
  - ③ Rotate the connecting gear in the arrow direction ⊕ with both the thumbs.

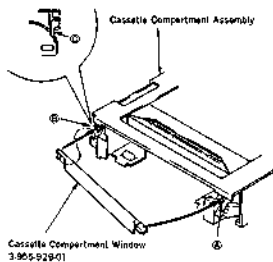


### 3. REPLACEMENT OF EXTERNAL PARTS



### 4. REPLACEMENT OF CASSETTE DOOR ASSEMBLY

- 1) Remove the front panel.
- 2) First undo ① portion toward you and then undo ②.



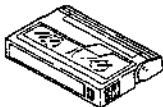
- 3) When installing, as shown above, first put in ① portion by setting the claw ④. Then, put in ② portion and install so that the door hangs almost vertically.

## 5. CLEANING OF VIDEO HEAD AND RUN SYSTEM

### Method 1

(Cleaning Method with Cleaning Tape.)

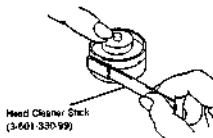
- A cleaning cassette should be used. (When using the attached manual for the cleaning cassette should be thoroughly read.)



### Method 2

(Cleaning Method with Cleaning Liquid)

- ① Remove the upper case of the video deck.
- ② Apply cleaning liquid to a head cleaner stick.
- ③ As shown in the right figure, press the head cleaner stick lightly. Turn the rubber of the rotary upper drum gradually and clean the video deck.



Head Cleaner Stick  
(3-601-330-99)

(Cleaning Method for Run System)

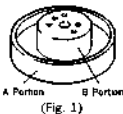
- ① Apply cleaning liquid to a head cleaner stick.
- ② Clean the guides which tape touches directly and the pinch roller with the head cleaner.

## 6. REPLACEMENT OF UPPER ROTARY DRUM

### Method 3

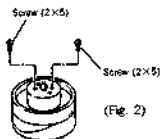
#### Caution

- Particular care must be taken when handling the video head and the terminals.
- When handling the rotary upper drum, do not touch the side (A portion) and hold the top (B portion) (See Fig. 1)



#### Removal of Rotary Upper Drum

- ① Remove two screws (2×5) (See Fig. 2)

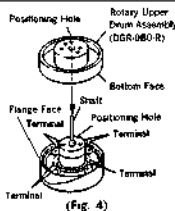


- ② Fix the jig (supplied with the spare rotary upper drum) with the two attached short screws. Then, put the attached long screw into the jig until the rotary upper drum may be removed (See Fig. 3).

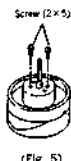


#### Installation of New Rotary Upper Drum

- ① Clean the flange face and the bottom face of the new rotary upper drum (See Fig. 4)
- ② Insert the shaft attached to the jig into the positioning hole in the lower drum. Then, put the shaft through the positioning hole in the new rotary upper drum and set the drum lightly.



- ③ With the shaft inserted into the positioning hole, push into the upper drum lightly with a hand. If the drum is not allowed to be bottomed, alternately tighten two screws (2×5) gradually and install the drum (See Fig. 5)
- ④ Pull out the shaft inserted. If the shaft is not allowed to be withdrawn smoothly, go back to Step ② and redo the procedure.

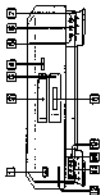


- ⑤ Once the drum has been replaced, clean the video head and the run system with a head-cleaner stick (See "Cleaning Method 2 for Video Head and Run System").

Refer to the pages indicated in () for details.

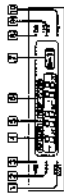
## Index to parts and controls

Front panel



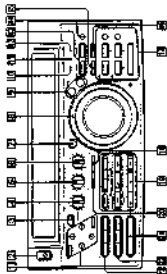
- 1 ON/STANDBY indicator/indicator (11)
- 2 Type compartment (23)
- 3 Remote control (7)
- 4 SELECT button (27)
- 5 Microphone jack (43)
- 6 Headphone jack
- 7 MIN/MAX (headphone volume) control
- 8 Display window
- 9 LANC jack (54)
- 10 CL button
- 11 LINE IN 2, AUDIO/VIDEO, IS, and/or 60\*
- 12 OPERATION PANEL OPEN/CLOSE symbol (48)

Front panel display window



- 1 VOICE BOOST indicator (39)
- 2 VTS indicator (EV-SERVE V.C. only) (43)
- 3 MR indicator (5)
- 4 REMAIN indicator (24)
- 5 Linear time counter/Clock
- 6 TIME CODE indicator (28)
- 7 Type operation indicator
- 8 Tape indicator
- 9 REC (recalling) indicator (27)

Operation panel



- 1 AERIAL CUM SUP. A/T (A/T) and EXCOURT buttons (19)
- 2 COMMAND MODE V.T. OFF / T.J. 2 (push 48)
- 3 AUDIO MONITOR, PCM/AMX/STO/HR/STO buttons (25)
- 4 STD-AUDIO LEVEL control (44)
- 5 PCM REC (BALANCE) control (27)
- 6 PCM REC LEVEL control (27)
- 7 VISUAL SCAN button (46)
- 8 JOG-STEP/SHUTTLE ring (24)
- 9 144/7-PH INDEX SEARCH buttons (45)
- 10 REC indicator (43)
- 11 HI-FI STEREO INDICATOR (29)
- 12 PCM indicator (28)
- 13 INDEX/MARK/REBASE buttons (47)
- 14 PAUSE SPEED (SP) / LP buttons (27)
- 15 COUNTER RESET button (24)
- 16 COUNTER SELECT button (24)
- 17 Page ejection buttons
- 18 TRIPLE CODE WHITE buttons (58)
- 19 Type operation buttons
- 20 AUDIO/DUB buttons (53)
- 21 PROS/PAH buttons (49)
- 22 EXIT button (50)
- 23 VPS buttons (EV-SERVE V.C. only) (28)
- 24 INPUT SELECT buttons (51)
- 25 MR button (43)
- 26 TV/TER buttons (41)
- 27 TIMER CHECK button (24)

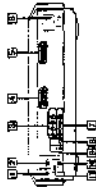
## SECTION 1 GENERAL

This section is extracted from instruction manual



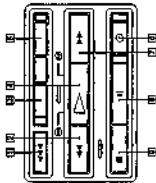
Install the parts and controls  
(continued)

#### Refer panel



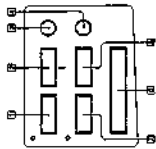
- 1 RF CHANGES (1)
- 2 AUDIO OUT connector (4)
- 3 LINE IN (3 AUDIO/VIDEO/S VIDEO) (4) (10)
- 4 BURST IN LINE (3) connector (11)
- 5 CANAL connector (LET-STRONG WIRE on) / PAVITY DECODER connector (LET-STRONG 3 C. WIRE) (20)
- 6 AC IN connector (5)
- 7 LINE OUT AUDIO/VIDEO/S VIDEO (4) (10)
- 8 CONTROLS IN jack (4)
- 9 LINC (3) connector (14)
- 10 AUDIO IN connector (5)
- 11 LOCAL ON switch (2)

#### Tap operations buttons



- 1 HIGHER SPEED (REW) button (2)
- 2 REW button (2)
- 3 TRIP REC ON/OFF button (2)
- 4 PLAY button (2)
- 5 QUICK TIMER button (2)
- 6 REC button (2)
- 7 FF button (2)
- 8 PAUSE button (2)
- 9 STOP button (2)
- 10 LINC REMOTE button (5)
- 11 ASSEMBLY button (5)

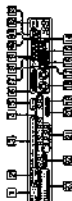
#### Tap adding buttons



- 1 LINC REMOTE button (5)
- 2 ASSEMBLY button (5)
- 3 EXIT INDICATOR ON/OFF button (5)
- 4 BACK button (6)
- 5 MAUSE button (5)
- 6 SYNCHRO BOOT/START button (5)
- 7 EXIT button (5)

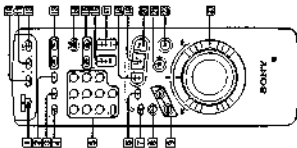
**Index to parts and controls**  
(continued)

**Operation panel display window**



- 1 INDEX/SCAN and badge number indicator (65)
- 2 ASSEMBLE IN/OUT indicator (59/60)
- 3 EVERY WEEK and anomaly indicators (50)
- 4 Linear time control/rewinding start time indicator (53)
- 5 VTR indicator (11)
- 6 Remaining tape length indicator
- 7 SP/LP (type) speed indicators (52)
- 8 EJECT indicator (56)
- 9 SYNC/HD EJECT indicator (54)
- 10 IN/CAAT indicator (58)
- 11 AUDIO CLIP indicator (54)
- 12 VIS indicator (61) (PROX. VC only) (55)
- 13 Channel number/aspect ratio indicator (11)
- 14 MAIN/SUB indicators (28)
- 15 L/P indicators (28)
- 16 STEREO indicator (26)
- 17 AUTO indicator
- 18 Cassette indicator
- 19 REC indicator (27)
- 20 TRAP indicator (26)
- 21 Check linear recording time/correct time recording time (10)
- 22 Peak level meter

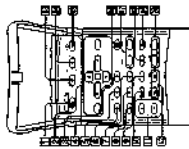
**Remote commander (front with cover closed)**



- 1 [RECALL] (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100) (101) (102) (103) (104) (105) (106) (107) (108) (109) (110) (111) (112) (113) (114) (115) (116) (117) (118) (119) (120) (121) (122) (123) (124) (125) (126) (127) (128) (129) (130) (131) (132) (133) (134) (135) (136) (137) (138) (139) (140) (141) (142) (143) (144) (145) (146) (147) (148) (149) (150) (151) (152) (153) (154) (155) (156) (157) (158) (159) (160) (161) (162) (163) (164) (165) (166) (167) (168) (169) (170) (171) (172) (173) (174) (175) (176) (177) (178) (179) (180) (181) (182) (183) (184) (185) (186) (187) (188) (189) (190) (191) (192) (193) (194) (195) (196) (197) (198) (199) (200) (201) (202) (203) (204) (205) (206) (207) (208) (209) (210) (211) (212) (213) (214) (215) (216) (217) (218) (219) (220) (221) (222) (223) (224) (225) (226) (227) (228) (229) (230) (231) (232) (233) (234) (235) (236) (237) (238) (239) (240) (241) (242) (243) (244) (245) (246) (247) (248) (249) (250) (251) (252) (253) (254) (255) (256) (257) (258) (259) (260) (261) (262) (263) (264) (265) (266) (267) (268) (269) (270) (271) (272) (273) (274) (275) (276) (277) (278) (279) (280) (281) (282) (283) (284) (285) (286) (287) (288) (289) (290) (291) (292) (293) (294) (295) (296) (297) (298) (299) (300) (301) (302) (303) (304) (305) (306) (307) (308) (309) (310) (311) (312) (313) (314) (315) (316) (317) (318) (319) (320) (321) (322) (323) (324) (325) (326) (327) (328) (329) (330) (331) (332) (333) (334) (335) (336) (337) (338) (339) (340) (341) (342) (343) (344) (345) (346) (347) (348) (349) (350) (351) (352) (353) (354) (355) (356) (357) (358) (359) (360) (361) (362) (363) (364) (365) (366) (367) (368) (369) (370) (371) (372) (373) (374) (375) (376) (377) (378) (379) (380) (381) (382) (383) (384) (385) (386) (387) (388) (389) (390) (391) (392) (393) (394) (395) (396) (397) (398) (399) (400) (401) (402) (403) (404) (405) (406) (407) (408) (409) (410) (411) (412) (413) (414) (415) (416) (417) (418) (419) (420) (421) (422) (423) (424) (425) (426) (427) (428) (429) (430) (431) (432) (433) (434) (435) (436) (437) (438) (439) (440) (441) (442) (443) (444) (445) (446) (447) (448) (449) (450) (451) (452) (453) (454) (455) (456) (457) (458) (459) (460) (461) (462) (463) (464) (465) (466) (467) (468) (469) (470) (471) (472) (473) (474) (475) (476) (477) (478) (479) (480) (481) (482) (483) (484) (485) (486) (487) (488) (489) (490) (491) (492) (493) (494) (495) (496) (497) (498) (499) (500) (501) (502) (503) (504) (505) (506) (507) (508) (509) (510) (511) (512) (513) (514) (515) (516) (517) (518) (519) (520) (521) (522) (523) (524) (525) (526) (527) (528) (529) (530) (531) (532) (533) (534) (535) (536) (537) (538) (539) (540) (541) (542) (543) (544) (545) (546) (547) (548) (549) (550) (551) (552) (553) (554) (555) (556) (557) (558) (559) (560) (561) (562) (563) (564) (565) (566) (567) (568) (569) (570) (571) (572) (573) (574) (575) (576) (577) (578) (579) (580) (581) (582) (583) (584) (585) (586) (587) (588) (589) (590) (591) (592) (593) (594) (595) (596) (597) (598) (599) (600) (601) (602) (603) (604) (605) (606) (607) (608) (609) (610) (611) (612) (613) (614) (615) (616) (617) (618) (619) (620) (621) (622) (623) (624) (625) (626) (627) (628) (629) (630) (631) (632) (633) (634) (635) (636) (637) (638) (639) (640) (641) (642) (643) (644) (645) (646) (647) (648) (649) (650) (651) (652) (653) (654) (655) (656) (657) (658) (659) (660) (661) (662) (663) (664) (665) (666) (667) (668) (669) (670) (671) (672) (673) (674) (675) (676) (677) (678) (679) (680) (681) (682) (683) (684) (685) (686) (687) (688) (689) (690) (691) (692) (693) (694) (695) (696) (697) (698) (699) (700) (701) (702) (703) (704) (705) (706) (707) (708) (709) (710) (711) (712) (713) (714) (715) (716) (717) (718) (719) (720) (721) (722) (723) (724) (725) (726) (727) (728) (729) (730) (731) (732) (733) (734) (735) (736) (737) (738) (739) (740) (741) (742) (743) (744) (745) (746) (747) (748) (749) (750) (751) (752) (753) (754) (755) (756) (757) (758) (759) (760) (761) (762) (763) (764) (765) (766) (767) (768) (769) (770) (771) (772) (773) (774) (775) (776) (777) (778) (779) (780) (781) (782) (783) (784) (785) (786) (787) (788) (789) (790) (791) (792) (793) (794) (795) (796) (797) (798) (799) (800) (801) (802) (803) (804) (805) (806) (807) (808) (809) (810) (811) (812) (813) (814) (815) (816) (817) (818) (819) (820) (821) (822) (823) (824) (825) (826) (827) (828) (829) (830) (831) (832) (833) (834) (835) (836) (837) (838) (839) (840) (841) (842) (843) (844) (845) (846) (847) (848) (849) (850) (851) (852) (853) (854) (855) (856) (857) (858) (859) (860) (861) (862) (863) (864) (865) (866) (867) (868) (869) (870) (871) (872) (873) (874) (875) (876) (877) (878) (879) (880) (881) (882) (883) (884) (885) (886) (887) (888) (889) (890) (891) (892) (893) (894) (895) (896) (897) (898) (899) (900) (901) (902) (903) (904) (905) (906) (907) (908) (909) (910) (911) (912) (913) (914) (915) (916) (917) (918) (919) (920) (921) (922) (923) (924) (925) (926) (927) (928) (929) (930) (931) (932) (933) (934) (935) (936) (937) (938) (939) (940) (941) (942) (943) (944) (945) (946) (947) (948) (949) (950) (951) (952) (953) (954) (955) (956) (957) (958) (959) (960) (961) (962) (963) (964) (965) (966) (967) (968) (969) (970) (971) (972) (973) (974) (975) (976) (977) (978) (979) (980) (981) (982) (983) (984) (985) (986) (987) (988) (989) (990) (991) (992) (993) (994) (995) (996) (997) (998) (999) (1000)

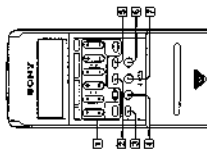
**Index to parts and controls (continued)**

**Remote commander (front, with cover opened)**



- 1 **TV/VIDEO** (main control) button (7)
- 2 **Main buttons (16)**  
MENU button
- 3 **PROG +/-** buttons (11)
- 4 **MEMO/STANBY**  
←/→ buttons (8)
- 5 **TOGGLE REC/ON/OFF**  
button (2)
- 6 **TV/VTR** button (13)
- 7 **VOICE BOOST** button (9)
- 8 **ON/SLAY** button (6)
- 9 **VSR/ALSCAN** button (6)
- 10 **COUNTER-SELECT** button (2)
- 11 **TAPE/RETURN** button (4)
- 12 **COUNTER RESET** button (4)
- 13 **XC** (two times repeat) button (9)
- 14 **1/2** (two times repeat) button (11)
- 15 **1/4** (two times repeat) button (11)
- 16 **PROG +/-** buttons (11)
- 17 **STOP** button (10)
- 18 **RECALL** button (10)
- 19 **STOP** button (10)
- 20 **PROG +/-** buttons (11)
- 21 **TRANSMIT** button (10)
- 22 **CLOCK SET** button (10)
- 23 **TAPE REWIND** button (4)
- 24 **MEMORY** button (4)
- 25 **TIMER ON/SCROLL** button (5)
- 26 **INPUT SELECT** button (5)
- 27 **TIMER CLEAR** button (5)
- 28 **TIMER CHECK** button (5)

**Remote commander (rear, with cover opened)**



- 1 **Time exceeding/LOCK** button (19, 20)
- 2 **TIMER SET** button (19)
- 3 **DAY** button (19)
- 4 **STOP** button (19)
- 5 **STEP** button (19)
- 6 **PROG +/-** buttons (11)
- 7 **TRANSMIT** button (10)
- 8 **CLOCK SET** button (10)
- 9 **TAPE REWIND** button (4)
- 10 **MEMORY** button (4)
- 11 **TIMER ON/SCROLL** button (5)
- 12 **INPUT SELECT** button (5)
- 13 **TIMER CLEAR** button (5)
- 14 **TIMER CHECK** button (5)

**Remote commander display window**



- 1 **EV/RTY** and **weekday** indicators (3)
- 2 **VTR 4/2/3** (recording) multi indicator (6)
- 3 **SP/AF** (stop repeat) indicator (3)
- 4 **MEMORY** **TV/VIDEO** indicator (4)
- 5 **Battery SAVER** indicator (7)
- 6 **TRANSMIT** indicator (10)
- 7 **Even times of day** indicator (12)
- 8 **LINE** indicator (8)
- 9 **PROG** indicator (8)
- 10 **Programme changed/next input** indicator (8)
- 11 **Timer protection (time indicator)** (2)
- 12 **Timer protect clear and start time indicator** (12)

## Welcome!

Thank you for purchasing the Sony Video Cassette Recorder Model VCR-1000. Here are outlined the features you'll enjoy with your VCR:

- PCM audio recording system (scope) that allows you to take advantage of the latest technology in high-grade audio systems
- 100% digital VCR for easy search operations
- 100% digital VCR for easy search operations
- LANC (Laser) lock (remote) sensor (such as another VCR which can then be controlled by the VCR).

### Compatible colour systems

The VCR is designed to record and play back using the PAL colour system. Forwarding of video information from other colour systems cannot be guaranteed. The VCR-1000 can receive PAL colour signals and SECAM signals which are converted to PAL colour signals. Recording and playback are based on the PAL colour system.

## Checking your model name

The information in this manual is for the VCR-1000, VCR-1000E, VCR-1000L, VCR-1000R, VCR-1000S, VCR-1000T, VCR-1000U, VCR-1000V, VCR-1000W, VCR-1000X, VCR-1000Y, VCR-1000Z, VCR-1000AA, VCR-1000AB, VCR-1000AC, VCR-1000AD, VCR-1000AE, VCR-1000AF, VCR-1000AG, VCR-1000AH, VCR-1000AI, VCR-1000AJ, VCR-1000AK, VCR-1000AL, VCR-1000AM, VCR-1000AN, VCR-1000AO, VCR-1000AP, VCR-1000AQ, VCR-1000AR, VCR-1000AS, VCR-1000AT, VCR-1000AU, VCR-1000AV, VCR-1000AW, VCR-1000AX, VCR-1000AY, VCR-1000AZ, VCR-1000BA, VCR-1000BB, VCR-1000BC, VCR-1000BD, VCR-1000BE, VCR-1000BF, VCR-1000BG, VCR-1000BH, VCR-1000BI, VCR-1000BJ, VCR-1000BK, VCR-1000BL, VCR-1000BM, VCR-1000BN, VCR-1000BO, VCR-1000BP, VCR-1000BQ, VCR-1000BR, VCR-1000BS, VCR-1000BT, VCR-1000BU, VCR-1000BV, VCR-1000BW, VCR-1000BX, VCR-1000BY, VCR-1000BZ, VCR-1000CA, VCR-1000CB, VCR-1000CC, VCR-1000CD, VCR-1000CE, VCR-1000CF, VCR-1000CG, VCR-1000CH, VCR-1000CI, VCR-1000CJ, VCR-1000CK, VCR-1000CL, VCR-1000CM, VCR-1000CN, VCR-1000CO, VCR-1000CP, VCR-1000CQ, VCR-1000CR, VCR-1000CS, VCR-1000CT, VCR-1000CU, VCR-1000CV, VCR-1000CW, VCR-1000CX, VCR-1000CY, VCR-1000CZ, VCR-1000DA, VCR-1000DB, VCR-1000DC, VCR-1000DD, VCR-1000DE, VCR-1000DF, VCR-1000DG, VCR-1000DH, VCR-1000DI, VCR-1000DJ, VCR-1000DK, VCR-1000DL, VCR-1000DM, VCR-1000DN, VCR-1000DO, VCR-1000DP, VCR-1000DQ, VCR-1000DR, VCR-1000DS, VCR-1000DT, VCR-1000DU, VCR-1000DV, VCR-1000DW, VCR-1000DX, VCR-1000DY, VCR-1000DZ, VCR-1000EA, VCR-1000EB, VCR-1000EC, VCR-1000ED, VCR-1000EE, VCR-1000EF, VCR-1000EG, VCR-1000EH, VCR-1000EI, VCR-1000EJ, VCR-1000EK, VCR-1000EL, VCR-1000EM, VCR-1000EN, VCR-1000EO, VCR-1000EP, VCR-1000EQ, VCR-1000ER, VCR-1000ES, VCR-1000ET, VCR-1000EU, VCR-1000EV, VCR-1000EW, VCR-1000EX, VCR-1000EY, VCR-1000EZ, VCR-1000FA, VCR-1000FB, VCR-1000FC, VCR-1000FD, VCR-1000FE, VCR-1000FF, VCR-1000FG, VCR-1000FH, VCR-1000FI, VCR-1000FJ, VCR-1000FK, VCR-1000FL, VCR-1000FM, VCR-1000FN, VCR-1000FO, VCR-1000FP, VCR-1000FQ, VCR-1000FR, VCR-1000FS, VCR-1000FT, VCR-1000FU, VCR-1000FV, VCR-1000FW, VCR-1000FX, VCR-1000FY, VCR-1000FZ, VCR-1000GA, VCR-1000GB, VCR-1000GC, VCR-1000GD, VCR-1000GE, VCR-1000GF, VCR-1000GG, VCR-1000GH, VCR-1000GI, VCR-1000GJ, VCR-1000GK, VCR-1000GL, VCR-1000GM, VCR-1000GN, VCR-1000GO, VCR-1000GP, VCR-1000GQ, VCR-1000GR, VCR-1000GS, VCR-1000GT, VCR-1000GU, VCR-1000GV, VCR-1000GW, VCR-1000GX, VCR-1000GY, VCR-1000GZ, VCR-1000HA, VCR-1000HB, VCR-1000HC, VCR-1000HD, VCR-1000HE, VCR-1000HF, VCR-1000HG, VCR-1000HH, VCR-1000HI, VCR-1000HJ, VCR-1000HK, VCR-1000HL, VCR-1000HM, VCR-1000HN, VCR-1000HO, VCR-1000HP, VCR-1000HQ, VCR-1000HR, VCR-1000HS, VCR-1000HT, VCR-1000HU, VCR-1000HV, VCR-1000HW, VCR-1000HX, VCR-1000HY, VCR-1000HZ, VCR-1000IA, VCR-1000IB, VCR-1000IC, VCR-1000ID, VCR-1000IE, VCR-1000IF, VCR-1000IG, VCR-1000IH, VCR-1000II, VCR-1000IJ, VCR-1000IK, VCR-1000IL, VCR-1000IM, VCR-1000IN, VCR-1000IO, VCR-1000IP, VCR-1000IQ, VCR-1000IR, VCR-1000IS, VCR-1000IT, VCR-1000IU, VCR-1000IV, VCR-1000IW, VCR-1000IX, VCR-1000IY, VCR-1000IZ, VCR-1000JA, VCR-1000JB, VCR-1000JC, VCR-1000JD, VCR-1000JE, VCR-1000JF, VCR-1000JG, VCR-1000JH, VCR-1000JI, VCR-1000JJ, VCR-1000JK, VCR-1000JL, VCR-1000JM, VCR-1000JN, VCR-1000JO, VCR-1000JP, VCR-1000JQ, VCR-1000JR, VCR-1000JS, VCR-1000JT, VCR-1000JU, VCR-1000JV, VCR-1000JW, VCR-1000JX, VCR-1000JY, VCR-1000JZ, VCR-1000KA, VCR-1000KB, VCR-1000KC, VCR-1000KD, VCR-1000KE, VCR-1000KF, VCR-1000KG, VCR-1000KH, VCR-1000KI, VCR-1000KJ, VCR-1000KL, VCR-1000KM, VCR-1000KN, VCR-1000KO, VCR-1000KP, VCR-1000KQ, VCR-1000KR, VCR-1000KS, VCR-1000KT, VCR-1000KU, VCR-1000KV, VCR-1000KW, VCR-1000KX, VCR-1000KY, VCR-1000KZ, VCR-1000LA, VCR-1000LB, VCR-1000LC, VCR-1000LD, VCR-1000LE, VCR-1000LF, VCR-1000LG, VCR-1000LH, VCR-1000LI, VCR-1000LJ, VCR-1000LK, VCR-1000LL, VCR-1000LM, VCR-1000LN, VCR-1000LO, VCR-1000LP, VCR-1000LQ, VCR-1000LR, VCR-1000LS, VCR-1000LT, VCR-1000LU, VCR-1000LV, VCR-1000LW, VCR-1000LX, VCR-1000LY, VCR-1000LZ, VCR-1000MA, VCR-1000MB, VCR-1000MC, VCR-1000MD, VCR-1000ME, VCR-1000MF, VCR-1000MG, VCR-1000MH, VCR-1000MI, VCR-1000MJ, VCR-1000MK, VCR-1000ML, VCR-1000MM, VCR-1000MN, VCR-1000MO, VCR-1000MP, VCR-1000MQ, VCR-1000MR, VCR-1000MS, VCR-1000MT, VCR-1000MU, VCR-1000MV, VCR-1000MW, VCR-1000MX, VCR-1000MY, VCR-1000MZ, VCR-1000NA, VCR-1000NB, VCR-1000NC, VCR-1000ND, VCR-1000NE, VCR-1000NF, VCR-1000NG, VCR-1000NH, VCR-1000NI, VCR-1000NJ, VCR-1000NK, VCR-1000NL, VCR-1000NM, VCR-1000NN, VCR-1000NO, VCR-1000NP, VCR-1000NQ, VCR-1000NR, VCR-1000NS, VCR-1000NT, VCR-1000NU, VCR-1000NV, VCR-1000NW, VCR-1000NX, VCR-1000NY, VCR-1000NZ, VCR-1000OA, VCR-1000OB, VCR-1000OC, VCR-1000OD, VCR-1000OE, VCR-1000OF, VCR-1000OG, VCR-1000OH, VCR-1000OI, VCR-1000OJ, VCR-1000OK, VCR-1000OL, VCR-1000OM, VCR-1000ON, VCR-1000OO, VCR-1000OP, VCR-1000OQ, VCR-1000OR, VCR-1000OS, VCR-1000OT, VCR-1000OU, VCR-1000OV, VCR-1000OW, VCR-1000OX, VCR-1000OY, VCR-1000OZ, VCR-1000PA, VCR-1000PB, VCR-1000PC, VCR-1000PD, VCR-1000PE, VCR-1000PF, VCR-1000PG, VCR-1000PH, VCR-1000PI, VCR-1000PJ, VCR-1000PK, VCR-1000PL, VCR-1000PM, VCR-1000PN, VCR-1000PO, VCR-1000PP, VCR-1000PQ, VCR-1000PR, VCR-1000PS, VCR-1000PT, VCR-1000PU, VCR-1000PV, VCR-1000PW, VCR-1000PX, VCR-1000PY, VCR-1000PZ, VCR-1000QA, VCR-1000QB, VCR-1000QC, VCR-1000QD, VCR-1000QE, VCR-1000QF, VCR-1000QG, VCR-1000QH, VCR-1000QI, VCR-1000QJ, VCR-1000QK, VCR-1000QL, VCR-1000QM, VCR-1000QN, VCR-1000QO, VCR-1000QP, VCR-1000QQ, VCR-1000QR, VCR-1000QS, VCR-1000QT, VCR-1000QU, VCR-1000QV, VCR-1000QW, VCR-1000QX, VCR-1000QY, VCR-1000QZ, VCR-1000RA, VCR-1000RB, VCR-1000RC, VCR-1000RD, VCR-1000RE, VCR-1000RF, VCR-1000RG, VCR-1000RH, VCR-1000RI, VCR-1000RJ, VCR-1000RK, VCR-1000RL, VCR-1000RM, VCR-1000RN, VCR-1000RO, VCR-1000RP, VCR-1000RQ, VCR-1000RR, VCR-1000RS, VCR-1000RT, VCR-1000RU, VCR-1000RV, VCR-1000RW, VCR-1000RX, VCR-1000RY, VCR-1000RZ, VCR-1000SA, VCR-1000SB, VCR-1000SC, VCR-1000SD, VCR-1000SE, VCR-1000SF, VCR-1000SG, VCR-1000SH, VCR-1000SI, VCR-1000SJ, VCR-1000SK, VCR-1000SL, VCR-1000SM, VCR-1000SN, VCR-1000SO, VCR-1000SP, VCR-1000SQ, VCR-1000SR, VCR-1000SS, VCR-1000ST, VCR-1000SU, VCR-1000SV, VCR-1000SW, VCR-1000SX, VCR-1000SY, VCR-1000SZ, VCR-1000TA, VCR-1000TB, VCR-1000TC, VCR-1000TD, VCR-1000TE, VCR-1000TF, VCR-1000TG, VCR-1000TH, VCR-1000TI, VCR-1000TJ, VCR-1000TK, VCR-1000TL, VCR-1000TM, VCR-1000TN, VCR-1000TO, VCR-1000TP, VCR-1000TQ, VCR-1000TR, VCR-1000TS, VCR-1000TT, VCR-1000TU, VCR-1000TV, VCR-1000TW, VCR-1000TX, VCR-1000TY, VCR-1000TZ, VCR-1000UA, VCR-1000UB, VCR-1000UC, VCR-1000UD, VCR-1000UE, VCR-1000UF, VCR-1000UG, VCR-1000UH, VCR-1000UI, VCR-1000UJ, VCR-1000UK, VCR-1000UL, VCR-1000UM, VCR-1000UN, VCR-1000UO, VCR-1000UP, VCR-1000UQ, VCR-1000UR, VCR-1000US, VCR-1000UT, VCR-1000UU, VCR-1000UV, VCR-1000UW, VCR-1000UX, VCR-1000UY, VCR-1000UZ, VCR-1000VA, VCR-1000VB, VCR-1000VC, VCR-1000VD, VCR-1000VE, VCR-1000VF, VCR-1000VG, VCR-1000VH, VCR-1000VI, VCR-1000VJ, VCR-1000VK, VCR-1000VL, VCR-1000VM, VCR-1000VN, VCR-1000VO, VCR-1000VP, VCR-1000VQ, VCR-1000VR, VCR-1000VS, VCR-1000VT, VCR-1000VU, VCR-1000VV, VCR-1000VW, VCR-1000VX, VCR-1000VY, VCR-1000VZ, VCR-1000WA, VCR-1000WB, VCR-1000WC, VCR-1000WD, VCR-1000WE, VCR-1000WF, VCR-1000WG, VCR-1000WH, VCR-1000WI, VCR-1000WJ, VCR-1000WK, VCR-1000WL, VCR-1000WM, VCR-1000WN, VCR-1000WO, VCR-1000WP, VCR-1000WQ, VCR-1000WR, VCR-1000WS, VCR-1000WT, VCR-1000WU, VCR-1000WV, VCR-1000WW, VCR-1000WX, VCR-1000WY, VCR-1000WZ, VCR-1000XA, VCR-1000XB, VCR-1000XC, VCR-1000XD, VCR-1000XE, VCR-1000XF, VCR-1000XG, VCR-1000XH, VCR-1000XI, VCR-1000XJ, VCR-1000XK, VCR-1000XL, VCR-1000XM, VCR-1000XN, VCR-1000XO, VCR-1000XP, VCR-1000XQ, VCR-1000XR, VCR-1000XS, VCR-1000XT, VCR-1000XU, VCR-1000XV, VCR-1000XW, VCR-1000XX, VCR-1000XY, VCR-1000XZ, VCR-1000YA, VCR-1000YB, VCR-1000YC, VCR-1000YD, VCR-1000YE, VCR-1000YF, VCR-1000YG, VCR-1000YH, VCR-1000YI, VCR-1000YJ, VCR-1000YK, VCR-1000YL, VCR-1000YM, VCR-1000YN, VCR-1000YO, VCR-1000YP, VCR-1000YQ, VCR-1000YR, VCR-1000YS, VCR-1000YT, VCR-1000YU, VCR-1000YV, VCR-1000YW, VCR-1000YX, VCR-1000YY, VCR-1000YZ, VCR-1000ZA, VCR-1000ZB, VCR-1000ZC, VCR-1000ZD, VCR-1000ZE, VCR-1000ZF, VCR-1000ZG, VCR-1000ZH, VCR-1000ZI, VCR-1000ZJ, VCR-1000ZK, VCR-1000ZL, VCR-1000ZM, VCR-1000ZN, VCR-1000ZO, VCR-1000ZP, VCR-1000ZQ, VCR-1000ZR, VCR-1000ZS, VCR-1000ZT, VCR-1000ZU, VCR-1000ZV, VCR-1000ZW, VCR-1000ZX, VCR-1000ZY, VCR-1000ZZ.

### Types of differences

feature	Model A1	B	HP	VC	WB
Recording/playback VHS-C	-	-	-	-	-
Recording/playback Hi8	-	-	-	-	-
Recording/playback Hi8mm	-	-	-	-	-
Recording with VHS signals	-	-	-	-	-
Recording with Hi8 signals	-	-	-	-	-
Recording with Hi8mm signals	-	-	-	-	-

## Hi8® (high eight) video system

Both Hi8 and standard Hi8 cassette tapes can be used with this VCR. Refer to the chart below for the compatibility between the Hi8 video system and the standard Hi8 systems.

When changing a tape  
This VCR automatically detects the type of tape being played, either Hi8 or standard Hi8. The VCR also automatically detects the tape speed (either SP or LP) the tape was recorded in.

Tape type	Recording format	Playback mode
Hi8 tape	Hi8 (high eight)	Hi8 (high eight)
Standard Hi8 tape	Standard Hi8	Standard Hi8
Standard Hi8 tape	Standard Hi8	Standard Hi8

When recording on a tape

The speed this VCR records on either Hi8 or standard Hi8 format. See "Recording or time-lapse" on page 44.

Tape type	Recording format	Hi8 or Hi8mm settings
Hi8 tape	Hi8 (high eight)	AUTO
Standard Hi8 tape	Standard Hi8	OFF

Setting a recording

Slide out the tab on the cassette to the end colour marker. To record on the cassette, slide the tab back.

- Hi8 recording or playback Hi8 or Hi8mm signals
- Hi8 recording or playback Hi8 or Hi8mm signals
- Hi8 recording or playback Hi8 or Hi8mm signals
- Hi8 recording or playback Hi8 or Hi8mm signals

## Step 1

### Unpacking

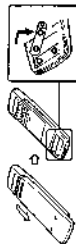
Check that you have the following items:

- Remote commander 
- 6x D-size (4.0) batteries 
- Aerial cable 
- 1 Video cable 
- Audio cables 
- Remote lead (TV-SUPPORT DE only) 
- RF extender 
- LAMP cable 
- LAMP extender 

## Step 2

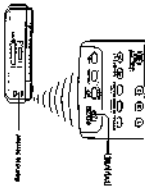
### Setting up the remote commander

Insert two RE (size AA) batteries by matching the + and - on the batteries to the diagram inside the battery compartment.



#### Using the remote commander

Press the **POWER** button to operate this VCR and a Sony TV. Pulling on the remote commander switch with a JIS (J) can be used to operate your TV.



#### To operate

Use the **POWER** button to operate the remote commander VCR.

#### To stop TV

TV will power on because of the TV.

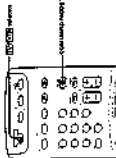
#### Notes

- The remote commander may not be used to operate a Sony VCR. Please check the remote commander manual for details.
- If you do not use the remote commander for a certain period of time, it may stop working. Please check the remote commander manual for details.
- Do not use a different type of battery.

### Step 2 Setting up the remote commander (continued)

Setting the command mode

You now select three different positions for the command mode setting.



- 1 Turn on the VCR, then press **OPERATION PANEL OPEN/CLOSE** to open the operation panel.  
Set the **COMMAND MODE VCR OPEN/CLOSE** selector on the VCR to "VCR 2."
- 2 Set the **COMMAND MODE VCR ADD** selector on the remote commander to "VCR 2."
- 3 Set the **COMMAND MODE VCR CONTROL** selector on the remote commander to "VCR 2."

Note  
If you set the **COMMAND MODE VCR OPEN/CLOSE** selector on the VCR to "VCR 1," you can manage (operate) VCR from any other Sony VCRs command.

Consulting a Sony video equipment or other Step video

equipment has a **COMMAND MODE** selector.

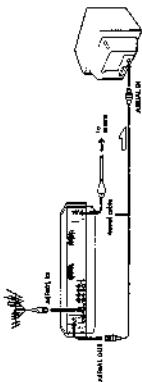
- 1 Set the **COMMAND MODE VCR OPEN/CLOSE** selector on the remote commander to "VCR 2" on the VCR.
- 2 Set the **COMMAND MODE** selector of any other video equipment to the same position you selected in step 1.

If other Sony video equipment does not have a **COMMAND MODE** selector

For connecting other Sony video equipment using the following

1. For the VCR, set the **COMMAND MODE** selector on the remote commander to "VCR 2" on the VCR.
2. Followed connect connected Sony, Release VCRs position 1 (Store) will not be controlled on this mode.
3. Step 8 and 9 are VCRs, position 2.
4. Step 9 are VCRs, position 3.

### Step 3 Connecting the VCR



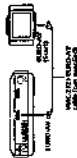
- 1 Disconnect the aerial input cable from your TV and connect it to AERIAL IN of the VCR.
- 2 Connect AERIAL OUT of the VCR and the aerial input of your TV using the supplied aerial cable.
- 3 Connect AC IN of the VCR and the power supply using the power lead.  
Completed the lead/inputs match and record TV programme.

### Step 3 Connecting the VCR (continued)

#### Additional connections

To a TV that has a Stereo AV (Stere) connector

This additional connection can improve picture and sound quality.



When you play a tape, the picture appears on the screen automatically. (See page 23.)

To a TV that has an S-VIDEO connector

This additional connection can improve picture and sound quality.

Connect your VCR to the TV as shown above, and set EURO AV OUT in the SET UP MENU No. 5.

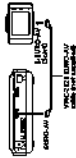
► Press MEMO.

► Press CURSOR A/R to select SET UP MENU, then press ENTER/OK.

► Press CURSOR A/R to select EURO AV OUT and set No. 5.

To a TV that has an S-VIDEO connector

This additional connection can improve picture and sound quality.

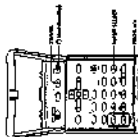


#### Notes

- If you use the EURO AV connector and want to use S-VIDEO input, the playback picture on the TV will be in black and white. In this case, set the TV to S-VIDEO input, or set the EURO AV OUT to VIDEO in the SET UP MENU.
- If you use the S-VIDEO connector, set the TV to S-VIDEO input, but the TV to S-VIDEO position to view the picture from the S-VIDEO connector.

### Step 4 Tuning the TV to your VCR

If you have connected the VCR to your TV using the EURO AV, S, or AV cables, skip this step.



1 Press (1) (2) (3) to turn on the VCR.

2 Press POWER to light "VCR" in the operation panel display window.

3 Press (INPUT SELECT) until "L2" appears in the display window.

4 Turn on your TV and select a programme position for video playback. For the EPG/Service E, only, make sure that the B/C settings match those on the TV, or in picture appear.

5 Turn the TV between User channels 28 and 35 so that a busy screen appears on the TV screen. Return to your TV (manual) for handling instructions.

6 Press (INPUT SELECT) until a programme number (lights) instead.

7 Press (INFO) to check to see if the TV screen changes to a different programme. You have now tuned your TV to the VCR. Whenever you play a tape, set the TV to the programme position indicated in step 4 above.

To obtain a clear blue screen

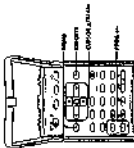
For the screen may not appear clearly in step 3 above. In this case, turn the EPG/Service E screen at the rear of the VCR with the supplied BS screwdriver to a position where the TV clearly displays a blue screen.

BS-CR1000 screw driver




## Step 5 Tuning the VCR to TV channels (EV-S9000E AEUB only)

Now you can set your VCR to receive broadcast channels using the on-screen display. Tuning instructions for the EV-S9000E AEUB, see and the EV-S9000E AEUB are on pages 14 and 15, respectively.




- 1**  Lift the cover of the remote commander and press **SEARCH**.  
The following screen appears on the TV screen.




- 2**  Press **CURSOR LEFT** to move the cursor (b) to **NUMBER PRESET**. Then press **ENTER**.




- 3**  Press **CURSOR LEFT** to move the cursor (b) to **SEARCH**. Then press **ENTER**.  
To preset cable TV channels, select **CATV**.  
If you're using the EV-S9000E UB, skip this step.



- 4**  Press **CURSOR LEFT** to move the cursor (b) to **CHANNEL SET**.



- 5**  Press **NUMBER** to select the programme position.



**6**



Press **CURSOR** to start tuning.  
The VCR starts searching for a channel and stops when it finds one.  
Press **CURSOR** to go to the next channel.  
Press **ENTER** to store the channel in the on-screen display. The channel is stored in the following order:  
EV-S9000E UB  
UMP 01 - 09  
EV-S9000E AE  
VHF 01 - 12  
A - H (Auto search only)  
CATV 01 - 09  
CATV 01 - 09  
HITS 01 - 04  
CATV 001 - 08

If you know the number of the channel you want, press the number buttons. For example, for channel 5, first press "5" and then press "5".

**7**

To activate another channel to another programme position, repeat steps 2 and 4.

**8**

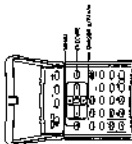


Press **ENTER** to store all the allocated channels.



## Step 5 Tuning the VCR to TV channels (EV-S9000E NP/VC only)

Place pins on set your VCR to receive broadcast channels using the cassette display. Then, tune channels for the EV-S9000E using the EV-S9000E from on pages 14 and 16, respectively.



1 Lift the cover of the remote commander and press **MENU**. The following menu appears on the TV screen.



2 Press **CURSOR UP** to move the cursor (P) to **TUNING MODE**, then press **ENTER**.



3 Press **CURSOR UP** to move the cursor (P) to **103.6MHz**, then press **ENTER** to store the channel.



4 Press **CURSOR UP** to move the cursor (P) to **CHANNEL SET**.



5 Press **ENTER** to select the programme position.

ITEM	VALUE	UNIT
Channel	103.6	MHz
Frequency	103.6	MHz
Power	0.0	W
Modulation	0.0	Hz
Modulation	0.0	Hz
Modulation	0.0	Hz
Modulation	0.0	Hz
Modulation	0.0	Hz



6 Press **CURSOR** to start banking. The VCR starts searching for a channel and displays the first one it finds on the TV screen. Press **CURSOR UP** to repeat with the channel you want to receive. The channels are stored in the following order:  
VHF CH - ELL  
A - H (Auto scan only)  
HF CH1 - E9  
CATV S1 - S9  
HYPER S1 - S1  
CATV S10 - S10

ITEM	VALUE	UNIT
Channel	103.6	MHz
Frequency	103.6	MHz
Power	0.0	W
Modulation	0.0	Hz
Modulation	0.0	Hz
Modulation	0.0	Hz
Modulation	0.0	Hz
Modulation	0.0	Hz

If you know the number of the channel you want, press the number buttons. For example, for channel 5, first press "V" and then press "5."

For PA-V/TV/Chnl Plus channel settings, see page 29 for details.

7 To illustrate searching, channel 5 is stored in programme position 1, repeat steps 3 and 6.

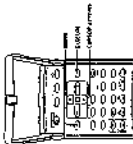


8 Press **EXECUTE** to store all the duplicate channels.

## Step 5

### Tuning the VCR to TV channels (EV-S9000E B only)

Now you can enjoy VCR to record broadcast channels using the convenient display Tuning instructions for the EV-S9000E, AGAR and the EV-S9000E MPVC are on pages 82 and 84, respectively.



1 Lift the cover of the remote commander and press **MENU**.  
The following menu appears on the TV screen.



2 Press **CURSOR** to move the cursor (P) to **TUNING PRESET**, then press **EXECUTE**.



3 Press **CURSOR** to move the cursor (P) to **SYSTEM**, then press **CURSOR** to select either **L** or **R**.  
• To tune in French broadcasts, set to **L**.  
• To tune in PAL systems broadcast for example, CommunicaShop, broadcast set to **DIC**.



4 Press **CURSOR** to move the cursor (P) to **NORMAL/CATV**, then press **CURSOR** to select either **SHORR** or **CATV**.  
• To tune in VHF or UHF channels, set to **NORMAL**.  
• To tune in CATV or HOUSE channels, set to **CATV**.



5



Press **CURSOR** to move the cursor (P) to **CHANNEL SET**.



6



Press **PROG** to select the programme address.  
You can enter the number of the channel you want to save. The number of channels for Channel 5, 6, 7, 8, 9, and 10 are 35.



7



Press **CURSOR** to start tuning.  
The VCR scans channels for a channel and displays the last one it finds on the TV screen. Press **CURSOR** to repeatedly use the channel you want to display. The channels are scanned in the following order:

Channel category	Channel #	Standard
VHF	F2 - F10	83 - 812
	CA - 81 (after vcr/vcr/vcr)	
UHF	F11 - F19	813 - 819
CATV	0 - 0	501 - 504 (L - 52U)
HYPER	501 - 504	501 - 504

For Canal Plus channel settings, see page 20 for details.

8

To allocate another channel to another programme position, repeat steps 5 and 6.

9



Press **EXECUTE** to store all the allocated channels.

### Tuning the VCR to TV channels (PS-55990E is only) (continued)

#### Tuning in French cable TV channels

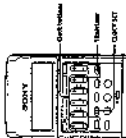
This VCR scans CATCHABLE TV channels from 1 to Q and HITER (extremely high frequency) channels from S21 to S31. In the **NUMER** (NUMBER) menu, these channels are shown by their corresponding **channel numbers**, which run from 1 to 41. For example, channel B has **channel number 1**, whereas channel Q is indicated as **number 23** (See the chart below.)  
If a channel that you want to tune in is broadcast only by its frequency (e.g., 162.15 MHz) refer to the chart below for the corresponding satellite channel number.

French cable TV channel chart

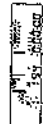
Channel #	Satellite channel number	Frequency range (MHz)
A	1	162.15-162.24
B	2	162.25-162.34
C	3	162.35-162.44
D	4	162.45-162.54
E	5	162.55-162.64
F	6	162.65-162.74
G	7	162.75-162.84
H	8	162.85-162.94
I	9	162.95-163.04
J	10	163.05-163.14
K	11	163.15-163.24
L	12	163.25-163.34
M	13	163.35-163.44
N	14	163.45-163.54
O	15	163.55-163.64
P	16	163.65-163.74
Q	17	163.75-163.84
R	18	163.85-163.94
S	19	163.95-164.04
T	20	164.05-164.14
U	21	164.15-164.24
V	22	164.25-164.34
W	23	164.35-164.44
X	24	164.45-164.54
Y	25	164.55-164.64
Z	26	164.65-164.74
AA	27	164.75-164.84
AB	28	164.85-164.94
AC	29	164.95-165.04
AD	30	165.05-165.14
AE	31	165.15-165.24
AF	32	165.25-165.34
AG	33	165.35-165.44
AH	34	165.45-165.54
AI	35	165.55-165.64
AJ	36	165.65-165.74
AK	37	165.75-165.84
AL	38	165.85-165.94
AM	39	165.95-166.04
AN	40	166.05-166.14
AO	41	166.15-166.24

## Step 6 Setting the clock

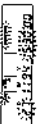
You must set the time and date on the remote commander to be able to use the timer recording feature properly.



Slide down the back cover of the remote commander and press **CLOCK SET**.



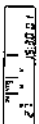
Press the **clock buttons** until the current time and date appear.  
To set the current time and date, press **D** +/- to locate the numeral and press **STOP/PAUSE** +/- for the number to be set. Press **STOP/PAUSE** +/- for the minutes. To set the hours, press **D** +/- for the minutes. To set the day of the week, press **D** +/- for the day of the week to set automatically.



POINT the remote commander at the VCR and press **PROGRAM**. A beep sounds and the correct time appears in the VCR display window.



Press **CLOCK SET**. The remote commander LCD displays the time and date.

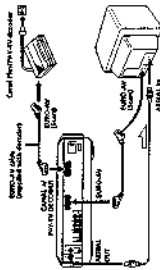


## Setting the Canal Plus PAY-TV decoder

(EV-S5000E BSW/VC only)

You can switch to second Canal Plus or PAY-TV programmes if you connect a decoder (see page 16) to the VCR.

### How to hook up



### Notes

- If you have a 21 cm (8.3 in) screen TV, you must use a TV decoder.
- If you have a 21 cm (8.3 in) screen TV, you must use a TV decoder.
- If you have a 21 cm (8.3 in) screen TV, you must use a TV decoder.
- If you have a 21 cm (8.3 in) screen TV, you must use a TV decoder.
- If you have a 21 cm (8.3 in) screen TV, you must use a TV decoder.
- If you have a 21 cm (8.3 in) screen TV, you must use a TV decoder.
- If you have a 21 cm (8.3 in) screen TV, you must use a TV decoder.
- If you have a 21 cm (8.3 in) screen TV, you must use a TV decoder.
- If you have a 21 cm (8.3 in) screen TV, you must use a TV decoder.
- If you have a 21 cm (8.3 in) screen TV, you must use a TV decoder.

If your TV has a stereo-AV connector, set the AUDIO AV OUT mode option to NORMAL. This setting allows you to display subtitles, but the VCR does not transmit V/C signals.

If your TV has a SUBD-AV connector and is SUBD compatible, set the SUBD AV OUT mode option to SUBD. This setting does not allow you to display subtitles, and so the TV may not display subtitles while screen. If this is the case, set the TV to SUBD input.

### Preselecting Canal Plus/PAY-TV channels

- To make or recall Canal Plus/PAY-TV programmes, set your VCR to preselect the channels using the channel display.
- 1 Turn on your decoder.
  - 2 Use the cursor of the remote commander and press MENU.
- The following screen appears on the TV screen.



- 3 Press CURSOR & TV to move the cursor to the NUMBER PERSET. Then press EXECUTE.



- 4 Press the PROG +/- buttons to select the desired programme position.



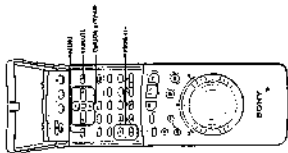
- 5 Press CURSOR & TV to move the cursor to the CHANNEL SET. Then use the Canal Plus or PAY-TV channels.



- 6 Press CURSOR & TV & TV to move the cursor to the CHANNEL PLUS (for the EV-S5000E BSW/VC decoder) or PAY-TV (for the EV-S5000E VC only) and press EXECUTE.



## Additional tuning instructions



### If the picture is not clear

Normally, the Auto Fine Tuning (AFT) function automatically tunes in the picture for you. If the picture is not clear, you may also use manual tuning functions.

- 1 Press **PROG** +/- to select the programme number for which you cannot obtain a clear picture.
- 2 Press **MEMO**, then select **TUNER PRESET** and press **EXECUTE**.
- 3 Select **FINE TUNING**. The fine tuning menu appears.



- 4 Press **UP/SKIP** +/- to get a clearer picture. Then press **EXECUTE**. Note that the AFT (Auto Fine Tuning) setting switches to OFF.

### If the TV signal is too strong

Set the LOCAL/EXT. switch on the rear of the VCR to LOCAL.

### Disabling unwanted programme positions

After tuning the TV channels, you can disable unwanted programme positions. Positions that are disabled will be skipped later when you press the **PROG** +/- buttons.

- 1 Press **MEMO**, then select **TUNER PRESET** and press **EXECUTE**.
- 2 Press **PROG** +/- until the programme position you want to disable appears beside "PROG" on the TV screen.
- 3 Press number button "0" to set to display the number "0" beside **CHANNELS**, **SET**.
- 4 Repeat steps 2 and 3 for other positions you want to disable.
- 5 Press **EXECUTE**.

This section shows you how to play back a video tape.

### 1 Turn on your TV and make it to the VCR.

- If the TV is connected to the VCR using the EUROAV cable, the S-cable or AV cable, turn the TV on to make input.
- Make sure the VCR is in the VCR stop position. Set the TV to the programme position for the VCR.

### 2 Insert a tape.

The VCR turns on automatically.

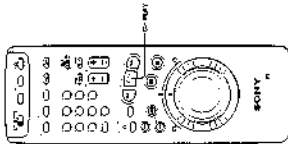
- 3 Press **0-PLAY** to start playing. When the tape reaches the end, the VCR automatically returns to the stop position. (The power remains on.)

### Additional tests

To	press
Stop play	<b>0-STOP</b>
Pause play	<b>0-PAUSE</b>
Resume play after pause (check forward)	<b>0-PAUSE</b> or <b>0-PLAY</b>
Search backward	Press the <b>0-REWIND</b> button. You need to press the <b>0-PAUSE</b> button to stop during playback.
Search forward	Press the <b>0-FAST-FWD</b> button. Then, turn the <b>0-PAUSE</b> button to stop during playback.
Stop backward	<b>0-STOP</b> (during stop)
Stop forward	<b>0-STOP</b> (during stop)
Re-locate the tape	<b>0-REWIND</b> during stop
Reverse the tape at high speed	<b>0-REWIND</b> (during stop)

## Basic Operations

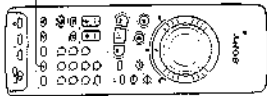
### Playing a tape



- For further information on operating and playback functions, see "Using the remote control" on page 38.



### Playing a tape (continued)



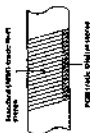
- Note:**
- When you use the VCR, you must insert a cassette tape in the VCR. To insert a cassette tape, press the TAPE OPEN button. The cassette tape will be inserted into the VCR. To play the cassette tape, press the PLAY button. The VCR will start to play the cassette tape. To stop the VCR, press the STOP button. To eject the cassette tape, press the TAPE OPEN button.

### Selecting playback sound of stereo/hi-fi tapes

Press AUDIO MONITOR on the remote commander to select the desired sound. Each press of the button changes the display on the VCR's LCD screen.

Stereo programmes	Press AUDIO MONITOR until
To listen to	The TV screen shows
stereo sound	"STEREO"
Left channel	"L"
Right channel	"R"
All digital programmes	Press AUDIO MONITOR until
To listen to	The TV screen shows
stereo sound	"MAIN"
Sub stereo	"SUB"
Main and sub sounds	"MAIN/SUB"

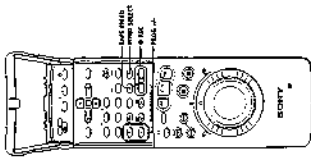
When sound is recorded on a stereo tape with VCR recording, the VCR will play the stereo sound. High fidelity sound like FM (see PCM (Digital) sound) is recorded onto the PCM track along the edge of the tape.



### Recording TV programmes

**Note:**

- When recording TV to your VCR, make sure the VCR is set to the correct mode (VCR or TV).
- When recording TV to your VCR, make sure the VCR is set to the correct mode (VCR or TV).
- When recording TV to your VCR, make sure the VCR is set to the correct mode (VCR or TV).



- Note:**
- When recording TV to your VCR, make sure the VCR is set to the correct mode (VCR or TV).
  - When recording TV to your VCR, make sure the VCR is set to the correct mode (VCR or TV).
  - When recording TV to your VCR, make sure the VCR is set to the correct mode (VCR or TV).

The section shows you how to record TV programmes in the VCR. You can record TV programmes in the VCR in the following ways:

- Recording TV programmes in the VCR.
- Recording TV programmes in the VCR.
- Recording TV programmes in the VCR.

- Automatic start and stop recording—Recording TV programmes using the timer (page 32)

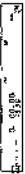
**1** Turn on your TV and tune in to the VCR.

- Turn TV to channel 5 or 6 (the VCR).
- Turn TV to channel 5 or 6 (the VCR).
- Turn TV to channel 5 or 6 (the VCR).

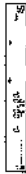
**2** On the operation panel, set the PCM REC LEVEL control to "5" and the PCM REC BALANCE control to the centre.

**3** Insert a tape with the safety tab slid back so that the red position does not show.

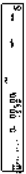
**4** Press TAPE SELECT until a programme position appears in the VCR's display window.



**5** Select the desired programme position by pressing PROG. L/R.



**6** Select the VCR speed by pressing TAPE SPEED. See "TAPE SPEED" on page 32.



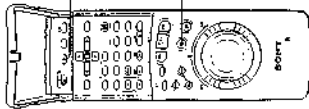
**7** Start recording by pressing REC. When the tape reaches the end, the VCR automatically erases the beginning.

## Recording TV programmes (continued)

- To set a timer for a programme, press **STOP** (1) and **REC** (2) together. The VCR indicator on the VCR display will flash when you press **STOP**.

### Notes

- To set a timer for a programme, press **STOP** (1) and **REC** (2) together. The VCR indicator on the VCR display will flash when you press **STOP**.
- The timer will not set if the TV is not in standby mode. Press **STOP** (1) and **REC** (2) together when the TV is in standby mode.
- The timer will not set if the TV is not in standby mode. Press **STOP** (1) and **REC** (2) together when the TV is in standby mode.
- The timer will not set if the TV is not in standby mode. Press **STOP** (1) and **REC** (2) together when the TV is in standby mode.
- The timer will not set if the TV is not in standby mode. Press **STOP** (1) and **REC** (2) together when the TV is in standby mode.



## To stop recording

Press **STOP**.

- To stop recording, press **STOP** (1). The VCR indicator on the VCR display will stop flashing.
- To stop recording, press **STOP** (1). The VCR indicator on the VCR display will stop flashing.

Tapes type	SP	Maximum recording time (hours/minutes)	SP
EX-75-30	30 mins	1 hr.	1 hr.
EX-75-60	1 hr.	2 hrs.	2 hrs.
EX-75-90	1 hr. 30 min.	3 hrs.	3 hrs.
EX-90	2 hrs.	4 hrs.	4 hrs.

If you use other types of tapes than those listed above, the remaining tape length may not be displayed correctly.

## Recording using the quick timer

The quick timer enables you to record for a specified portion of time in intervals of 30 minutes. Once you specify the recording time, the VCR automatically stops recording. Before you begin, check that the clock is set correctly.

After you start recording, press **QUICK TIMER** on the remote control until the desired duration appears in the display window. The **TIMER** indicator on the VCR lights up. Each press increases the recording duration in increments of 30 minutes as shown below.

6:00 → 6:30 → 7:00 → 7:30 → 8:00 → 8:30 → 9:00

The recording duration increases without you unless you **STOP**. Press the VCR button on the remote control.

- To stop recording, press **QUICK TIMER** on the remote control. The **TIMER** indicator on the VCR will stop flashing.
- To cancel the recording duration while recording, press **QUICK TIMER** until the desired duration appears in the display window.

## Watching a TV programme while recording another

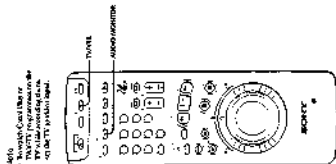
1. Press **STOP** (1) to stop recording and record another of the same time.
2. Press **STOP** (1) to stop recording and record another of the same time.
3. Select the desired programme position on the TV.

## Recording stereo and bilingual programmes in ZWENTON (German stereo) system (6V-53000E AE) (APVC only)

The VCR automatically receives and records stereo and bilingual programmes in the ZWENTON system. When stereo programming is received, a **STEREO** indicator will appear in the display window when bilingual programmes are received, the **MAIN** indicator appears in the display window.

To monitor bilingual programmes while recording, press **AUDIO MONITOR** to select the desired channel.

To listen to	Press <b>AUDIO MONITOR</b> until	The TV screen shows	The display indicator shows
Left channel	"MAIN"	"MAIN"	"MAIN"
Right channel	"SUB"	"SUB"	"SUB"
Both and no sound	"MAIN/SUB"	"MAIN/SUB"	"MAIN/SUB"

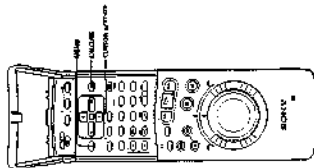


Note: Press **STOP** (1) to stop recording and record another of the same time.

Note: The **AUDIO MONITOR** button does not work when recording stereo programming in the ZWENTON system.



### Recording TV programmes (continued)



- When you set NICAM to MONO, the audio signal recorded on the VCR tape will be mono. If you don't use the standard NICAM system, you need to record on the VCR tape.

### Recording stereo and bilingual programmes in NICAM system (TV-5360GE MPDS only)

This VCR records stereo and bilingual programmes from the NICAM system. When NICAM has been set correctly, the STEREO indicator appears in the display when stereo and bilingual programmes are recorded, and NICAM indicator lights up in the display window.

#### 1 Press **MENU** and select **SET UP MENU**.



#### 2 Set **NICAM** to **ON** by pressing **CL/RECORD** **▲**/**▼**/**▶**.



#### 3 Press **EXECUTE** to save the setting.

Using the **NICAM** setting, **NICAM** programmes are recorded as in the following table.

Track	Source recording	Bilingual
NICAM	Left channel	Mono
PCM	Right channel	Sub
APM (Bilingual)	Left channel	Standard
APM (Stereo)	Right channel	Standard

To monitor stereo and bilingual programmes while recording, set **NICAM** to **ON**. Use the **AUDIO** indicator switch on the front panel to check the stereo system.

#### Setting programmes

To follow	Set the <b>AUDIO</b> indicator switch to	Use TV controls and the display window show
Programmed	PCM	"STEREO"
Standard (mono)	APM (Bilingual)	None/Other

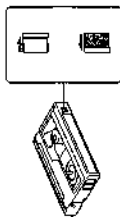
**Additional programmes**  
Use the **AUDIO** indicator button on the remote commander to select the desired items.

To follow	Set the <b>AUDIO</b> indicator switch to	Use TV controls and the display window show
APM (mono)	PCM	"MONO"
Mono and sub-records	APM (Bilingual)	"MONO/SUB"
Standard (mono)	APM (Mono)	None/Other

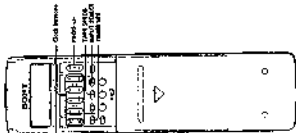
#### Saving a recording

VCR tapes have a safety tab to prevent against accidental recording. To prevent accidental erasure of a recording, slide out the tab on the cassette so that the red portion is visible. A tape with its safety tab in the position shown is ready to record on it.

To record on a tape, slide the tab out the red portion is not visible.



## Recording TV programmes using the timer



This section shows you how to use the VCR successfully start and stop recording TV programmes. You can record up to eight programmes within a one month time frame.

- Before you start:**
- Check the clock is set correctly.
  - Make sure the VCR is in **standby** in **standby** mode.
  - Turn on your TV and tune in to the VCR.
  - When using a decoder, turn it on.

**1** Slide down the back cover of the remote commander and press **TIMER SET**.

**2** Set the date to start recording by pressing 0, 4, 1. The day of the week is set automatically.

To record the same programme every day or the same day once a week, use **Copy** (see recording on page 23).

**3** Set the time to start recording.

1 Press **TIMER SET** 14. 1 to set the time when you want to start recording.

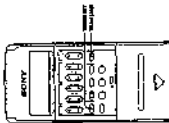
2 Press **START** 16. 1 to set the start time.

**4** Set the time to stop recording by pressing **STOP** 14 or **STOP** 16.

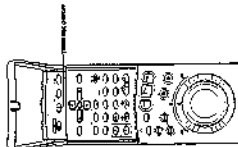
**5** Select the programme you want to record by pressing **PROG** 14. If you want to record via the **TIME IN** button, press **MENU SELECT**. To select the channel, press **CH** 14.

To select the start and stop times, see "To select start/stop on page 23.

The TV shows a message on the screen indicating that the VCR is recording. You can turn off the TV to watch other programmes.



Note: If the timer is set to record a programme, the TV will automatically turn off when the programme starts. To stop recording, press the **STOP** button.



**6** Press the **timer** commander of the VCR and press **TRANSMIT** to stop the setting in the VCR's memory.

A beep sound indicates that the programme has been transmitted to the VCR and the **TIMER** function in the VCR is set. The VCR will start recording and every time recording starts, the TV will automatically turn off. When using a decoder, leave it on. The VCR automatically turns on and starts recording if the program starts. If the timer of the TV is set to off, the TV will not start recording.

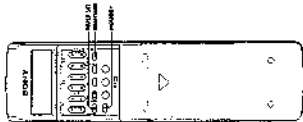
**7** Press **TIMER SET**. The timer commander displays the time and date.

To stop recording, press **STOP** 14 or **STOP** 16. To stop the VCR recording, press **TIMER REC ON/OFF** to turn off the **TIMER** indicator on the VCR.

To use the VCR while recording, You can do the following tasks during timer recording:

Task	Function
Reset the contents	PROGRAM? COUNTER RESET
Display programme information on the TV	EXPAN
Check the timer setting	TIMER FUNCTION
TV/PCB On (Watching a TV programme while recording another on page 23)	

### Recording TV programmes using the timer (continued)



### Stopping frequently used settings in the remote commander

The items selected for use have recording programme are erased from the VCR's memory. To stop a frequently used setting, follow the steps shown below. The programme data when recording has finished is not the programme position of up to four programmes can be stored in the remote commander and be recalled later. The enables you to quickly access the most frequently used settings, especially your favourite weekly programmes. The recording time is automatically stored in the next step after this step's recording is finished.

- 1 Press **TIMER**, then press **MEMORY** on the remote commander. The display window **1** indicator lights up in the remote commander.
- 2 Enter all of the settings for the programme you wish to record. To do this, repeat steps 1 to 3 under "Recording TV programmes using the timer" on page 32.
- 3 Press **MEMORY**.
- 4 To cancel other programmes, press **MEMORY** to light the **MEMORY** indicator, then repeat steps 2 and 3.
- 5 Press **TIMER** to stop.

#### To recall or change memory settings

- 1 Press **TIMER** SET.
  - 2 Press **MEMORY** to call up the desired indicator **1**, **2**, **3**, or **4**.
  - 3 Make any necessary changes necessary.
  - 4 Press **MEMORY** to store the settings.
- The VCR stores timer recording settings.

### Using the VCR before timer recording begins

Press **TIMER**, **REC** ON/OFF to turn off the 2 LINE indicator on the VCR. Then press **STOP** immediately. The VCR is ready for use.

After using the VCR, press **TIMER**, **REC** ON/OFF again to turn on the 2 LINE indicator on the VCR. Remember to read the VCR to stand by for recording before the time you've set the VCR to start recording. As the timer setting will be erased.

### Daily/weekly recording

Daily recording records the same programme every day at the same; weekly recording records the same programme on the same day, every week.

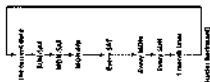
When you set the date to start recording in step 2 of "Recording TV programmes using the timer," press **D**— once the desired day appears. But don't you press the buttons, the indicator changes to show on the 2 LINE.

### Timer recording with VPS signals (TV-530000E VCR only)

The broadcast system transmits VPS (Video Programme System) signals with its TV programmes. These signals contain a lot of information about broadcast programmes, which makes the timer more able to set the start and stop dates correctly as indicated in the TV programme guide. Whenever the VPS function will not work.

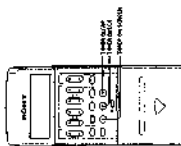
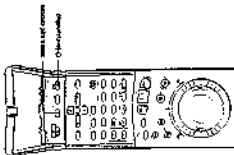
- 1 2 LINE indicator on the VCR is lit, press **TIMER**, **REC** ON/OFF on the VCR to release the VCR from standby and turn on the indicator.
- 2 Press **ON** for times on the VCR.
- 3 The VPS indicator lights up in the display window.
- 4 If you turned off the **TIMER** indicator in step 1, press **TIMER**, **REC** ON/OFF on the VCR.

The VCR returns to recording standby. Check how much on the VPS function. It works on all timer settings that set as by programmer with VPS signal.



- Notes:**
- 1 The VPS indicator lights up when the VPS function is active.
  - 2 The VPS indicator lights up when the VPS function is active.
  - 3 The VPS indicator lights up when the VPS function is active.
  - 4 The VPS indicator lights up when the VPS function is active.

## Checking/cancelling timer settings



This section shows you how to check and cancel the timer settings after you've stored them in the VCR.

- Turn on your TV and tune in to the VCR.

- 1 Press **TIMER REC/CLEAR** to turn off the timer indicator on the VCR.
- 2 Press **0** (immediately) to turn on the VCR.
- 3 Slide down the back cover of the remote commander, and press **TIMER CHECK** to display the PROGRAM LIST on the TV screen.
 

PROGRAM 1	12:00	12:30
PROGRAM 2	13:00	13:30
PROGRAM 3	14:00	14:30
PROGRAM 4	15:00	15:30
PROGRAM 5	16:00	16:30
PROGRAM 6	17:00	17:30
PROGRAM 7	18:00	18:30
PROGRAM 8	19:00	19:30
PROGRAM 9	20:00	20:30
PROGRAM 10	21:00	21:30
PROGRAM 11	22:00	22:30
PROGRAM 12	23:00	23:30
PROGRAM 13	00:00	00:30
PROGRAM 14	01:00	01:30
PROGRAM 15	02:00	02:30
PROGRAM 16	03:00	03:30
PROGRAM 17	04:00	04:30
PROGRAM 18	05:00	05:30
PROGRAM 19	06:00	06:30
PROGRAM 20	07:00	07:30
PROGRAM 21	08:00	08:30
PROGRAM 22	09:00	09:30
PROGRAM 23	10:00	10:30
PROGRAM 24	11:00	11:30
- 4 Check the timer settings in the PROGRAM LIST:
  - If you do not want to cancel the settings, press **TIMER ON/SCREEN** when **TIMER REC/ON/SCREEN** is displayed.
  - If you want to cancel the settings, press **TIMER CHECK** to cancel the settings for the setting you want to cancel.
- 5 Cancel the timer settings. To cancel the settings, press **TIMER CLEAR**, then **TIMER ON/SCREEN**. The VCR returns to the original screen. If there are any other timer settings, press **TIMER REC/ON/COPY** to return to recording standby.

To check the timer settings while the timer is recording, press **TIMER ON/SCREEN** to turn the PROGRAM LIST on or off.

## When the timer settings overlap

The VCR will not record overlapping programmes. If any of your timer settings overlap, change the settings.

- Case 1: If you want to start recording at the same time.**

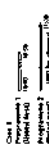
The programme listed first in the PROGRAM LIST has priority over the other programme. The timer settings of later priority programmes will be cancelled from the PROGRAM LIST when the first programme begins recording.

- Case 2: If you want programme 2 to start recording at the same time.**

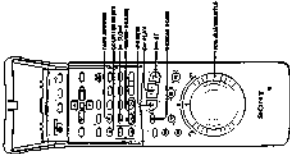
The last 30 seconds of programme 1 will not be recorded, because the VCR will start recording from the programme 2 before programme 1 finishes.

- Case 3: If you want programme 2 to start recording before programme 1.**

Programme 1 is stored recording. Programme 2 will start recording before programme 1 has finished.

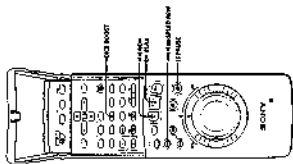


## Playing/searching at various speeds



You can play back a tape at various speeds: high-speed, slow-motion, frame-by-frame and so on. These operations are also useful for searching for a specific point during playback. This sound is muted during these operations.

Playback operation	Operation	Additional remote playback
Pausing of playback	During playback, presses the PAUSE button (00) to pause playback. Press again to resume playback.	Remote (ir) rays to the PAUSE button.
Frame-by-frame advance	Press STILL (02) to advance playback frame by frame.	Remote (ir) rays to the STILL button.
High-speed	Press STILL PLAY (03) to play back at 240 frames per second.	Remote (ir) rays to the STILL PLAY button.
Fast motion	Press STILL F.W. PLAY (04) to play back at 480 frames per second.	Remote (ir) rays to the STILL F.W. PLAY button.
Slow motion	Press STILL B.W. PLAY (05) to play back at 120 frames per second.	Remote (ir) rays to the STILL B.W. PLAY button.
Frame-by-frame advance	Press STILL PLAY (08) to play back at 240 frames per second.	Remote (ir) rays to the STILL PLAY button.
Frame-by-frame advance	Press STILL F.W. PLAY (04) to play back at 480 frames per second.	Remote (ir) rays to the STILL F.W. PLAY button.
Frame-by-frame advance	Press STILL B.W. PLAY (05) to play back at 120 frames per second.	Remote (ir) rays to the STILL B.W. PLAY button.
Frame-by-frame advance	Press STILL STOP (06) to stop playback.	Remote (ir) rays to the STILL STOP button.
Frame-by-frame advance	Press STILL EJECT (07) to eject the tape.	Remote (ir) rays to the STILL EJECT button.
Frame-by-frame advance	Press STILL PLAY (08) to play back at 240 frames per second.	Remote (ir) rays to the STILL PLAY button.



## Listening more easily to conversation recorded with a video camera

When you play a tape recorded with a video camera, you can reduce external noises (such as wind, traffic, children) and amplify the original voice (such as the voices) by using the VOICE BOOST function.

- 1 Press VOICE BOOST on the remote transmitter.
- 2 To reduce to a tape in normal audio, press VOICE BOOST again to

The VOICE BOOST indicator on the VCR goes out.

## Hold

- When watching a high-speed or still picture, you will sometimes see a still picture. This is caused by the same reason as the one on page 44.

## Notes

- The VOICE BOOST function will not work when you are watching a still picture. To watch a still picture, press STILL (02) on the remote transmitter.
- The VOICE BOOST function will not work when you are watching a still picture.

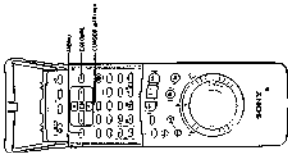
## The VCR

- You can play back a tape at various speeds: high-speed, slow-motion, frame-by-frame and so on. These operations are also useful for searching for a specific point during playback. This sound is muted during these operations.

## Notes

- The VOICE BOOST function will not work when you are watching a still picture. To watch a still picture, press STILL (02) on the remote transmitter.
- The VOICE BOOST function will not work when you are watching a still picture.

## Adjusting the picture



On this VCR you can adjust the colour, brightness, and the VTC delay. You can adjust the picture to suit your own viewing pleasure during regular tape playback. You can also adjust the tracking for slow motion forward and reverse, and for interlaced speed playback. See page 42.

Using the menu options you can make the following picture adjustments:

- **CLAMP** to adjust the colour and colour hue and saturation
- **SHARPNESS** to obtain a clearer more precise picture.
- **VTC DELAY** to adjust colour on the right or left positions of the picture

### Example of SHARPNESS adjustment

- 1 Press **MENU**.
- 2 Press **CURSOR UP** to move the cursor to **SHARPNESS**.
- 3 Press **EXECUTE**.  
 The PICTURE ADJUST options appear.
- 4 Press **CURSOR UP** to make the cursor go to **SHARPNESS**.

Note

- The picture quality is affected by the VTC delay.
- The picture quality is affected by the VTC delay.
- The picture quality is affected by the VTC delay.
- The picture quality is affected by the VTC delay.

- 5 Press **CURSOR** to move the tracking bar (B) to adjust the sharpness.

- 6 Press **EXECUTE**.  
 The picture sharpness appears on the screen.

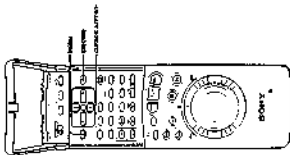
- 7 To store your settings in memory, follow steps 1 to 3, then make the following:
  - 1 Press **CURSOR UP** to move the cursor to **WRITE MEMORY**.
  - 2 Press **EXECUTE** to set the settings.
 To recall your stored settings, press **READ MEMORY**.  
 When you want to change settings, press **CURSOR UP** to move the cursor to **WRITE MEMORY**. The stored settings will be recalled automatically when the settings are adjusted at the factory at the time of shipment.



Note

- The picture quality is affected by the VTC delay.
- The picture quality is affected by the VTC delay.
- The picture quality is affected by the VTC delay.
- The picture quality is affected by the VTC delay.

## Adjusting the picture (continued)



The VCR automatically adjusts the picture for the best possible playback or recording. If a better position for automatic adjustment is available, you can help it by pressing the picture tracking.

### Adjusting the tracking

Though the VCR automatically adjusts the tracking when playing a tape, sometimes very error if the tape was recorded in poor conditions. If so, manually adjust the tracking condition during SLOW, SLOW, or S2 playback. The tracking can only be adjusted automatically during normal playback.

- 1 Press MENU.**
- 2 Press CURSOR ARROWS to move the cursor (▶) to TRACKING ADJUST.**
- 3 Press EXECUTE.**
- 4 Press CURSOR ARROWS to move the cursor (▶) to the tracking adjustment position you wish to select (SLOW, SLOW, or S2).**

  - To adjust tracking when in fast-forward slow motion, select SLOW.
  - To adjust tracking when in reverse slow motion, select SLOW.
  - To adjust tracking when in S2 (time-lapse) mode, select S2.
- 5 Press CURSOR ARROWS to move the cursor (▶) to adjust the tracking for the temple you wish.**
- 6 Press EXECUTE.**

**Notes:**

- When the VCR is in the tracking adjustment mode, the tracking bar (▶) in the color positioner will blink.
- When the tracking bar is in the color positioner, you can adjust the tracking.
- When the tracking bar is in the color positioner, you can adjust the tracking.
- When the tracking bar is in the color positioner, you can adjust the tracking.

**Notes:**

- When changing the tracking, the tracking bar (▶) in the color positioner will blink.
- When the tracking bar is in the color positioner, you can adjust the tracking.
- When the tracking bar is in the color positioner, you can adjust the tracking.

## Reducing picture noise

When you play a tape that is in poor condition, you can improve the playback quality by using the NR (noise reduction) function.

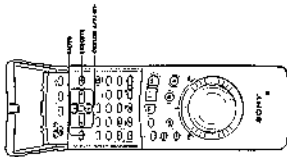
To change NR settings from NR to select the desired setting:

When	NR level	NR indicator in the operation panel display	Red TV screen shows
At normal playback (usually at the settings)	NORMAL	Lights up	"NR OFF"
For level to reduce noise as much as possible	MAXIMUM	Lights up	"NR MAX"
For level to clear picture even as noise light (the tracking bar)	OFF	No indicator	"NR OFF"

## Searching using the index function - Index search

### Notes

- The TV can search for recordings when recording is in progress. When recording is completed, you can search for recordings.
- When you search for recordings, you can search for recordings by date, by program number, by program name, by program number, by program name, and by program number.
- When you search for recordings, you can search for recordings by date, by program number, by program name, by program number, by program name, and by program number.
- When you search for recordings, you can search for recordings by date, by program number, by program name, by program number, by program name, and by program number.



An index signal is automatically recorded at the beginning of a scene when you start recording. You can find specific scenes easily using the index function. When you use the index function, you can find the "normal" and "date". You can use the "date" button for the date only.

The index function works as a divider between scenes, and is not recorded. So, when you specify the index mark, you have to specify the relative position from the current position.



## Locating an index by number - "normal" INDEX SEARCH

Locate an index by indicating how many index signals ahead or behind the scene is from the top's current position. You can specify up to 19 index marks either ahead or behind the current position. See "Looking at menu options" on page 48 for the INDEX menu option.

- 1 Insert an index tape into the VCR. Then press **MEMBER**.



- 2 Press **CURSOR** **▲/▼** to move the cursor (P) to **SET** or **MEMBER**, then press **EXECUTE**.

- 3 Press **CURSOR** **▲/▼** to move the cursor (P) to **INDEX SEARCH**, then highlight **MEMBER**.



- 4 Press **MEMBER** **INDEX SEARCH** repeatedly until the index number you want appears on the TV screen.

- To locate recording programs, press **MEMBER** **INDEX SEARCH**.
- To locate recording programs, press **MEMBER** **INDEX SEARCH**.

The VCR starts searching and highlights the index number on the TV screen. You can use the **MEMBER** button to automatically scan the point.

**Locating an index by date - "date" INDEX SEARCH**  
You can locate a desired scene by date. If the tape you are using was recorded on a specific date, the TV can search for the scene. The date will be displayed on the TV screen. See "Looking at menu options" on page 48 for the INDEX menu option.

- 1 Insert an indexed tape into the VCR. Then press **MEMBER**.



- 2 Press **CURSOR** **▲/▼** to move the cursor (P) to **SET** or **MEMBER**, then press **EXECUTE**.



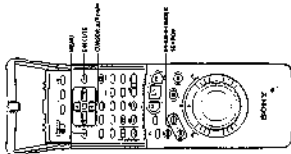
- 3 Press **CURSOR** **▲/▼** to move the cursor (P) to **INDEX SEARCH**, then select **DATE**.



- 4 Press **MEMBER** **INDEX SEARCH** repeatedly until the index number you want appears on the TV screen.

- To locate recording programs, press **MEMBER** **INDEX SEARCH**.
- To locate recording programs, press **MEMBER** **INDEX SEARCH**.

The VCR starts searching and the index number on the TV screen comes about to scene in the order in which the index was dated. Playback starts automatically from that point.

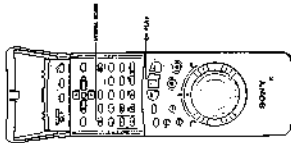




## Searching using the Index function - Index search (continued)

**Notes**

- If the selected channel is not available, the TV screen will show "NO SIGNAL".
- If the selected channel is not available, the TV screen will show "NO SIGNAL".
- When using the TV screen to search for a channel, the TV screen will show "NO SIGNAL".
- When using the TV screen to search for a channel, the TV screen will show "NO SIGNAL".



## Locating up to 9 Index points visually - VISUAL SCAN

Using the visual scan function you can find and play a programme you've marked with an index signal. You can view up to 9 different scenes via the TV screen at the same time. Either numbered or coded indicated scenes can be viewed. When you want to find a scene, but don't know the exact location, you can find it by using this function. You can view up to 9 scenes on the TV screen to search for the desired scene.

### 1 Press VISUAL SCAN while in stop mode.

The upper row of 9 icons will light up one by one to the right. The lighted icon indicates the scene you are viewing. The first 1 scene appears on the TV screen. The VCR then fast forwards to the next index signal. After 9 scenes are displayed on the TV screen the VCR stops searching for index signals.



### 2 Press VISUAL SCAN again to view the next (10th) index signal in the 9 positions.

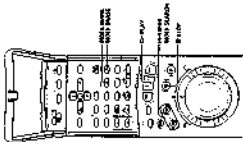
When you see the scene you want to view, press **>>** PLAY.



## Note

• If you mark an index point, you can view up to 9 different scenes via the TV screen at the same time. Either numbered or coded indicated scenes can be viewed. When you want to find a scene, but don't know the exact location, you can find it by using this function. You can view up to 9 scenes on the TV screen to search for the desired scene.

- If you mark an index point, you can view up to 9 different scenes via the TV screen at the same time. Either numbered or coded indicated scenes can be viewed. When you want to find a scene, but don't know the exact location, you can find it by using this function. You can view up to 9 scenes on the TV screen to search for the desired scene.



**Note**

• You can view index signals for up to 9 scenes via the TV screen at the same time. Either numbered or coded indicated scenes can be viewed. When you want to find a scene, but don't know the exact location, you can find it by using this function. You can view up to 9 scenes on the TV screen to search for the desired scene.

## Marking Index signals

You can save and index positions where you wish to pause, to find the specific video frame, to pause, to make a search, or playback mode.



This VCR cannot mark a "fake" index.

## Erasing Index signals

You can remove any unwanted "normal" index signals using this function. However, you can't erase "live" index signals.

1 Press **>>** INDEX SPANCK while in stop or playback mode. The VCR erases the first normal index signal and playback starts. If you want to erase more than one index signal on the TV screen, press **>>**.

2 Press INDEX ERASE during the 30-second period for the index you want to erase. To stop erasing index signals, press **>>** PLAY or **>>** STOP.



## Looking at menu options

The SET UP MENU provides you with various options to set up and customise your VCR. See the table below for the available menu choices. Menu settings are indicated in bold letters.

Menu choice	Set this option to
<b>LINE MODE</b>	<ul style="list-style-type: none"> <li>▶ PAL for most models VCR in this VCR using the PAL system</li> <li>▶ S to match the VCR and decoder VCR</li> </ul>
<b>SHUTTLE MODE</b>	<ul style="list-style-type: none"> <li>▶ AUTO to set the timer controls in the VCR for PAL or SECAM</li> <li>▶ A to use the remote control with a VCR that doesn't have a POSITIONING function</li> </ul>
<b>TRIP</b>	<ul style="list-style-type: none"> <li>▶ On to prevent tape ejection on volume</li> <li>▶ Off to have tape ejection on volume</li> </ul>
<b>AUTO LINE IN</b>	<ul style="list-style-type: none"> <li>▶ On to allow the VCR to be operated using the ALTERNATE INPUT jack</li> <li>▶ Off to allow in and out videotape programmes using the AV/VIDEO LINE INPUT jacks</li> </ul>
<b>PAUSE SEARCH</b>	<ul style="list-style-type: none"> <li>▶ BORN to search for video records by sequential order</li> <li>▶ DATA to search for video records by date</li> </ul>
<b>DATA CODE</b>	<ul style="list-style-type: none"> <li>▶ Off to not have the day, month, year, and time on the VCR</li> <li>▶ On to have the day, month, year, combined on the VCR (4 hour time code for the decoder)</li> </ul>
<b>COLOUR SYSTEM (EY-CORRECTOR)</b>	<ul style="list-style-type: none"> <li>▶ AUTO to use an Auto Colour System (normal setting)</li> <li>▶ PAL to use the PAL system, such as German or Swiss broadcasts. It is used to correct all the colour errors of the PAL system</li> <li>▶ SECAM to use the SECAM programme (not available on all models)</li> </ul>
<b>Still</b>	<ul style="list-style-type: none"> <li>▶ AUTO when you want to record a still picture</li> <li>▶ OFF when you want to record a still picture. The recorded stills are stills.</li> </ul>

<b>RF MODULATOR</b>	<ul style="list-style-type: none"> <li>▶ On if you're connected to VCR to your TV using the aerial</li> <li>▶ Off if you have connected the VCR to your TV using the EURO-UV, S, or AV cable</li> </ul>
<b>LINE LOCK</b>	<ul style="list-style-type: none"> <li>▶ BORN if you've connected the video output jack of the VCR to the LINE IN AV/VIDEO</li> <li>▶ S if you have obtained the S VIDEO set connector at the other VCR in the LINE IN S VIDEO connector of the VCR</li> </ul>
<b>EURO AV/OUT</b>	<ul style="list-style-type: none"> <li>▶ BORN when using a EURO-AV/SCART cable</li> <li>▶ TV with any connection</li> </ul>
<b>NICAM (EY-CORRECTOR)</b>	<ul style="list-style-type: none"> <li>▶ On to allow (to be received through the VCR) programmes that are broadcast under the NICAM system</li> <li>▶ Off to allow (to be received through the VCR) programmes that are not under the NICAM system</li> </ul>

## Editing

### Shuttle editing

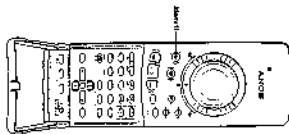
This section shows you how to add VCR recordings to the most basic way of shuttle editing. The VCR also performs the following ways of editing:

- Editing to or from another VCR or camcorder—Editing with another VCR™ (page 52).
- Editing via the LANC ® or CONTROL JACK of two VCRs—Synchronized editing (page 24).
- Taking several hours one tape and assembling them into another tape—In-tape and/or cross-tape editing (page 24).
- Editing with a camcorder—Camcorder-to-cassette editing—Using the edit memory function (page 52).
- Adding music or narration via the PCM track—“Audio dubbing” (page 62).

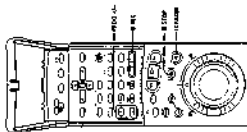
### During recording

If you want to cut out events such as TV commercials, you can pause recording and play back the tape as the remote disconnects until the beginning of an unwanted event is reached. Then, record over it. This feature may not be from the VCR. During timer recording, you can't use this function.

- 1 Press **II PAUSE** during recording. The VCR enters recording pause mode.
- 2 Turn the **JOG dial/SHUTTLE ring** on the VCR counter clockwise to rewind the tape until the unwanted event appears. If you turn the **JOG dial/SHUTTLE ring**, you can select the playback speed by how far you turn it, and if you turn it. When you release the dial or ring, the VCR enters recording pause mode.
- 3 Press **II PAUSE** when a desired event appears on the screen. Recording begins.



**Note**  
• Editing on a tape that contains a VCR lock will not work. For the VCR lock, see the manual.  
• The VCR cannot be used to edit a SHUTTLE EDIT function on a tape that contains a VCR lock.



**Note**  
• The pause may be disabled if you have a VCR lock set forward by one point.

### During playback

You can advance into an unwanted portion of a pre-recorded tape. Use the **JOG dial/SHUTTLE ring** on the VCR.

- 1 When an unwanted event appears during playback, press **II PAUSE**. The VCR enters the playback pause mode.
- 2 Turn the **JOG dial/SHUTTLE ring** on the VCR until the beginning of the unwanted event appears on the screen. Turn the **JOG dial/SHUTTLE ring** in the desired playback speed. When you release the dial or ring, the VCR enters playback pause mode.
- 3 Press **II REC** on the VCR or the remote commander. The VCR enters recording pause mode.
- 4 Select a new programme for recording, press **PAUSE** on the remote commander. The VCR enters the playback pause mode. If you want to edit the connection using the tape input jack, press **INPUT SELECT**.
- 5 Press **II PAUSE** when the event you want to record appears on the screen. Recording begins.

To stop recording, press **II STOP**.

## Editing with another VCR

- Tip:**
- If the VCR you purchased the VCR with has a built-in VCR, you can use that VCR to edit the tape. If you have a VCR with a built-in VCR, you can use that VCR to edit the tape.
  - With playback VCR, it is necessary to use a VCR to edit the tape. If you have a VCR with a built-in VCR, you can use that VCR to edit the tape.

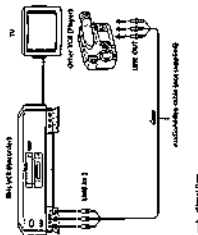
### Method

1. If the VCR you purchased the VCR with has a built-in VCR, you can use that VCR to edit the tape. If you have a VCR with a built-in VCR, you can use that VCR to edit the tape.
2. With playback VCR, it is necessary to use a VCR to edit the tape. If you have a VCR with a built-in VCR, you can use that VCR to edit the tape.

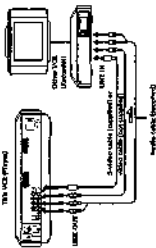
- To edit a tape, you need to use a VCR to edit the tape. If you have a VCR with a built-in VCR, you can use that VCR to edit the tape.
- With playback VCR, it is necessary to use a VCR to edit the tape. If you have a VCR with a built-in VCR, you can use that VCR to edit the tape.

This section shows you how to edit to or from another VCR or camcorder. You can make a copy of a tape using this VCR for recording or playback.

### How to hook up to record on this VCR



### How to hook up to record to another VCR



### Operation (when recording on this VCR)

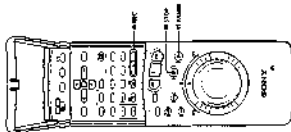
#### Before you start editing

- Press **INPUT SELECT** to display "L3" on the display window.
- Press **PAUSE** to select the recording tape speed (SLOW).
- If the other playback VCR has an EDP function, set it to OFF.

1. Insert a source tape into the playback VCR. Search for the point to start playback and set the VCR to playback.
2. Insert a tape into this (recording) VCR. Search for the point to start recording and press **PAUSE**.
3. Press **REC** on this VCR and set it to recording pause.
4. To start editing, press the **PAUSE** buttons on both VCRs to release the VCRs from pause. For best results, press the pause button on the playback VCR just before pressing **PAUSE** on the VCR.

#### To stop editing

Press the **STOP** buttons on both VCRs.



#### Notes

- Do not use the playback VCR to edit a tape.
- In the normal position, the playback VCR is a VHS model. Make sure that the VCR you use is a VHS model.

#### VCR

- To make an editing error, press the **PAUSE** button on the VCR.
- If the VCR has an EDP function, set it to OFF.
- If the VCR has an EDP function, set it to OFF.
- If the VCR has an EDP function, set it to OFF.
- If the VCR has an EDP function, set it to OFF.

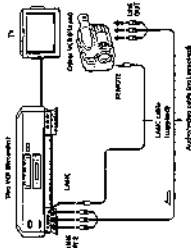
## Synchronised editing

### Notes

- If the playback VCR has a LANC or CONTROL 5 jack, connect the VCR to the LANC or CONTROL 5 jack. The additional connection for your external built-in VCR from one VCR for another will only work if the external VCR has a LANC or CONTROL 5 jack.
- If the playback VCR has a LANC or CONTROL 5 jack, connect the VCR to the LANC or CONTROL 5 jack. The additional connection for your external built-in VCR from one VCR for another will only work if the external VCR has a LANC or CONTROL 5 jack.
- If you have a VIDEO CASSETTE RECORDER (VCR) with a LANC or CONTROL 5 jack, connect the VCR to the LANC or CONTROL 5 jack. The additional connection for your external built-in VCR from one VCR for another will only work if the external VCR has a LANC or CONTROL 5 jack.
- If you have a VIDEO CASSETTE RECORDER (VCR) with a LANC or CONTROL 5 jack, connect the VCR to the LANC or CONTROL 5 jack. The additional connection for your external built-in VCR from one VCR for another will only work if the external VCR has a LANC or CONTROL 5 jack.
- If you have a VIDEO CASSETTE RECORDER (VCR) with a LANC or CONTROL 5 jack, connect the VCR to the LANC or CONTROL 5 jack. The additional connection for your external built-in VCR from one VCR for another will only work if the external VCR has a LANC or CONTROL 5 jack.
- If you have a VIDEO CASSETTE RECORDER (VCR) with a LANC or CONTROL 5 jack, connect the VCR to the LANC or CONTROL 5 jack. The additional connection for your external built-in VCR from one VCR for another will only work if the external VCR has a LANC or CONTROL 5 jack.
- If you have a VIDEO CASSETTE RECORDER (VCR) with a LANC or CONTROL 5 jack, connect the VCR to the LANC or CONTROL 5 jack. The additional connection for your external built-in VCR from one VCR for another will only work if the external VCR has a LANC or CONTROL 5 jack.
- If you have a VIDEO CASSETTE RECORDER (VCR) with a LANC or CONTROL 5 jack, connect the VCR to the LANC or CONTROL 5 jack. The additional connection for your external built-in VCR from one VCR for another will only work if the external VCR has a LANC or CONTROL 5 jack.
- If you have a VIDEO CASSETTE RECORDER (VCR) with a LANC or CONTROL 5 jack, connect the VCR to the LANC or CONTROL 5 jack. The additional connection for your external built-in VCR from one VCR for another will only work if the external VCR has a LANC or CONTROL 5 jack.

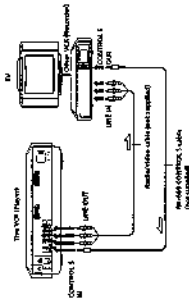
If the playback VCR has a LANC or CONTROL 5 jack, connect the VCR to the LANC or CONTROL 5 jack. The additional connection for your external built-in VCR from one VCR for another will only work if the external VCR has a LANC or CONTROL 5 jack.

### How to hook up via the LANC & jacks



### How to hook up via the CONTROL 5 jacks

The CONTROL 5 connection only enables you to pause and reverse. Use the LANC & jack if the playback VCR has both LANC & CONTROL 5 jacks.



### Setting the LANC mode

The LANC mode-setting determines what VCR controls the TV. Refer to the manual for playback VCR from that VCR.

#### 1 Press MENU and select SET UP MENU.



#### 2 Set LANC MODE to M by pressing CURSOR UP/↓.



#### 3 Press EXECUTE to store the setting.

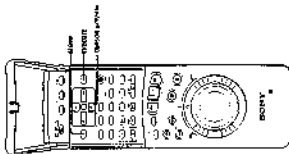
To cancel this VCR leave the playback VCR. Set LANC MODE to S or this VCR and to M on the playback VCR.

### About LANC &

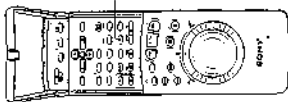
LANC stands for Local Application Control System. The LANC connector is used for controlling the type (main part of) video signal and playback connected to it. This connector has the same function as connectors indicated at CONTROL 1 or BSMOTE.

### Notes

- Do not connect the LANC connector to a VCR that does not have a LANC connector.
- Do not connect the LANC connector to a VCR that does not have a LANC connector.
- Do not connect the LANC connector to a VCR that does not have a LANC connector.
- Do not connect the LANC connector to a VCR that does not have a LANC connector.
- Do not connect the LANC connector to a VCR that does not have a LANC connector.
- Do not connect the LANC connector to a VCR that does not have a LANC connector.
- Do not connect the LANC connector to a VCR that does not have a LANC connector.
- Do not connect the LANC connector to a VCR that does not have a LANC connector.
- Do not connect the LANC connector to a VCR that does not have a LANC connector.
- Do not connect the LANC connector to a VCR that does not have a LANC connector.



**Synchronized editing**  
(continued)



**Operation (when recording on this VCR)**

- Before you start editing**
- Make connections according to the illustration on page 54.
  - If the playback VCR is equipped with an S-video output connector, use the supplied S-video cable for additional connection of the VCRs.
  - If the playback VCR is a monophonic type, connect the video plug to its video output jack and the video plug on the other end to the LINE IN 2 AUDIO L (audio) jack of this VCR.

**On the playback VCR**

- If available, activate the EDIT mode.
- If available, select LAUNCH MODES as explained.

**On this VCR**

- Set LAUNCH MODE to H in the SETUP MENU. See "Loading in menu options" on page 44.
- Adjust the recording level. For details, see page 27.
- Check if the playback VCR has a JOC/SHUTTLE function; then set SHUTTLE MODE to either AUTO or A. (See "Loading in menu options" on page 48.) Note that some VCRs do not have a JOC/SHUTTLE function.
- Set the tape speed, SP or LP, using the TAPE SPEED button.

- 1** Insert a source tape into the playback VCR, insert a tape for recording into the VCR.
- 2** Press EDIT STANDBY on this VCR so that the EDIT STANDBY indicator lights up on the operation panel. This VCR enters recording pause and the playback VCR enters pause.
- 3** Press LAUNCH REMOTE on the VCR so that the LAUNCH REMOTE indicator lights up on the operation panel. Then press the JOC/SHUTTLE ring to locate the start point on the playback VCR. You can also use the remote control function on the VCR.
- 4** Release the JOC/SHUTTLE ring when you have found the desired point. The playback VCR enters playback pause. If you find any of the JOC/SHUTTLE buttons, set the playback VCR to playback pause.
- 5** Press LAUNCH REMOTE on the VCR so that the indicator goes off. Then use the JOC/SHUTTLE ring to locate the location start point on the VCR's tape.
- 6** Press PROhibit SPEED/FIELD. Synthesize editing starts.
- 7** When you have finished your editing session, press STANDBY EDIT/START. Both VCRs enter recording pause.
- 8** To edit more scenes, repeat steps 3 to 7.
- 9** When you have finished your editing session, press EDIT STANDBY. Both VCRs stop.

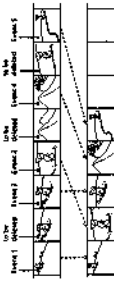
## Assemble editing

- Tips**
- Edit playback VCRs using the **TIME CODE WRITE** function. This function allows you to correct (overwrite) timecode information on the playback VCR. To edit the **TIME CODE WRITE** function, press the **EDIT** button on the VCR. Then, press the **TIME CODE WRITE** button on the VCR. The **TIME CODE WRITE** function will be displayed on the TV screen. Press the **EDIT** button on the TV screen to edit the **TIME CODE WRITE** function. Press the **EDIT** button on the TV screen to edit the **TIME CODE WRITE** function. Press the **EDIT** button on the TV screen to edit the **TIME CODE WRITE** function.

### Notes

- The **TIME CODE WRITE** function is used to edit the **TIME CODE WRITE** function on the playback VCR. To edit the **TIME CODE WRITE** function, press the **EDIT** button on the VCR. Then, press the **TIME CODE WRITE** button on the VCR. The **TIME CODE WRITE** function will be displayed on the TV screen. Press the **EDIT** button on the TV screen to edit the **TIME CODE WRITE** function. Press the **EDIT** button on the TV screen to edit the **TIME CODE WRITE** function.

Wide like function you can take events from one tape and assemble code them onto another tape. You can insert as many events onto one tape as you require. Using the assemble editing function, you can assemble up to eight different events at a time.



## Using the TIME CODE WRITE function on a playback tape

When you connect this VCR to a VCR that features the **TIME CODE WRITE** function, you can use this function for assemble editing. This function allows you to perform more precise editing. It inserts frame position signals on the tape, and thus and over the position that you want to edit. However, if there are unrecorded segments on the position that you want to edit, precise editing can't be guaranteed. In this case you must enter the time code onto the playback tape at the other VCR.

1. Press the **PAUSE** button on the VCR.
2. Press the **TIME CODE WRITE** button on the VCR.
3. Press the **PAUSE** button on the VCR.
4. Press the **PAUSE** button on the VCR.
5. Press the **STOP** button at the end point of the position that you want to edit.

Time code insertion delay.

## Operation (when recording on this VCR)

### Go back to the video input

- When you press **LANC REMOVE** to connect the playback VCR using the same connection as illustrated in the section "Symmetrical editing" on page 54, the same menuing sequence will be displayed for the playback VCR before:

- Set the TV to video input.
- Press **LANC SELECT** to select the line input that the playback VCR is connected to.
- The playback VCR has **TIME CODE** function, without it to display the playback VCR. Press the **LANC SELECT** button on the TV screen to select the playback VCR. Set the **SHUTTLE MODE** to either **AUTO** or **A** (see page 48).

1. Press **ASSEMBLE** on this VCR. The assemble editing menu appears on the TV.



2. Press **LANC REMOVE** on this VCR. "REMOVE" appears on the TV screen, and the **REMOVE** indicator lights up on the TV screen. You can now connect the playback VCR to the input terminal from this VCR.



3. Find the first frame of the event you want to assemble edit. Using this VCR to operate the playback VCR to find the event you want to edit, then proceed to step 4.

4. Press **ASSEMBLE** on the VCR to enter the "ASSEMBLE" menu for the event you want to assemble edit.



(continued)

### Assemble editing (continued)

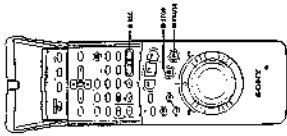
Tip

The VCR has time flags, which indicate the steps to be followed for assembling. The recording starts from the start of the event, the end of the event, the start of the next event, and the end of the next event.

Notes

- When you select the event you want to assemble, press **▶** (STOP) and **▶** (PAGE) to scroll to the event you want to assemble.

- When you want to stop assembling, press **▶** (STOP).
- When you press **▶** (PAGE) to scroll to the next event, the VCR will not stop assembling until you press **▶** (STOP).



- Find the last source of the event you want to assemble. After the end of the first event has been found, go to step 6.

- Press **▶** (PAGE) on the VCR to mark the "start" frame. The "▶" flashes and the real time of the event you have selected is displayed. After a couple of seconds, the VCR is ready for setting the next event.

- Repeat steps 2 to 4 to select another event for editing. Up to 9 events can be selected for assemble editing.

- When you have finished selecting your events, press **▶** (PAGE).

- Press **▶** (PAGE) **▶** (PAGE) when you are finished designating the required events. The REMOTE indicator no longer appears. The playback VCR can no longer be controlled by the VCR.

- Find the recording start point using this VCR. When the start point has been found, press **▶** (PAUSE) and **▶** (PAGE).

- Press **▶** (PAGE) **▶** (PAGE). "▶" appears on the VCR screen and the recording starts. When editing is completed, the VCR starts the recording process again.

- When you have finished your editing session, press **▶** (ASSEMBLE).

To assemble edit events steps 1 through 4, go to step 5. For more details on the procedure for assemble edit the additivity, see the manual.

- After source has been found, press **▶** (ASSEMBLE). The assemble editing mode is entered. This mode is shown in memory size display.
- When the VCR starts assembling, press **▶** (PAGE), press **▶** (PAGE).
- Repeat from step 1 to step 4.

To change the settings stored in memory, press **▶** (PAGE) **▶** (PAGE).

Only the last event has been selected for assemble editing, can be changed. In your price (PAGE) mode, in a new, the event entered in the display.

To check the settings stored in memory, press **▶** (PAGE). To copy through the designated events, press **▶** (PAGE).

To stop assemble editing temporarily, press **▶** (PAGE) **▶** (PAGE) **▶** (PAGE). When you wish to resume assemble editing, writing starts from the first event.

Tip

The recording mode is shown on the VCR screen. When you press **▶** (PAGE) **▶** (PAGE), the mode is shown on the VCR screen.

Notes

- When you press **▶** (PAGE), the VCR starts to find the first event. The VCR starts to find the first event by the display of the mode.

- When you press **▶** (PAGE), the VCR starts to find the first event. The VCR starts to find the first event by the display of the mode.

- When you press **▶** (PAGE), the VCR starts to find the first event. The VCR starts to find the first event by the display of the mode.



## Using the edit monitor function

- Tip**
- If you cannot see the edit monitor, check the TV screen focusing. The picture function on the remote control can be used for the picture function (see the remote control instructions) to adjust the picture.

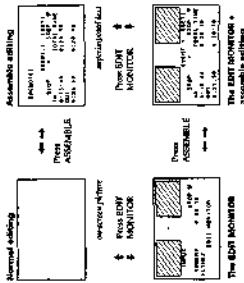
- Note**
- Depending on the playback speed, the edit monitor may not be displayed.

### The edit monitor function both simplifies and perfects your editing.

The reason that you can combine the functions of assemble and synchronized editing. When you choose to do this, you can combine both the visual and time-base aspects of up-to-eight scenes in one editing session.

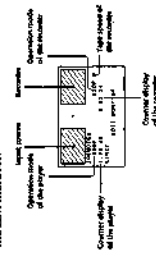
#### To monitor editing

When the normal editing mode is displayed on the TV screen, you can switch between editing modes according to the illustration below:



For more details on the individual editing modes mentioned here, refer to the respective section.

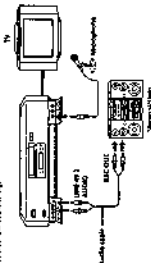
#### The EDIT MONITOR



## Audio dubbing

You can add music or narration to a pre-recorded tape while watching the VCR playback picture. Multi-channel sound is recommended for the VCR track. (See page 26.)

### How to hook up



### Operation

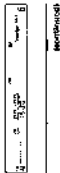
Before you start editing

- Press **START/SELECT** to display "LP" in the display window.
- Set the **AUDIO MONITOR MONITOR** to **PCM**.

- 1 Set the **PCM RELEVEL** control to the desired setting. This allows you to balance the sound to suit your sound to the desired system (that of the sound track).
- 2 Press **PLAY**.
- 3 Hold the **clear** button of the tape segment that you want to edit over several seconds. See page 26 **PAUSE**.

### 4 Press **AUDIO DUB**.

The **AUDIO DUB** button lights up in the display window.



- Notes**
- The video is pre-recorded.
  - The **AUDIO DUB** button lights up in the display window.
  - According to the playback speed, the audio dubbing may not be possible.
  - Audio dubbing cannot be done if the video is in the edit mode.
  - The **AUDIO DUB** button lights up in the display window.

## Audio dubbing (continued)

5 Press **F1** twice when you start the playback source, or wait to start adding annotations using a microphone.

6 When you have finished your audio dubbing session, press **Alt** + **Stop** on the PC.

**Tip**

- Use the raw sound recorded on a video tape as input.
- For best results, use an audio interface card that supports stereo recording.
- When the recording is done, insert the audio tape into the stereo position.

**Note**

- If you are using a stereo interface card, you must use the stereo input on the PC.
- If you are using a stereo interface card, you must use the stereo input on the PC.
- If you are using a stereo interface card, you must use the stereo input on the PC.

## Webcam

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

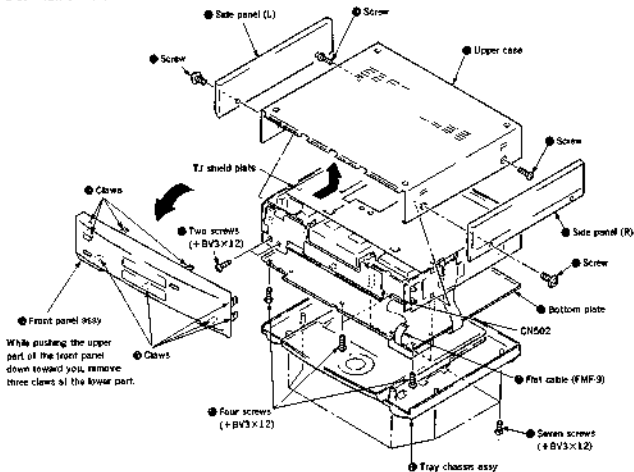
• The webcam is used to capture video images of the screen.

• The webcam is used to capture video images of the screen.

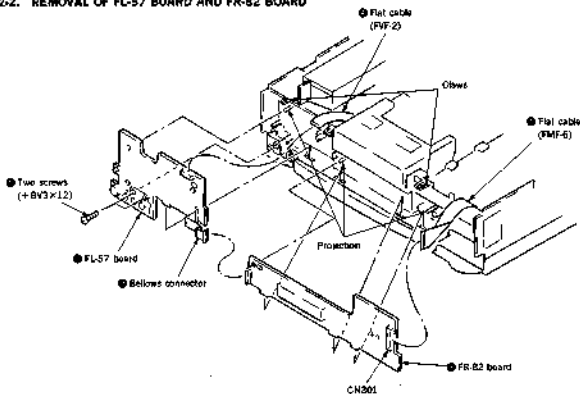
• The webcam is used to capture video images of the screen.

## SECTION 2 DISASSEMBLY

### 2-1. REMOVAL OF CABINET ASSEMBLY

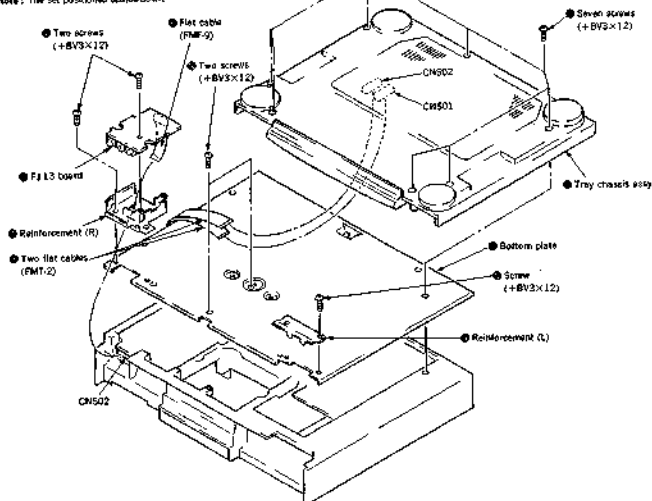


### 2-2. REMOVAL OF FL-57 BOARD AND FR-82 BOARD

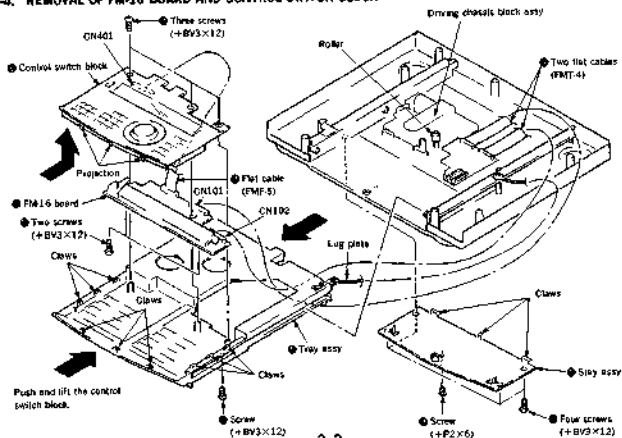


## 2-3. REMOVAL OF FJ-13 BOARD AND BOTTOM PLATE

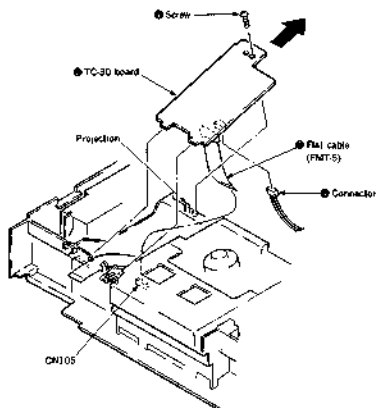
Note: The set positioned upside down.



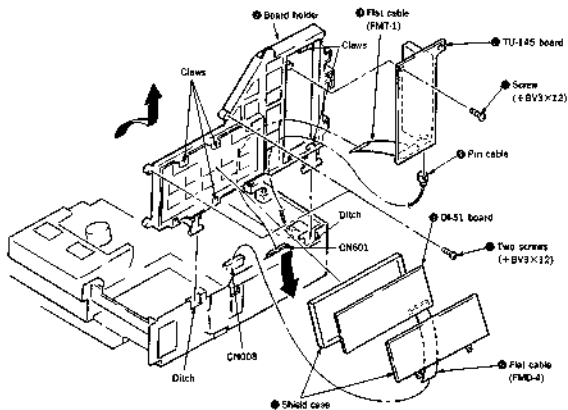
## 2-4. REMOVAL OF FM-16 BOARD AND CONTROL SWITCH BLOCK



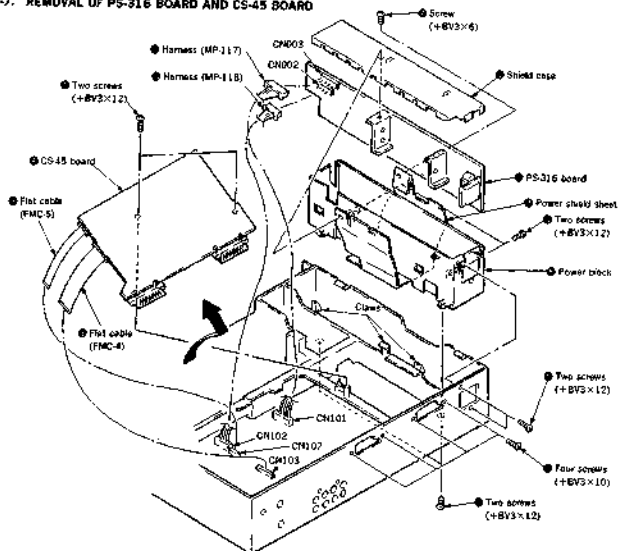
## 2-5. REMOVAL OF TC-30 BOARD (VC, NP, B MODEL)



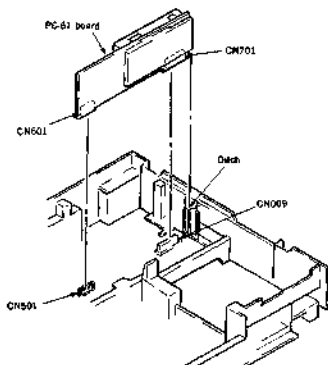
## 2-6. REMOVAL OF TU-145 BOARD AND DI-51 BOARD



## 2-7. REMOVAL OF PS-316 BOARD AND CS-45 BOARD

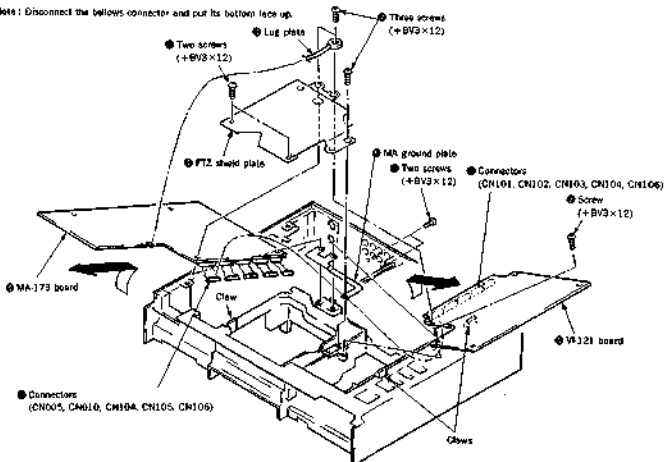


## 2-8. REMOVAL OF PC-61 BOARD

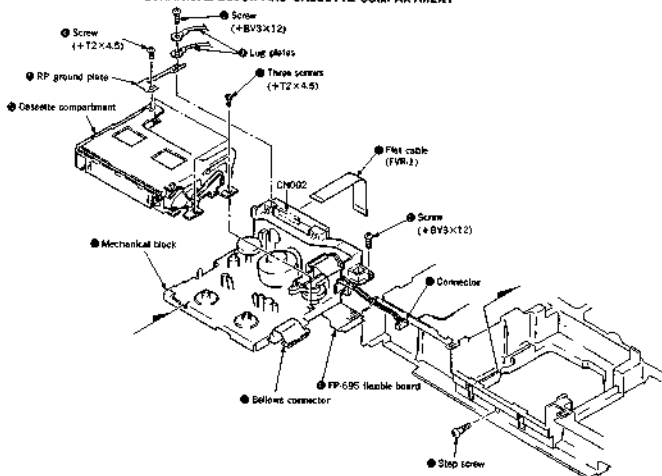


## 2-9. REMOVAL OF VI-121 BOARD AND MA-173 BOARD

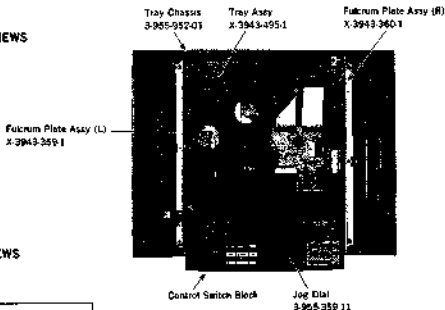
Note: Disconnect the bellows connector and put its bottom face up.



## 2-10. REMOVAL OF MECHANICAL BLOCK AND CASSETTE COMPARTMENT



## 2-11. TRAY CHASSIS INTERNAL VIEWS



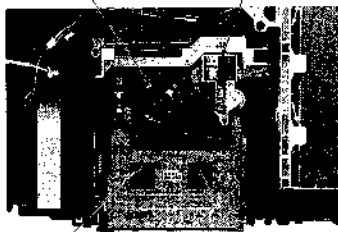
## 2-12. MECHANICAL INTERNAL VIEWS

—Upper side—

M901

Drum Assy (D6U-D80A-R)	A-7048 696-A
Drum upper (D6R-D80-R)	A-7048 629-A

M903  
Cam Motor Assy  
X-3942-946-1



S Reel Table Assy  
X-3942-954-1

T Reel Table Assy  
X-3942-963-1

—Lower side—

M902

Capstan Motor  
8-635-499-01

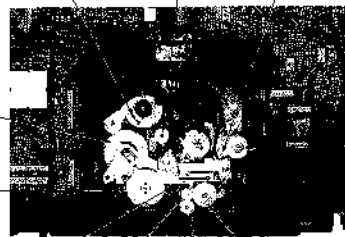
Belt Pulley Assy  
X-3943-016-1

Timing Belt (FL)  
3-954-079-01

Main Cam  
3-954-050-01

Rotary Switch  
1-592-498-11

FL Pulley Gear  
3-953-983-01



Timing Belt  
3-953-986-01

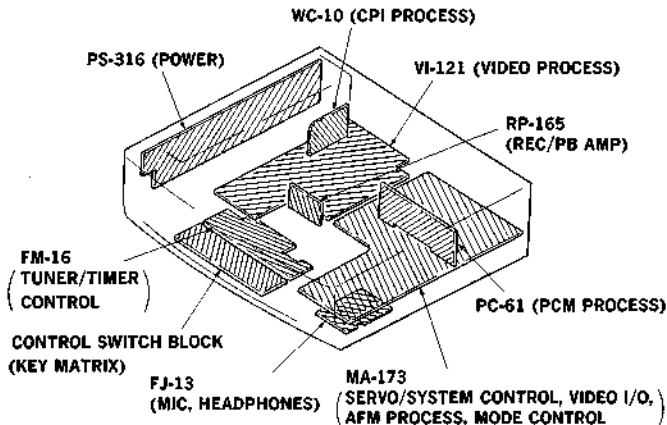
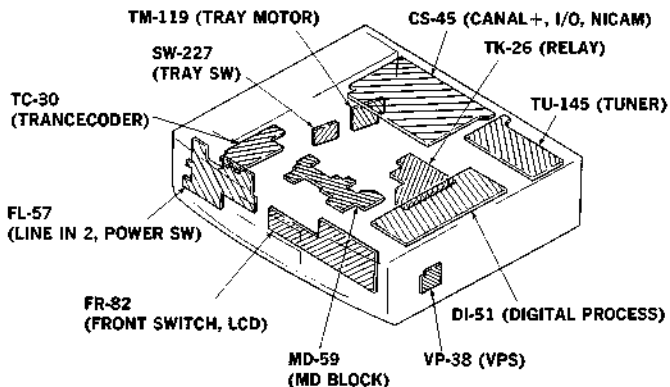
FL Selection Gear  
3-953-980-01

Reel Relay Gear  
3-954-061-01

FL Pulley Gear (Driving)  
3-953-981-01



2-13. CIRCUIT BOARDS LOCATION



## SECTION 3 BLOCK DIAGRAMS

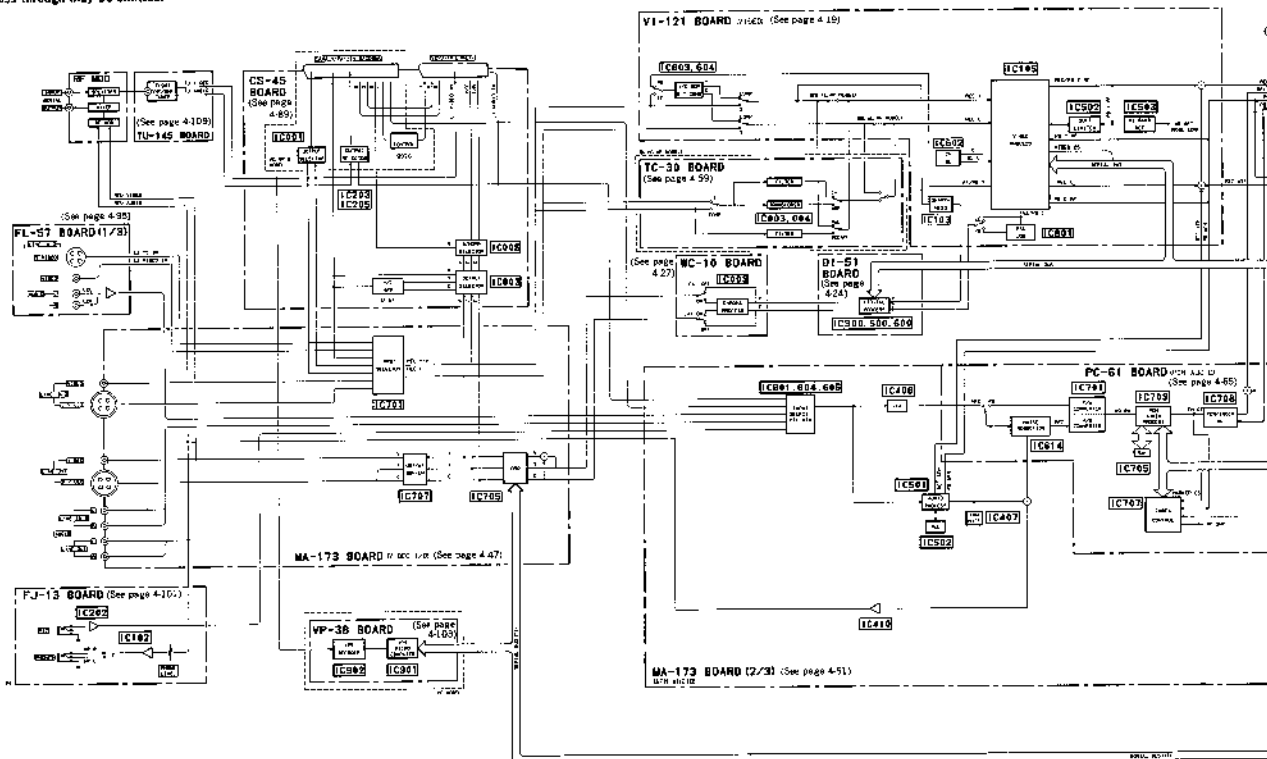
### 3-1. OVERALL BLOCK DIAGRAM

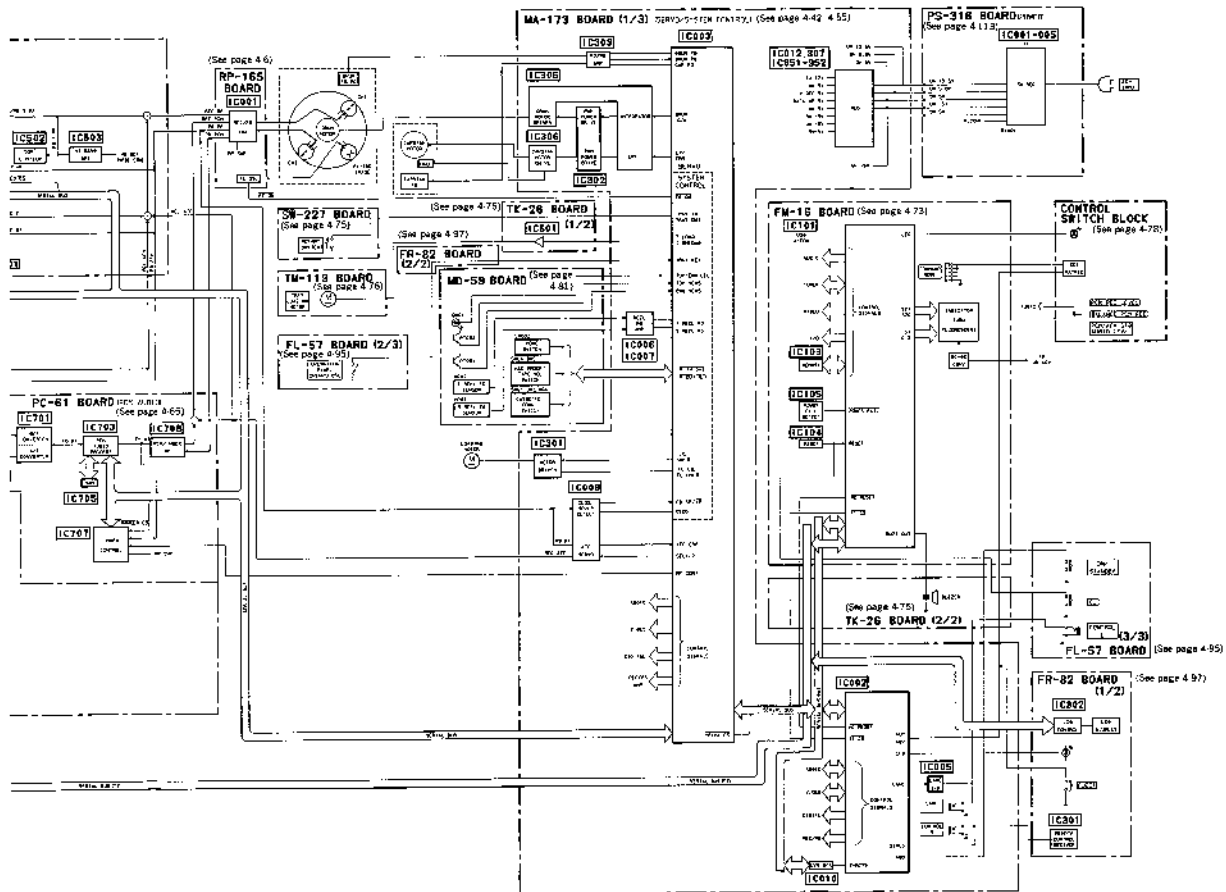
• The boards which signals only pass through may be omitted.

• Common note of block diagrams

Abbreviations

UB : UK  
 AE : Italian  
 VC : German  
 NP : North European  
 B : French

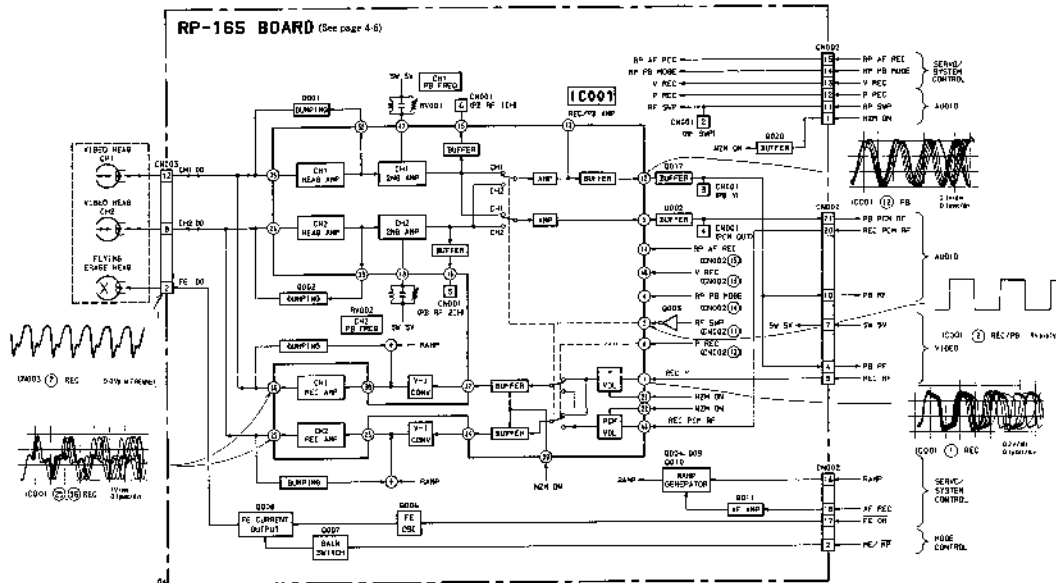




# EV-S900E AE/B/NP/UB/VC

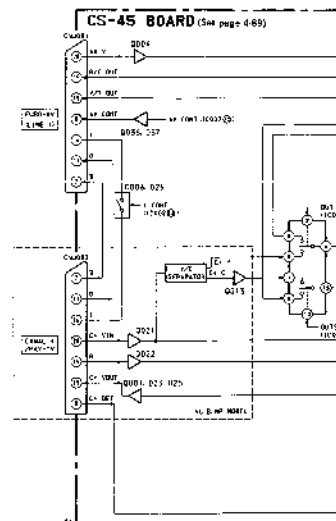
## 3-2. HEAD AMP BLOCK DIAGRAM

• The boards which signals only pass through may be omitted.



## 3-3. VIDEO I/O BLOCK DIAGRAM

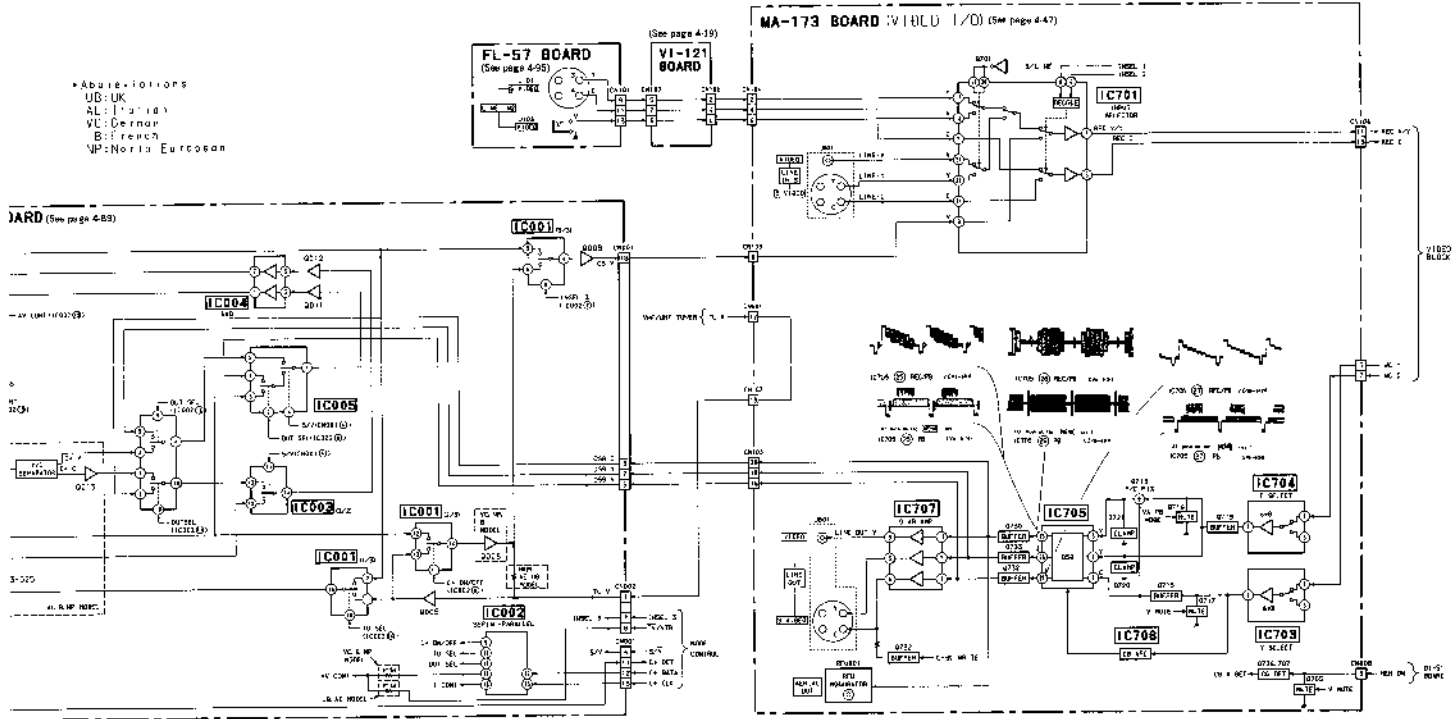
• The boards which signals only pass through may be omitted.



**XAQRAN**

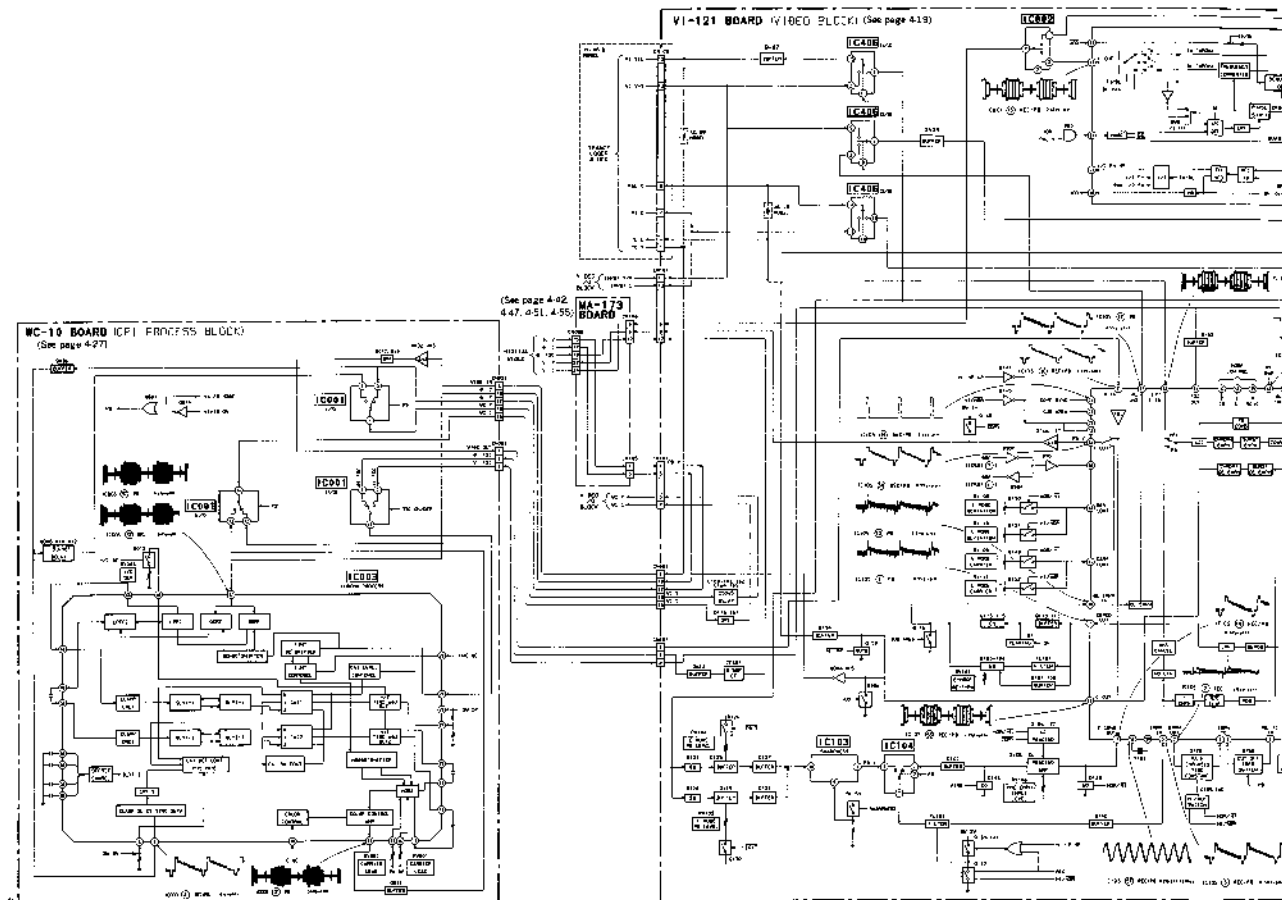
if only pass through may be omitted.

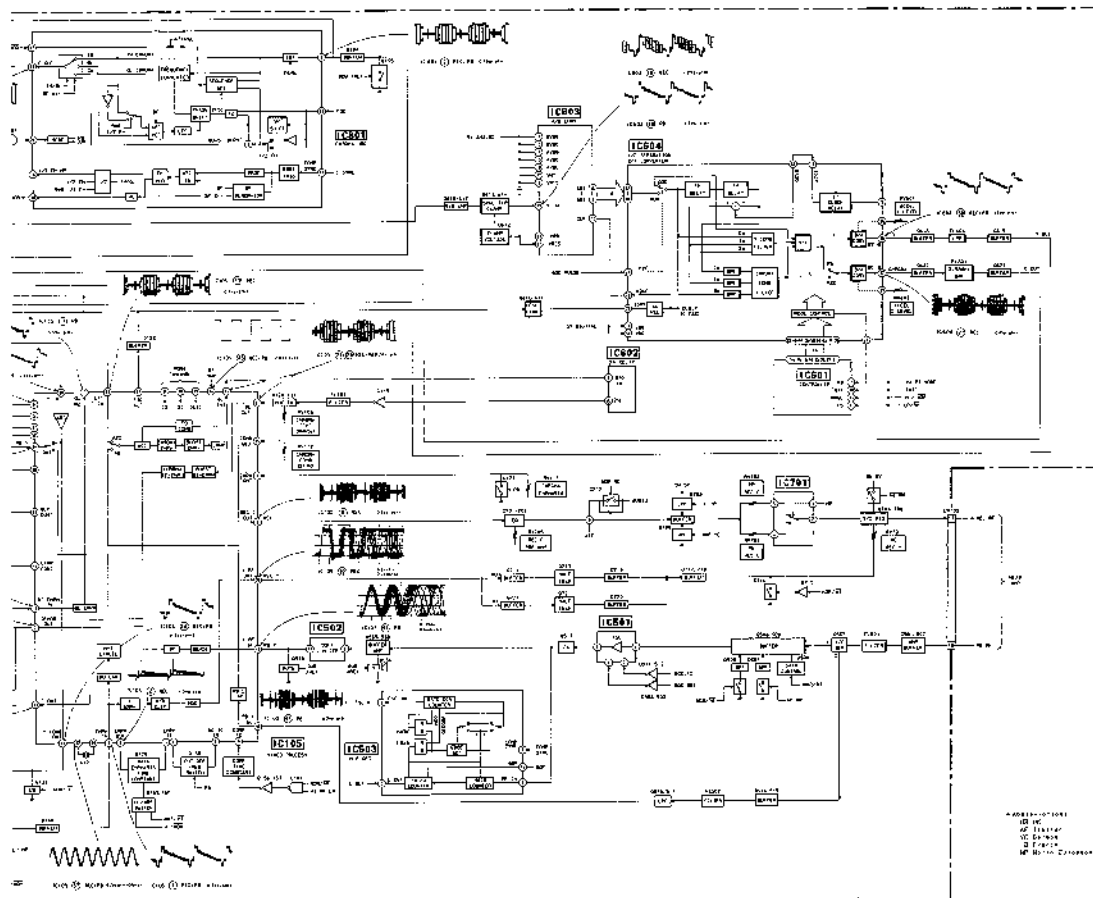
- \* Abbreviations
- UB: UK
- AL: Algeria
- WL: Germany
- B: France
- NP: Nordic European



### 3-4. VIDEO BLOCK DIAGRAM

• The boards which signals only pass through may be omitted.

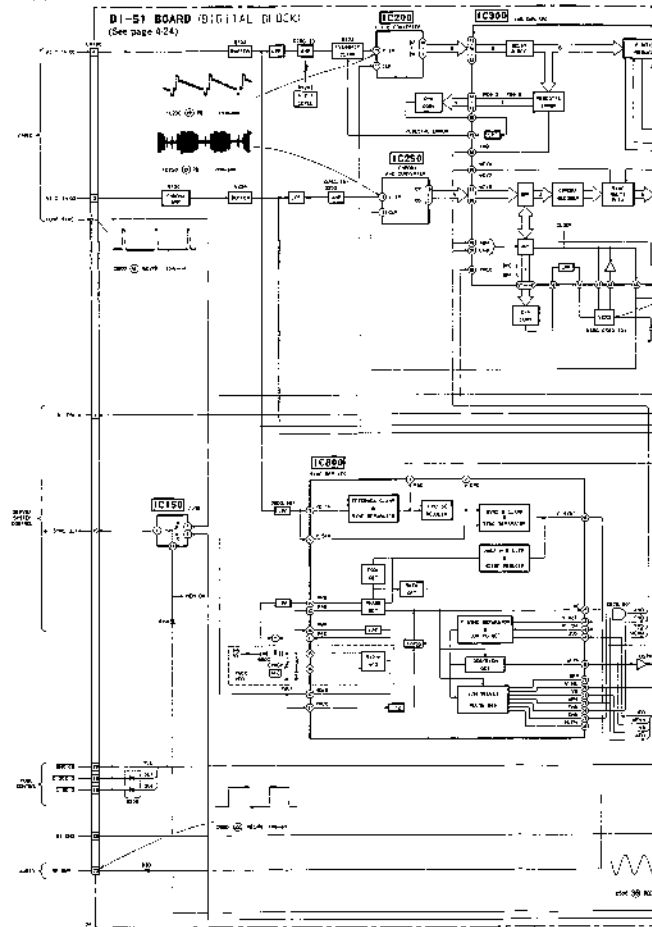




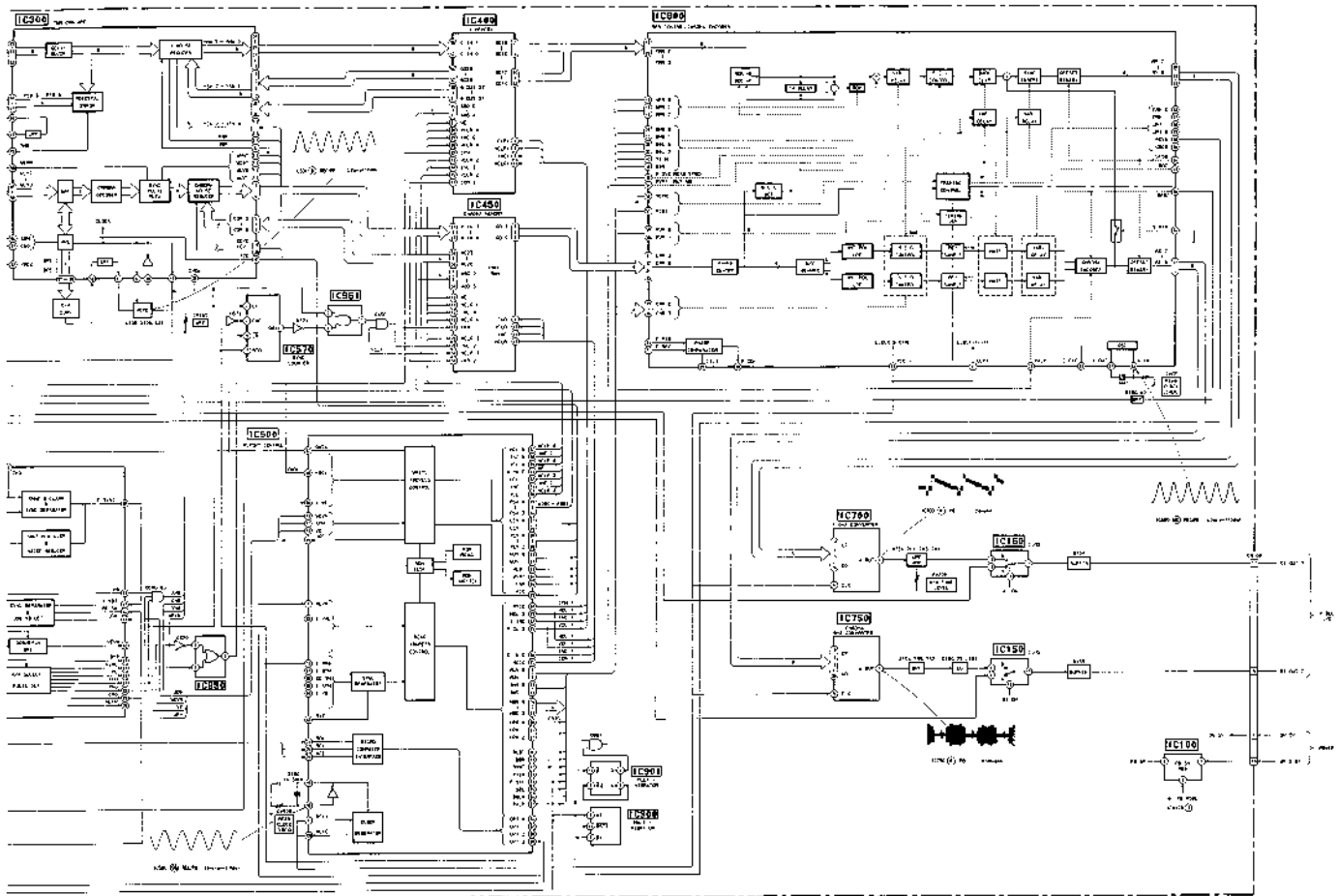
# EV-S9000E AE/B/NP/UB/VC

## 3-5. DIGITAL BLOCK DIAGRAM

\* The boards which signals only pass through may be omitted.

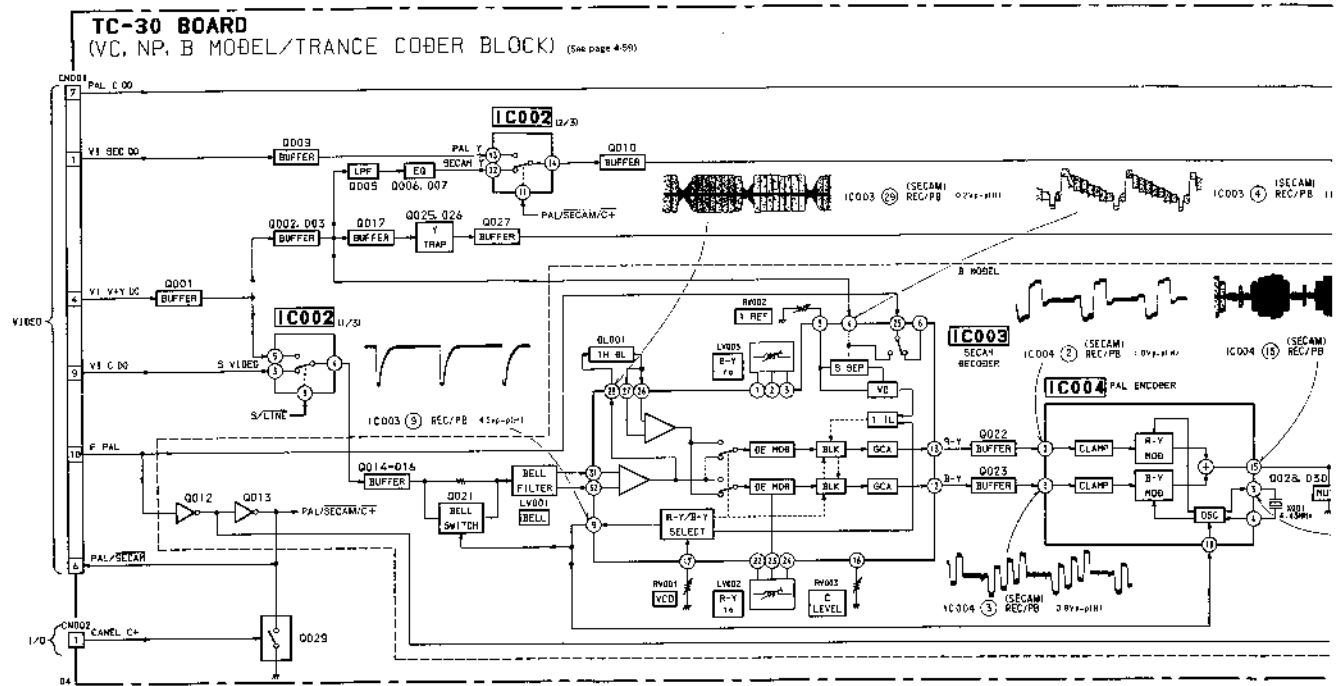




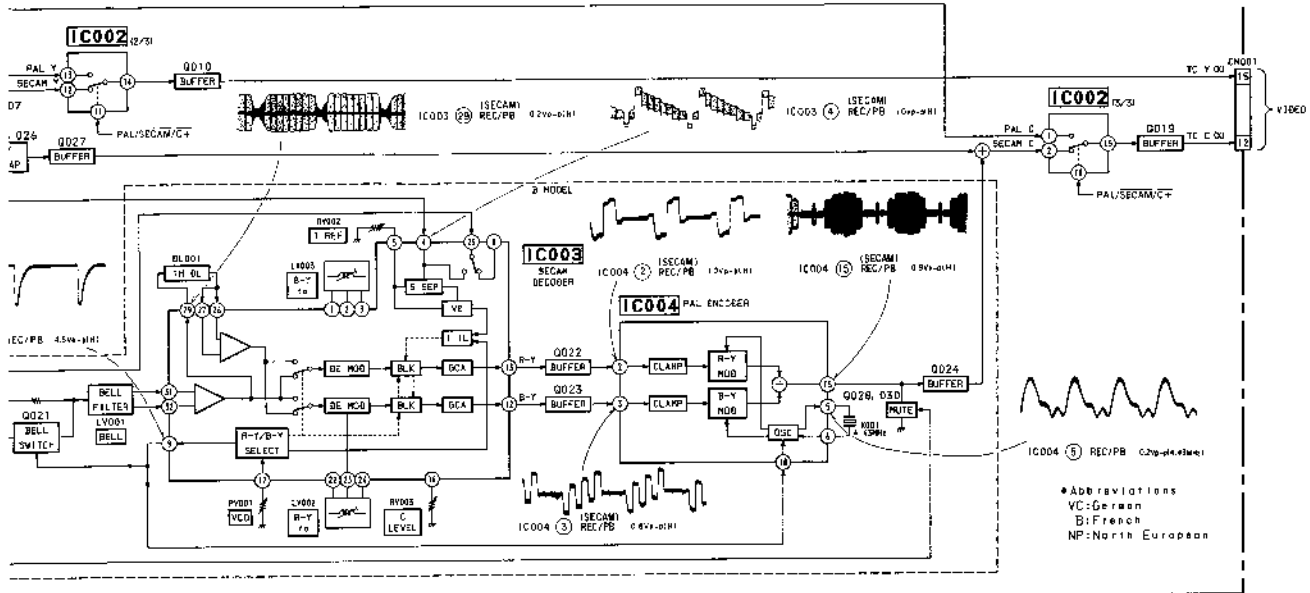


3-6. TRANCECODER BLOCK DIAGRAM

• The boards which signals only pass through may be omitted.



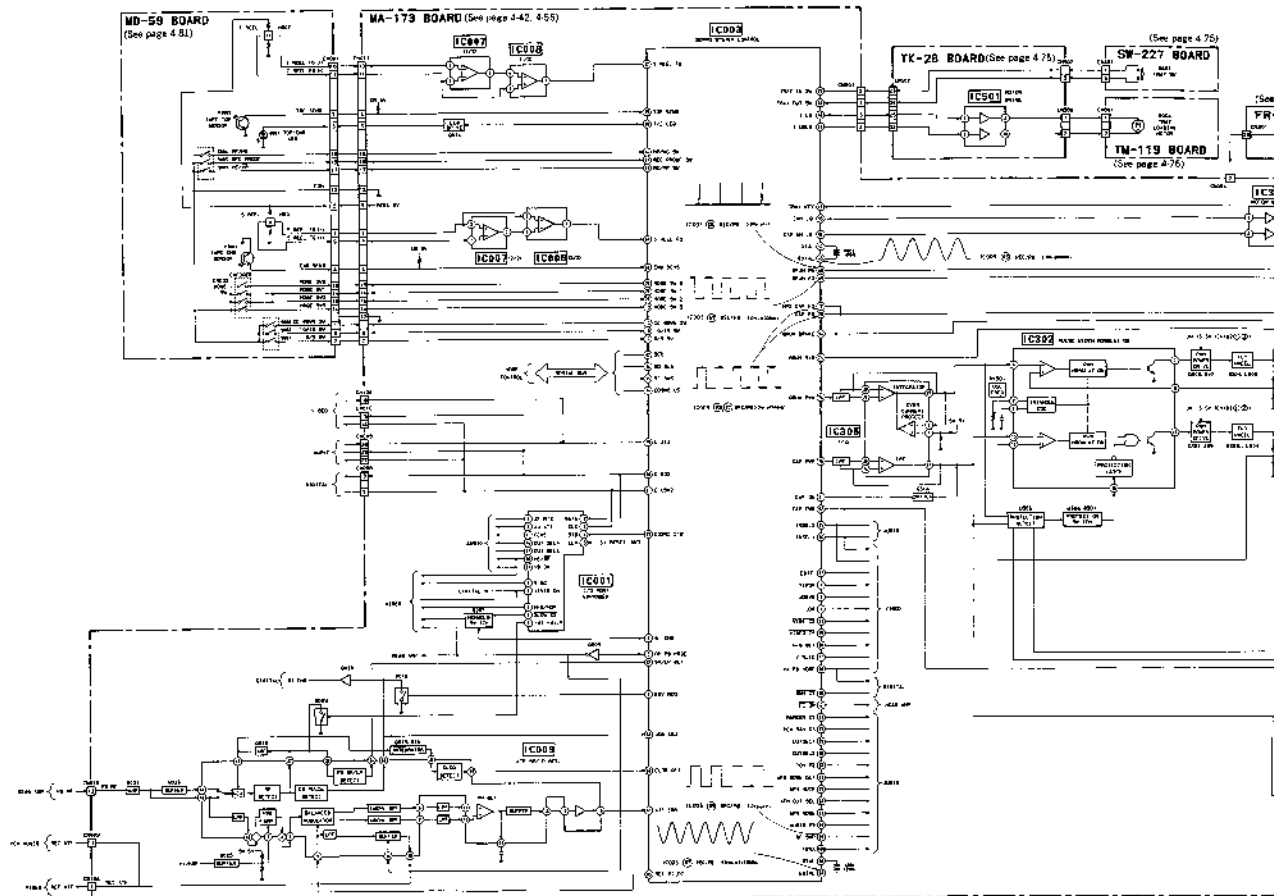
ER BLOCK) (See page 4-57)



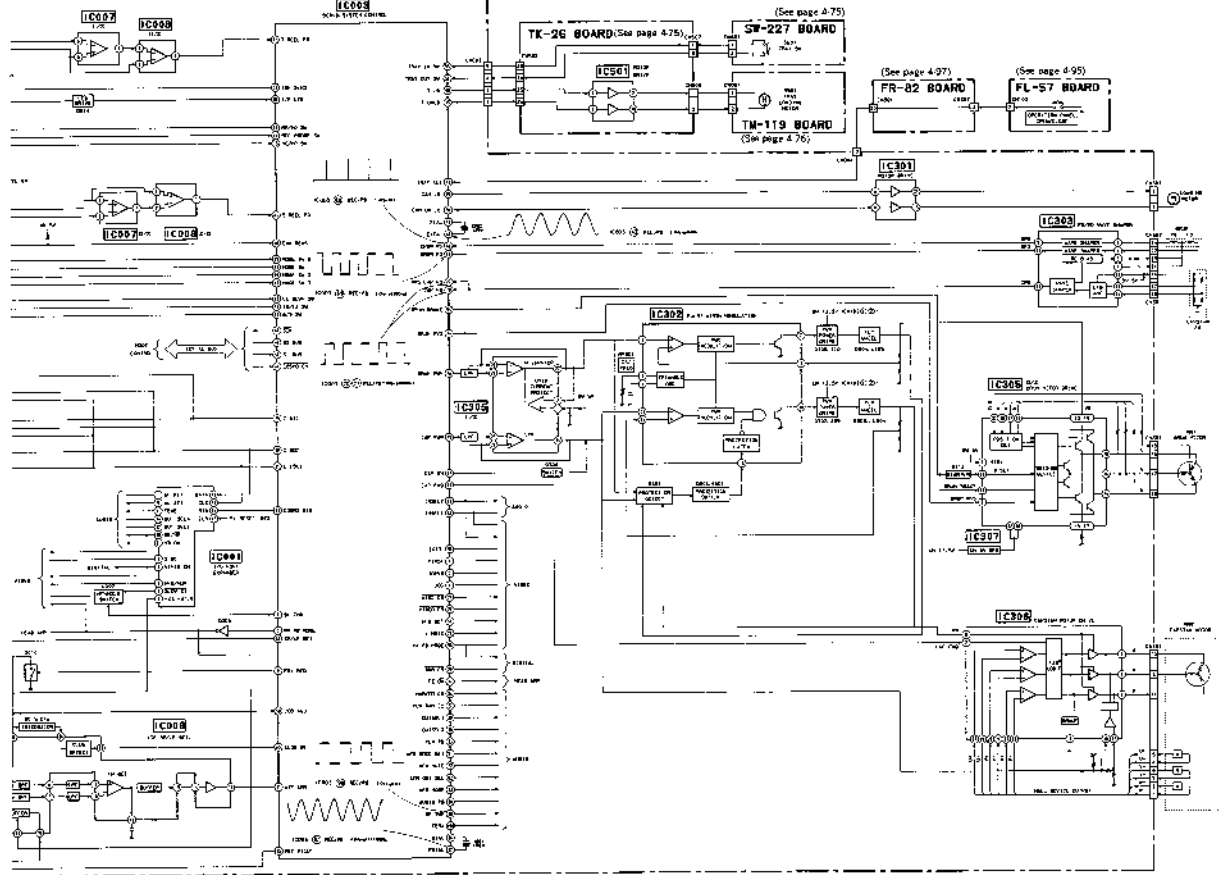
# EV-S9000E AE/B/NP/UB/VC

## 3-7. SERVO, SYSTEM CONTROL BLOCK DIAGRAM

➤ The boards which signals only pass through may be omitted.

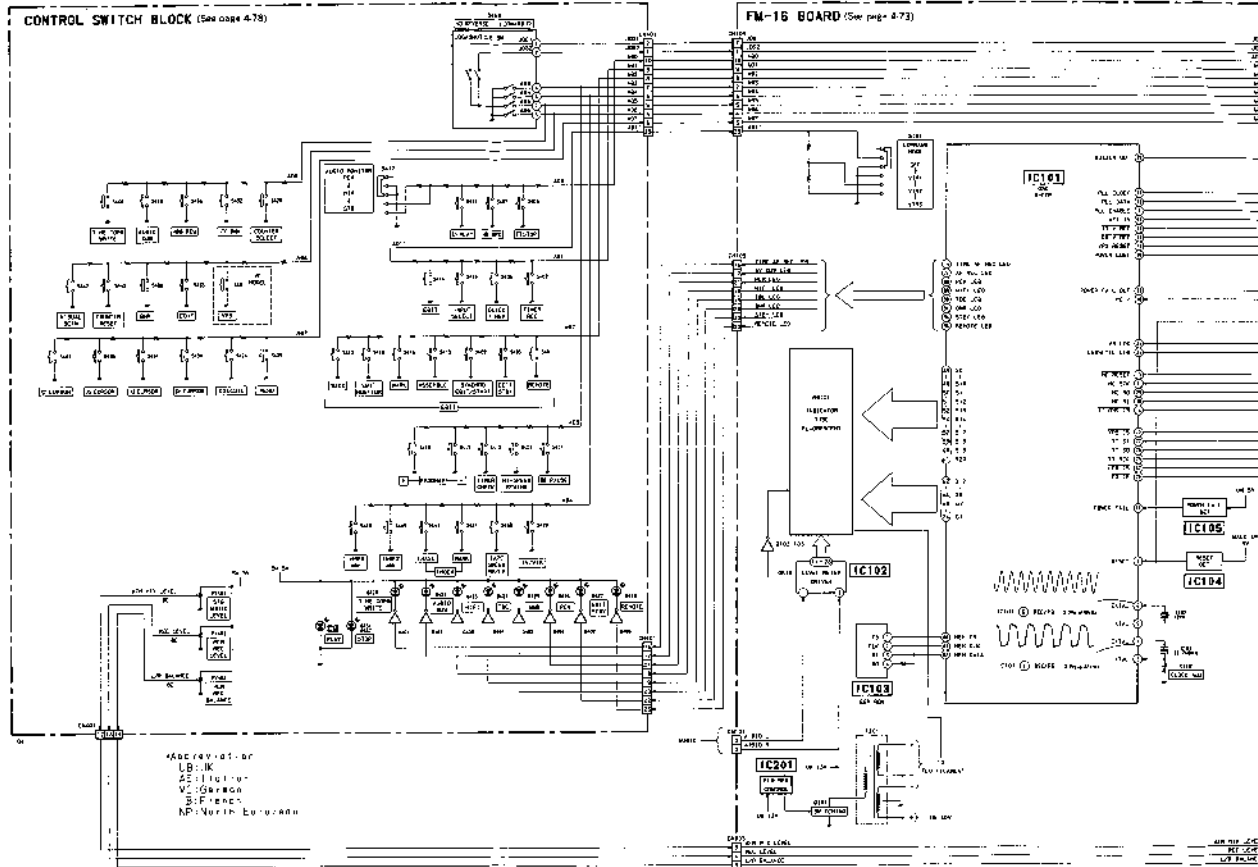


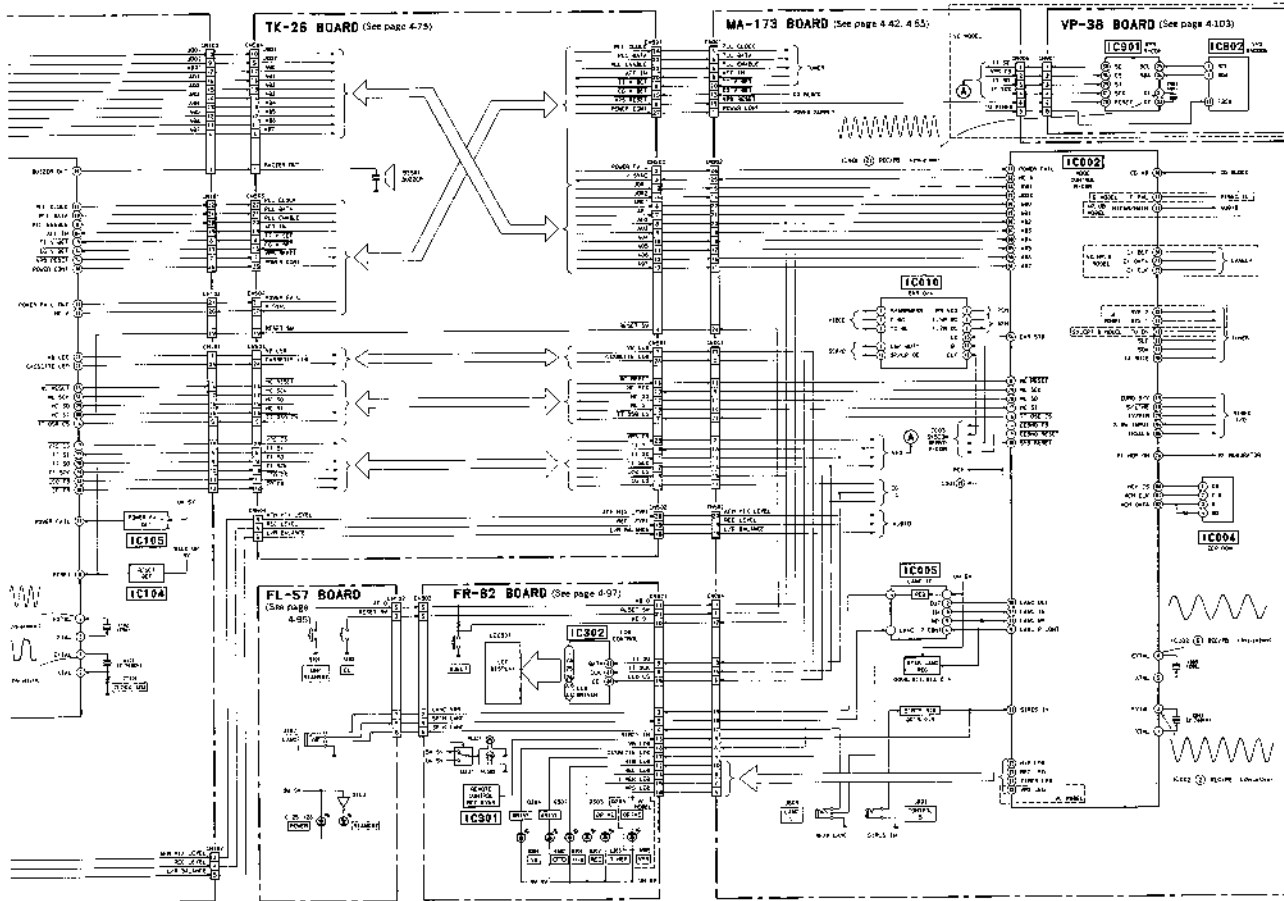
1-179 BOARD (See page 4-42, 4-55)



3-6. TIMER, TUNER, MODE CONTROL BLOCK DIAGRAM

\*The boards which signals only pass through may be omitted.

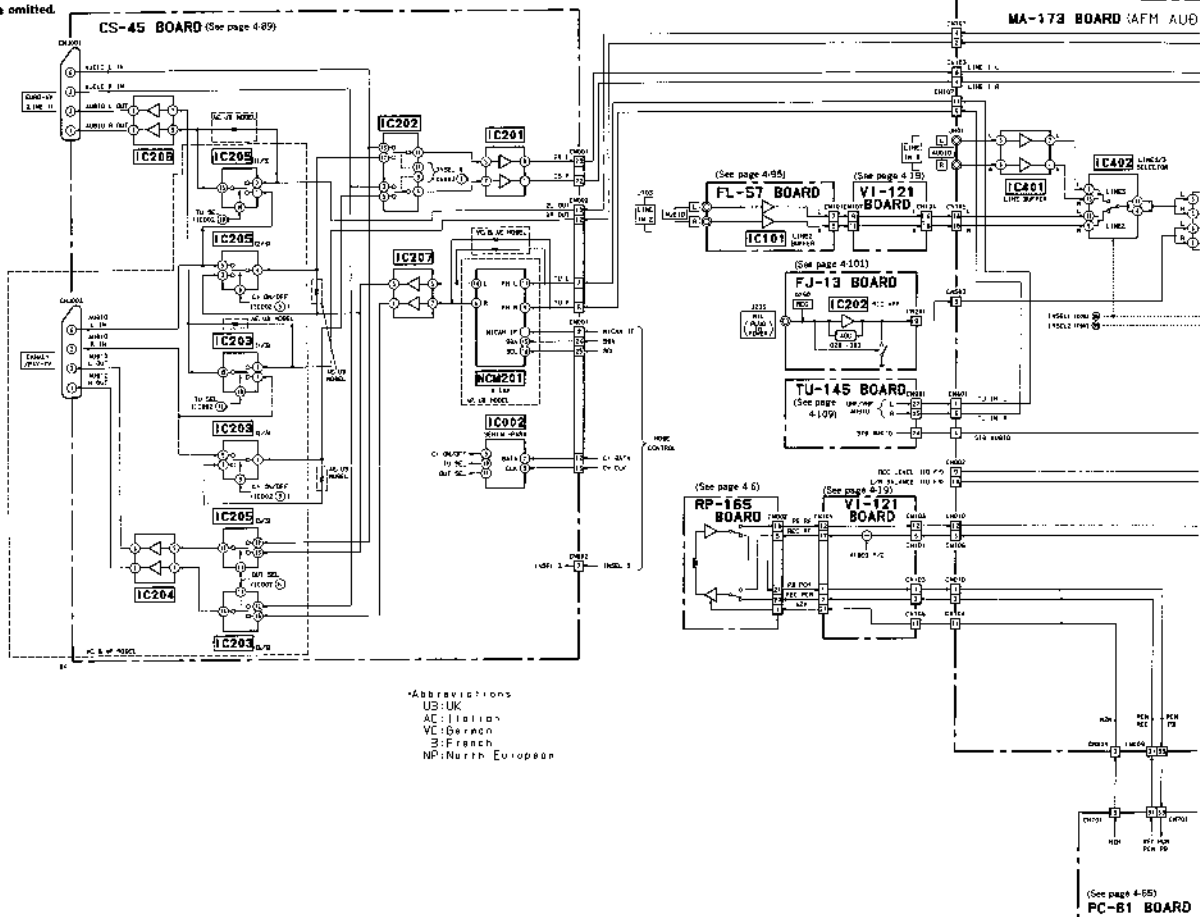




# EV-S9000E AE/B/NP/UB/VC

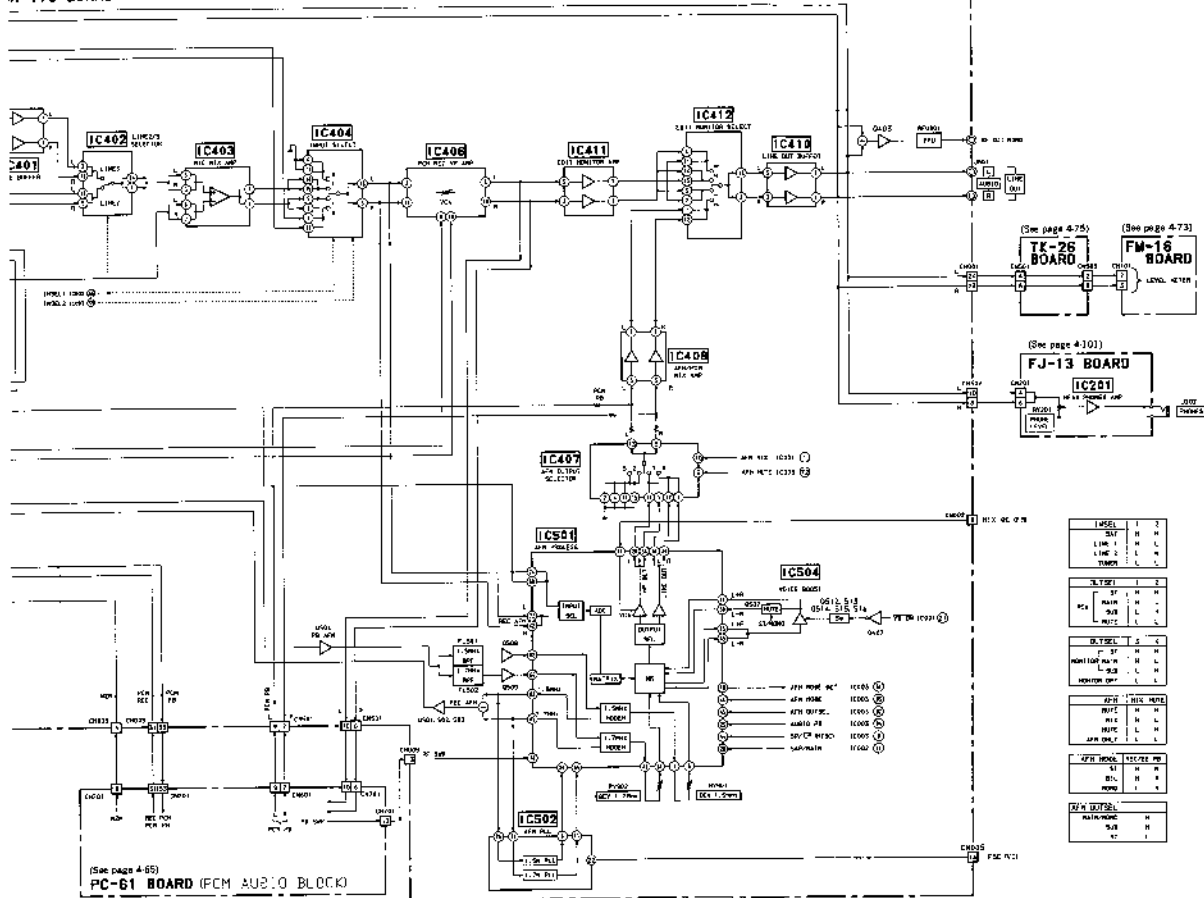
## 3-9. AFM AUDIO BLOCK DIAGRAM

• The boards which signals only pass through may be omitted.





IA-173 BOARD (AFM ALBIO BLOCK) (See page 4-53)



(See page 4-55)  
PC-61 BOARD (FCM AUDIO BLOCK)

(See page 4-75)  
TK-26 BOARD

(See page 4-73)  
FM-16 BOARD

(See page 4-101)  
FJ-13 BOARD

LINE 1	1	2
LINE 2	H	H
LINE 3	L	L
LINE 4	L	L
TRIM	L	L

LINE 1	1	2
LINE 2	H	H
LINE 3	L	L
LINE 4	L	L
TRIM	L	L

LINE 1	1	2
LINE 2	H	H
LINE 3	L	L
LINE 4	L	L
TRIM	L	L

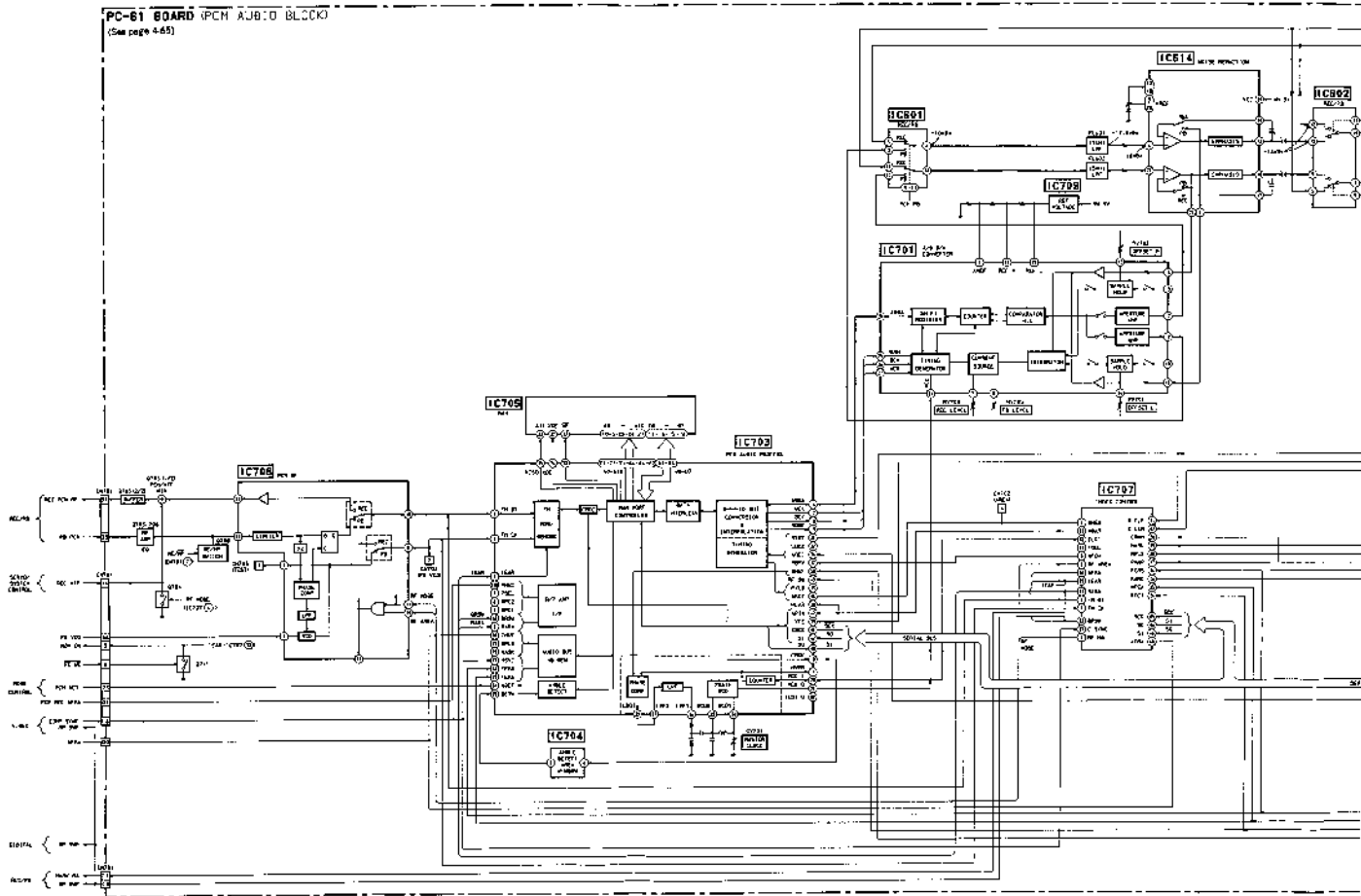
LINE 1	H	H
LINE 2	H	L
LINE 3	L	H
LINE 4	L	L

LINE 1	H	H
LINE 2	H	L
LINE 3	L	H
LINE 4	L	L

LINE 1	H	H
LINE 2	H	L
LINE 3	L	H
LINE 4	L	L

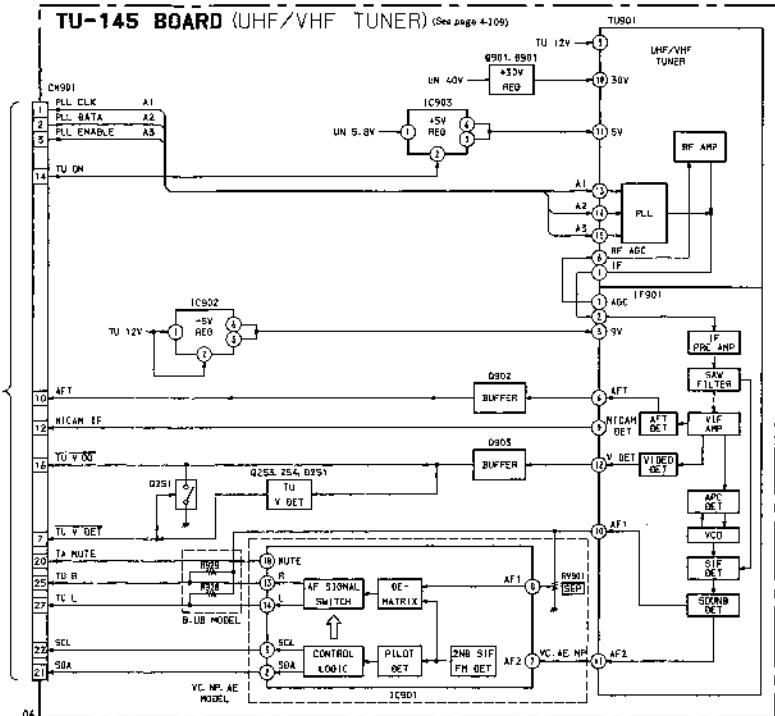
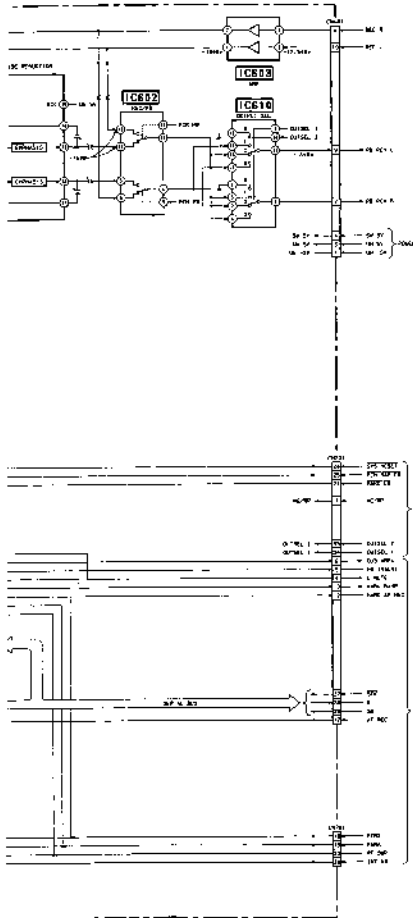
3-10. PCM AUDIO BLOCK DIAGRAM

• The boards which signals only pass through may be omitted.

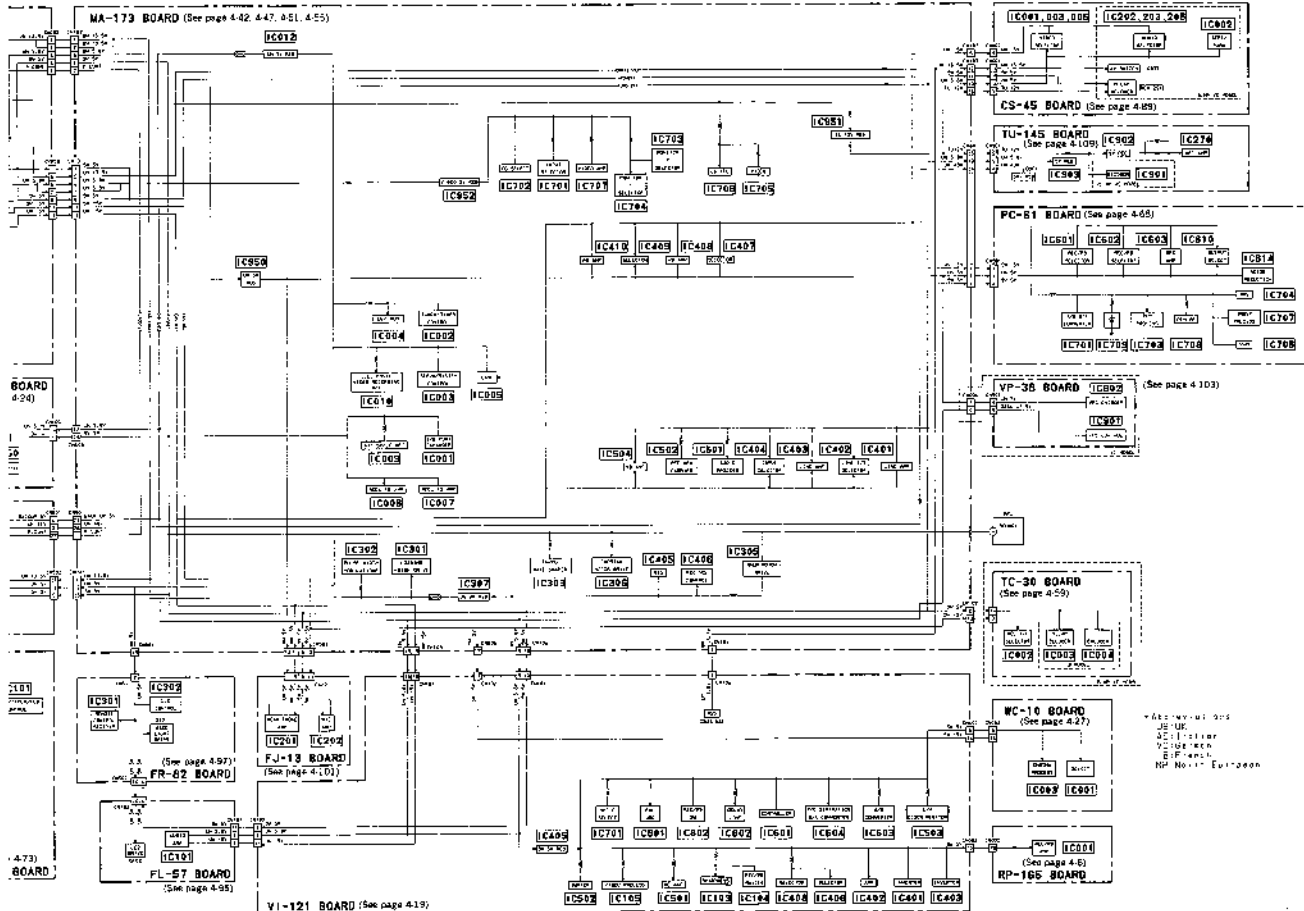


3-11. TUNER BLOCK DIAGRAM

• The boards which signals only pass through may be omitted.

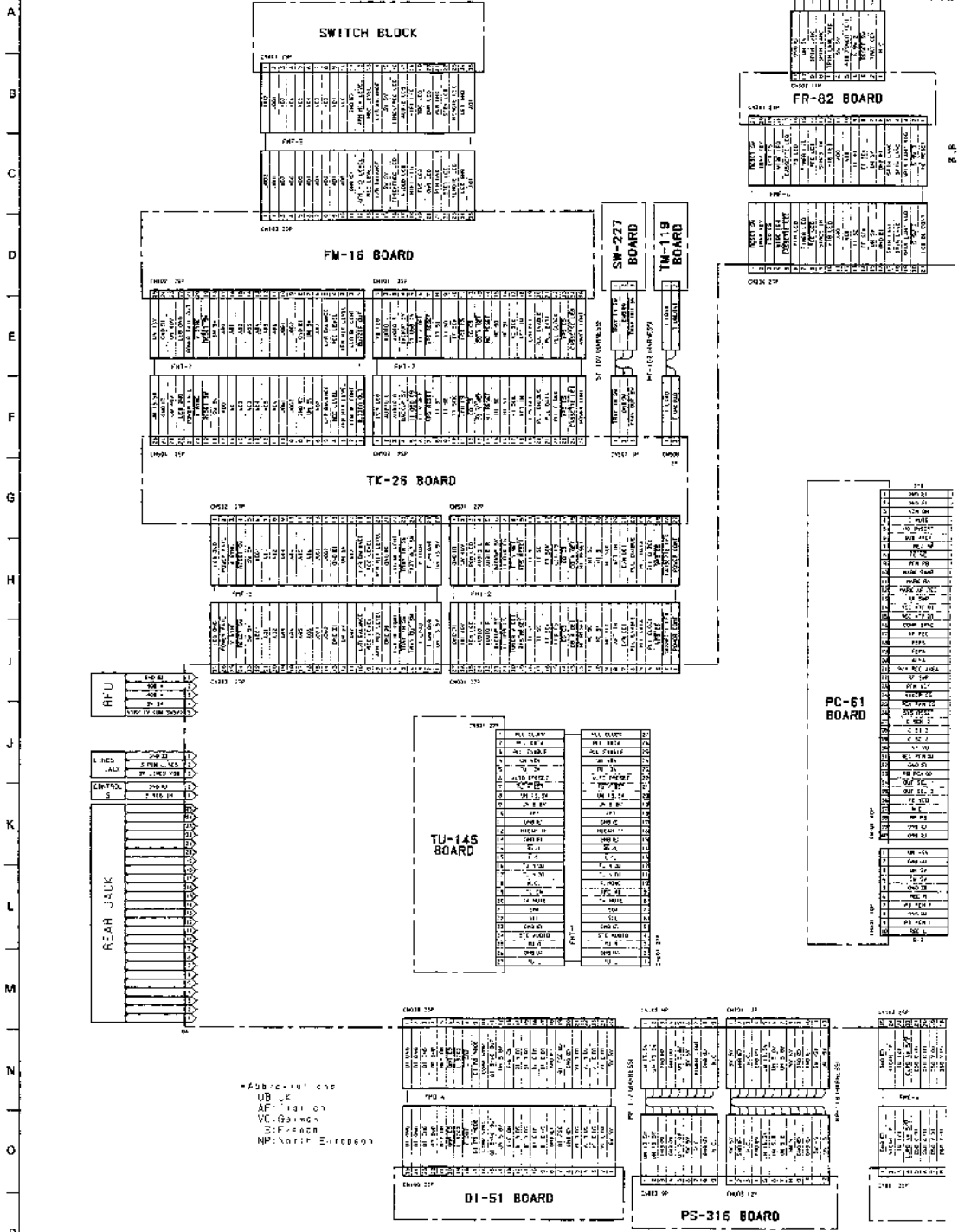


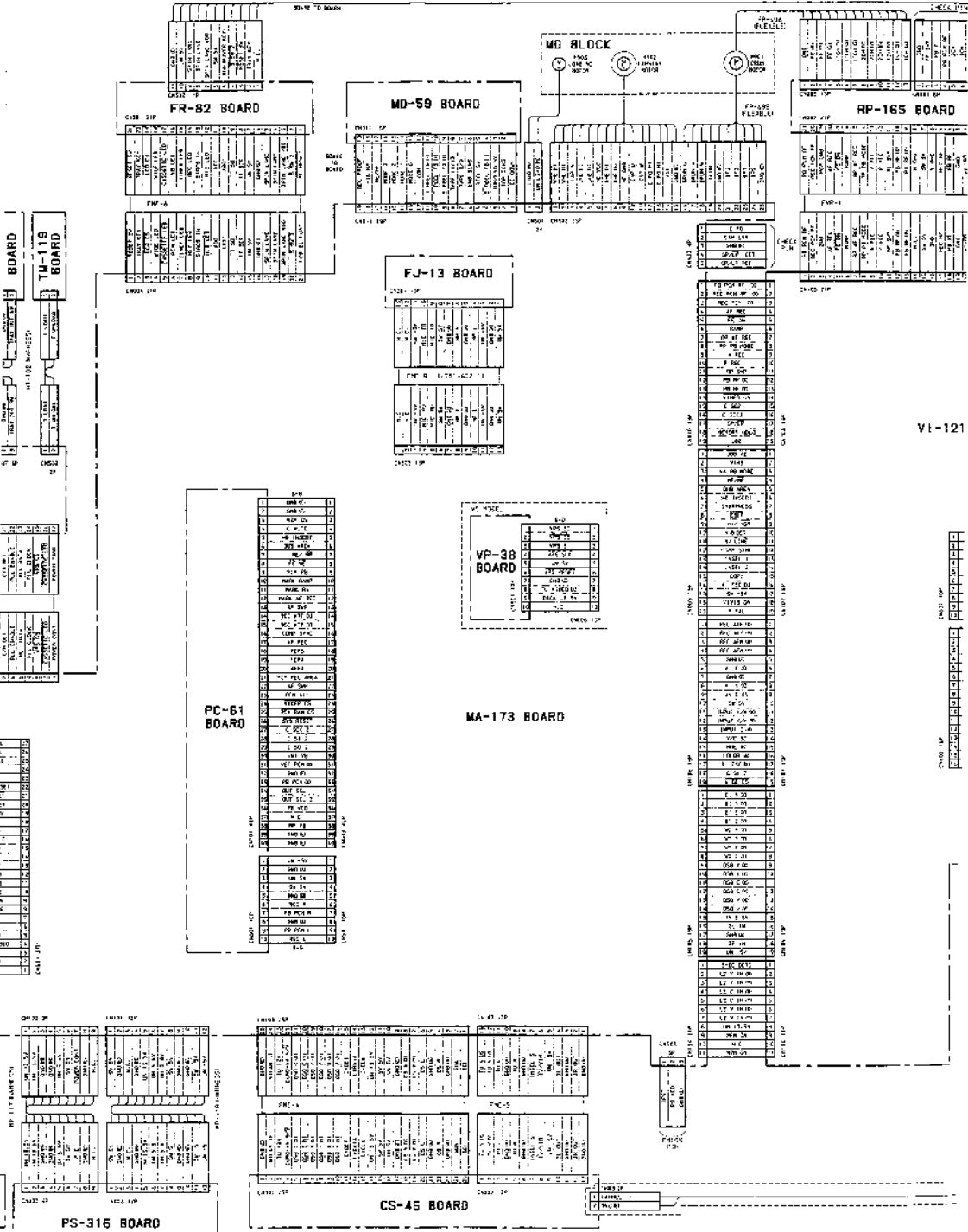




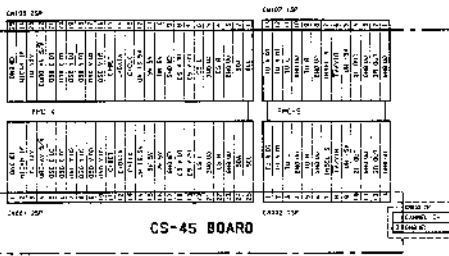
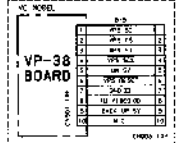
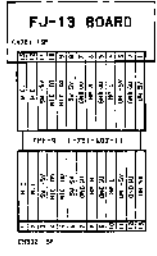
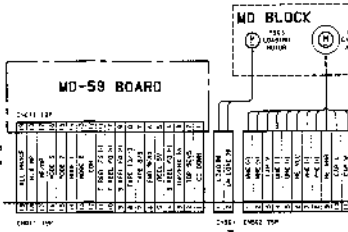
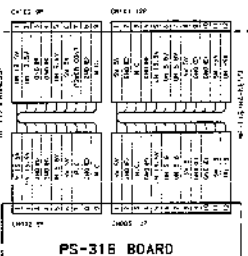
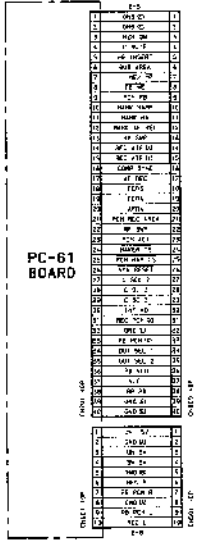
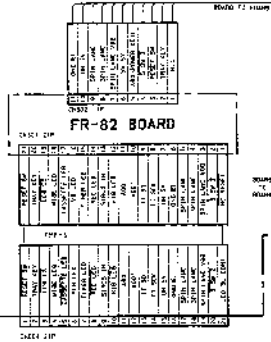
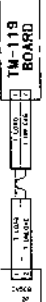
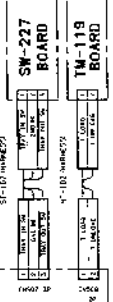
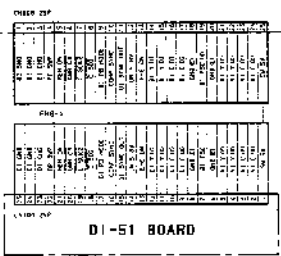
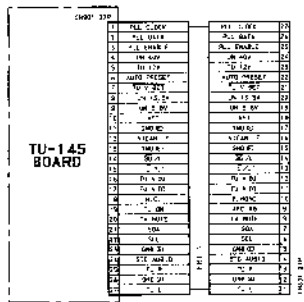
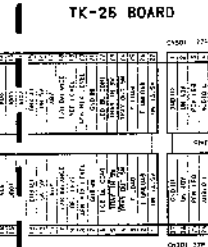
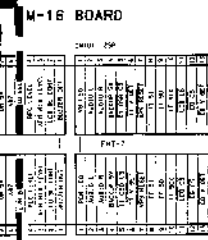
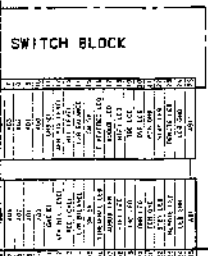
SECTION 4  
 PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM



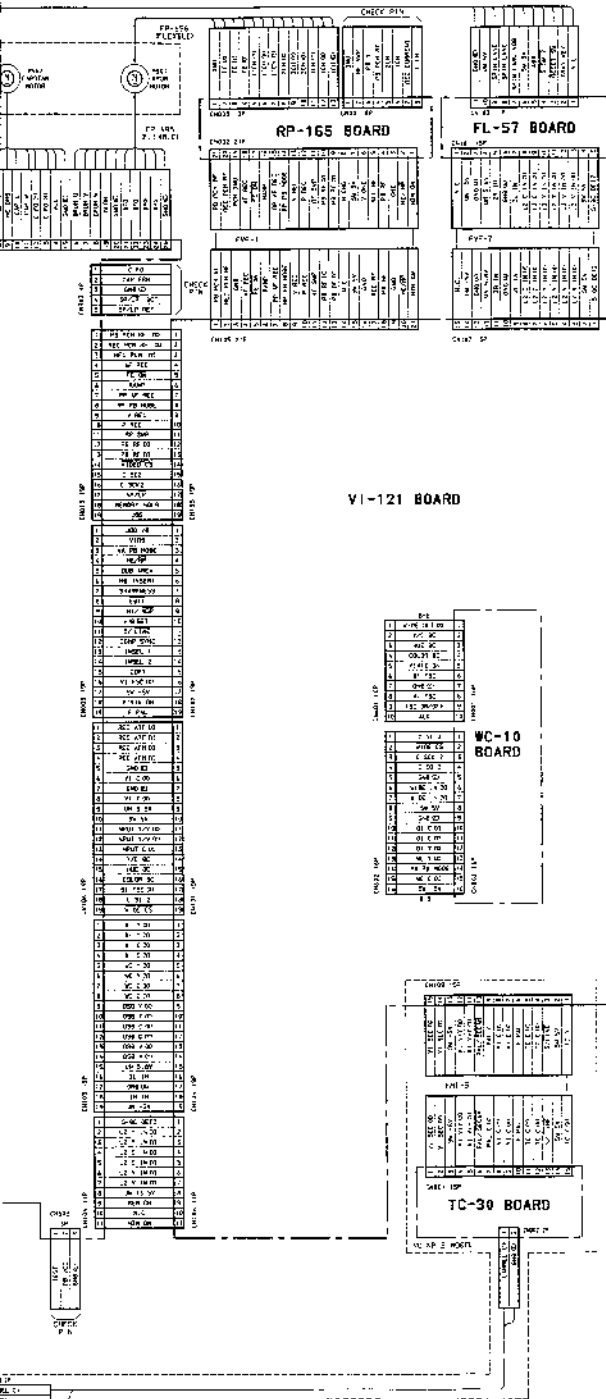


V1-121



MA-173 BOARD





4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

**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.

- Pattern from the slice which enables seeing.
- Circled numbers refer to waveforms.

● 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, 1kΩ unless otherwise noted.
- Chip resistor are 1/8W or 1/16W unless otherwise noted.  
kR: 1000Ω, MΩ: 1000kΩ
- All capacitors are in μF unless otherwise noted. μF, μF<sub>2</sub>, 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.

adjustment (or stop).

B: 1 Line.

B: 1 Line.

IN/OUT direction of pin, if B line.

• IC chip numbers are to be wafered.

• Variations are not permitted for the measurement accuracy.

• Readings are taken with a carbon foot (solid input).

• Readings are taken with a digital multimeter (DC 2000V).

• Voltage variations may be noticed due to normal audio input variations.

• Abbreviations

UB: UK

AE: Italian

VC: German

NP: North European

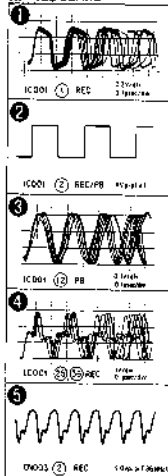
B: France

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

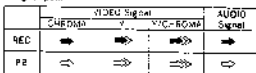
**Note:**  
Les composants identifiés par une marque ou une ligne pointillée avec une marque ne les remplacez que par une pièce portant le numéro spécifique.

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

RP-165 BOARD



• Signal path



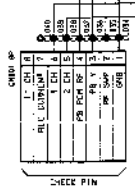
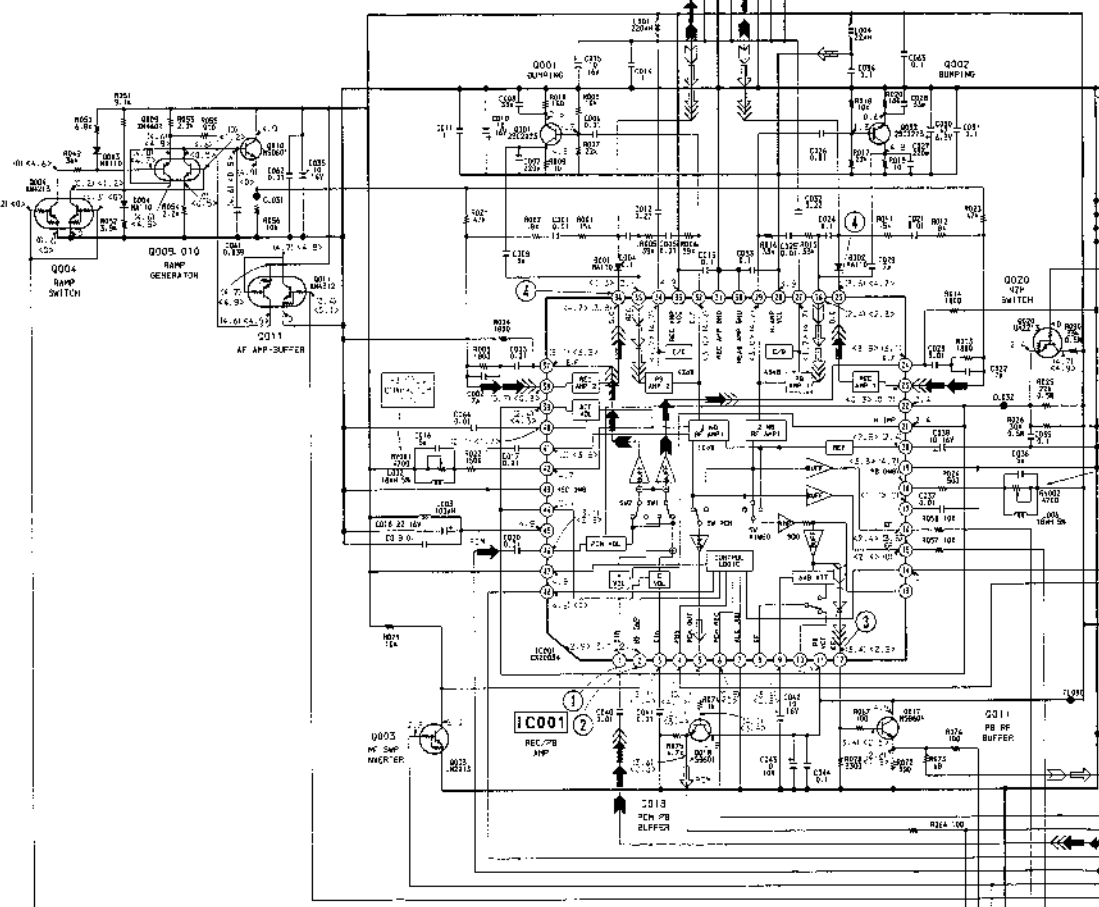
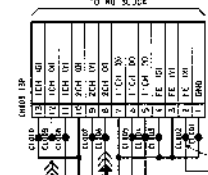
• Signal path



### RP-165 BOARD

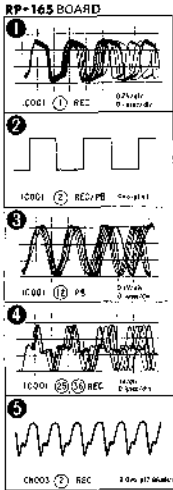
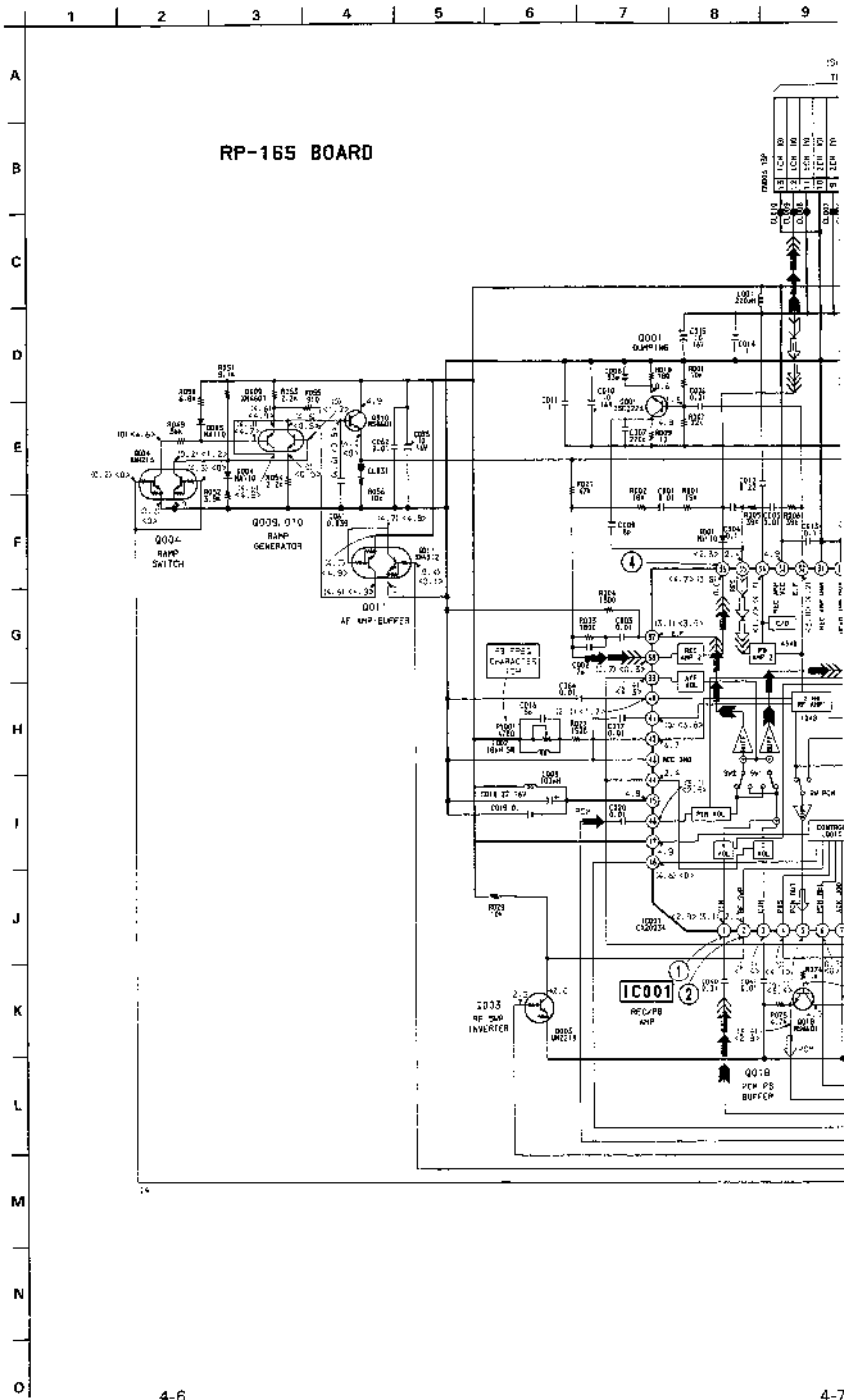
(See page 4 81)

0 MU 8,3JC



CHECK PIN

RP-165 (REC/PB AMP) SCHEMATIC DIAGRAM  
 —Ref. No. RP-165 BOARD: J301 series

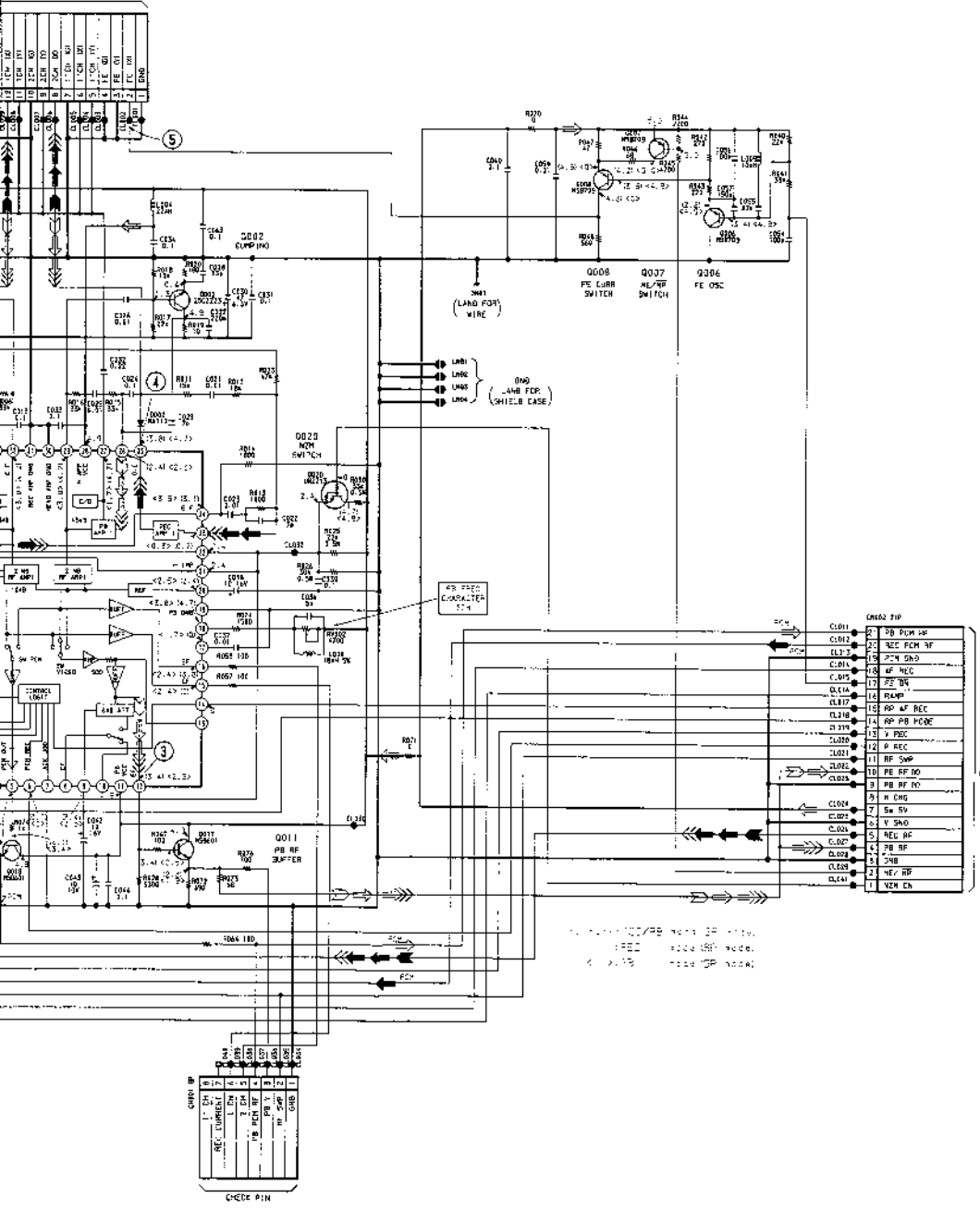


\*Signal path

	VIDEO Signal	AUDIO Signal
REC	→	→
PB	→	→

Input	REC	REC/PB	PB
1st	→	→	→

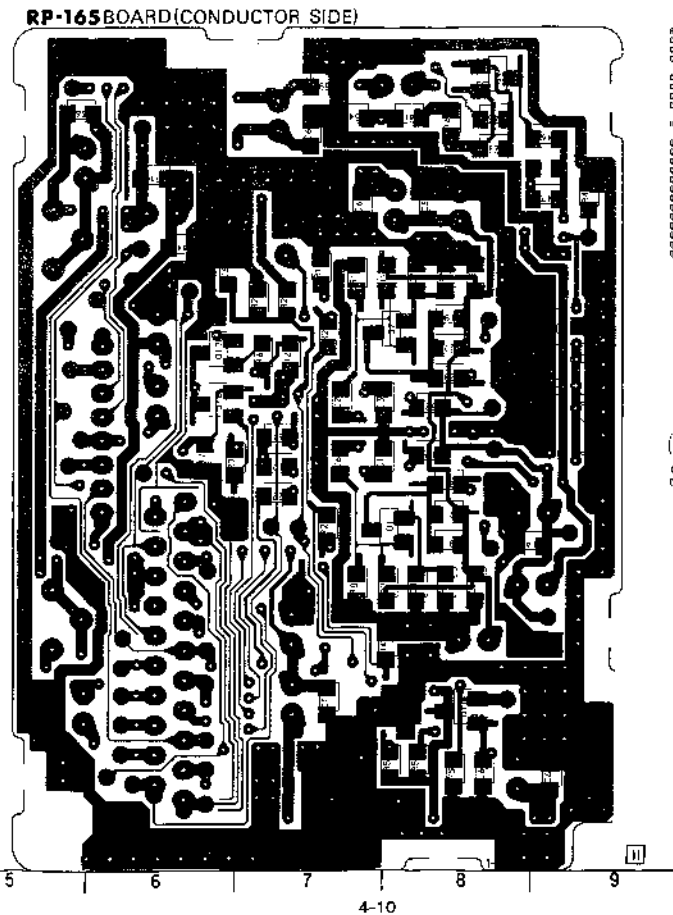
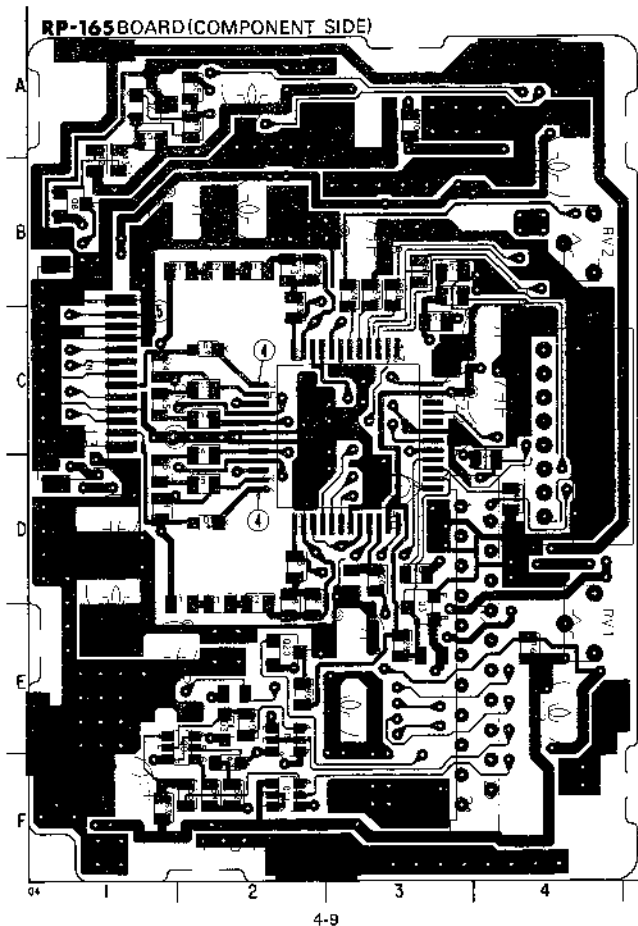
(See page 4-8L)  
TC HO BLCKX



TO  
VI-121  
BOARD  
EN103  
(See page  
4-29)

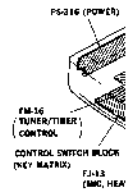
RP-165 (REC/PB AMP) PRINTED WIRING BOARD

—Ref. No. RP-165 BOARD: 3000 series—

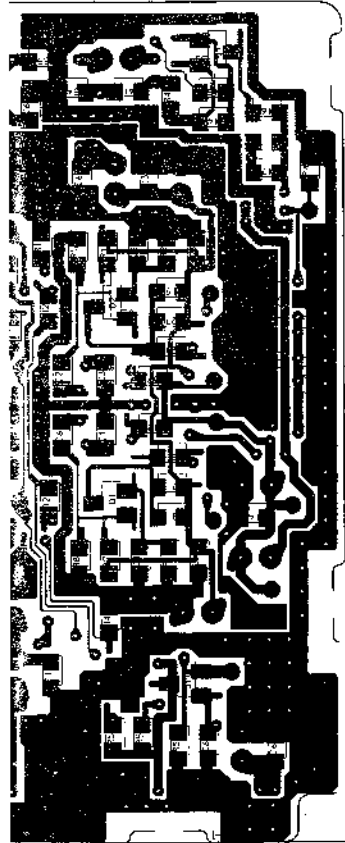


RP 165 9040P

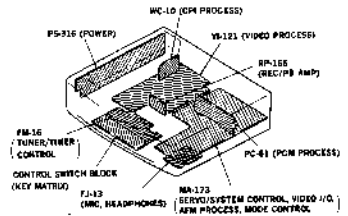
C4001	C4
C4003	C4
C4003	C1
D001	D2
D001	C2
D003	E2
D004	F2
H001	C3
Q001	D4
Q002	C4
Q003	E3
Q004	E2
Q006	A1
Q007	A8
Q008	B1
Q009	E2
Q010	F8
Q011	F2
Q017	G6
Q018	C5
Q019	E2



R SIDE)

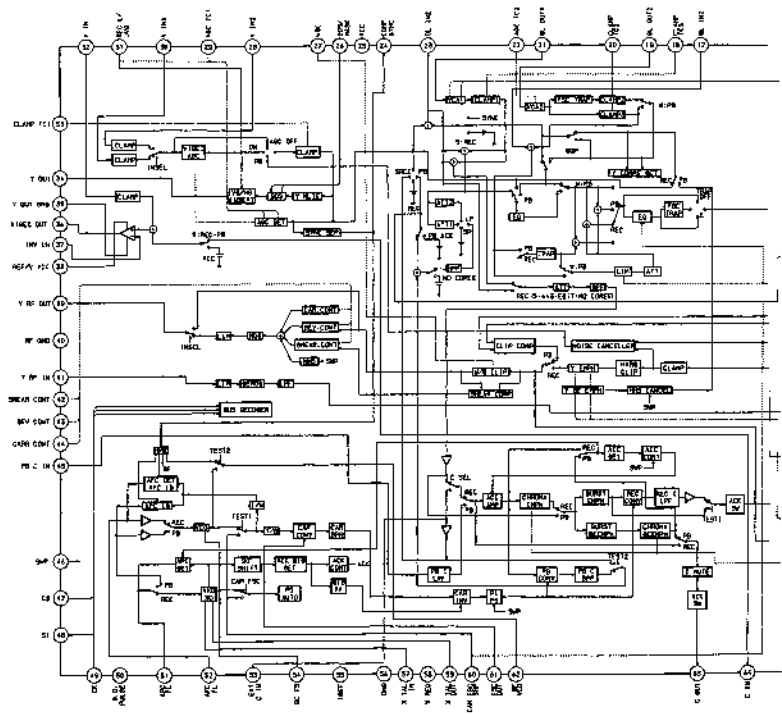


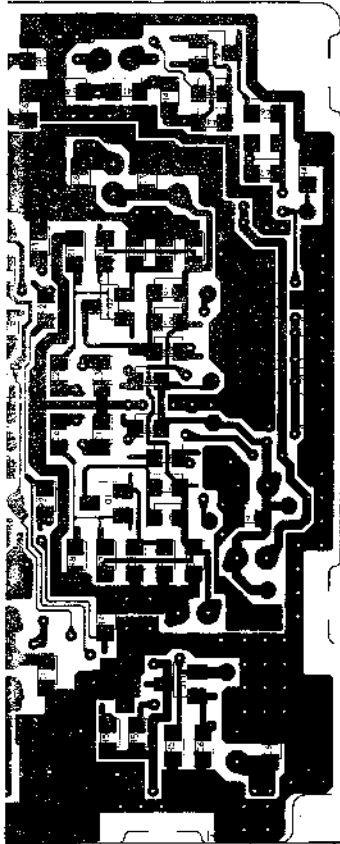
- RP-165 BOARD
- CH001 C-4
- CH002 E-4
- CH003 D-1
- D001 D-2
- D002 F-2
- D003 F-7
- D004 F-2
- CG001 C-3
- D005 D-6
- D006 G-4
- D007 E-3
- Q004 E-2
- Q006 A-1
- Q007 A-8
- Q008 Q-3
- Q009 E-2
- Q010 F-5
- Q011 F-2
- Q017 C-6
- Q018 C-6
- Q019 E-2



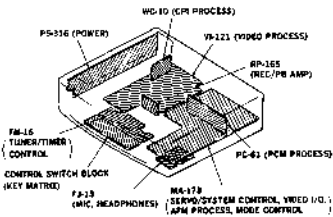
• VI-121 BOARD IC BLOCK DIAGRAMS

IC105 CCA1910 VIDEO PROCESS



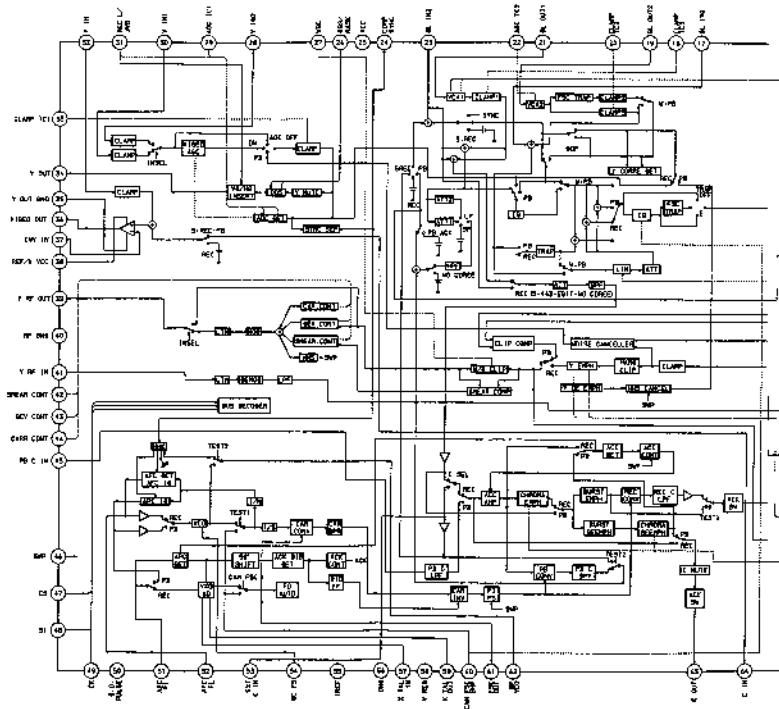


RP-165 (SOUND)  
 CM001 C.4  
 CM002 F.4  
 CM003 G.1  
  
 D001 B.4  
 D002 C.2  
 D003 F.2  
 D004 F.2  
  
 IG001 C.3  
  
 Q001 D.4  
 Q002 D.8  
 Q003 E.3  
 Q004 E.8  
 Q005 A.1  
 Q006 A.8  
 Q007 B.1  
 Q008 E.2  
 Q009 E.8  
 Q010 E.8  
 Q011 F.2  
 Q012 C.8  
 Q013 D.6  
 Q014 E.2



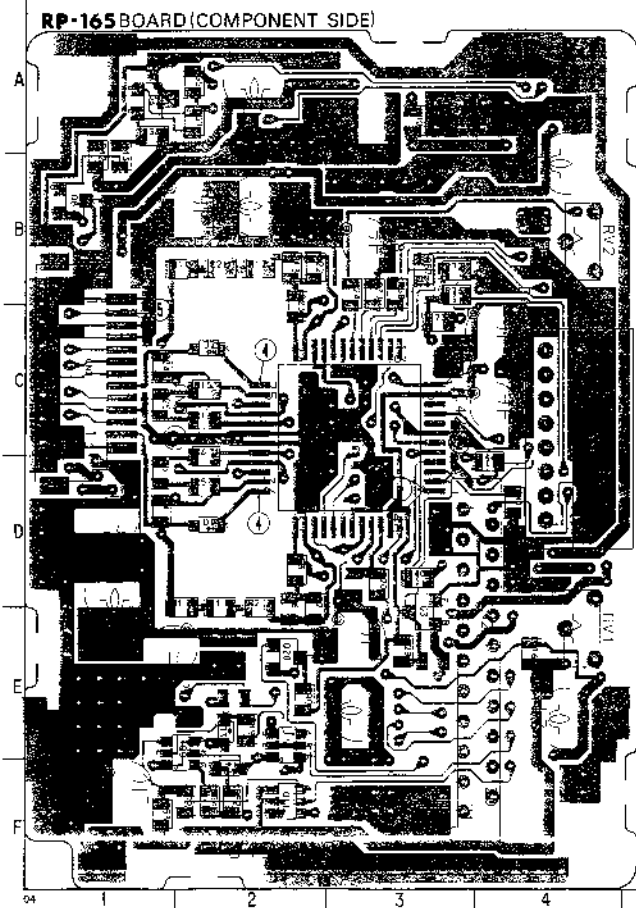
• VI-121 BOARD IC BLOCK DIAGRAMS

IC105 CP141610 VIDEO PROCESS

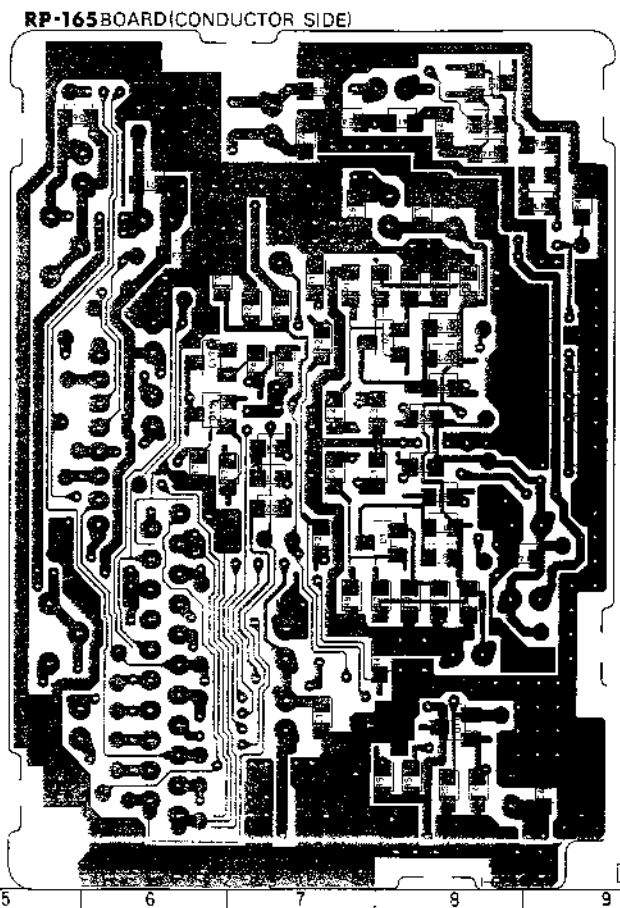




RP-165 (REC/PB AMP) PRINTED WIRING BOARD  
—Ref. No. RP 165 BOARD, 1000 series—

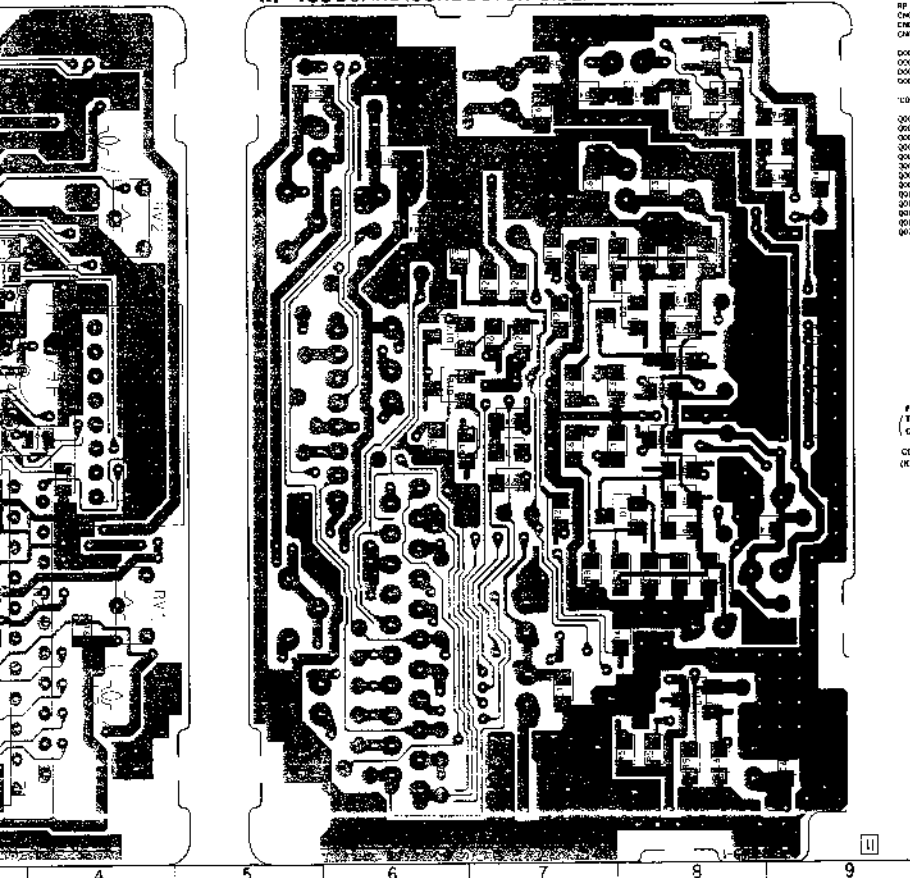


4-9

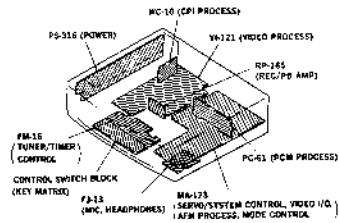


4-10

RP-165 BOARD (CONDUCTOR SIDE)

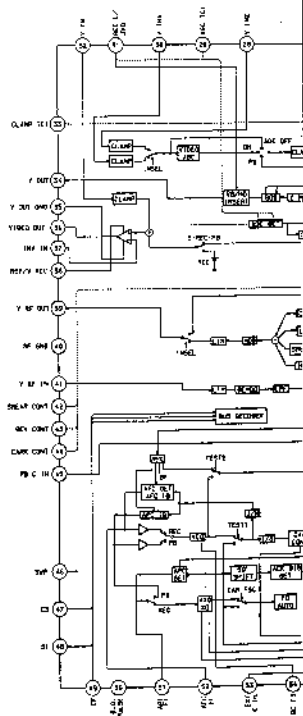


- RP 165 BOARD
- CH001 E 4
- CH002 E 4
- CH003 E 1
- DO01 D 3
- DO02 E 2
- DO03 E 2
- DO04 F 2
- CO01 C 3
- Q001 G 8
- Q002 G 8
- Q003 F 1
- Q004 E 2
- Q005 A 1
- Q007 A 8
- Q008 P 1
- Q009 E 2
- Q010 E 4
- Q011 F 2
- Q017 C 8
- Q018 E 6
- Q020 E 2



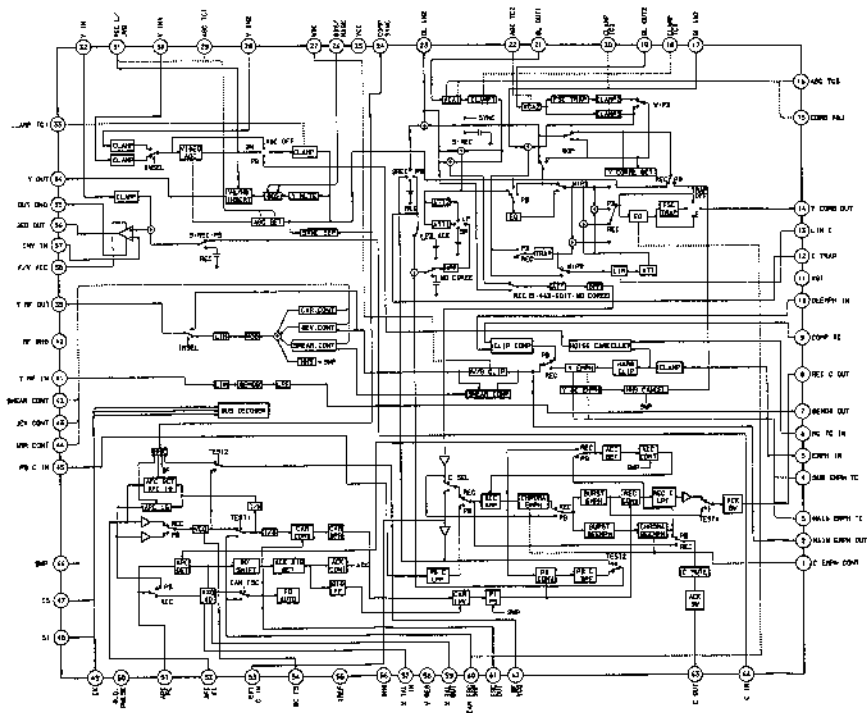
• V6-121 BOARD IC BLOCK DIAGRAMS

IC105 CIA1810 VIDEO PROCESS

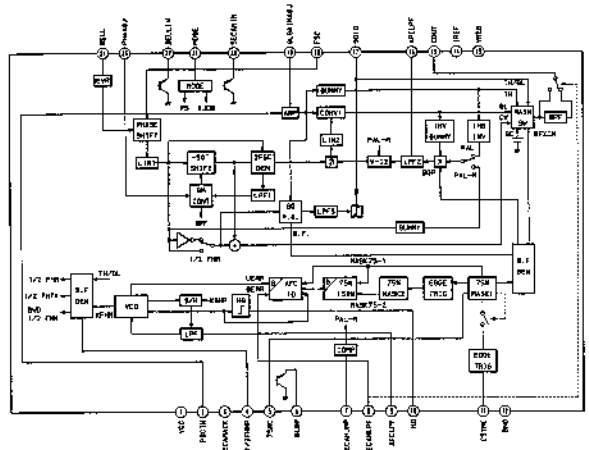


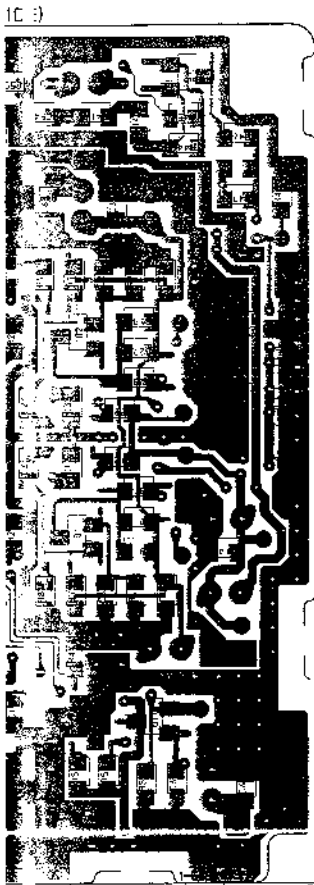
• V1-121 BOARD IC BLOCK DIAGRAMS

IC105 CX41810 VIDEO PROCESS

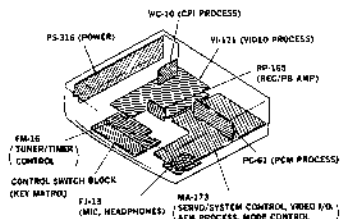


IC801 MS2368FP CHROMA 330 PROCESS



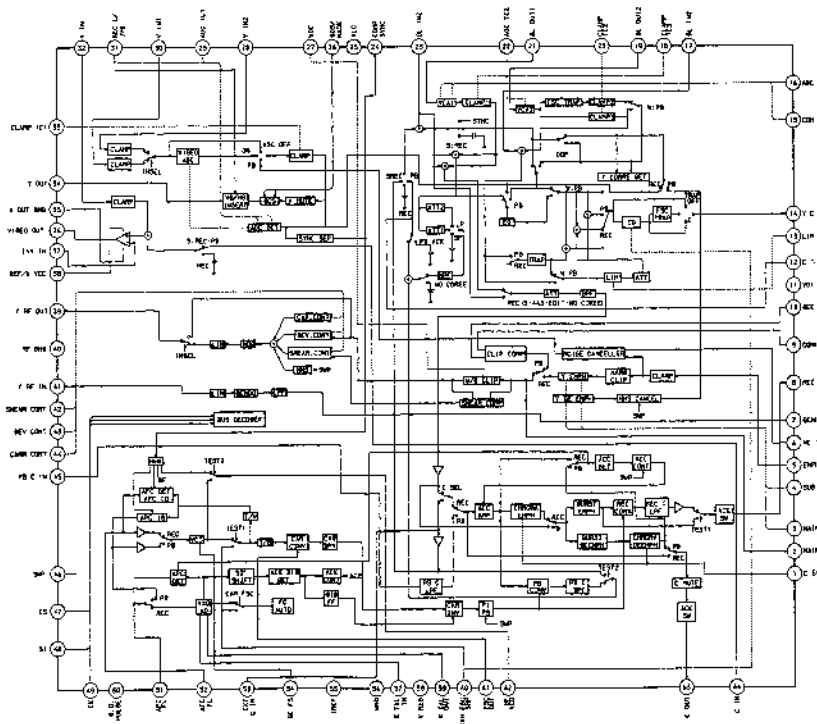


RA-168 BOARD  
 CR001 C-4  
 CR002 E-4  
 CR003 C-1  
  
 D001 D-1  
 D002 E-2  
 D003 E-6  
 D004 F-1  
  
 IC001 C-1  
  
 Q001 D-4  
 Q002 C-8  
 Q003 E-3  
 Q004 E-2  
 Q006 A-1  
 Q007 A-9  
 Q008 B-1  
 Q009 E-2  
 Q010 E-8  
 Q011 F-5  
 Q012 C-6  
 Q013 L-6  
 Q020 E-7



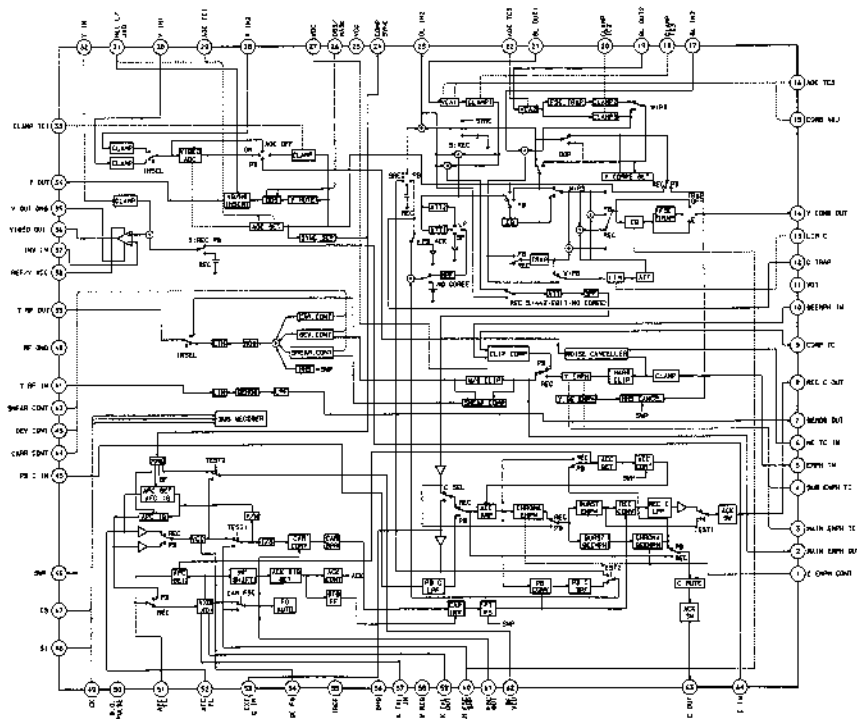
• VI-121 BOARD IC BLOCK DIAGRAMS

IC105 CIA-1010 VIDEO PROCESS

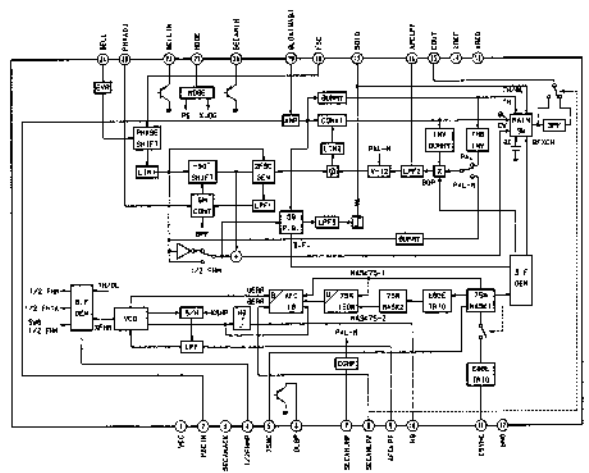


• VI-121 BOARD IC BLOCK DIAGRAMS

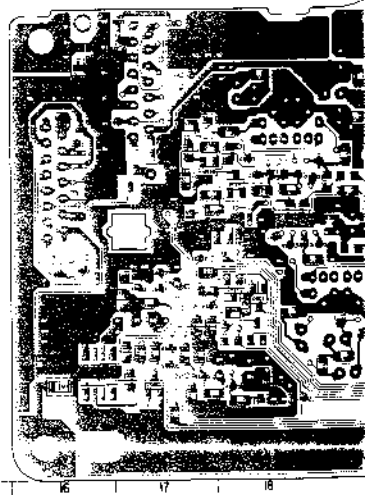
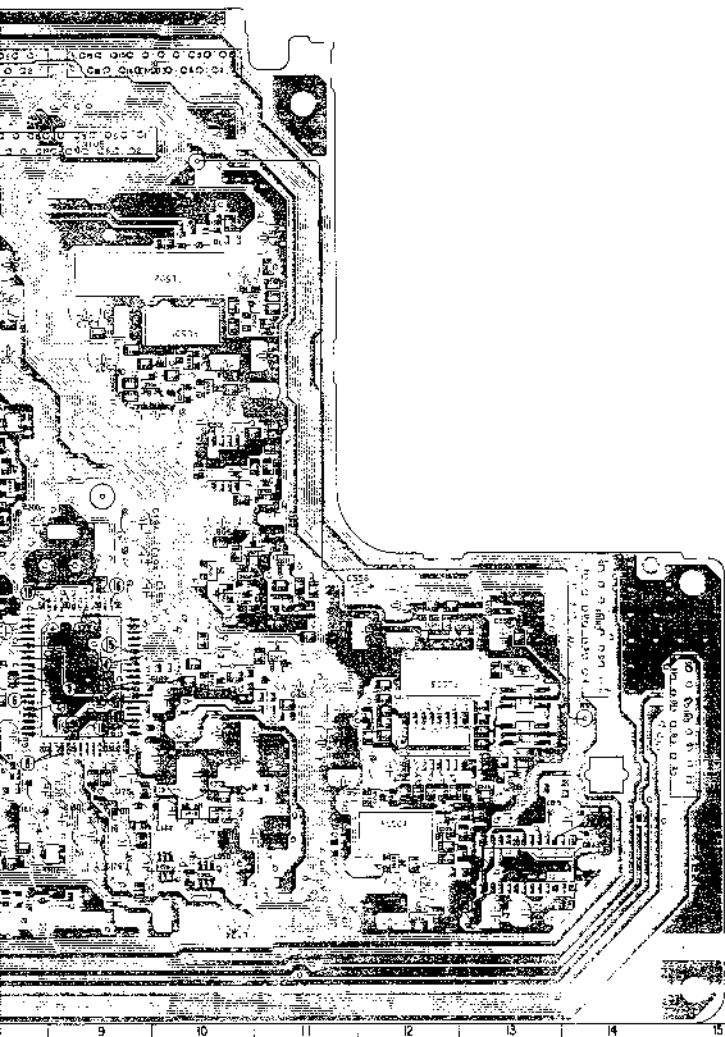
IC105 CX41810 VIDEO PROCESS

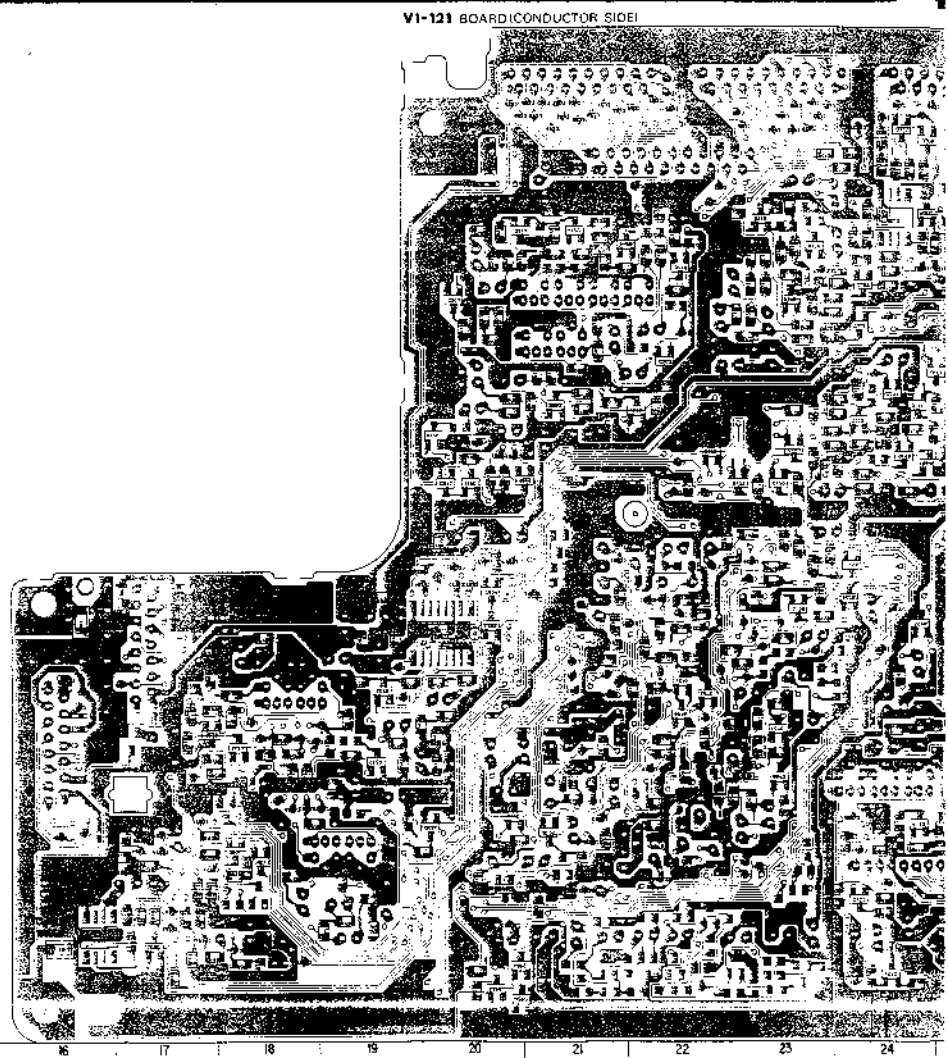
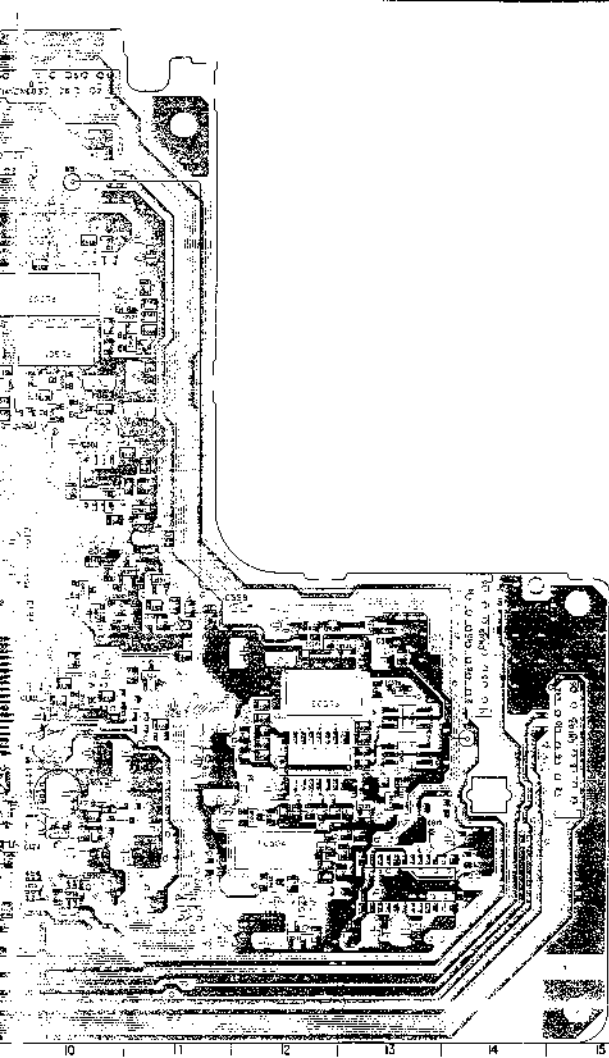


IC801 W52356FA CHROMA JOG PROCESS

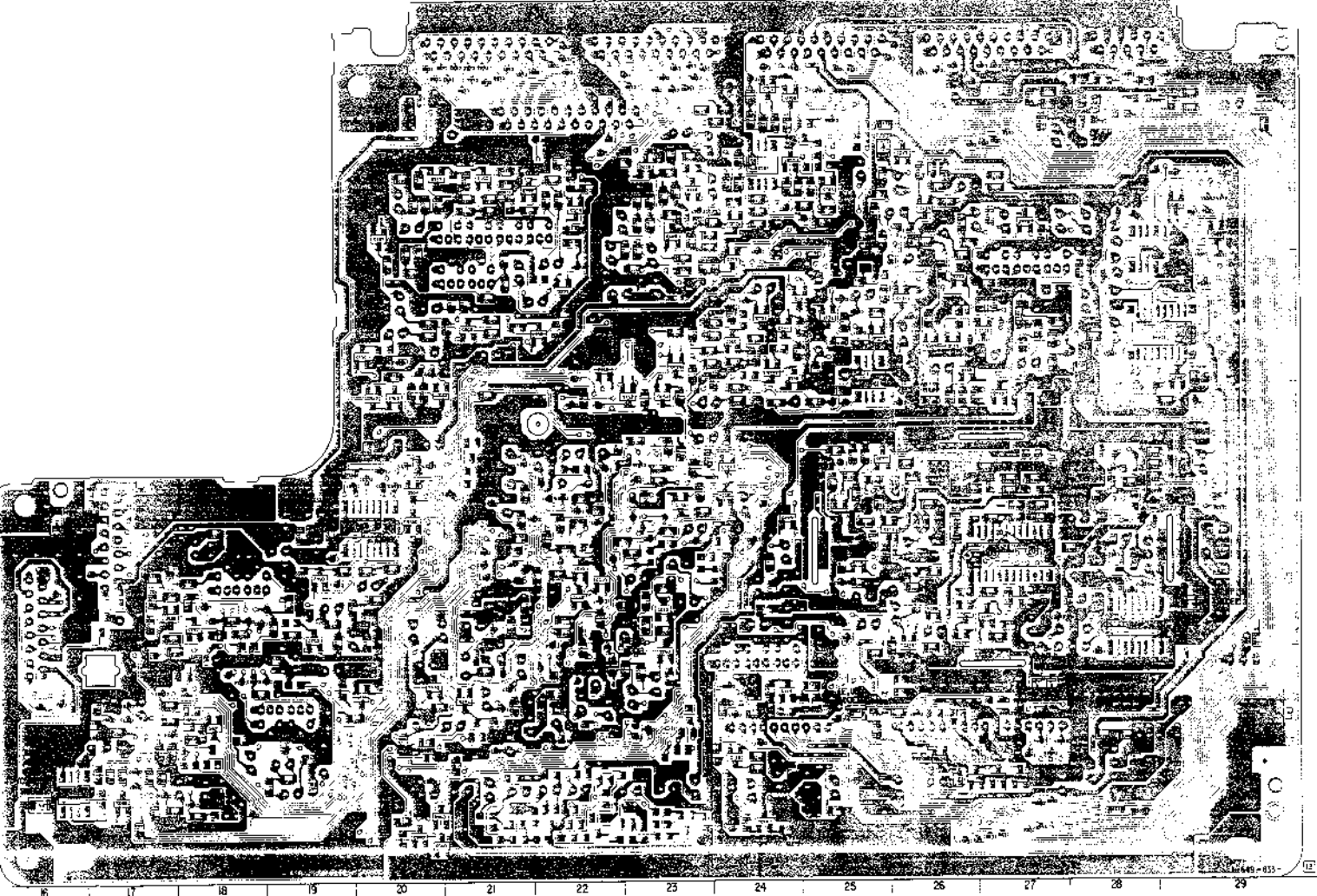












16 17 18 19 20 21 22 23 24 25 26 27 28 29

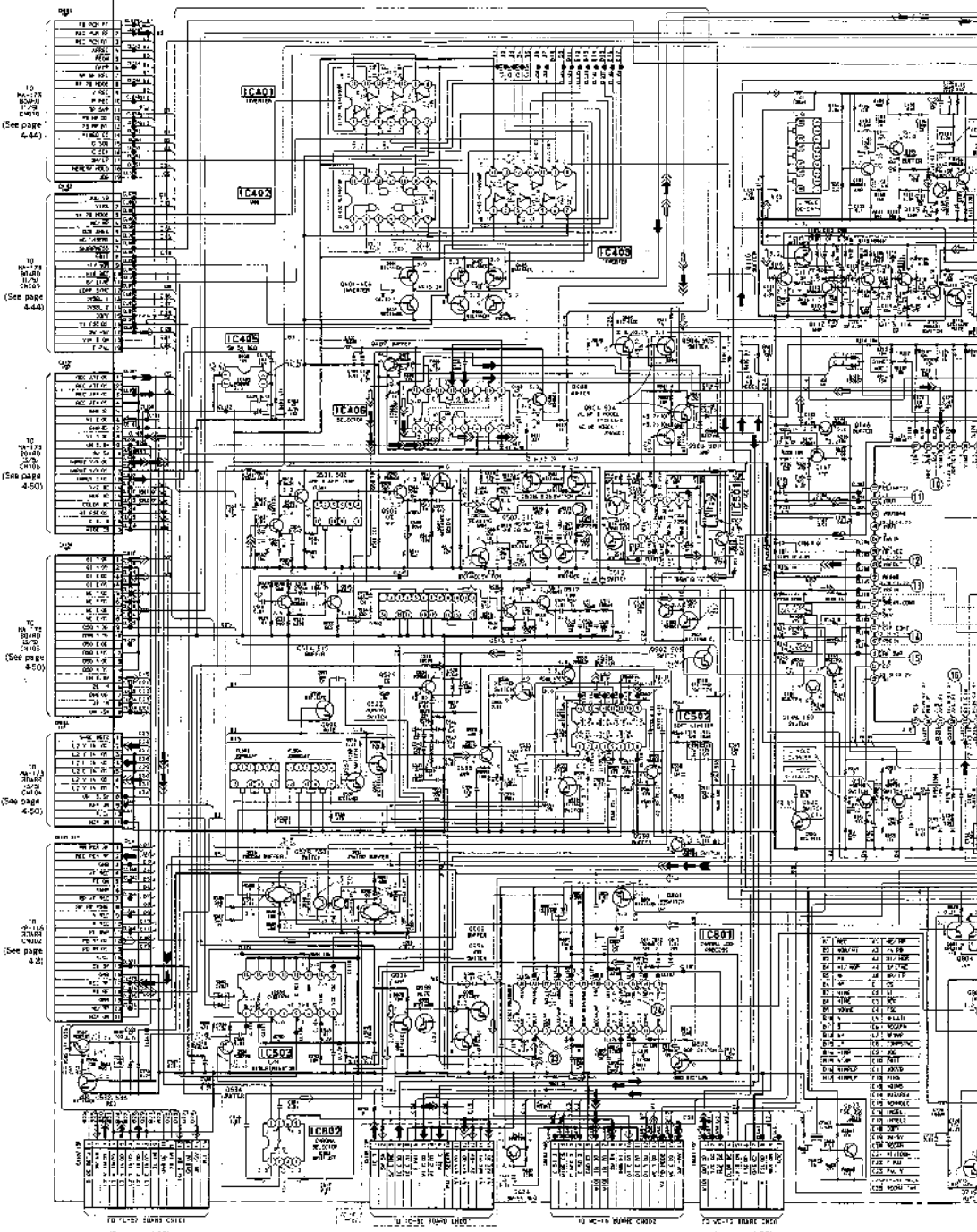
VI-121 (VIDEO PROCESS) SCHEMATIC DIAGRAM

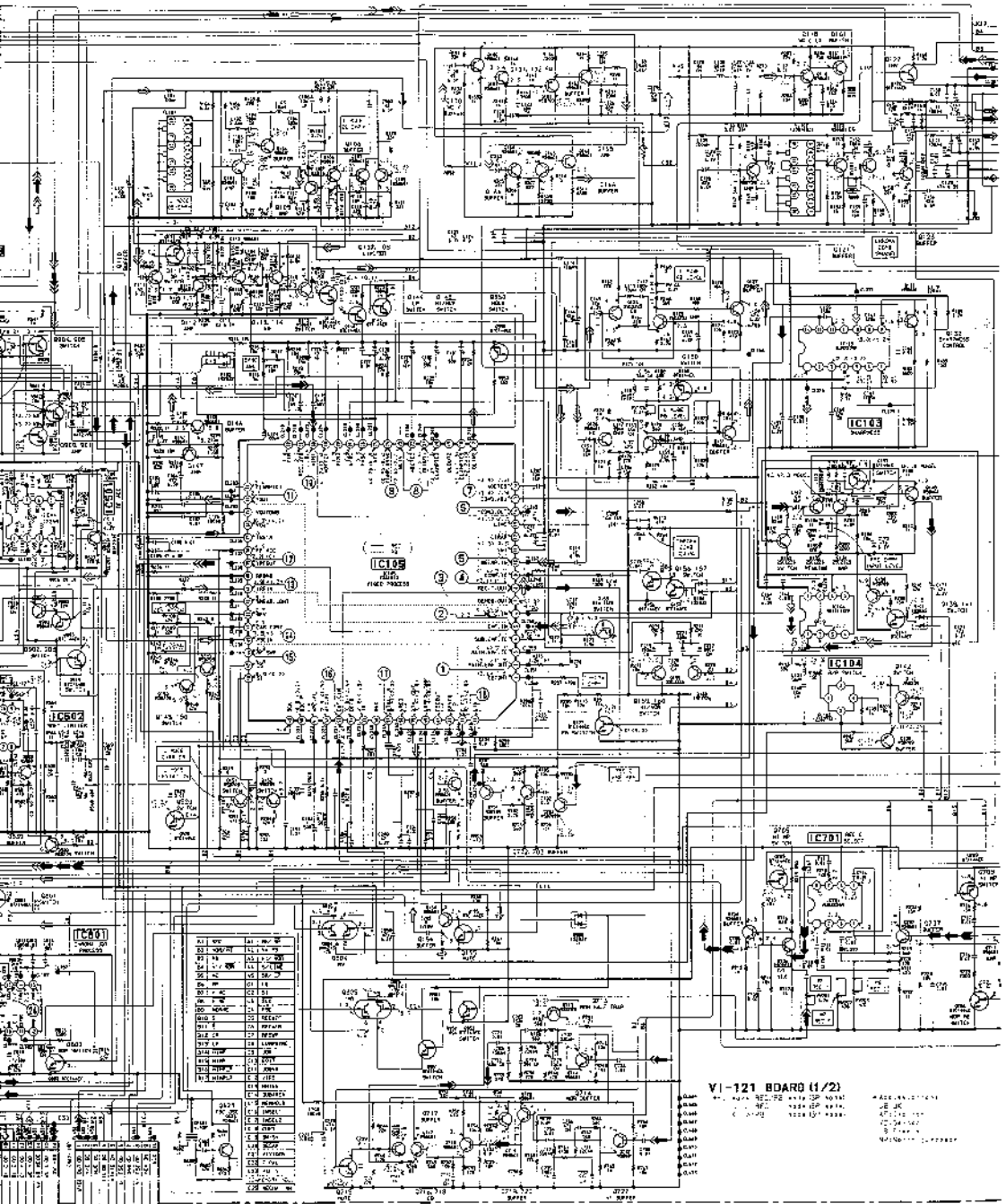
-Ref No. VI-121 BOARD: 5300 series-

•Refer to page 4-11 for IC block diagrams of IC105 and IC801 on VI-121 board.

1 2 3 4 5 6 7 8 9 10 11 12

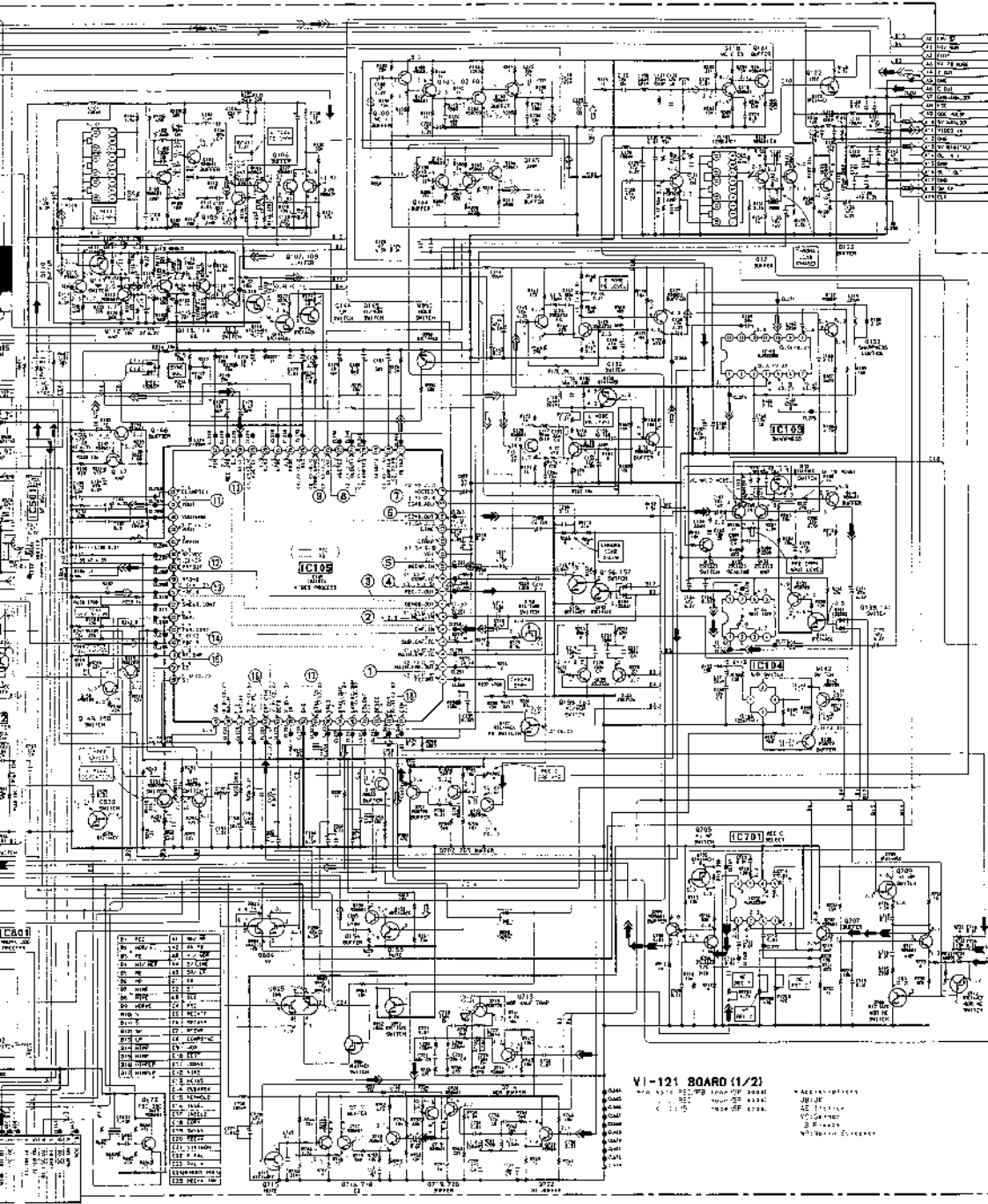
A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O





VI-121 BOARD (1/2)

77-4813 0 301W (5000)  
 (See page 4-21)

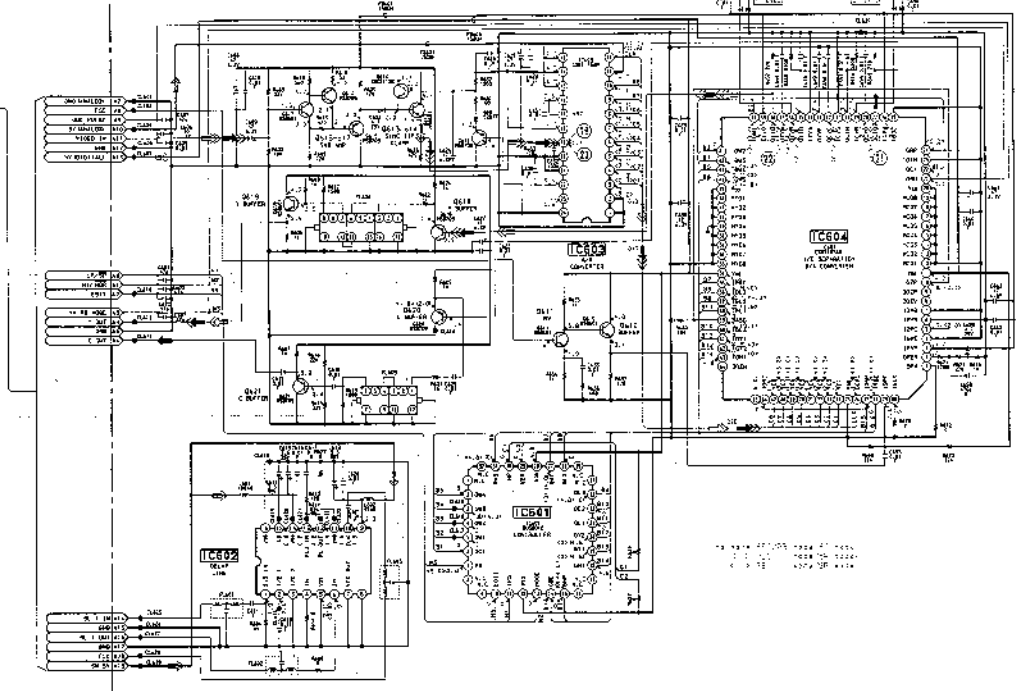


IC101	74LS00	1
IC102	74LS00	1
IC103	74LS00	1
IC104	74LS00	1
IC105	74LS00	1
IC106	74LS00	1
IC107	74LS00	1
IC108	74LS00	1
IC109	74LS00	1
IC110	74LS00	1
IC111	74LS00	1
IC112	74LS00	1
IC113	74LS00	1
IC114	74LS00	1
IC115	74LS00	1
IC116	74LS00	1
IC117	74LS00	1
IC118	74LS00	1
IC119	74LS00	1
IC120	74LS00	1
IC121	74LS00	1
IC122	74LS00	1
IC123	74LS00	1
IC124	74LS00	1
IC125	74LS00	1
IC126	74LS00	1
IC127	74LS00	1
IC128	74LS00	1
IC129	74LS00	1
IC130	74LS00	1
IC131	74LS00	1
IC132	74LS00	1
IC133	74LS00	1
IC134	74LS00	1
IC135	74LS00	1
IC136	74LS00	1
IC137	74LS00	1
IC138	74LS00	1
IC139	74LS00	1
IC140	74LS00	1
IC141	74LS00	1
IC142	74LS00	1
IC143	74LS00	1
IC144	74LS00	1
IC145	74LS00	1
IC146	74LS00	1
IC147	74LS00	1
IC148	74LS00	1
IC149	74LS00	1
IC150	74LS00	1
IC151	74LS00	1
IC152	74LS00	1
IC153	74LS00	1
IC154	74LS00	1
IC155	74LS00	1
IC156	74LS00	1
IC157	74LS00	1
IC158	74LS00	1
IC159	74LS00	1
IC160	74LS00	1
IC161	74LS00	1
IC162	74LS00	1
IC163	74LS00	1
IC164	74LS00	1
IC165	74LS00	1
IC166	74LS00	1
IC167	74LS00	1
IC168	74LS00	1
IC169	74LS00	1
IC170	74LS00	1
IC171	74LS00	1
IC172	74LS00	1
IC173	74LS00	1
IC174	74LS00	1
IC175	74LS00	1
IC176	74LS00	1
IC177	74LS00	1
IC178	74LS00	1
IC179	74LS00	1
IC180	74LS00	1
IC181	74LS00	1
IC182	74LS00	1
IC183	74LS00	1
IC184	74LS00	1
IC185	74LS00	1
IC186	74LS00	1
IC187	74LS00	1
IC188	74LS00	1
IC189	74LS00	1
IC190	74LS00	1
IC191	74LS00	1
IC192	74LS00	1
IC193	74LS00	1
IC194	74LS00	1
IC195	74LS00	1
IC196	74LS00	1
IC197	74LS00	1
IC198	74LS00	1
IC199	74LS00	1
IC200	74LS00	1

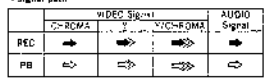
VI-121 BOARD (1/2)

0148  
 0149  
 0150  
 0151  
 0152  
 0153  
 0154  
 0155  
 0156  
 0157  
 0158  
 0159  
 0160  
 0161  
 0162  
 0163  
 0164  
 0165  
 0166  
 0167  
 0168  
 0169  
 0170  
 0171  
 0172  
 0173  
 0174  
 0175  
 0176  
 0177  
 0178  
 0179  
 0180  
 0181  
 0182  
 0183  
 0184  
 0185  
 0186  
 0187  
 0188  
 0189  
 0190  
 0191  
 0192  
 0193  
 0194  
 0195  
 0196  
 0197  
 0198  
 0199  
 0200

V1-121 BOARD (2/2)



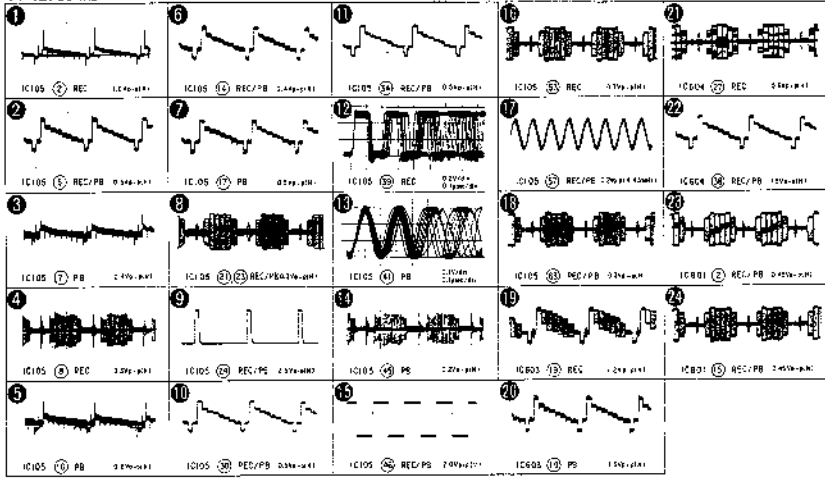
\* Signal path



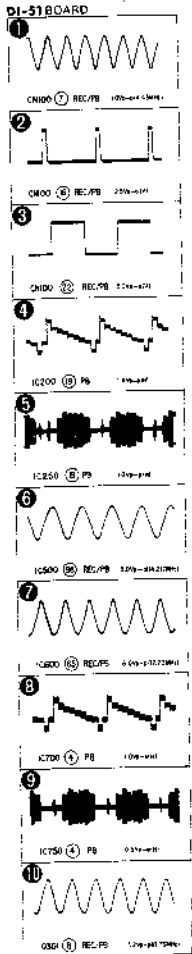
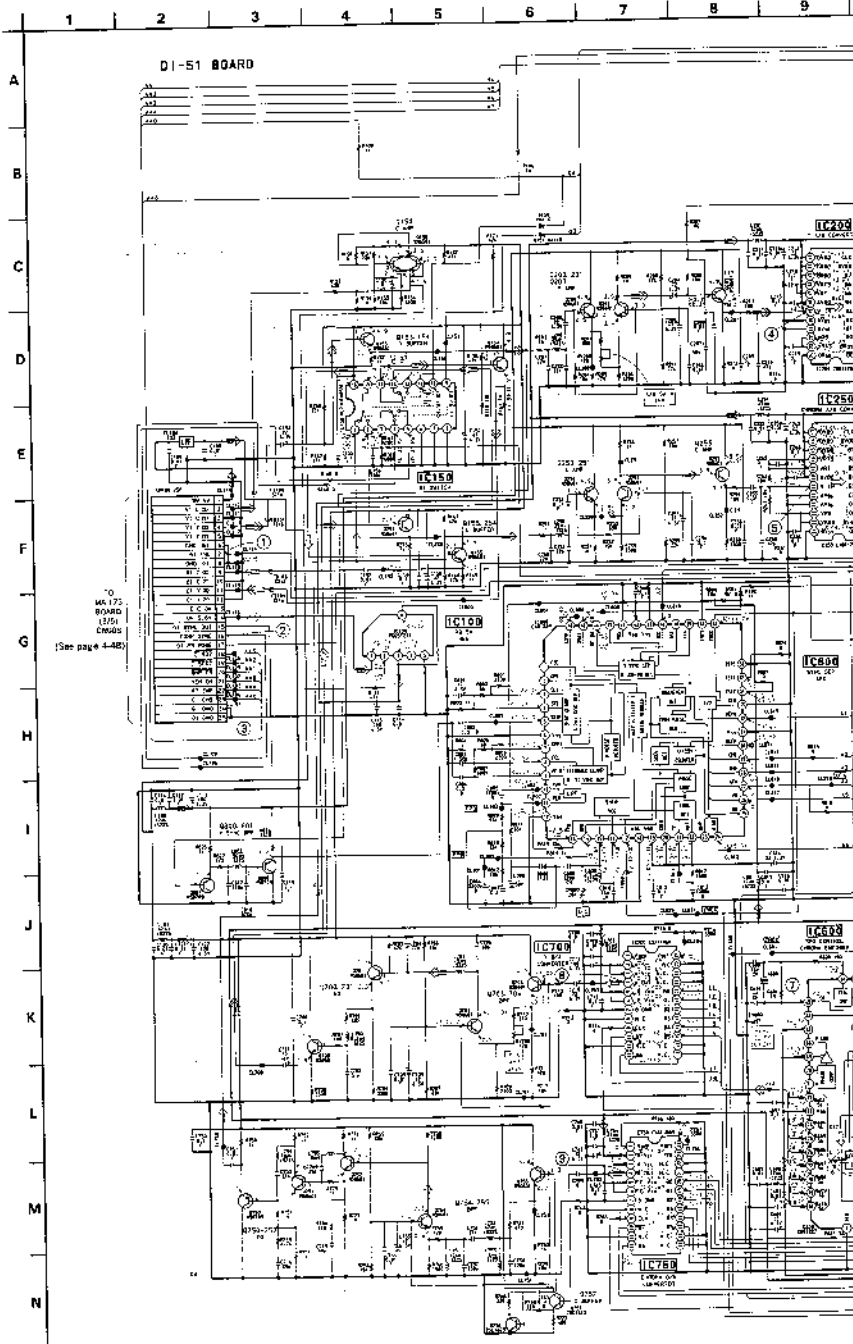
\* Signal path



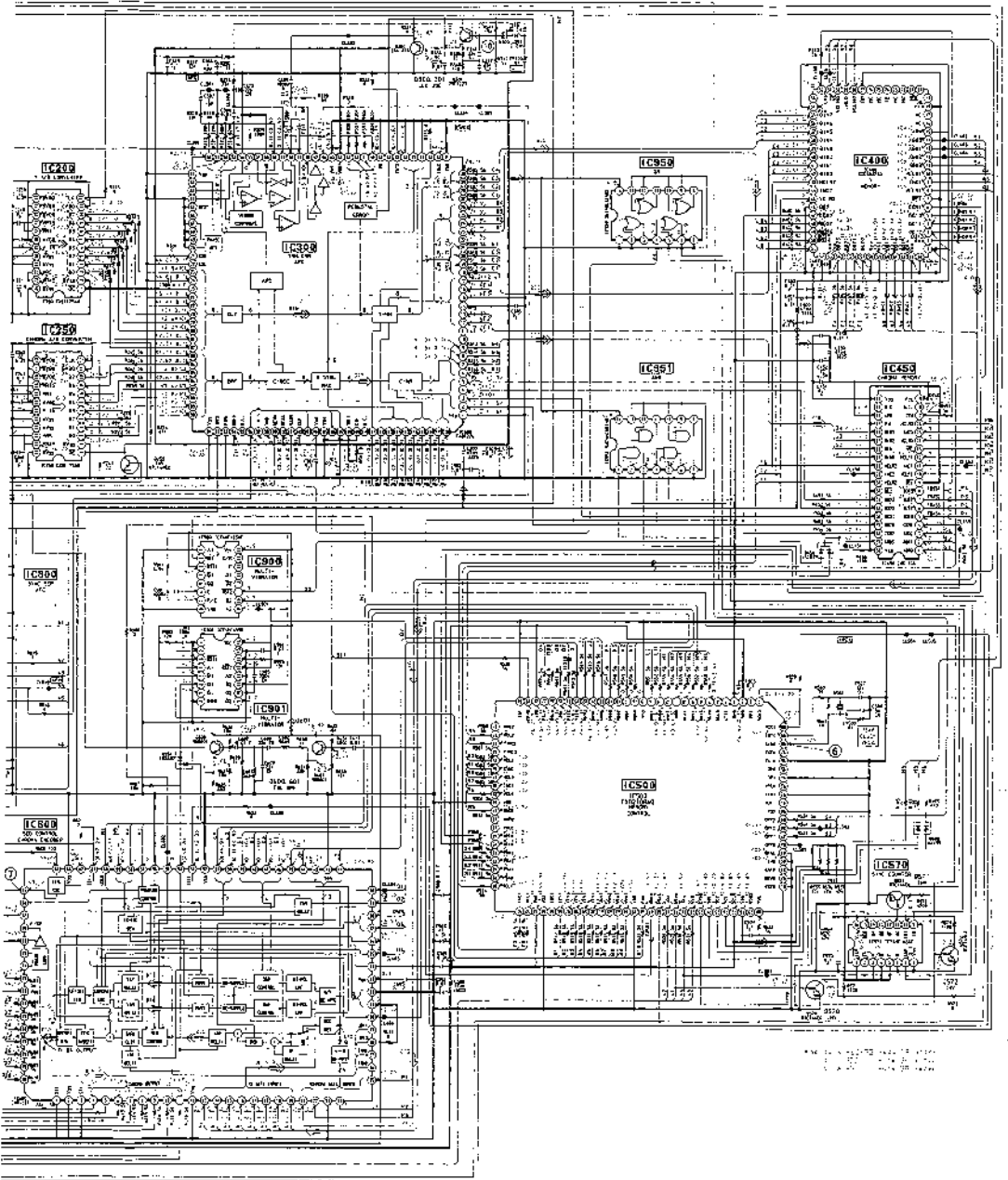
V1-121 BOARD

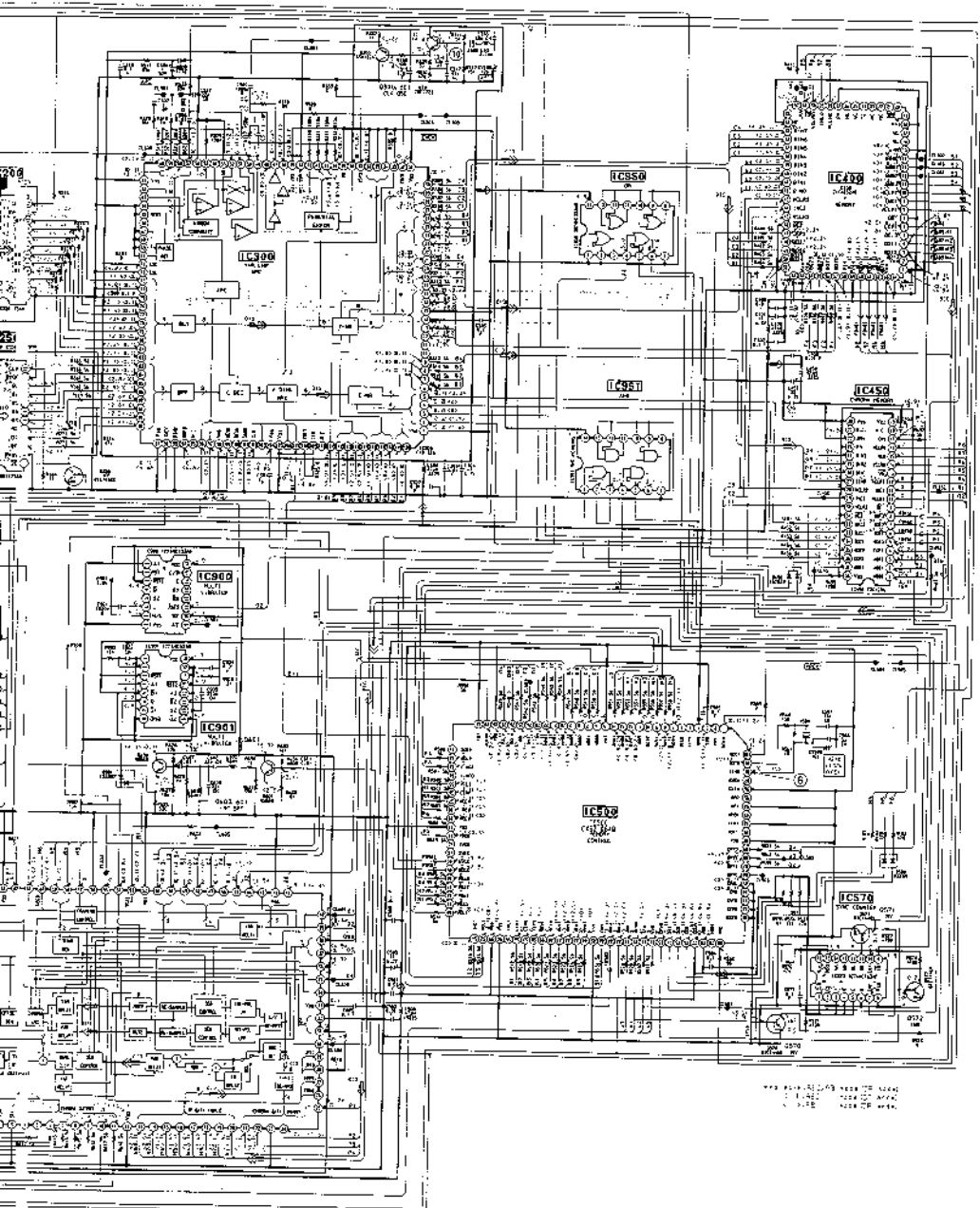


DI-51 (DIGITAL PROCESS), WC-10 (CPI PROCESS) SCHEMATIC DIAGRAMS  
 —Ref. No. DI-51 BOARD - 1000 series, WC-10 BOARD - 2900 series—



TO M5172 BOARD 13151 CN105 (See page 4-48)

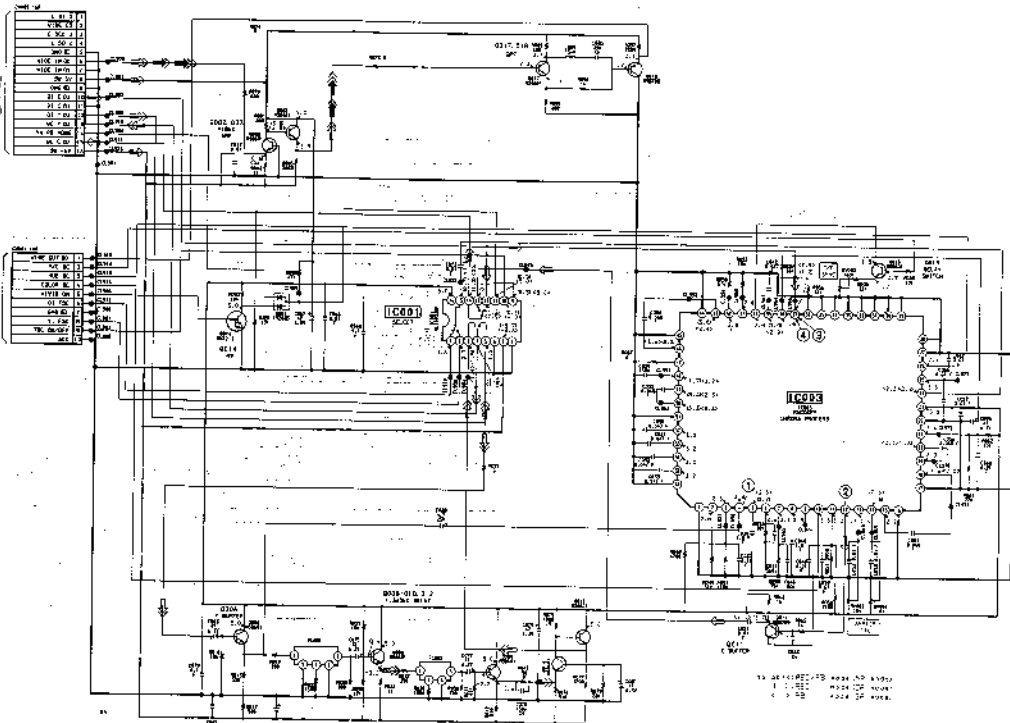




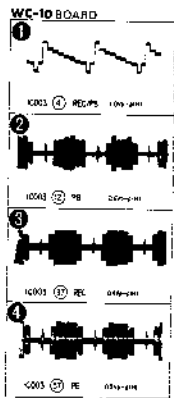
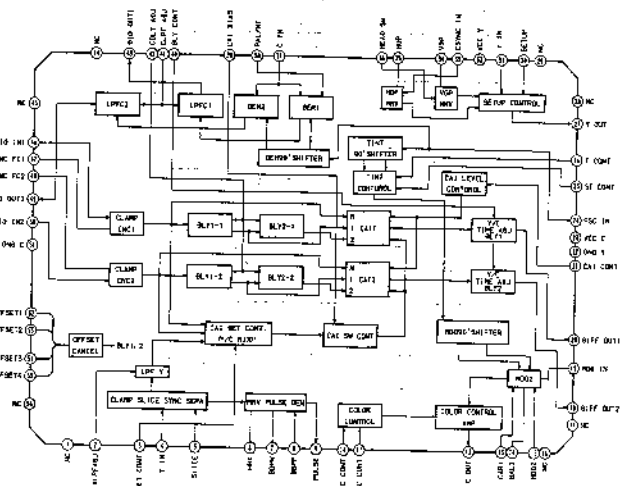
See page 4-20  
See page 4-20  
See page 4-20



**WC-10 BOARD**



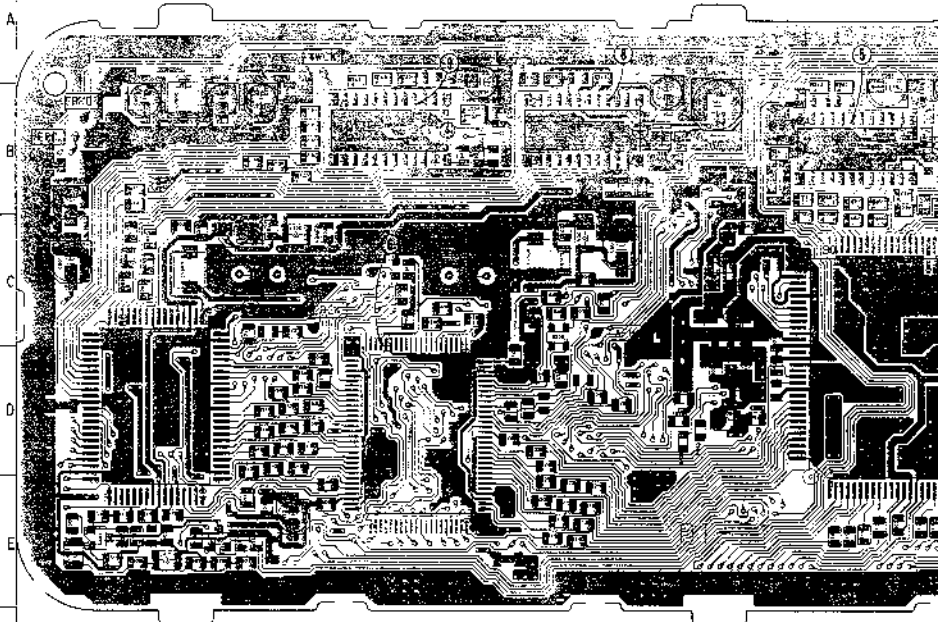
**IC003 M5230FP**  
GAMMA PROCESS



**\*Signal path**

	VIDEO SIGNAL	
	Y-CRMA	Y-CRMA
REC	→	→
PB	→	→
C	→	→

DI-51 BOARD (COMPONENT SIDE)

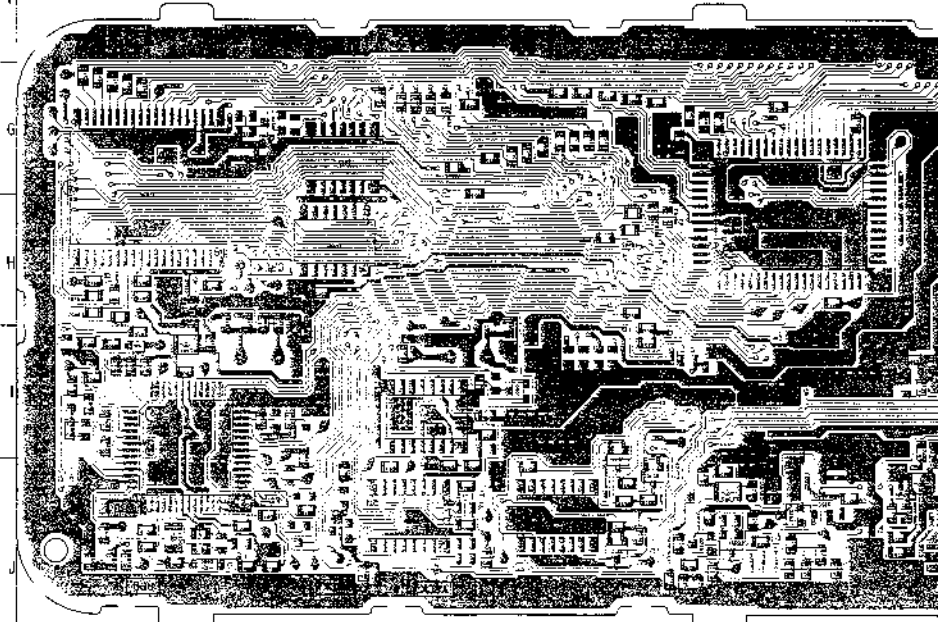


DI-51 BOARD  
 Q1420 413

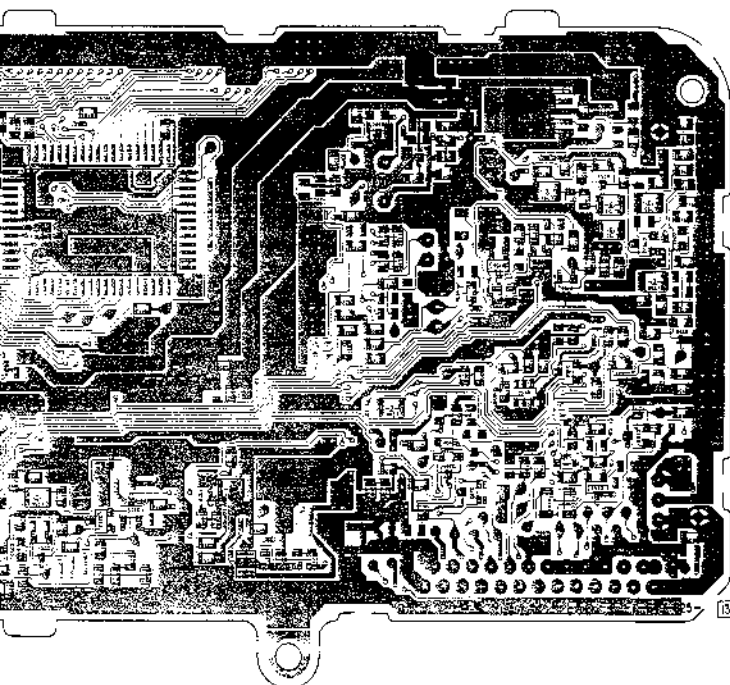
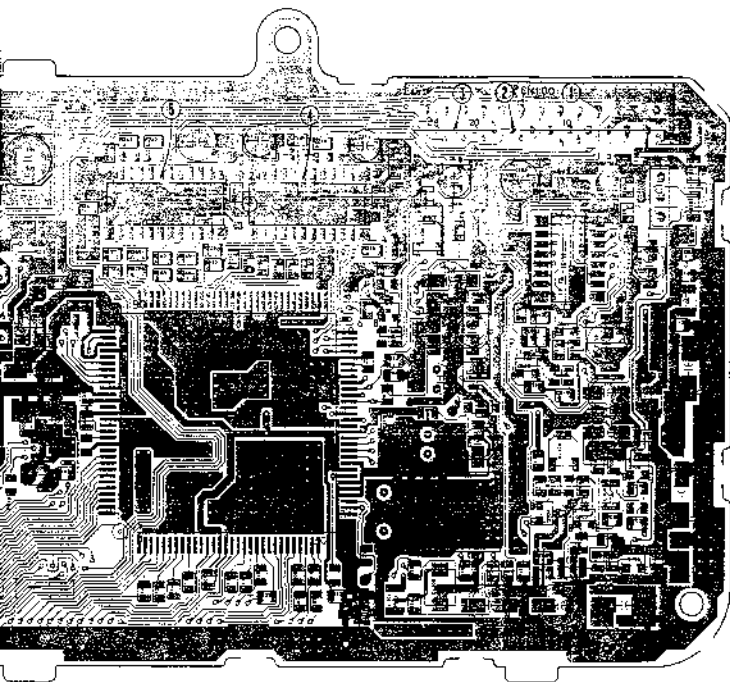
Q110 18  
 Q151 14C  
 Q200 04  
 Q301 13  
 Q410 22  
 Q500 7  
 Q600 12  
 Q901 14

IC100 24D  
 IC150 07C  
 IC200 3B  
 IC250 5F  
 IC300 7F  
 IC400 4F  
 IC500 6G  
 IC501 04  
 IC502 1S  
 IC503 02  
 IC700 9S  
 IC750 8A  
 IF900 2  
 IC900 14  
 IC901 4  
 IC950 43  
 IC951 02

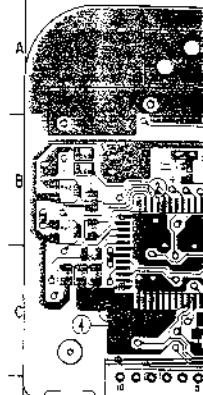
DI-51 BOARD (CONDUCTOR SIDE)



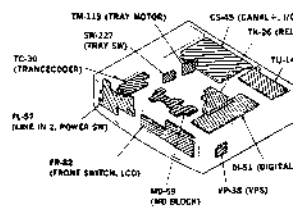
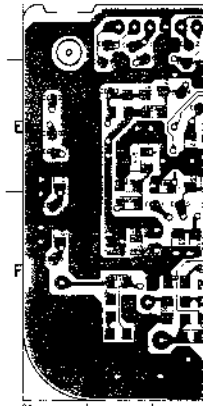
Q150 10B  
 Q151 14B  
 Q154 7D  
 Q155 08  
 Q200 C4  
 Q201 19  
 Q203 16  
 Q250 5  
 Q251 15  
 Q252 15  
 Q253 7  
 Q254 10  
 Q255 17  
 Q260 03  
 Q300 04  
 Q301 5  
 Q311 19  
 Q371 15  
 Q372 15  
 Q600 F7  
 Q601 11  
 Q700 D10  
 Q701 10  
 Q702 10  
 Q703 10  
 Q704 D10  
 Q750 10  
 Q751 H10  
 Q752 H10  
 Q753 G10  
 Q754 H10  
 Q755 H10  
 Q756 H10  
 Q757 H10  
 L900 C10  
 Q901 C10

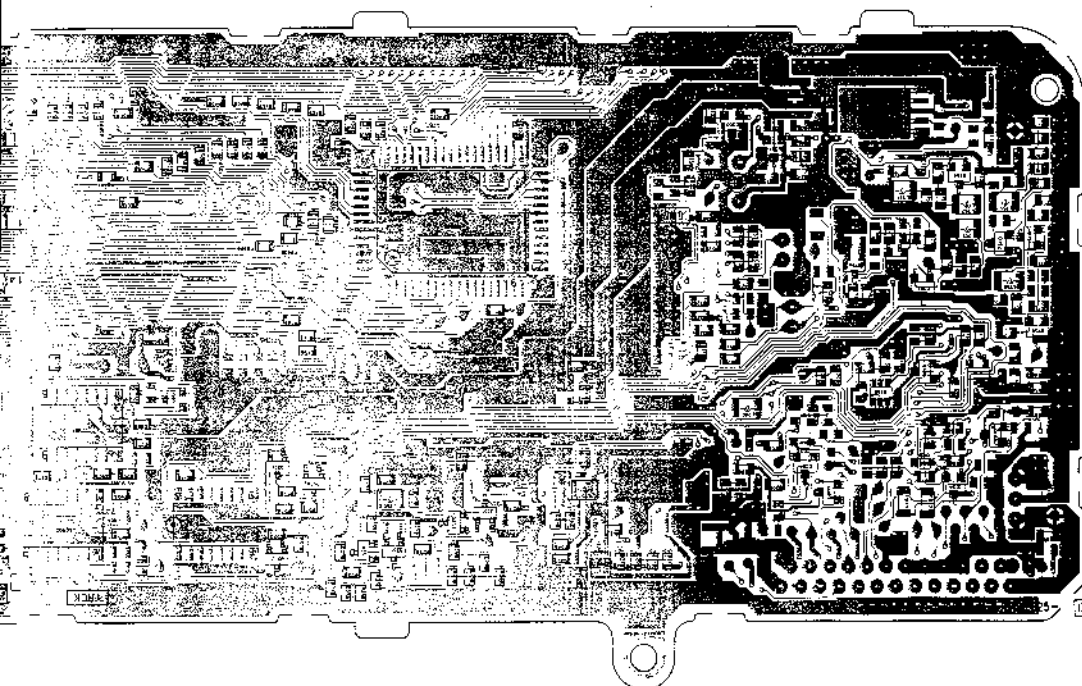
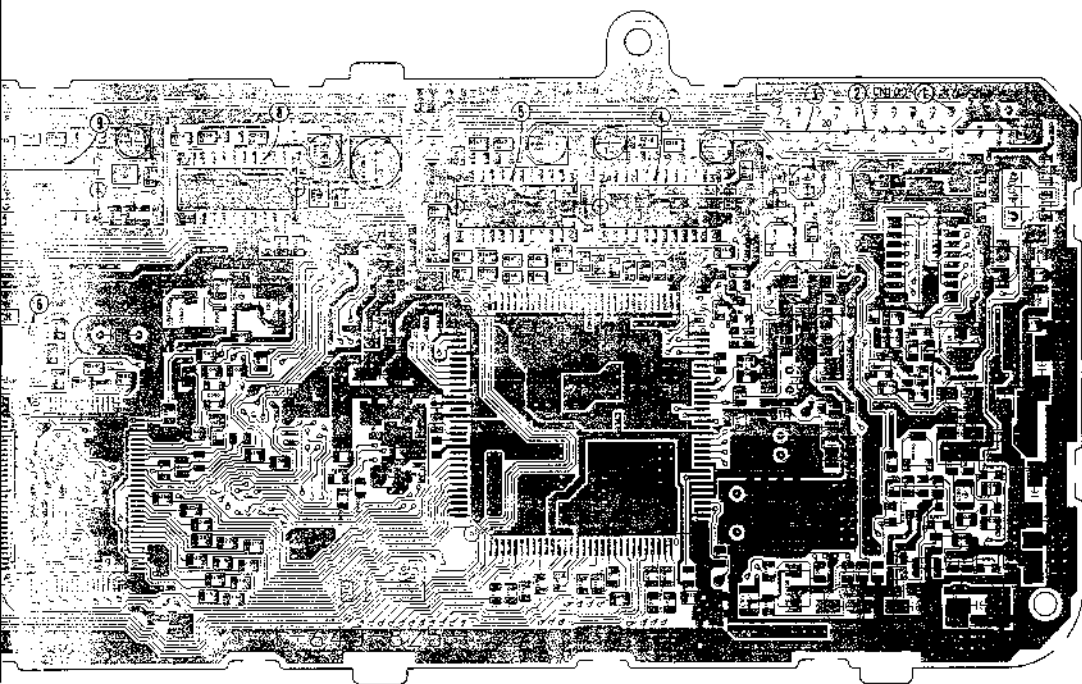


WC-10 BOARD (CONT)



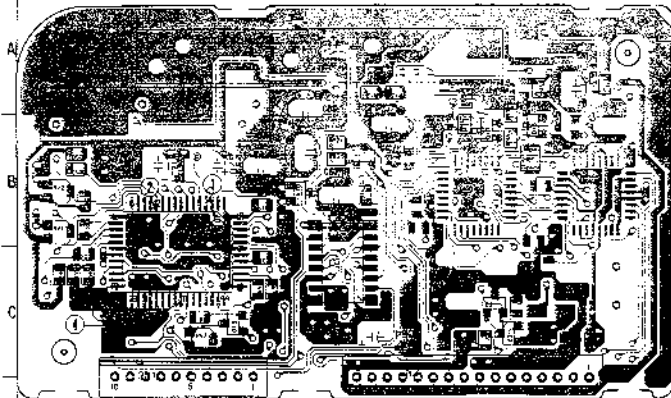
WC-10 BOARD (CONT)





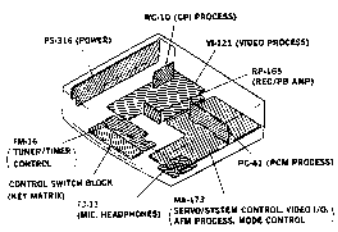
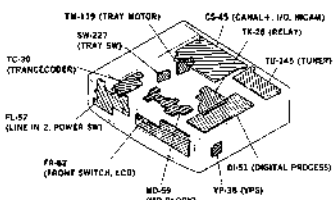
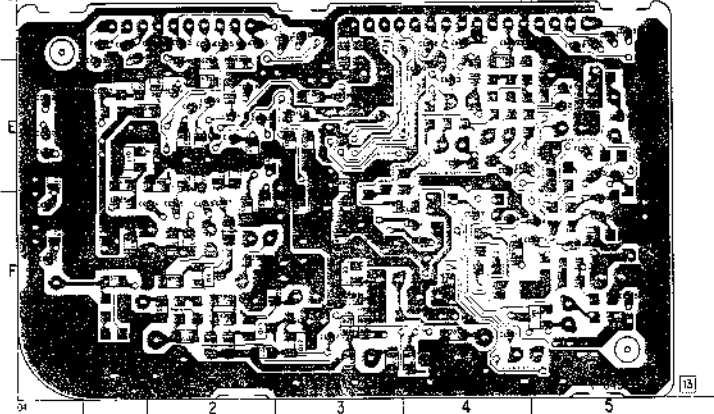
4 5 6 7 8 9 10

WC-10 BOARD (COMPONENT SIDE)



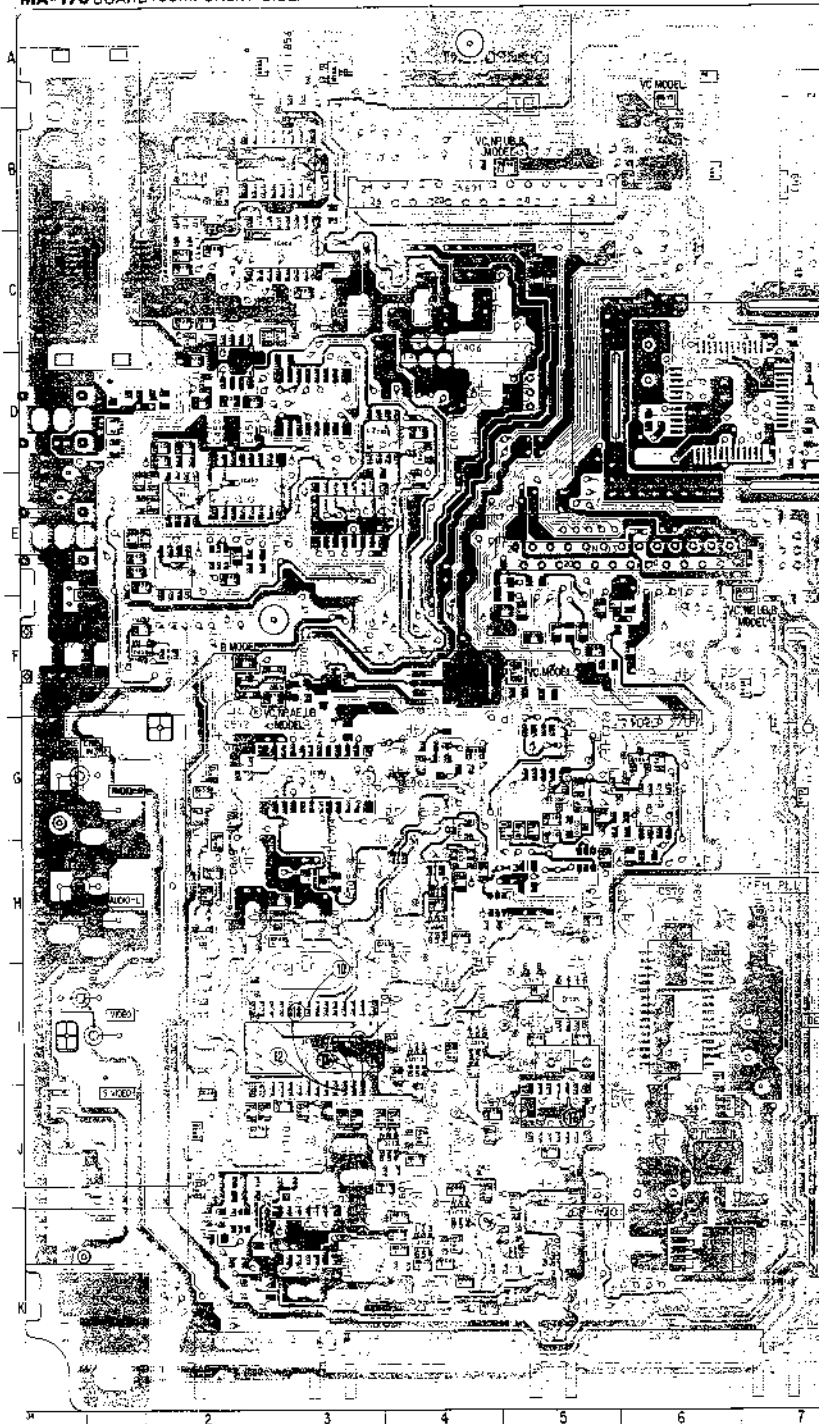
WC10	30A40
CR06	C1
CR02	E4
SR01	B-2
CR01	C3
SR03	E-2
CR01	C-4
CR03	E-4
CR06	F-5
CR05	F-3
CR06	F-2
CR11	C-1
CR11	F-1
CR14	E-3
CR17	B-4
CR18	B-5

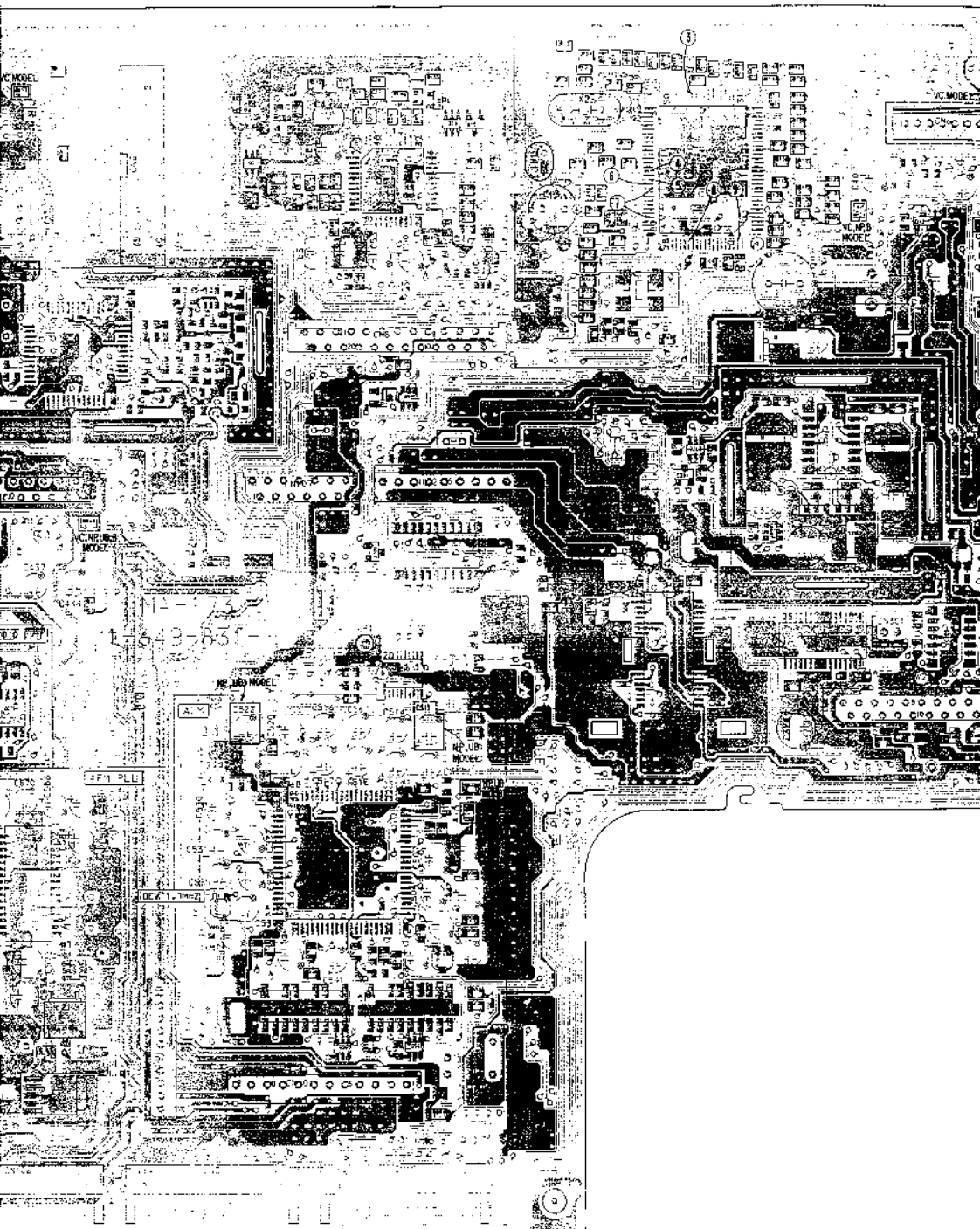
WC-10 BOARD (CONDUCTOR SIDE)



MA-173 (SERVO/SYSTEM CONTROL) PRINTED WIRING BOARD  
—Ref No. MA-173 BOARD, 3608 series—

**MA-173 BOARD (COMPONENT SIDE)**



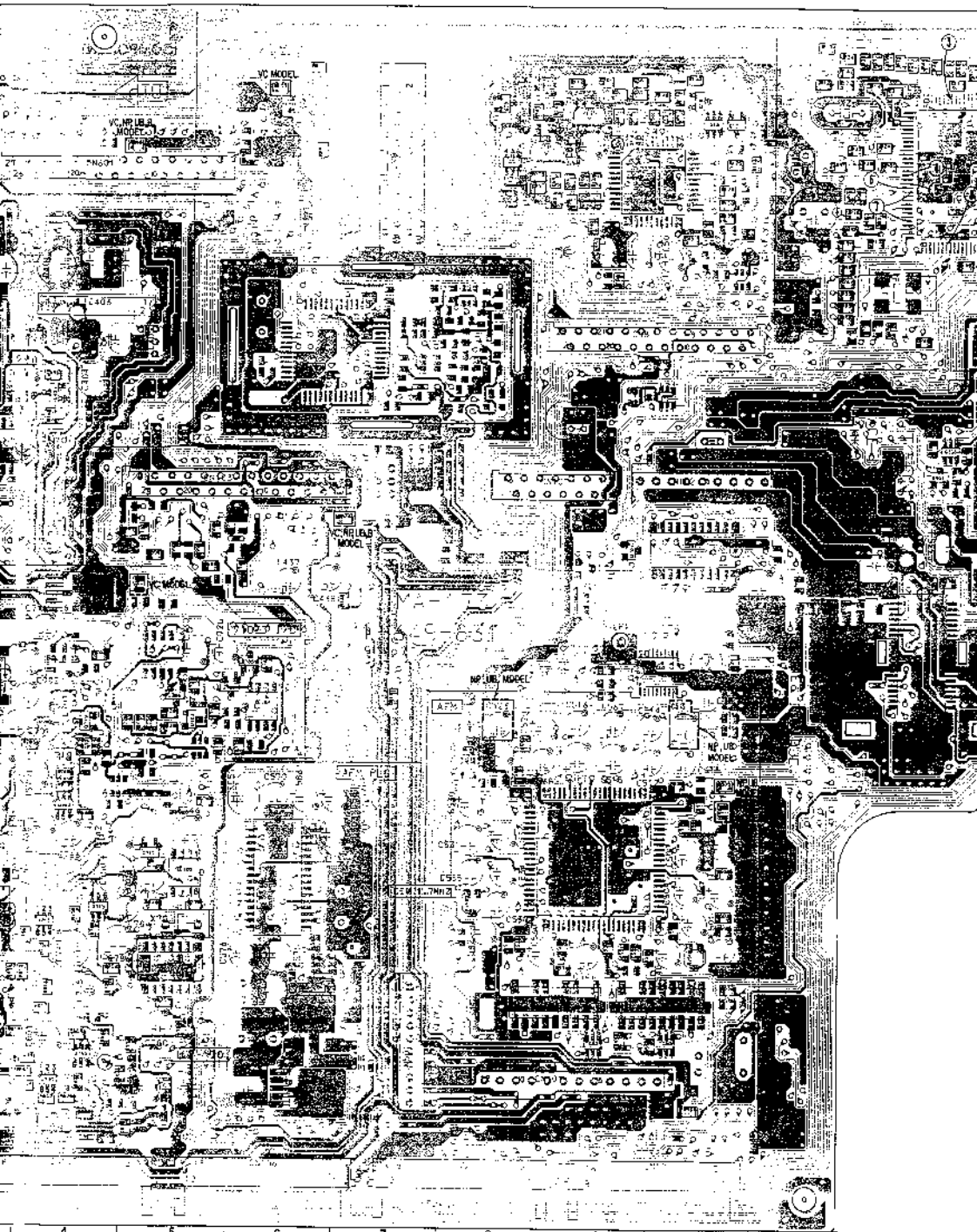


1-640-831

NO. 100 MODEL

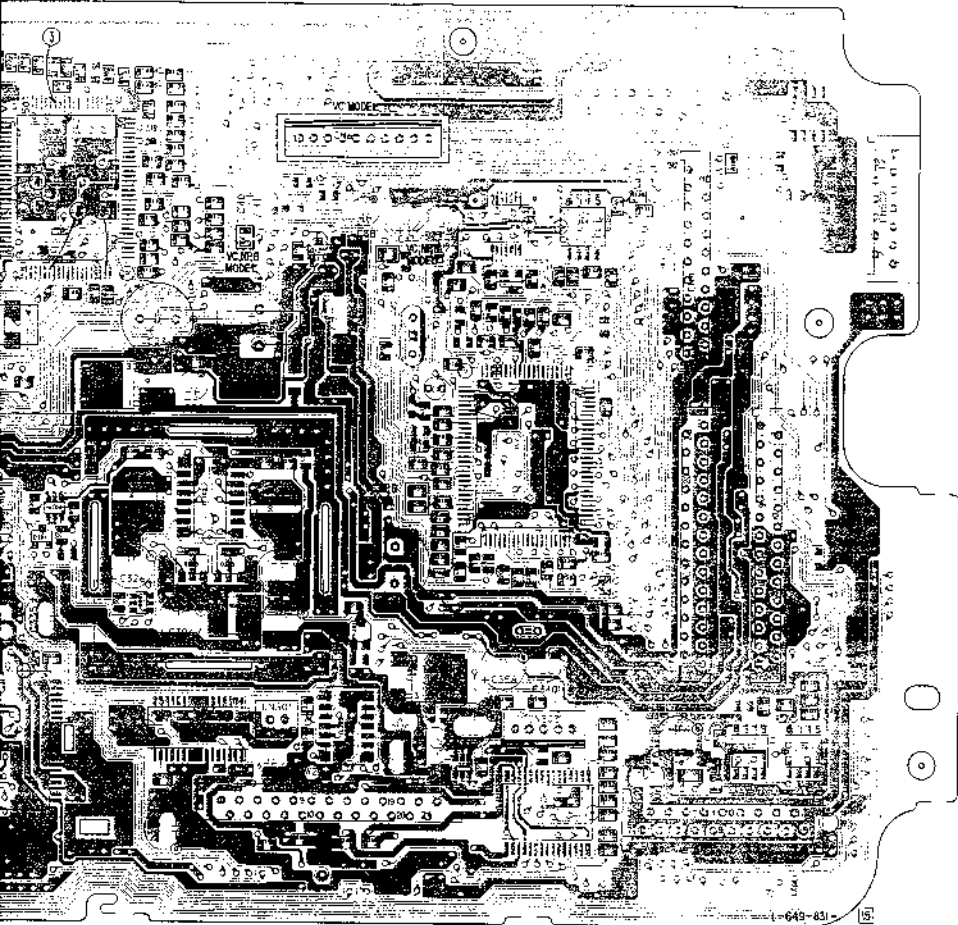
A-V

DEC 1, 1942

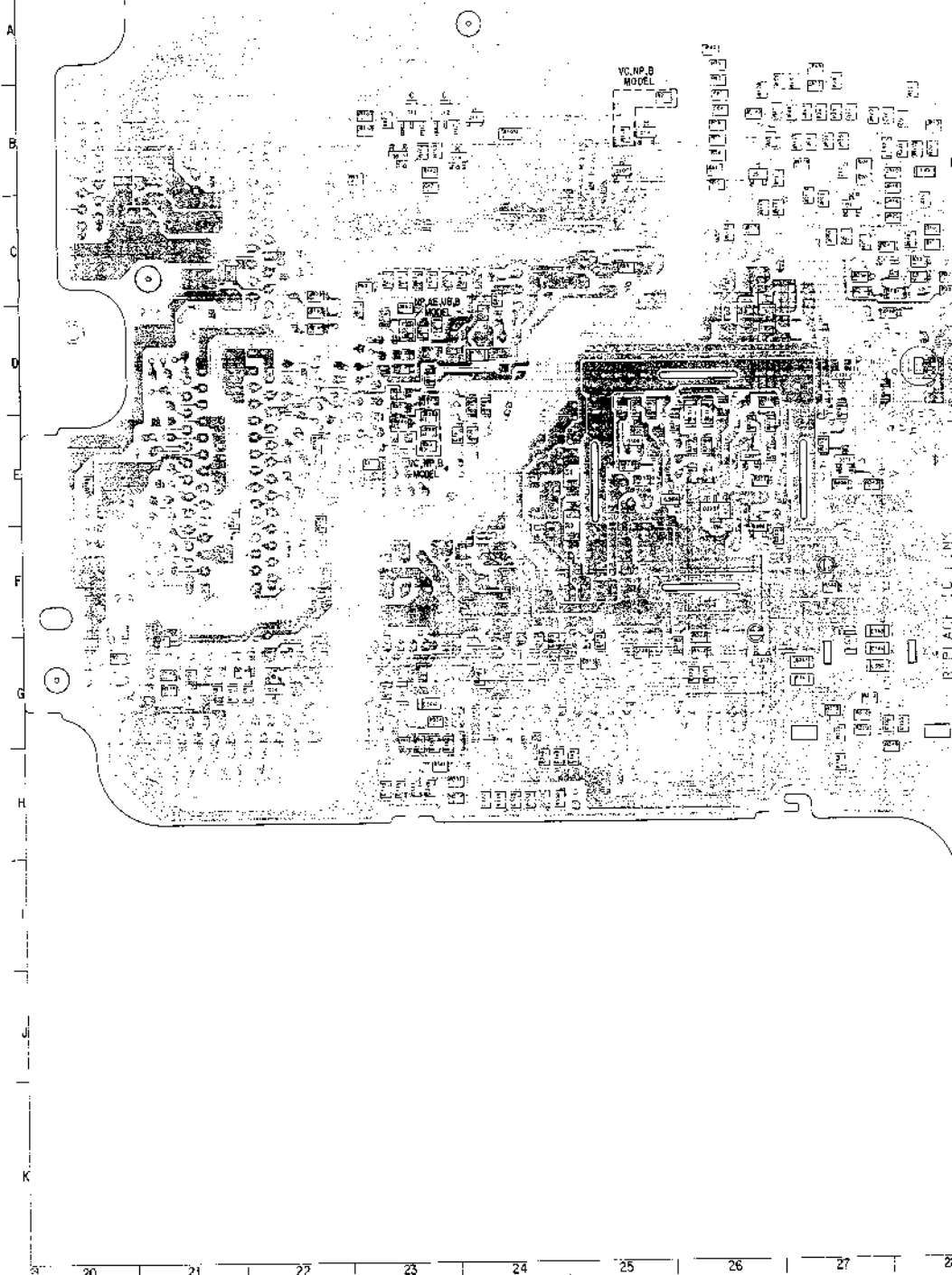


1 4 5 6 7 8 9 10 11 12

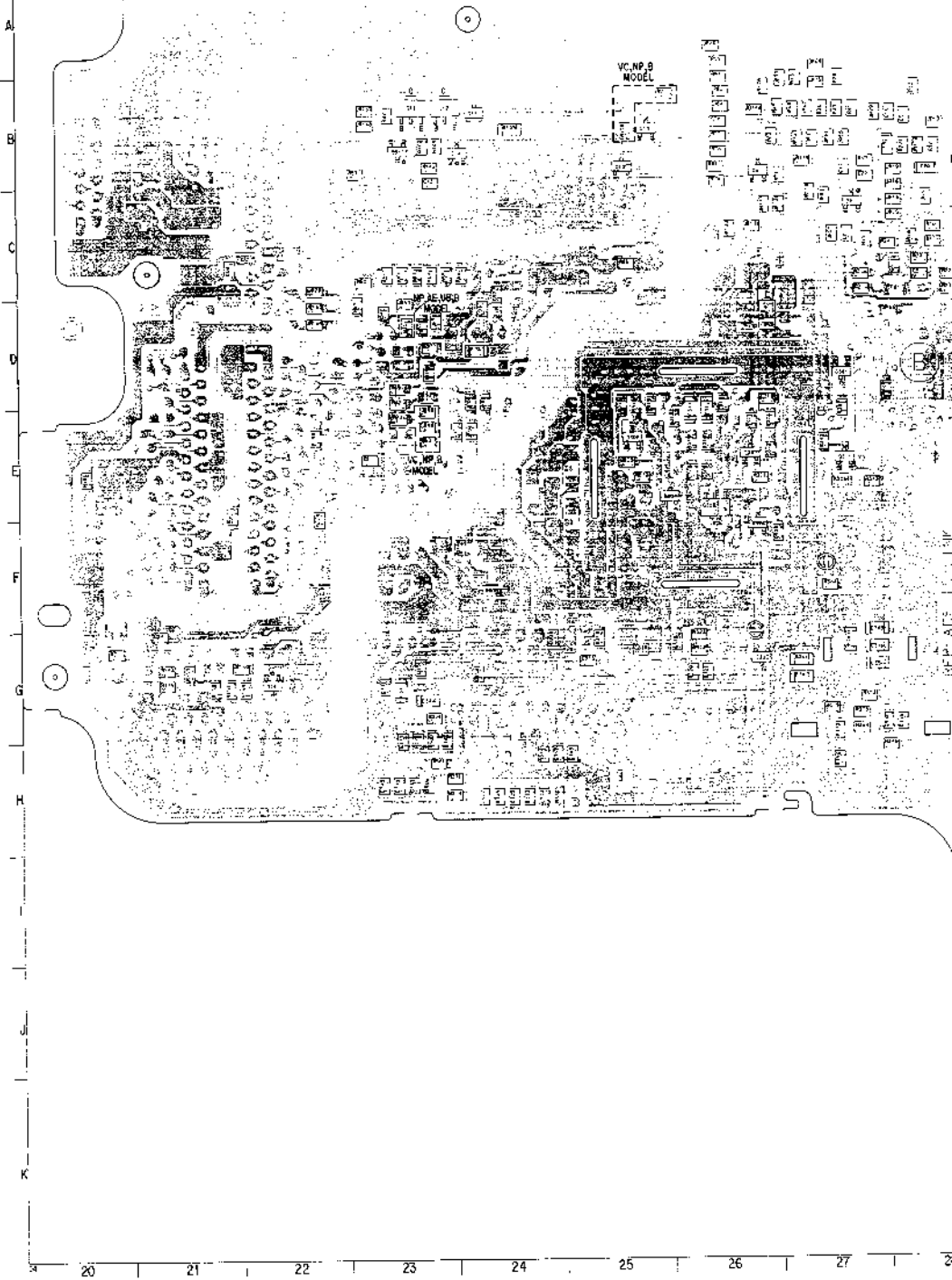




MA-173 BOARD (CONDUCTOR SIDE)

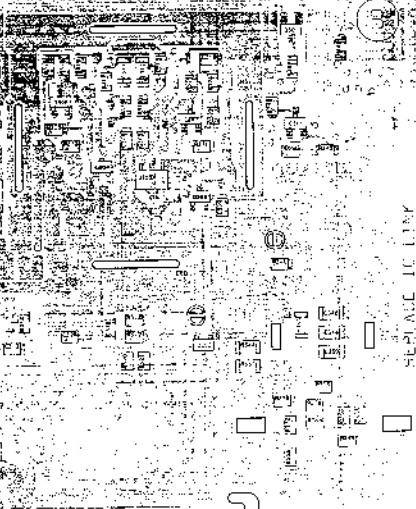


MA-173 BOARD (CONDUCTOR SIDE)



REPLACEMENT

VC, NP, UB MODEL



REPLACE IC LIFT  
AS SHOWN.

CAUTION:

REPLACEMENT OF IC LINK

REPLACEMENT OF IC LINK

REPLACEMENT OF IC LINK



VC, NP, UB MODEL

173

649-83

NP, UB MODEL

NP, UB MODEL



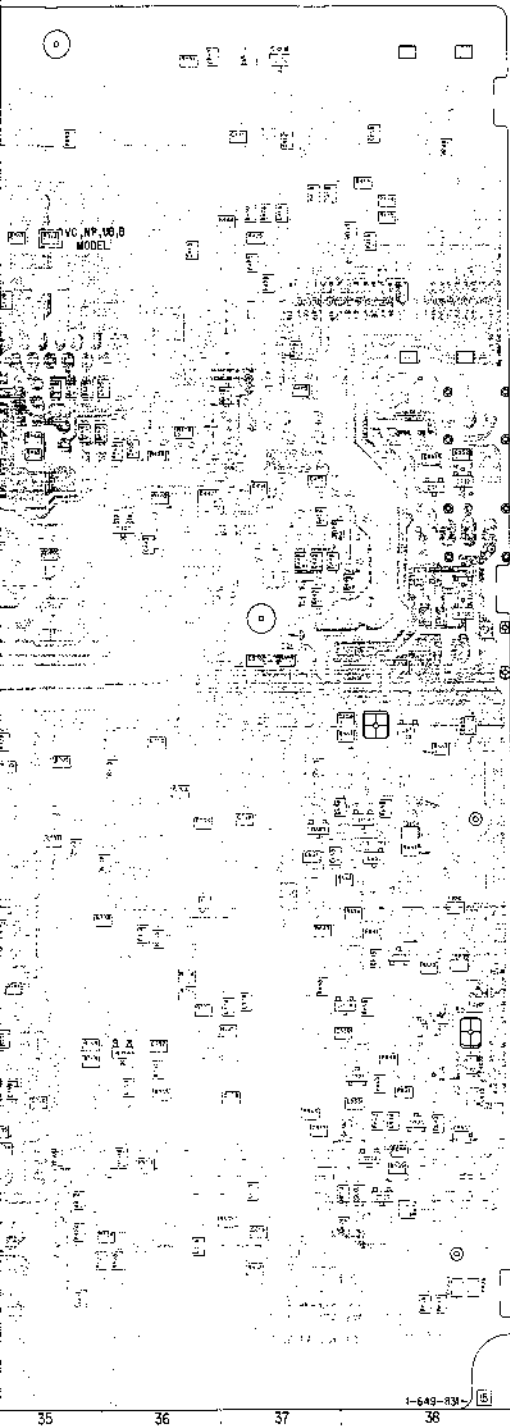
REPLACE IN LINE  
AS PARTS

ATTENTION

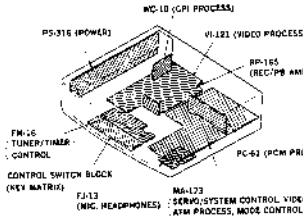
NP, UB  
MODEL

NP, UB  
MODEL

VC, NP, UB, S MODEL



MA-121 BOARD		
CA001	116	1E504 R 20
CA002	118	1E701 R 4
CA004	218	1E703 R 15
CA001	118	1E704 R 6
CA005	115	1E705 R 13
CA006	119	1E706 R 25
CA008	118	1E707 R 3
CA010	119	1E708 R 4
CA011	118	1E709 R 4
CA012	119	1E710 R 6
CA013	118	1E711 R 10
CA014	119	1E712 R 10
CA015	118	1E713 R 10
CA016	119	1E714 R 10
CA017	118	1E715 R 10
CA018	119	1E716 R 10
CA019	118	1E717 R 10
CA020	119	1E718 R 10
CA021	118	1E719 R 10
CA022	119	1E720 R 10
CA023	118	1E721 R 10
CA024	119	1E722 R 10
CA025	118	1E723 R 10
CA026	119	1E724 R 10
CA027	118	1E725 R 10
CA028	119	1E726 R 10
CA029	118	1E727 R 10
CA030	119	1E728 R 10
CA031	118	1E729 R 10
CA032	119	1E730 R 10
CA033	118	1E731 R 10
CA034	119	1E732 R 10
CA035	118	1E733 R 10
CA036	119	1E734 R 10
CA037	118	1E735 R 10
CA038	119	1E736 R 10
CA039	118	1E737 R 10
CA040	119	1E738 R 10
CA041	118	1E739 R 10
CA042	119	1E740 R 10
CA043	118	1E741 R 10
CA044	119	1E742 R 10
CA045	118	1E743 R 10
CA046	119	1E744 R 10
CA047	118	1E745 R 10
CA048	119	1E746 R 10
CA049	118	1E747 R 10
CA050	119	1E748 R 10
CA051	118	1E749 R 10
CA052	119	1E750 R 10
CA053	118	1E751 R 10
CA054	119	1E752 R 10
CA055	118	1E753 R 10
CA056	119	1E754 R 10
CA057	118	1E755 R 10
CA058	119	1E756 R 10
CA059	118	1E757 R 10
CA060	119	1E758 R 10
CA061	118	1E759 R 10
CA062	119	1E760 R 10
CA063	118	1E761 R 10
CA064	119	1E762 R 10
CA065	118	1E763 R 10
CA066	119	1E764 R 10
CA067	118	1E765 R 10
CA068	119	1E766 R 10
CA069	118	1E767 R 10
CA070	119	1E768 R 10
CA071	118	1E769 R 10
CA072	119	1E770 R 10
CA073	118	1E771 R 10
CA074	119	1E772 R 10
CA075	118	1E773 R 10
CA076	119	1E774 R 10
CA077	118	1E775 R 10
CA078	119	1E776 R 10
CA079	118	1E777 R 10
CA080	119	1E778 R 10
CA081	118	1E779 R 10
CA082	119	1E780 R 10
CA083	118	1E781 R 10
CA084	119	1E782 R 10
CA085	118	1E783 R 10
CA086	119	1E784 R 10
CA087	118	1E785 R 10
CA088	119	1E786 R 10
CA089	118	1E787 R 10
CA090	119	1E788 R 10
CA091	118	1E789 R 10
CA092	119	1E790 R 10
CA093	118	1E791 R 10
CA094	119	1E792 R 10
CA095	118	1E793 R 10
CA096	119	1E794 R 10
CA097	118	1E795 R 10
CA098	119	1E796 R 10
CA099	118	1E797 R 10
CA100	119	1E798 R 10
CA101	118	1E799 R 10
CA102	119	1E800 R 10

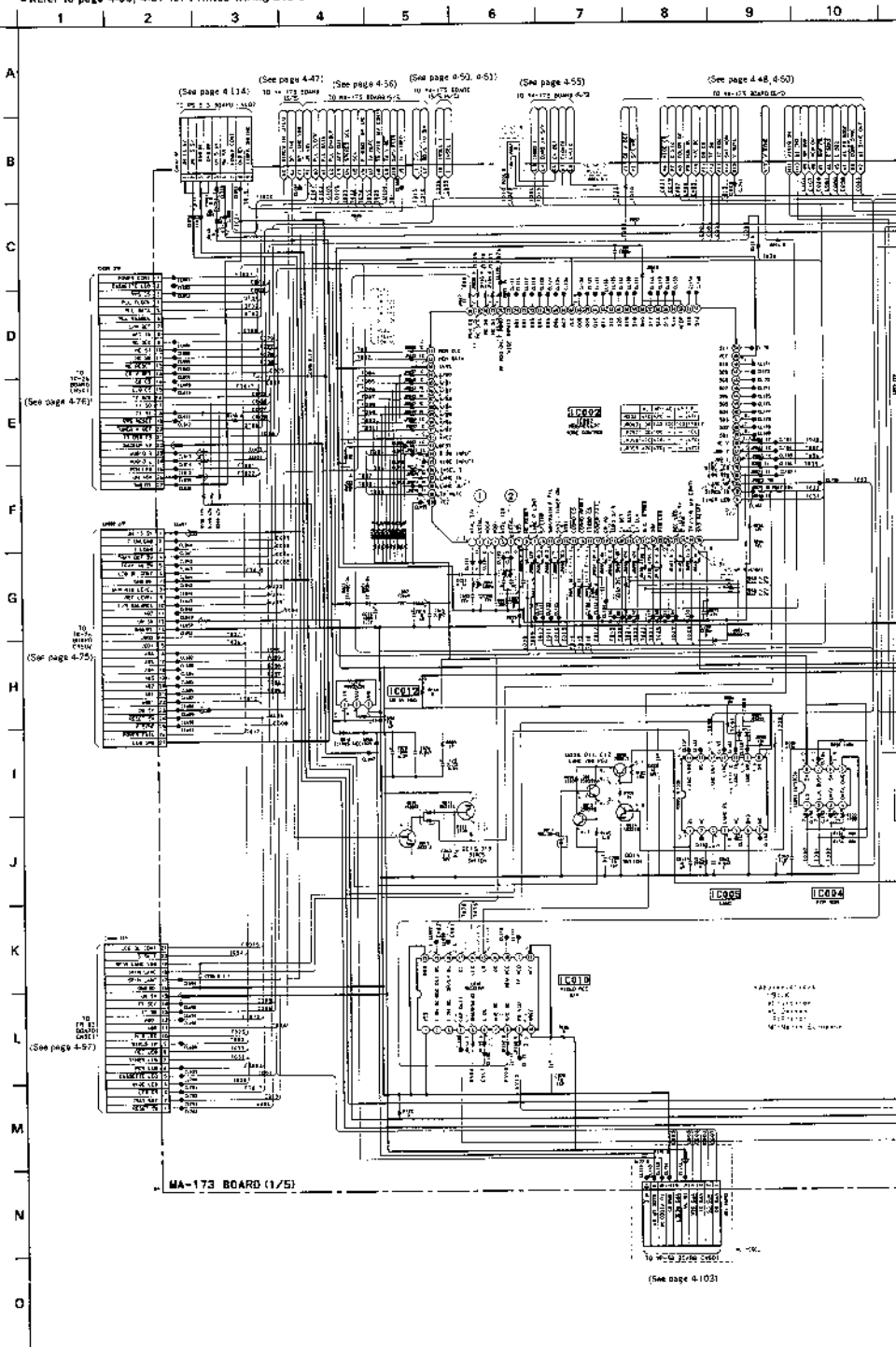


# EV-S9000E AE/B/NP/UB/VC

MA-173 (SERVO/SYSTEM CONTROL) SCHEMATIC DIAGRAM

—Ref. No. MA-173 BOARD - 3800 Series—

• Refer to page 4-33, 4-37 for Printed Wiring Board.



MA-173 BOARD (1/5)

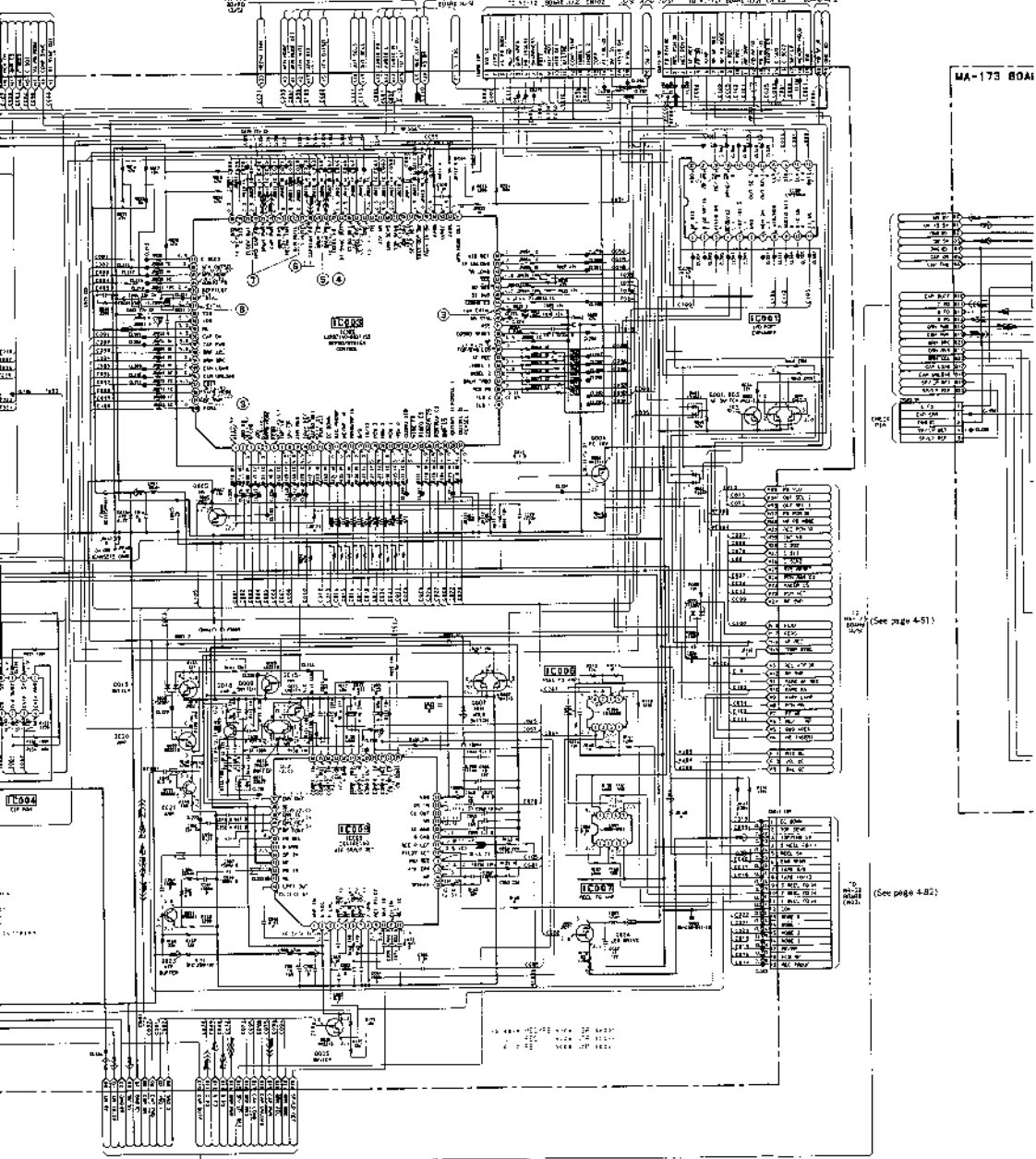
(See page 4-50)

(See page 4-51, 4-54)

(See page 4-19) (See page 4-50, 4-51, 4-55)

(See page 4-19)

(See page 4-53)



MA-173 B0A1

(See page 4-51)

(See page 4-52)



(See page 4-50)

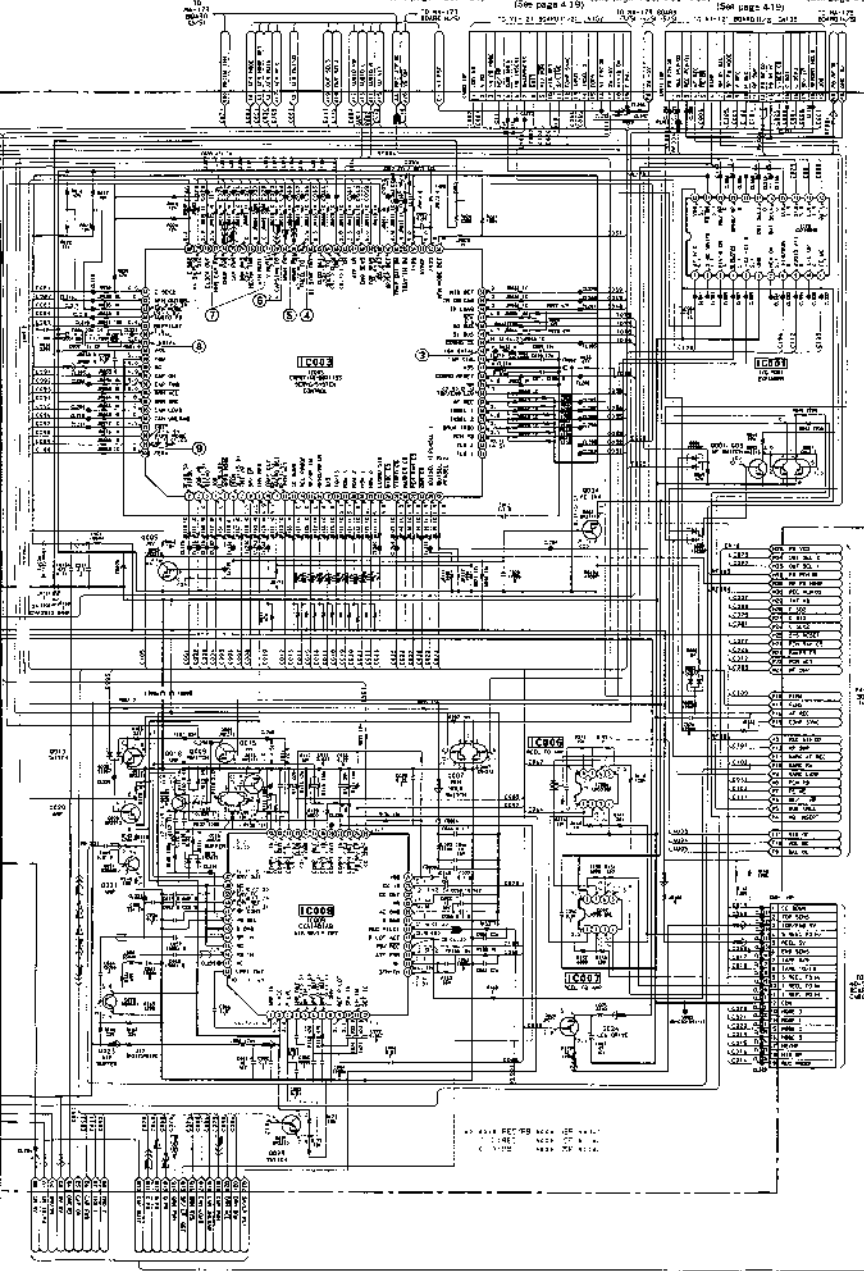
(See page 4-51, 4-54)

(See page 4-39)

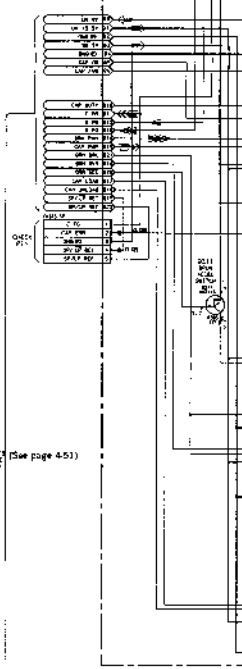
(See page 4-50, 4-51, 4-55)

(See page 4-19)

(See page 4-51)



MA-173 BOARD (2/5)



(See page 4-51)

(See page 4-52)

BOARD (2/5)

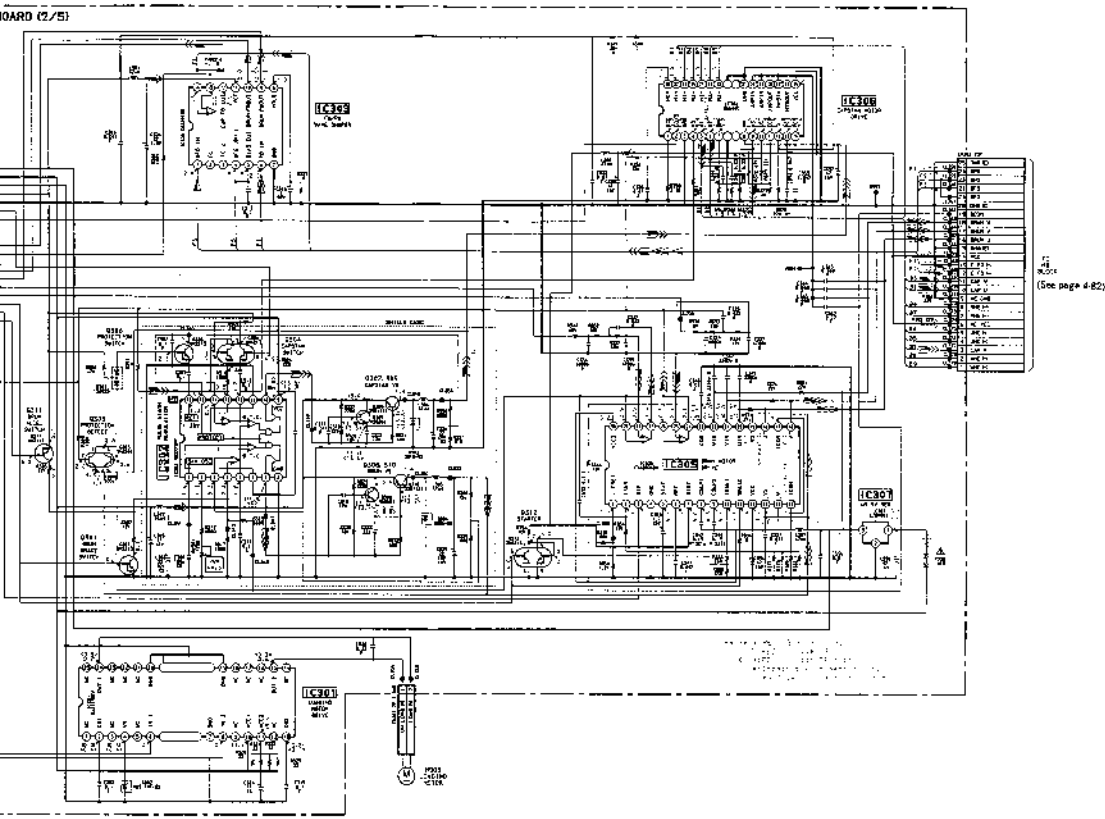
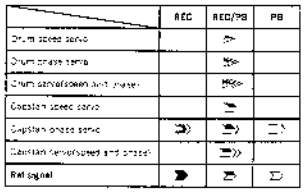


FIG. 3034 (See page 4-82)

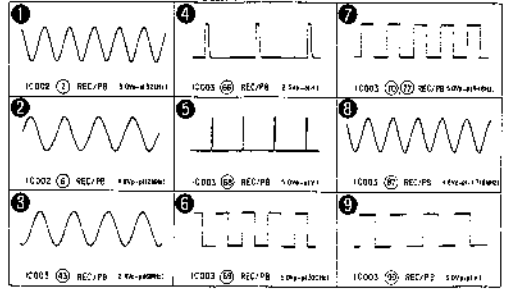
• Signal path



• Signal path

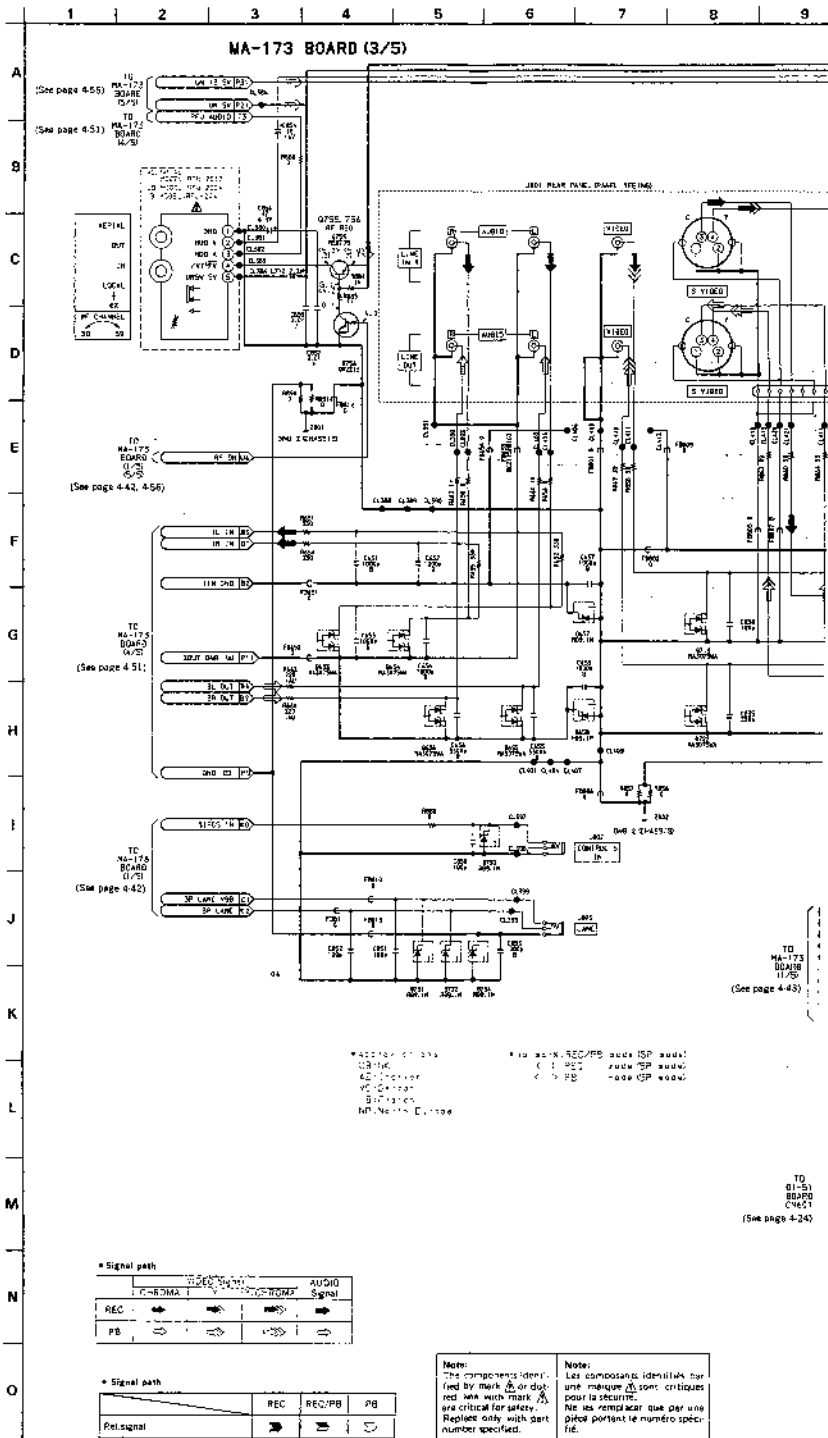


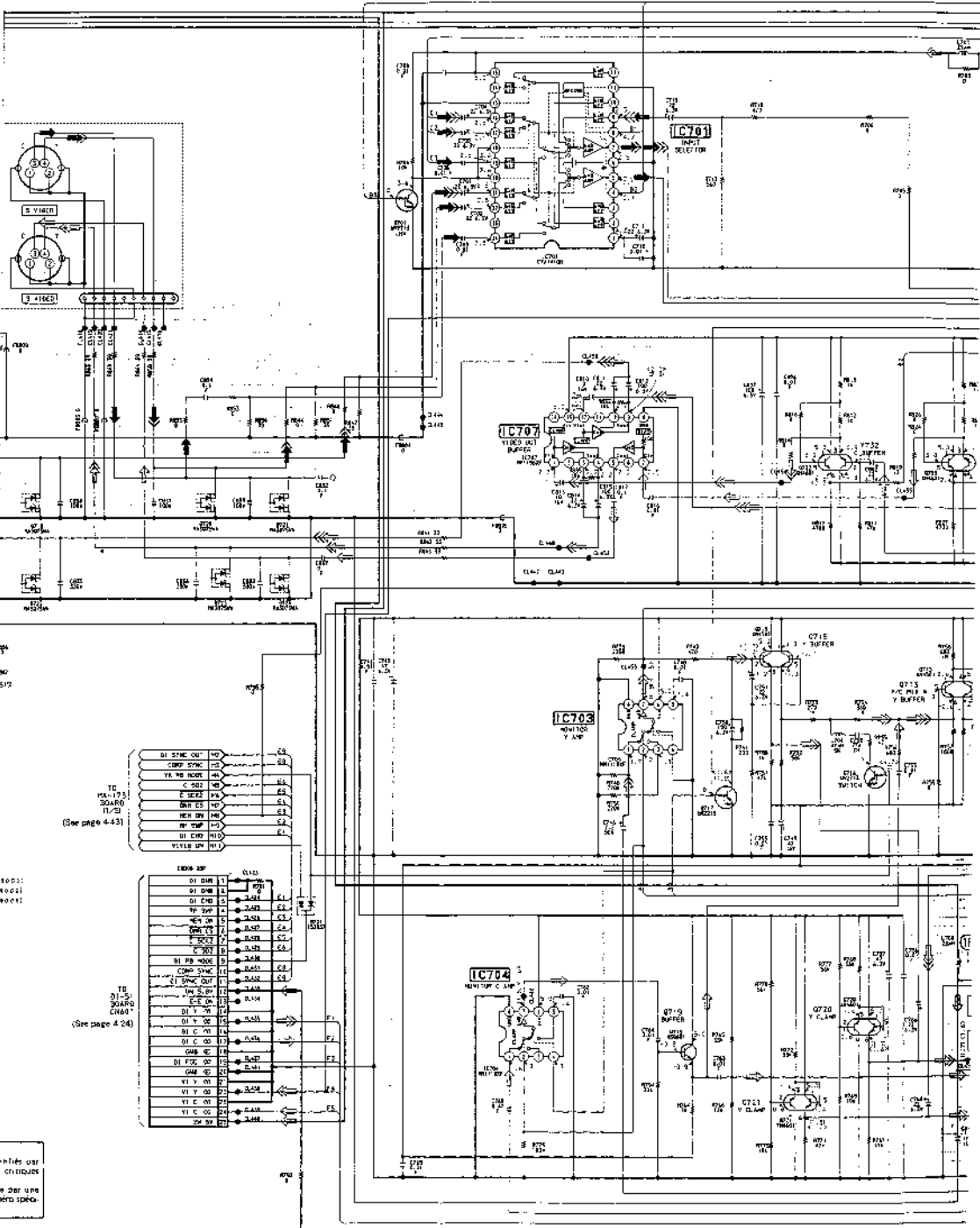
MA-173 BOARD (SERVO/SYSTEM CONTROL BLOCK)



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

Note: Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.





TB 15A-1751  
30480  
11-52  
(See page 4-43)

DI SYNC OUT	Y0	CG
COMP SYNC	Y1	CG
PA PB MODE	Y2	CG
C ADD	Y3	CG
Z DEFS	Y4	CG
DM ES	Y5	CG
HEB DR	Y6	CG
WE TRP	Y7	CG
DI CHD	Y8	CG
VYLSB DR	Y9	CG

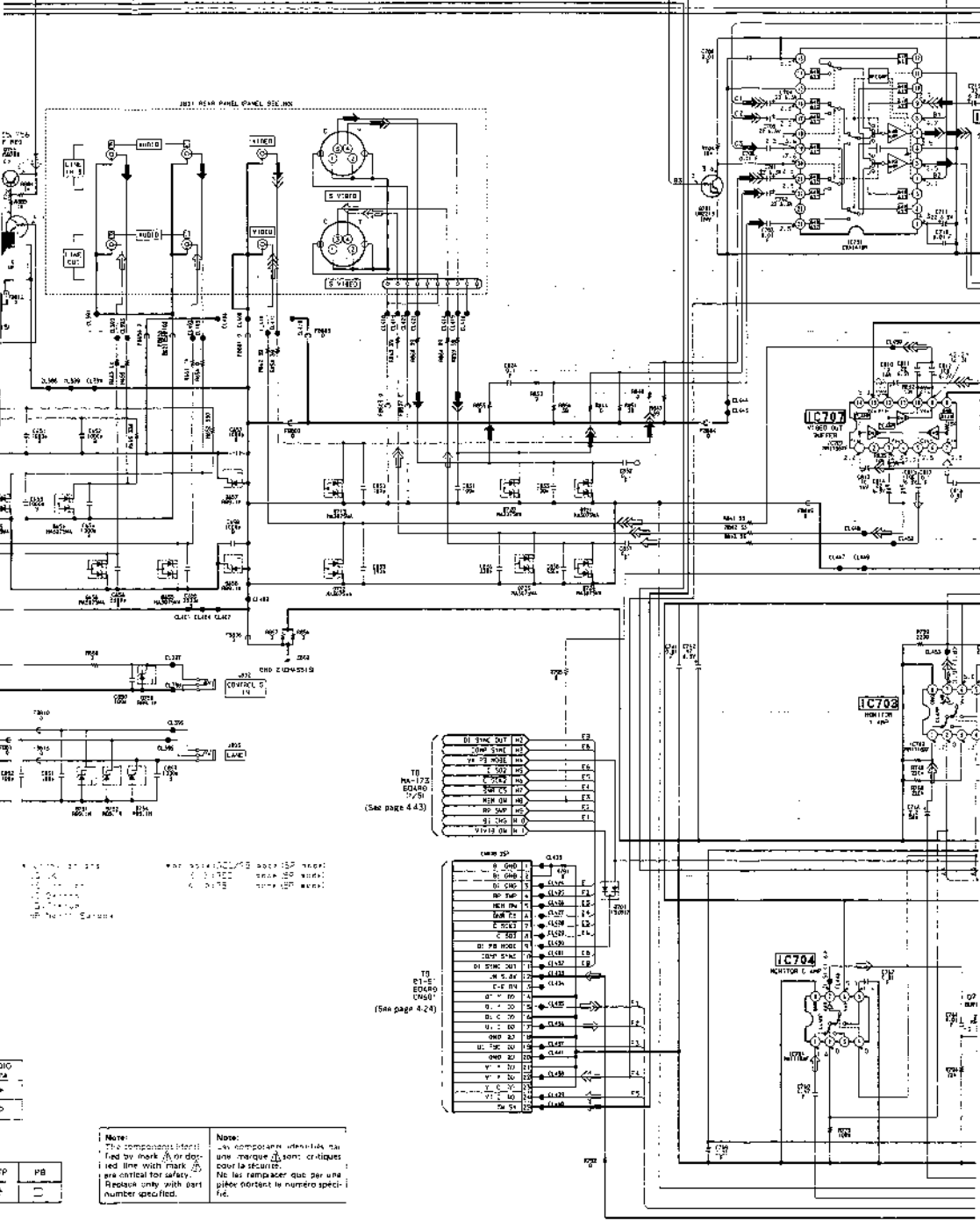
TB 15-51  
30480  
CM88  
(See page 4-26)

ENH SP	Y10	CG
DI DM 1	Y11	CG
DI DM 2	Y12	CG
DI DM 3	Y13	CG
DI DM 4	Y14	CG
EN DR 5	Y15	CG
C ADD 6	Y16	CG
DM ES 7	Y17	CG
Z DEFS 8	Y18	CG
C 9	Y19	CG
DI PB MODE 9	Y20	CG
COMP SYNC 10	Y21	CG
DI SYNC TR 11	Y22	CG
WE TRP 12	Y23	CG
DI CHD 13	Y24	CG
VYLSB DR 14	Y25	CG
DI Y 15	Y26	CG
DI Y 16	Y27	CG
DI Y 17	Y28	CG
DI C 18	Y29	CG
DM ES 19	Y30	CG
DI FG 20	Y31	CG
DM ES 21	Y32	CG
VI Y 22	Y33	CG
VI Y 23	Y34	CG
VI C 24	Y35	CG
DM SW 25	Y36	CG

5023:  
5062:  
5065:

ten files car  
ne critiques  
sur par une  
après info-

LRD (3/5)

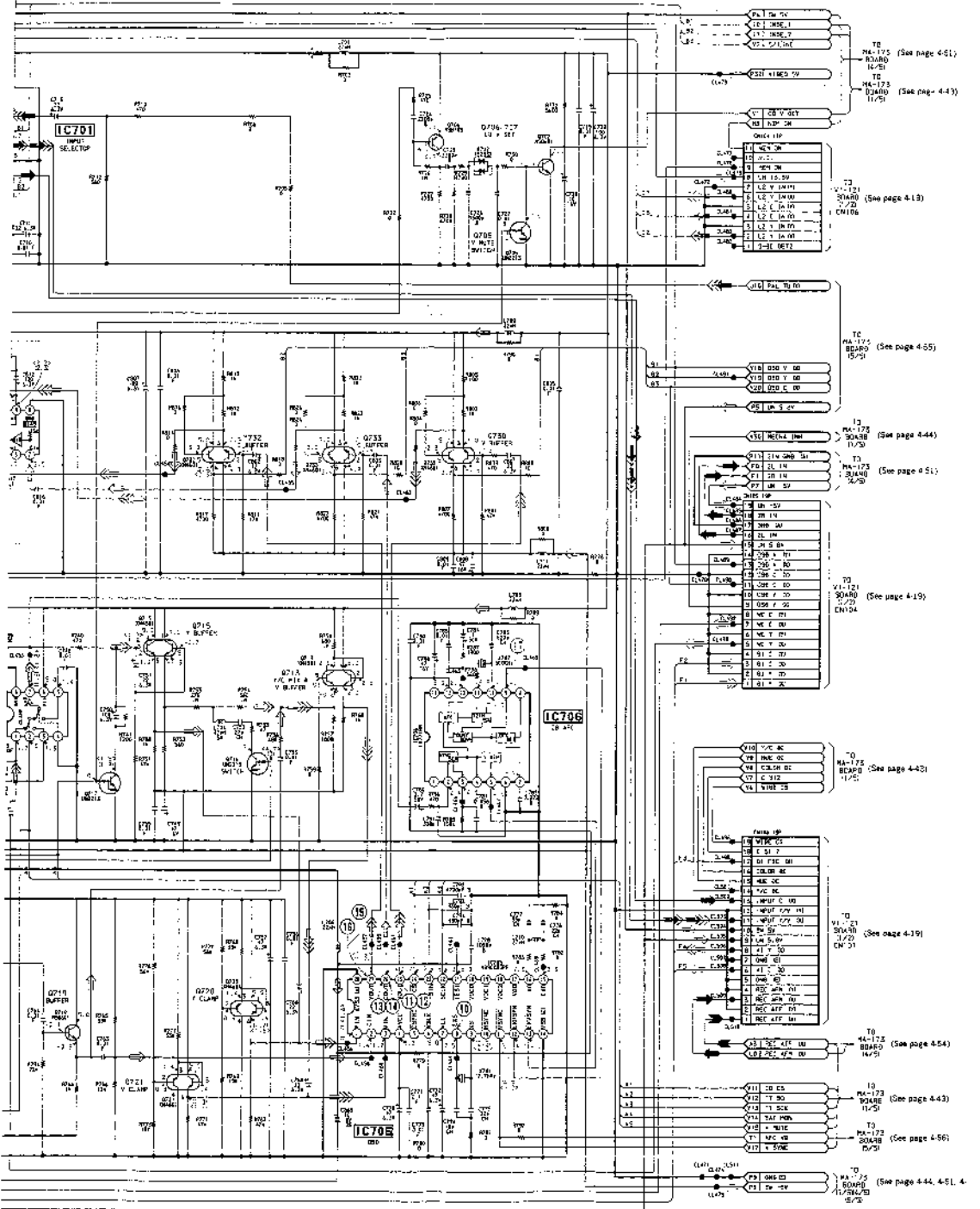


Note: The components identified by a red line with mark are critical for safety. Reseal only with part number specified.

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

JDIO 824

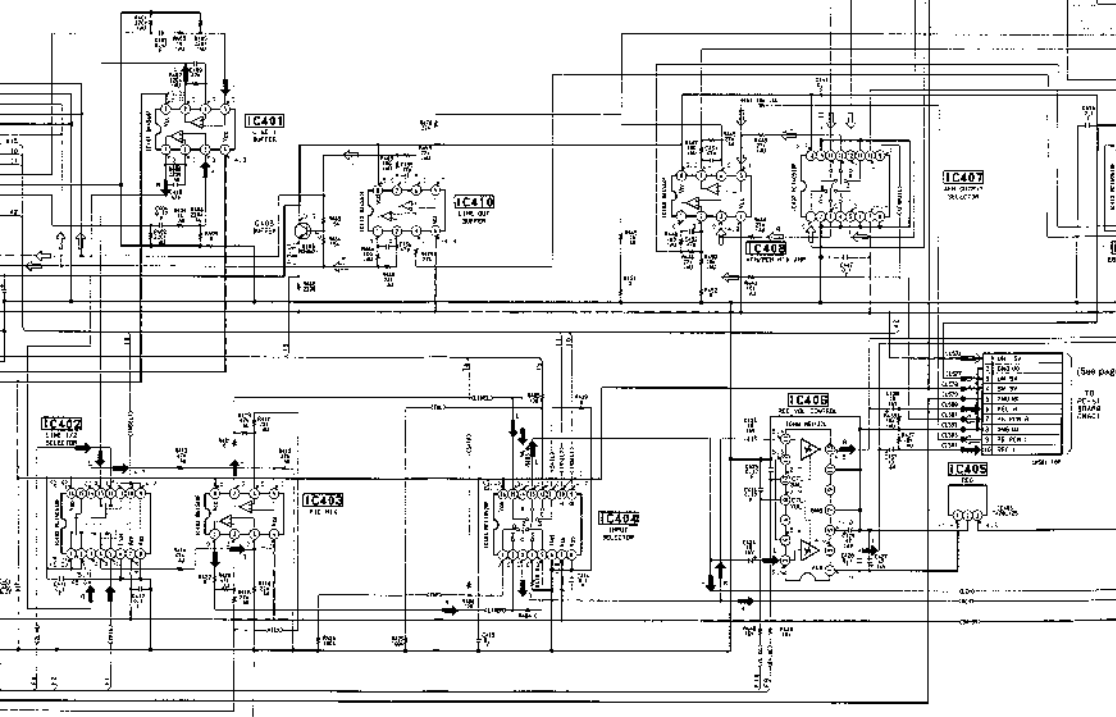
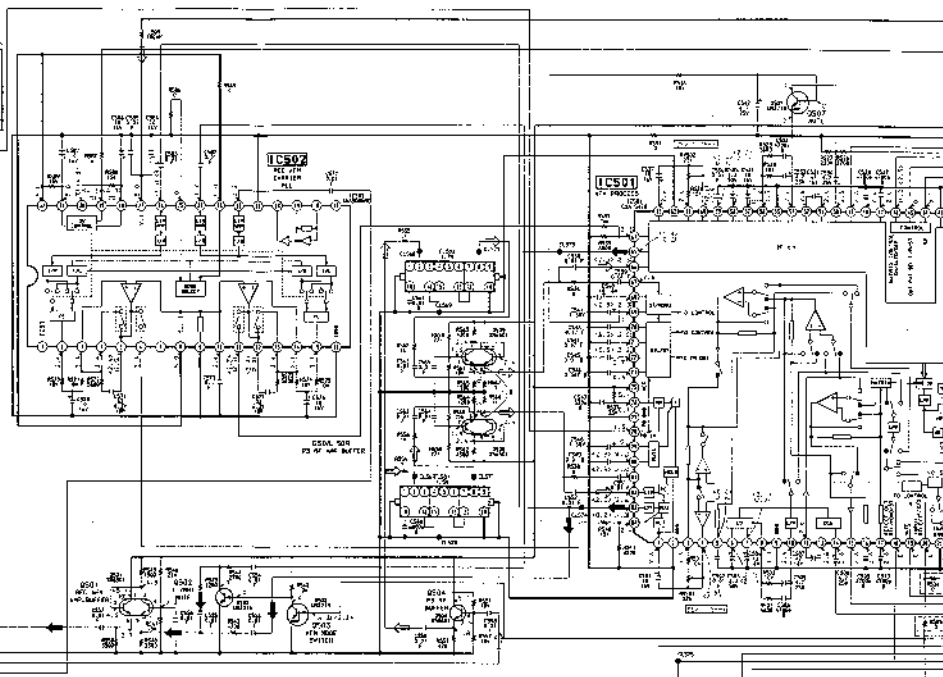
C/P	PB





51  
0-731

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

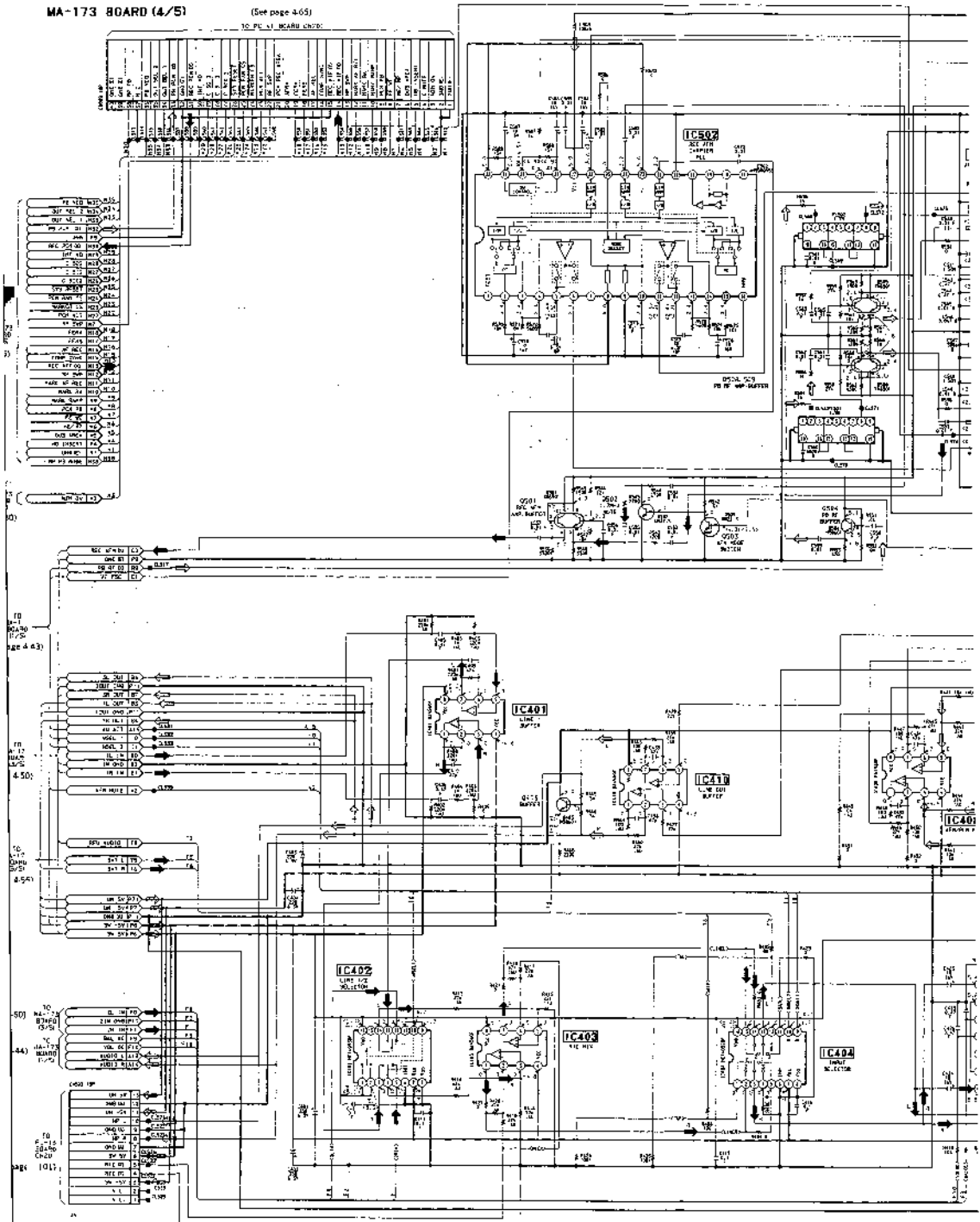
(See page 4-53)

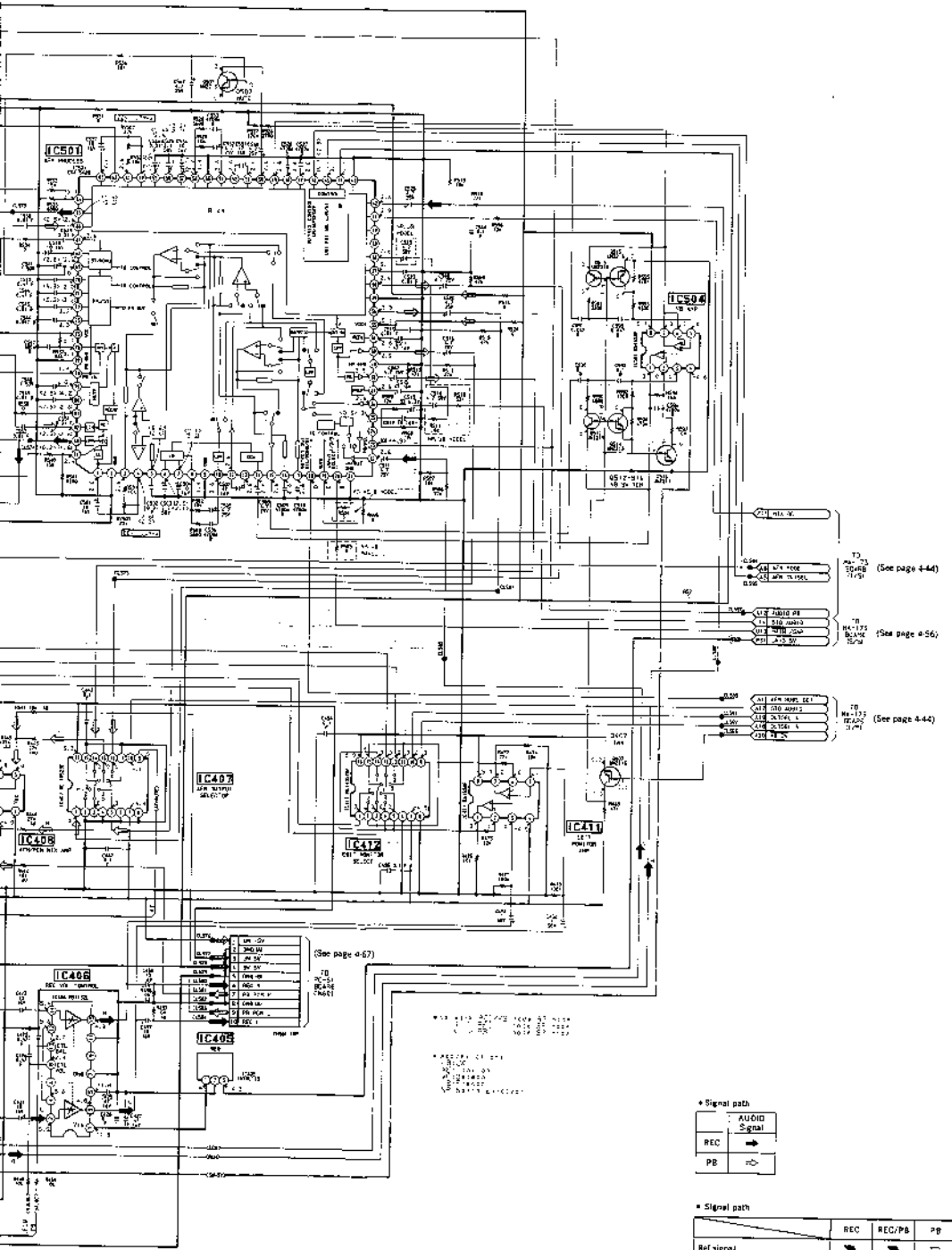


MA-173 BOARD (4/5)

(See page 4-65)

10-PL-11 BOARD UNIT



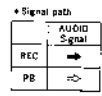


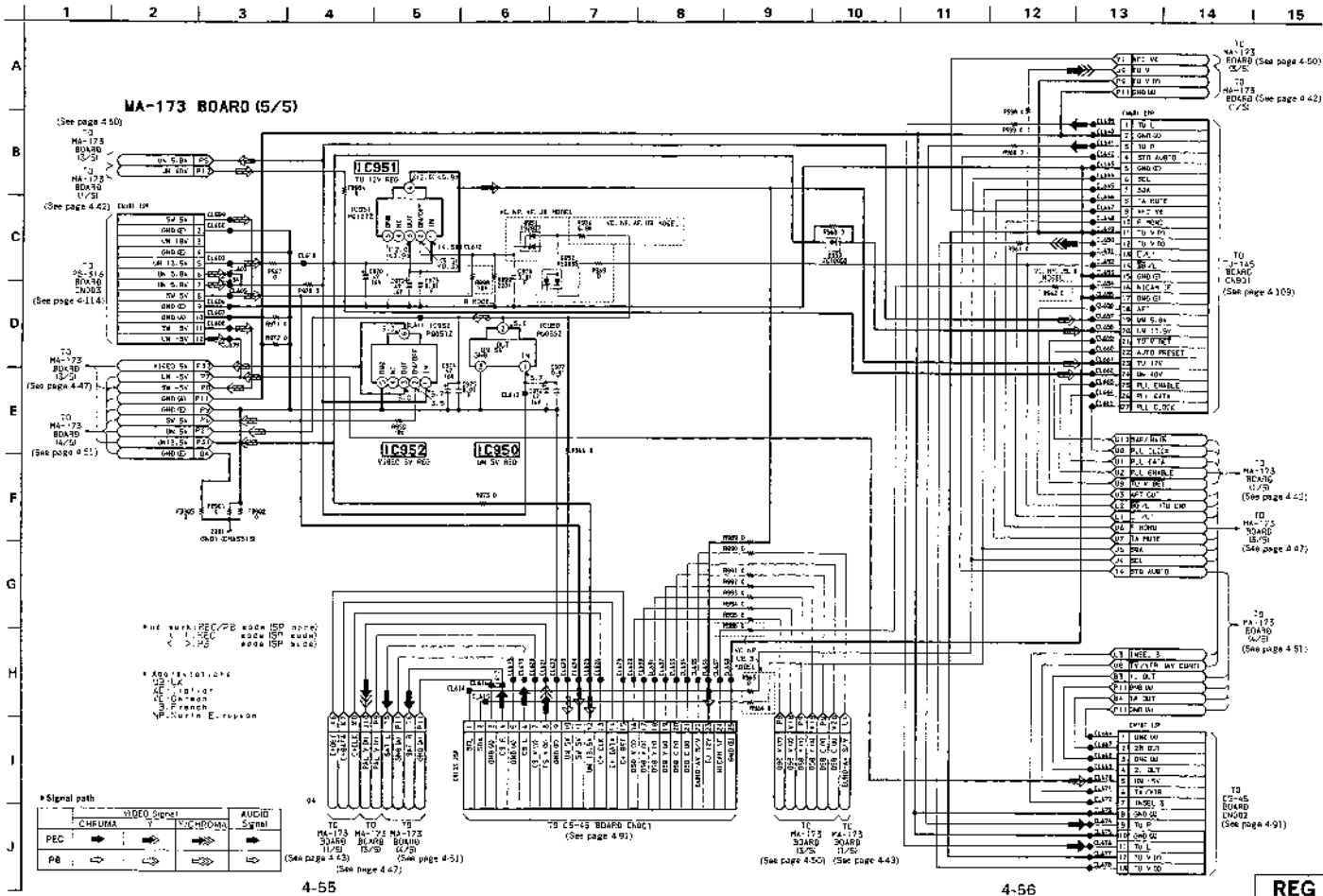
(See page 4-44)

(See page 4-56)

(See page 4-44)

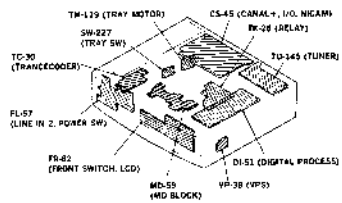
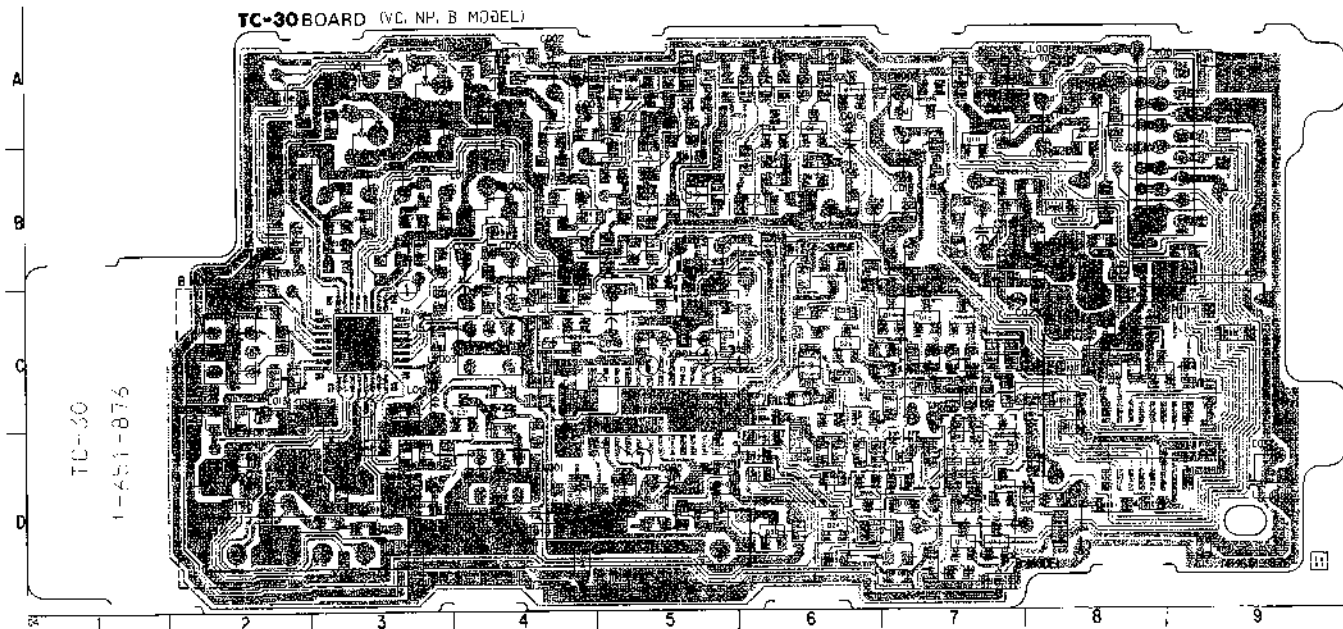
(See page 4-67)





# EV-S9000E AE/B/NP/UB/VC

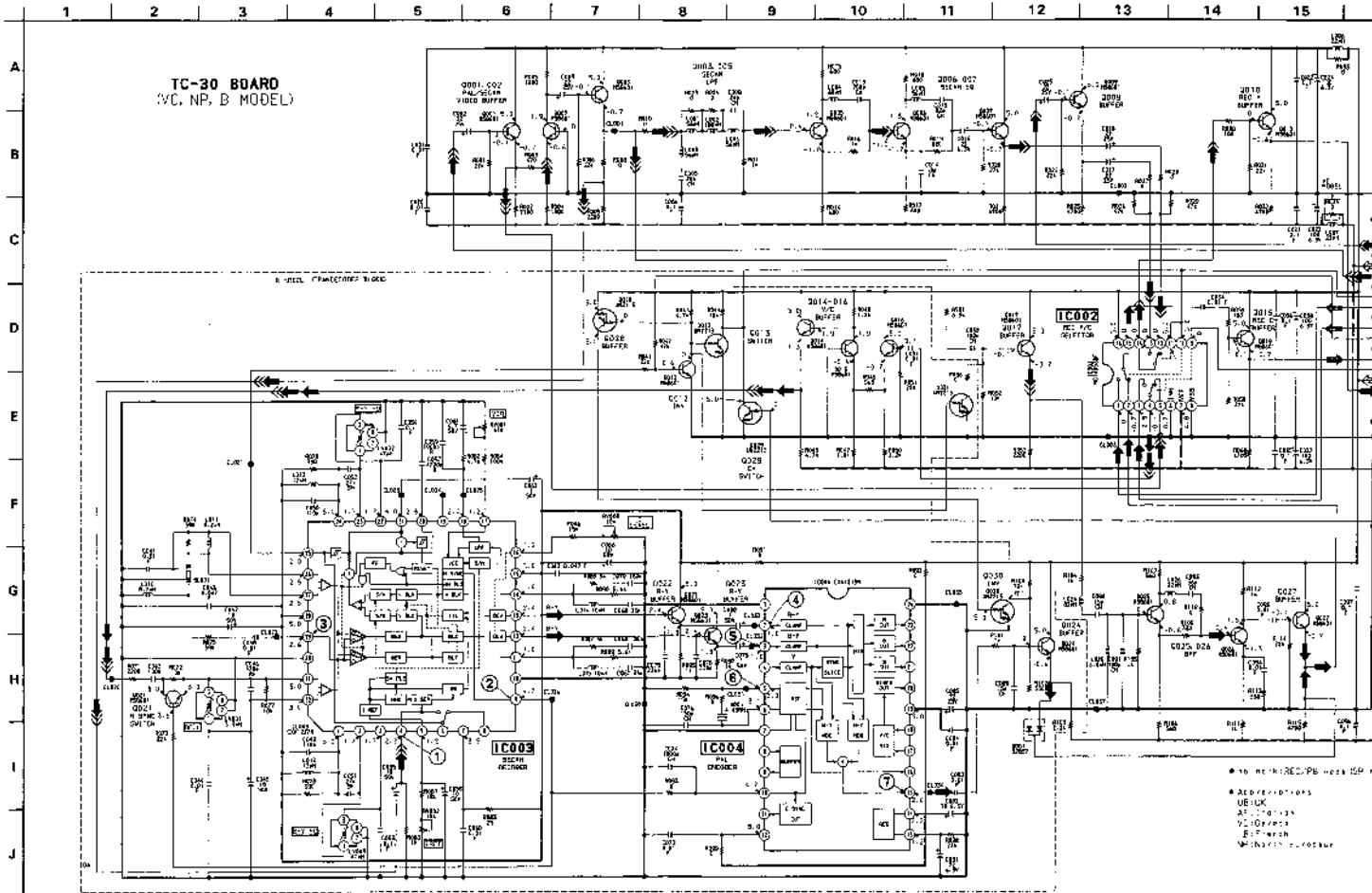
TC-30 (TRANCECODER PROCESS) PRINTED WIRING BOARD  
 —Ref. No. TC 30 BOARD - 8000 series—



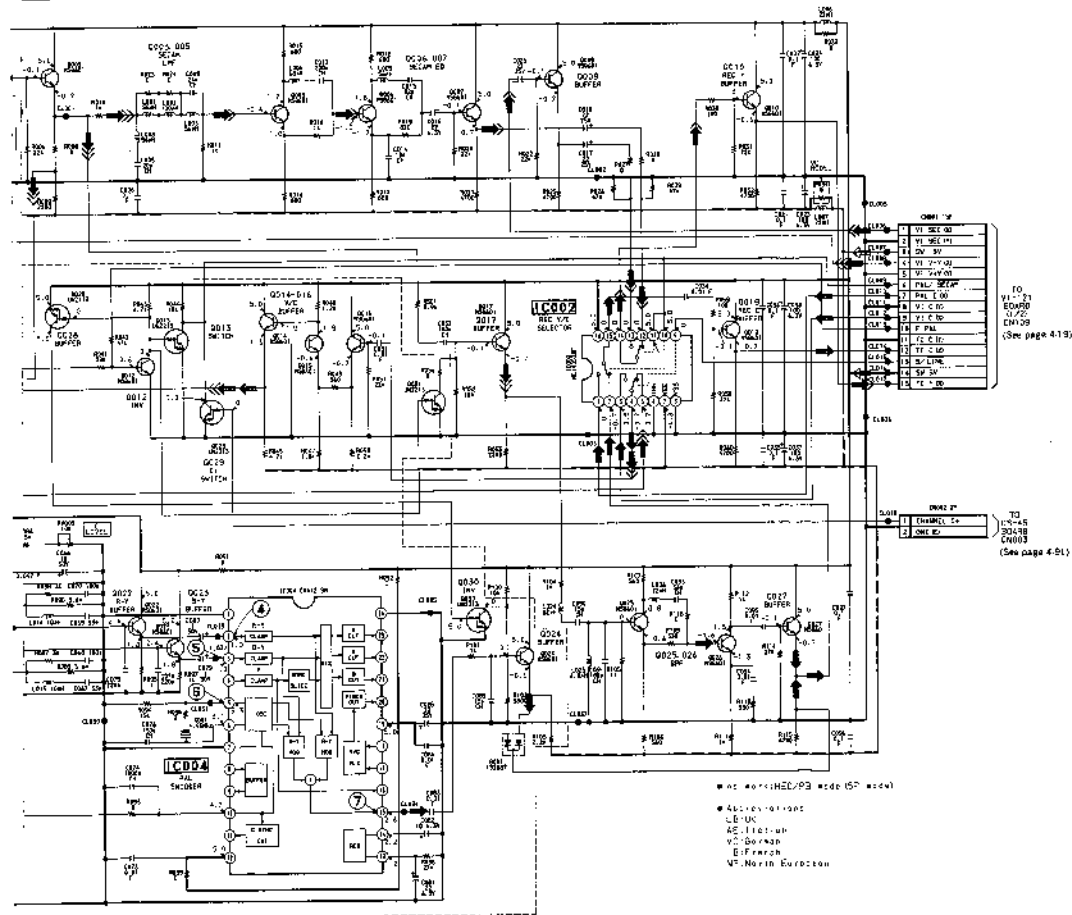
IC TO BOARD	Q001	A-4
27001 A 8	0002	B-4
27002 A-7	0003	B-5
0005	0005	B-6
0006	0006	B-8
0007	0007	A-4
0008	0008	A-5
0009	0009	A-7
0010	0010	B-1
0011	0011	C-1
0012	0012	C-7
0013	0013	C-7
0014	0014	B-7
0015	0015	B-8
0016	0016	C-8
0017	0017	C-4
0018	0018	C-5
0019	0019	C-4
0020	0020	C-6
0021	0021	C-8
0022	0022	C-6
0023	0023	C-8
0024	0024	C-6
0025	0025	C-8
0026	0026	C-6
0027	0027	A-1
0028	0028	A-7
0029	0029	A-7
0030	0030	B-7

TC-30 (TRANCECODER PROCESS) SCHEMATIC DIAGRAM

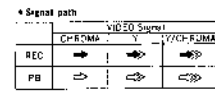
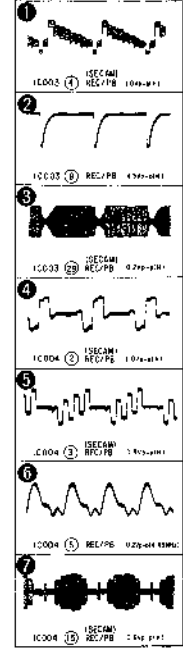
—Ref. No. TC-30 BOARD: 9000 series

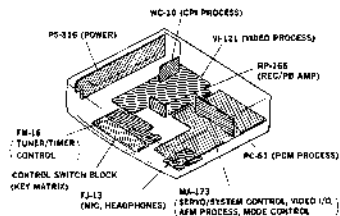


\* to IC-10 REC/PB mesa 150 pin  
 \* Address outputs  
 UE:UX  
 AS:AS-13  
 V:Green  
 B:Brown  
 W:White, Reducer



TC-30BOARD



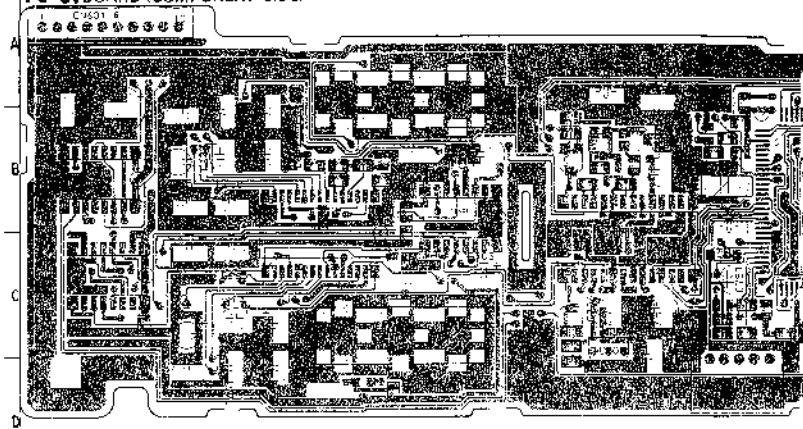


PCM BOARD	
CN601	A1
CN701	A5
CN702	D4
ENR61	D10
D102	B11
D702	C6
IC601	B4
IC602	F4
IC603	F4
IC610	B1
IC614	B2
IC701	B5
IC701	D7
IC704	C5
IC705	E7
IC707	C5
IC788	C10
IC789	C9
Q103	B10
Q104	F9
Q105	B9
Q106	B9
Q108	C10
Q111	B9

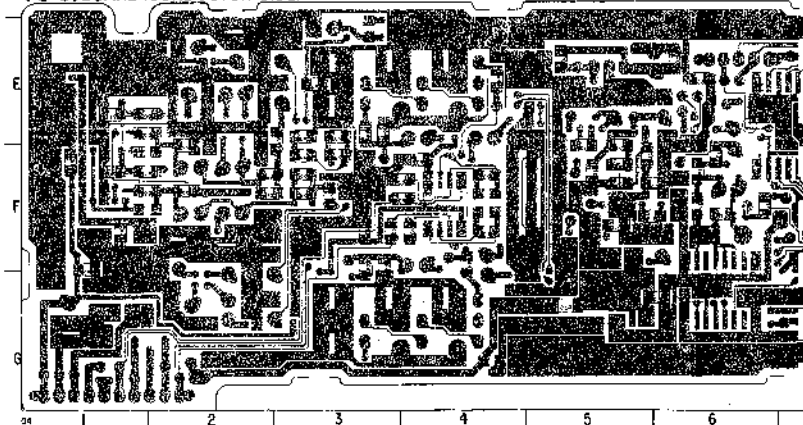
PC-61 (PCM AUDIO PROCESS) PRINTED WIRING BOARD

-Ref. No. PC-61 BOARD - 400 series -

PC-61 BOARD (COMPONENT SIDE)

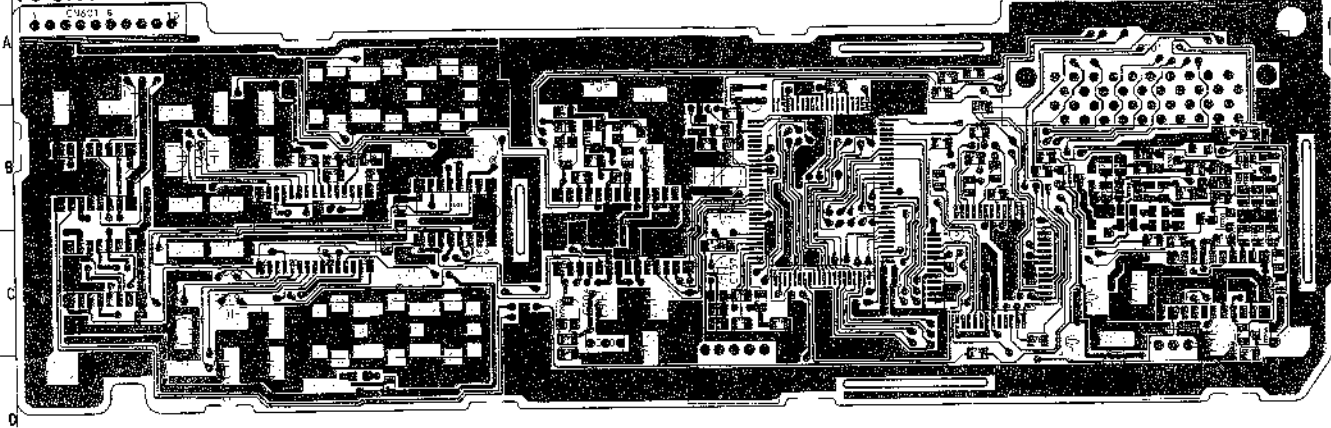


PC-61 BOARD (CONDUCTOR SIDE)

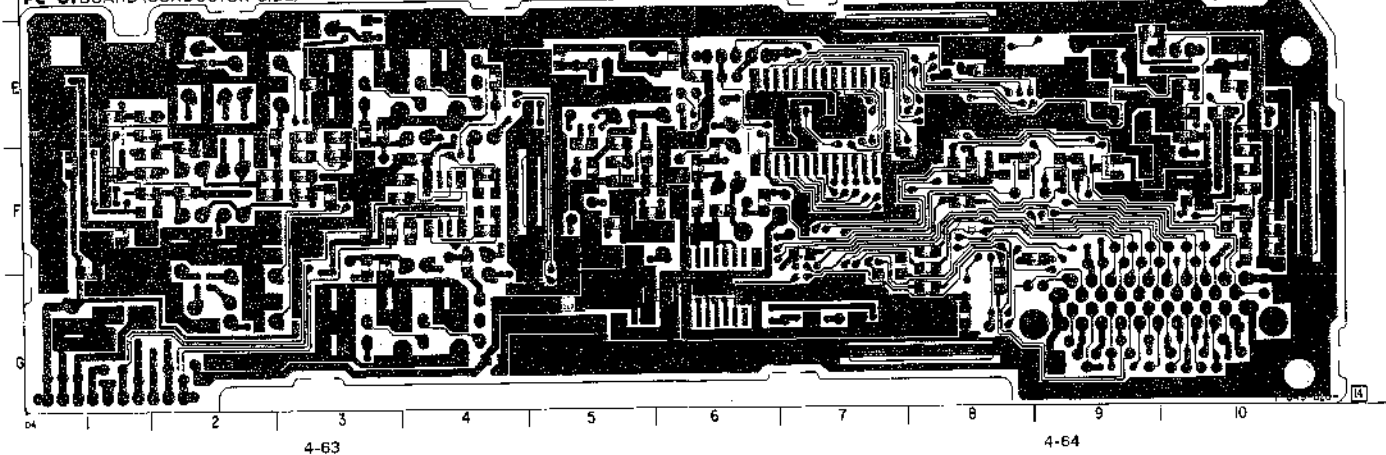


PC-61 (PCM AUDIO PROCESS) PRINTED WIRING BOARD  
—Ref. No. PC-61 BOARD, 4000 series—

PC-61 BOARD (COMPONENT SIDE)



PC-61 BOARD (CONDUCTOR SIDE)



4-63

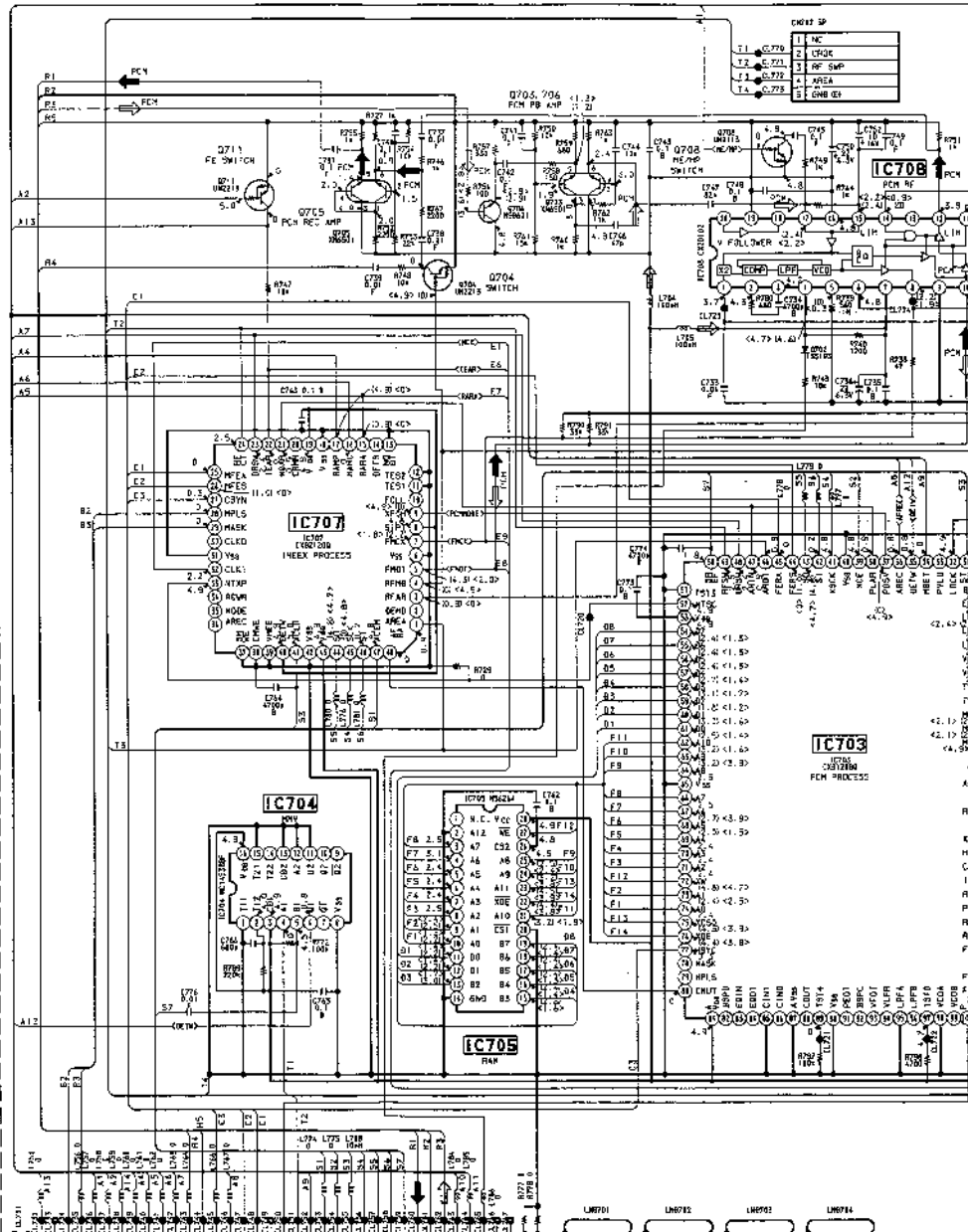
4-64



PC-61 (PCM AUDIO PROCESS) SCHEMATIC DIAGRAM

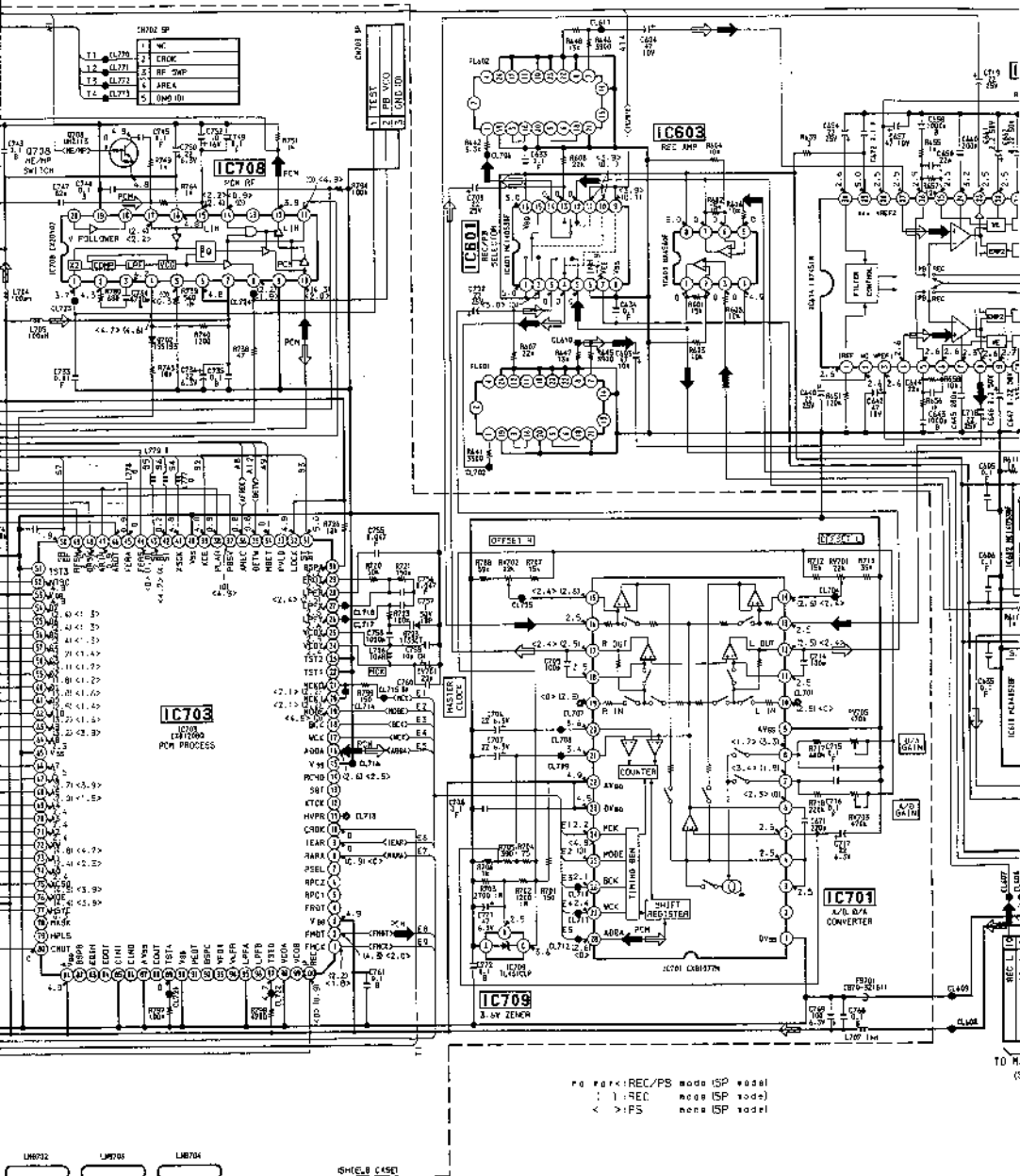
-Ref. No. PC-6; BOARD: 4400 series

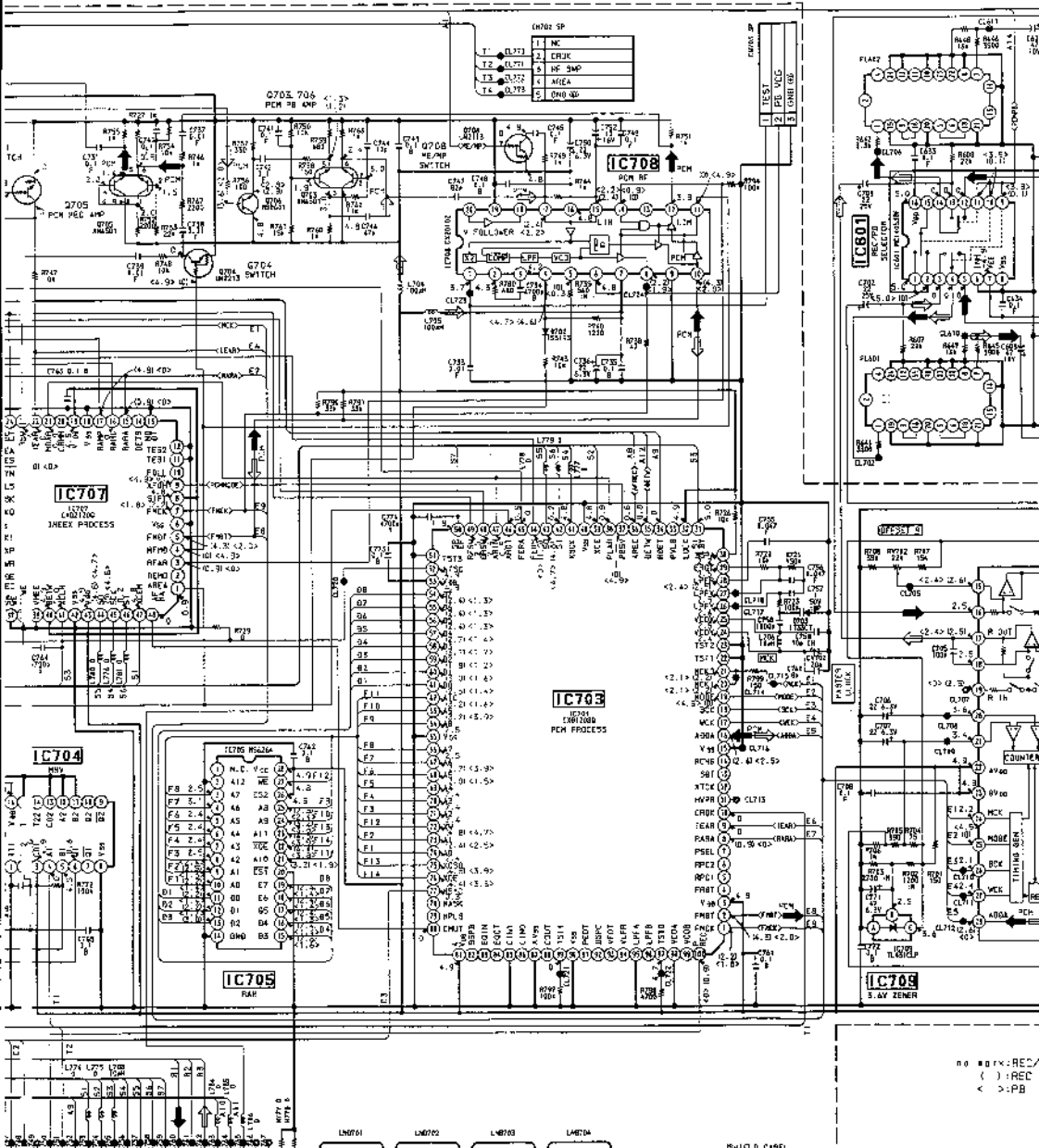
PC-61 BOARD



IC701	IC702	IC703	IC704	IC708
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9
10	10	10	10	10
11	11	11	11	11
12	12	12	12	12
13	13	13	13	13
14	14	14	14	14
15	15	15	15	15
16	16	16	16	16

TO MA-173 BOARD (4/5) ENC09



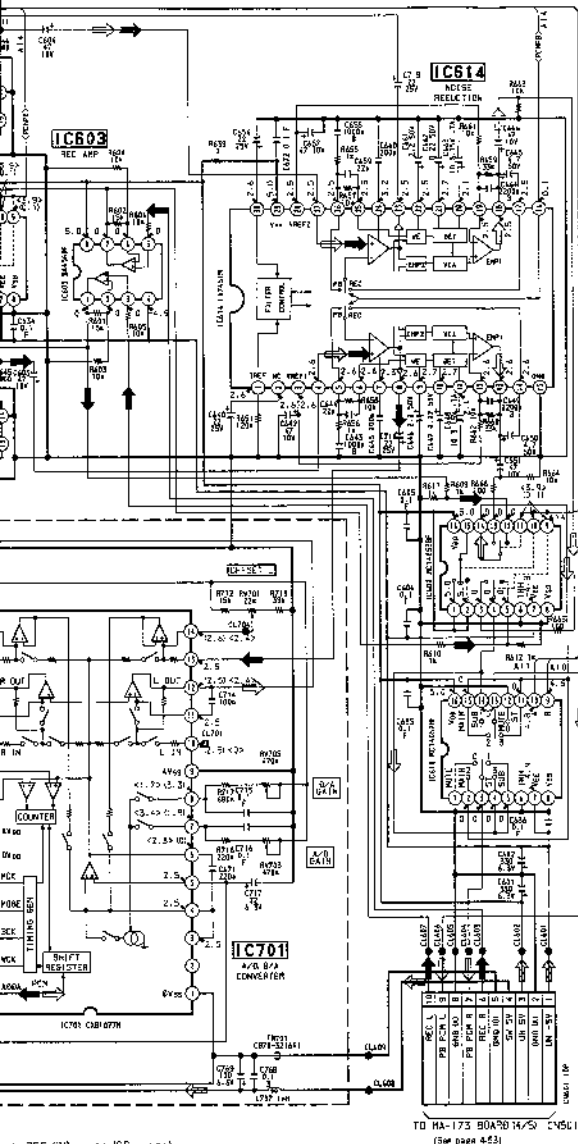


FEES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	

UN021 UN022 UN023 UN024 SHIELD CASE

NO MARK REC  
( ) REC  
< > PB

16 17 18 19 20 21 22 23

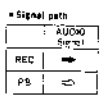


IC602  
REC/PB  
SELECTOR

IC610  
OUTPUT  
SELECTOR

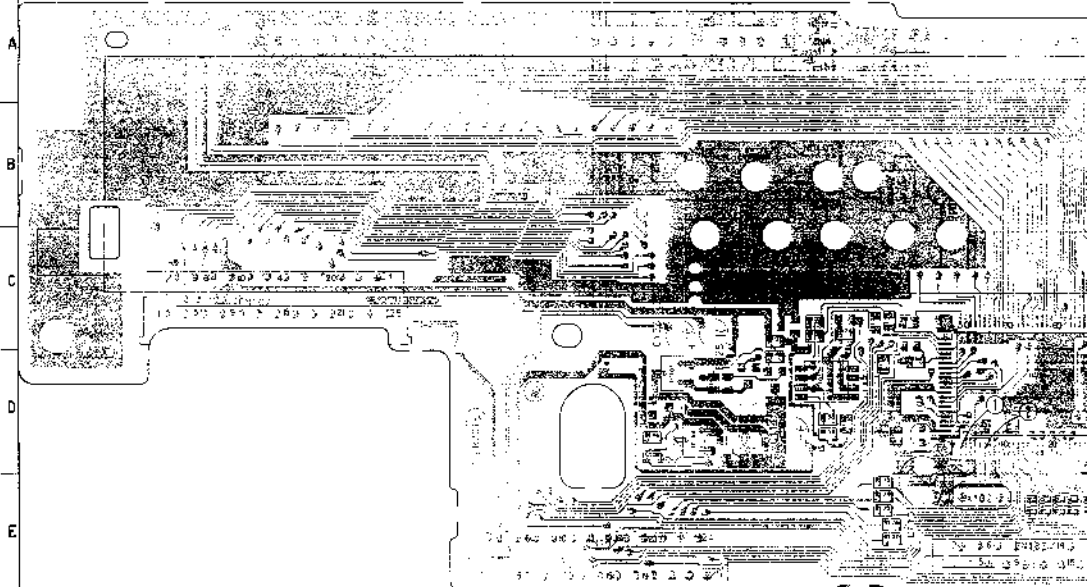
TO HA-173 B0A/B14/5) CN561  
(See page 4-62)

mark: REC/PB mode (SP mode)  
1: REC mode (SP mode)  
>: PB mode (SP mode)

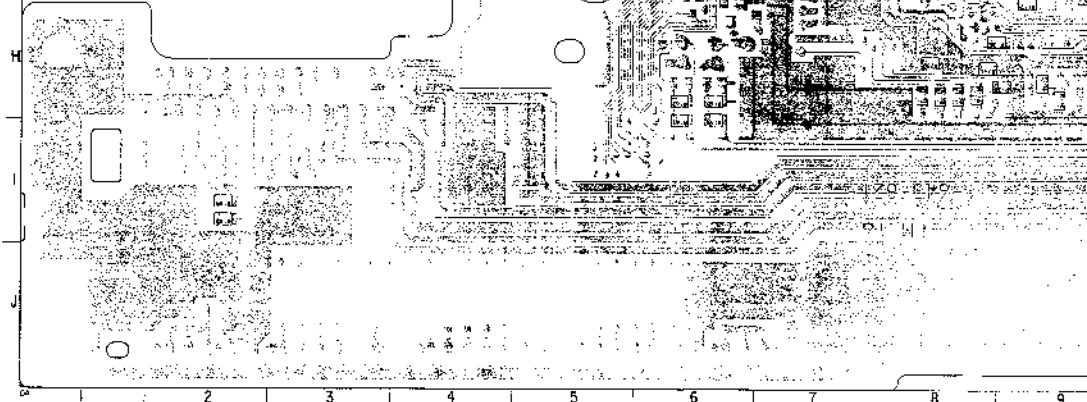


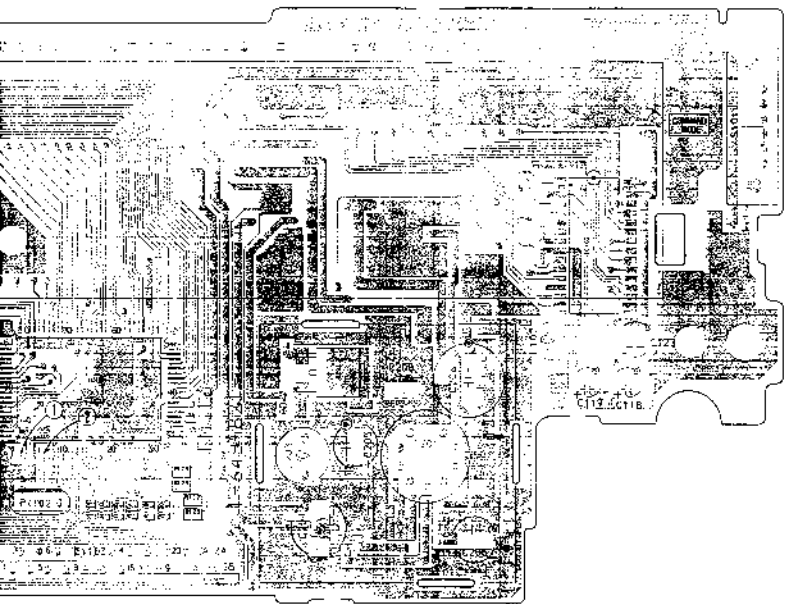
FM-16 (TUNER/TIMER CONTROL), TK-26 (RELAY), SW-227 (TRAY SWITCH),  
TM-119 (TRAY MOTOR) PRINTED WIRING BOARDS  
—Ref. No. FM-16, TK-26, SW-227 and TM-119 BOARD: 1960 series—

**FM-16 BOARD (COMPONENT SIDE)**



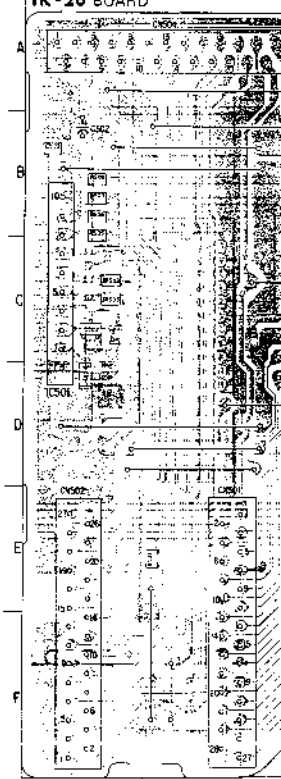
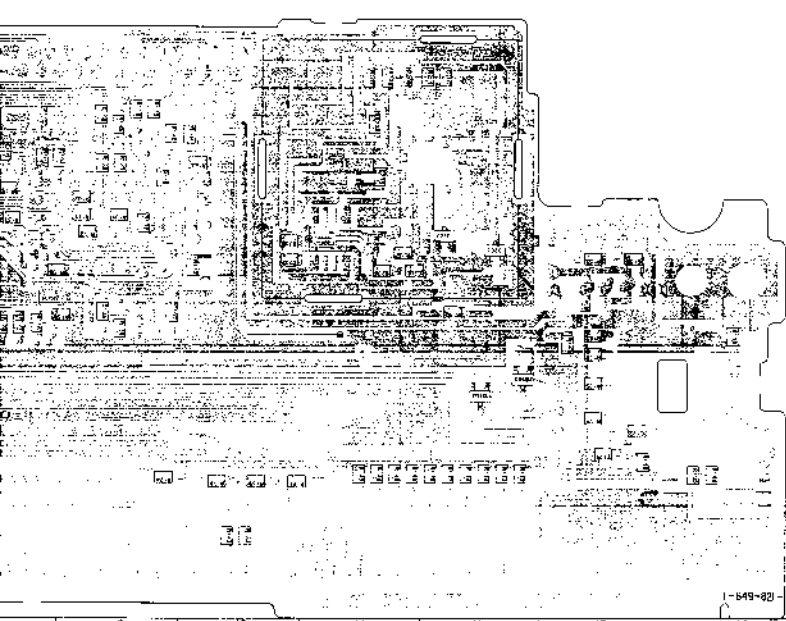
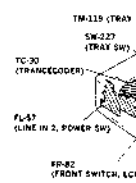
**FM-16 BOARD (CONDUCTOR SIDE)**

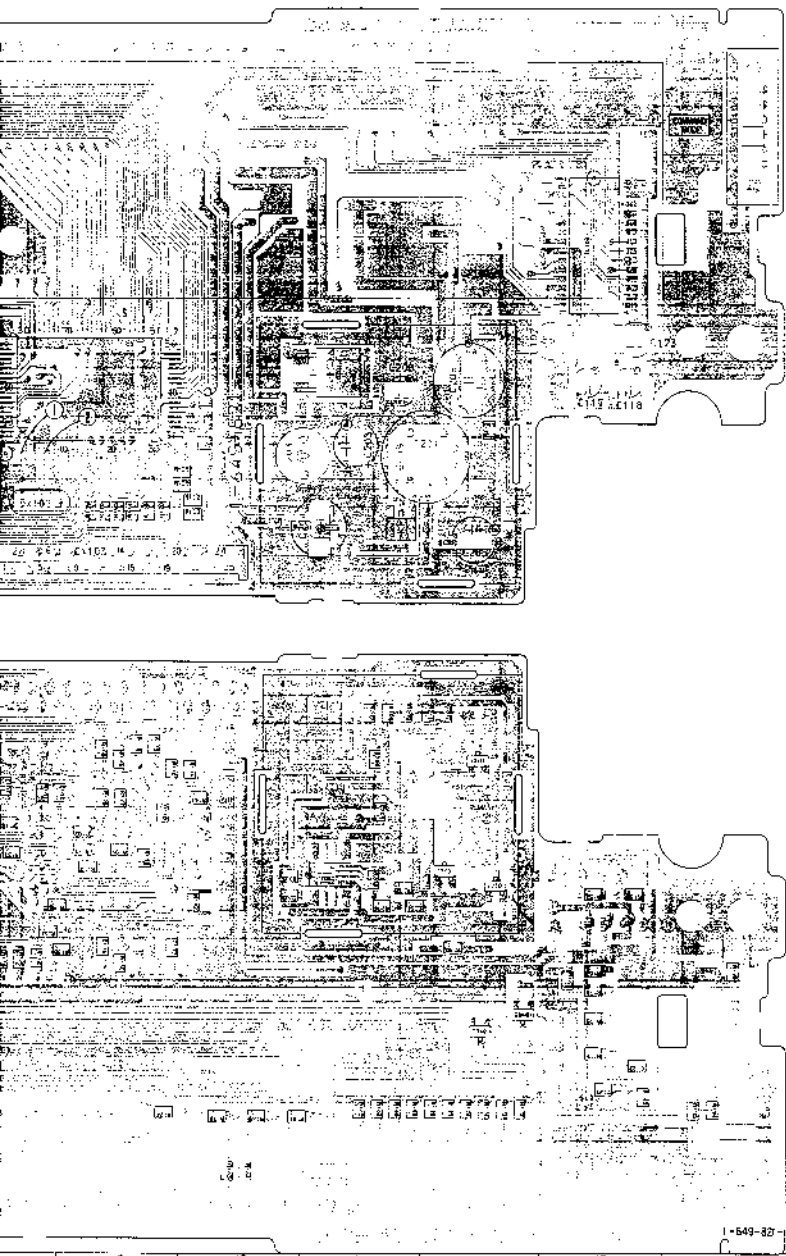




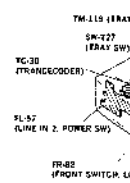
- FM IC BOARD
- DM01 E5
  - DM02 C2
  - DM03 E3
  - DM04 E12
  - DM05 M12
  - DM06 M11
  - DM07 E11
  - DM08 D9
  - DM09 C13
  - DM10 D1
  - DM11 D6
  - DM12 D8
  - DM13 M11
  - DM14 M11
  - DM15 M12
  - DM16 M12
  - DM17 M12
  - DM18 M11

- TK-26 BOARD
- TK2601 E1
  - TK2602 A4
  - TK2603 A1
  - TK2604 C4
  - TK2605 C4
  - TK2606 C1
  - TK2607 C1
  - TK2608 C1



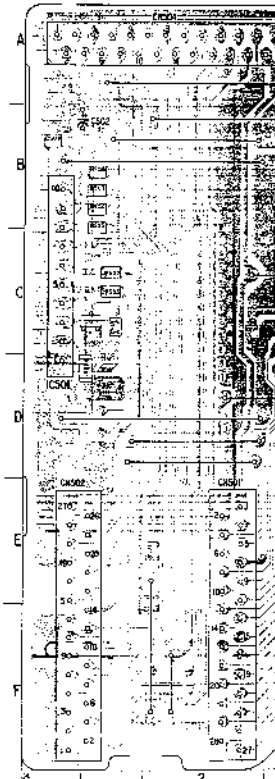


- TM-115 BOARD
- CM104 B-5
  - CM102 C-2
  - CM103 E-3
- 
- D201 5-12
  - D202 1-12
  - D203 4-12
  - D204 1-11
- 
- K101 0-9
  - C102 C-13
  - C103 0-3
  - C104 0-6
  - C105 0-4
  - C201 H-11
- 
- Q101 1-12
  - Q102 1-12
  - Q201 D-11

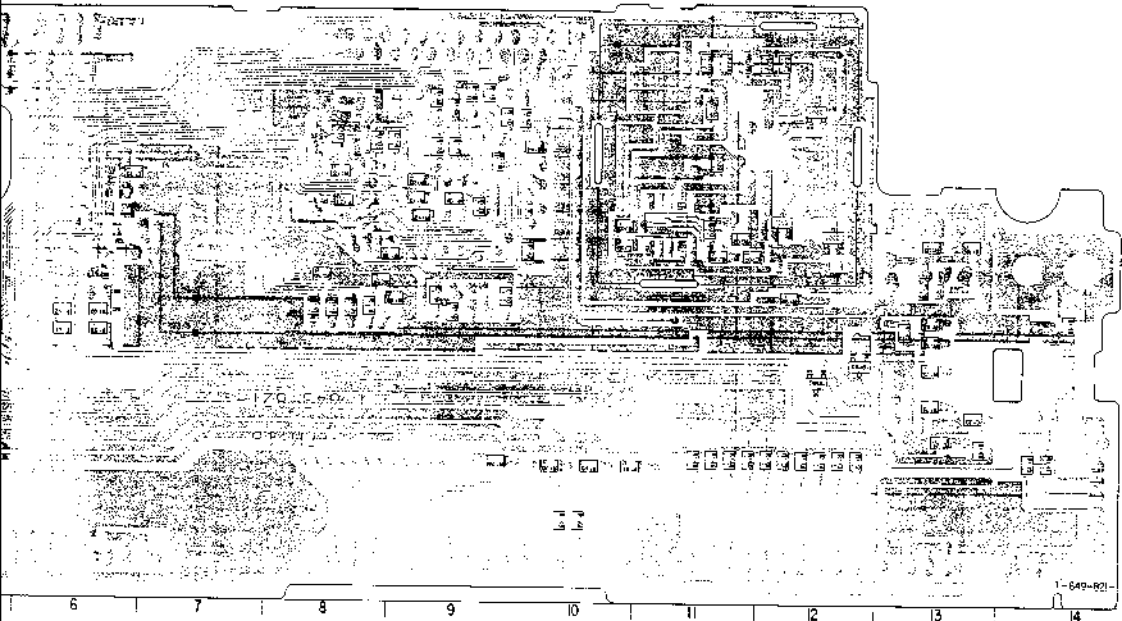
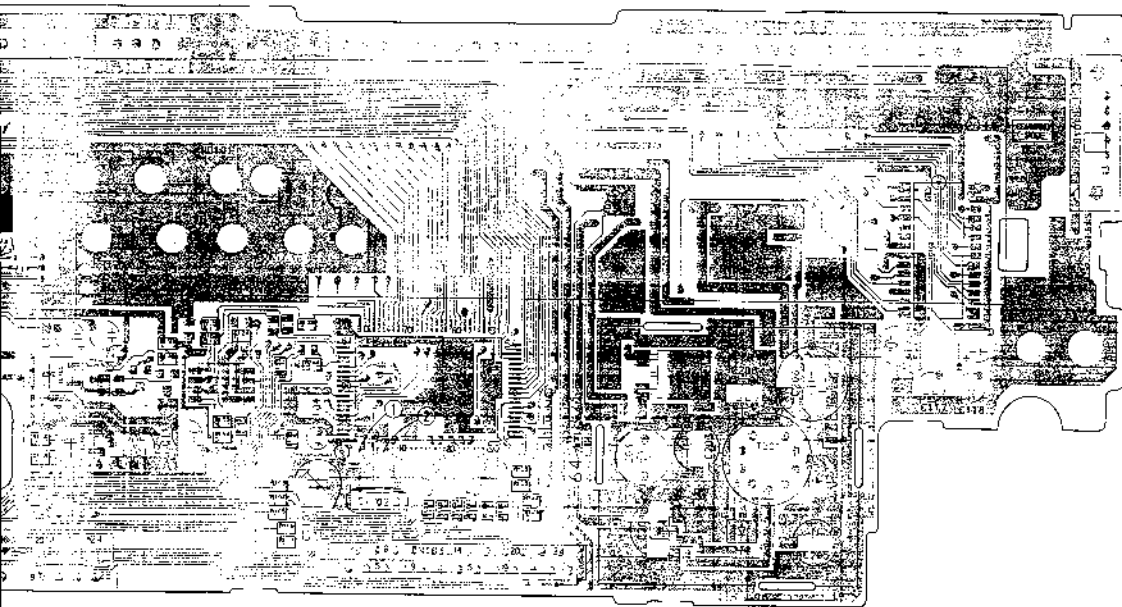


- TM-26 BOARD
- CM201 C-1
  - CM202 C-1
  - CM203 A-4
  - CM204 B-3
  - CM207 C-4
  - CM208 C-4
- 
- EN01 0-1
  - IC201 0-1

**TK-26 BOARD**

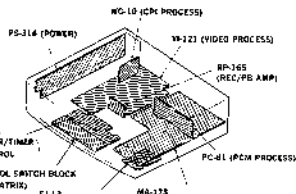
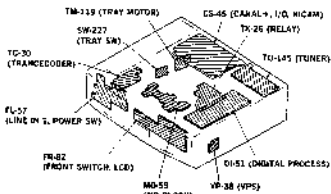


1-649-837



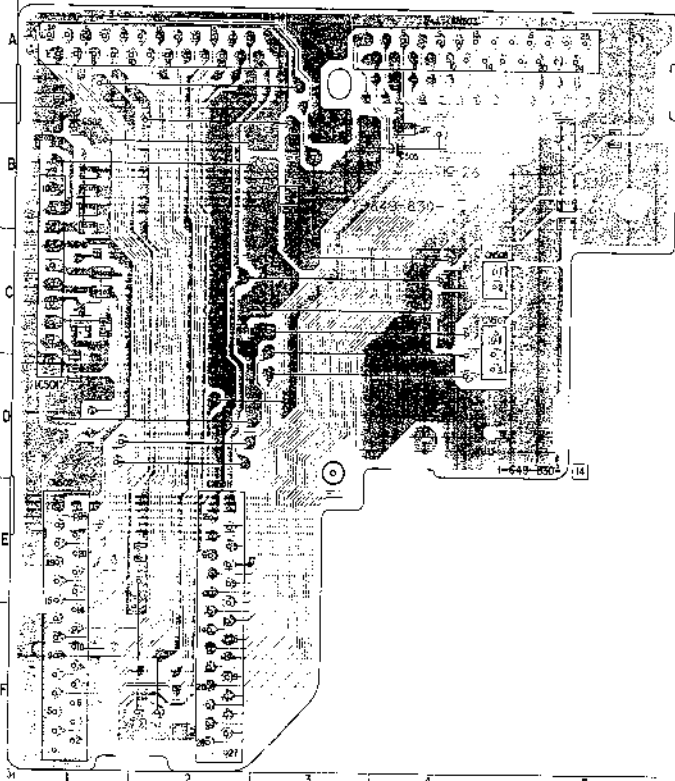


\*M16 BOARD  
 CR100 E 8  
 CR101 C 5  
 CR103 E 9  
  
 D201 H 17  
 D202 H 22  
 D204 E 11  
  
 IC101 D 6  
 IC102 C 15  
 IC103 F 7  
 IC104 D 6  
 IC105 D 6  
 IC106 H 12  
  
 Q212 H 2  
 Q213 H 2  
 Q214 C 1

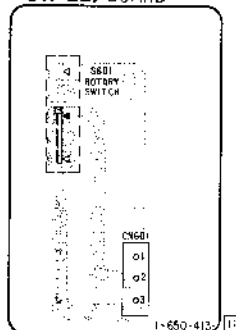


TK-26 BOARD  
 CR101 E 2  
 CR102 E 4  
 CR103 A 4  
 CR104 A 2  
 CR107 C 4  
 CR108 C 4  
  
 Q103 C 1  
 CR101 C 5

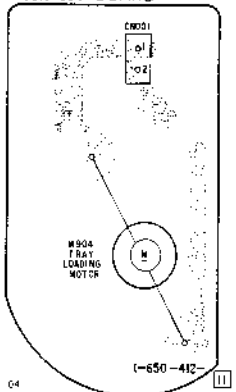
TK-26 BOARD



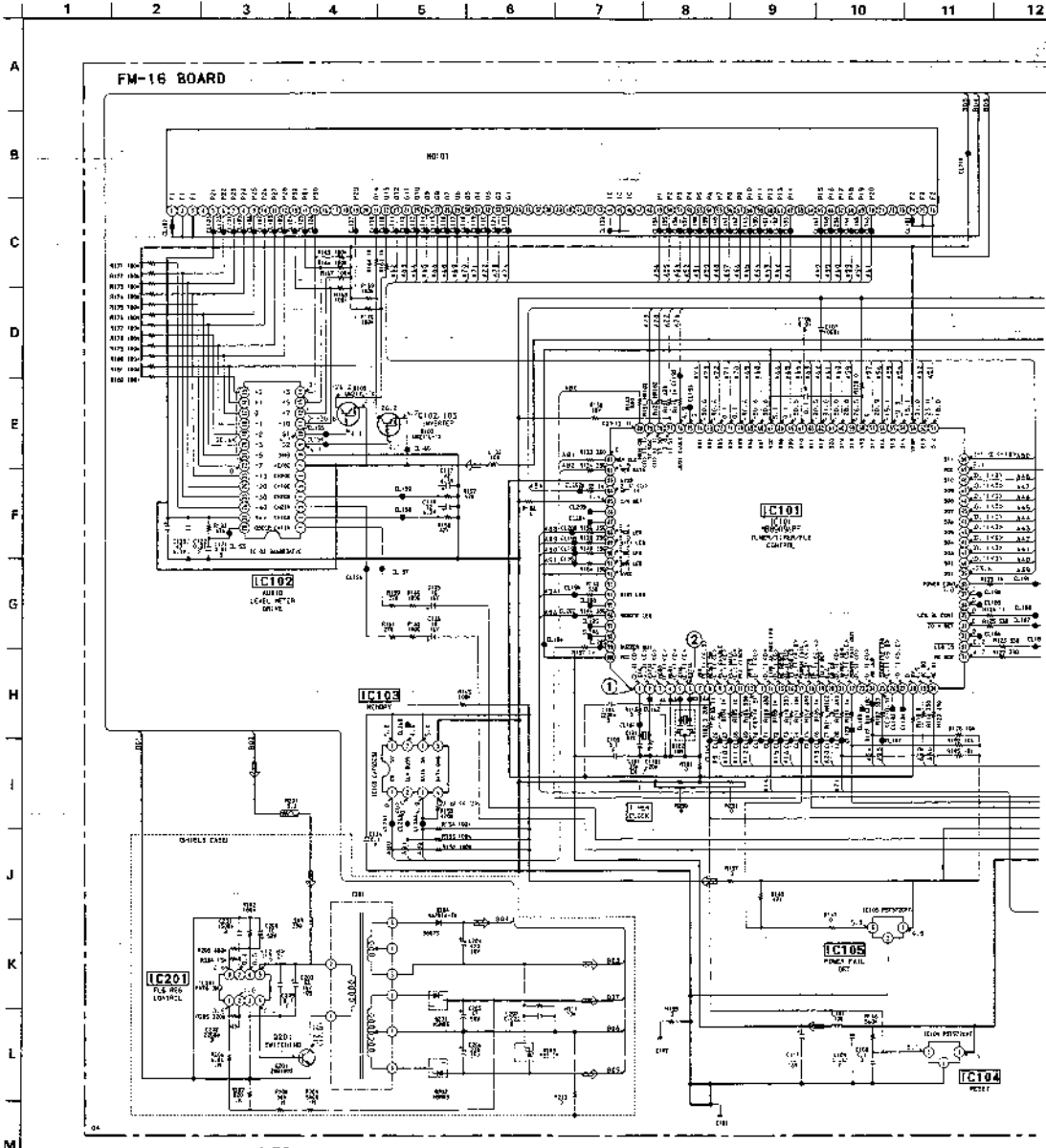
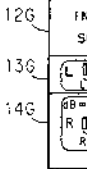
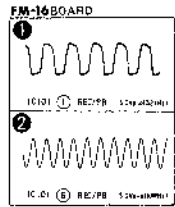
SW-227 BOARD



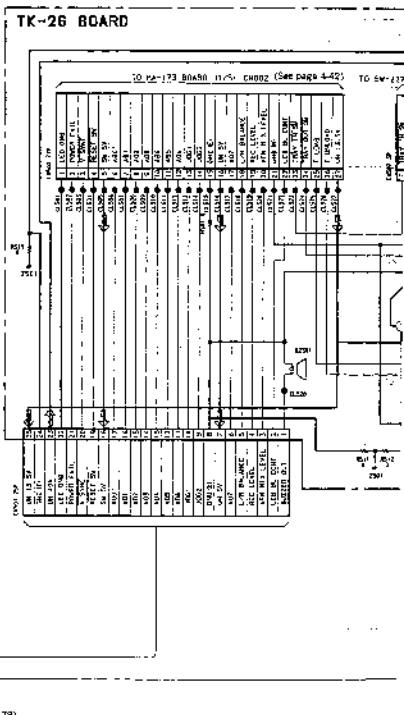
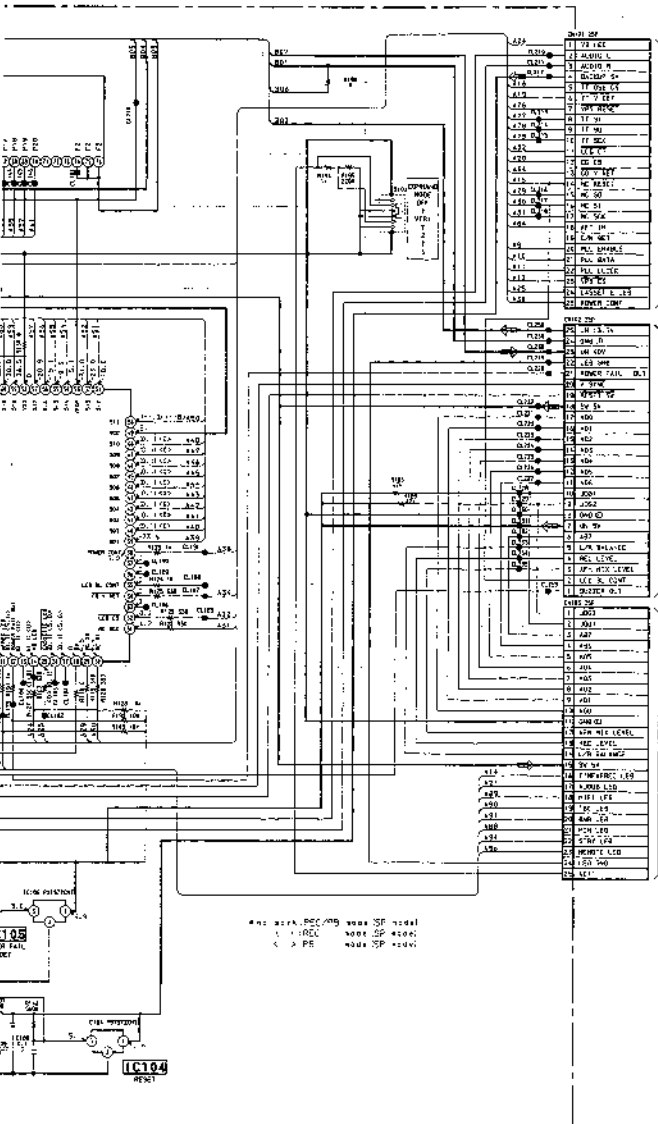
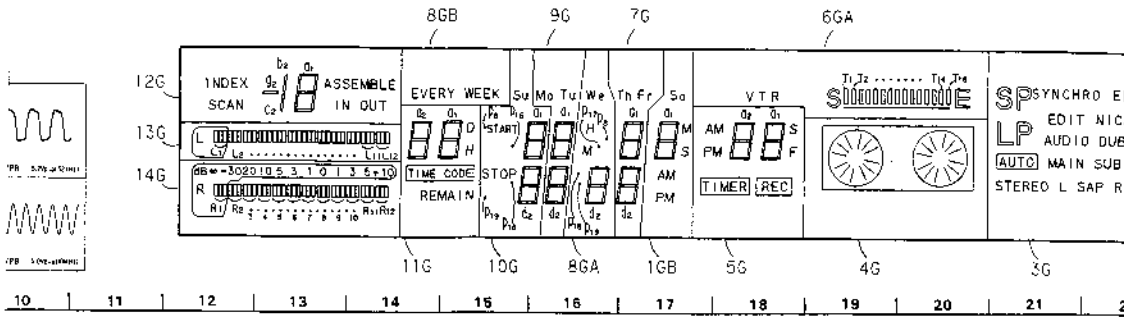
TM-119 BOARD



FM-16 (TUNER/TIMER CONTROL), TK-26 (RELAY), SW-227 (TRAY SWITCH),  
 TM-119 (TRAY MOTOR) SCHEMATIC DIAGRAMS  
 —Ref. No. FM-16, TK-26, SW-227 and TM-119 BOARD, 7000 series—

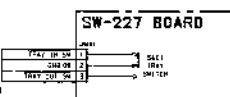


FM-16 BOARD ND101 FLUORESCENT INDICATOR TUBE



(See page 478)

SW-27 BOARD  
SW-27-1  
SW-27-2  
SW-27-3  
SW-27-4  
SW-27-5  
SW-27-6  
SW-27-7  
SW-27-8  
SW-27-9  
SW-27-10  
SW-27-11  
SW-27-12  
SW-27-13  
SW-27-14  
SW-27-15  
SW-27-16  
SW-27-17  
SW-27-18  
SW-27-19  
SW-27-20  
SW-27-21  
SW-27-22  
SW-27-23  
SW-27-24  
SW-27-25  
SW-27-26  
SW-27-27  
SW-27-28  
SW-27-29  
SW-27-30  
SW-27-31  
SW-27-32  
SW-27-33  
SW-27-34  
SW-27-35  
SW-27-36  
SW-27-37  
SW-27-38  
SW-27-39  
SW-27-40  
SW-27-41  
SW-27-42  
SW-27-43  
SW-27-44  
SW-27-45  
SW-27-46  
SW-27-47  
SW-27-48  
SW-27-49  
SW-27-50



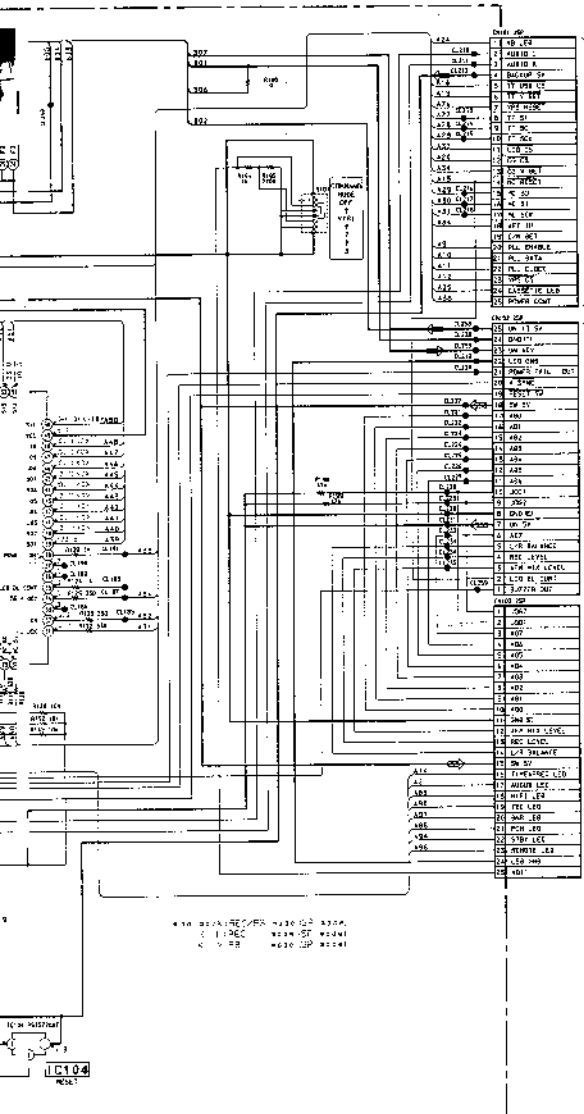
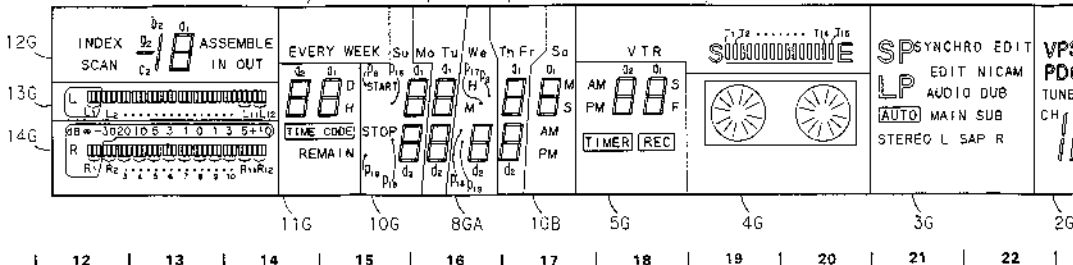
SW-27-1 SW-27-2 SW-27-3 SW-27-4 SW-27-5 SW-27-6 SW-27-7 SW-27-8 SW-27-9 SW-27-10 SW-27-11 SW-27-12 SW-27-13 SW-27-14 SW-27-15 SW-27-16 SW-27-17 SW-27-18 SW-27-19 SW-27-20 SW-27-21 SW-27-22 SW-27-23 SW-27-24 SW-27-25 SW-27-26 SW-27-27 SW-27-28 SW-27-29 SW-27-30 SW-27-31 SW-27-32 SW-27-33 SW-27-34 SW-27-35 SW-27-36 SW-27-37 SW-27-38 SW-27-39 SW-27-40 SW-27-41 SW-27-42 SW-27-43 SW-27-44 SW-27-45 SW-27-46 SW-27-47 SW-27-48 SW-27-49 SW-27-50

8GB

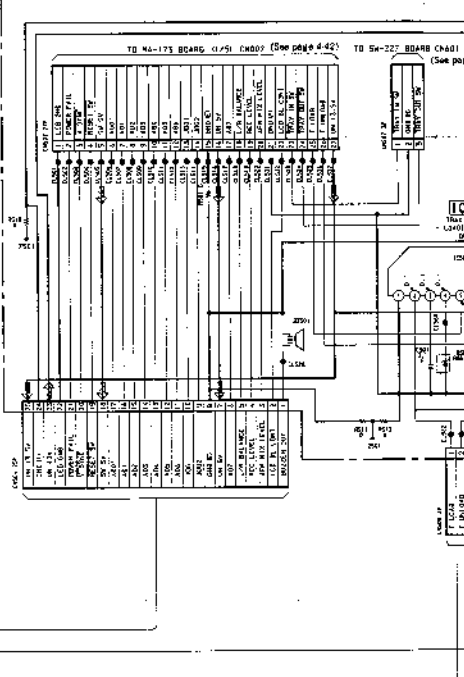
9G

7G

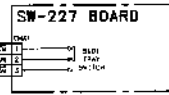
6GA



TK-26 BOARD



(See page 4-78)

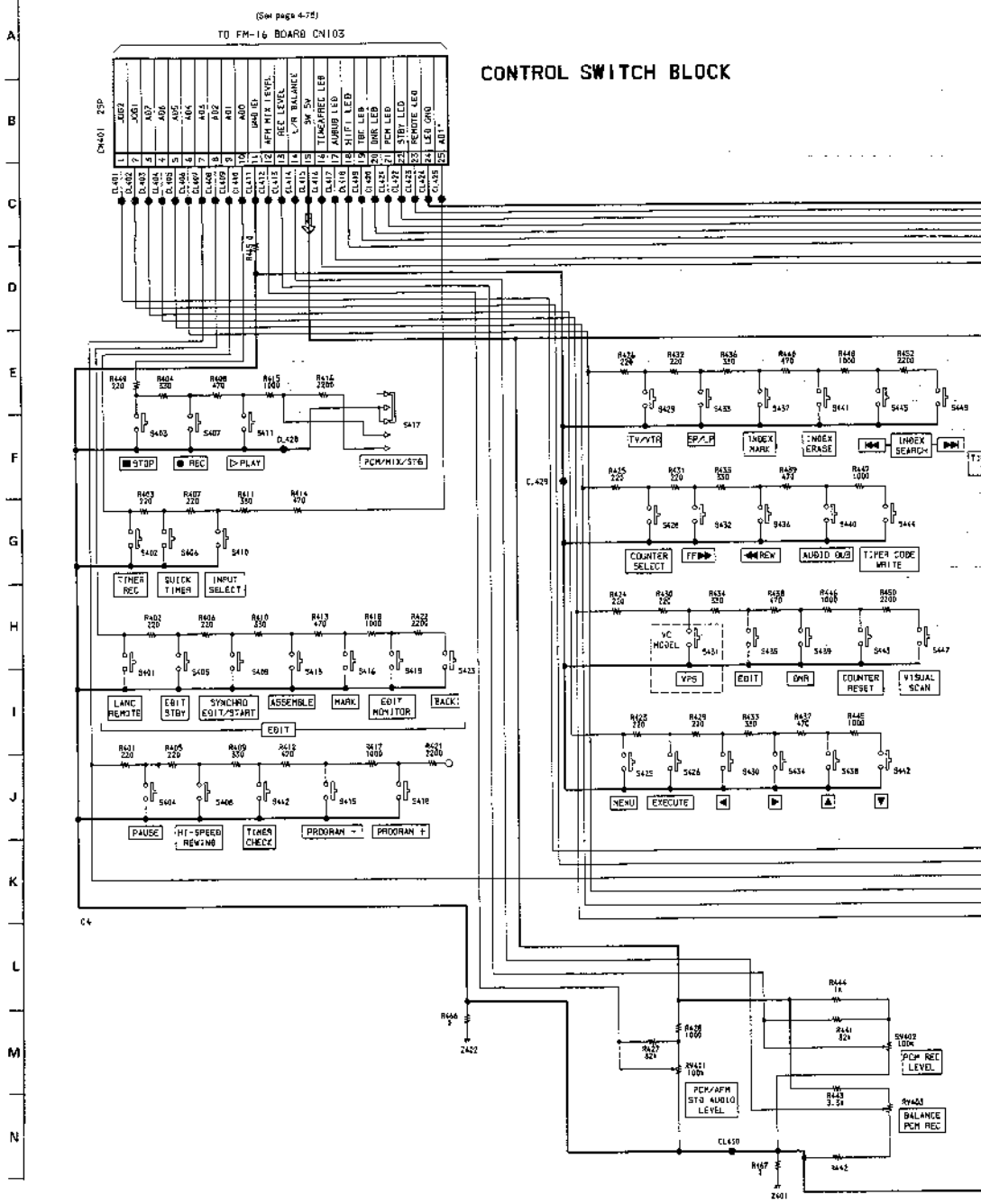


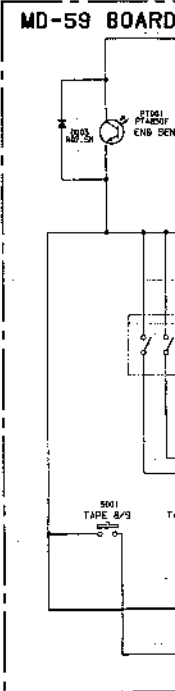
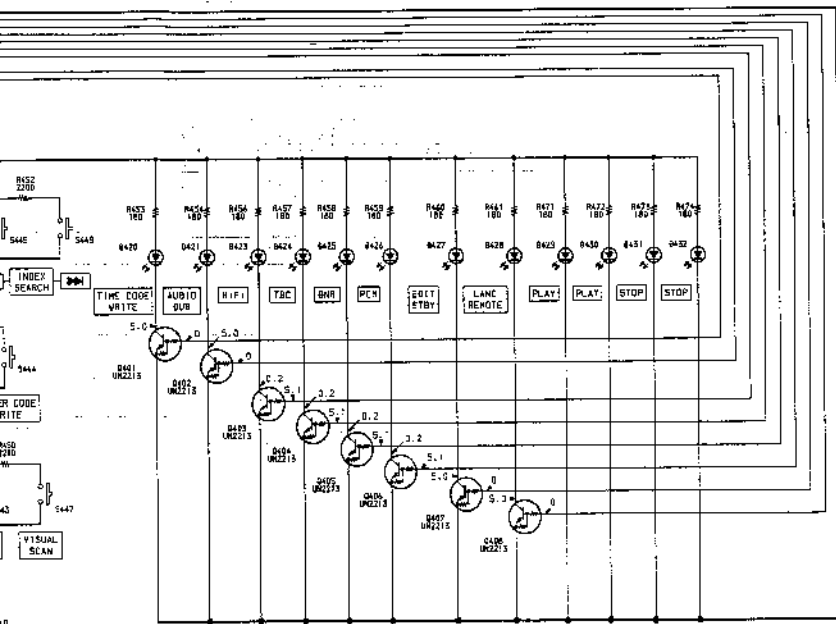
(See page 4-75)



CONTROL SWITCH BLOCK (SWITCH MATRIX), MD-59 (MD BLOCK) SCHEMATIC DIAGRAMS  
—Ref. No. CONTROL SWITCH BLOCK: 7900 Series, MD-59 BOARD: 4000 Series—

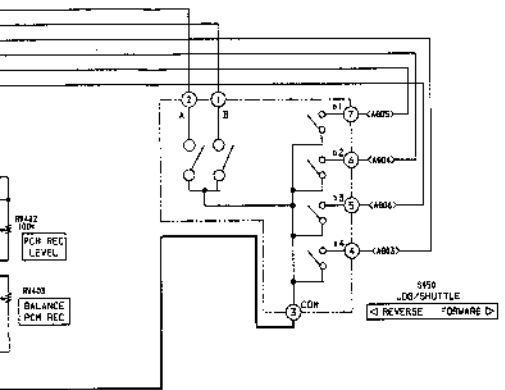
1 2 3 4 5 6 7 8 9 10 11 12

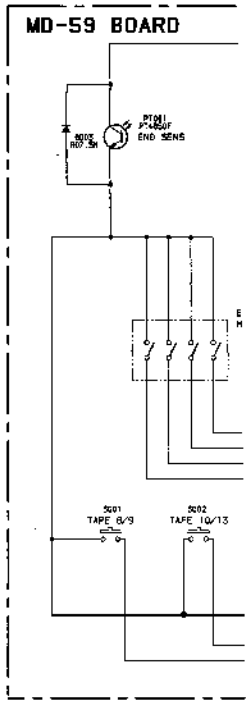
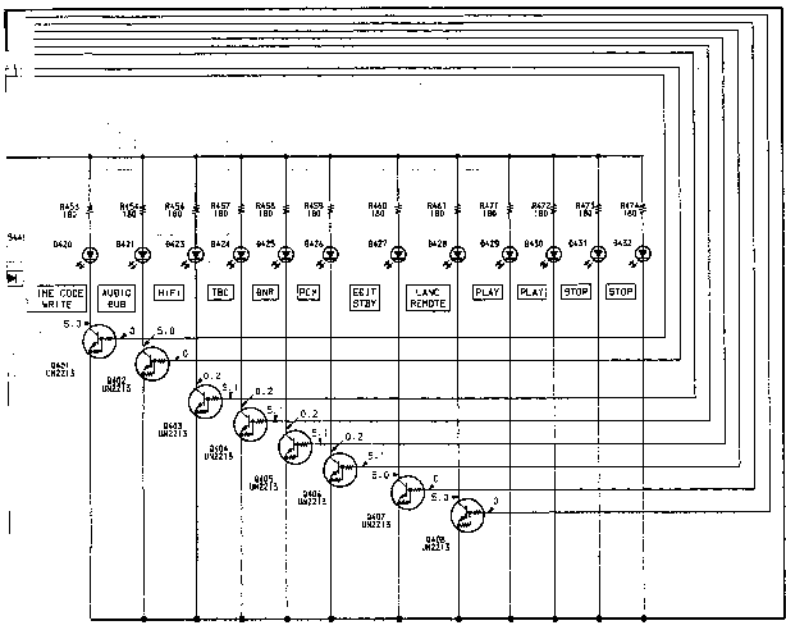




\* < > : REC/PB    nads (S)    nodel  
   ( ) : REC        nads (S)    nodel  
   < > : PS        nads (S)    nodel

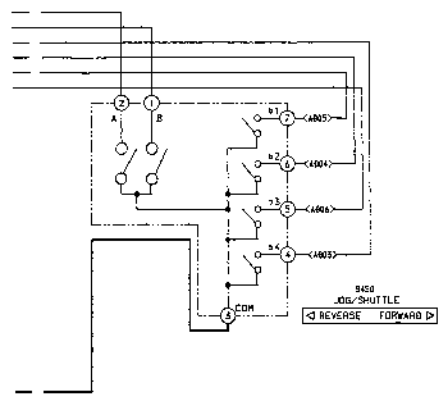
\* Abbreviations  
 UB: UK  
 AE: Aetion  
 VC: Gerny  
 B: French  
 NP: North European



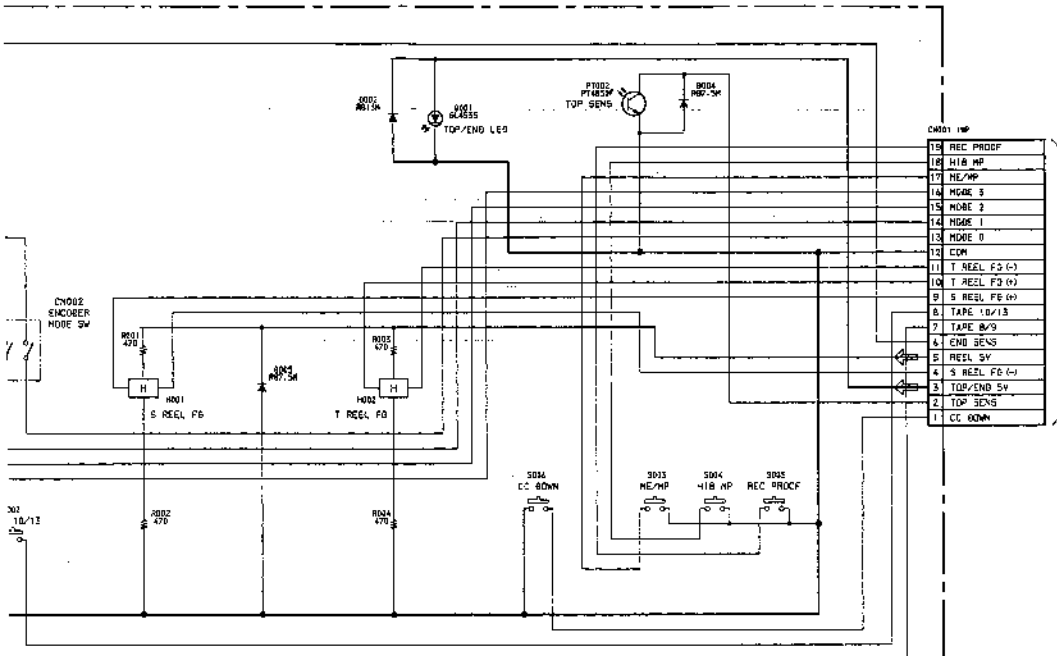


\* TO WORK: REC/PS TOB (60) NOD  
 \* : REC TOB (60) NOD  
 \* >: DE TOB (60) NOD

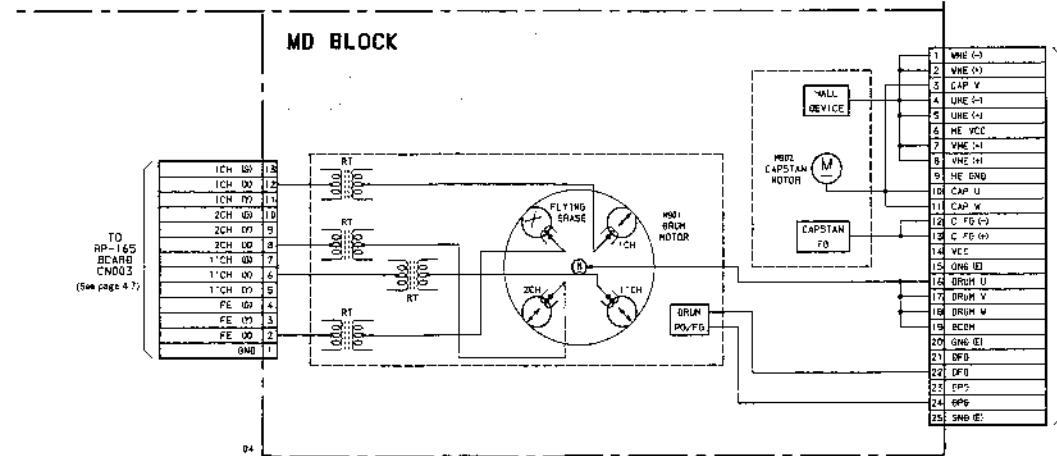
\* Abbreviations  
 JR:UK  
 AE:Italian  
 VC:German  
 B:France  
 NP:North European







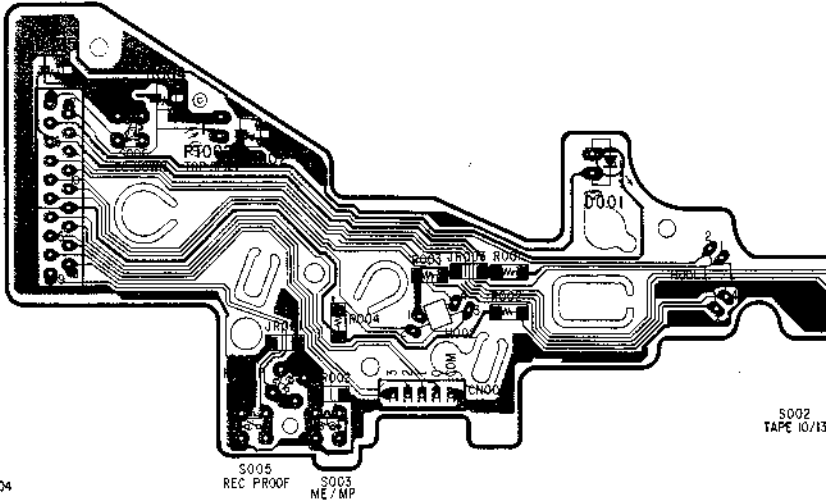
TO MA-173 BOARD (1/5) CND01 (See page 445)



TO RP-165 BOARD (2/5) CND03 (See page 446)

CONTROL SWITCH BLOCK (SWITCH MATRIX), MD-59 (MD BLOCK) PRINTED WIRING BOARDS  
 —Ref. No. CONTROL SWITCH BLOCK: 7000 series, MD-59 BOARD: 4030 series—

MD-59 BOARD



S002  
TAPE 10/13

CONTROL SWITCH BLOCK  
GM401 A-4

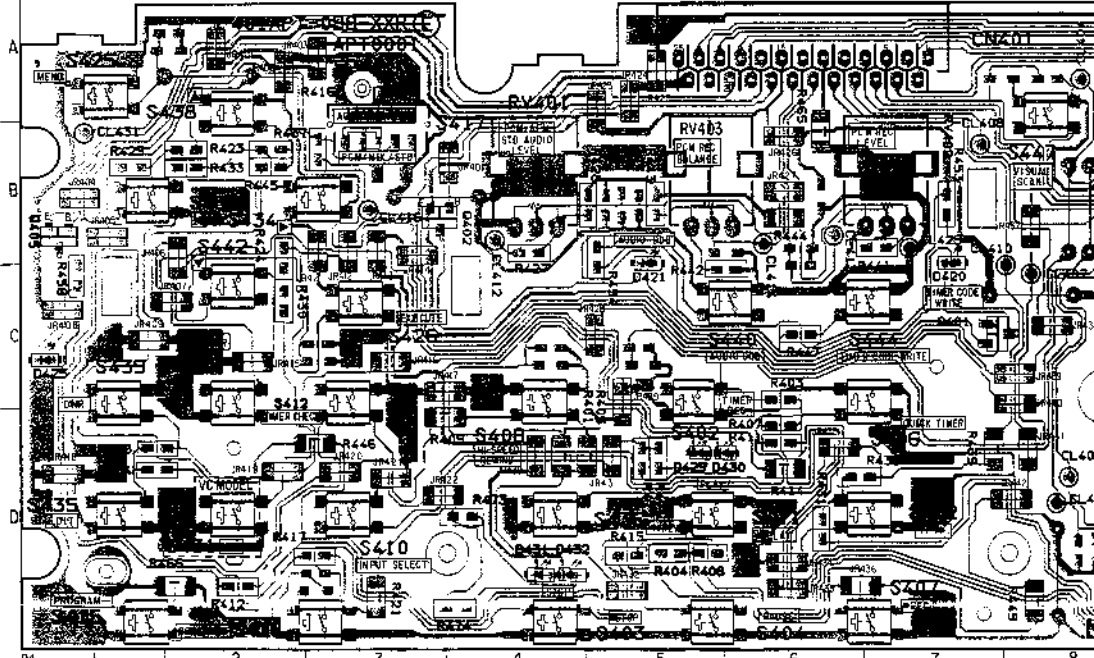
- D420 C-3
- D421 C-1
- D423 A-1,3
- D426 A-1,3
- D416 C-1
- D418 A-1,4
- D427 D-1,2
- D429 C-1,2
- D419 D-5
- D430 D-5
- D431 D-4
- D432 D-4

- Q401 D-7
- Q402 B-9
- Q403 B-10
- Q404 B-10
- Q405 B-1
- Q406 B-1,2
- Q407 C-11
- Q408 C-13

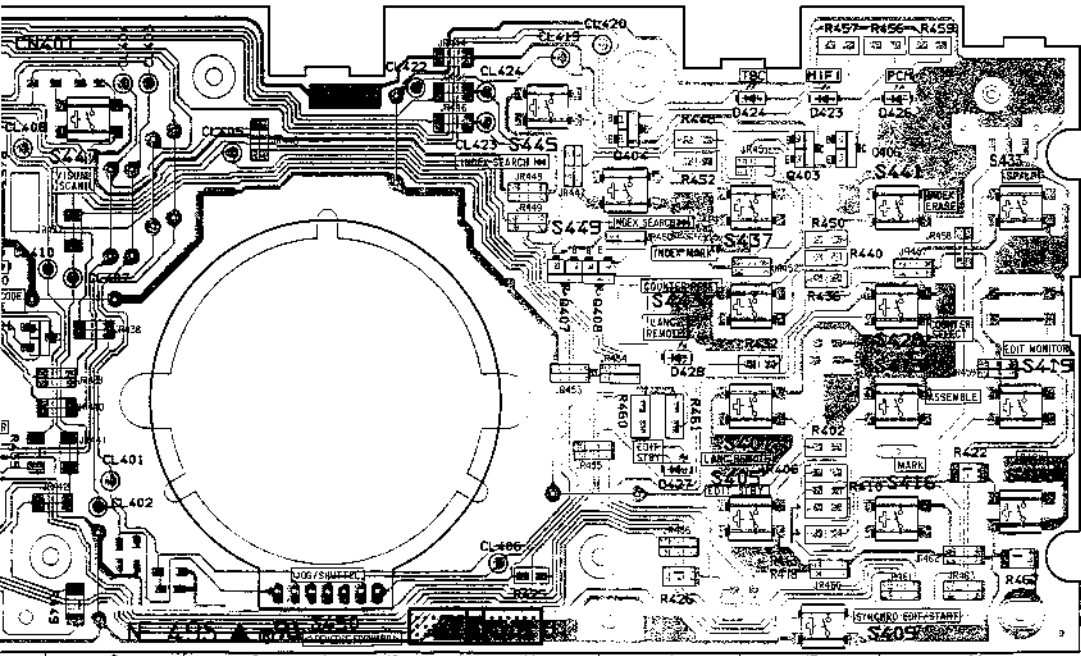
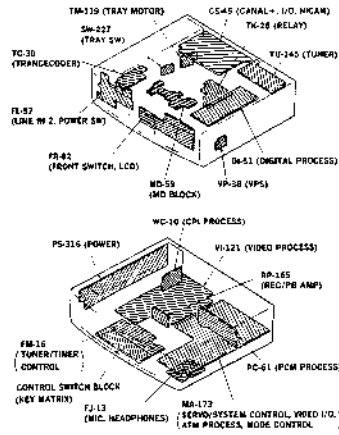
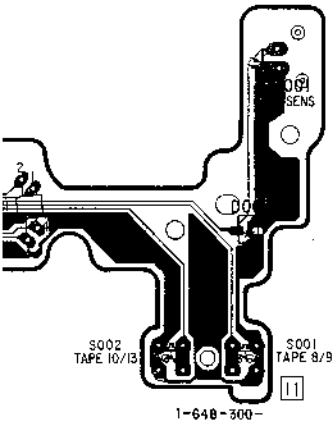
04

S005 REC PROOF  
S003 ME / MP

CONTROL SWITCH BLOCK

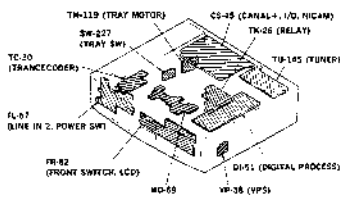


04 1 2 3 4 5 6 7 8

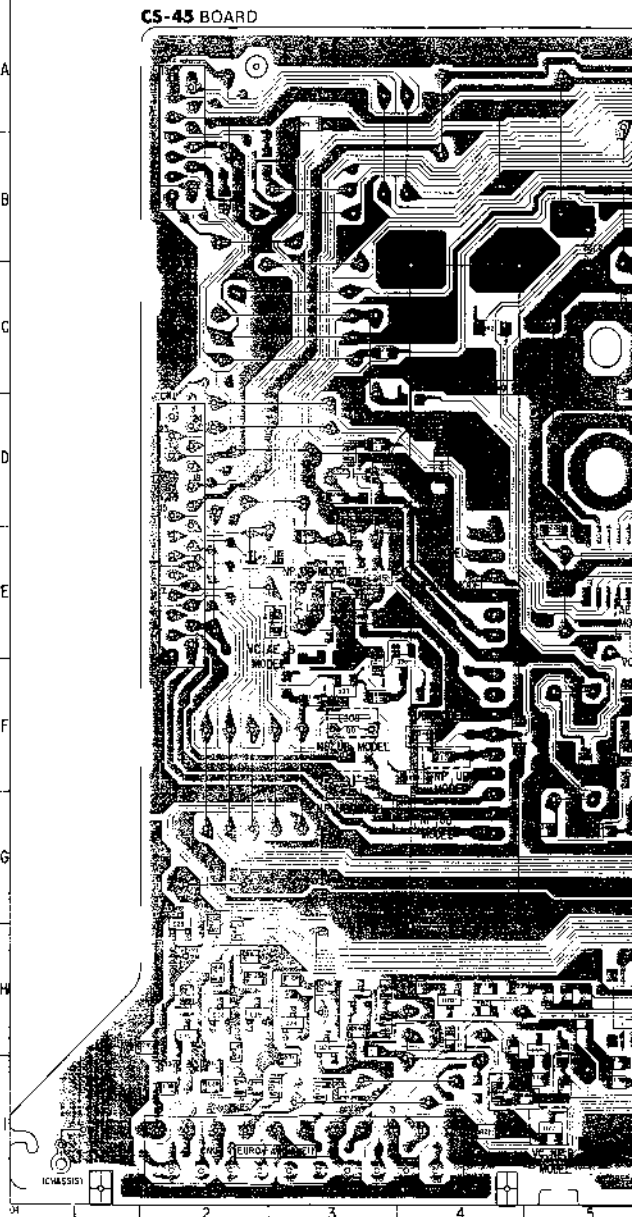


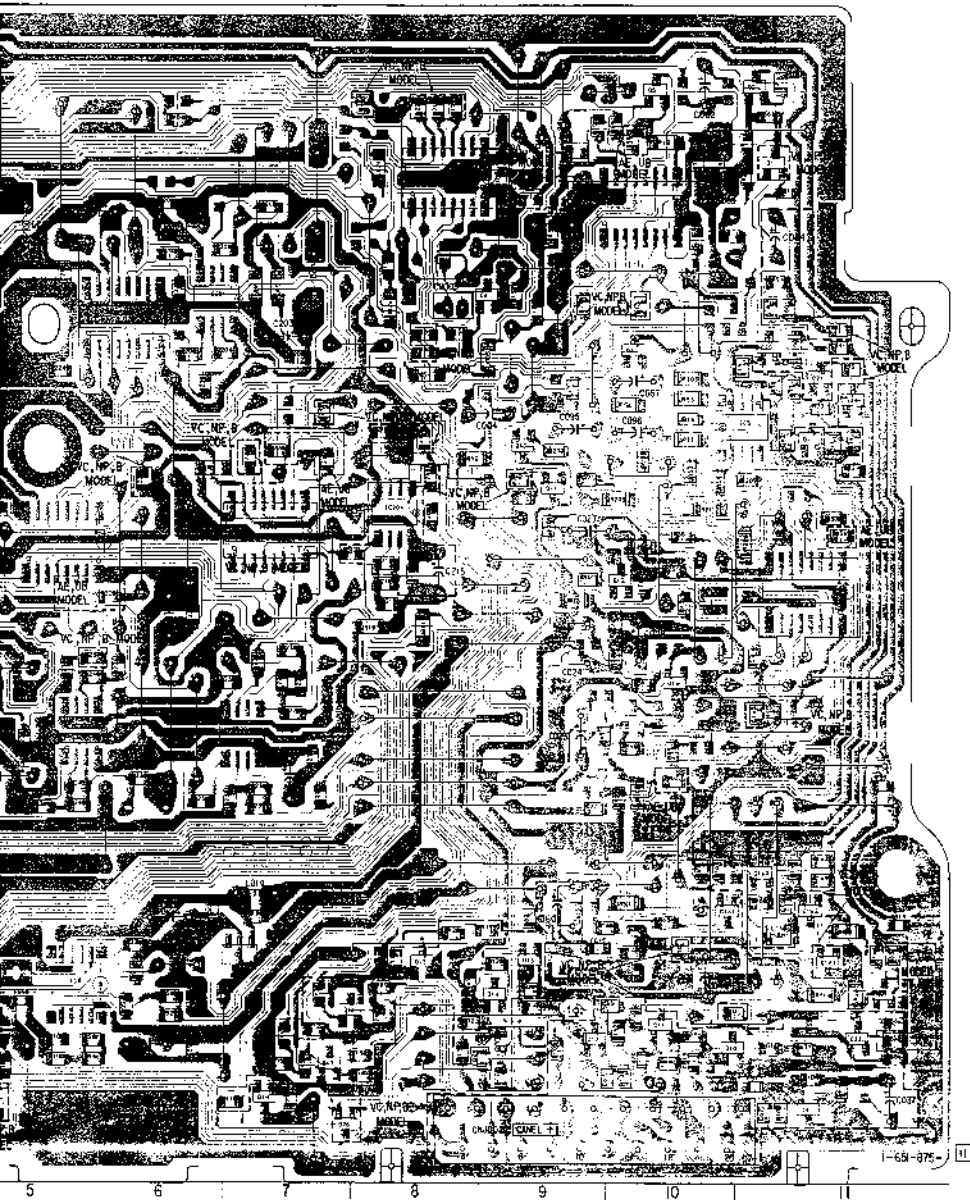
CS-45 (CANAL+, I/O, NICAM) PRINTED WIRING BOARD  
 —Ref. No. CS-45 BOARD: 8000 series

CS-45 BOARD



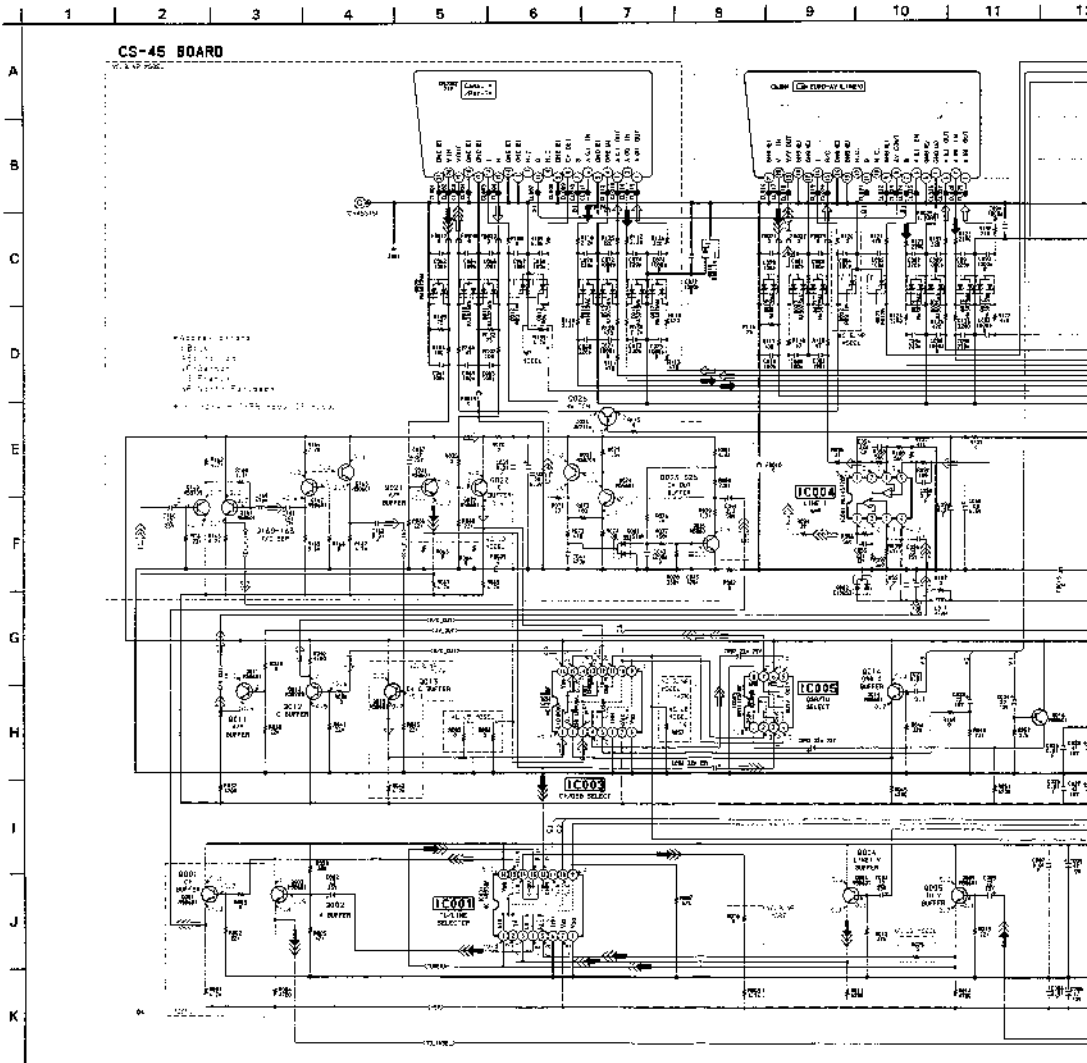
CS45 BOARD	
CR001	D-2
CR002	A-2
CR003	F-8
CR01	D-1
CR02	H-7
CR09	I-1
CR0C	I-10
CR01	K-10
CR12	I-8
CR14	H-8
CR15	H-6
CR17	I-7
CR18	I-7
CR19	K-5
CR20	H-4
CR21	H-3
CR22	I-4
CR23	H-3
CR24	H-4
CR25	H-2
CR26	H-2
CR27	H-2
CR28	H-2
CR21	B-10
CR22	B-8
CR23	E-11
CR24	H-5
CR25	P-11
CR26	C-5
CR27	C-5
CR28	E-5
CR29	E-8
CR30	E-7
CR31	F-7
CR32	F-5
CR33	B-11
CR34	A-11
CR35	E-10
CR36	A-10
CR37	F-1
CR38	D-9
CR39	E-10
CR40	D-9
CR41	F-10
CR42	F-10
CR43	H-11
CR44	H-11
CR45	H-11
CR46	H-11
CR47	H-11
CR48	H-11
CR49	H-11
CR50	H-11
CR51	H-11
CR52	H-11
CR53	H-11
CR54	H-11
CR55	H-11
CR56	H-11
CR57	H-11
CR58	H-11
CR59	H-11
CR60	H-11
CR61	H-11
CR62	H-11



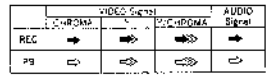


1-69-876-1

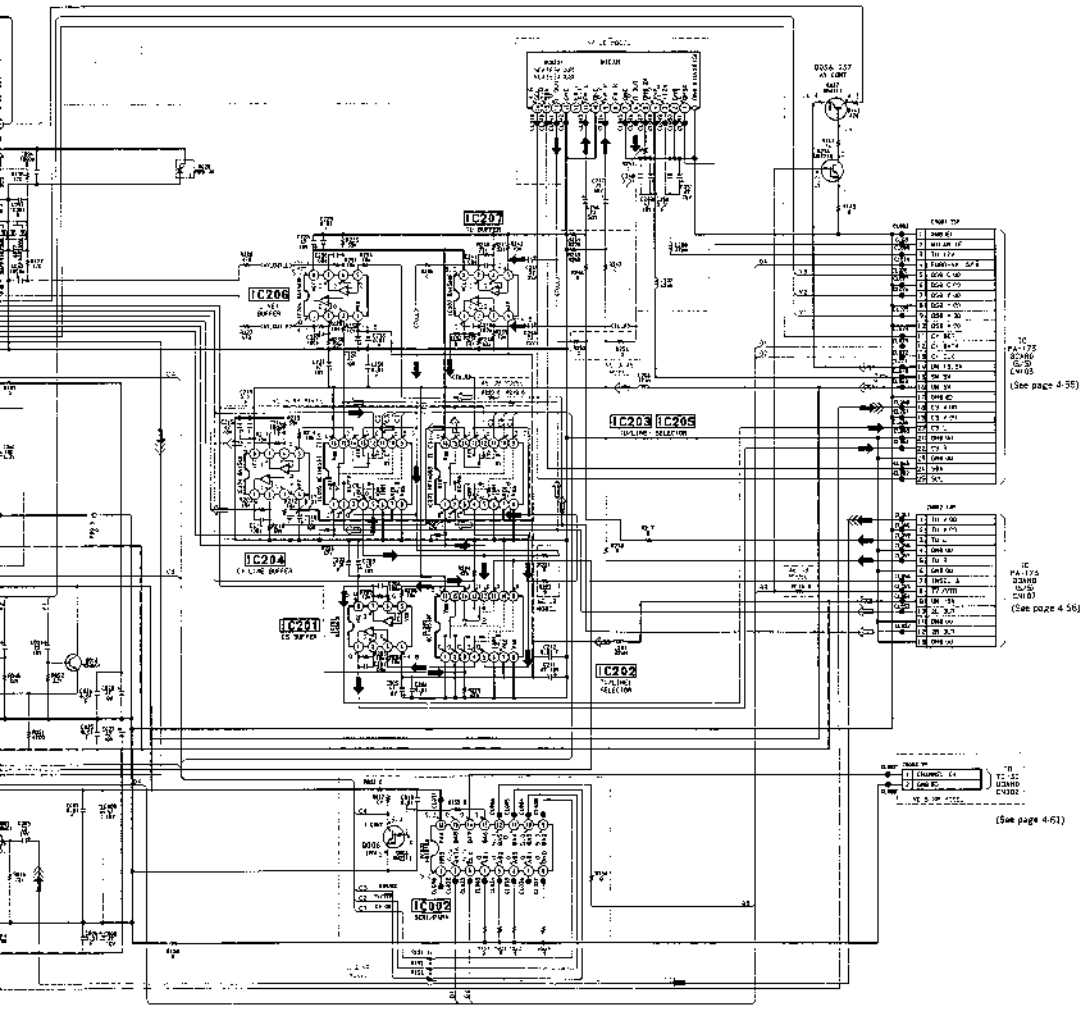
CS-45 (CANAL+, I/O, NICAM) SCHEMATIC DIAGRAM  
 —Ref. No. CS-45 BOARD: 5100 Series—



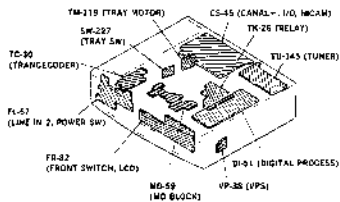
• Signal path



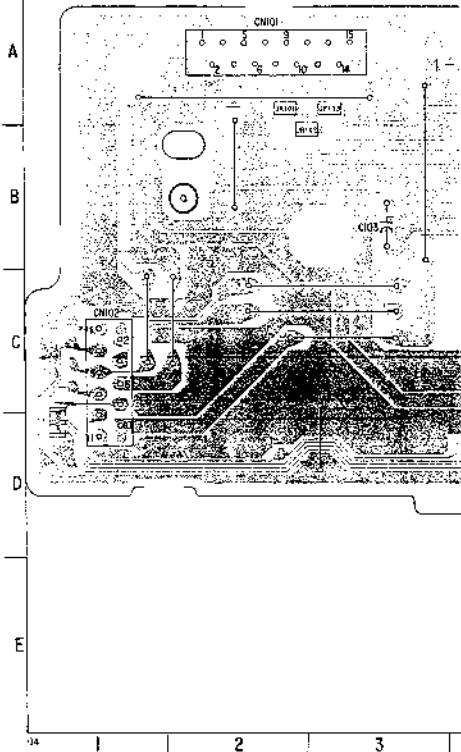
11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22



**FR-82 (FRONT SWITCH, LCD), FL-57 (LINE IN2, POWER SWITCH) PRINTED WIRING BOARDS**  
 Ref. No. FR 82 and FL 57 BOARDS - 6000 series—

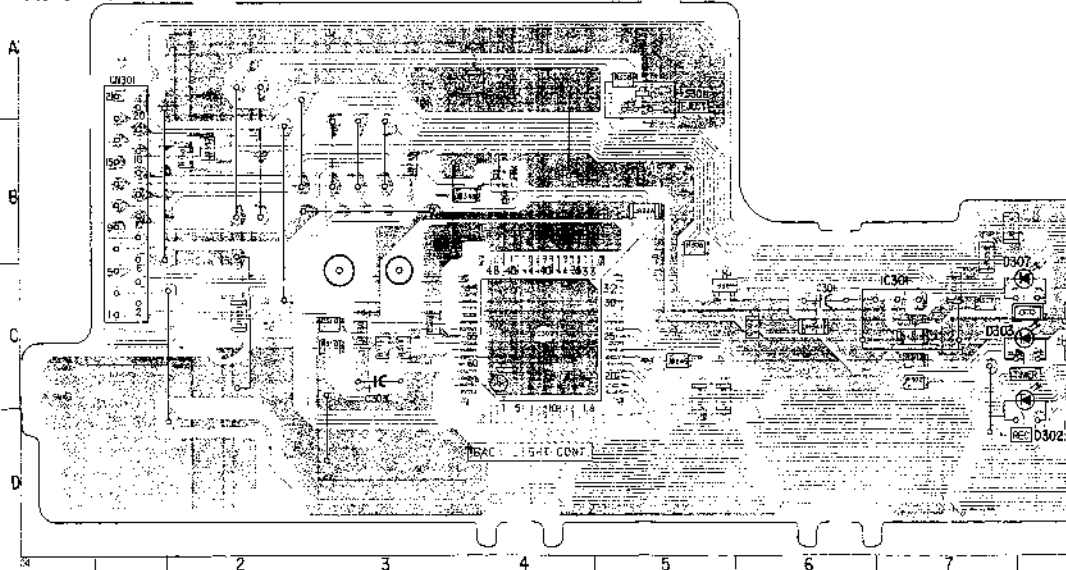


**FL-57 BOARD**



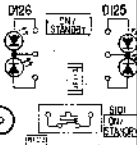
- FR 82 BOARD
- CR301 C 1
  - CR302 C 14
  - D501 D 12
  - D100 D 8
  - D103 D 8
  - D304 D 11
  - D305 C 12
  - D507 C 8
  - D308 C 11
  - C10 C 1
  - C101 C 4
  - D103 32
  - D304 C 11
  - D305 C 12
  - D307 C 5
  - D321 C 13

**FR-82 BOARD**



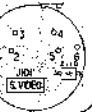


FL-S7  
1-649-627-



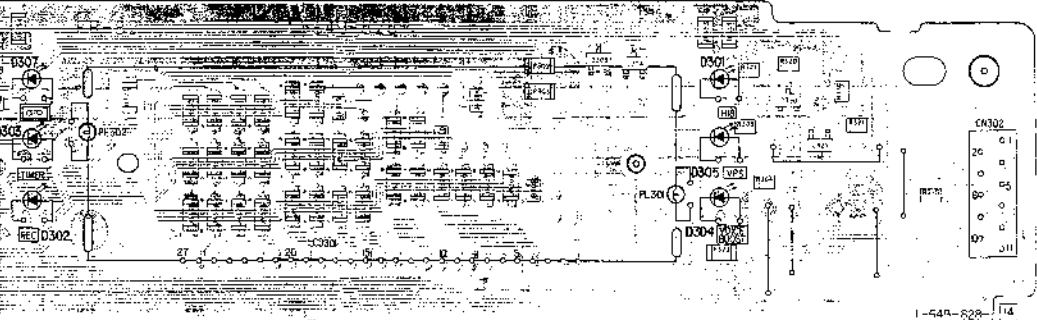
- | FL-S7 BOARD |    |
|-------------|----|
| 0101        | 12 |
| 0102        | 11 |
| 0103        | 10 |
| 0104        | 9  |
| 0105        | 8  |
| 0106        | 7  |
| 0107        | 6  |
| 0108        | 5  |
| 0109        | 4  |
| 0110        | 3  |
| 0111        | 2  |
| 0112        | 1  |
| 0113        | 11 |
| 0114        | 10 |
| 0115        | 9  |
| 0116        | 8  |
| 0117        | 7  |
| 0118        | 6  |
| 0119        | 5  |
| 0120        | 4  |
| 0121        | 3  |
| 0122        | 2  |
| 0123        | 1  |
| 0124        | 11 |
| 0125        | 10 |
| 0126        | 9  |
| 0127        | 8  |
| 0128        | 7  |
| 0129        | 6  |
| 0130        | 5  |
| 0131        | 4  |
| 0132        | 3  |
| 0133        | 2  |
| 0134        | 1  |
| 0135        | 11 |
| 0136        | 10 |
| 0137        | 9  |
| 0138        | 8  |
| 0139        | 7  |
| 0140        | 6  |
| 0141        | 5  |
| 0142        | 4  |
| 0143        | 3  |
| 0144        | 2  |
| 0145        | 1  |
| 0146        | 11 |
| 0147        | 10 |
| 0148        | 9  |
| 0149        | 8  |
| 0150        | 7  |
| 0151        | 6  |
| 0152        | 5  |
| 0153        | 4  |
| 0154        | 3  |
| 0155        | 2  |
| 0156        | 1  |
| 0157        | 11 |
| 0158        | 10 |
| 0159        | 9  |
| 0160        | 8  |
| 0161        | 7  |
| 0162        | 6  |
| 0163        | 5  |
| 0164        | 4  |
| 0165        | 3  |
| 0166        | 2  |
| 0167        | 1  |
| 0168        | 11 |
| 0169        | 10 |
| 0170        | 9  |
| 0171        | 8  |
| 0172        | 7  |
| 0173        | 6  |
| 0174        | 5  |
| 0175        | 4  |
| 0176        | 3  |
| 0177        | 2  |
| 0178        | 1  |
| 0179        | 11 |
| 0180        | 10 |
| 0181        | 9  |
| 0182        | 8  |
| 0183        | 7  |
| 0184        | 6  |
| 0185        | 5  |
| 0186        | 4  |
| 0187        | 3  |
| 0188        | 2  |
| 0189        | 1  |
| 0190        | 11 |
| 0191        | 10 |
| 0192        | 9  |
| 0193        | 8  |
| 0194        | 7  |
| 0195        | 6  |
| 0196        | 5  |
| 0197        | 4  |
| 0198        | 3  |
| 0199        | 2  |
| 0200        | 1  |

STOP OPERATION SIGNAL  
STOP OPEN CLOSE



1-649-627-

14



1-649-627-

14

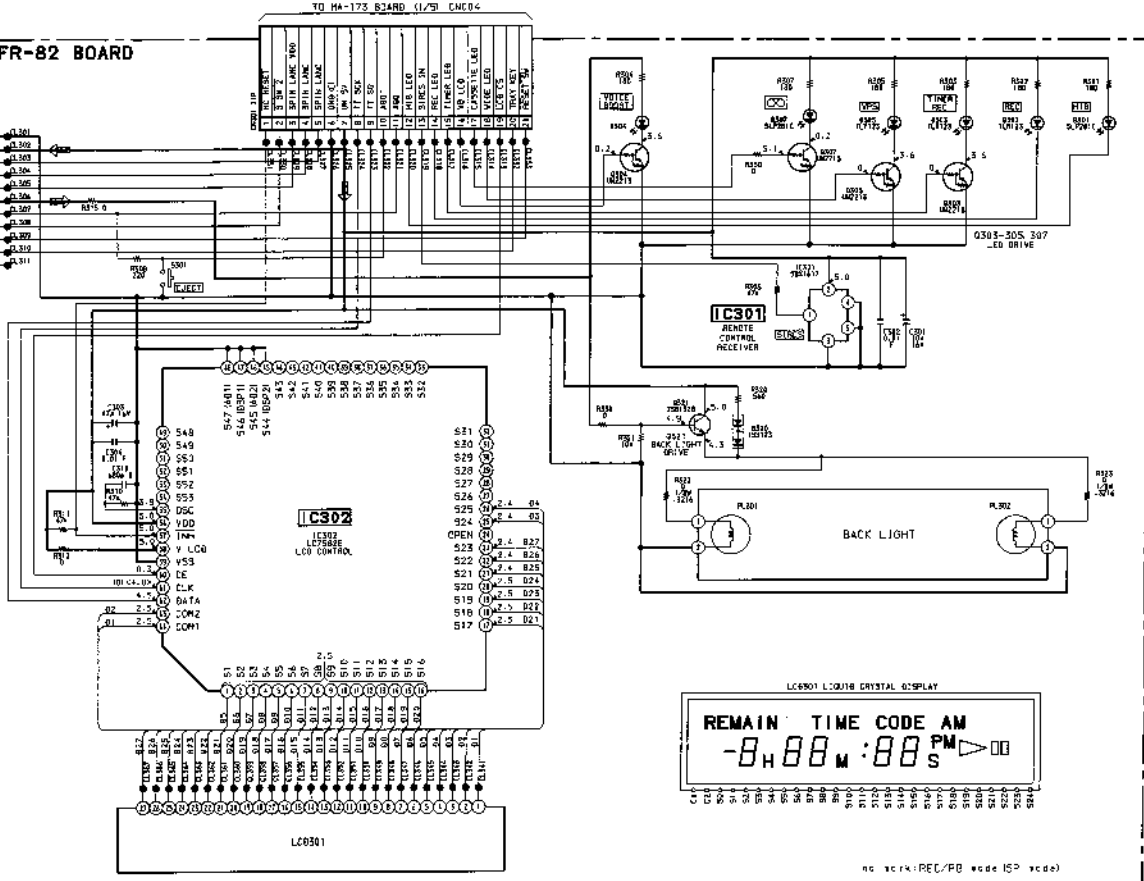
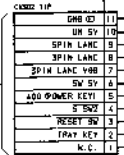


15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29

(See page 4-42)

TO HA-173 BOARD (L7) CNCD4

FR-82 BOARD



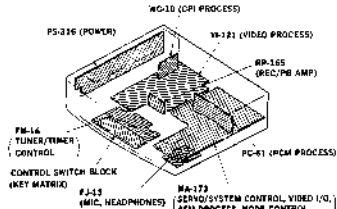
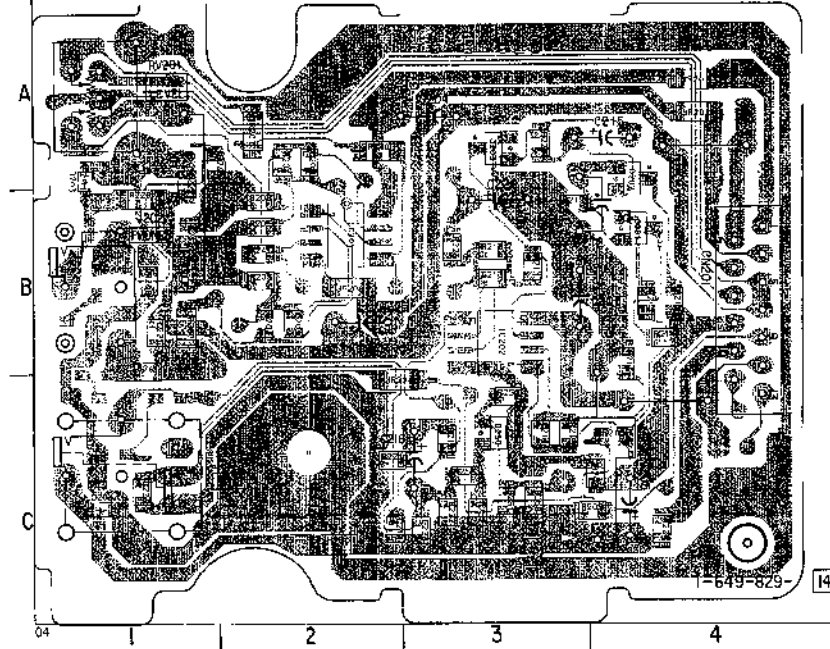
no work:REC/PB mode ISP mode)

**FJ-13 (MIC, HEADPHONES) PRINTED WIRING BOARD**  
 —Ref. No. FJ-13 BOARD: 6000 series—

**FJ-13 (MIC, HEADPHONES) SCHE**  
 —Ref. No. FJ-13 BOARD: 6000 sc

F, 31 BOARD  
 DN20: 6-4  
 DN23 A-3  
 DN24 E-3  
 \*C22L 6-2  
 IC22W 6-3  
 DN21: 5-4  
 DN22 A-4  
 DN25 + 3  
 DN26 O-3

**FJ-13 BOARD**



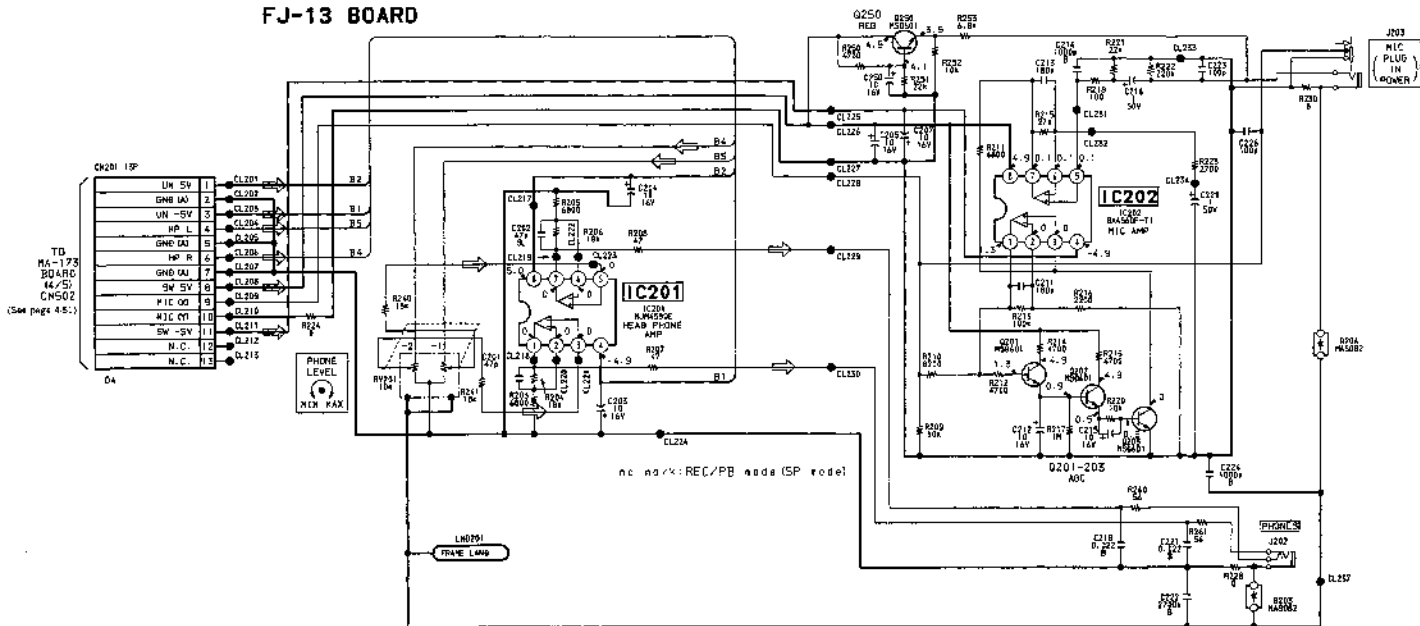
DN20: 1SP	
1	1
	BRD
	LN
	OP
	HI
	OP
	S
	N1
	N1E
	5N
	N

04

3 (MIC, HEADPHONES) SCHEMATIC DIAGRAM  
 1. o. FJ-13 BOARD: 6070 series—

1      2      3      4      5      6      7      8      9      10      11      12      13      14      15      16

FJ-13 BOARD



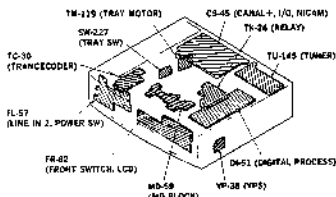
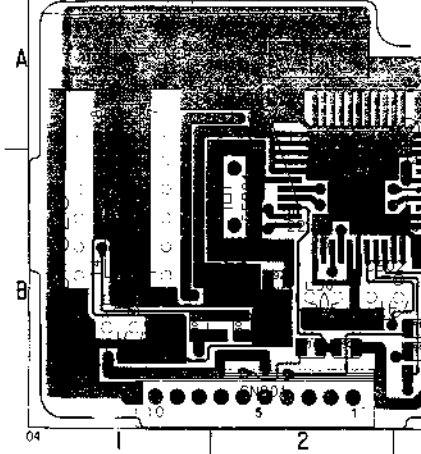
TD  
 MA-173  
 BOARD  
 4451  
 CN502  
 (See page 4.5.)

\* Signal path

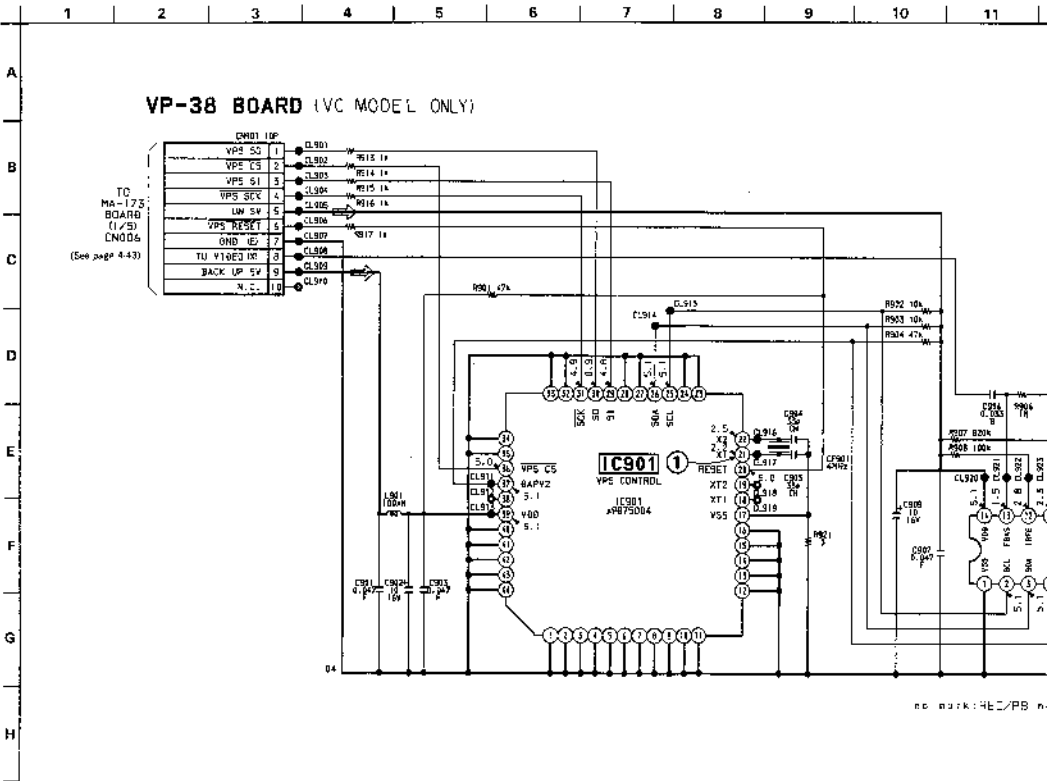
	AUDIO Signal
REC	→
PB	⇌

VP 38 60430  
 C901 B:2  
 C903 B:2  
 K907 B:1

VP-38 BOARD (COMPONENT SIDE)

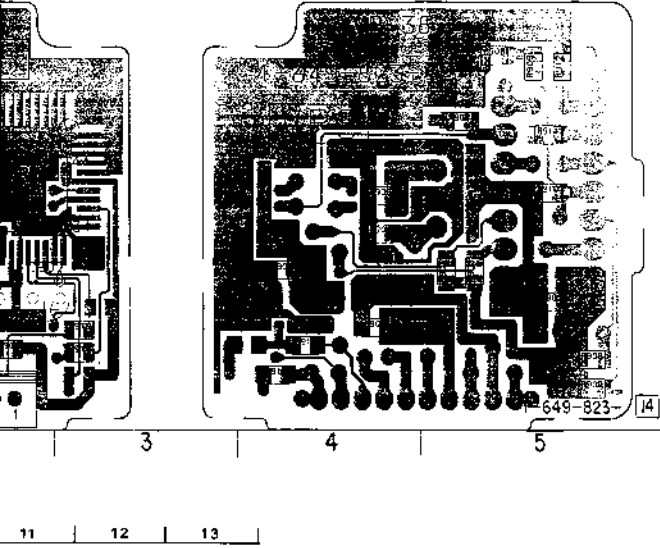


VP-38 (VPS) SCHEMATIC DIAGRAM  
 —Ref. No. VP 38 BOARD: 4000 series—

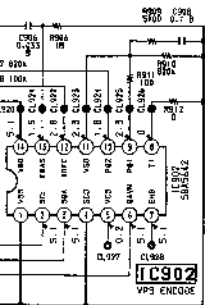
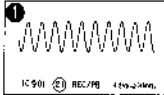


NT SIDE)

VP-38 BOARD(CONDUCTOR SIDE)

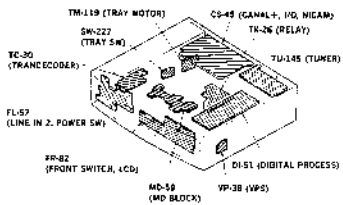


VP-38 BOARD



K-REC/PB code (SP code):

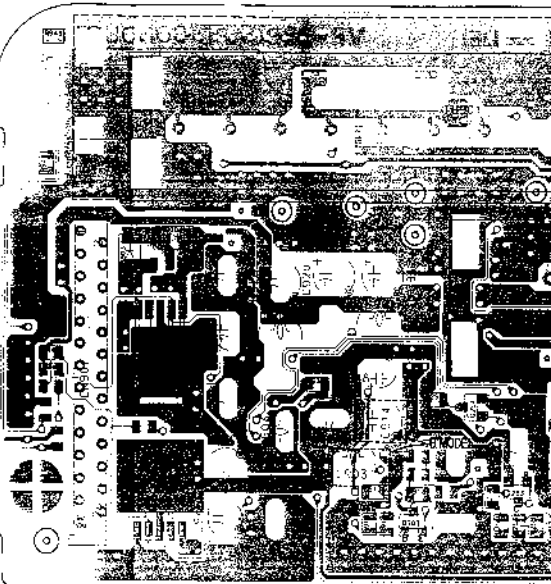
**TU-145 (TUNER) PRINTED WIRING BOARD**  
 —Ref No. TU-145 BOARD: 3000 series—



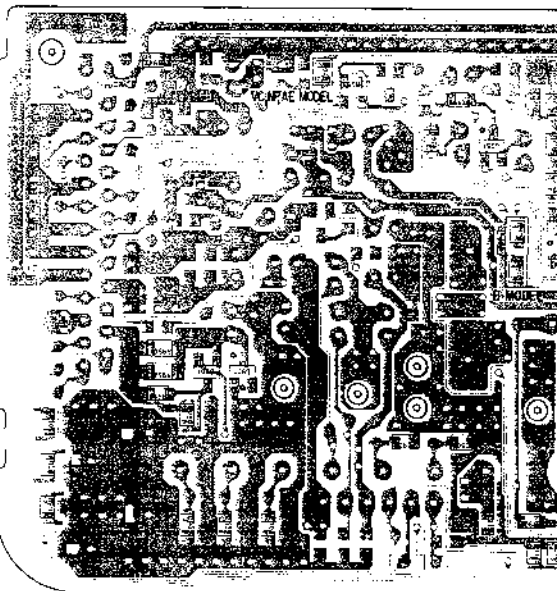
TU 145 BOARD  
 (K90) C 1

D251	Q1
D811	Q2
D903	Q3
D904	Q4
IC901	C5
IC902	C2
IC903	E2
Q251	L4
D219	E4
Q254	E4
Q4C1	N2
Q4C2	N3
Q903	E3
Q904	E4

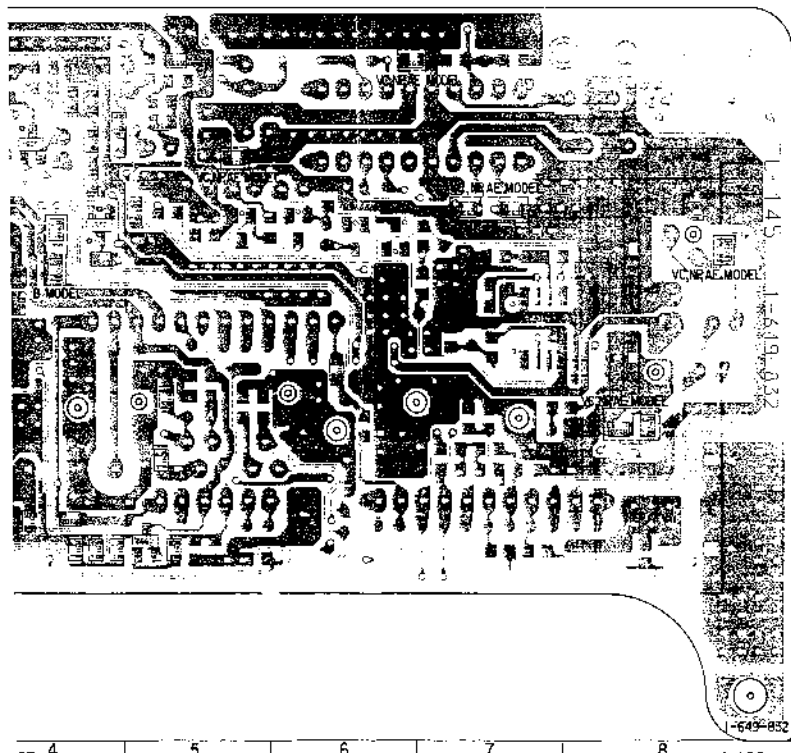
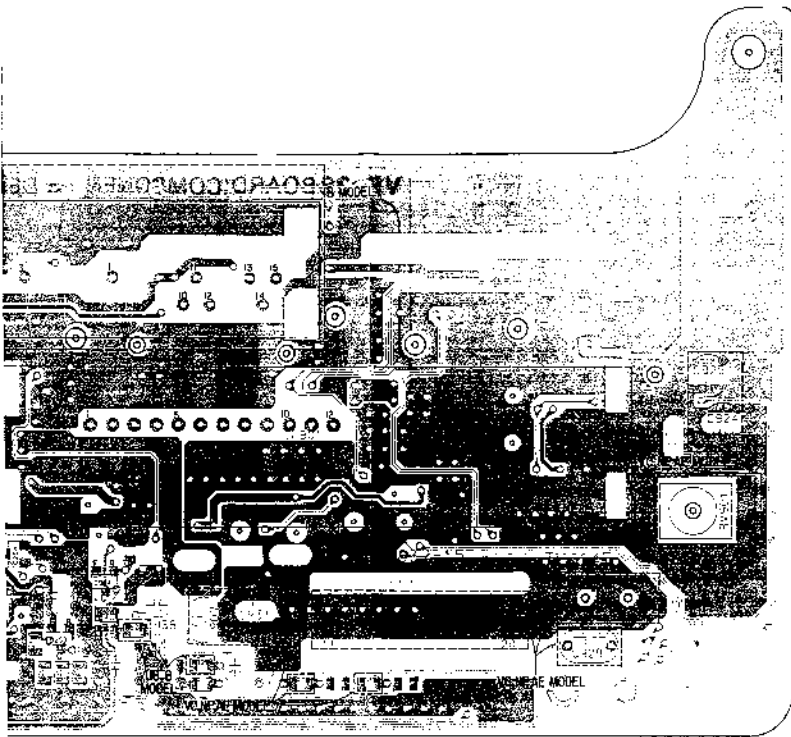
**TU-145 BOARD (COMPONENT SIDE)**



**TU-145 BOARD (CONDUCTOR SIDE)**







**TU-145 (TUNER) SCHEMATIC DIAGRAM**  
 —Ref. No. TU-145 BOARD; 5000 series

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

A  
B  
C  
D  
E  
F  
G  
H  
I  
J

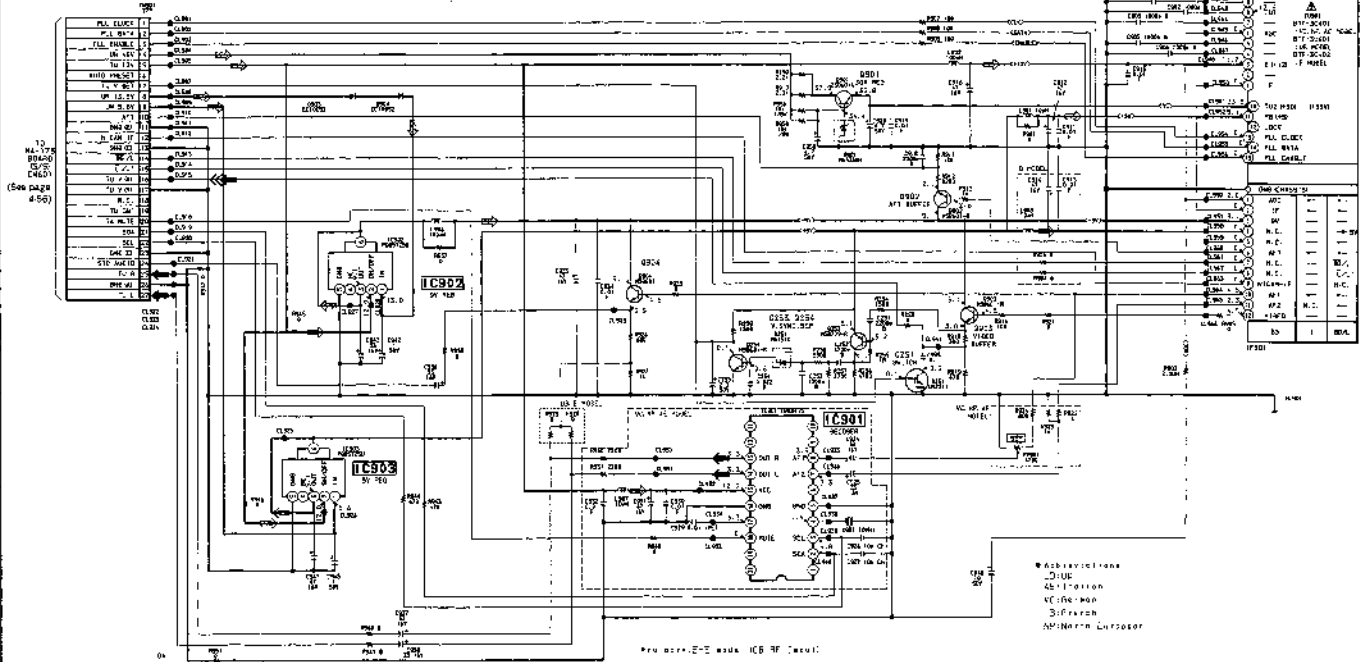
**Note:**  
 The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety.  
 Replace only with part number specified.

**Note:**  
 Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité.  
 Ne les remplacer que par une pièce portant le numéro spécifié.

• Signal path

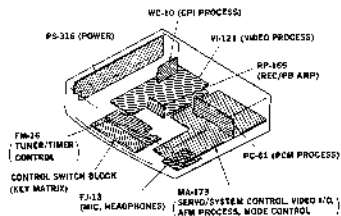
	CHROMA 1	VIDEO Signal	CHROMA	AUDIO Signal
RED	→	→	→	→
PB	→	→	→	→

**TU-145 BOARD**

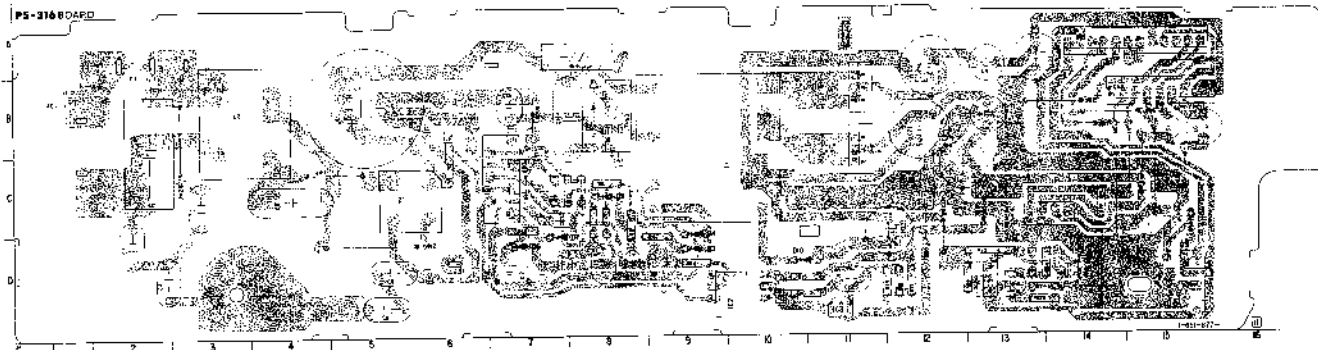


# EV-S9000E AE/B/NP/UB/VC

PS-316 (POWER) PRINTED WIRING BOARD  
 —Ref No. PS-316 BOARD, 8000 series

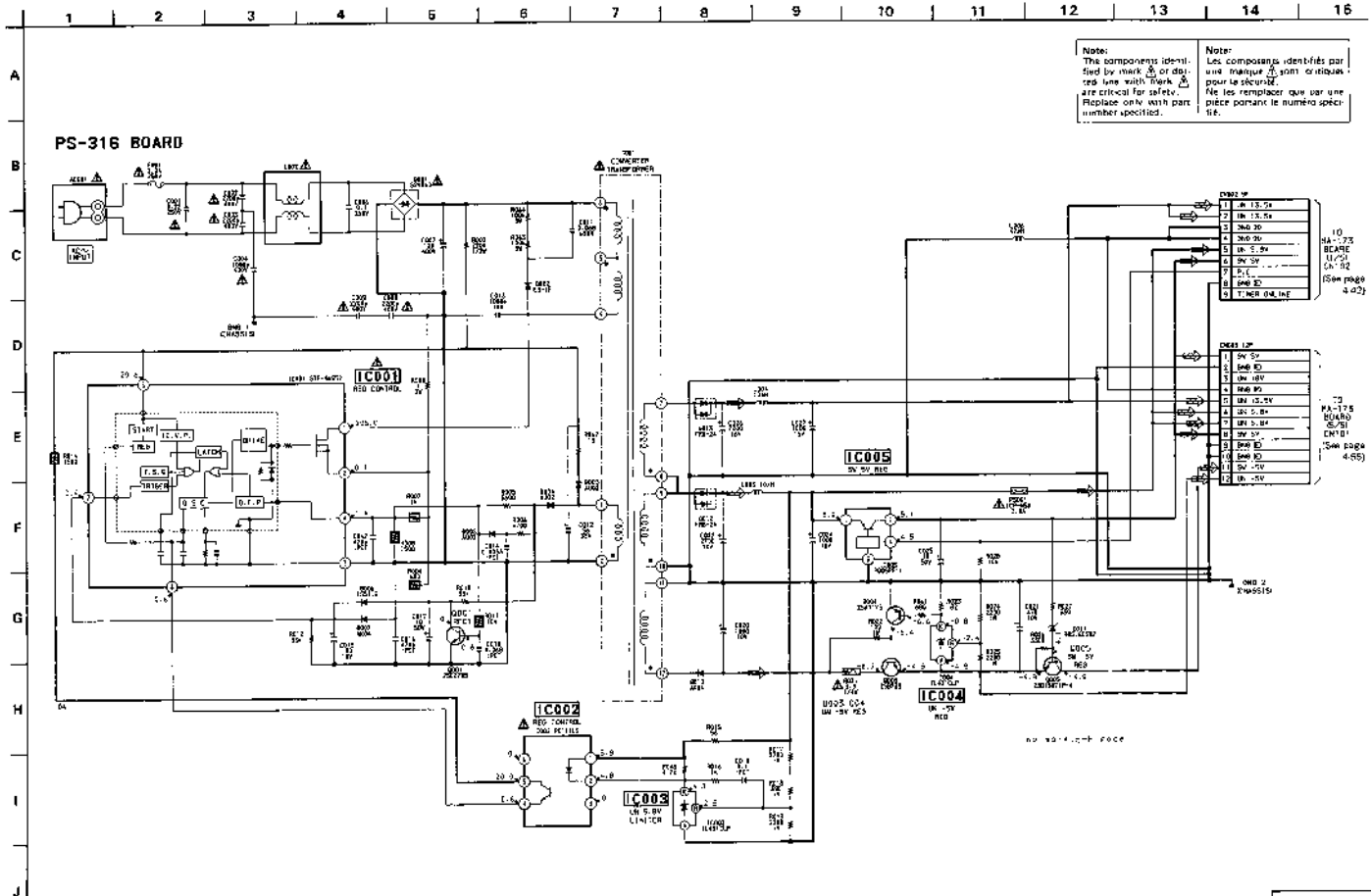


PS-316 BOARD	
IC001	C-6
IC002	D-10
IC003	D-11
IC004	C-13
IC005	C-13
Q001	D-7
Q003	D-14
Q004	C-14
Q005	D-15



PS-316 (POWER) SCHEMATIC DIAGRAM

—Ref. No. PS-316 BOARD, 8000 series



### 4-3. SEMICONDUCTORS

DTA144EK  
DTC114TK  
DTC144EK  
M5P601-RT1  
UN211L  
UN211J  
UN211G  
UN221J  
UN221S

2SA1162-Y  
2SA1228-E4  
2SB1121-S  
2SB1295-UL6  
2SC1623A-SL6  
2SC2223-F13  
2SC2223-F14  
2SC2712-YG  
2SC3054-F  
2SC3326N-A  
2SD1328-PST  
2SD601A-S

XN4213  
XN4501

XN4312  
XN4601

XN501

2SA1175-MPE  
2SC2795-MPE

Inter-pack  
E C B

2SA1237F-6B



2SB733-34  
2SD1387-3



2SD999-CLK



2SD1805FA-F



AKO4V0



AU02A-V0  
RD3.6ESB2  
ISS119

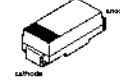


DW4010



1. CATHODE  
2. CATHODE  
3. ANODE  
4. ANODE

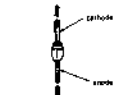
EC10052



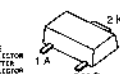
EC10Q5-04  
IS2836



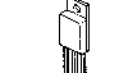
ES1F-4I



E10D62



FMB-24



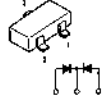
GL4535



MA110  
1T33C-01



MA152WK  
MA701A  
ISS164



MA3230WA-TX  
MA3330-H-TX  
MA721WA-TX

RD13M-B1  
RD3.0M-B1  
RD4.75M-B  
RD6.2M-B2  
RD6.3M-B1  
RD9.1M-B1  
RD9.1M-B2  
SB05-05CP  
ISS193



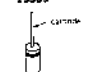
MA806B  
MA8082-M



MSB709-RT1



RD7.5M-B2  
ISS83



RD12M-B  
SB10-05PCP



S2V860



ISS226



1T32



PV5504S-I



SLP281C-80  
TLR123  
TLV123



SML1216W



1. ANODE RED  
2. CATHODE  
3. ANODE GREEN

**SECTION 5**  
**REPAIR PARTS LIST**

**5-1. EXPLODED VIEWS**

**NOTE:**

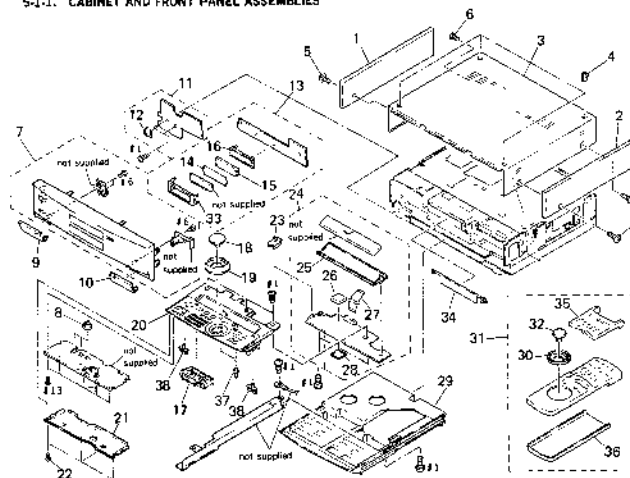
- The mechanical parts with no ref-no-e number in the exploded views are not supplied.
- Items marked "N" are not stocked since they are seldom required for routine service. See below should be anticipated when ordering these items.
- "S" and "X" mean standardized parts, as they may have some difference from the original one.

- Hardware (X mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviations:  
 LW : Lens  
 AE : Italian  
 GE : German  
 W : With European  
 F : French

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

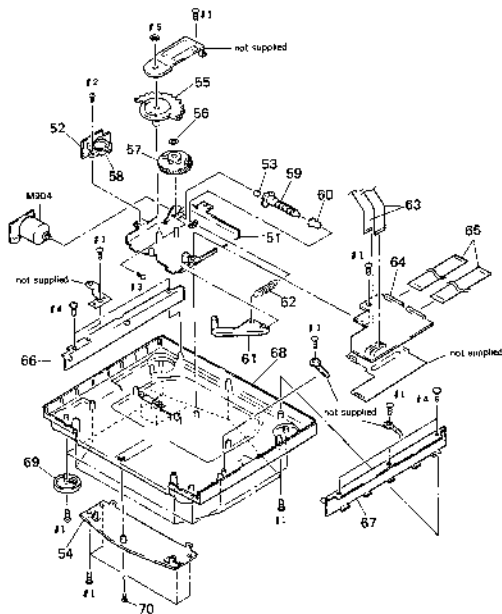
Les composants identifiés par une croix **X**, sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

**5-1-1. CABINET AND FRONT PANEL ASSEMBLIES**

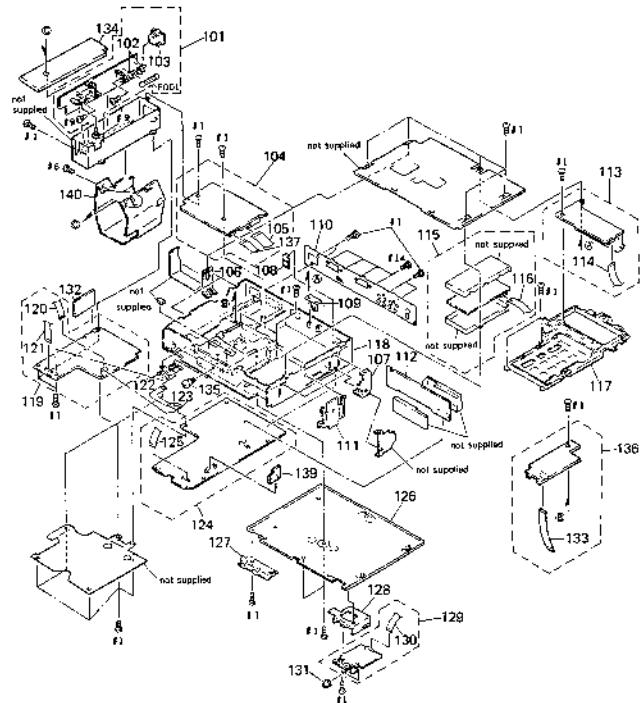


Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-955-954-01	PANEL, LHS, SIDE		10	3-955-943-01	RING, SIMITLER	
2	3-955-953-01	PANEL, RHS, SIDE		20	X-3944-300-1	HOUSING ASSY (PVC)	
3	3-955-956-01	CASE, UPPER		X-3943-814-1	HOUSING ASSY (IMP. AC, U, B)		
4	3-955-224-01	FASTENER, TOP ORNAMENTAL		* 21	3-956-197-01	BRACKET, SWITCH	
5	3-943-801-01	SCREEN, SLIDE WOOD		22	3-715-790-01	SCREEN (PAPER), TAPPING, P3	
6	3-793-001-11	SCREW, TAPPING		23	3-955-901-01	RAWB, SLIDE	
7	X-3944-800-1	PANEL ASSY, FRONT (PVC)		* 24	A-7063-938-A	PM-16 (S) BOARD, COMPLETE	
7	X-3944-802-1	PANEL ASSY, FRONT (IMP)		* 25	3-955-953-01	HOLDER, INDICATOR TUBE	
7	X-3944-803-1	PANEL ASSY, FRONT (B)		* 26	3-955-927-01	CASE (PVC), 3-1/2" X 1 1/2"	
7	X-3944-804-1	PANEL ASSY, FRONT (S)		27	1-251-600-11	CABLE, FLAT (IMP) 3' 5/8"	
7	X-3944-804-1	PANEL ASSY, FRONT (AE)		* 28	X-3943-415-1	L13 ASSY, DOB (SE) CASE REAR	
8	3-357-896-01	DOOR, B		* 29	X-3943-415-1	TRAY ASSY (IMP AE, U, B)	
9	3-955-946-11	DOOR (L13)		* 29	X-3943-415-1	TRAY ASSY (PVC)	
10	3-955-946-21	DOOR (L13) (R)		* 30	3-955-358-01	RING, 3/16" DIA.	
* 11	X-7062-932-A	EL-57 (S) BOARD, COMPLETE		31	1-467-235-31	REPOTE COMPARTER (IMP) 1/2" DIA.	
* 12	3-347-120-01	HOLDER, TERMINAL, S		32	3-955-363-01	DIAL, JUG	
* 13	A-7063-924-A	FR. SE. (S) BOARD, COMPLETE		* 33	X-3943-675-1	PLATE ASSY, 50MM, (S)	
* 13	3-955-937-01	ILLUMINATOR		34	3-955-929-01	DOOR, CASSETTE COMPARTMENT	
* 15	1-855-930-01	PLATE, LIGHT GUIDE, (L)		35	3-708-870-01	COVER, V1338	
* 16	3-955-931-01	INDICATOR, LED		36	3-954-562-11	COVER, SLIDE	
17	3-956-130-01	KEY TOP SET		37	3-957-105-01	KEY TOP	
18	3-955-139-11	KEY, JUG		38	3-955-524-01	KEY, B	

### 5-1-2. TRAY CHASSIS COMPLETE ASSEMBLY



### 5-1-3. MAIN BOARDS ASSEMBLY



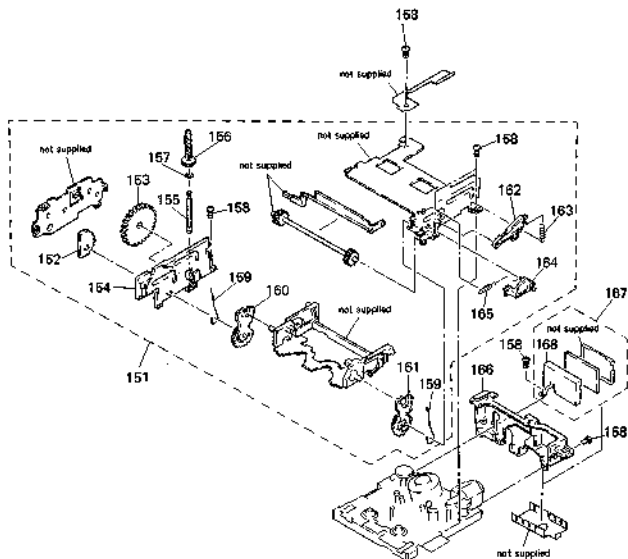
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	X 3143-454-1	CHASSIS ASSY, TRAY/MS		52	S 939-835-01	SPRING, TENSION (LUGS 6MP)	
52	X 3150-413-1	DR-223 BOARD		53	X 3751-001-11	CABLE, FLAT (SMT-2) 57P	
53	S-855-886-01	ROUNDER JOINT		54	4-9283 837-4	16-28 DR BOARD, COMPLETE	
54	X 3049-102-2	STACK ASSY		55	1-7823-111-1	CABLE, FLAT (SMT-1) 75P	
55	S-855-940-01	GEAR, FLAT		56	S-1811 359-1	PLATE ASSY, C3, FOLDER	
56	X 348-500-01	WASHER (35), STRIPPER		57	X 3942-340-1	PLATE ASSY (DR), FOLDER	
57	S-835 925-04	WASHER, HELICAL		58	X-455 852-04	CHASSIS, TRAY	
58	1-571-200 2	SWITCH, ROTARY		59	S-851-083-1	INSULATOR	
59	X 376-10-01	REAR FLG, WOP		60	X 313-28-2	SCHER (DR) BOARD, TAPPING, FS	
60	X-376 184-02	METAL/CR. BUSH		MS04	X-6359-573	MOTOR BLOCK ASSY, TRAY (including DR-116 BOARD)	
61	S-855-524-01	SPR. LOCK					

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 101	A-7063-830-A	PS-316 (G) BOARD, COMPLETE		* 119	A-7063-922-A	VJ-123 (G) BOARD, COMPLETE (VC, NP, B)	
102	1-523-183-11	HOLDER, FUSE		* 119	A-7066-006-A	VJ-123 (I) BOARD, COMPLETE (AE, UB)	
$\Delta$ 103	1-251-134-11	WALET, AC (MONOPOLAR)		120	1-751-600-11	CABLE, FLAT (FVW-1) 21P	
* 104	A-7063-931-A	CS-45 (G) BOARD, COMPLETE (VC, B)		121	1-751-608-11	CABLE, FLAT (FVW-2) 15P	
* 104	A-7063-937-A	CS-45 (K) BOARD, COMPLETE (UB)		* 122	3-955-911-01	PLATE, GROUND, BP	
* 104	A-7066-003-A	CS-45 (M) BOARD, COMPLETE (NP)		* 123	3-955-917-01	PLATE, GROUND, BA	
* 104	A-7066-016-A	CS-45 (I) BOARD, COMPLETE (AE)		* 124	A-7063-927-A	MA-173 (G) BOARD, COMPLETE (VC)	
105	1-751-601-11	CABLE, FLAT (FMC-4) 25P		* 124	A-7063-930-A	MA-173 (F) BOARD, COMPLETE (B)	
* 106	3-955-923-01	PLATE, FIXED (L), BOTTOM PLATE		* 124	A-7063-936-A	MA-173 (R) BOARD, COMPLETE (UB)	
* 107	3-955-927-01	PLATE, FIXED (R), BOTTOM PLATE		* 124	A-7066-002-A	MA-173 (N) BOARD, COMPLETE (NP)	
* 108	3-955-903-01	PLATE, GROUND, BFU		* 124	A-7066-015-A	MA-173 (I) BOARD, COMPLETE (AE)	
* 109	3-955-904-01	PLATE, GROUND, BU		125	1-751-605-11	CABLE, FLAT (FVW-6) 21P	
* 110	3-955-935-11	PLATE, ORNAMENTAL, JACK (VC)		* 126	3-955-951-01	PLATE, BOTTOM	
* 110	3-955-935-31	PLATE, ORNAMENTAL, JACK (AE)		* 127	3-955-938-01	REINFORCEMENT (LEFT)	
* 110	3-955-935-41	PLATE, ORNAMENTAL, JACK (NP)		* 128	A-2943-036-1	REINFORCEMENT (RIGHT) ASSY	
* 110	3-955-935-51	PLATE, ORNAMENTAL, JACK (UB)		* 129	A-7063-935-A	FJ-13 (G) BOARD, COMPLETE	
* 110	3-955-935-61	PLATE, ORNAMENTAL, JACK (B)		130	1-751-602-11	CABLE, FLAT (FVW-9) 13P	
* 111	1-955-936-01	COVER, CARD		131	3-955-955-01	ENCLOSURE, VOLUME	
* 112	A-7063-930-A	PC-61 (G) BOARD, COMPLETE		* 132	A-7063-929-A	MC-10 (G) BOARD, COMPLETE	
* 113	A-7063-936-A	TU-145 (G) BOARD, COMPLETE (VC, NP, AE)		133	1-751-608-11	CABLE, FLAT (EXT-5)	
* 113	A-7063-936-A	TU-145 (F) BOARD, COMPLETE (B)		* 134	3-955-939-03	LID, POWER CASE, SHIELD	
* 113	A-7063-936-A	TU-145 (C) BOARD, COMPLETE (UB)		135	3-741-548-01	SCREEN (3), SPECIAL (+) TAPPING (VC)	
114	1-751-603-11	CABLE, FLAT (FVW-1) 27P		* 136	A-7063-940-A	TC-30 (G) BOARD, COMPLETE (VC, NP)	
* 115	A-7063-932-A	DI-61 (G) BOARD, COMPLETE		* 136	A-7063-935-A	TC-30 (F) BOARD, COMPLETE (B)	
116	1-751-604-11	CABLE, FLAT (FVW-4) 25P		137	1-765-177-11	CABLE, FLEXIBLE FLAT (FMC-5) 13P	
* 117	3-955-949-01	HOLDER, PC BOARD		* 138	A-7071-095-A	WP-18 (C) BOARD, COMPLETE (VC)	
* 118	3-955-960-01	FRAME, WELD		140	3-959-319-01	POWER SHIELD SHEET	
				$\Delta$ P001	1-578-229-01	FUSE, GLASS TUBE (250V/2A)	



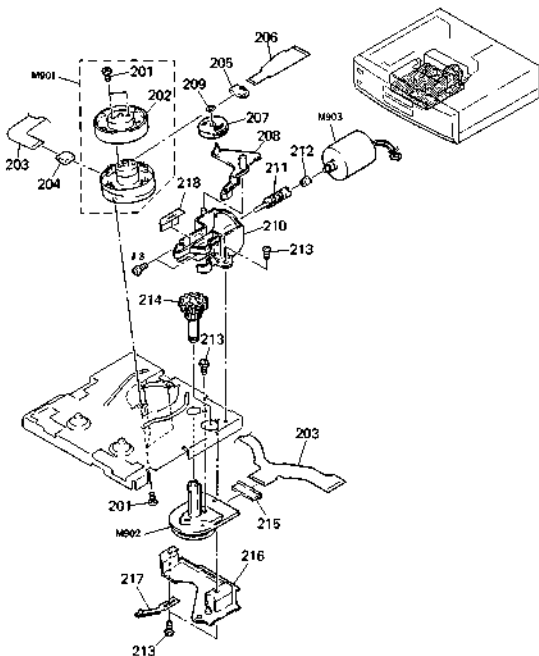
### 5-1-4. CASSETTE COMPARTMENT ASSEMBLY



Ref. No.	Part No.	Description	Remark
151	3-7091-011-A	FL. BLOCK ASSY	
152	3-954-010-01	GEAR, DRIVING	
153	3-954-019-01	WHEEL, FL. MOTOR	
• 154	3-954-032-01	PLATE (CS), SIDE	
▲ 155	3-954-029-01	SHAFT, FL. MOTOR GEAR	
156	3-954-028-01	GEAR, FL. MOTOR	
157	3-738-212-11	RETAINER, THROUSE, WHEEL TABLE	
158	3-732-617-01	SCREW (CS), TAPPING	
159	3-954-042-01	SPRING, PRESS	

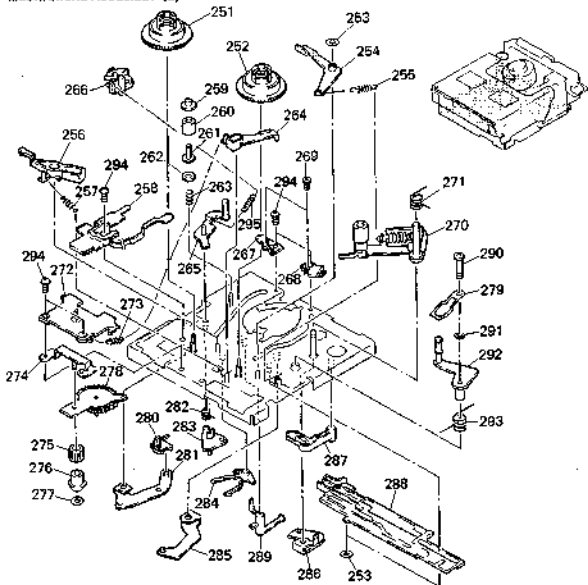
Ref. No.	Part No.	Description	Remark
160	3-954-034-01	ARM (CS), DRIVING	
161	3-954-023-01	ARM (CS), DRIVING	
• 162	3-954-040-01	ARM, CASSETTE IN SWITCH	
163	3-954-043-01	SPRING, TENSION	
• 164	3-954-041-01	ARM, ROOM SWITCHING	
165	3-954-044-01	SPRING, TENSION	
• 166	3-955-023-01	FRAME, RP	
• 167	A-3063-758-A	RP-165 BOARD, COMPLETE	
• 168	3-952-621-01	CASE (MAIN), SHIELD, RP	

### 5-1-5. MECHANICAL ASSEMBLY (1)



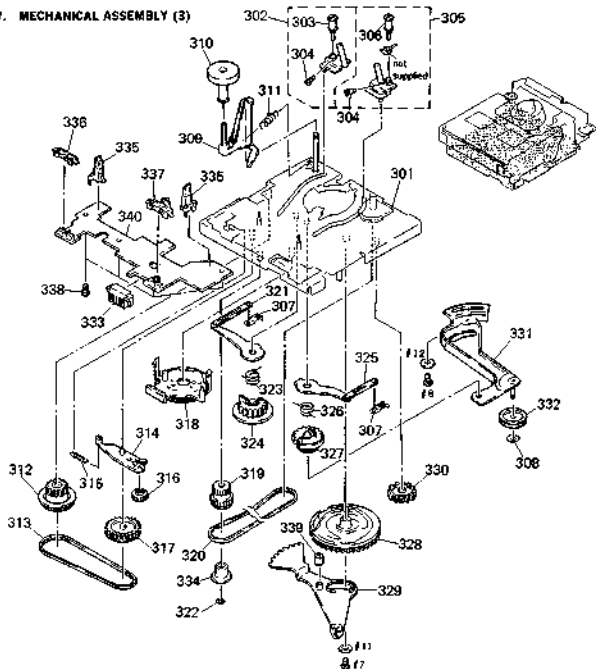
Def. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	201	3-685-497-01 SCREW (M2X5), P1			210	3-732-047-01 GOREN (2X4, 5), TAPPING	
	202	4-7049-629-A UPPER MOTOR ASSY (OCR-080-R)			214	3-954-029-01 WHEEL, CAM WORM	
	203	1-649-254-11 FP-695 FLEXIBLE BOARD			215	1-764-137-11 CONNECTOR, TRANSLATION JSP	
	204	1-691-254-13 CONNECTOR, TRANSLATION NDP		*	216	3-954-049-01 RETAINER, WORM WHEEL	
	205	1-691-471-11 CONNECTOR, TRANSLATION LIP			217	3-3942-300-1 GROUND ASSY, SHUTT	
	206						
	207						
	208						
	209						
	210						
	211						
	212						
	213						
	214						
	215						
	216			*	218	3-958-047-01 COVER, MOTOR HOLDER	
	217				M901	A-7948-636-A MOTOR ASSY (OCR-080-R)	
	218				M902	S-625-499-01 MOTOR, MC SCE-050LA	
	M901	A-7948-636-A MOTOR ASSY (OCR-080-R)			M903	X-5942-946-1 MOTOR ASSY, CAM	
	M902	S-625-499-01 MOTOR, MC SCE-050LA					
	M903	X-5942-946-1 MOTOR ASSY, CAM					
	211	3-733-295-01 GRAH (CAM, WORM)					
	212	3-696-280-01 RUBBER JOINT					

5-1-6. MECHANICAL ASSEMBLY (2)



Ref.No	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
251	X-3942-954-1	TABLE (4S) ASSY, WHEL		274	I-3943-162-1	BASE ASSY, PENDULUM	
252	X-3942-953-1	TABLE (7) ASSY, WHEL		275	3-954-059-01	GEAR, PENDULUM DRIVING	
253	X-469-463-06	WASHER (I.S.), STOPPER		276	3-954-321-01	BEARING, PENDULUM DRIVING	
254	X-3942-161-1	BRAKE (7) ASSY		277	1-726-829-01	WASHER, STOPPER	
255	3-153-978-01	SPRING, TENSION		278	X-3942-953-1	GEAR ASSY, PENDULUM	
256	3-954-071-01	ARM, BRAKE (S)		279	3-054-093-01	SPACER, TGT	
257	3-954-065-01	SPRING, TENSION		280	3-053-976-01	CLAM, S TAKE-UP	
258	X-3942-056-1	BAND ASSY, TENSION REGULATOR		281	3-953-974-01	ARM, S TAKE-UP	
259	3-126-884-03	FLANGE, UPPER TGT		282	3-954-316-01	SPRING, TENSION	
260	3-126-363-01	ROLLER, TGT		283	3-954-100-01	ARM, TENSION REGULATOR SUB	
261				284	3-953-973-01	ARM, PENDULUM COMPRESSION	
262	3-126-885-03	SLEEVE, TGT		285	3-954-007-01	LEVER, SLIDE PLATE DRIVING	
263	3-126-882-02	FLANGE, LOWER TGT		286	3-954-009-01	LEVER, PINCH DRIVING	
264	3-054-011-02	SPRING, COMPRESSION		287	3-954-016-01	LEVER, TGT DRIVING	
265	X-3942-111-1	BRAKE (D) ASSY, SOFT		288	3-053-972-01	PLATE, SLIDE	
266	X-3942-935-1	TENSION REGULATOR ASSY		289	3-954-072-01	LEVER, BRAKE (S) DRIVING	
267				290	3-954-086-01	SCREW, TGT HEIGHT ADJUSTMENT	
268				291	3-738-232-11	METALIMER, THROUSE, WHEL, TABLE	
269				292	X-3942-365-1	ARM ASSY, TGT	
270				293	3-954-003-01	SPRING (DGT), TENSION	
271				294	3-132-817-01	SCREW (294.3), TAPPING	
272	3-954-105-03	SPRING (PINCH DRIVING)		295	3-954-079-01	SPRING, TENSION	
273	3-024-063-01	PLATE, RELEASE, WHEL LOCK					
274							
275							
276							
277							
278							
279							
280							
281							
282							
283							
284							
285							
286							
287							
288							
289							
290							
291							
292							
293							
294							
295							

### 5-1.7. MECHANICAL ASSEMBLY (3)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
301	X-1942-952-1	CHASSIS ASSY, MECHANICAL		321	X-2942-948-1	ARM (S) ASSY, LOADING	
302	A-7040-333-A	COASTER (S) BLOCK ASSY		322	3-726-329-01	WASHER, STOPPER	
303	X-1941-756-1	ROLLER ASSY (2), TCR		323	3-953-890-01	SPRING (S), TENSION	
304	3-943-504-01	SCREW (H) 2X2		324	3-954-991-01	GEAR (S), LOADING	
305	A-7040-333-A	COASTER (T) BLOCK ASSY		325	X-2942-948-1	ARM (T) ASSY, LOADING	
306	X-3841-756-1	ROLLER ASSY (2), TCR		326	3-954-000-01	SPRING (T), TENSION	
307	3-953-040-01	SPRING, LEAF, COASTER		327	3-953-891-01	GEAR (T), LOADING	
308	3-721-820-01	WASHER, STOPPER		328	3-954-050-01	GEAR, MAIN	
309	X-3943-015-1	BASE ASSY, ROLLER		329	3-954-014-02	LEVER, LOADING SHIFTING	
310	3-054-282-01	ROLLER (R)		330	3-954-015-01	GEAR, CAM RELAY	
311	3-054-284-01	SPRING, TENSION		331	A-3942-902-1	BASE ASSY, PULLEY	
312	3-953-945-01	GEAR, FL PULLEY		332	3-3943-015-1	PULLEY ASSY, BELT	
313	3-954-079-01	BELT (TA), TIMING		333	A-750-820-1	CONNECTOR (ONE NO)	
314	3-953-979-01	ARM, FL SELECTION		334	3-054-102-02	FLANGE, REEL RELAY	
315	3-953-982-01	SPRING, TENSION		335	3-953-965-01	HOLDER, ST SENSOR	
316	3-953-990-01	GEAR, FL SELECTION		336	3-954-630-01	HOLDER (S), PUSH SWITCH	
317	3-953-981-01	GEAR (DRIVING), FL PULLEY		337	3-954-629-01	HOLDER (T), PUSH SWITCH	
318	1-602-408-11	SWITCH, ROTARY		338	3-732-617-01	SCREW (2X4.5), TAPPING	
319	3-954-051-01	GEAR, REEL RELAY		339	3-954-323-01	ROLLER, LOADING	
320	3-953-026-01	BELT, TIMING		340	1-648-300-11	NO-59 BOARD	

# CONTROL SWITCH BLOCK

## 5-2. ELECTRICAL PARTS LIST

### NOTE

- Due to standardization, replacements in the parts list may be different from the parts specified on the diagrams or the components used on the set.
- -XJ and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS  
All resistors are in ohms.  
METAL: Metal-film resistor.  
METAL OXIDE: Metal oxide-film resistor.  
F: Flameproofable
- Items marked "\*" are not stocked since they are seldom required for routine service. MP: North European. Some delay should be anticipated when ordering these items.

### SEMICONDUCTORS

In each case, U: GA, for example:

UA : GA. UPA : GA/A.

UPA : GA/B. UPG : GA/C. UPB : GA/D.

### CAPACITORS

UF :  $\mu$ F

UF :  $\mu$ F

### ABBREVIATIONS

UB : UK

AE : Italian

VC : German

B : French

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

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

Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité.

Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*		CONTROL SWITCH BLOCK (Supplied with IMAGING ASSY) (Ref No 7.000 series)		JR416	1-216-294-11	METAL CHIP	0 5% 1/8W A
		< CONNECTOR >		JR417	1-216-296-11	METAL CHIP	0 5% 1/8W A
CR404	1-568-067-21	FPC CONNECTOR 25P		JR418	1-216-296-11	METAL CHIP	0 5% 1/8W A
		< DIODE >		JR419	1-216-296-11	METAL CHIP	0 5% 1/8W A
8420	8-719-037-97	LED CL-190R-CD (TIME CORD WHITE)		JR420	1-216-296-11	METAL CHIP	0 5% 1/8W A
8421	8-719-037-97	LED CL-190R-CD (WHD0 KUB)		JR421	1-216-296-11	METAL CHIP	0 5% 1/8W A
8423	8-719-037-97	LED CL-190R-CD (HEFE)		JR422	1-216-296-11	METAL CHIP	0 5% 1/8W A
8424	8-719-047-66	LED CL-190D-CD (7BC)		JR423	1-216-296-11	METAL CHIP	0 5% 1/8W A
8425	8-719-047-66	LED CL-190D-CD (MR)		JR424	1-216-296-11	METAL CHIP	0 5% 1/8W A
8426	8-719-037-96	LED CL-190G-CD (720)		JR425	1-216-296-11	METAL CHIP	0 5% 1/8W A
8427	8-719-037-97	LED CL-190R-CD (EDIT STBY)		JR426	1-216-296-11	METAL CHIP	0 5% 1/8W A
8428	8-719-037-96	LED CL-190G-CD (LANG REMOVE)		JR427	1-216-296-11	METAL CHIP	0 5% 1/8W A
8429	8-719-037-96	LED CL-190G-CD (PLAY)		JR428	1-216-296-11	METAL CHIP	0 5% 1/8W A
8430	8-719-037-96	LED CL-190G-CD (PLAY)		JR429	1-216-296-11	METAL CHIP	0 5% 1/8W A
8431	8-719-037-96	LED CL-190G-CD (STOP)		JR430	1-216-296-11	METAL CHIP	0 5% 1/8W A
8432	8-719-037-96	LED CL-190G-CD (STOP)		JR431	1-216-296-11	METAL CHIP	0 5% 1/8W A
		< JUMPER RESISTOR >		JR432	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR401	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR433	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR402	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR434	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR403	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR435	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR404	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR436	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR405	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR437	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR406	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR438	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR407	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR439	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR408	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR440	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR409	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR441	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR410	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR442	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR411	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR443	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR412	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR444	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR413	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR445	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR414	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR446	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR415	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR447	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR416	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR448	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR417	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR449	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR418	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR450	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR419	1-216-296-11	METAL CHIP	0 5% 1/8W A	JR451	1-216-296-11	METAL CHIP	0 5% 1/8W A
JR420	1-216-296-11	METAL CHIP	0 5% 1/8W A				

## CONTROL SWITCH BLOCK

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark	
J0452	1-216-295-11	METAL CHIP	0 5% 1/200	A	0427	1-216-006-11	METAL CHIP	82K 1/100
J0453	1-216-296-11	METAL CHIP	0 5% 1/200	A	0428	1-216-009-11	METAL CHIP	1K 1/100
J0454	1-216-296-11	METAL CHIP	0 5% 1/200	A	0429	1-216-033-11	METAL CHIP	220 1/100
J0455	1-216-296-11	METAL CHIP	0 5% 1/200	A	0430	1-216-033-11	METAL CHIP	220 1/100
J0456	1-216-296-11	METAL CHIP	0 5% 1/200	A	0431	1-216-033-11	METAL CHIP	220 1/100
J0457	1-216-296-11	METAL CHIP	0 5% 1/200	A	0432	1-216-033-11	METAL CHIP	220 1/100
J0458	1-216-296-11	METAL CHIP	0 5% 1/200	A	0433	1-216-037-11	METAL CHIP	310 1/100
J0459	1-216-296-11	METAL CHIP	0 5% 1/200	A	0434	1-216-037-11	METAL CHIP	310 1/100
J0460	1-216-296-11	METAL CHIP	0 5% 1/200	A	0435	1-216-037-11	METAL CHIP	310 1/100
J0461	1-216-296-11	METAL CHIP	0 5% 1/200	A	0436	1-216-037-11	METAL CHIP	310 1/100
J0462	1-216-296-11	METAL CHIP	0 5% 1/200	A	0437	1-216-041-11	METAL CHIP	470 1/100
J0463	1-216-296-11	METAL CHIP	0 5% 1/200	A	0438	1-216-041-11	METAL CHIP	470 1/100
< TRANSISTOR >								
Q001	8-729-421-19	TRANSISTOR	UR2213	A	0439	1-216-180-11	METAL CHIP	470 1/20
Q002	8-729-421-19	TRANSISTOR	UR2213	A	0440	1-216-041-11	METAL CHIP	470 1/100
Q003	8-729-421-19	TRANSISTOR	UR2213	A	0441	1-216-095-11	METAL CHIP	82K 1/100
Q004	8-729-421-19	TRANSISTOR	UR2213	A	0442	1-216-075-00	METAL CHIP	12K 1/100
Q005	8-729-421-19	TRANSISTOR	UR2213	A	0443	1-216-077-11	METAL CHIP	15K 1/100
Q006	8-729-421-19	TRANSISTOR	UR2213	A	0444	1-216-049-11	METAL CHIP	810 1/100
Q007	8-729-421-19	TRANSISTOR	UR2213	A	0445	1-216-061-11	METAL CHIP	3, 30K 1/100
Q008	8-729-421-19	TRANSISTOR	UR2213	A	0446	1-216-150-11	METAL CHIP	1K 1/200
< RESISTOR >								
R001	1-216-102-11	METAL CHIP	220	1/200	0447	1-216-049-11	METAL CHIP	81K 1/100
R002	1-216-031-11	METAL CHIP	220	1/100	0448	1-216-049-11	METAL CHIP	81K 1/100
R003	1-216-031-11	METAL CHIP	220	1/100	0449	1-216-049-11	METAL CHIP	81K 1/100
R004	1-216-037-11	METAL CHIP	330	1/100	0450	1-216-182-11	METAL CHIP	220 1/200
R005	1-216-102-11	METAL CHIP	220	1/200	0451	1-216-057-11	METAL CHIP	2, 20K 1/100
R006	1-216-053-11	METAL CHIP	220	1/100	0452	1-216-057-11	METAL CHIP	2, 20K 1/100
R007	1-216-043-11	METAL CHIP	220	1/100	0453	1-216-041-11	METAL CHIP	300 1/100
R008	1-216-041-11	METAL CHIP	470	1/100	0454	1-216-041-11	METAL CHIP	300 1/100
R009	1-216-106-11	METAL CHIP	330	1/200	0455	1-216-031-11	METAL CHIP	300 1/100
R010	1-216-037-11	METAL CHIP	330	1/100	0456	1-216-021-11	METAL CHIP	300 1/100
R011	1-216-027-11	METAL CHIP	330	1/100	0457	1-216-031-11	METAL CHIP	300 1/100
R012	1-216-100-11	METAL CHIP	470	1/200	0458	1-216-031-11	METAL CHIP	300 1/100
R013	1-216-041-00	METAL CHIP	470	1/100	0459	1-216-021-11	METAL CHIP	300 1/100
R014	1-216-190-11	METAL CHIP	470	1/200	0460	1-216-071-11	METAL CHIP	300 1/100
R015	1-216-049-11	METAL CHIP	1K	1/100	0461	1-216-031-11	METAL CHIP	300 1/100
R016	1-216-057-11	METAL CHIP	2, 20	1/100	0462	1-216-286-11	METAL CHIP	0 1/200
R017	1-216-049-11	METAL CHIP	1K	1/100	0463	1-216-290-11	METAL CHIP	0 1/200
R018	1-216-049-11	METAL CHIP	1K	1/100	0464	1-216-041-11	METAL CHIP	100 1/200
R021	1-216-206-11	METAL CHIP	2, 20	1/200	0465	1-216-258-11	METAL CHIP	0 1/200
R021	1-216-206-11	METAL CHIP	2, 2K	1/200	0471	1-216-021-11	METAL CHIP	100 1/100
R022	1-216-206-11	METAL CHIP	2, 2H	1/200	0472	1-216-021-11	METAL CHIP	100 1/100
R023	1-216-073-11	METAL CHIP	220	1/100	0473	1-216-041-11	METAL CHIP	100 1/100
R024	1-216-023-11	METAL CHIP	220	1/100	0474	1-216-031-11	METAL CHIP	100 1/100
R025	1-216-033-11	METAL CHIP	220	1/100	< VARIABLE RESISTOR >			
R026	1-216-182-11	METAL CHIP	220	1/200	RV001	1-223-521-11	RES. ADJ. CARBON 100K (PCW/AFK/STD 0010 LEVEL)	
					RV002	1-223-521-11	RES. ADJ. CARBON 100K (PCW REC LEVEL)	
					RV003	1-223-521-11	RES. ADJ. CARBON 100K (PCW REC BALANCE)	

# CONTROL SWITCH BLOCK CS-45

Ref. No.	Part No.	Description	Remark
		- SWITCH -	
S401	1-692-925-11	SWITCH TACTIL (LAMP REMOTE)	
S402	1-692-925-11	SWITCH TACTIL (TUNER DEG)	
S403	1-692-925-11	SWITCH TACTIL (M STOP)	
S404	1-692-925-11	SWITCH TACTIL (PAUSE)	
S405	1-692-925-11	SWITCH TACTIL (COPY STOP)	
S406	1-692-925-11	SWITCH TACTIL (SOURCE TUNE)	
S407	1-692-925-11	SWITCH TACTIL (M REC)	
S408	1-692-925-11	SWITCH TACTIL (HI-SPEED RETURN)	
S409	1-692-925-11	SWITCH TACTIL (SOUNDING EDIT/START)	
S410	1-692-925-11	SWITCH TACTIL (INPUT SELECT)	
S411	1-692-925-11	SWITCH TACTIL (C> PLAY)	
S412	1-692-925-11	SWITCH TACTIL (TUNER CHECK)	
S413	1-692-925-11	SWITCH TACTIL (ASSEMBLE)	
S415	1-692-925-11	SWITCH TACTIL (PROGRAM -)	
S416	1-692-925-11	SWITCH TACTIL (MENU)	
S417	1-692-926-11	SWITCH SLIDE (PROGRAM/STOP)	
S418	1-692-925-11	SWITCH TACTIL (PROGRAM -)	
S419	1-692-925-11	SWITCH TACTIL (EDIT MONITOR)	
S421	1-692-925-11	SWITCH TACTIL (MENU)	
S425	1-692-925-11	SWITCH TACTIL (MENU)	
S426	1-692-925-11	SWITCH TACTIL (EXECUTE)	
S428	1-692-925-11	SWITCH TACTIL (PROGRAM SELECT)	
S429	1-692-925-11	SWITCH TACTIL (TV/VIDEO)	
S430	1-692-925-11	SWITCH TACTIL (C-0)	
S431	1-692-925-11	SWITCH TACTIL (VHS) (V)	
S432	1-692-925-11	SWITCH TACTIL (FF) (F)	
S433	1-692-925-11	SWITCH TACTIL (REPLAY)	
S434	1-692-925-11	SWITCH TACTIL (M)	
S435	1-692-925-11	SWITCH TACTIL (EDIT)	
S436	1-692-925-11	SWITCH TACTIL (REW) (R)	
S437	1-692-925-11	SWITCH TACTIL (INDEX MARK)	
S438	1-692-925-11	SWITCH TACTIL (M)	
S439	1-692-925-11	SWITCH TACTIL (MENU)	
S440	1-692-925-11	SWITCH TACTIL (MENU) (M)	
S441	1-692-925-11	SWITCH TACTIL (INDEX ERASE)	
S442	1-692-925-11	SWITCH TACTIL (OFF)	
S443	1-692-925-11	SWITCH TACTIL (COMMON RESET)	
S444	1-692-925-11	SWITCH TACTIL (TUNE COARSE WHITE)	
S445	1-692-925-11	SWITCH TACTIL (INDEX SEARCH) (M)	
S447	1-692-925-11	SWITCH TACTIL (VISUAL SEARCH)	
S449	1-692-925-11	SWITCH TACTIL (INDEX SEARCH) (M)	
		- SWITCH JOG/SHUTTLE -	
S450	1-692-922-11	SWITCH JOG/SHUTTLE (←REVERSE/FORWARD→)	

Ref. No.	Part No.	Description	Remark
		- BOARD -	
	A-7066-031-A	CS-45 (G) BOARD, COMPLETE (VC, B)	
	A-7066-097-A	CS-45 (D) BOARD, COMPLETE (A, B)	
	A-7066-093-A	CS-45 (H) BOARD, COMPLETE (A, P)	
	A-7066-016-A	CS-45 (I) BOARD, COMPLETE (A, E)	
		*****	
		(Del. No. S. 000 series)	
	I-751-401-11	CABLE, FLAT (FMC-4)	
	I-745-177-11	CABLE, FLEXIBLE FLAT (FMC-5)	
		- CAPACITOR -	
0902	1-126-233-11	ELECT	22uF 20% 50V
0904	1-126-233-11	ELECT	22uF 20% 50V
0905	1-126-233-11	ELECT	22uF 20% 50V
0906	1-163-031-11	CERAMIC CHIP	0.01uF 50V
0907	1-163-031-11	CERAMIC CHIP	0.01uF 50V
0908	1-124-126-00	ELECT	47uF 20% 10V
0909	1-124-126-00	ELECT	47uF 20% 10V
0910	1-163-031-11	CERAMIC CHIP (VC, MP, B)	0.01uF 50V
0922	1-163-031-11	CERAMIC CHIP	0.01uF 50V
0923	1-124-126-00	ELECT	22uF 20% 10V
0924	1-124-288-00	ELECT	22uF 20% 16V
0925	1-163-031-11	CERAMIC CHIP	0.01uF 50V
0926	1-163-031-11	CERAMIC CHIP	0.01uF 50V
0927	1-124-126-00	ELECT	47uF 20% 10V
0928	1-124-126-00	ELECT	47uF 20% 10V
0937	1-126-233-11	ELECT (VC, MP, B)	22uF 20% 50V
0939	1-163-031-11	CERAMIC CHIP	0.01uF 50V
0940	1-124-443-00	ELECT	100uF 20% 10V
0941	1-163-133-00	CERAMIC CHIP (VC, MP, B)	470PF 5% 50V
0942	1-164-401-11	CERAMIC CHIP	0.0022uF 10% 100V
0943	1-163-133-00	CERAMIC CHIP (VC, MP, B)	470PF 5% 50V
0944	1-124-925-11	ELECT (VC, MP, B)	2.2uF 20% 100V
0953	1-163-235-11	CERAMIC CHIP	22PF 5% 50V
0954	1-163-235-11	CERAMIC CHIP	22PF 5% 50V
0955	1-163-031-11	CERAMIC CHIP	0.01uF 50V
0956	1-126-233-11	ELECT	22uF 20% 50V
0957	1-124-443-00	ELECT	100uF 20% 10V
0958	1-163-031-11	CERAMIC CHIP	0.01uF 50V
0959	1-163-031-11	CERAMIC CHIP	0.01uF 50V
0960	1-124-443-00	ELECT	100uF 20% 10V
0961	1-163-117-00	CERAMIC CHIP (VC, MP, B)	100PF 5% 50V
0962	1-163-117-00	CERAMIC CHIP (VC, MP, B)	100PF 5% 50V

Ref. No.	Part No.	Description	Remark
C063	1-163-117-00	CERAMIC CHIP (VC, NP, B)	100PF 5% 50V
C064	1-163-117-00	CERAMIC CHIP (VC, NP, B)	100PF 5% 50V
C065	1-163-117-00	CERAMIC CHIP (VC, NP, B)	100PF 5% 50V
C066	1-163-117-00	CERAMIC CHIP (VC, NP, B)	100PF 5% 50V
C067	1-163-117-00	CERAMIC CHIP (VC, NP, B)	100PF 5% 50V
C068	1-163-117-00	CERAMIC CHIP (VC, NP, B)	100PF 5% 50V
C069	1-163-125-00	CERAMIC CHIP (VC, NP, B)	220PF 5% 50V
C070	1-163-125-00	CERAMIC CHIP (VC, NP, B)	220PF 5% 50V
C071	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C072	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C073	1-163-125-00	CERAMIC CHIP (VC, NP, B)	220PF 5% 50V
C074	1-163-125-00	CERAMIC CHIP (VC, NP, B)	220PF 5% 50V
C075	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C076	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C077	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C078	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C079	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C080	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C081	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C082	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C083	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C084	1-163-117-00	CERAMIC CHIP (VC, NP, B)	100PF 5% 50V
C085	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C086	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
C087	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
C088	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C089	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C090	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
C091	1-163-125-00	CERAMIC CHIP	220PF 5% 50V
C092	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C093	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C094	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C095	1-126-233-11	ELECT	22uF 20% 50V
C096	1-126-233-11	ELECT	22uF 20% 50V
C097	1-126-233-11	ELECT	22uF 20% 50V
C100	1-126-233-11	ELECT (VC, NP, B)	22uF 20% 50V
C101	1-163-102-00	CERAMIC CHIP (VC, NP, B)	24PF 5% 50V

Ref. No.	Part No.	Description	Remark
C102	1-163-031-11	CERAMIC CHIP (VC, NP, B)	0.01uF 50V
C201	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C202	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C203	1-124-128-00	ELECT	47uF 20% 16V
C204	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C205	1-124-128-00	ELECT	47uF 20% 16V
C206	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C211	1-124-128-00	ELECT	47uF 20% 16V
C212	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C213	1-163-031-11	CERAMIC CHIP (VC, NP, B)	0.01uF 50V
C214	1-163-117-00	CERAMIC CHIP (VC, NP, B)	100PF 5% 50V
C215	1-124-128-00	ELECT (VC, NP, B)	47uF 20% 16V
C216	1-163-117-00	CERAMIC CHIP (VC, NP, B)	100PF 5% 50V
C217	1-163-031-11	CERAMIC CHIP (VC, NP, B)	0.01uF 50V
C218	1-124-128-00	ELECT (VC, NP, B)	47uF 20% 16V
C227	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C228	1-124-128-00	ELECT	47uF 20% 16V
C229	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C230	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C232	1-124-128-00	ELECT	47uF 20% 16V
C233	1-163-601-11	CERAMIC CHIP	0.01uF 50V
C237	1-124-128-00	ELECT	47uF 20% 16V
C239	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C240	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C241	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C244	1-124-233-11	ELECT	22uF 20% 50V
C245	1-124-233-11	ELECT	22uF 20% 50V
C246	1-124-233-11	ELECT (NP, UB)	22uF 20% 50V
C247	1-124-233-11	ELECT (NP, UB)	22uF 20% 50V
C248	1-163-601-11	CERAMIC CHIP (UB)	0.01uF 50V
C249	1-124-128-00	ELECT (NP, UB)	47uF 20% 16V
C249	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C250	1-163-601-11	CERAMIC CHIP (NP, UB)	0.01uF 50V
C251	1-124-477-11	ELECT (NP, UB)	47uF 20% 25V



CS-45

Ref. No.	Part No.	Description	Remark
< CONNECTOR >			
CM001	1-601-004-21	INDUCING CONNECTOR 2SP	
CM002	1-621-022-21	INDUCING CONNECTOR 12P	
CM003	1-504-001-11	PIN CONNECTOR 2P (OV, NP, B)	
< AXLE >			
CM1001	1-501-514-00	SOCKET, P.W 21P (EURO-AX (LIVE 1))	
CM1002	1-501-514-00	SOCKET, P.W 21P (CAREX *) (OV, NP, B)	
< DIODE >			
D001	8-719-001-35	DIODE 1SS184	
D002	8-719-200-27	DIODE E166G2	
D003	8-719-421-59	DIODE MSA3100A-TX (OV, NP, B)	
D010	8-719-421-58	DIODE MSA3100A-TX (OV, NP, B)	
D011	8-719-421-59	DIODE MSA3100A-TX (OV, NP, B)	
D012	8-719-106-43	DIODE 80S 1A-B1 (OV, NP, B)	
D013	8-719-157-23	DIODE 80S 1A-B1 4VC (NP, B)	
D014	8-719-421-59	DIODE MSA3100A-TX (OV, NP, B)	
D015	8-719-421-59	DIODE MSA3100A-TX (OV, NP, B)	
D016	8-719-421-58	DIODE MSA3100A-TX (OV, NP, B)	
D017	8-719-421-59	DIODE MSA3100A-TX (OV, NP, B)	
D018	8-719-106-43	DIODE 80S 1A-B1	
D019	8-719-421-59	DIODE MSA3100A-TX	
D020	8-719-421-59	DIODE MSA3100A-TX	
D021	8-719-421-58	DIODE MSA3100A-TX	
D022	8-719-106-43	DIODE 80S 1A-B1 (OV, NP, B)	
D023	8-719-157-54	DIODE 80S 1A-B1	
D024	8-719-421-59	DIODE MSA3100A-TX	
D025	8-719-421-59	DIODE MSA3100A-TX	
D026	8-719-421-59	DIODE MSA3100A-TX	
D027	8-719-421-59	DIODE MSA3100A-TX	
D028	8-719-106-43	DIODE 80S 1A-B1	
< FERRITE BEAD >			
FB009	1-216-295-00	METAL CHIP 0 5X L/10X	
FB010	1-216-295-00	METAL CHIP 0 5X L/10X	
FB015	1-216-295-00	METAL CHIP 0 5X L/10X	
FB017	1-216-295-00	METAL CHIP 0 5X L/10X (OV, NP, B)	
FB018	1-216-295-00	METAL CHIP 0 5X L/10X (OV, NP, B)	
FB019	1-216-295-00	METAL CHIP 0 5X L/10X	
FB020	1-216-295-00	METAL CHIP 0 5X L/10X (OV, NP, B)	
FB021	1-216-295-00	METAL CHIP 0 5X L/10X	
FB022	1-216-295-00	METAL CHIP 0 5X L/10X	
FB023	1-216-295-00	METAL CHIP 0 5X L/10X	
FB024	1-414-295-11	INDUCTOR FERRITE BEAD	
FB025	1-414-295-11	INDUCTOR FERRITE BEAD	

Ref. No.	Part No.	Description	Remark
< IC >			
IC001	8-759-200-71	IC HIJ40538FP	
IC002	8-759-097-30	IC HD49783FP (OV, NP, B)	
IC003	8-759-200-71	IC HIJ40538FP	
IC004	8-759-202-03	IC HD11573FP-TL	
IC005	8-759-257-87	IC HD11173EPE	
IC091	8-759-924-46	IC CA6561F	
IC202	8-759-200-71	IC HIJ40538FP	
IC203	8-759-200-71	IC HIJ40538FP (OV, NP, B)	
IC204	8-759-924-46	IC CA6561F (OV, NP, B)	
IC205	8-759-200-71	IC HIJ40538FP (OV, NP, B)	
IC206	8-759-924-46	IC CA6561F	
IC207	8-759-924-46	IC CA6561F	
< JUMPER RESISTOR >			
JR001	1-216-295-00	METAL CHIP 0 5X L/10X	
JR002	1-216-295-00	METAL CHIP 0 5X L/10X	
JR003	1-216-295-00	METAL CHIP 0 5X L/10X	
JR004	1-216-295-00	METAL CHIP 0 5X L/10X	
JR005	1-216-295-00	METAL CHIP 0 5X L/10X	
JR006	1-216-295-00	METAL CHIP 0 5X L/10X	
JR007	1-216-295-00	METAL CHIP 0 5X L/10X	
JR008	1-216-295-00	METAL CHIP 0 5X L/10X	
JR009	1-216-295-00	METAL CHIP 0 5X L/10X	
JR010	1-216-295-00	METAL CHIP 0 5X L/10X	
JR011	1-216-295-00	METAL CHIP 0 5X L/10X	
JR012	1-216-295-00	METAL CHIP 0 5X L/10X	
JR013	1-216-295-00	METAL CHIP 0 5X L/10X	
JR014	1-216-295-00	METAL CHIP 0 5X L/10X	
JR015	1-216-295-00	METAL CHIP 0 5X L/10X	
JR016	1-216-295-00	METAL CHIP 0 5X L/10X	
JR017	1-216-295-00	METAL CHIP 0 5X L/10X	
JR018	1-216-295-00	METAL CHIP 0 5X L/10X	
JR019	1-216-295-00	METAL CHIP 0 5X L/10X	
JR020	1-216-295-00	METAL CHIP 0 5X L/10X	
JR021	1-216-295-00	METAL CHIP 0 5X L/10X	
JR022	1-216-295-00	METAL CHIP 0 5X L/10X	
JR023	1-216-295-00	METAL CHIP 0 5X L/10X	
JR024	1-216-295-00	METAL CHIP 0 5X L/10X	
JR025	1-216-295-00	METAL CHIP 0 5X L/10X	
JR026	1-216-295-00	METAL CHIP 0 5X L/10X	
JR027	1-216-295-00	METAL CHIP 0 5X L/10X	
JR028	1-216-295-00	METAL CHIP 0 5X L/10X	
JR029	1-216-295-00	METAL CHIP 0 5X L/10X	
JR030	1-216-295-00	METAL CHIP 0 5X L/10X	
JR031	1-216-295-00	METAL CHIP 0 5X L/10X	
JR032	1-216-295-00	METAL CHIP 0 5X L/10X	
JR033	1-216-295-00	METAL CHIP 0 5X L/10X	
JR034	1-216-295-00	METAL CHIP 0 5X L/10X	
JR035	1-216-295-00	METAL CHIP 0 5X L/10X	

Ref. No.	Part No.	Description	QTY	UOM	Remark
JR214	1-216-296-00	METAL CHIP	0	5%	1/10W
JR200	1-216-295-00	METAL CHIP	0	5%	1/10W
JR201	1-216-295-00	METAL CHIP	0	5%	1/10W
JR203	1-216-296-00	METAL CHIP	0	5%	1/10W
JR204	1-216-296-00	METAL CHIP	0	5%	1/10W
JR205	1-216-296-00	METAL CHIP	0	5%	1/10W
JR206	1-216-296-00	METAL CHIP	0	5%	1/10W
JR207	1-216-295-00	METAL CHIP	0	5%	1/10W
JR208	1-216-295-00	METAL CHIP	0	5%	1/10W
JR300	1-216-295-00	METAL CHIP	0	5%	1/10W
JR400	1-216-296-00	METAL CHIP	0	5%	1/10W
< COIL >					
L014	1-408-417-00	INDUCTOR 47uH			
L169	1-408-289-31	INDUCTOR CHIP 47uH (VC, NP, B)			
L201	1-408-417-00	INDUCTOR 47uH			
L206	1-408-417-00	INDUCTOR 47uH			
L205	1-408-417-00	INDUCTOR 47uH (NP, UB)			
L208	1-408-417-00	INDUCTOR 47uH (NP, UB)			
< DECODER BLOCK >					
MCW201	1-456-902-11	DECODER BLOCK (CA-395A) (UB)			
MCW201	1-456-903-11	DECODER BLOCK (CA-395A) (CP)			
< TRANSISTOR >					
Q001	8-729-010-25	TRANSISTOR MS601-RT1 (VC, NP, B)			
Q002	8-729-010-25	TRANSISTOR MS601-RT1			
Q004	8-729-010-25	TRANSISTOR MS601-RT1			
Q005	8-729-010-25	TRANSISTOR MS601-RT1			
Q006	8-729-421-19	TRANSISTOR UM213 (VC, NP, B)			
Q011	8-729-010-25	TRANSISTOR MS601-RT1			
Q012	8-729-010-05	TRANSISTOR MS601-RT1			
Q013	8-729-010-25	TRANSISTOR MS601-RT1			
Q014	8-729-010-25	TRANSISTOR MS601-RT1			
Q016	8-729-010-25	TRANSISTOR MS601-RT1			
Q021	8-729-010-25	TRANSISTOR MS601-RT1			
Q022	8-729-010-25	TRANSISTOR MS601-RT1 (VC, NP, B)			
Q023	8-729-010-05	TRANSISTOR MS601-RT1 (VC, NP, B)			
Q024	8-729-010-25	TRANSISTOR MS601-RT1 (VC, NP, B)			
Q025	8-729-010-25	TRANSISTOR MS601-RT1 (VC, NP, B)			
Q026	8-729-424-22	TRANSISTOR UM216 (VC, NP, B)			
Q036	8-729-421-19	TRANSISTOR UM213			
Q037	8-729-424-04	TRANSISTOR UM216			
Q160	8-729-010-05	TRANSISTOR MS601-RT1 (VC, NP, B)			
Q161	8-729-010-25	TRANSISTOR MS601-RT1			
Q162	8-729-010-25	TRANSISTOR MS601-RT1			
Q163	8-729-010-25	TRANSISTOR MS601-RT1 (VC, NP, B)			

Ref. No.	Part No.	Description	QTY	UOM	Remark
< RESISTOR >					
R001	1-216-085-00	METAL CHIP (VC, NP, B)	4.7K	5%	1/10W
R002	1-216-081-00	METAL CHIP (VC, NP, B)	22K	5%	1/10W
R003	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R004	1-216-065-00	METAL CHIP (VC, NP, B)	4.7K	5%	1/10W
R005	1-216-089-01	METAL GLAZE	47K	5%	1/10W
R007	1-216-089-01	METAL GLAZE	47K	5%	1/10W
R008	1-216-065-00	METAL CHIP (VC, NP, B)	4.7K	5%	1/10W
R010	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R011	1-216-065-00	METAL CHIP (VC, NP, B)	4.7K	5%	1/10W
R012	1-216-081-00	METAL CHIP	22K	5%	1/10W
R014	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R015	1-216-081-00	METAL CHIP	22K	5%	1/10W
R017	1-216-073-00	METAL CHIP	10K	5%	1/10W
R021	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R022	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R024	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R027	1-216-295-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R029	1-216-295-00	METAL CHIP (GC, UB)	0	5%	1/10W
R035	1-216-296-00	METAL CHIP (VC, NP, B)	0	5%	1/10W
R036	1-216-295-00	METAL CHIP	0	5%	1/10W
R037	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R038	1-216-081-00	METAL CHIP	22K	5%	1/10W
R039	1-216-295-00	METAL CHIP	0	5%	1/10W
R040	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R041	1-216-081-00	METAL CHIP	22K	5%	1/10W
R042	1-216-065-00	METAL CHIP (VC, NP, B)	4.7K	5%	1/10W
R043	1-216-081-00	METAL CHIP (VC, NP, B)	22K	5%	1/10W
R045	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R046	1-216-081-00	METAL CHIP	22K	5%	1/10W
R048	1-216-081-00	METAL CHIP	22K	5%	1/10W
R051	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R052	1-216-081-00	METAL CHIP	22K	5%	1/10W
R057	1-216-089-01	METAL GLAZE (VC, NP, B)	47K	5%	1/10W
R058	1-216-630-11	METAL CHIP	30K	0.5%	1/10W
R061	1-216-295-00	METAL CHIP (GC, UB)	0	5%	1/10W

Ref.No.	Part No.	Description	QTY	UOM	Remark
R064	1-216-295-00	METAL CHIP (AE, UBI)	9	EA	1/100
R066	1-210-081-00	METAL CHIP (VC, MP, B)	22K	EA	1/100
R067	1-210-085-00	METAL CHIP (VC, MP, B)	4.7K	EA	1/100
R068	1-216-081-00	METAL CHIP (VC, MP, B)	22K	EA	1/100
R069	1-216-065-00	METAL CHIP	4.7K	EA	1/100
R070	1-216-295-00	METAL CHIP (VC, MP, B)	6	EA	1/100
R071	1-216-011-00	METAL CHIP (VC, MP, B)	27	EA	1/100
R072	1-216-041-00	METAL CHIP (VC, MP, B)	470	EA	1/100
R073	1-216-026-00	METAL CHIP (VC, MP, B)	100	EA	1/100
R074	1-210-025-00	METAL CHIP (VC, MP, B)	100	EA	1/100
R075	1-216-053-00	METAL CHIP (VC, MP, B)	1	EA	1/100
R076	1-216-121-00	METAL CHIP (VC, MP, B)	1K	EA	1/100
R077	1-216-101-00	METAL CHIP (VC, MP, B)	150K	EA	1/100
R078	1-216-109-00	METAL CHIP (VC, MP, B)	330K	EA	1/100
R079	1-216-085-00	METAL CHIP (VC, MP, B)	4.7K	EA	1/100
R080	1-210-105-00	METAL CHIP (VC, MP, B)	220K	EA	1/100
R081	1-216-060-00	METAL CHIP (VC, MP, B)	6.8K	EA	1/100
R082	1-216-105-00	METAL CHIP	0	EA	1/100
R085	1-210-235-00	METAL CHIP (AE, UBI)	0	EA	1/100
R086	1-216-295-00	METAL CHIP (AE, UBI)	0	EA	1/100
R082	1-216-025-00	METAL CHIP	100	EA	1/100
R094	1-216-041-00	METAL CHIP	27	EA	1/100
R095	1-216-011-00	METAL CHIP	27	EA	1/100
R096	1-216-040-00	METAL CHIP	560	EA	1/100
R097	1-216-011-00	METAL CHIP	560	EA	1/100
R098	1-210-040-00	METAL CHIP	560	EA	1/100
R099	1-216-089-91	METAL GLAZE	47K	EA	1/100
R100	1-210-040-00	METAL CHIP	560	EA	1/100
R101	1-210-089-91	METAL GLAZE	47K	EA	1/100
R102	1-210-295-00	METAL CHIP	0	EA	1/100
R103	1-216-295-00	METAL CHIP	0	EA	1/100
R104	1-210-025-00	METAL CHIP (VC, MP, B)	100	EA	1/100
R105	1-216-022-00	METAL CHIP (VC, MP, B)	75	EA	1/100

Ref.No.	Part No.	Description	QTY	UOM	Remark
R106	1-210-017-00	METAL CHIP (VC, MP, B)	47	EA	1/100
R107	1-216-026-00	METAL CHIP (VC, MP, B)	100	EA	1/100
R108	1-216-295-00	METAL CHIP (VC, MP, B)	0	EA	1/100
R109	1-216-069-06	METAL CHIP (VC, MP, B)	6.8K	EA	1/100
R110	1-210-053-00	METAL CHIP (VC, MP, B)	2.2K	EA	1/100
R111	1-210-041-00	METAL CHIP (VC, MP, B)	470	EA	1/100
R112	1-216-057-00	METAL CHIP (VC, MP, B)	2.2K	EA	1/100
R113	1-216-041-00	METAL CHIP (VC, MP, B)	470	EA	1/100
R115	1-216-295-00	METAL CHIP (VC, MP, B)	0	EA	1/100
R116	1-216-022-00	METAL CHIP	75	EA	1/100
R117	1-216-025-00	METAL CHIP	100	EA	1/100
R118	1-216-017-00	METAL CHIP	47	EA	1/100
R119	1-210-017-00	METAL CHIP	47	EA	1/100
R120	1-216-295-00	METAL CHIP (VC, MP, B)	0	EA	1/100
R121	1-216-041-00	METAL CHIP	470	EA	1/100
R122	1-216-057-00	METAL CHIP	2.2K	EA	1/100
R123	1-216-057-00	METAL CHIP	2.2K	EA	1/100
R124	1-216-057-00	METAL CHIP	2.2K	EA	1/100
R125	1-216-041-00	METAL CHIP	470	EA	1/100
R126	1-216-057-00	METAL CHIP	2.2K	EA	1/100
R127	1-216-041-00	METAL CHIP (VC, MP, B)	470	EA	1/100
R128	1-216-057-00	METAL CHIP (VC, MP, B)	2.2K	EA	1/100
R129	1-216-041-00	METAL CHIP (VC, MP, B)	470	EA	1/100
R130	1-216-057-00	METAL CHIP (VC, MP, B)	2.2K	EA	1/100
R131	1-216-041-00	METAL CHIP (VC, MP, B)	470	EA	1/100
R132	1-211-023-00	METAL CHIP (VC, MP, B)	75	EA	1/100
R135	1-216-026-00	METAL CHIP (VC, MP, B)	220	EA	1/100
R136	1-216-013-00	METAL CHIP (VC, MP, B)	220	EA	1/100
R137	1-216-013-00	METAL CHIP	220	EA	1/100
R138	1-210-013-06	METAL CHIP	220	EA	1/100
R139	1-210-065-00	METAL CHIP (VC, MP, B)	4.7K	EA	1/100
R141	1-210-040-00	METAL CHIP	1K	EA	1/100
R142	1-216-041-00	METAL CHIP	470	EA	1/100
R143	1-210-295-00	METAL CHIP	0	EA	1/100

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R144	1-216-295-00	METAL CHIP (AE, UB)	0 5% 1/10W	R223	1-216-089-01	METAL GLAZE	47K 5% 1/10W
R151	1-216-049-00	METAL CHIP (VC, WP, B)	1K 5% 1/10W	R224	1-216-089-01	METAL GLAZE	47K 5% 1/10W
R152	1-216-049-00	METAL CHIP (VC, WP, B)	1K 5% 1/10W	R225	1-216-089-01	METAL GLAZE (VC, WP, B)	47K 5% 1/10W
R153	1-216-049-00	METAL CHIP (VC, WP, B)	1K 5% 1/10W	R226	1-216-089-01	METAL GLAZE (VC, WP, B)	47K 5% 1/10W
R154	1-216-295-00	METAL CHIP (VC, WP, B)	0 5% 1/10W	R227	1-216-049-00	METAL CHIP	470 5% 1/10W
R155	1-216-295-00	METAL CHIP (VC, WP, B)	0 5% 1/10W	R228	1-216-049-00	METAL CHIP	470 5% 1/10W
R157	1-216-295-00	METAL CHIP (VC, WP, B)	0 5% 1/10W	R229	1-216-073-00	METAL CHIP	10K 5% 1/10W
R158	1-216-295-00	METAL CHIP (VC, WP, B)	0 5% 1/10W	R230	1-216-081-11	METAL CHIP	20K 0.5% 1/10W
R161	1-216-081-00	METAL CHIP	2.2K 5% 1/10W	R231	1-216-073-00	METAL CHIP	10K 5% 1/10W
R162	1-216-065-00	METAL CHIP (VC, WP, B)	4.7K 5% 1/10W	R232	1-216-073-00	METAL CHIP	10K 5% 1/10W
R163	1-216-065-00	METAL CHIP (VC, WP, B)	4.7K 5% 1/10W	R233	1-216-084-11	METAL CHIP	30K 0.5% 1/10W
R164	1-216-058-00	METAL CHIP (VC, WP, B)	2.7K 5% 1/10W	R234	1-216-073-00	METAL CHIP	10K 5% 1/10W
R165	1-216-067-00	METAL CHIP (VC, WP, B)	5.6K 5% 1/10W	R235	1-216-295-00	METAL CHIP	0 5% 1/10W
R166	1-216-295-00	METAL CHIP	0 5% 1/10W	R236	1-216-295-00	METAL CHIP	0 5% 1/10W
R167	1-216-063-00	METAL CHIP (VC, WP, B)	4.7K 5% 1/10W	R237	1-216-081-00	METAL CHIP	22K 5% 1/10W
R168	1-216-095-00	METAL CHIP (VC, WP, B)	1.8K 5% 1/10W	R238	1-216-085-00	METAL CHIP	13K 5% 1/10W
R169	1-216-295-00	METAL CHIP	0 5% 1/10W	R239	1-216-073-00	METAL CHIP	10K 5% 1/10W
R203	1-216-073-00	METAL CHIP	10K 5% 1/10W	R240	1-216-081-00	METAL CHIP	22K 5% 1/10W
R205	1-216-073-00	METAL CHIP	10K 5% 1/10W	R241	1-216-085-00	METAL CHIP	39K 5% 1/10W
R206	1-216-073-00	METAL CHIP	10K 5% 1/10W	R242	1-216-073-00	METAL CHIP	10K 5% 1/10W
R208	1-216-073-00	METAL CHIP	10K 5% 1/10W	R243	1-216-071-00	METAL CHIP	8.2K 5% 1/10W
R209	1-216-073-00	METAL CHIP	10K 5% 1/10W	R244	1-216-071-00	METAL CHIP	8.2K 5% 1/10W
R210	1-216-089-11	METAL CHIP (VC, WP, B)	30K 0.5% 1/10W	R246	1-216-295-00	METAL CHIP	0 5% 1/10W
R211	1-216-073-00	METAL CHIP	10K 5% 1/10W	R247	1-216-295-00	METAL CHIP	0 5% 1/10W
R212	1-216-073-00	METAL CHIP (VC, WP, B)	10K 5% 1/10W	R251	1-216-295-00	METAL CHIP (WP, UB)	0 5% 1/10W
R213	1-216-689-11	METAL CHIP (VC, WP, B)	30K 0.5% 1/10W	R252	1-216-295-00	METAL CHIP	0 5% 1/10W
R214	1-216-073-00	METAL CHIP	10K 5% 1/10W	R254	1-216-295-00	METAL CHIP (VC, AE, B)	0 5% 1/10W
R217	1-216-295-00	METAL CHIP	0 5% 1/10W	.....			
R218	1-216-295-00	METAL CHIP	0 5% 1/10W	4 A-7083-032-A D1-51 (G) 20430, COMPLETE			
R219	1-216-295-00	METAL CHIP (AE, UB)	0 5% 1/10W	.....			
R220	1-216-295-00	METAL CHIP (AE, UB)	0 5% 1/10W	(Ref. No. 1,000 series)			
R221	1-216-295-00	METAL CHIP (AE, UB)	0 5% 1/10W	1-751-004-11 CABLE, FLAT (EAD-4)			
R222	1-216-295-00	METAL CHIP (AE, UB)	0 5% 1/10W	< CAPACITOR >			
				C106	1-163-031-11	CERAMIC CHIP	0.01uF 50V
				C109	1-163-031-11	CERAMIC CHIP	0.01uF 50V
				C114	1-163-031-11	CERAMIC CHIP	0.01uF 50V
				C115	1-126-206-11	ELECT CHIP	100uF 20% 6.3V
				C116	1-163-041-11	CERAMIC CHIP	0.01uF 50V
				C117	1-163-031-11	CERAMIC CHIP	0.01uF 50V
				C118	1-126-206-11	ELECT CHIP	100uF 20% 6.3V
				C121	1-163-031-11	CERAMIC CHIP	0.01uF 50V
				C122	1-126-206-11	ELECT CHIP	100uF 20% 6.3V
				C150	1-126-206-00	ELECT CHIP	10uF 20% 15V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C152	1-124-205-01	ELECT CHIP	20K 6.3V	C215	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C153	1-124-778-00	ELECT CHIP	22uF 20K 6.3V	C216	1-163-105-10	CERAMIC CHIP	33PF 5K 50V
C155	1-163-028-00	CERAMIC CHIP	0.1uF 25V	C217	1-163-105-00	CERAMIC CHIP	33PF 5K 50V
C156	1-163-123-00	CERAMIC CHIP	22PF 5K 50V	C218	1-163-117-00	CERAMIC CHIP	68PF 5K 50V
C157	1-163-921-11	CERAMIC CHIP	0.01uF 50V	C219	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C158	1-163-008-00	CERAMIC CHIP	0.1uF 25V	C222	1-163-226-11	CERAMIC CHIP	22PF 5K 50V
C159	1-126-205-11	ELECT CHIP	47uF 20K 6.3V	C226	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C209	1-124-778-00	ELECT CHIP	22uF 20K 6.3V	C401	1-124-205-11	ELECT CHIP	47uF 20K 6.3V
C204	1-163-101-00	CERAMIC CHIP	22PF 5K 50V	C402	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C205	1-163-101-00	CERAMIC CHIP	22PF 5K 50V	C403	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C204	1-124-778-00	ELECT CHIP	22uF 20K 6.3V	C404	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C206	1-126-205-11	ELECT CHIP	47uF 20K 6.3V	C405	1-163-109-00	CERAMIC CHIP	0.1uF 25V
C203	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C450	1-163-041-11	CERAMIC CHIP	0.01uF 50V
C207	1-126-109-11	ELECT	1uF 20K 50V	C451	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C208	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C452	1-124-778-00	ELECT CHIP	22uF 20K 6.3V
C200	1-163-038-00	CERAMIC CHIP	0.1uF 25V	C453	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C210	1-163-109-00	CERAMIC CHIP	47PF 5K 50V	C500	1-163-008-00	CERAMIC CHIP	0.1uF 25V
C213	1-163-038-00	CERAMIC CHIP	0.1uF 25V	C501	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C214	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C502	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C215	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C503	1-126-205-11	ELECT CHIP	47uF 20K 6.3V
C216	1-124-778-00	ELECT CHIP	22uF 20K 6.3V	C504	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C218	1-163-038-00	CERAMIC CHIP	0.1uF 25V	C505	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C219	1-163-038-00	CERAMIC CHIP	0.1uF 25V	C507	1-163-239-11	CERAMIC CHIP	33PF 5K 50V
C220	1-163-101-00	CERAMIC CHIP	22PF 5K 50V	C508	1-163-222-11	CERAMIC CHIP	5PF 0.25K 50V
C221	1-163-101-00	CERAMIC CHIP	22PF 5K 50V	C509	1-163-103-00	CERAMIC CHIP	0.1uF 25V
C252	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C609	1-163-038-00	CERAMIC CHIP	16PF 5K 50V
C253	1-126-205-11	ELECT CHIP	47uF 20K 6.3V	C603	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C254	1-163-038-00	CERAMIC CHIP	0.1uF 25V	C602	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C255	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C601	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C256	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C604	1-124-778-00	ELECT CHIP	22uF 20K 6.3V
C257	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C605	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C257	1-163-931-11	CERAMIC CHIP	0.01uF 50V	C607	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C258	1-163-109-00	CERAMIC CHIP	47PF 5K 50V	C608	1-163-235-11	CERAMIC CHIP	22PF 5K 50V
C259	1-163-031-11	CERAMIC CHIP	6.01uF 50V	C609	1-163-226-11	CERAMIC CHIP	22PF 5K 50V
C262	1-124-778-00	ELECT CHIP	22uF 20K 6.3V	C610	1-163-087-00	CERAMIC CHIP	4PF 50V
C263	1-163-038-00	CERAMIC CHIP	0.1uF 25V	C611	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C265	1-163-038-00	CERAMIC CHIP	0.1uF 25V	C700	1-163-026-00	CERAMIC CHIP	0.1uF 25V
C266	1-163-038-00	CERAMIC CHIP	0.1uF 25V	C701	1-124-778-00	ELECT CHIP	16uF 20K 6.3V
C267	1-163-038-00	CERAMIC CHIP	0.1uF 25V	C702	1-163-110-00	CERAMIC CHIP	51PF 5K 50V
C301	1-163-038-00	CERAMIC CHIP	0.1uF 25V	C703	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C302	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C704	1-163-103-00	CERAMIC CHIP	22PF 5K 50V
C303	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C705	1-126-205-11	ELECT CHIP	47uF 20K 6.3V
C304	1-163-031-11	CERAMIC CHIP	0.01uF 50V	C706	1-163-113-00	CERAMIC CHIP	68PF 5K 50V
C361	1-126-205-11	ELECT CHIP	47uF 20K 6.3V	C708	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C365	1-163-038-00	CERAMIC CHIP	0.1uF 25V	C709	1-163-021-11	CERAMIC CHIP	0.01uF 50V
C366	1-126-109-11	ELECT	1uF 20K 50V	C710	1-124-778-00	ELECT CHIP	22uF 20K 6.3V
C369	1-124-899-11	ELECT. NONPOLAR	1uF 20K 50V	C711	1-124-206-11	ELECT CHIP	100uF 20K 6.3V
C368	1-164-272-11	CERAMIC CHIP	0.01uF 50V	C712	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C369	1-163-609-11	CERAMIC CHIP	0.001uF 10K 50V	C715	1-163-107-00	CERAMIC CHIP	33PF 5K 50V
C371	1-124-493-11	ELECT. NONPOLAR	20K 25V	C716	1-163-107-00	CERAMIC CHIP	38PF 5K 50V
C372	1-163-609-00	CERAMIC CHIP	0.1uF 25V				

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C750	1-163-070-00	CERAMIC CHIP	0.1uF			< DIODE >	
C751	1-163-031-11	CERAMIC CHIP	0.01uF			D150	8-719-804-45 DIODE MAJ10
C752	1-163-103-00	CERAMIC CHIP	22PF	5%	50V	D161	8-719-804-45 DIODE MAJ10
C754	1-163-071-11	CERAMIC CHIP	0.01uF		50V	D300	8-719-804-45 DIODE MAJ10
C755	1-124-205-11	ELECT CHIP	47uF	20%	6.3V	D301	8-719-804-45 DIODE MAJ10
C756	1-162-103-00	CERAMIC CHIP	22PF	5%	50V	D430	8-719-804-22 DIODE JSS154
C757	1-163-117-00	CERAMIC CHIP	100PF	5%	50V		
C75C	1-163-117-00	CERAMIC CHIP	100PF	5%	50V		
C759	1-214-205-00	CRYSTAL CHIP	0	5%	1/10W	0500	8-719-800-45 DIODE 09A010
C760	1-163-031-11	CERAMIC CHIP	0.01uF		50V	0600	8-713-300-88 DIODE JTC3C-01
						0901	8-719-001-78 DIODE JSS154
C761	1-163-031-11	CERAMIC CHIP	0.01uF		50V		< FERRITE BEAD >
C762	1-124-778-00	ELECT CHIP	25uF	20%	4.5V	FB300	1-543-255-11 BEAD, FERRITE
C763	1-163-038-00	CERAMIC CHIP	0.1uF		50V	FB303	1-543-255-11 BEAD, FERRITE
C765	1-164-232-11	CERAMIC CHIP	0.01uF		50V	FB302	1-543-255-11 BEAD, FERRITE
C769	1-163-107-00	CERAMIC CHIP	30PF	5%	50V	FB304	1-543-255-11 BEAD, FERRITE
C800	1-163-038-00	CERAMIC CHIP	0.1uF		25V	FB403	1-412-390-21 INDUCTOR CHIP 0uH
C801	1-124-205-11	ELECT CHIP	47uF	20%	4, 3V	FB402	1-412-390-21 INDUCTOR CHIP 0uH
C802	1-164-232-11	CERAMIC CHIP	0.01uF		50V	FB401	1-412-390-21 INDUCTOR CHIP 0uH
C803	1-124-184-11	ELECT	1uF	20%	50V	FB404	1-412-390-21 INDUCTOR CHIP 0uH
C804	1-164-232-11	CERAMIC CHIP	0.01uF		20V	FB405	1-412-390-21 INDUCTOR CHIP 0uH
C805	1-163-037-00	CERAMIC CHIP	0.0047uF	5%	50V	FB406	1-412-390-21 INDUCTOR CHIP 0uH
C806	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V	FB407	1-412-390-21 INDUCTOR CHIP 0uH
C807	1-120-002-11	ELECT CHIP	1.5uF	20%	30V	FB408	1-412-390-21 INDUCTOR CHIP 0uH
C808	1-124-184-11	ELECT	1uF	20%	50V	FB409	1-412-390-21 INDUCTOR CHIP 0uH
C809	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	FB451	1-412-390-21 INDUCTOR CHIP 0uH
C810	1-163-038-00	CERAMIC CHIP	30PF	5%	50V	FB452	1-412-390-21 INDUCTOR CHIP 0uH
C812	1-163-038-00	CERAMIC CHIP	0.1uF		25V	FB453	1-412-390-21 INDUCTOR CHIP 0uH
C813	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	FB454	1-412-390-21 INDUCTOR CHIP 0uH
C814	1-124-778-00	ELECT CHIP	22uF	20%	6.3V	FB501	1-412-390-21 INDUCTOR CHIP 0uH
C815	1-163-031-11	CERAMIC CHIP	0.01uF		50V	FB502	1-412-390-21 INDUCTOR CHIP 0uH
C816	1-163-031-11	CERAMIC CHIP	0.01uF		50V	FB503	1-412-390-21 INDUCTOR CHIP 0uH
C817	1-163-127-00	CERAMIC CHIP	270PF	5%	50V	FB600	1-412-390-21 INDUCTOR CHIP 0uH
C818	1-163-138-00	CERAMIC CHIP	820PF	5%	50V		
C819	1-163-038-00	CERAMIC CHIP	0.1uF		25V		
C901	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V		< FILTER >
C902	1-163-251-11	CERAMIC CHIP	300PF	5%	50V	EL100	1-421-927-21 FILTER, NOISE
C904	1-163-031-11	CERAMIC CHIP	0.01uF		50V		< IC >
C905	1-163-125-00	CERAMIC CHIP	220PF	5%	50V		
		< CONDUCTOR >					
UM000	1-691-004-21	HOUSING, CONDUCTOR Z5P				IC200	8-759-157-22 IC P805231U
		< VARIABLE CAPACITOR >				IC201	8-759-011-85 IC MC2480405AF
0X000	1-143-422-11	CAP. ADJ				IC202	8-752-034-55 IC CD01L75AM
0X000	1-143-422-11	CAP. ADJ				IC250	8-752-034-55 IC CD01L75AM
0X000	1-143-311-11	CAP. TRIMMER 20PF				IC300	8-759-987-17 IC CD012250
0X000	1-143-311-11	CAP. TRIMMER 20PF				IC400	8-752-940-52 IC CCR4832AQ
						IC450	8-752-340-75 IC CD012964W
						IC500	8-759-044-43 IC CD010964W
						IC530	8-759-232-74 IC TC74NC163AF
						IC600	8-759-987-18 IC CD012270

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
IC700	8-752-002-96	IC	CRYALINER	Q255	8-729-904-04	TRANSISTOR	DTCL44EK
IC750	8-752-002-96	IC	CRYALINER	Q300	8-729-102-02	TRANSISTOR	25A2208-E4
IC700	8-759-907-20	IC	CRYALINER	Q201	8-729-102-06	TRANSISTOR	25C2227-F14
IC800	8-759-239-95	IC	TC74HC123AF	Q570	8-729-091-01	TRANSISTOR	D7CL04EK
IC900	8-759-239-34	IC	TC74HC4539AF	Q571	8-729-091-01	TRANSISTOR	D7CL04EK
IC950	8-759-925-85	IC	S74HC23AKS	Q572	8-729-091-01	TRANSISTOR	D7CL04EK
IC951	8-759-925-74	IC	S74HC05AKS	Q600	8-729-010-25	TRANSISTOR	MS0601-RCL
		< CONT >		Q601	8-729-010-25	TRANSISTOR	MS0601-RCL
L100	1-412-042-11	INDUCTOR CHIP	47uh	Q700	8-729-010-25	TRANSISTOR	MS0601-RCL
L101	1-412-042-11	INDUCTOR CHIP	47uh	Q701	8-729-010-25	TRANSISTOR	MS0601-RCL
L200	1-410-309-24	INDUCTOR CHIP	30uh	Q703	8-729-010-25	TRANSISTOR	MS0601-RCL
L201	1-410-309-24	INDUCTOR CHIP	47uh	Q704	8-729-010-25	TRANSISTOR	MS0601-RCL
L250	1-410-309-21	INDUCTOR CHIP	30uh	Q750	8-729-010-05	TRANSISTOR	MS0609-RCL
L251	1-410-309-21	INDUCTOR CHIP	47uh	Q751	8-729-010-25	TRANSISTOR	MS0601-RCL
L300	1-412-062-11	INDUCTOR CHIP	47uh	Q752	8-729-010-25	TRANSISTOR	MS0601-RCL
L301	1-412-062-11	INDUCTOR CHIP	47uh	Q754	8-729-010-25	TRANSISTOR	MS0601-RCL
L302	1-410-309-21	INDUCTOR CHIP	2.2uh	Q755	8-729-010-25	TRANSISTOR	MS0601-RCL
L400	1-410-309-21	INDUCTOR CHIP	47uh	Q756	8-729-120-23	TRANSISTOR	25C1623-15L4
L450	1-410-309-21	INDUCTOR CHIP	47uh	Q757	8-729-120-23	TRANSISTOR	25C1623-15L4
L500	1-412-062-11	INDUCTOR CHIP	47uh	Q800	8-729-100-05	TRANSISTOR	MS0609-RCL
L600	1-412-062-11	INDUCTOR CHIP	47uh	Q901	8-729-610-05	TRANSISTOR	MS0609-RCL
L601	1-410-309-21	INDUCTOR CHIP	56uh			< RESISTOR >	
L602	1-410-309-21	INDUCTOR CHIP	56uh	R100	1-216-049-00	METAL CHIP	1K 5% 1/10W
L700	1-410-309-21	INDUCTOR CHIP	6.2uh	R152	1-216-049-05	METAL CHIP	1K 5% 1/10W
L701	1-410-309-21	INDUCTOR CHIP	35uh	R160	1-216-049-06	METAL CHIP	470 5% 1/10W
L702	1-410-309-21	INDUCTOR CHIP	100uh	R104	1-216-049-06	METAL CHIP	470 5% 1/10W
L750	1-410-309-21	INDUCTOR CHIP	47uh	R105	1-216-049-00	METAL CHIP	10 5% 1/10W
L751	1-410-309-21	INDUCTOR CHIP	32uh	R106	1-216-049-00	METAL CHIP	10 5% 1/10W
L752	1-410-309-21	INDUCTOR CHIP	47uh	R110	1-216-049-01	METAL GLAZE	47K 5% 1/10W
L753	1-410-309-21	INDUCTOR CHIP	12uh	R150	1-216-049-00	METAL CHIP	1K 5% 1/10W
L754	1-410-309-21	INDUCTOR CHIP	47uh	R151	1-216-081-00	METAL CHIP	22K 5% 1/10W
L755	1-410-309-21	INDUCTOR CHIP	47uh	R152	1-216-089-91	METAL GLAZE	47K 5% 1/10W
L800	1-410-377-21	INDUCTOR CHIP	4.7uh	R153	1-216-640-00	METAL GLAZE	430 5% 1/10W
L801	1-412-062-11	INDUCTOR CHIP	47uh	R154	1-216-049-00	METAL CHIP	1K 5% 1/10W
L902	1-410-056-13	INDUCTOR CHIP	150uh	R155	1-216-077-00	METAL CHIP	15K 5% 1/10W
		< TRANSISTOR >		R156	1-216-061-00	METAL CHIP	0.3K 5% 1/10W
Q130	8-729-902-19	TRANSISTOR	2N6501	R157	1-216-049-00	METAL CHIP	1K 5% 1/10W
Q131	8-729-010-25	TRANSISTOR	MS0601-RCL	R158	1-216-089-91	METAL GLAZE	47K 5% 1/10W
Q134	8-729-010-25	TRANSISTOR	MS0601-RCL	R159	1-216-085-00	METAL CHIP	33K 5% 1/10W
Q155	8-729-010-25	TRANSISTOR	MS0601-RCL	R160	1-216-089-91	METAL GLAZE	33K 0.5% 1/10W
Q200	8-729-010-25	TRANSISTOR	MS0601-RCL	R161	1-216-049-00	METAL CHIP	1K 5% 1/10W
Q201	8-729-010-25	TRANSISTOR	MS0601-RCL	R162	1-216-089-91	METAL GLAZE	47K 5% 1/10W
Q203	8-729-010-25	TRANSISTOR	MS0601-RCL	R163	1-216-049-00	METAL CHIP	6.8K 5% 1/10W
Q205	8-729-010-25	TRANSISTOR	MS0601-RCL	R164	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
Q254	8-729-010-25	TRANSISTOR	MS0601-RCL	R165	1-216-089-00	METAL CHIP	0 5% 1/10W
Q255	8-729-010-25	TRANSISTOR	MS0601-RCL	R166	1-216-075-00	METAL CHIP	0 5% 1/10W
Q254	8-729-010-25	TRANSISTOR	MS0601-RCL	R167	1-216-089-91	METAL GLAZE	47K 5% 1/10W

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark		
R169	1-216-009-01	METAL GLAZE	47K 5%	1/10W	R274	1-216-090-91	METAL GLAZE	47K 5%	1/10W
R169	1-216-049-00	METAL CHIP	1K 5%	1/10W	R301	1-216-295-00	METAL CHIP	0 5%	1/10W
R171	1-216-089-91	METAL GLAZE	97K 5%	1/10W	R303	1-216-295-00	METAL CHIP	0 5%	1/10W
R200	1-216-049-00	METAL CHIP	1K 5%	1/10W	R305	1-216-019-00	METAL CHIP	50 5%	1/10W
R201	1-216-027-00	METAL CHIP	330 5%	1/10W	R306	1-216-019-00	METAL CHIP	50 5%	1/10W
R203	1-216-049-00	METAL CHIP	1K 5%	1/10W	R307	1-216-019-00	METAL CHIP	50 5%	1/10W
R204	1-216-073-00	METAL CHIP	16K 5%	1/10W	R308	1-216-019-00	METAL CHIP	50 5%	1/10W
R206	1-216-041-00	METAL CHIP	470 5%	1/10W	R309	1-216-019-00	METAL CHIP	50 5%	1/10W
R206	1-216-057-00	METAL CHIP	2.2K 5%	1/10W	R310	1-216-019-00	METAL CHIP	50 5%	1/10W
R207	1-216-025-00	METAL CHIP	100 5%	1/10W	R311	1-216-019-00	METAL CHIP	50 5%	1/10W
R208	1-216-075-00	METAL CHIP	12W 5%	1/10W	R312	1-216-019-00	METAL CHIP	50 5%	1/10W
R209	1-216-073-00	METAL CHIP	16K 5%	1/10W	R313	1-216-019-00	METAL CHIP	50 5%	1/10W
R211	1-216-081-00	METAL CHIP	22W 5%	1/10W	R314	1-216-019-00	METAL CHIP	50 5%	1/10W
R212	1-216-019-00	METAL CHIP	1K 5%	1/10W	R315	1-216-019-00	METAL CHIP	50 5%	1/10W
R213	1-216-025-00	METAL CHIP	100 5%	1/10W	R316	1-216-019-00	METAL CHIP	50 5%	1/10W
R214	1-216-295-00	METAL CHIP	0 5%	1/10W	R317	1-216-095-00	METAL CHIP	330 5%	1/10W
R215	1-216-295-00	METAL CHIP	0 5%	1/10W	R318	1-216-124-00	METAL CHIP	1M 5%	1/10W
R216	1-216-019-00	METAL CHIP	50 5%	1/10W	R319	1-216-097-00	METAL CHIP	100K 5%	1/10W
R217	1-216-019-00	METAL CHIP	50 5%	1/10W	R320	1-216-072-00	METAL CHIP	10K 5%	1/10W
R218	1-216-019-00	METAL CHIP	50 5%	1/10W	R321	1-216-145-00	METAL CHIP	220K 5%	1/10W
R219	1-216-019-00	METAL CHIP	50 5%	1/10W	R322	1-216-111-00	METAL CHIP	200K 5%	1/10W
R220	1-216-019-00	METAL CHIP	50 5%	1/10W	R323	1-216-095-00	METAL CHIP	330 5%	1/10W
R221	1-216-019-00	METAL CHIP	50 5%	1/10W	R324	1-216-119-00	METAL CHIP	820K 5%	1/10W
R222	1-216-019-00	METAL CHIP	50 5%	1/10W	R325	1-216-097-00	METAL CHIP	100K 5%	1/10W
R223	1-216-019-00	METAL CHIP	50 5%	1/10W	R327	1-216-053-00	METAL CHIP	1.5K 5%	1/10W
R250	1-216-049-00	METAL CHIP	1K 5%	1/10W	R328	1-216-121-00	METAL CHIP	1M 5%	1/10W
R251	1-216-049-00	METAL CHIP	1K 5%	1/10W	R329	1-216-295-00	METAL CHIP	0 5%	1/10W
R252	1-216-073-00	METAL CHIP	10K 5%	1/10W	R330	1-216-097-00	METAL CHIP	100K 5%	1/10W
R253	1-216-039-00	METAL CHIP	210 5%	1/10W	R331	1-216-105-00	METAL CHIP	220K 5%	1/10W
R254	1-216-049-00	METAL CHIP	1K 5%	1/10W	R332	1-216-111-00	METAL CHIP	200K 5%	1/10W
R255	1-216-061-00	METAL CHIP	1.3K 5%	1/10W	R333	1-216-295-00	METAL CHIP	0 5%	1/10W
R257	1-216-073-00	METAL CHIP	10K 5%	1/10W	R334	1-216-019-00	METAL CHIP	50 5%	1/10W
R258	1-216-091-00	METAL CHIP	22K 5%	1/10W	R335	1-216-295-00	METAL CHIP	0 5%	1/10W
R259	1-216-025-00	METAL CHIP	100 5%	1/10W	R337	1-216-040-00	METAL CHIP	1K 5%	1/10W
R260	1-216-053-00	METAL CHIP	1.5K 5%	1/10W	R338	1-216-025-00	METAL CHIP	100 5%	1/10W
R261	1-216-295-00	METAL CHIP	0 5%	1/10W	R339	1-216-019-00	METAL CHIP	50 5%	1/10W
R262	1-216-073-00	METAL CHIP	10K 5%	1/10W	R340	1-216-001-00	METAL CHIP	470 5%	1/10W
R263	1-216-073-00	METAL CHIP	10K 5%	1/10W	R341	1-216-073-00	METAL CHIP	150 5%	1/10W
R264	1-216-099-00	METAL CHIP	22 5%	1/10W	R342	1-216-077-00	METAL CHIP	150 5%	1/10W
R265	1-216-039-00	METAL CHIP	50 5%	1/10W	R400	1-216-019-00	METAL CHIP	50 5%	1/10W
R266	1-216-003-00	METAL CHIP	50 5%	1/10W	R403	1-216-019-00	METAL CHIP	50 5%	1/10W
R267	1-216-019-00	METAL CHIP	50 5%	1/10W	R402	1-216-019-00	METAL CHIP	50 5%	1/10W
R268	1-216-019-00	METAL CHIP	50 5%	1/10W	R405	1-216-019-00	METAL CHIP	50 5%	1/10W
R269	1-216-019-00	METAL CHIP	50 5%	1/10W	R404	1-216-019-00	METAL CHIP	50 5%	1/10W
R270	1-216-019-00	METAL CHIP	50 5%	1/10W	R405	1-216-019-00	METAL CHIP	50 5%	1/10W
R271	1-216-019-00	METAL CHIP	50 5%	1/10W	R406	1-216-019-00	METAL CHIP	50 5%	1/10W
R272	1-216-019-00	METAL CHIP	50 5%	1/10W	R407	1-216-019-00	METAL CHIP	50 5%	1/10W
R273	1-216-099-00	METAL CHIP	1K 5%	1/10W	R408	1-216-019-00	METAL CHIP	50 5%	1/10W
					R415	1-216-019-00	METAL CHIP	50 5%	1/10W



## DI-51

Ref. No.	Part No.	Description	Qty	Unit	Remark
R451	1-216-019-00	METAL CHIP	56	EA	1/100
R452	1-216-019-00	METAL CHIP	56	EA	1/100
R453	1-210-019-00	METAL CHIP	56	EA	1/100
R454	1-216-019-00	METAL CHIP	56	EA	1/100
R455	1-216-065-00	METAL CHIP	4.7K	EA	1/100
R456	1-216-019-00	METAL CHIP	56	EA	1/100
R457	1-216-019-00	METAL CHIP	56	EA	1/100
R462	1-216-019-00	METAL CHIP	56	EA	1/100
R500	1-216-019-00	METAL CHIP	56	EA	1/100
R501	1-216-019-00	METAL CHIP	56	EA	1/100
R502	1-216-019-00	METAL CHIP	56	EA	1/100
R503	1-216-019-00	METAL CHIP	56	EA	1/100
R504	1-216-019-00	METAL CHIP	56	EA	1/100
R505	1-210-019-00	METAL CHIP	56	EA	1/100
R506	1-216-019-00	METAL CHIP	56	EA	1/100
R509	1-210-019-00	METAL CHIP	56	EA	1/100
R510	1-216-019-00	METAL CHIP	56	EA	1/100
R511	1-216-019-00	METAL CHIP	56	EA	1/100
R512	1-216-019-00	METAL CHIP	56	EA	1/100
R513	1-216-019-00	METAL CHIP	56	EA	1/100
R514	1-210-019-00	METAL CHIP	56	EA	1/100
R515	1-216-019-00	METAL CHIP	56	EA	1/100
R516	1-210-019-00	METAL CHIP	56	EA	1/100
R517	1-216-019-00	METAL CHIP	56	EA	1/100
R518	1-216-019-00	METAL CHIP	56	EA	1/100
R519	1-216-019-00	METAL CHIP	56	EA	1/100
R520	1-216-019-00	METAL CHIP	56	EA	1/100
R521	1-216-019-00	METAL CHIP	56	EA	1/100
R522	1-216-019-00	METAL CHIP	56	EA	1/100
R523	1-216-019-00	METAL CHIP	56	EA	1/100
R524	1-216-019-00	METAL CHIP	56	EA	1/100
R525	1-216-019-00	METAL CHIP	56	EA	1/100
R526	1-216-019-00	METAL CHIP	56	EA	1/100
R528	1-216-019-00	METAL CHIP	56	EA	1/100
R529	1-216-019-00	METAL CHIP	56	EA	1/100
R530	1-216-019-00	METAL CHIP	56	EA	1/100
R531	1-216-019-00	METAL CHIP	56	EA	1/100
R532	1-216-019-00	METAL CHIP	56	EA	1/100
R533	1-216-019-00	METAL CHIP	56	EA	1/100
R534	1-216-019-00	METAL CHIP	56	EA	1/100
R535	1-216-073-00	METAL CHIP	10K	EA	1/100
R536	1-216-089-01	METAL GLAZE	17K	EA	1/100
R537	1-210-089-01	METAL GLAZE	47K	EA	1/100
R538	1-216-019-00	METAL CHIP	56	EA	1/100
R539	1-216-019-00	METAL CHIP	56	EA	1/100
R540	1-216-095-00	METAL CHIP	0	EA	1/100
R541	1-216-019-00	METAL CHIP	56	EA	1/100
R542	1-216-019-00	METAL CHIP	56	EA	1/100
R543	1-216-019-00	METAL CHIP	56	EA	1/100

Ref. No.	Part No.	Description	Qty	Unit	Remark
R544	1-216-019-00	METAL CHIP	56	EA	1/100
R545	1-216-019-00	METAL CHIP	56	EA	1/100
R546	1-216-019-00	METAL CHIP	56	EA	1/100
R547	1-216-019-00	METAL CHIP	56	EA	1/100
R548	1-216-019-00	METAL CHIP	56	EA	1/100
R549	1-216-019-00	METAL CHIP	56	EA	1/100
R550	1-216-019-00	METAL CHIP	56	EA	1/100
R551	1-216-019-00	METAL CHIP	56	EA	1/100
R552	1-216-019-00	METAL CHIP	56	EA	1/100
R553	1-216-019-00	METAL CHIP	56	EA	1/100
R554	1-216-019-00	METAL CHIP	56	EA	1/100
R555	1-216-019-00	METAL CHIP	56	EA	1/100
R556	1-216-019-00	METAL CHIP	56	EA	1/100
R557	1-216-019-00	METAL CHIP	56	EA	1/100
R558	1-216-019-00	METAL CHIP	56	EA	1/100
R559	1-216-295-00	METAL CHIP	0	EA	1/100
R560	1-216-020-00	METAL CHIP	150	EA	1/100
R561	1-216-121-00	METAL CHIP	1M	EA	1/100
R564	1-216-019-00	METAL CHIP	56	EA	1/100
R570	1-216-089-01	METAL GLAZE	47K	EA	1/100
R571	1-216-065-00	METAL CHIP	4.7K	EA	1/100
R572	1-216-065-00	METAL CHIP	4.7K	EA	1/100
R573	1-216-295-00	METAL CHIP	0	EA	1/100
R574	1-216-065-00	METAL CHIP	4.7K	EA	1/100
R600	1-216-028-00	METAL CHIP	150	EA	1/100
R601	1-216-121-00	METAL CHIP	1M	EA	1/100
R603	1-216-019-00	METAL CHIP	56	EA	1/100
R604	1-216-019-00	METAL CHIP	56	EA	1/100
R605	1-216-019-00	METAL CHIP	56	EA	1/100
R606	1-216-019-00	METAL CHIP	56	EA	1/100
R607	1-216-019-00	METAL CHIP	56	EA	1/100
R608	1-216-019-00	METAL CHIP	56	EA	1/100
R609	1-216-019-00	METAL CHIP	56	EA	1/100
R610	1-216-019-00	METAL CHIP	56	EA	1/100
R611	1-216-019-00	METAL CHIP	56	EA	1/100
R612	1-216-019-00	METAL CHIP	56	EA	1/100
R613	1-216-019-00	METAL CHIP	56	EA	1/100
R614	1-216-019-00	METAL CHIP	56	EA	1/100
R615	1-216-019-00	METAL CHIP	56	EA	1/100
R616	1-216-019-00	METAL CHIP	56	EA	1/100
R617	1-216-019-00	METAL CHIP	56	EA	1/100
R618	1-216-019-00	METAL CHIP	56	EA	1/100
R619	1-216-295-00	METAL CHIP	0	EA	1/100
R621	1-216-295-00	METAL CHIP	0	EA	1/100
R623	1-216-295-00	METAL CHIP	0	EA	1/100
R625	1-216-030-00	METAL CHIP	230	EA	1/100
R626	1-216-073-00	METAL CHIP	10K	EA	1/100
R627	1-216-073-00	METAL CHIP	10K	EA	1/100
R628	1-216-089-01	METAL GLAZE	1K	EA	1/100

Ref. No.	Part No.	Description	Remark		
R630	1-216-046-00	METAL CHIP	1K	5%	1/10W
R631	1-216-057-00	METAL CHIP	330	5%	1/10W
R632	1-216-073-00	METAL CHIP	10K	5%	1/10W
R633	1-216-073-00	METAL CHIP	10K	5%	1/10W
R634	1-216-084-00	METAL CHIP	6.8K	5%	1/10W
R700	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R701	1-216-025-00	METAL CHIP	100	5%	1/10W
R702	1-216-037-00	METAL CHIP	330	5%	1/10W
R704	1-216-064-00	METAL CHIP	3.3K	5%	1/10W
R705	1-216-041-00	METAL CHIP	470	5%	1/10W
R706	1-216-073-00	METAL CHIP	10K	5%	1/10W
R707	1-216-088-00	METAL CHIP	220	5%	1/10W
R708	1-216-091-00	METAL CHIP	470	5%	1/10W
R709	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R710	1-216-035-00	METAL CHIP	220	5%	1/10W
R711	1-216-042-00	METAL CHIP	470	5%	1/10W
R712	1-216-025-00	METAL CHIP	100	5%	1/10W
R713	1-216-205-00	METAL CHIP	0	5%	1/10W
R714	1-216-205-00	METAL CHIP	0	5%	1/10W
R715	1-216-205-00	METAL CHIP	0	5%	1/10W
R716	1-216-063-00	METAL CHIP	3.3K	5%	1/10W
R717	1-216-072-00	METAL CHIP	100	5%	1/10W
R719	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R750	1-216-049-00	METAL CHIP	1K	5%	1/10W
R751	1-216-049-00	METAL CHIP	1K	5%	1/10W
R752	1-216-048-00	METAL CHIP	1K	5%	1/10W
R753	1-216-048-00	METAL CHIP	1K	5%	1/10W
R755	1-216-065-00	METAL CHIP	3.3K	5%	1/10W
R756	1-216-077-00	METAL CHIP	15K	5%	1/10W
R758	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R759	1-216-041-00	METAL CHIP	470	5%	1/10W
R760	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R761	1-216-041-00	METAL CHIP	470	5%	1/10W
R762	1-216-048-00	METAL CHIP	1K	5%	1/10W
R764	1-216-295-00	METAL CHIP	0	5%	1/10W
R765	1-216-295-00	METAL CHIP	0	5%	1/10W
R766	1-216-038-00	METAL CHIP	180	5%	1/10W
R767	1-216-084-00	METAL CHIP	3.3K	5%	1/10W
R768	1-216-037-00	METAL CHIP	330	5%	1/10W
R769	1-216-032-00	METAL CHIP	220	5%	1/10W
R770	1-216-073-00	METAL CHIP	10K	5%	1/10W
R772	1-216-045-00	METAL CHIP	680	5%	1/10W
R775	1-216-048-00	METAL CHIP	1K	5%	1/10W
R776	1-216-049-00	METAL CHIP	1K	5%	1/10W
R777	1-216-049-00	METAL CHIP	1K	5%	1/10W
R800	1-216-073-00	METAL CHIP	10K	5%	1/10W
R801	1-216-067-00	METAL CHIP	2.2K	5%	1/10W
R802	1-216-019-00	METAL CHIP	56	5%	1/10W
R804	1-216-040-00	METAL CHIP	1K	5%	1/10W

Ref. No.	Part No.	Description	Remark		
R804	1-216-049-00	METAL CHIP	1K	5%	1/10W
R805	1-216-021-00	METAL CHIP	66	5%	1/10W
R806	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R807	1-216-117-00	METAL CHIP	680K	5%	1/10W
R809	1-216-035-00	METAL CHIP	33K	5%	1/10W
R810	1-216-045-00	METAL CHIP	330	5%	1/10W
R811	1-216-045-00	METAL CHIP	33K	5%	1/10W
R812	1-216-073-00	METAL CHIP	10K	5%	1/10W
R813	1-216-065-00	METAL CHIP	33K	5%	1/10W
R814	1-216-043-00	METAL CHIP	1K	5%	1/10W
R817	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R818	1-216-295-00	METAL CHIP	0	5%	1/10W
R819	1-216-295-00	METAL CHIP	0	5%	1/10W
R821	1-216-295-00	METAL CHIP	0	5%	1/10W
R824	1-216-295-00	METAL CHIP	0	5%	1/10W
R825	1-216-040-00	METAL CHIP	1K	5%	1/10W
R826	1-216-041-00	METAL CHIP	3.3K	5%	1/10W
R823	1-216-041-00	METAL CHIP	470	5%	1/10W
R900	1-216-295-00	METAL CHIP	0	5%	1/10W
R902	1-216-675-00	METAL CHIP	1.5K	5%	1/10W
R904	1-216-043-00	METAL CHIP	3.3K	5%	1/10W
R905	1-216-075-00	METAL CHIP	120	5%	1/10W
R907	1-216-073-00	METAL CHIP	10K	5%	1/10W

< VARIABLE RESISTOR >

R210 1-250-840-11 RES. ADJ. METAL 470  
 R270 1-230-860-11 RES. ADJ. METAL 470

< VIBRATOR >

X200 1-567-244-21 VIBRATOR CRYSTAL (17.73MHz)  
 X500 1-577-704-11 VIBRATOR CRYSTAL (14.23MHz)  
 X600 1-567-723-11 VIBRATOR CRYSTAL (17.73MHz)

Ref No	Part No	Description	Remark
A-7043-935-A	FJ-13 (6) BOARD, COMPLETE		
		-----	
		(Ref No 0,000 series)	
	5-751-002-11	CABLE, FLAT (PWF-01)	
		< CAPACITOR >	
C201	1-102-100-00	CERAMIC CHIP	47PF 5% 50V
C202	1-103-103-00	CERAMIC CHIP	47PF 5% 50V
C203	1-124-157-11	ELECT	10uF 20% 16V
C204	1-126-157-11	ELECT	16uF 20% 16V
C205	1-124-157-11	ELECT	10uF 20% 16V
C207	1-124-157-11	ELECT	10uF 20% 16V
C211	1-103-123-00	CERAMIC CHIP	100PF 5% 50V
C212	1-124-157-11	ELECT	10uF 20% 16V
C213	1-103-103-00	CERAMIC CHIP	100PF 5% 50V
C214	1-103-009-11	CERAMIC CHIP	0.001uF 10% 50V
C215	1-126-157-11	ELECT	10uF 20% 16V
C216	1-126-150-11	ELECT	1uF 20% 50V
C218	1-103-037-11	CERAMIC CHIP	0.022uF 10% 25V
C220	1-124-150-11	ELECT	1uF 20% 50V
C221	1-103-037-11	CERAMIC CHIP	0.022uF 10% 25V
C222	1-164-141-11	CERAMIC CHIP	0.0022uF 10% 100V
C223	1-103-117-00	CERAMIC CHIP	100PF 5% 50V
C224	1-103-009-11	CERAMIC CHIP	0.001uF 10% 50V
C226	1-103-117-00	CERAMIC CHIP	100PF 5% 50V
C250	1-124-779-00	ELECT	10uF 20% 10V
		< CONNECTOR >	
CK201	1-509-930-11	HOUSING, CONNECTOR 13P	
		< DIODE >	
D203	9-719-439-14	DIODE M30002-M	
D204	9-719-439-14	DIODE M30002-M	
		< IC >	
IC201	9-750-771-02	IC M10350AE	
IC202	9-750-924-04	IC H8150DF	
		< JACK >	
J202	1-507-833-00	JACK (PHONE)	
J203	1-704-130-11	JACK (MTC)	
		< JUMPER RESISTOR >	
JR201	1-216-204-00	METAL CHIP	0 5% 1/2W
JR202	1-216-204-00	METAL CHIP	0 5% 1/2W
JR203	1-216-204-00	METAL CHIP	0 5% 1/2W
JR204	1-216-204-00	METAL CHIP	0 5% 1/2W
JR205	1-216-204-00	METAL CHIP	0 5% 1/2W

Ref. No.	Part No.	Description	Remark
M207	1-216-206-00	METAL CHIP	0 5% 1/2W
M208	1-216-206-00	METAL CHIP	0 5% 1/2W
		< TRANSISTOR >	
Q201	8-729-016-25	TRANSISTOR	MS2001-RTL
Q202	8-729-016-25	TRANSISTOR	MS2001-RTL
Q203	8-729-016-25	TRANSISTOR	MS2001-RTL
Q250	8-729-016-25	TRANSISTOR	MS2001-RTL
		< RESISTOR >	
R203	1-214-049-00	METAL CHIP	6.8K 5% 1/2W
R204	1-214-079-00	METAL CHIP	1.8K 5% 1/2W
R205	1-214-049-00	METAL CHIP	6.8K 5% 1/2W
R206	1-214-079-00	METAL CHIP	1.8K 5% 1/2W
R207	1-216-165-00	METAL GLAZE	47 5% 1/2W
R208	1-214-017-00	METAL CHIP	47 5% 1/2W
R209	1-216-073-00	METAL CHIP	10K 5% 1/2W
R210	1-216-073-00	METAL CHIP	0.2K 5% 1/2W
R211	1-216-050-00	METAL CHIP	6.8K 5% 1/2W
R212	1-214-065-00	METAL CHIP	4.7K 5% 1/2W
R213	1-216-097-00	METAL CHIP	100K 5% 1/2W
R214	1-216-065-00	METAL CHIP	4.7K 5% 1/2W
R215	1-216-005-00	METAL CHIP	2.7K 5% 1/2W
R216	1-216-067-00	METAL CHIP	3.3K 5% 1/2W
R217	1-216-121-00	METAL CHIP	1M 5% 1/2W
R218	1-216-025-00	METAL CHIP	100 5% 1/2W
R219	1-216-065-00	METAL CHIP	4.7K 5% 1/2W
R220	1-214-073-00	METAL CHIP	10K 5% 1/2W
R221	1-216-041-00	METAL CHIP	2.2K 5% 1/2W
R222	1-214-105-00	METAL CHIP	200K 5% 1/2W
R223	1-216-059-00	METAL CHIP	2.7K 5% 1/2W
R224	1-216-245-00	METAL CHIP	0 5% 1/2W
R228	1-216-246-00	METAL CHIP	0 5% 1/2W
R230	1-216-206-00	METAL CHIP	0 5% 1/2W
R240	1-216-120-00	METAL GLAZE	10K 5% 1/2W
R241	1-216-079-00	METAL CHIP	1.8K 5% 1/2W
R250	1-216-065-00	METAL CHIP	4.7K 5% 1/2W
R251	1-216-041-00	METAL CHIP	2.2K 5% 1/2W
R252	1-216-073-00	METAL CHIP	10K 5% 1/2W
R253	1-216-069-00	METAL CHIP	6.8K 5% 1/2W
R260	1-214-010-00	METAL CHIP	50 5% 1/2W
R261	1-214-619-00	METAL CHIP	5K 5% 1/2W
		< VARIABLE RESISTOR >	
VR201	1-213-525-11	RES. VAR. CARBON 10K/10K	

Ref. No.	Part No.	Description	Remark
*	A-2062-930-A	FL-57 (C) BOARD, COMPLETE ***** (Ref. No. I, 000 series)	
*	2-047-510-01	INCLDER, TERMINAL S	
		< CAPACITOR >	
C003	1-174-157-13	ELECT	100F 20% 16V
C004	1-163-189-00	CERAMIC CHIP	47PF 5% 50V
C005	1-163-189-00	CERAMIC CHIP	47PF 5% 50V
C007	1-124-157-13	ELECT	100F 20% 16V
C008	1-163-177-00	CERAMIC CHIP	100PF 5% 50V
C009	1-163-177-00	CERAMIC CHIP	100PF 5% 50V
C010	1-164-005-E1	CERAMIC CHIP	0.25V 25V
C1E1	1-164-005-E1	CERAMIC CHIP	0.42uF 25V
C1E2	1-163-177-00	CERAMIC CHIP	100PF 5% 50V
C1E3	1-163-177-00	CERAMIC CHIP	100PF 5% 50V
C145	1-166-232-E1	CERAMIC CHIP	0.01uF 50V
C148	1-163-008-E1	CERAMIC CHIP	0.001uF 16% 50V
C156	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C158	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C159	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C175	1-163-038-00	CERAMIC CHIP	0.1uF 25V
		< CONNECTOR >	
* CN101	1-601-074-11	PLUGGING, CONNECTOR 12P	
CN102	1-549-240-11	CONNECTOR DMSB TO DMSB 16P	
		< DIODE >	
D102	3-719-421-59	DIODE MA3110MA-TX	
D104	3-719-421-59	DIODE MA3110MA-TX	
D106	3-719-404-34	DIODE 1S283B	
D107	3-719-421-59	DIODE MA3110MA-TX	
D108	3-719-421-59	DIODE MA3110MA-TX	
D110	3-719-420-14	DIODE MA9082-M	
D112	3-719-421-59	DIODE MA3110MA-TX	
D125	3-719-005-62	DIODE SML121AW	
D126	3-719-005-62	DIODE SML121AW	
D151	3-719-420-14	DIODE MA9082-M	
D152	3-719-420-14	DIODE MA9082-M	
D153	3-719-420-14	DIODE MA9082-M	
D155	3-719-420-14	DIODE MA9082-M	
		< IC >	
IC101	3-758-924-4G	IC BA6505F	

Ref. No.	Part No.	Description	Remark
		< JUMP >	
J101	1-566-050-51	CONNECTOR (S) TERMINAL (P (LINE IN 2)	
J102	1-695-928-21	BACK, ULTRA MINIATURE IP (LARG)	
J103	1-784-199-11	BACK, PIN JP (LINE IN 2)	
		< JUMPER RESISTOR >	
JR100	1-216-294-00	METAL CHIP	0 5% 1/10W
JR101	1-216-295-00	METAL CHIP	0 5% 1/10W
JR102	1-216-295-00	METAL CHIP	0 5% 1/10W
JR103	1-216-295-00	METAL CHIP	0 5% 1/10W
JR104	1-216-295-00	METAL CHIP	0 5% 1/10W
JR105	1-216-295-00	METAL CHIP	0 5% 1/10W
JR106	1-216-295-00	METAL CHIP	0 5% 1/10W
JR107	1-216-295-00	METAL CHIP	0 5% 1/10W
JR108	1-216-295-00	METAL CHIP	0 5% 1/10W
JR110	1-216-295-00	METAL CHIP	0 5% 1/10W
JR111	1-216-295-00	METAL CHIP	0 5% 1/10W
JR112	1-216-295-00	METAL CHIP	0 5% 1/10W
JR113	1-216-295-00	METAL CHIP	0 5% 1/10W
		< TRANSISTOR >	
Q101	3-729-901-0R	TRANSISTOR BTA144BEE	
		< RESISTOR >	
R142	1-216-097-00	METAL CHIP	100K 5% 1/10W
R145	1-216-091-00	METAL CHIP	10 5% 1/10W
R147	1-216-105-00	METAL CHIP	220K 5% 1/10W
R148	1-216-105-00	METAL CHIP	220K 5% 1/10W
R150	1-216-105-00	METAL CHIP	220K 5% 1/10W
R151	1-216-105-00	METAL CHIP	220K 5% 1/10W
R152	1-216-105-00	METAL CHIP	220K 5% 1/10W
R153	1-216-073-00	METAL CHIP	10K 5% 1/10W
R154	1-216-105-00	METAL CHIP	220K 5% 1/10W
R155	1-216-015-00	METAL CHIP	20 5% 1/10W
R156	1-216-015-00	METAL CHIP	20 5% 1/10W
R17	1-216-105-00	METAL CHIP	220K 5% 1/10W
R18	1-216-015-00	METAL CHIP	20 5% 1/10W
R19	1-216-015-00	METAL CHIP	20 5% 1/10W
R120	1-216-015-00	METAL CHIP	20 5% 1/10W
R121	1-216-015-00	METAL CHIP	20 5% 1/10W
R122	1-216-021-00	METAL CHIP	180 5% 1/10W
R123	1-216-029-00	METAL CHIP	150 5% 1/10W
R124	1-216-295-00	METAL CHIP	0 5% 1/10W
R140	1-216-295-00	METAL CHIP	0 5% 1/10W
R156	1-216-295-00	METAL CHIP	0 5% 1/10W
R160	1-216-021-00	METAL CHIP	180 5% 1/10W
R161	1-216-029-00	METAL CHIP	150 5% 1/10W
R179	1-216-295-00	METAL CHIP	0 5% 1/10W

Ref. No.	Part No.	Description	Remark		
R830	1-216-295-00	METAL CHIP	0	5%	1/30W
R831	1-216-296-00	METAL CHIP	0	5%	1/2W
R832	1-216-295-00	METAL CHIP	0	5%	1/30W
R833	1-216-049-00	METAL CHIP	1K	5%	1/30W
R834	1-216-049-00	METAL CHIP	1K	5%	1/30W
< SWITCH >					
S801	1-571-977-11	SWITCH TACTIL (POWER)			
S802	1-571-977-11	SWITCH TACTIL (RESET SW)			
S803	1-571-977-11	SWITCH TACTIL (OPEN/CLOSE)			
*****					
* A-7000-030-A FM-16 (G) BOARD COMPLETE					
*****					
(Ref No 7,900 series)					
1-751-604-11 CARLE FLAT (FMF-5)					
1-832-441-11 CUSHLOW (CABINET UPPER)					
* 1-955-927-01 CASE (MAIN), SHIELD, OP					
* 1-955-954-01 HOLDER, ILLUMINATION TUBE					
< CAPACITOR >					
C101	1-163-259-11	CERAMIC CHIP	10PF	5%	50V
C103	1-163-638-00	CERAMIC CHIP	0.1uF		25V
C104	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C106	1-164-252-11	CERAMIC CHIP	0.01uF		50V
C107	1-163-143-00	CERAMIC CHIP	0.001uF	5%	50V
C108	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C109	1-163-025-00	CERAMIC CHIP	0.047uF		50V
C111	1-126-157-11	ELECT	30uF	20%	16V
C117	1-124-638-11	ELECT	22uF	20%	10V
C118	1-124-638-11	ELECT	22uF	20%	10V
C121	1-164-282-11	CERAMIC CHIP	0.01uF		50V
C122	1-163-091-11	CERAMIC CHIP	0.01uF		50V
C123	1-126-154-11	ELECT	47uF	20%	0.30
C124	1-163-030-00	CERAMIC CHIP	0.1uF		25V
C125	1-126-157-11	ELECT	30uF	20%	16V
C126	1-126-167-11	ELECT	30uF	20%	16V
C201	1-163-017-11	CERAMIC CHIP	0.0015uF	10%	50V
C202	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C203	1-127-592-11	ELECT (SOLAID)	20uF	20%	16V
C204	1-126-373-11	ELECT	470uF	20%	10V
C205	1-126-303-11	ELECT	47uF	20%	50V
C206	1-126-510-11	ELECT	22uF	20%	25V
C207	1-163-037-11	CERAMIC CHIP	0.0025uF	10%	25V
C208	1-124-607-11	ELECT	10uF	20%	100V
C209	1-163-036-00	CERAMIC CHIP	0.1uF		25V

Ref No.	Part No	Description	Remark		
. CONNECTOR >					
* C4001	1-565-854-11	CONNECTOR, F.P.C 25P			
* C4002	1-565-854-11	CONNECTOR, F.P.C 25P			
* C4003	1-565-602-11	CONNECTOR, FLEXIBLE 25P			
< TRIMMER >					
CT101	1-145-227-00	CAP. TRIMMER 20PF			
< DIODE >					
D201	8-719-001-81	DIODE 1SS81			
D202	8-719-991-83	DIODE 1SS81			
D203	8-719-106-30	DIODE BBO, 0M-FL			
D204	8-719-420-48	DIODE MATSUDA			
< IC >					
IC101	8-759-252-40	IC MB3090OFF-G			
IC102	8-759-842-05	IC BA6801AFVC			
IC103	8-759-183-48	IC CAT30C548-1E10			
IC104	8-759-183-20	IC PST5720MT-T2			
IC105	8-759-548-20	IC PST5720MT			
I4201	8-759-979-50	IC FA7610M			
< COIL >					
L101	1-408-982-11	INDUCTOR 100uH			
L102	1-408-982-11	INDUCTOR 100uH			
L103	1-310-794-11	INDUCTOR 100uH			
. FLUORESCENT INDICATOR .					
W101	1-517-189-11	INDICATOR TUBE, FLUORESCENT			
< TRANSISTOR >					
Q102	8-721-429-50	TRANSISTOR UNCL14			
Q103	8-721-424-56	TRANSISTOR UNCL14			
Q201	8-721-823-29	TRANSISTOR 2SB100F3-F			
. RESISTOR >					
R101	1-216-295-00	METAL CHIP	0	5%	1/30W
R102	1-410-957-21	INDUCTOR CHIP 2.2uH			
R103	1-216-049-00	METAL CHIP	1K	5%	1/30W
R104	1-216-049-00	METAL CHIP	1K	5%	1/30W
R105	1-216-049-00	METAL CHIP	1K	5%	1/30W
R106	1-216-037-00	METAL CHIP	330	5%	1/30W
R107	1-216-037-00	METAL CHIP	330	5%	1/30W
R108	1-216-037-00	METAL CHIP	330	5%	1/30W
R109	1-216-049-00	METAL CHIP	1K	5%	1/30W
R110	1-216-037-00	METAL CHIP	330	5%	1/30W
R111	1-216-073-00	METAL CHIP	10K	5%	1/30W

Ref. No.	Part No.	Description	Remark		
R112	1-216-037-00	METAL CHIP	330	5%	1/10W
R113	1-216-295-00	METAL CHIP	0	5%	1/10W
R114	1-914-235-11	INDUCTOR, FERRITE BEAD			
R115	1-216-037-00	METAL CHIP	330	5%	1/10W
R116	1-216-049-00	METAL CHIP	1K	5%	1/10W
R118	1-216-295-00	METAL CHIP	0	5%	1/10W
R119	1-216-037-00	METAL CHIP	330	5%	1/10W
R120	1-216-037-00	METAL CHIP	330	5%	1/10W
R121	1-216-037-00	METAL CHIP	330	5%	1/10W
R122	1-216-037-00	METAL CHIP	330	5%	1/10W
R123	1-216-037-00	METAL CHIP	330	5%	1/10W
R124	1-216-049-00	METAL CHIP	1K	5%	1/10W
R125	1-216-037-00	METAL CHIP	330	5%	1/10W
R126	1-914-235-11	INDUCTOR, FERRITE BEAD			
R127	1-216-037-00	METAL CHIP	330	5%	1/10W
R128	1-216-037-00	METAL CHIP	330	5%	1/10W
R129	1-216-037-00	METAL CHIP	330	5%	1/10W
R130	1-216-037-00	METAL CHIP	330	5%	1/10W
R131	1-216-049-00	METAL CHIP	1K	5%	1/10W
R132	1-216-037-00	METAL CHIP	330	5%	1/10W
R133	1-216-037-00	METAL CHIP	330	5%	1/10W
R134	1-216-037-00	METAL CHIP	330	5%	1/10W
R135	1-216-049-00	METAL CHIP	1K	5%	1/10W
R136	1-216-039-00	METAL CHIP	1K	5%	1/10W
R137	1-216-075-00	METAL CHIP	10K	5%	1/10W
R138	1-216-037-00	METAL CHIP	330	5%	1/10W
R139	1-216-037-00	METAL CHIP	330	5%	1/10W
R140	1-216-037-00	METAL CHIP	330	5%	1/10W
R141	1-216-037-00	METAL CHIP	330	5%	1/10W
R142	1-216-037-00	METAL CHIP	330	5%	1/10W
R143	1-216-037-00	METAL CHIP	330	5%	1/10W
R144	1-216-037-00	METAL CHIP	330	5%	1/10W
R145	1-216-075-00	METAL CHIP	10K	5%	1/10W
R146	1-216-115-00	METAL CHIP	500K	5%	1/10W
R147	1-216-295-00	METAL CHIP	0	5%	1/10W
R149	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R152	1-216-037-00	METAL CHIP	100K	5%	1/10W
R153	1-216-097-00	METAL CHIP	100K	5%	1/10W
R154	1-216-097-00	METAL CHIP	100K	5%	1/10W
R155	1-216-045-00	METAL CHIP	4.7K	5%	1/10W
R157	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R158	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R159	1-216-035-00	METAL CHIP	270	5%	1/10W
R160	1-216-049-00	METAL CHIP	1K	5%	1/10W
R161	1-216-035-00	METAL CHIP	270	5%	1/10W
R162	1-216-049-00	METAL CHIP	1K	5%	1/10W
R163	1-216-049-00	METAL CHIP	1K	5%	1/10W
R164	1-216-049-00	METAL CHIP	1K	5%	1/10W
R165	1-216-037-00	METAL CHIP	100K	5%	1/10W
R166	1-216-037-00	METAL CHIP	100K	5%	1/10W
R167	1-216-037-00	METAL CHIP	100K	5%	1/10W

Ref. No.	Part No.	Description	Remark		
R168	1-216-037-00	METAL CHIP	100K	5%	1/10W
R169	1-216-097-00	METAL CHIP	100K	5%	1/10W
R170	1-216-097-00	METAL CHIP	100K	5%	1/10W
R171	1-216-037-00	METAL CHIP	100K	5%	1/10W
R172	1-216-037-00	METAL CHIP	100K	5%	1/10W
R173	1-216-037-00	METAL CHIP	100K	5%	1/10W
R174	1-216-097-00	METAL CHIP	100K	5%	1/10W
R175	1-216-037-00	METAL CHIP	100K	5%	1/10W
R176	1-216-037-00	METAL CHIP	100K	5%	1/10W
R177	1-216-037-00	METAL CHIP	100K	5%	1/10W
R178	1-216-037-00	METAL CHIP	100K	5%	1/10W
R179	1-216-037-00	METAL CHIP	100K	5%	1/10W
R180	1-216-037-00	METAL CHIP	100K	5%	1/10W
R181	1-216-037-00	METAL CHIP	100K	5%	1/10W
R182	1-216-037-00	METAL CHIP	100K	5%	1/10W
R183	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R184	1-216-037-00	METAL CHIP	330	5%	1/10W
R185	1-216-045-00	METAL CHIP	1K	5%	1/10W
R186	1-216-049-00	METAL CHIP	1K	5%	1/10W
R187	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R188	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R189	1-216-295-00	METAL CHIP	0	5%	1/10W
R191	1-216-049-00	METAL CHIP	1K	5%	1/10W
R192	1-216-097-00	METAL CHIP	10K	5%	1/10W
R194	1-216-049-00	METAL CHIP	1K	5%	1/10W
R195	1-216-167-00	METAL CHIP	2.2K	5%	1/10W
R196	1-216-037-00	METAL CHIP	330	5%	1/10W
R197	1-216-295-00	METAL CHIP	0	5%	1/10W
R199	1-216-295-00	METAL CHIP	0	5%	1/10W
R201	1-219-162-11	FUSIBLE	3.3	5%	1/4W F
R202	1-216-089-91	METAL GLAZE	100K	5%	1/10W
R203	1-216-117-00	METAL CHIP	100K	5%	1/10W
R204	1-216-076-00	METAL CHIP	13K	5%	1/10W
R205	1-216-105-00	METAL CHIP	220K	5%	1/10W
R206	1-216-473-11	METAL CHIP	6.8K	0.5%	1/10W
R207	1-216-648-11	METAL CHIP	320	0.5%	1/10W
R208	1-216-603-11	METAL CHIP	50K	0.5%	1/10W
R209	1-216-668-11	METAL CHIP	5.6K	0.5%	1/10W
R211	1-216-072-00	METAL CHIP	100K	5%	1/10W
R242	1-216-295-00	METAL CHIP	0	5%	1/10W
R250	1-216-295-00	METAL CHIP	0	5%	1/10W
R251	1-216-295-00	METAL CHIP	0	5%	1/10W
< SWITCH >					
S101	1-522-961-11	SWITCH SLIDE (REMOCON MODE)			
< TRANSFORMER >					
T201	1-429-845-11	TRANSFORMER, CONVERTER			

Ref. No.	Part No.	Description	Remark
		< VIBRATOR >	
X101	1-547-009-31	VIBRATOR, CRYSTAL (32MHz)	
X102	1-579-126-11	VIBRATOR, CERAMIC (10MHz)	
-----			
*	A-7063-934-A	FR-82 (G) BOARD, COMPLETE	
-----			
		(Ref. No 6, 000 series)	
		< CAPACITOR >	
	3-955-817-01	ILLUMINATOR	
*	3-955-820-04	PLATE, GRAPHIC LCD	
*	3-955-930-01	PLATE, LIGHT GUIDE, LCD	
*	3-955-931-01	HOLDER, LCD	
		< CAPACITOR >	
C301	1-126-157-11	ELECT 10uF 20% 16V	
C302	1-143-401-11	CERAMIC CHIP 0.01uF 50V	
C303	1-124-589-11	ELECT 47uF 20% 16V	
C304	1-143-931-11	CERAMIC CHIP 0.001uF 50V	
C305	1-113-007-11	CERAMIC CHIP 100PF 10% 50V	
		< CONNECTOR >	
CP001	1-583-024-11	HOUSING, CONNECTOR 21P	
CP002	1-549-337-11	CONNECTOR, BOARD TO BOARD 11P	
		< DIODE >	
D301	3-719-820-05	LED SLP201C-50 (H/R)	
D302	3-719-812-34	LED TLR123 (R/C)	
D303	3-719-812-34	LED TLR123 (TIMER REC)	
D304	3-719-812-32	LED TLY123 (NO OP BOOST)	
D305	3-719-812-31	LED TLY123 (VPS)	
D307	3-719-920-05	LED SLP201C-50 (CASSETTE)	
D320	3-719-900-76	DIODE 1SS226	
		< IC >	
IC301	3-744-100-01 IC	STR1617-54	
IC302	3-759-171-25 IC	L67582E	
		< JUMPER RESISTOR >	
J301	1-216-296-00	METAL CHIP 0 5% 1/10W	
J302	1-216-296-00	METAL CHIP 0 5% 1/10W	
J303	1-216-296-00	METAL CHIP 0 5% 1/10W	
J304	1-216-296-00	METAL CHIP 0 5% 1/10W	
J305	1-216-296-00	METAL CHIP 0 5% 1/10W	
J306	1-216-296-00	METAL CHIP 0 5% 1/10W	
J307	1-216-296-00	METAL CHIP 0 5% 1/10W	
J308	1-216-296-00	METAL CHIP 0 5% 1/10W	
J309	1-216-296-00	METAL CHIP 0 5% 1/10W	
J310	1-216-296-00	METAL CHIP 0 5% 1/10W	

Ref No	Part No.	Description	Remark
J311	1-216-296-00	METAL CHIP 0 5% 1/10W	
J312	1-216-296-00	METAL CHIP 0 5% 1/10W	
J313	1-216-296-00	METAL CHIP 0 5% 1/10W	
J314	1-216-296-00	METAL CHIP 0 5% 1/10W	
J315	1-216-296-00	METAL CHIP 0 5% 1/10W	
J316	1-216-296-00	METAL CHIP 0 5% 1/10W	
J317	1-216-296-00	METAL CHIP 0 5% 1/10W	
J318	1-216-296-00	METAL CHIP 0 5% 1/10W	
J319	1-216-296-00	METAL CHIP 0 5% 1/10W	
J320	1-216-296-00	METAL CHIP 0 5% 1/10W	
J321	1-216-296-00	METAL CHIP 0 5% 1/10W	
J322	1-216-296-00	METAL CHIP 0 5% 1/10W	
J323	1-216-296-00	METAL CHIP 0 5% 1/10W	
J324	1-216-296-00	METAL CHIP 0 5% 1/10W	
J325	1-216-296-00	METAL CHIP 0 5% 1/10W	
J326	1-216-296-00	METAL CHIP 0 5% 1/10W	
J327	1-216-296-00	METAL CHIP 0 5% 1/10W	
J328	1-216-296-00	METAL CHIP 0 5% 1/10W	
J329	1-216-296-00	METAL CHIP 0 5% 1/10W	
J330	1-216-296-00	METAL CHIP 0 5% 1/10W	
J331	1-216-296-00	METAL CHIP 0 5% 1/10W	
J332	1-216-296-00	METAL CHIP 0 5% 1/10W	
J333	1-216-296-00	METAL CHIP 0 5% 1/10W	
J334	1-216-296-00	METAL CHIP 0 5% 1/10W	
J335	1-216-296-00	METAL CHIP 0 5% 1/10W	
J336	1-216-296-00	METAL CHIP 0 5% 1/10W	
J337	1-216-296-00	METAL CHIP 0 5% 1/10W	
J338	1-216-296-00	METAL CHIP 0 5% 1/10W	
J339	1-216-296-00	METAL CHIP 0 5% 1/10W	
J340	1-216-296-00	METAL CHIP 0 5% 1/10W	
J341	1-216-296-00	METAL CHIP 0 5% 1/10W	
J342	1-216-296-00	METAL CHIP 0 5% 1/10W	
J343	1-216-296-00	METAL CHIP 0 5% 1/10W	
J344	1-216-296-00	METAL CHIP 0 5% 1/10W	
J345	1-216-296-00	METAL CHIP 0 5% 1/10W	
J346	1-216-296-00	METAL CHIP 0 5% 1/10W	
J347	1-216-296-00	METAL CHIP 0 5% 1/10W	
J348	1-216-296-00	METAL CHIP 0 5% 1/10W	
J349	1-216-296-00	METAL CHIP 0 5% 1/10W	
J350	1-216-296-00	METAL CHIP 0 5% 1/10W	
J351	1-216-296-00	METAL CHIP 0 5% 1/10W	
J352	1-216-296-00	METAL CHIP 0 5% 1/10W	
J353	1-216-296-00	METAL CHIP 0 5% 1/10W	
J354	1-216-296-00	METAL CHIP 0 5% 1/10W	
J355	1-216-296-00	METAL CHIP 0 5% 1/10W	
		< LIQUID CRYSTAL DISPLAY >	
LD301	1-810-124-21	DISPLAY PANEL, LIQUID CRYSTAL	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		< PILOT LAMP >					
PL304	1-537-245-11	LAMP, PILOT		*	A-7063-027-A	MA-173 (G) BOARD, COMPLETE (VQ)	
PL302	1-537-245-11	LAMP, PILOT		*	A-7063-030-A	MA-173 (F) BOARD, COMPLETE (VB)	
				*	A-7063-036-A	MA-173 (D) BOARD, COMPLETE (UB)	
				*	A-7064-002-A	MA-173 (H) BOARD, COMPLETE (VPT)	
				*	A-7064-015-A	MA-173 (I) BOARD, COMPLETE (AE)	
		< TRANSISTOR >				***** (Ref. No. 1,000 series)	
Q303	8-729-421-14	TRANSISTOR	UM2213		1-751-405-11	CABLE, FLAT (FNP-03)	
Q304	8-729-421-14	TRANSISTOR	UM2213			< CAPACITOR >	
Q305	8-729-421-14	TRANSISTOR	UM2213				
Q307	8-729-421-14	TRANSISTOR	UM2213				
Q321	8-729-420-74	TRANSISTOR	ZSD1228-RST				
		< RESISTOR >					
R301	1-216-031-00	METAL CHIP	380 5% 1/10W		C001	1-163-000-11	CERAMIC CHIP 0.001uf 10% 50V
R302	1-216-031-00	METAL CHIP	380 5% 1/10W		C002	1-163-031-11	CERAMIC CHIP 0.01uf 50V
R303	1-216-031-00	METAL CHIP	380 5% 1/10W		C004	1-124-477-11	ELECT 47uf 20% 25V
R304	1-216-031-00	METAL CHIP	380 5% 1/10W		C005	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
R305	1-216-031-00	METAL CHIP	380 5% 1/10W		C006	1-163-235-11	CERAMIC CHIP 22PF 5% 50V
R306	1-216-036-11	METAL CHIP	47K 1% 1/10W		C007	1-163-229-11	CERAMIC CHIP 12PF 5% 50V
R307	1-216-031-00	METAL CHIP	380 5% 1/10W		C008	1-163-001-11	CERAMIC CHIP 0.01uf 50V
R308	1-216-033-00	METAL CHIP	220 5% 1/10W		C009	1-163-095-00	CERAMIC CHIP 12PF 5% 50V
R310	1-216-036-11	METAL CHIP	47K 1% 1/10W		C010	1-163-095-00	CERAMIC CHIP 12PF 5% 50V
R311	1-216-036-11	METAL CHIP	47K 1% 1/10W		C011	1-164-161-11	CERAMIC CHIP 0.0022uf 10% 100V
R312	1-216-036-00	METAL CHIP	0 5% 1/10W		C012	1-164-004-11	CERAMIC CHIP 0.1uf 10% 25V
R315	1-216-036-00	METAL CHIP	0 5% 1/10W		C013	1-124-472-11	ELECT 470uf 20% 16V
R320	1-216-043-00	METAL CHIP	560 5% 1/10W		C014	1-164-004-11	CERAMIC CHIP 0.1uf 10% 25V
R321	1-216-033-00	METAL CHIP	10K 5% 1/10W		C016	1-124-471-00	ELECT 1000uf 20% 6.3V
R322	1-216-036-00	METAL CHIP	0 5% 1/10W		C018	1-124-157-11	ELECT 10uf 20% 16V
R323	1-216-036-00	METAL CHIP	0 5% 1/10W		C019	1-163-075-00	CERAMIC CHIP 0.01uf 50V
R330	1-216-036-00	METAL CHIP	0 5% 1/10W		C020	1-163-017-00	CERAMIC CHIP 0.001uf 5% 50V
R350	1-216-036-00	METAL CHIP	0 5% 1/10W		C021	1-163-041-11	CERAMIC CHIP 0.01uf 50V
		< SWITCH >			C022	1-124-157-11	ELECT 10uf 20% 16V
S301	1-971-977-11	SWITCH TACTIL (EJECT)			C023	1-124-471-00	ELECT 1000uf 20% 6.3V
					C024	1-163-015-00	CERAMIC CHIP 0.047uf 50V
					C025	1-124-507-11	CAP, DOUBLE LAYERS 0.22F
					C026	1-163-017-00	CERAMIC CHIP 0.001uf 5% 50V
					C027	1-164-004-11	CERAMIC CHIP 0.1uf 10% 25V
					C028	1-164-489-11	CERAMIC CHIP 0.22uf 16V
					C030	1-163-037-11	CERAMIC CHIP 0.022uf 10% 25V
					C031	1-164-489-11	CERAMIC CHIP 0.22uf 16V
					C032	1-163-027-11	CERAMIC CHIP 0.022uf 10% 25V
					C033	1-164-489-11	CERAMIC CHIP 0.22uf 16V
					C034	1-163-031-11	CERAMIC CHIP 0.01uf 50V
					C035	1-162-587-11	CERAMIC CHIP 0.09uf 16% 25V
					C036	1-164-489-11	CERAMIC CHIP 0.0022uf 16% 100V
					C037	1-164-489-11	CERAMIC CHIP 0.22uf 16% 16V
					C038	1-164-489-11	CERAMIC CHIP 0.22uf 16% 16V
					C039	1-163-237-11	CERAMIC CHIP 22PF 5% 50V
					Q040	1-124-257-00	ELECT 2.2uf 20% 50V
					Q041	1-124-157-11	ELECT 10uf 20% 16V
					Q042	1-163-025-00	CERAMIC CHIP 0.047uf 50V
					Q043	1-163-034-11	CERAMIC CHIP 0.01uf 50V



**MA-173**

Ref. No.	Part No.	Description	Remark
C044	1-163-030-00	CERAMIC CHIP	0.10F 25V
C045	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C046	1-124-157-11	ELECT	10uF 20X 16V
C048	1-163-067-60	CERAMIC CHIP	4PF 50V
C049	1-163-069-11	CERAMIC CHIP	0.047uF 10X 50V
C050	1-124-157-11	ELECT	10uF 20X 16V
C051	1-163-238-11	CERAMIC CHIP	23PF 5X 50V
C052	1-163-037-11	CERAMIC CHIP	0.022uF 10X 25V
C053	1-124-157-11	ELECT	10uF 20X 16V
C054	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C055	1-164-004-11	CERAMIC CHIP	0.1uF 10X 25V
C056	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C057	1-163-011-11	CERAMIC CHIP	0.0015uF 10X 50V
C058	1-163-104-09	CERAMIC CHIP	22PF 5X 50V
C060	1-163-011-11	CERAMIC CHIP	0.0015uF 10X 50V
C061	1-163-009-11	CERAMIC CHIP	0.001uF 10X 50V
C062	1-163-009-11	CERAMIC CHIP	0.001uF 10X 50V
C063	1-163-104-09	CERAMIC CHIP	22PF 5X 50V
C064	1-163-011-11	CERAMIC CHIP	0.0015uF 10X 50V
C066	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C067	1-124-589-11	ELECT	47uF 20X 16V
C068	1-163-041-11	CERAMIC CHIP	0.01uF 50V
C070	1-163-037-11	CERAMIC CHIP	0.022uF 10X 25V
C071	1-163-037-11	CERAMIC CHIP	0.022uF 10X 25V
C072	1-163-069-11	CERAMIC CHIP	0.047uF 10X 50V
C078	1-124-157-11	ELECT	10uF 20X 16V
C081	1-124-157-11	ELECT	10uF 20X 16V
C082	1-164-004-11	CERAMIC CHIP	0.1uF 10X 25V
C083	1-163-009-11	CERAMIC CHIP	0.001uF 10X 50V
C084	1-163-009-11	CERAMIC CHIP	0.001uF 10X 50V
C085	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C086	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C088	1-124-157-11	ELECT	10uF 20X 16V
C090	1-124-167-11	ELECT	10uF 20X 16V
C092	1-163-103-08	CERAMIC CHIP	27PF 5X 50V
C093	1-163-105-00	CERAMIC CHIP	27PF 5X 50V
C095	1-163-038-00	CERAMIC CHIP	0.1uF 20X 25V
C096	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C097	1-164-161-11	CERAMIC CHIP	0.0022uF 10X 100V
C098	1-164-161-11	CERAMIC CHIP	0.0022uF 10X 100V
C102	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C103	1-163-037-00	CERAMIC CHIP	0.047uF 10X 50V
C104	1-124-638-11	ELECT	22uF 20X 16V
C105	1-124-989-11	ELECT	47uF 20X 16V
C106	1-127-530-11	ELECT (SOLID)	22uF 20X 26V
C107	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C108	1-163-261-11	CERAMIC CHIP	30PF 5X 50V
C109	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C111	1-163-077-00	CERAMIC CHIP	0.1uF 10X 25V

Ref No	Part No.	Description	Remark
C312	1-163-037-00	CERAMIC CHIP	0.1uF 10X 25V
C313	1-164-004-11	CERAMIC CHIP	0.1uF 10X 25V
C314	1-124-589-11	ELECT	47uF 20X 16V
C315	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C316	1-124-304-11	ELECT	1uF 20X 50V
C317	1-163-038-00	CERAMIC CHIP	0.047uF 50V
C318	1-163-161-00	CERAMIC CHIP	22PF 5X 50V
C319	1-163-161-00	CERAMIC CHIP	22PF 5X 50V
C322	1-163-161-00	CERAMIC CHIP	22PF 5X 50V
C323	1-163-161-00	CERAMIC CHIP	22PF 5X 50V
C324	1-163-038-00	CERAMIC CHIP	0.0068uF 10X 50V
C325	1-163-037-11	CERAMIC CHIP	0.022uF 10X 25V
C326	1-127-530-11	ELECT (SOLID)	22uF 20X 26V
C327	1-163-037-00	CERAMIC CHIP	0.0047uF 5X 50V
C328	1-164-324-11	CERAMIC CHIP	0.15uF 25V
C329	1-127-499-00	ELECT (SOLID)	22uF 20X 16V
C332	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C333	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C334	1-163-038-00	CERAMIC CHIP	0.0068uF 10X 50V
C335	1-124-589-11	ELECT	47uF 20X 16V
C337	1-163-037-11	CERAMIC CHIP	0.022uF 10X 25V
C338	1-164-232-11	CERAMIC CHIP	0.1uF 50V
C339	1-163-037-00	CERAMIC CHIP	0.015uF 5X 50V
C340	1-124-163-11	ELECT	4.7uF 20X 50V
C341	1-163-035-00	CERAMIC CHIP	0.047uF 50V
C342	1-164-107-11	CERAMIC CHIP	0.15uF 10X 16V
C343	1-164-232-11	CERAMIC CHIP	0.01uF 50V
C344	1-164-167-11	CERAMIC CHIP	0.15uF 10X 16V
C345	1-164-182-11	CERAMIC CHIP	0.0033uF 10X 50V
C346	1-164-330-21	CERAMIC CHIP	0.22uF 10X 16V
C347	1-164-182-11	CERAMIC CHIP	0.0033uF 10X 50V
C348	1-164-330-21	CERAMIC CHIP	0.22uF 10X 16V
C349	1-164-182-11	CERAMIC CHIP	0.0033uF 10X 50V
C350	1-164-330-21	CERAMIC CHIP	0.22uF 10X 16V
C351	1-163-038-00	CERAMIC CHIP	0.047uF 50V
C352	1-163-069-11	CERAMIC CHIP	0.047uF 10X 25V
C353	1-163-019-11	CERAMIC CHIP	0.047uF 10X 25V
C354	1-124-589-11	ELECT	47uF 20X 16V
C356	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C357	1-124-589-11	ELECT	47uF 20X 16V
C358	1-124-589-11	ELECT	47uF 20X 16V
C362	1-164-232-11	CERAMIC CHIP	0.22uF 25V
C363	1-163-038-00	CERAMIC CHIP	0.068uF 50V
C364	1-163-038-00	CERAMIC CHIP	0.068uF 50V
C365	1-163-038-00	CERAMIC CHIP	0.068uF 50V
C401	1-124-442-00	ELECT	130uF 20X 6.3V
C402	1-124-442-00	ELECT	330uF 20X 6.3V
C403	1-124-635-00	ELECT	220uF 20X 6.3V
C404	1-124-635-00	ELECT	220uF 20X 6.3V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark		
C405	1-164-005-11	CERAMIC CHIP	0.47uF	25V	C527	1-163-017-00	CERAMIC CHIP	0.0047uF	5% 50V
C406	1-164-005-11	CERAMIC CHIP	0.47uF	25V	C528	1-163-017-00	CERAMIC CHIP	0.0047uF	5% 50V
C409	1-163-103-00	CERAMIC CHIP	47PF	5% 50V	C530	1-126-163-11	ELECT	4.7uF	20% 50V
C410	1-163-103-00	CERAMIC CHIP	47PF	5% 50V	C531	1-124-477-11	ELECT	47uF	20% 25V
C411	1-163-030-00	CERAMIC CHIP	0.1uF	25V	C532	1-126-163-11	ELECT	4.7uF	20% 50V
C412	1-163-030-00	CERAMIC CHIP	0.1uF	25V	C533	1-163-017-00	CERAMIC CHIP	0.0047uF	5% 50V
C415	1-163-030-00	CERAMIC CHIP	0.1uF	25V	C534	1-124-157-11	ELECT	10uF	20% 16V
C416	1-163-030-00	CERAMIC CHIP	0.1uF	25V	C535	1-124-257-00	ELECT	2.2uF	20% 50V
C423	1-126-157-11	ELECT	10uF	20% 16V	C536	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C424	1-126-157-11	ELECT	10uF	20% 16V	C537	1-124-157-11	ELECT	10uF	20% 16V
C425	1-164-005-11	CERAMIC CHIP	0.47uF	25V	C538	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C426	1-164-005-11	CERAMIC CHIP	0.47uF	25V	C539	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C427	1-124-477-11	ELECT	47uF	20% 25V	C540	1-126-163-11	ELECT	10uF	20% 16V
C428	1-163-026-00	CERAMIC CHIP	0.1uF	25V	C541	1-126-301-11	ELECT	1uF	20% 50V
C429	1-124-477-11	ELECT	47uF	20% 25V	C542	1-126-163-11	ELECT	4.7uF	20% 50V
C431	1-163-103-00	CERAMIC CHIP	47PF	5% 50V	C543	1-164-005-11	CERAMIC CHIP	0.47uF	25V
C432	1-163-103-00	CERAMIC CHIP	47PF	5% 50V	C544	1-164-005-11	CERAMIC CHIP	0.47uF	25V
C435	1-163-103-00	CERAMIC CHIP	47PF	5% 50V	C545	1-164-232-11	CERAMIC CHIP	0.01uF	50V
C436	1-163-103-00	CERAMIC CHIP	47PF	5% 50V	C546	1-163-009-11	CERAMIC CHIP	0.047uF	10% 25V
C437	1-126-157-11	ELECT	10uF	20% 16V	C547	1-163-003-11	CERAMIC CHIP	20PF	10% 50V
C438	1-126-157-11	ELECT	10uF	20% 16V	C548	1-126-301-11	ELECT	1uF	20% 50V
C443	1-163-030-00	CERAMIC CHIP	0.1uF	25V	C549	1-164-232-11	CERAMIC CHIP	0.01uF	50V
C447	1-163-028-00	CERAMIC CHIP	0.1uF	25V	C551	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C450	1-126-301-11	ELECT	1uF	20% 50V	C552	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C451	1-126-301-11	ELECT	1uF	20% 50V	C553	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C454	1-163-030-00	CERAMIC CHIP	0.1uF	25V	C554	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C455	1-163-030-00	CERAMIC CHIP	0.1uF	25V	C555	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C504	1-126-157-11	ELECT	10uF	20% 16V	C556	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C502	1-163-004-11	CERAMIC CHIP	0.01uF	50V	C557	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C503	1-124-257-00	ELECT	2.2uF	20% 50V	C558	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C504	1-126-157-11	ELECT	10uF	20% 16V	C559	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C505	1-126-157-11	ELECT	4.7uF	20% 50V	C560	1-163-019-00	CERAMIC CHIP	0.106uF	10% 50V
C506	1-163-017-00	CERAMIC CHIP	0.0047uF	5% 50V	C561	1-164-232-11	CERAMIC CHIP	0.01uF	50V
C507	1-124-477-11	ELECT	47uF	20% 25V	C562	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C508	1-126-163-11	ELECT	4.7uF	20% 50V	C563	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C509	1-163-017-00	CERAMIC CHIP	0.0047uF	5% 50V	C564	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C510	1-163-017-00	CERAMIC CHIP	0.0047uF	5% 50V	C565	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C511	1-126-163-11	ELECT	4.7uF	20% 50V	C566	1-163-030-00	CERAMIC CHIP	0.1uF	25V
C512	1-126-157-11	ELECT	10uF	20% 16V	C567	1-126-163-11	ELECT	4.7uF	20% 50V
C513	1-124-257-00	ELECT	2.2uF	20% 50V	C568	1-126-163-11	ELECT	4.7uF	20% 50V
C514	1-126-163-11	ELECT	4.7uF	20% 50V (NO. 08)	C570	1-126-157-11	ELECT	10uF	20% 16V
C515	1-124-477-11	ELECT	47uF	20% 25V	C571	1-124-257-00	ELECT	2.2uF	20% 0.3V
C516	1-126-163-11	ELECT	4.7uF	20% 50V	C572	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C517	1-124-477-11	ELECT	47uF	20% 25V	C573	1-163-030-00	CERAMIC CHIP	0.1uF	25V
C519	1-163-031-11	CERAMIC CHIP	0.47uF	50V	C575	1-124-257-00	ELECT	2.2uF	20% 0.3V
C520	1-126-163-11	ELECT	4.7uF	20% 50V	C576	1-126-157-11	ELECT	10uF	20% 16V
C522	1-163-031-11	CERAMIC CHIP	0.47uF	50V	C582	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C523	1-126-163-11	ELECT	4.7uF	20% 50V (NO. 08)	C583	1-163-031-11	CERAMIC CHIP	0.47uF	50V
C525	1-126-163-11	ELECT	4.7uF	20% 50V	C584	1-126-157-11	ELECT	10uF	20% 16V

**MA-173**

Ref. No.	Part No.	Description	Value	Remark
C585	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C586	1-126-157-11	ELECT	10uF	20% 16V
C587	1-126-157-11	ELECT	10uF	20% 16V
C590	1-104-004-11	CERAMIC CHIP	0.1uF	10% 25V
C591	1-163-809-11	CERAMIC CHIP	0.047uF	10% 25V
C592	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V
C593	1-163-809-11	CERAMIC CHIP	0.047uF	10% 25V
C594	1-163-017-00	CERAMIC CHIP	0.0017uF	5% 50V
C651	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V
C652	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V
C653	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V
C654	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V
C655	1-164-182-11	CERAMIC CHIP	0.0027uF	10% 50V
C656	1-164-182-11	CERAMIC CHIP	0.0027uF	10% 50V
C657	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V
C658	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V
C704	1-124-630-11	ELECT	22uF	20% 10V
C702	1-124-630-11	ELECT	22uF	20% 10V
C703	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C704	1-124-630-11	ELECT	22uF	20% 10V
C705	1-124-630-11	ELECT	22uF	20% 10V
C706	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C707	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C708	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C709	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C711	1-124-630-11	ELECT	22uF	20% 10V
C713	1-124-630-11	ELECT	22uF	20% 10V
C724	1-164-161-11	CERAMIC CHIP	0.0022uF	10% 100V
C725	1-164-161-11	CERAMIC CHIP	0.0022uF	10% 50V
C726	1-163-031-11	CERAMIC CHIP	0.0015uF	10% 50V
C727	1-164-232-11	CERAMIC CHIP	0.01uF	50V
C728	1-124-157-11	ELECT	10uF	20% 16V
C729	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C730	1-124-443-00	ELECT	100uF	20% 10V
C741	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C742	1-124-154-11	ELECT	47uF	20% 6.3V
C746	1-124-253-00	ELECT	2.2uF	20% 50V
C748	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C749	1-124-477-11	ELECT	47uF	20% 25V
C750	1-124-177-11	ELECT	100uF	20% 10V
C751	1-124-630-11	ELECT	22uF	20% 10V
C752	1-163-237-11	CERAMIC CHIP	27PF	5% 50V
C753	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C755	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C756	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C757	1-124-154-11	ELECT	47uF	20% 6.3V
C760	1-104-005-11	CERAMIC CHIP	0.01uF	25V
C762	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C763	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C764	1-163-031-11	CERAMIC CHIP	0.01uF	50V

Ref. No.	Part No.	Description	Value	Remark
C766	1-124-630-11	ELECT	22uF	20% 10V
C768	1-124-630-11	ELECT	22uF	20% 10V
C769	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C770	1-124-154-11	ELECT	47uF	20% 6.3V
C771	1-103-030-00	CERAMIC CHIP	0.1uF	25V
C772	1-124-154-11	ELECT	47uF	20% 6.3V
C773	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C774	1-103-227-11	CERAMIC CHIP	10PF	0.5PF 50V
C775	1-103-226-11	CERAMIC CHIP	22PF	5% 50V
C776	1-103-226-11	CERAMIC CHIP	22PF	5% 50V
C777	1-163-239-11	CERAMIC CHIP	33PF	5% 50V
C778	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V
C796	1-124-267-00	ELECT	2.2uF	20% 50V
C793	1-164-342-11	CERAMIC CHIP	0.05uF	10% 25V
C792	1-163-037-11	CERAMIC CHIP	0.02uF	10% 25V
C793	1-163-198-00	CERAMIC CHIP	020PF	5% 50V
C794	1-124-304-11	ELECT	1uF	20% 50V
C795	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C796	1-124-477-11	ELECT	47uF	20% 25V
C799	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C799	1-163-120-00	CERAMIC CHIP	330PF	5% 50V
C792	1-113-012-00	CERAMIC CHIP	0.001uF	5% 50V
C793	1-163-031-11	CERAMIC CHIP	330PF	10% 50V
C794	1-163-031-11	CERAMIC CHIP	330PF	10% 50V
C801	1-124-630-11	ELECT	22uF	20% 10V
C802	1-124-630-11	ELECT	22uF	20% 10V
C803	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C805	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C806	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C807	1-124-443-00	ELECT	100uF	20% 10V
C808	1-124-477-11	ELECT	47uF	20% 25V
C809	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C810	1-124-157-11	ELECT	10uF	20% 16V
C811	1-124-630-11	ELECT	22uF	20% 10V
C812	1-124-443-00	ELECT	100uF	20% 10V
C813	1-124-157-11	ELECT	10uF	20% 16V
C814	1-124-630-11	ELECT	22uF	20% 10V
C815	1-124-443-00	ELECT	100uF	20% 10V
C816	1-163-031-11	CERAMIC CHIP	0.01uF	50V
C817	1-163-030-00	CERAMIC CHIP	0.1uF	25V
C824	1-163-030-00	CERAMIC CHIP	0.1uF	25V
C830	1-163-117-00	CERAMIC CHIP	100PF	5% 50V
C831	1-163-117-00	CERAMIC CHIP	100PF	5% 50V
C832	1-163-030-00	CERAMIC CHIP	0.1uF	25V
C833	1-163-117-00	CERAMIC CHIP	100PF	5% 50V
C835	1-163-120-00	CERAMIC CHIP	330PF	5% 50V
C836	1-163-120-00	CERAMIC CHIP	330PF	5% 50V
C837	1-163-030-00	CERAMIC CHIP	0.1uF	25V
C838	1-163-120-00	CERAMIC CHIP	330PF	5% 50V

Ref No	Part No.	Description	Remark
C850	1-167-117-00	CERAMIC CHIP 100PF	24 50V
C851	1-163-117-00	CERAMIC CHIP 100PF	56 50V
C852	1-163-117-00	CERAMIC CHIP 100PF	56 50V
C853	1-163-069-11	CERAMIC CHIP 0.001uF	10X 50V
C854	1-126-157-01	ELECT 10uF	20X 16V
C855	1-124-154-11	ELECT 47uF	20X 6 2V
C857	1-163-034-11	CERAMIC CHIP 0.01uF	50V
C859	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C860	1-127-564-11	ELECT(SHLD) 10uF	20X 16V
C870	1-124-589-11	ELECT 47uF	20X 16V
C872	1-124-589-11	ELECT 47uF	20X 16V
C873	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C874	1-124-477-11	ELECT 47uF	20X 25V
C875	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C876	1-124-477-11	ELECT 47uF	20X 25V
C877	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C878	1-163-031-11	CERAMIC CHIP 0.01uF	50V
< CONNECTOR >			
* C8001	1-691-059-21	MOUNTING CONNECTOR 27P	
* C8002	1-691-059-21	MOUNTING CONNECTOR 27P	
C8004	1-691-051-21	MOUNTING CONNECTOR 21P	
C8005	1-569-341-11	CONNECTOR, BOARD TO BOARD 16P	
C8006	1-573-042-11	CONNECTOR, BOARD TO BOARD 6P (VC)	
C8008	1-691-057-21	MOUNTING CONNECTOR 25P	
C8009	1-764-055-11	CONNECTOR, BOARD TO BOARD 40P	
C8010	1-569-341-11	CONNECTOR, BOARD TO BOARD 16P	
C8011	1-750-754-11	CONNECTOR, BOARD TO BOARD 8P	
* C8013	1-566-900-00	PIK, CONNECTOR 12P	
* C8302	1-560-887-00	PIK, CONNECTOR 9P	
C8013	1-691-057-21	MOUNTING CONNECTOR 25P	
C8014	1-569-340-11	CONNECTOR, BOARD TO BOARD 11P	
C8015	1-560-744-11	CONNECTOR, BOARD TO BOARD 19P	
C8016	1-569-341-11	CONNECTOR, BOARD TO BOARD 16P	
C8017	1-569-339-11	MOUNTING CONNECTOR 13P	
* C8018	1-564-001-11	PIK, CONNECTOR 2P	
* C8019	1-567-371-11	SOCKET, CONNECTOR 25P	
* C8019	1-564-004-11	PIK, CONNECTOR 5P	
C8021	1-573-042-11	CONNECTOR, BOARD TO BOARD 16P	
* C8502	1-691-072-11	MOUNTING CONNECTOR 13P	
* C8503	1-691-059-21	MOUNTING CONNECTOR 27P	
< DIODE >			
D001	8-719-801-78	DIODE 1SS184	
D002	8-719-801-78	DIODE 1SS184	
D003	8-719-210-39	DIODE EC1005-04	
D004	8-719-210-39	DIODE EC1005-04	
D005	8-719-801-78	DIODE 1SS184	

Ref.No.	Part No.	Description	Remark
D006	8-719-210-39	DIODE EC1005-04	
D007	8-719-801-78	DIODE 1SS184	
D008	8-719-801-78	DIODE 1SS184	
D010	8-719-801-78	DIODE 1SS184	
D011	8-719-160-66	DIODE DD6.1M-02	
D012	8-719-801-78	DIODE 1SS184	
D016	8-719-210-39	DIODE EC1005-04	
D021	8-719-047-53	DIODE MA8006	
D030	8-719-104-21	DIODE 1S283F	
D032	8-719-166-64	DIODE DD6.1M-02	
D033	8-719-938-78	DIODE SB10-66POP	
D034	8-719-954-75	DIODE SB05-05CP	
D053	8-719-821-59	DIODE MA313006-TX	
D054	8-719-821-59	DIODE MA313006-TX	
D055	8-719-821-59	DIODE MA313006-TX	
D056	8-719-821-59	DIODE MA313006-TX	
D057	8-719-396-43	DIODE D05.1M-B1	
D058	8-719-396-43	DIODE D05.1M-B1	
D059	8-719-801-78	DIODE 1SS184	
D061	8-719-801-78	DIODE 1SS184	
D078	8-719-421-59	DIODE MA313006-TX	
D079	8-719-421-59	DIODE MA313006-TX	
D081	8-719-421-59	DIODE MA313006-TX	
D082	8-719-421-59	DIODE MA313006-TX	
D083	8-719-421-59	DIODE MA313006-TX	
D084	8-719-421-59	DIODE MA313006-TX	
D085	8-719-421-59	DIODE MA313006-TX	
D086	8-719-396-43	DIODE D05.1M-B1	
D087	8-719-396-43	DIODE D05.1M-B1	
D088	8-719-396-43	DIODE D05.1M-B1	
D089	8-719-396-43	DIODE D05.1M-B1	
D090	8-719-396-43	DIODE D05.1M-B1	
D091	8-719-396-43	DIODE D05.1M-B1	
D092	8-719-396-43	DIODE D05.1M-B1	
D093	8-719-396-43	DIODE D05.1M-B1	
D094	8-719-396-43	DIODE D05.1M-B1	
D095	8-719-210-39	DIODE 1S283F	
D096	8-719-204-21	DIODE 1S283F	
< FERRITE BEAD >			
F001	1-543-256-11	BEAD, FERRITE	
F002	1-543-256-11	BEAD, FERRITE	
F003	1-543-256-11	BEAD, FERRITE	
F004	1-543-256-11	BEAD, FERRITE	
F005	1-543-256-11	BEAD, FERRITE	
F006	1-543-256-11	BEAD, FERRITE	
F007	1-414-234-11	INDUCTOR, FERRITE BEAD	
F008	1-216-295-00	METAL CHIP 0 5X 1/10W	
F009	1-216-295-00	METAL CHIP 0 5X 1/10W	
F012	1-216-295-00	METAL CHIP 0 5X 1/10W	
F054	1-216-295-00	METAL CHIP 0 5X 1/10W	
F055	1-014-275-11	INDUCTOR, FERRITE BEAD	
F001	1-216-295-00	METAL CHIP 0 5X 1/10W	
F002	1-216-295-00	METAL CHIP 0 5X 1/10W	

Ref. No.	Part No.	Description		Remark
FR003	1-216-295-00	METAL CHIP	0	5% 1/10W
FR004	1-216-295-00	METAL CHIP	0	5% 1/10W
FR005	1-216-295-00	METAL CHIP	0	5% 1/10W
FR006	1-216-295-00	METAL CHIP	0	5% 1/10W
FR007	1-216-295-00	METAL CHIP	0	5% 1/10W
FR009	1-216-295-00	METAL CHIP	0	5% 1/10W
FR010	1-216-295-00	METAL CHIP	0	5% 1/10W
FR011	1-216-295-00	METAL CHIP	0	5% 1/10W
FR012	1-216-295-00	METAL CHIP	0	5% 1/10W
FR013	1-216-295-00	METAL CHIP	0	5% 1/10W
FR003	1-216-295-00	METAL CHIP	0	5% 1/10W
FR002	1-216-295-00	METAL CHIP	0	5% 1/10W
FR004	1-216-295-00	METAL CHIP	0	5% 1/10W
FR005	1-216-295-00	METAL CHIP	0	5% 1/10W
< FILTER >				
FL501	1-236-837-21	FILTER, BAND PASS		
FL502	1-236-838-21	FILTER, BAND PASS		
< IC >				
IC001	8-752-842-88 IC	CSX2004M		
IC002	8-752-252-47 IC	MB21058PF-C		
IC003	8-752-847-24 IC	CSX87140-010Q		
IC004	8-759-103-18 IC	CT78C056H-CE30		
IC005	8-759-999-02 IC	TL1596CDB		
IC006	8-759-910-92 IC	LM243D		
IC007	8-759-908-99 IC	LA250D		
IC009	8-759-070-98 IC	CSA4488AQ		
IC010	8-759-635-27 IC	MC2302DF		
IC012	8-759-182-84 IC	PQ0823ZU		
IC001	8-759-182-80 IC	PA62108PF-Y		
IC002	8-759-949-17 IC	MB375PE		
IC003	8-759-140-05 IC	CSA803DM		
IC005	8-759-166-78 IC	CSA8004M-ELL1000		
IC006	8-759-055-42 IC	EA6140-EL		
IC007	8-759-178-41 IC	L704003-TL		
IC001	8-759-924-48 IC	SA450DF		
IC002	8-759-300-71 IC	HJ40528F		
IC003	8-759-924-48 IC	SA450DF		
IC004	8-759-609-06 IC	MC140528F		
IC005	8-759-170-73 IC	TAT28L12S		
IC006	8-759-069-14 IC	MS112CL		
IC007	8-759-909-06 IC	MC140528F		
IC008	8-759-924-48 IC	SA450DF		
IC010	8-759-924-48 IC	SA450DF		
IC011	8-759-909-71 IC	PA4550F		
IC012	8-759-909-06 IC	MC140528F		
IC001	8-759-077-11 IC	CSA452Q		
IC001	8-759-169-76 IC	AK38678P-MS		

Ref. No.	Part No.	Description		Remark
IC002	8-759-189-19 IC	40300HSC-E2		
IC004	8-759-991-71 IC	BA4558F		
IC001	8-752-052-58 IC	CSA1410M		
IC003	8-759-164-18 IC	MB11808PF		
IC004	8-759-164-18 IC	MB11808PF		
IC005	8-759-252-48 IC	MB90088PF		
IC006	8-759-114-09 IC	LA272DM		
IC007	8-759-182-16 IC	MM119078E		
IC008	8-759-182-84 IC	PQ0823ZU		
IC004	8-759-182-91 IC	PQ1232ZU		
IC002	8-759-182-86 IC	PQ0823ZU		
< JACK >				
J001	1-527-621-11	TERMINAL BOARD (LINE IN 3-LINE OUT)		
J002	1-607-678-00	JACK (CONTROL S IN)		
J003	1-691-258-11	JACK (LAMP)		
< JUMPED RESISTOR >				
J001	1-414-245-11	INDUCTOR, FERRITE BEAD		
J002	1-414-245-11	INDUCTOR, FERRITE BEAD		
J003	1-216-049-00	METAL CHIP	0H	5% 1/10W
J004	1-216-041-90	METAL CHIP	1.5K	5% 1/10W
J005	1-216-061-00	METAL CHIP	3.3K	5% 1/10W
J006	1-216-049-00	METAL CHIP	0K	5% 1/10W
J007	1-216-049-00	METAL CHIP	0K	5% 1/10W
J008	1-216-049-00	METAL CHIP	0K	5% 1/10W
J009	1-216-049-00	METAL CHIP	0K	5% 1/10W
J010	1-216-049-00	METAL CHIP	0K	5% 1/10W
J001	1-216-049-00	METAL CHIP	0K	5% 1/10W
J002	1-216-049-00	METAL CHIP	0K	5% 1/10W
J003	1-216-049-00	METAL CHIP	0K	5% 1/10W
J004	1-216-049-00	METAL CHIP	0K	5% 1/10W
J005	1-216-049-00	METAL CHIP	0K	5% 1/10W
J006	1-216-049-00	METAL CHIP	0K	5% 1/10W
J007	1-216-049-00	METAL CHIP	0K	5% 1/10W
J008	1-216-049-00	METAL CHIP	0K	5% 1/10W
J009	1-216-049-00	METAL CHIP	0K	5% 1/10W
J010	1-216-049-00	METAL CHIP	0K	5% 1/10W
J001	1-216-049-00	METAL CHIP	0K	5% 1/10W
J002	1-216-049-00	METAL CHIP	0K	5% 1/10W
J003	1-216-049-00	METAL CHIP	0K	5% 1/10W
J004	1-216-049-00	METAL CHIP	0K	5% 1/10W
J005	1-216-049-00	METAL CHIP	0K	5% 1/10W
J006	1-216-049-00	METAL CHIP	0K	5% 1/10W
J007	1-216-049-00	METAL CHIP	0K	5% 1/10W
J008	1-216-049-00	METAL CHIP	0K	5% 1/10W
J009	1-216-049-00	METAL CHIP	0K	5% 1/10W
J010	1-216-049-00	METAL CHIP	0K	5% 1/10W

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
J0831	1-216-049-00	METAL CHIP	LK 5A 1/10W	J0880	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0832	1-216-049-00	METAL CHIP	LK 5A 1/10W	J0881	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0833	1-216-049-00	METAL CHIP	LK 5A 1/10W	J0885	1-410-937-01	INDUCTOR CHIP Z 20H	
J0834	1-216-049-00	METAL CHIP	LK 5A 1/10W	J0886	1-216-049-00	METAL CHIP	230 5X 1/10W
J0835	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0887	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0836	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0888	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0837	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0889	1-216-025-00	METAL CHIP	100 5X 1/10W (VC, WP, AE, UB)
J0838	1-216-049-00	METAL CHIP	LK 5A 1/10W	J0889	1-216-043-00	METAL CHIP	470 5X 1/10W (B)
J0839	1-216-025-00	METAL CHIP	100 5X 1/10W	J0890	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0840	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0891	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0841	1-216-073-00	METAL CHIP	100 5X 1/10W	J0892	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0842	1-216-025-00	METAL CHIP	100 5X 1/10W	J0893	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0843	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0894	1-216-073-00	METAL CHIP	100 5X 1/10W
J0844	1-216-025-00	METAL CHIP	100 5X 1/10W	J0895	1-216-073-00	METAL CHIP	100 5X 1/10W
J0845	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0896	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0846	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0897	1-216-073-00	METAL CHIP	100 5X 1/10W (VC, WP, B)
J0847	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0898	1-216-043-00	METAL CHIP	470 5X 1/10W (VC, WP, B)
J0848	1-216-285-00	METAL CHIP	0 5X 1/10W	J0899	1-216-043-00	METAL CHIP	470 5X 1/10W (VC, WP, B)
J0849	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0900	1-216-043-00	METAL CHIP	470 5X 1/10W
J0850	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0901	1-216-043-00	METAL CHIP	470 5X 1/10W
J0851	1-216-285-00	METAL CHIP	0 5X 1/10W	J0902	1-216-285-00	METAL CHIP	0 5X 1/10W
J0852	1-216-049-00	METAL CHIP	1A 5X 1/10W	J0904	1-216-285-00	METAL CHIP	0 5X 1/10W
J0853	1-216-285-00	METAL CHIP	0 5X 1/10W	J0905	1-216-285-00	METAL CHIP	0 5X 1/10W
J0854	1-410-937-01	INDUCTOR CHIP Z 20H		J0910	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0855	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0911	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0856	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0912	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0857	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0913	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0858	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0914	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0859	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0915	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0860	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0916	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0861	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0918	1-216-285-00	METAL CHIP	0 5X 1/10W
J0862	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0919	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0863	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0920	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0864	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0921	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0865	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0922	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0866	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0923	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0867	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0924	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0868	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0925	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0869	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0927	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0870	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0928	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0871	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0929	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0872	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0930	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0873	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0931	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0874	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0932	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0875	1-216-023-00	METAL CHIP	100 5X 1/10W	J0933	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0876	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0934	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0877	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0935	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0878	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0936	1-216-049-00	METAL CHIP	LK 5X 1/10W
J0879	1-216-049-00	METAL CHIP	LK 5X 1/10W	J0937	1-216-049-00	METAL CHIP	LK 5X 1/10W

**MA-173**

Ref. No.	Part No.	Description	Remark
JH138	1-216-049-00	METAL CHIP	1K 5% 1/20W
JH139	1-216-049-00	METAL CHIP	1K 5% 1/20W
JH140	1-216-049-00	METAL CHIP	1K 5% 1/20W
JH141	1-216-037-00	METAL CHIP	100K 5% 1/20W
JH142	1-216-037-00	METAL CHIP	100K 5% 1/20W
JH154	1-216-295-00	METAL CHIP	0 5% 1/20W
JH155	1-216-295-00	METAL CHIP	0 5% 1/20W
JH157	1-216-295-00	METAL CHIP	0 5% 1/20W
JH158	1-216-295-00	METAL CHIP	0 5% 1/20W
JH160	1-216-295-00	METAL CHIP	0 5% 1/20W
JH162	1-216-295-00	METAL CHIP	0 5% 1/20W
JH163	1-216-295-00	METAL CHIP	0 5% 1/20W
JH164	1-216-295-00	METAL CHIP	0 5% 1/20W
JH165	1-216-048-00	METAL CHIP	1K 5% 1/20W
JH166	1-216-295-00	METAL CHIP	0 5% 1/20W
JH167	1-216-295-00	METAL CHIP	0 5% 1/20W
JH168	1-216-295-00	METAL CHIP	0 5% 1/20W
JH169	1-216-295-00	METAL CHIP	0 5% 1/20W
JH171	1-216-296-00	METAL CHIP	0 5% 1/20W
JH172	1-216-295-00	METAL CHIP	0 5% 1/20W
< COIL >			
L001	1-408-982-11	INDUCTOR 100uH	
L002	1-410-313-11	INDUCTOR CHIP 100uH	
L003	1-408-978-21	INDUCTOR 47uH	
L004	1-408-978-21	INDUCTOR 220uH	
L005	1-408-978-21	INDUCTOR 47uH	
L008	1-408-978-21	INDUCTOR 47uH	
L009	1-408-978-21	INDUCTOR 47uH	
L062	1-424-822-21	COIL, TOROID 300uH	
L064	1-424-824-21	COIL, TOROID 47uH	
L065	1-424-824-21	COIL, TOROID 47uH	
L066	1-408-976-21	INDUCTOR 47uH	
L067	1-408-978-21	INDUCTOR 47uH	
L503	1-408-982-13	INDUCTOR 100uH	
L701	1-408-974-21	INDUCTOR 22uH	
L704	1-408-978-21	INDUCTOR 47uH	
L706	1-408-974-21	INDUCTOR 22uH	
L708	1-408-974-21	INDUCTOR 22uH	
L709	1-408-974-21	INDUCTOR 22uH	
L710	1-408-974-21	INDUCTOR 22uH	
L711	1-408-974-21	INDUCTOR 22uH	
L712	1-408-962-21	INDUCTOR 2.2uH	
< IC LINK >			
ΔPS001	1-532-685-00	LINK IC 0.4A (ICP-PHD)	
ΔPS001	1-532-685-00	LINK IC 0.4A (ICP-PHD)	

Ref. No.	Part No.	Description	Remark
< TRANSISTOR >			
Q001	8-729-410-12	TRANSISTOR 2N4213	
Q003	8-729-421-19	TRANSISTOR 2N2213	
Q004	8-729-424-08	TRANSISTOR 2N2213	
Q005	8-729-421-19	TRANSISTOR 2N2213	
Q007	8-729-420-12	TRANSISTOR 2N4213	
Q008	8-729-807-87	TRANSISTOR 2581295-LLC	
Q009	8-729-421-19	TRANSISTOR 2N2213	
Q010	8-729-421-10	TRANSISTOR 2N2213	
Q011	8-729-140-75	TRANSISTOR 258099-CLCK	
Q012	8-729-140-75	TRANSISTOR 258099-CLCK	
Q013	8-729-901-06	TRANSISTOR 2N4149EX	
Q014	8-729-423-18	TRANSISTOR 2N2213	
Q015	8-729-424-08	TRANSISTOR 2N2213	
Q016	8-729-402-19	TRANSISTOR 2N6501	
Q018	8-729-016-05	TRANSISTOR MS8700-RT1	
Q019	8-729-421-19	TRANSISTOR 2N2213	
Q020	8-729-424-19	TRANSISTOR 2N2213	
Q021	8-729-010-25	TRANSISTOR MS0401-RT1	
Q022	8-729-010-25	TRANSISTOR MS0401-RT1	
Q024	8-729-424-08	TRANSISTOR 2N2213	
Q025	8-729-021-19	TRANSISTOR 2N2213	
Q031	8-729-421-19	TRANSISTOR 2N2213	
Q033	8-729-402-19	TRANSISTOR 2N6501	
Q034	8-729-420-12	TRANSISTOR 2N4213	
Q036	8-729-421-19	TRANSISTOR 2N2213	
Q037	8-729-010-25	TRANSISTOR MS0601-RT1	
Q038	8-729-010-25	TRANSISTOR MS0601-RT1	
Q039	8-729-005-25	TRANSISTOR 2581121-S	
Q040	8-729-005-25	TRANSISTOR 2581121-S	
Q041	8-729-901-06	TRANSISTOR 2N4149EX	
Q042	8-729-420-12	TRANSISTOR 2N4213	
Q103	8-729-010-25	TRANSISTOR MS0601-RT1	
Q107	8-729-901-06	TRANSISTOR 2N4149EX	
Q501	8-729-402-19	TRANSISTOR 2N6501	
Q502	8-729-902-39	TRANSISTOR 2N2144TX	
Q503	8-729-421-19	TRANSISTOR 2N2213	
Q504	8-729-010-25	TRANSISTOR MS0601-RT1	
Q507	8-729-421-19	TRANSISTOR 2N2213	
Q506	8-729-402-19	TRANSISTOR 2N6501	
Q509	8-729-402-19	TRANSISTOR 2N6501	
Q512	8-729-902-09	TRANSISTOR 2N2144TX	
Q513	8-729-002-09	TRANSISTOR 2N2144TX	
Q514	8-729-421-19	TRANSISTOR 2N2213	
Q515	8-729-421-19	TRANSISTOR 2N2213	
Q516	8-729-421-19	TRANSISTOR 2N2213	
Q901	8-729-021-19	TRANSISTOR 2N2213	
Q205	8-729-021-19	TRANSISTOR 2N2213	

<p>The components identified by a circle or dotted line with a slash are critical for safety. Replace only with part number specified.</p>	<p>Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une référence portant le numéro spécifié.</p>
--	---

Ref. No	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q700	8-729-010-05	TRANSISTOR	MS2699-KTL	Q034	1-216-045-00	METAL CHIP	750 5% 1/10W (UB)
Q707	8-729-010-25	TRANSISTOR	MS2699-KTL	Q034	1-216-051-00	METAL CHIP	1.2K 5% 1/10W (B)
Q713	8-729-402-51	TRANSISTOR	XM450L	Q035	1-216-049-00	METAL CHIP	1K 5% 1/10W (AP, AZ, UB, B)
Q715	8-729-402-84	TRANSISTOR	XM450L	Q036	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
Q716	8-729-424-19	TRANSISTOR	UM2213	Q037	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
Q717	8-729-424-19	TRANSISTOR	UM2213	Q039	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
Q719	8-729-010-25	TRANSISTOR	MS2699-KTL	Q040	1-216-059-00	METAL CHIP	2.7K 5% 1/10W
Q720	8-729-402-84	TRANSISTOR	XM460A	Q041	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
Q721	8-729-402-84	TRANSISTOR	XM460A	Q042	1-216-059-00	METAL CHIP	2.7K 5% 1/10W
Q730	8-729-402-84	TRANSISTOR	XM460A	Q043	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
Q732	8-729-402-84	TRANSISTOR	XM460A	Q044	1-216-051-00	METAL CHIP	12K 5% 1/10W
Q733	8-729-402-84	TRANSISTOR	XM460A	Q045	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
Q755	8-729-010-05	TRANSISTOR	MS2699-KTL	Q046	1-247-855-41	CARDON	10K 5% 1/4W
Q756	8-729-424-19	TRANSISTOR	UM2213	Q047	1-216-073-00	METAL CHIP	10K 5% 1/10W
		< RESISTOR >		Q048	1-216-049-00	METAL CHIP	1K 5% 1/10W
R092	1-216-295-00	METAL CHIP (VC, MP, B)	0 5% 1/10W	Q049	1-216-080-91	METAL GLAZE	47K 5% 1/10W
R004	1-216-295-00	METAL CHIP (VC, MP, B)	0 5% 1/10W	Q050	1-216-049-00	METAL CHIP	1K 5% 1/10W
R006	1-216-295-00	METAL CHIP (VC, MP, B)	0 5% 1/10W	Q051	1-216-049-00	METAL CHIP	1K 5% 1/10W
R007	1-216-295-00	METAL CHIP (VC, MP, B)	0 5% 1/10W	Q052	1-216-049-00	METAL CHIP	1K 5% 1/10W
R008	1-216-295-00	METAL CHIP (VC, MP, B)	0 5% 1/10W	Q053	1-216-049-00	METAL CHIP	1K 5% 1/10W
R009	1-216-295-00	METAL CHIP (VC, MP, B)	0 5% 1/10W	Q054	1-216-049-00	METAL CHIP	1K 5% 1/10W
R012	1-216-040-91	METAL GLAZE	47K 5% 1/10W	Q055	1-216-049-00	METAL CHIP	1K 5% 1/10W
R013	1-216-040-91	METAL GLAZE	47K 5% 1/10W	Q056	1-216-049-00	METAL CHIP	1K 5% 1/10W
R014	1-216-295-00	METAL CHIP	0 5% 1/10W	Q057	1-216-049-00	METAL CHIP	1K 5% 1/10W
R016	1-216-040-91	METAL GLAZE	47K 5% 1/10W	Q058	1-216-049-00	METAL CHIP	1K 5% 1/10W
R017	1-216-073-00	METAL CHIP	10K 5% 1/10W	Q059	1-216-049-00	METAL CHIP	1K 5% 1/10W
R018	1-216-049-00	METAL CHIP	47K 5% 1/10W	Q060	1-216-049-00	METAL CHIP	1K 5% 1/10W
R019	1-216-049-00	METAL CHIP	1K 5% 1/10W	Q061	1-216-049-00	METAL CHIP	1K 5% 1/10W
R020	1-216-061-00	METAL CHIP	3.3K 5% 1/10W	Q062	1-216-073-00	METAL CHIP	10K 5% 1/10W
R021	1-216-049-00	METAL CHIP	1K 5% 1/10W	Q063	1-216-065-00	METAL CHIP	4.7K 5% 1/10W (VC, MP, B)
R022	1-216-040-91	METAL GLAZE	47K 5% 1/10W	Q064	1-216-065-00	METAL CHIP	4.7K 5% 1/10W (VC, MP, B)
R023	1-216-073-00	METAL CHIP	10K 5% 1/10W	Q065	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R024	1-216-049-00	METAL GLAZE	47K 5% 1/10W	Q067	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R025	1-216-069-91	METAL GLAZE	47K 5% 1/10W	Q068	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R026	1-414-235-11	INDUCTIVE FEEDING HEAD		Q070	1-216-290-00	METAL CHIP	0 5% 1/8W
R027	1-216-089-91	METAL GLAZE	47K 5% 1/10W	Q071	1-216-069-91	METAL GLAZE	47K 5% 1/10W
R028	1-216-039-91	METAL GLAZE	47K 5% 1/10W	Q073	1-216-069-91	METAL GLAZE	47K 5% 1/10W
R029	1-216-089-91	METAL GLAZE	47K 5% 1/10W	Q074	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R030	1-216-061-00	METAL CHIP	2.2K 5% 1/10W	Q075	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R031	1-216-295-00	METAL CHIP	0 5% 1/10W	Q076	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R032	1-216-295-00	METAL CHIP	0 5% 1/10W	Q077	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R033	1-216-089-91	METAL GLAZE	47K 5% 1/10W	Q078	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R034	1-216-295-00	METAL CHIP	0 5% 1/10W (VC)	Q079	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R034	1-216-051-00	METAL CHIP	220 5% 1/10W (AP)	Q080	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R034	1-216-040-00	METAL GLAZE	470 5% 1/10W (AE)	Q083	1-216-081-91	METAL GLAZE	47K 5% 1/10W
				Q082	1-216-089-91	METAL GLAZE	47K 5% 1/10W
				Q083	1-216-089-91	METAL GLAZE	47K 5% 1/10W
				Q084	1-216-089-91	METAL GLAZE	47K 5% 1/10W
				Q085	1-216-073-90	METAL CHIP	10K 5% 1/10W



Ref. No.	Part No.	Description	Remark
R086	1-216-073-00	METAL CHIP	10K 5% 1/10W
R091	1-216-235-00	METAL CHIP	0 5% 1/10W
R088	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R089	1-216-017-00	METAL CHIP	47 5% 1/10W
R090	1-216-113-00	METAL CHIP	470K 5% 1/10W
R092	1-216-051-00	METAL CHIP	1.2K 5% 1/10W
R093	1-216-073-00	METAL CHIP	10K 5% 1/10W
R095	1-216-073-00	METAL CHIP	10K 5% 1/10W
R097	1-216-097-00	METAL CHIP	100K 5% 1/10W
R099	1-216-073-00	METAL CHIP	10K 5% 1/10W
R101	1-216-025-00	METAL CHIP	33K 5% 1/10W
R102	1-216-073-00	METAL CHIP	10K 5% 1/10W
R103	1-216-081-00	METAL CHIP	22K 5% 1/10W
R105	1-216-146-00	METAL GLAZE	6.8 5% 1/10W
R107	1-216-121-00	METAL CHIP	1W 5% 1/10W
R109	1-216-048-00	METAL CHIP	3H 5% 1/10W
R110	1-216-028-00	METAL CHIP	820K 5% 1/10W
R111	1-216-073-00	METAL CHIP	10K 5% 1/10W
R112	1-216-121-00	METAL CHIP	1K 5% 1/10W
R113	1-216-129-00	METAL CHIP	2.2K 5% 1/10W
R114	1-216-007-00	METAL CHIP	5.6K 5% 1/10W
R115	1-216-106-00	METAL CHIP	220K 5% 1/10W
R116	1-216-025-91	METAL GLAZE	47K 5% 1/10W
R117	1-216-003-00	METAL CHIP	68K 5% 1/10W
R118	1-216-109-00	METAL CHIP	330K 5% 1/10W
R120	1-216-608-11	METAL CHIP	39K 0 5% 1/10W
R121	1-216-079-00	METAL CHIP	18K 5% 1/10W
R122	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R123	1-216-073-00	METAL CHIP	10K 5% 1/10W
R124	1-216-097-00	METAL CHIP	100K 5% 1/10W
R125	1-216-679-11	METAL CHIP	15K 0 5% 1/10W
R126	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R127	1-216-295-00	METAL CHIP	0 5% 1/10W
R128	1-216-059-00	METAL CHIP	6.8K 5% 1/10W
R129	1-216-037-00	METAL CHIP	100K 5% 1/10W
R131	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R132	1-216-073-00	METAL CHIP	10K 5% 1/10W
R134	1-216-097-00	METAL CHIP	100K 5% 1/10W
R136	1-216-073-00	METAL CHIP	10K 5% 1/10W
R137	1-216-049-00	METAL CHIP	1K 5% 1/10W
R138	1-216-074-00	METAL CHIP	11W 5% 1/10W
R140	1-216-121-00	METAL CHIP	1W 5% 1/10W
R141	1-216-099-00	METAL CHIP	120K 5% 1/10W
R142	1-216-681-11	METAL CHIP	2.7K 0 5% 1/10W
R143	1-216-048-00	METAL CHIP	1K 5% 1/10W
R144	1-216-073-00	METAL CHIP	10K 5% 1/10W
R145	1-216-113-00	METAL CHIP	470K 5% 1/10W
R146	1-216-037-00	METAL CHIP	100K 5% 1/10W
R147	1-216-099-00	METAL CHIP	120K 5% 1/10W

Ref. No.	Part No.	Description	Remark
R148	1-216-000-00	METAL CHIP	320K 5% 1/10W
R149	1-216-031-00	METAL CHIP	360 5% 1/10W
R150	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
R151	1-216-037-00	METAL CHIP	330 5% 1/10W
R152	1-216-001-00	METAL CHIP	30 5% 1/10W
R156	1-216-073-00	METAL CHIP	10K 5% 1/10W
R157	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
R158	1-216-027-00	METAL CHIP	330 5% 1/10W
R159	1-216-041-00	METAL CHIP	30 5% 1/10W
R161	1-216-081-00	METAL CHIP	22K 5% 1/10W
R162	1-216-005-00	METAL CHIP	33K 5% 1/10W
R163	1-216-219-00	METAL CHIP	0 5% 1/10W
R164	1-216-045-00	METAL CHIP	68K 5% 1/10W
R165	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R166	1-216-041-00	METAL CHIP	22K 5% 1/10W
R167	1-216-045-00	METAL CHIP	32K 5% 1/10W
R168	1-216-041-00	METAL CHIP	470 5% 1/10W
R169	1-216-041-00	METAL CHIP	470 5% 1/10W
R170	1-216-472-00	METAL CHIP	82 5% 1/10W
R171	1-414-235-21	INDUCTOR, FERRITE BEAD	
R172	1-216-285-00	METAL CHIP	0 5% 1/10W
R173	1-216-079-00	METAL CHIP	33K 5% 1/10W
R175	1-216-085-00	METAL CHIP	33K 5% 1/10W
R177	1-216-285-00	METAL CHIP	0 5% 1/10W (VC)
R178	1-216-285-00	METAL CHIP	0 5% 1/10W (VC)
R186	1-216-285-00	METAL CHIP	0 5% 1/10W
R190	1-216-285-00	METAL CHIP	0 5% 1/10W
R196	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R199	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R200	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R202	1-216-089-91	METAL GLAZE	47K 5% 1/10W (VC, NP, B)
R204	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R205	1-216-049-00	METAL CHIP	1K 5% 1/10W
R207	1-216-073-00	METAL CHIP	10K 5% 1/10W
R212	1-216-049-00	METAL CHIP	1K 5% 1/10W
R211	1-216-073-00	METAL CHIP	10K 5% 1/10W
R219	1-216-073-00	METAL CHIP	10K 5% 1/10W
R221	1-216-097-00	METAL CHIP	100K 5% 1/10W
R224	1-216-285-00	METAL CHIP	0 5% 1/10W
R234	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R303	1-216-097-00	METAL CHIP	100K 5% 1/10W
R304	1-216-057-00	METAL CHIP	100K 5% 1/10W
R306	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R308	1-216-097-00	METAL CHIP	100K 5% 1/10W
R309	1-216-067-00	METAL CHIP	5.6K 5% 1/10W
R312	1-216-068-00	METAL CHIP	6.8K 5% 1/10W
R314	1-216-121-00	METAL CHIP	1W 5% 1/10W
R317	1-216-056-00	METAL CHIP	1.8K 5% 1/10W
R316	1-216-055-00	METAL CHIP	1.8K 5% 1/10W

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark		
R319	1-216-067-00	METAL CHIP	5 BK 5%	1/10A	R380	1-216-089-01	METAL GLAZE	47K 5%	1/10B
R320	1-216-012-00	METAL CHIP	33 5%	1/10B	R389	1-216-295-00	METAL CHIP	0 5%	1/10B
R321	1-216-012-00	METAL CHIP	33 5%	1/10B	R391	1-216-295-00	METAL CHIP	0 5%	1/10B
R322	1-216-012-00	METAL CHIP	31 5%	1/10B	R392	1-216-075-00	METAL CHIP	12K 5%	1/10B
R323	1-216-012-00	METAL CHIP	33 5%	1/10B	R394	1-216-073-00	METAL CHIP	10K 5%	1/10B
R324	1-216-053-00	METAL CHIP	220 5%	1/10A	R395	1-216-027-00	METAL CHIP	330 5%	1/10B
R325	1-216-121-00	METAL CHIP	1M 5%	1/10B	R396	1-216-285-00	METAL CHIP	0 5%	1/10B
R326	1-216-079-00	METAL CHIP	1.8K 5%	1/10B	R401	1-216-740-11	METAL GLAZE	220K 2%	1/10B
R327	1-216-057-00	METAL CHIP	2.2K 5%	1/10B	R402	1-216-740-11	METAL GLAZE	220K 2%	1/10B
R328	1-216-079-00	METAL CHIP	1.8K 5%	1/10B	R402	1-216-651-11	METAL CHIP	1K 0 5%	1/10B
R329	1-216-057-00	METAL CHIP	2.2K 5%	1/10B	R404	1-216-051-11	METAL CHIP	1K 0 5%	1/10B
R330	1-216-073-00	METAL CHIP	1.0K 5%	1/10B	R405	1-216-740-11	METAL GLAZE	220K 2%	1/10B
R331	1-216-045-00	METAL CHIP	600 5%	1/10B	R406	1-216-740-11	METAL GLAZE	220K 2%	1/10B
R332	1-216-045-00	METAL CHIP	600 5%	1/10B	R407	1-216-740-11	METAL GLAZE	220K 2%	1/10B
R333	1-216-073-00	METAL CHIP	1.0K 5%	1/10B	R408	1-216-740-11	METAL GLAZE	220K 2%	1/10B
R334	1-216-073-00	METAL CHIP	1.0K 5%	1/10B	R409	1-216-295-00	METAL CHIP	0 5%	1/10B
R335	1-216-046-00	METAL CHIP	51K 5%	1/10B	R413	1-216-691-11	METAL CHIP	47K 0 5%	1/10B
R336	1-216-074-00	METAL CHIP	6.2K 5%	1/10B	R414	1-216-691-11	METAL CHIP	47K 0 5%	1/10B
R338	1-216-056-00	METAL CHIP	1.5K 5%	1/10B	R415	1-216-683-11	METAL CHIP	22K 0 5%	1/10B
R339	1-216-077-00	METAL CHIP	1.5K 5%	1/10B	R416	1-216-683-11	METAL CHIP	22K 0 5%	1/10B
R343	1-216-073-00	METAL CHIP	1.0K 5%	1/10B	R417	1-216-683-11	METAL CHIP	22K 0 5%	1/10B
R345	1-216-073-00	METAL CHIP	1.0K 5%	1/10B	R418	1-216-683-11	METAL CHIP	22K 0 5%	1/10B
R347	1-216-089-00	METAL CHIP	0.8K 5%	1/10B	R419	1-216-691-11	METAL CHIP	47K 0 5%	1/10B
R348	1-216-087-00	METAL CHIP	1.0K 5%	1/10B	R420	1-216-691-11	METAL CHIP	47K 0 5%	1/10B
R349	1-216-754-11	METAL CHIP	120K 0.50%	1/10A	R421	1-216-285-00	METAL CHIP	0 5%	1/10B
R350	1-216-065-00	METAL CHIP	4.7K 5%	1/10B	R422	1-216-285-00	METAL CHIP	0 5%	1/10B
R352	1-216-093-00	METAL CHIP	48K 5%	1/10B	R425	1-216-097-00	METAL CHIP	100K 5%	1/10B
R354	1-216-075-00	METAL CHIP	1.0K 5%	1/10B	R426	1-216-097-00	METAL CHIP	100K 5%	1/10B
R356	1-216-679-11	METAL CHIP	15K 0 5%	1/10B	R428	1-216-285-00	METAL CHIP	0 5%	1/10B
R357	1-216-093-00	METAL CHIP	48K 5%	1/10B	R429	1-216-285-00	METAL CHIP	0 5%	1/10B
R359	1-216-063-00	METAL CHIP	3.3K 5%	1/10B	R431	1-216-675-11	METAL CHIP	10K 0 5%	1/10B
R361	1-216-065-00	METAL CHIP	33K 5%	1/10B	R432	1-216-675-11	METAL CHIP	10K 0 5%	1/10B
R363	1-216-107-91	METAL GLAZE	1.5 5%	1/10B	R433	1-216-675-11	METAL CHIP	10K 0 5%	1/10B
R364	1-216-107-91	METAL GLAZE	1.5 5%	1/10B	R434	1-216-675-11	METAL CHIP	10K 0 5%	1/10B
R366	1-216-037-00	METAL CHIP	330 5%	1/10B	R434	1-216-675-11	METAL CHIP	10K 0 5%	1/10B
R367	1-216-107-91	METAL GLAZE	1.5 5%	1/10B	R432	1-216-675-11	METAL CHIP	10K 0 5%	1/10B
R371	1-216-083-00	METAL CHIP	27K 5%	1/10B	R440	1-216-685-11	METAL CHIP	27K 0 5%	1/10B
R372	1-216-691-11	METAL CHIP	47K 0 5%	1/10B	R441	1-216-691-11	METAL CHIP	27K 0 5%	1/10B
R373	1-216-683-11	METAL CHIP	27K 0 5%	1/10B	R445	1-216-685-11	METAL CHIP	27K 0 5%	1/10B
R374	1-216-083-00	METAL CHIP	27K 5%	1/10B	R446	1-216-685-11	METAL CHIP	27K 0 5%	1/10B
R375	1-216-680-11	METAL CHIP	1.8K 0 5%	1/10B	R447	1-216-627-11	METAL CHIP	300 0 5%	1/10B
R377	1-217-671-11	METAL CHIP	1 5%	1/10B	R448	1-216-827-11	METAL CHIP	300 0 5%	1/10B
R378	1-216-083-11	METAL CHIP	22K 0 5%	1/10B	R449	1-216-675-11	METAL CHIP	10K 0 5%	1/10B
R379	1-217-671-11	METAL CHIP	1 5%	1/10B	R450	1-216-675-11	METAL CHIP	10K 0 5%	1/10B
R380	1-217-651-11	METAL CHIP	1 5%	1/10B	R451	1-216-295-00	METAL CHIP	0 5%	1/10B
R381	1-216-083-00	METAL CHIP	27K 5%	1/10B	R452	1-216-295-00	METAL CHIP	0 5%	1/10B
R382	1-217-671-11	METAL CHIP	1 5%	1/10B	R453	1-216-682-11	METAL CHIP	22K 0 5%	1/10B
R385	1-216-012-00	METAL CHIP	33 5%	1/10B	R460	1-216-682-11	METAL CHIP	22K 0 5%	1/10B
R386	1-216-012-00	METAL CHIP	33 5%	1/10B	R463	1-216-627-11	METAL CHIP	140 0 5%	1/10B

## MA-173

Ref. No.	Part No.	Description	Remark
8454	1-216-627-11	METAL CHIP	100 0 5X 1/100
8465	1-216-077-00	METAL CHIP	15X 5X 1/100
8466	1-216-077-00	METAL CHIP	15W 5X 1/100
8468	1-216-057-00	METAL CHIP	2.2X 5X 1/100
8469	1-216-089-91	METAL GLAZE	47X 5X 1/100
8470	1-216-093-00	METAL CHIP	100W 5X 1/100
8471	1-216-037-00	METAL CHIP	100W 5X 1/100
8472	1-216-969-11	METAL CHIP	22X 0 5X 1/100
8473	1-216-969-11	METAL CHIP	22X 0 5X 1/100
8474	1-216-475-11	METAL CHIP	10X 0 3X 1/100
8475	1-216-675-01	METAL CHIP	10X 0 5X 1/100
8476	1-216-683-11	METAL CHIP	22X 0 5X 1/100
8479	1-216-083-11	METAL CHIP	22X 0 5X 1/100
8483	1-216-245-00	METAL CHIP	0 5X 1/100
8484	1-216-245-00	METAL CHIP	0 5X 1/100
8485	1-216-627-11	METAL CHIP	100 0 5X 1/100
8486	1-216-627-11	METAL CHIP	100 0 5X 1/100
8495	1-216-245-00	METAL CHIP	0 5X 1/100
8501	1-216-979-00	METAL CHIP	10X 5X 1/100
8502	1-216-073-00	METAL CHIP	10X 5X 1/100
8503	1-216-967-00	METAL CHIP	5 6X 5X 1/100
8504	1-216-245-00	METAL CHIP	6 5X 1/100 (DC, AC, B)
8505	1-216-245-00	METAL CHIP	0 5X 1/100 (HP, US)
8506	1-216-983-00	METAL CHIP	27X 5X 1/100
8507	1-216-071-00	METAL CHIP	10X 5X 1/100
8508	1-216-121-00	METAL CHIP	1W 5X 1/100
8509	1-216-075-00	METAL CHIP	12X 5X 1/100
8510	1-216-085-00	METAL CHIP	21X 5X 1/100 (HP, US)
8511	1-216-073-00	METAL CHIP	14X 5X 1/100 (HP, US)
8512	1-216-089-91	METAL GLAZE	47X 5X 1/100
8513	1-216-089-91	METAL GLAZE	47X 5X 1/100
8515	1-216-089-91	METAL GLAZE	47X 5X 1/100
8516	1-216-245-00	METAL CHIP	0 5X 1/100
8518	1-216-083-00	METAL CHIP	27X 5X 1/100
8519	1-216-073-00	METAL CHIP	10X 5X 1/100
8521	1-216-245-00	METAL CHIP	0 5X 1/100
8529	1-216-245-00	METAL CHIP	0 5X 1/100
8530	1-216-070-00	METAL CHIP	2 7X 5X 1/100
8532	1-216-105-00	METAL CHIP	220X 5X 1/100
8533	1-216-073-00	METAL CHIP	10X 5X 1/100
8529	1-216-067-00	METAL CHIP	5 6X 5X 1/100
8530	1-216-073-00	METAL CHIP	10X 5X 1/100
8531	1-216-245-00	METAL CHIP	0 5X 1/100
8532	1-216-077-00	METAL CHIP	15X 5X 1/100
8533	1-216-089-91	METAL GLAZE	47X 5X 1/100
8534	1-216-049-00	METAL CHIP	6 6X 5X 1/100
8539	1-216-245-00	METAL CHIP	0 5X 1/100
8536	1-216-073-00	METAL CHIP	10X 5X 1/100
8537	1-216-085-00	METAL CHIP	33X 5X 1/100
8538	1-216-245-00	METAL CHIP	0 5X 1/100

Ref. No.	Part No.	Description	Remark
8540	1-216-077-00	METAL CHIP	15X 5X 1/100
8541	1-216-071-00	METAL CHIP	8 2X 5X 1/100
8542	1-216-073-00	METAL CHIP	10X 5X 1/100
8543	1-216-045-00	METAL CHIP	4 7X 5X 1/100
8544	1-216-059-00	METAL CHIP	2 7X 5X 1/100
8545	1-216-057-00	METAL CHIP	2 2X 5X 1/100
8546	1-216-081-00	METAL CHIP	22X 5X 1/100
8547	1-216-074-00	METAL CHIP	10X 5X 1/100
8548	1-216-061-00	METAL CHIP	2 5X 5X 1/100
8549	1-216-063-00	METAL CHIP	2 5X 5X 1/100
8550	1-216-061-00	METAL CHIP	2 5X 5X 1/100
8551	1-216-073-00	METAL CHIP	10X 5X 1/100
8552	1-216-073-00	METAL CHIP	10X 5X 1/100
8553	1-216-061-00	METAL CHIP	47X 5X 1/100
8554	1-216-049-00	METAL CHIP	6X 5X 1/100
8555	1-216-049-00	METAL CHIP	6X 5X 1/100
8556	1-216-049-00	METAL CHIP	6X 5X 1/100
8557	1-216-048-00	METAL CHIP	6X 5X 1/100
8558	1-216-083-00	METAL CHIP	27X 5X 1/100
8559	1-216-083-00	METAL CHIP	27X 5X 1/100
8560	1-216-073-00	METAL CHIP	10X 5X 1/100
8561	1-216-073-00	METAL CHIP	10X 5X 1/100
8562	1-216-049-00	METAL CHIP	4 3X 5X 1/100
8563	1-216-049-00	METAL CHIP	4 3X 5X 1/100
8564	1-216-051-00	METAL CHIP	6 2X 5X 1/100
8565	1-216-051-00	METAL CHIP	1 2X 5X 1/100
8566	1-216-049-00	METAL CHIP	6X 5X 1/100
8567	1-216-049-00	METAL CHIP	6X 5X 1/100
8568	1-216-084-00	METAL GLAZE	47X 5X 1/100
8569	1-216-073-00	METAL CHIP	10X 5X 1/100
8571	1-216-073-00	METAL CHIP	10X 5X 1/100
8572	1-216-067-00	METAL CHIP	5 6X 5X 1/100
8573	1-216-067-00	METAL CHIP	5 6X 5X 1/100
8574	1-216-073-00	METAL CHIP	10X 5X 1/100
8575	1-216-073-00	METAL CHIP	10X 5X 1/100
8581	1-216-245-00	METAL CHIP	0 5X 1/100
8576	1-216-245-00	METAL CHIP	0 5X 1/100
8587	1-216-049-00	METAL CHIP	1W 5X 1/100
8588	1-216-077-00	METAL CHIP	15X 5X 1/100
8589	1-216-077-00	METAL CHIP	15X 5X 1/100
8590	1-216-059-00	METAL CHIP	2 7X 5X 1/100
8591	1-216-061-00	METAL CHIP	2 5X 5X 1/100
8592	1-216-059-00	METAL CHIP	4 7X 5X 1/100
8593	1-216-061-00	METAL CHIP	2 5X 5X 1/100
8594	1-216-113-00	METAL CHIP	470X 5X 1/100
8595	1-216-113-00	METAL CHIP	470X 5X 1/100
8596	1-216-073-00	METAL CHIP	15X 5X 1/100
8597	1-216-073-00	METAL CHIP	10X 5X 1/100
8598	1-216-073-00	METAL CHIP	10X 5X 1/100

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark		
8651	1-216-037-00	METAL CHIP	310 5%	1/100	8776	1-216-295-00	METAL CHIP	0 5%	1/100
8652	1-216-037-00	METAL CHIP	310 5%	1/100	8777	1-216-091-00	METAL CHIP	56K 5%	1/100
8654	1-216-037-00	METAL CHIP	310 5%	1/100	8778	1-216-091-00	METAL CHIP	56K 5%	1/100
8655	1-216-037-00	METAL CHIP	310 5%	1/100	8779	1-216-285-00	METAL CHIP	0 5%	1/100
8656	1-216-295-00	METAL CHIP	0 5%	1/100	8780	1-216-295-00	METAL CHIP	0 5%	1/100
8659	1-216-285-00	METAL CHIP	0 5%	1/100	8781	1-216-285-00	METAL CHIP	0 5%	1/100
8661	1-216-043-00	METAL CHIP	1K 5%	1/100	8782	1-216-295-00	METAL CHIP	0 5%	1/100
8662	1-216-025-11	METAL CHIP	220 0.5%	1/100	8783	1-216-295-00	METAL CHIP	0 5%	1/100
8663	1-216-043-00	METAL CHIP	1K 5%	1/100	8784	1-216-295-00	METAL CHIP	0 5%	1/100
8664	1-216-025-11	METAL CHIP	220 0.5%	1/100	8785	1-216-101-00	METAL CHIP	150M 5%	1/100
8703	1-216-295-00	METAL CHIP	0 5%	1/100	8786	1-216-043-00	METAL CHIP	500 5%	1/100
8704	1-216-073-00	METAL CHIP	10K 5%	1/100	8787	1-216-043-00	METAL CHIP	3.3M 5%	1/100
8705	1-216-295-00	METAL CHIP	0 5%	1/100	8788	1-216-043-00	METAL CHIP	1K 5%	1/100
8706	1-216-295-00	METAL CHIP	0 5%	1/100	8789	1-216-295-00	METAL CHIP	0 5%	1/100
8710	1-216-041-00	METAL CHIP	470 5%	1/100	8790	1-216-295-00	METAL CHIP	0 5%	1/100
8712	1-216-043-00	METAL CHIP	540 5%	1/100	8791	1-216-295-00	METAL CHIP	0 5%	1/100
8722	1-216-295-00	METAL CHIP	6 5%	1/100	8792	1-216-295-00	METAL CHIP	0 5%	1/100
8725	1-216-041-00	METAL CHIP	470 5%	1/100	8794	1-216-081-00	METAL CHIP	220 5%	1/100
8726	1-216-121-00	METAL CHIP	1M 5%	1/100	8795	1-216-295-00	METAL CHIP	0 5%	1/100
8727	1-216-053-00	METAL CHIP	4.7K 5%	1/100	8796	1-216-041-00	METAL CHIP	470 5%	1/100
8728	1-216-055-00	METAL CHIP	4.7K 5%	1/100	8797	1-216-295-00	METAL CHIP	0 5%	1/100
8729	1-216-065-00	METAL CHIP	4.7K 5%	1/100	8800	1-216-295-00	METAL CHIP	0 5%	1/100
8730	1-216-295-00	METAL CHIP	0 5%	1/100	8801	1-216-088-91	METAL GLAZE	47K 5%	1/100
8732	1-216-047-00	METAL CHIP	5.0K 5%	1/100	8802	1-216-049-00	METAL CHIP	1K 5%	1/100
8739	1-216-097-00	METAL CHIP	2.2K 5%	1/100	8803	1-216-090-00	METAL GLAZE	1.1K 5%	1/100
8760	1-216-041-00	METAL CHIP	470 5%	1/100	8804	1-216-295-00	METAL CHIP	0 5%	1/100
8741	1-216-021-00	METAL CHIP	1.2K 5%	1/100	8805	1-216-295-00	METAL CHIP	0 5%	1/100
8748	1-216-105-00	METAL CHIP	220K 5%	1/100	8807	1-216-053-00	METAL CHIP	4.7K 5%	1/100
8756	1-216-105-00	METAL CHIP	220K 5%	1/100	8808	1-216-001-00	METAL CHIP	10 5%	1/100
8751	1-216-088-00	METAL GLAZE	47K 5%	1/100	8811	1-216-088-91	METAL GLAZE	47K 5%	1/100
8752	1-216-043-00	METAL CHIP	590 5%	1/100	8812	1-216-049-00	METAL CHIP	1K 5%	1/100
8753	1-216-807-11	METAL CHIP	270 0.5%	1/100	8813	1-216-049-00	METAL CHIP	1K 5%	1/100
8754	1-216-840-13	METAL CHIP	390 0.5%	1/100	8814	1-216-295-00	METAL CHIP	0 5%	1/100
8755	1-216-817-00	METAL CHIP	47 5%	1/100	8816	1-216-295-00	METAL CHIP	0 5%	1/100
8756	1-216-845-00	METAL CHIP	600 5%	1/100	8817	1-216-062-00	METAL CHIP	4.7K 5%	1/100
8757	1-216-065-00	METAL CHIP	1.2K 5%	1/100	8818	1-216-081-00	METAL CHIP	10 5%	1/100
8758	1-216-447-11	METAL CHIP	680 0.5%	1/100	8821	1-216-089-91	METAL GLAZE	47K 5%	1/100
8759	1-216-105-00	METAL CHIP	0 5%	1/100	8822	1-216-049-00	METAL CHIP	1K 5%	1/100
8760	1-216-049-00	METAL CHIP	1K 5%	1/100	8823	1-216-049-00	METAL CHIP	1K 5%	1/100
8764	1-216-049-00	METAL CHIP	1K 5%	1/100	8824	1-216-295-00	METAL CHIP	0 5%	1/100
8765	1-216-085-00	METAL CHIP	33M 5%	1/100	8825	1-216-295-00	METAL CHIP	0 5%	1/100
8766	1-216-075-00	METAL CHIP	12M 5%	1/100	8827	1-216-065-00	METAL CHIP	4.7K 5%	1/100
8767	1-216-089-91	METAL GLAZE	33K 5%	1/100	8828	1-216-001-00	METAL CHIP	10 5%	1/100
8768	1-216-085-00	METAL CHIP	33K 5%	1/100	8832	1-216-073-00	METAL CHIP	10M 5%	1/100
8769	1-216-077-00	METAL CHIP	10K 5%	1/100	8833	1-216-041-00	METAL CHIP	470 5%	1/100
8771	1-216-088-91	METAL GLAZE	47K 5%	1/100	8835	1-216-073-00	METAL CHIP	10K 5%	1/100
8772	1-216-085-00	METAL CHIP	33K 5%	1/100	8844	1-216-073-00	METAL CHIP	33 5%	1/100
8773	1-216-073-00	METAL CHIP	10K 5%	1/100	8849	1-216-031-00	METAL CHIP	33 5%	1/100
8775	1-216-097-00	METAL CHIP	100K 5%	1/100	8841	1-216-073-00	METAL CHIP	33 5%	1/100

Ref. No.	Part No.	Description	Remark
R844	1-216-295-00	METAL CHIP	0 5% 1/10W
R847	1-216-015-00	METAL CHIP	39 5% 1/10W
R848	1-216-295-00	METAL CHIP	0 5% 1/10W
R852	1-216-015-00	METAL CHIP	39 5% 1/10W
R853	1-216-295-00	METAL CHIP	0 5% 1/10W
R854	1-216-015-00	METAL CHIP	39 5% 1/10W
R855	1-216-295-00	METAL CHIP	0 5% 1/10W
R856	1-216-295-00	METAL CHIP	0 5% 1/10W
R857	1-216-295-00	METAL CHIP	0 5% 1/10W
R858	1-216-015-00	METAL CHIP	39 5% 1/10W
R859	1-216-015-00	METAL CHIP	39 5% 1/10W
R860	1-216-015-00	METAL CHIP	39 5% 1/10W
R862	1-216-015-00	METAL CHIP	39 5% 1/10W
R863	1-216-015-00	METAL CHIP	39 5% 1/10W
R864	1-216-015-00	METAL CHIP	39 5% 1/10W
R880	1-216-295-00	METAL CHIP	0 5% 1/10W
R884	1-216-049-00	METAL CHIP	1X 5% 1/10W
R885	1-216-049-00	METAL CHIP	1X 5% 1/10W
R880	1-216-295-00	METAL CHIP	0 5% 1/10W
R890	1-216-295-00	METAL CHIP	0 5% 1/10W
R891	1-216-295-00	METAL CHIP	0 5% 1/10W
R898	1-216-079-00	METAL CHIP	10K 5% 1/10W (B)
R899	1-216-105-00	METAL CHIP	220K 5% 1/10W
R909	1-216-079-00	METAL CHIP	10K 5% 1/10W
R960	1-216-295-00	METAL CHIP	0 5% 1/10W
R961	1-216-295-00	METAL CHIP	0 5% 1/10W
R962	1-216-295-00	METAL CHIP	0 5% 1/10W (VC, MP, UR, B)
R963	1-216-295-00	METAL CHIP	0 5% 1/10W (VC, MP, UR, B)
R964	1-216-295-00	METAL CHIP	0 5% 1/10W (VC, MP, UR, B)
R966	1-216-295-00	METAL CHIP	0 5% 1/10W
R967	1-216-295-00	METAL CHIP	0 5% 1/10W
R968	1-216-295-00	METAL CHIP	0 5% 1/10W
R969	1-216-295-00	METAL CHIP	0 5% 1/10W (VC)
R970	1-216-295-00	METAL CHIP	0 5% 1/10W
R971	1-216-295-00	METAL CHIP	0 5% 1/10W
R972	1-216-295-00	METAL CHIP	0 5% 1/10W
R973	1-216-295-00	METAL CHIP	0 5% 1/10W
R976	1-216-049-00	METAL CHIP	6 3K 5% 1/10W (VC, MP, UR, B)
R988	1-216-295-00	METAL CHIP	0 5% 1/10W (VC, MP, UR, B)
R989	1-216-295-00	METAL CHIP	0 5% 1/10W
R990	1-216-295-00	METAL CHIP	0 5% 1/10W
R991	1-216-295-00	METAL CHIP	0 5% 1/10W
R992	1-216-295-00	METAL CHIP	0 5% 1/10W
R993	1-216-295-00	METAL CHIP	0 5% 1/10W
R994	1-216-295-00	METAL CHIP	0 5% 1/10W
R995	1-216-295-00	METAL CHIP	0 5% 1/10W
R996	1-216-295-00	METAL CHIP	0 5% 1/10W
R999	1-216-295-00	METAL CHIP	0 5% 1/10W

Ref. No.	Part No.	Description	Remark
< MODULATOR >			
ΔRUF001	1-404-329-11	MODULATOR, 4E (RFU-2017) (70, MP, AE)	
ΔRUF001	1-404-329-51	MODULATOR, 4E (RFU-2041) (B)	
ΔRUF001	1-404-347-11	MODULATOR, 4E (RFU-2024) (B)	
< VARIABLE RESISTOR >			
RV004	1-238-855-11	RES, ADJ, CERMET 4.7K	
RV501	1-238-857-11	RES, ADJ, CERMET 22K	
RV502	1-238-857-11	RES, ADJ, CERMET 22K	
< THERMISTOR >			
TR001	1-800-200-00	THERMISTOR 3-30	
< VIBRATOR >			
X001	1-579-388-31	VIBRATOR, CRYSTAL (11.75MHz)	
X002	1-577-116-21	OSCILLATOR, CRYSTAL (10MHz)	
X003	1-579-126-13	VIBRATOR, CERAMIC (12MHz)	
X004	1-567-058-31	VIBRATOR, CRYSTAL (32MHz)	
X005	1-577-284-11	VIBRATOR, CRYSTAL (17.7MHz)	
Y002	1-577-185-11	VIBRATOR, CERAMIC (500kHz)	
*****			
< 1-698-390-11 MD-59 BOARD, COMPLETE			
*****			
(Ref. No. 1, 750 series)			
< CONNECTOR >			
C001	1-750-520-11	CONNECTOR (OMG MD)	
	3-953-095-01	HOLDER, ST SENSOR	
	3-854-518-01	HOLDER (S), PUSH SWITCH	
	3-854-628-01	HOLDER (T), PUSH SWITCH	
	3-958-218-01	SHEET, INSULATING	
< DIODE >			
D001	8-719-108-02	DIODE CLASS2S	
D002	8-719-108-79	DIODE RED-LOW-01	
D003	8-719-108-23	DIODE RDT, SM-BE	
D004	8-719-108-23	DIODE RDT, SM-BE	
D005	8-719-108-23	DIODE RDT, SM-BE	
< BALL ELEMENT >			
B001	1-308-118-11	ELEMENT, BALL IM-300A	
B002	1-308-118-11	ELEMENT, BALL IM-300A	
< JUMPER RESISTOR >			
J000J	1-216-216-00	METAL CHIP	0 5% 1/2W
J000Z	1-216-250-00	METAL CHIP	0 5% 1/8W

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

Les composants identifiés  
par une marque Δ sont  
critiques pour la sécurité.  
Ne les remplacer que par une pièce  
portant le numéro spécifié.



Ref. No.	Part No.	Description	Remark
C760	1-163-004-00	CERAMIC CHIP	OFF 50V
C761	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C762	1-164-004-13	CERAMIC CHIP	0.1uF 10% 25V
C763	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C764	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V
C765	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C766	1-163-127-00	CERAMIC CHIP	100PF 5% 50V
C768	1-164-004-13	CERAMIC CHIP	0.1uF 10% 25V
C769	1-126-177-11	ELECT	100uF 20% 10V
C771	1-126-154-11	ELECT	45uF 20% 6.3V
C772	1-164-004-13	CERAMIC CHIP	0.1uF 10% 25V
C773	1-164-004-13	CERAMIC CHIP	0.1uF 10% 25V
C774	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V
C776	1-163-034-11	CERAMIC CHIP	0.01uF 50V
<p>&lt; CONNECTOR &gt;</p>			
CH001	1-573-804-11	CONNECTOR, BOARD TO BOARD 30P	
CH011	1-764-054-11	CONNECTOR, BOARD TO BOARD 40P	
CH012	1-506-464-11	PIK, CONNECTOR 5P	
CH013	1-564-012-11	PIK, CONNECTOR 3P	
<p>&lt; VARIABLE CAPACITOR &gt;</p>			
CV011	1-541-222-00	CAP, TRIMMER 20PF	
<p>&lt; DIODE &gt;</p>			
D702	8-710-409-16	DIODE 1N1520K	
D703	8-713-300-80	DIODE 1T30C-D1	
<p>&lt; FERRITE BEAD &gt;</p>			
FB001	1-540-254-11	BEAD, FERRITE	
<p>&lt; FILTER &gt;</p>			
FL601	1-236-043-11	FILTER, LOW PASS	
FL602	1-230-043-11	FILTER, LOW PASS	
<p>&lt; IC &gt;</p>			
IC601	8-759-200-71	IC 8N14053REP	
IC602	8-759-300-71	IC 8N14053REP	
IC603	8-759-424-46	IC 8N4560F	
IC610	8-759-009-06	IC 8N14052RF	
IC614	8-759-822-92	IC LA7451M	
IC701	8-752-122-57	IC C301077M	
IC702	8-752-332-46	IC C301209D	
IC704	8-759-009-51	IC 8N14520RF	
IC705	8-759-507-54	IC 8N126KCLL-15FC	
IC707	8-759-067-53	IC C301210Q	
IC708	8-752-038-20	IC C30216Z	
IC709	8-759-908-15	IC TL431CLP	

Ref. No.	Part No.	Description	Remark
<p>&lt; COIL &gt;</p>			
L701	1-405-082-31	INDUCTOR 100uH	
L705	1-405-082-31	INDUCTOR 100uH	
L706	1-405-070-21	INDUCTOR 10uH	
L707	1-405-958-21	INDUCTOR 1uH	
L708	1-412-004-24	INDUCTOR CHIP 10uH	
L750	1-216-295-00	METAL CHIP	0 5% 1/10W
L751	1-216-295-00	METAL CHIP	0 5% 1/10W
L752	1-216-295-00	METAL CHIP	0 5% 1/10W
L753	1-216-295-00	METAL CHIP	0 5% 1/10W
L754	1-216-295-00	METAL CHIP	0 5% 1/10W
L755	1-216-295-00	METAL CHIP	0 5% 1/10W
L756	1-216-295-00	METAL CHIP	0 5% 1/10W
L757	1-216-295-00	METAL CHIP	0 5% 1/10W
L758	1-216-295-00	METAL CHIP	0 5% 1/10W
L759	1-216-295-00	METAL CHIP	0 5% 1/10W
L760	1-216-295-00	METAL CHIP	0 5% 1/10W
L761	1-216-295-00	METAL CHIP	0 5% 1/10W
L762	1-216-295-00	METAL CHIP	0 5% 1/10W
L763	1-216-295-00	METAL CHIP	0 5% 1/10W
L764	1-216-295-00	METAL CHIP	0 5% 1/10W
L765	1-216-295-00	METAL CHIP	0 5% 1/10W
L767	1-216-295-00	METAL CHIP	0 5% 1/10W
L774	1-216-295-00	METAL CHIP	0 5% 1/10W
L775	1-216-295-00	METAL CHIP	0 5% 1/10W
L776	1-216-295-00	METAL CHIP	0 5% 1/10W
L777	1-216-295-00	METAL CHIP	0 5% 1/10W
L778	1-216-295-00	METAL CHIP	0 5% 1/10W
L779	1-216-295-00	METAL CHIP	0 5% 1/10W
L780	1-216-295-00	METAL CHIP	0 5% 1/10W
L781	1-216-295-00	METAL CHIP	0 5% 1/10W
L784	1-216-295-00	METAL CHIP	0 5% 1/10W
L785	1-216-295-00	METAL CHIP	0 5% 1/10W
L786	1-216-295-00	METAL CHIP	0 5% 1/10W
<p>&lt; TRANSISTOR &gt;</p>			
Q703	8-729-002-19	TRANSISTOR 2N6501	
Q704	8-729-021-19	TRANSISTOR 2N2219	
Q705	8-729-082-18	TRANSISTOR 2N6501	
Q706	8-729-010-25	TRANSISTOR 2N6501-RT1	
Q708	8-729-901-06	TRANSISTOR 2N1144EM	
Q711	8-729-021-19	TRANSISTOR 2N2219	
<p>&lt; RESISTOR &gt;</p>			
R101	1-216-679-31	METAL CHIP	15K 0.5% 1/10W
R102	1-216-679-31	METAL CHIP	15K 0.5% 1/10W
R103	1-216-675-11	METAL CHIP	10K 0.5% 1/10W
R104	1-216-675-11	METAL CHIP	10K 0.5% 1/10W
R105	1-216-675-11	METAL CHIP	10K 0.5% 1/10W
R106	1-216-675-11	METAL CHIP	10K 0.5% 1/10W
R107	1-216-683-11	METAL CHIP	22K 0.5% 1/10W
R108	1-216-683-11	METAL CHIP	22K 0.5% 1/10W
R109	1-216-651-11	METAL CHIP	1K 0.5% 1/10W

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark		
R640	1-216-654-11	METAL CHIP	1K 0.5%	1/10K	R730	1-216-073-00	METAL CHIP	10K 5%	1/10K
R641	1-216-654-11	METAL CHIP	1K 0.5%	1/10K	R731	1-216-051-11	METAL CHIP	1K 0.5%	1/10K
R642	1-216-654-11	METAL CHIP	1K 0.5%	1/10K	R732	1-216-057-00	METAL CHIP	2.2K 5%	1/10K
R639	1-216-295-00	METAL CHIP	0 5%	1/10M	R733	1-216-061-00	METAL CHIP	22K 5%	1/10K
R641	1-216-603-11	METAL CHIP	3.2K 0.5%	1/10K	R734	1-216-073-00	METAL CHIP	10K 5%	1/10K
R642	1-216-603-11	METAL CHIP	3.2K 0.5%	1/10K	R735	1-216-051-11	METAL CHIP	1K 0.5%	1/10K
R645	1-216-605-11	METAL CHIP	3.2K 0.5%	1/10K	R736	1-216-077-11	METAL CHIP	10K 0.5%	1/10K
R640	1-216-605-11	METAL CHIP	3.2K 0.5%	1/10K	R737	1-216-077-00	METAL CHIP	93K 5%	1/10K
R647	1-216-678-11	METAL CHIP	13K 0.5%	1/10K	R738	1-216-029-00	METAL CHIP	150 5%	1/10K
R648	1-216-678-11	METAL CHIP	13K 0.5%	1/10K	R739	1-216-045-00	METAL CHIP	680 5%	1/10K
R651	1-216-754-11	METAL GLAZE	130K 2%	1/10K	R740	1-216-051-11	METAL CHIP	1K 0.5%	1/10K
R655	1-216-654-11	METAL CHIP	1K 0.5%	1/10K	R741	1-216-077-00	METAL CHIP	15K 5%	1/10K
R656	1-216-654-11	METAL CHIP	1K 0.5%	1/10K	R742	1-216-051-11	METAL CHIP	1K 0.5%	1/10K
R657	1-216-675-11	METAL CHIP	10K 0.5%	1/10K	R743	1-216-051-11	METAL CHIP	1K 0.5%	1/10K
R658	1-216-675-11	METAL CHIP	10K 0.5%	1/10K	R744	1-216-051-11	METAL CHIP	1K 0.5%	1/10K
R659	1-216-607-11	METAL CHIP	33K 0.5%	1/10K	R745	1-216-057-00	METAL CHIP	0.2K 5%	1/10K
R660	1-216-607-11	METAL CHIP	33K 0.5%	1/10K	R772	1-216-097-00	METAL CHIP	100K 5%	1/10K
R661	1-216-675-11	METAL CHIP	10K 0.5%	1/10K	R773	1-216-295-00	METAL CHIP	0 5%	1/10M
R662	1-216-675-11	METAL CHIP	10K 0.5%	1/10K	R778	1-216-295-00	METAL CHIP	0 5%	1/10M
R663	1-216-675-11	METAL CHIP	10K 0.5%	1/10K	R820	1-216-045-00	METAL CHIP	680 5%	1/10K
R664	1-216-675-11	METAL CHIP	10K 0.5%	1/10K	R789	1-216-106-00	METAL CHIP	220K 5%	1/10K
R665	1-216-637-11	METAL CHIP	100 0.5%	1/10K	R790	1-216-087-11	METAL CHIP	51K 0.5%	1/10K
R666	1-216-027-11	METAL CHIP	100 0.5%	1/10K	R791	1-216-087-13	METAL CHIP	23K 0.5%	1/10K
R701	1-216-028-00	METAL CHIP	150 5%	1/10K	R794	1-216-057-00	METAL CHIP	300K 5%	1/10K
R702	1-216-051-11	METAL CHIP	1.2K 0.5%	1/10K	R793	1-216-087-00	METAL CHIP	300K 5%	1/10K
R703	1-216-061-11	METAL CHIP	2.7K 0.5%	1/10K	R794	1-216-065-00	METAL CHIP	4.7K 5%	1/10K
R704	1-216-022-00	METAL CHIP	75 3%	1/10K	R798	1-216-029-00	METAL CHIP	350 5%	1/10K
R705	1-216-029-00	METAL CHIP	350 5%	1/10K					
R706	1-216-051-11	METAL CHIP	1K 0.5%	1/10K					
R707	1-216-077-00	METAL CHIP	15K 5%	1/10K					
R708	1-216-089-11	METAL CHIP	39K 0.5%	1/10K					
R712	1-216-077-00	METAL CHIP	15K 5%	1/10K					
R713	1-216-089-11	METAL CHIP	39K 0.5%	1/10K					
R717	1-216-117-00	METAL CHIP	600K 5%	1/10M					
R720	1-216-106-00	METAL CHIP	220K 5%	1/10K					
R720	1-216-073-00	METAL CHIP	10K 5%	1/10K					
R721	1-216-101-00	METAL CHIP	350K 5%	1/10K					
R723	1-216-097-00	METAL CHIP	100K 5%	1/10K					
R726	1-216-073-00	METAL CHIP	10K 5%	1/10K					
R727	1-216-051-11	METAL CHIP	1K 0.5%	1/10K					
R729	1-216-295-00	METAL CHIP	0 5%	1/10M					
R738	1-216-017-00	METAL CHIP	47 3%	1/10K					
R739	1-216-045-11	METAL CHIP	680 0.5%	1/10K					
R740	1-216-051-00	METAL CHIP	1.2K 5%	1/10K					
R743	1-216-073-00	METAL CHIP	10K 5%	1/10K					
R746	1-216-654-11	METAL CHIP	1K 0.5%	1/10K					
R747	1-216-077-00	METAL CHIP	10K 5%	1/10K					
R748	1-216-077-00	METAL CHIP	10K 5%	1/10K					
R749	1-216-651-11	METAL CHIP	1K 0.5%	1/10K					
VARIABLE RESISTOR >									
					R701	1-216-857-11	RES. ADJ. CERMET 22K		
					R702	1-216-857-11	RES. ADJ. CERMET 22K		
					R703	1-216-861-13	RES. ADJ. CERMET 470K		
					R705	1-216-861-13	RES. ADJ. CERMET 470K		



**PS-316**

Ref No	Part No	Description	Remark
*	A-7963-929-A	PS-316 (61) BOARD, COMPLETE	
		*****	
		(61, No 8, 000 series)	
	1-251-134-11	SOLET, 6C (NONPOLAR)	
	1-513-183-11	WALZER, FUSE	
	7-685-646-79	SCREW -BVP 3X8 TYPE2 IT-3	
	7-685-647-79	SCREW -BVP 3X10 TYPE2 IT-3	
		< CAPACITOR >	
ΔC001	1-137-524-11	FILM	0.25μF 20% 250V
ΔC002	1-161-742-00	CERAMIC	0.0025μF 20% 400V
ΔC003	1-161-742-00	CERAMIC	0.0025μF 20% 400V
ΔC004	1-161-741-00	CERAMIC	0.001μF 10% 400V
C006	1-137-525-11	FILM	0.1μF 20% 250V
C007	1-126-528-11	ELECT	100μF 20% 400V
C008	1-163-742-00	CERAMIC	0.0025μF 20% 400V
ΔC009	1-161-742-00	CERAMIC	0.0025μF 20% 400V
C011	1-136-928-11	FILM	0.008μF 10% 630V
C012	1-128-984-11	ELECT	56μF 20% 35V
C013	1-164-143-11	CERAMIC	0.091μF 10% 16V
C014	1-130-477-00	MYLAR	0.0025μF 5% 30V
C015	1-128-973-11	ELECT	10μF 20% 10V
C016	1-130-467-00	MYLAR	470PF 5% 50V
C017	1-126-964-11	ELECT	10μF 20% 50V
C018	1-136-103-00	MYLAR	0.005μF 10% 50V
C019	1-128-105-00	MYLAR	0.1μF 10% 50V
C020	1-128-449-11	ELECT	0.001F 20% 10V
C021	1-128-496-11	ELECT	470PF 20% 10V
C022	1-128-246-11	ELECT	2700μF 20% 10V
C024	1-128-449-11	ELECT	0.001F 20% 10V
C025	1-126-964-11	ELECT	10μF 20% 50V
C026	1-126-989-11	ELECT	220μF 20% 16V
C027	1-128-183-11	ELECT	1000μF 20% 10V
C042	1-130-467-00	MYLAR	470PF 5% 50V
		< CONNECTOR >	
* C002	1-500-897-00	PLA. CONNECTOR 9P	
* C003	1-500-900-00	PLA. CONNECTOR 12P	
		< DIODE >	
ΔD001	8-719-540-14	DIODE 5Z8B0	
D002	8-719-088-56	DIODE 6SLF-V	
D003	8-719-313-17	DIODE A102A-V0	
D004	8-719-313-17	DIODE A102A-V0	
D005	8-719-313-17	DIODE A102A-V0	
D006	8-719-911-10	DIODE 353B9	
D007	8-719-093-76	DIODE A804V0	
D010	8-719-043-76	DIODE A102A-V0	
D011	8-719-109-89	DIODE 805, 6ES-82	

Ref. No.	Part No.	Description	Remark
D012	8-719-043-71	DIODE 1R0-24	
D013	8-719-043-71	DIODE 1R0-24	
		< FUSE >	
ΔF001	1-578-228-11	FUSE (R.R.C.)	
		< IC >	
ΔIC001	8-758-147-67	IC STR-86552	
ΔIC002	8-749-883-50	IC PHOTO COUPLER PCL11K5	
IC003	8-750-808-15	IC TL431CLP	
IC004	8-750-808-15	IC TL431CLP	
IC005	8-750-069-26	IC P095RFL1	
		< COIL >	
ΔL002	1-406-912-11	COIL, LINE FILTER	
L003	1-412-525-31	INDUCTOR 100μH	
L004	1-412-525-31	INDUCTOR 100μH	
L006	1-412-525-21	INDUCTOR 470μH	
		< IC LEAK >	
ΔL5001	1-532-984-11	LEAK, IC	
		< TRANSISTOR >	
Q001	8-729-310-79	TRANSISTOR 2SC2785-MFE	
Q005	8-725-140-33	TRANSISTOR 2SD2733-34	
Q006	8-729-310-79	TRANSISTOR 2SA1175-MFE	
Q005	8-729-801-33	TRANSISTOR 2SD1387-3	
		< RESISTOR >	
R002	1-240-127-51	CARBON	220K 5% 1/2W
R004	1-249-415-11	CARBON	680 5% 1/4W F
R005	1-249-026-11	CARBON	5.6K 5% 1/4W
ΔR006	1-249-425-11	CARBON	4.7K 5% 1/4W F
R007	1-249-417-11	CARBON	1K 5% 1/4W F
R008	1-249-819-11	CARBON	1.5K 5% 1/4W F
R009	1-207-020-60	WATERPOOD	1 10% 2W T
R010	1-249-435-11	CARBON	33K 5% 1/4W
R011	1-249-423-11	CARBON	10K 5% 1/4W
R012	1-249-425-11	CARBON	33K 5% 1/4W
R014	1-249-439-11	CARBON	1.5K 5% 1/4W F
R015	1-249-402-11	CARBON	5K 5% 1/4W F
R016	1-249-417-11	CARBON	1K 5% 1/4W F
R017	2-215-431-00	METAL	2.2K 1% 1/4W
R018	8-215-411-00	METAL	2K 1% 1/4W
R019	1-215-420-00	METAL	2.2K 1% 1/4W
ΔR021	1-215-162-11	FUSIBLE	3.3 5% 1/4W F
R022	1-215-163-11	METAL OXIDE	100 5% 1W F
R023	1-249-904-00	CARBON	32 5% 1/4W
R024	1-215-425-00	METAL	2.2K 1% 1/4W

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

Quf. No.	Part No.	Description	Remarks		
R025	1-215-429-00	METAL	2.2K	1%	1/4W
R026	1-249-422-11	CARBON	3.3K	5%	1/4W F
R027	1-247-206-11	CARBON	330	5%	1/4W F
R028	1-249-429-11	CARBON	10K	5%	1/4W
R047	1-249-295-11	CARBON	15	5%	1/4W F
R046	1-249-425-11	CARBON	4.7K	5%	1/4W F
R048	1-249-425-11	CARBON	600	5%	1/4W F
R053	1-215-929-11	METAL OXIDE	100K	5%	2W F
R064	1-215-929-11	METAL OXIDE	100K	5%	2W F
< TRANSFORMER >					
▲T001	1-426-715-11	TRANSFORMER, CONVERTER			
*****					
▶	A-7003-750-A	IP-165 BOARD, COMPLETE			
*****					
(Ref. No. 1, 000 series)					
•	3-955-621-01	CASE ALUMIN. SHEILD, RP			
< CAPACITOR >					
C066	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C062	1-163-224-11	CERAMIC CHIP	7PF	0.25PF	50V
C003	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C004	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C005	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C006	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C007	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C008	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C009	1-163-003-00	CERAMIC CHIP	1PF		50V
C010	1-126-157-11	ELECT	30uF	20%	16V
C011	1-164-634-11	CERAMIC CHIP	3uF		16V
C012	1-164-470-11	CERAMIC CHIP	0.22uF	10%	16V
C013	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C014	1-164-534-11	CERAMIC CHIP	3uF		16V
C015	1-126-157-11	ELECT	30uF	20%	16V
C016	1-163-122-11	CERAMIC CHIP	57PF	0.25PF	50V
C017	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C018	1-126-234-00	ELECT	22uF	20%	16V
C019	1-163-010-00	CERAMIC CHIP	0.1uF		25V
C020	1-163-021-11	CERAMIC CHIP	0.01uF		50V
C021	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C022	1-163-224-11	CERAMIC CHIP	7PF	0.25PF	50V
C023	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C024	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C025	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C026	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C027	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C028	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C029	1-163-224-11	CERAMIC CHIP	7PF	0.25PF	50V

Ref. No.	Part No.	Description	Remarks		
C030	1-126-154-11	ELECT	67uF	20%	6.3V
C031	1-163-028-00	CERAMIC CHIP	0.1uF		25V
C032	1-164-469-11	CERAMIC CHIP	0.22uF	10%	16V
C033	1-164-004-11	CERAMIC CHIP	0.1uF		25V
C034	1-163-028-00	CERAMIC CHIP	0.1uF		25V
C035	1-126-157-11	ELECT	16uF	20%	16V
C036	1-164-232-11	CERAMIC CHIP	5PF	0.25PF	50V
C037	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C038	1-126-157-11	ELECT	10uF	20%	16V
C039	1-163-028-00	CERAMIC CHIP	0.1uF		25V
C040	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C041	1-163-021-11	CERAMIC CHIP	0.01uF		50V
C042	1-126-157-11	ELECT	10uF	20%	16V
C043	1-127-958-11	ELECT (SOLID)	10uF	20%	16V
C044	1-163-028-00	CERAMIC CHIP	0.1uF		25V
C054	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C055	1-162-849-11	CERAMIC CHIP	82PF	5%	50V
C056	1-163-224-11	CERAMIC CHIP	100PF	5%	50V
C057	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C059	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C060	1-163-028-00	CERAMIC CHIP	0.1uF		25V
C061	1-162-573-11	CERAMIC CHIP	0.030uF	10%	25V
C062	1-163-021-11	CERAMIC CHIP	0.01uF		50V
C063	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C064	1-163-021-11	CERAMIC CHIP	0.01uF		50V
< CONNECTOR >					
CM001	1-506-487-11	PJA, CONNECTOR AP			
CM002	1-081-053-21	INSTRUM. CONNECTOR 21P			
CM003	1-546-545-41	CONNECTOR, FCC (HOW 21E) 13P			
< DIODE >					
D001	8-719-404-46	DIODE MAL10			
D002	8-719-404-46	DIODE MAL10			
D003	8-719-404-46	DIODE MAL10			
D004	8-719-404-46	DIODE MAL10			
< IC >					
IC001	8-752-003-49	IC CE2034			
< COIL >					
L001	1-008-940-00	INDUCTOR 220uH			
L002	1-008-973-21	INDUCTOR 80uH			
L003	1-008-982-11	INDUCTOR 100uH			
L004	1-008-974-21	INDUCTOR 22uH			
L006	1-008-973-21	INDUCTOR 80uH			
L008	1-008-970-21	INDUCTOR 10uH			

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

Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Quesk	Ref. No.	Part No.	Description	Remark
< TRANSISTOR >							
Q001	8-729-102-07	TRANSISTOR	ESG2223-F10	R044	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
Q002	8-729-102-07	TRANSISTOR	ESG2223-F11	R045	1-216-045-00	METAL CHIP	4.7K 5% 1/10W
Q003	8-729-421-19	TRANSISTOR	MP2113	R046	1-216-021-00	METAL CHIP	6K 5% 1/10W
Q004	8-729-420-12	TRANSISTOR	JR4213	R047	1-216-017-00	METAL CHIP	47 5% 1/10W
Q006	8-729-010-05	TRANSISTOR	MS209-KT1	R048	1-216-043-00	METAL CHIP	500 5% 1/10W
Q009	8-720-010-05	TRANSISTOR	MS209-KT1	R049	1-216-046-00	METAL GLAZE	36K 5% 1/10W
Q006	8-720-010-05	TRANSISTOR	MS209-KT1	R050	1-216-040-00	METAL CHIP	6.2K 5% 1/10W
Q009	8-729-402-84	TRANSISTOR	3P9D1	R051	1-216-072-00	METAL CHIP	9.1K 5% 1/10W
Q010	8-729-010-25	TRANSISTOR	MS041-KT1	R052	1-216-042-00	METAL CHIP	3.9K 5% 1/10W
Q011	8-729-420-20	TRANSISTOR	FR4212	R053	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
Q017	8-720-010-25	TRANSISTOR	MS041-KT1	R054	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
Q018	8-729-010-25	TRANSISTOR	MS041-KT1	R055	1-216-048-00	METAL CHIP	910 5% 1/10W
Q020	8-729-421-19	TRANSISTOR	MP2113	R056	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q020	8-729-421-19	TRANSISTOR	MP2113	R057	1-216-025-00	METAL CHIP	100 5% 1/10W
Q020	8-729-421-19	TRANSISTOR	MP2113	R058	1-216-025-00	METAL CHIP	100 5% 1/10W
\ RESISTOR >							
R001	1-216-077-00	METAL CHIP	15K 5% 1/10W	R064	1-216-025-00	METAL CHIP	100 5% 1/10W
R002	1-216-079-00	METAL CHIP	18K 5% 1/10W	R067	1-216-025-00	METAL CHIP	100 5% 1/10W
R003	1-216-055-00	METAL CHIP	1.8K 5% 1/10W	R070	1-216-025-00	METAL CHIP	0 5% 1/10W
R004	1-216-055-00	METAL CHIP	1.8K 5% 1/10W	R071	1-216-295-00	METAL CHIP	0 5% 1/10W
R005	1-216-639-11	METAL CHIP	37K 0.5% 1/10W	R072	1-216-020-00	METAL CHIP	390 5% 1/10W
R006	1-216-639-11	METAL CHIP	37K 0.5% 1/10W	R073	1-216-021-00	METAL CHIP	60 5% 1/10W
R007	1-216-081-00	METAL CHIP	22K 5% 1/10W	R074	1-216-049-00	METAL CHIP	1K 5% 1/10W
R008	1-216-079-00	METAL CHIP	18K 5% 1/10W	R075	1-216-060-00	METAL CHIP	4.7K 5% 1/10W
R009	1-216-021-00	METAL CHIP	10 5% 1/10W	R076	1-216-025-00	METAL CHIP	100 5% 1/10W
R010	1-216-021-00	METAL CHIP	10 5% 1/10W	R080	1-216-637-11	METAL CHIP	33K 0.5% 1/10W
R011	1-216-077-00	METAL CHIP	15K 5% 1/10W	< VARIABLE RESISTOR >			
R012	1-216-079-00	METAL CHIP	18K 5% 1/10W	R001	1-230-720-11	RES. ADJ. CARBON 4.7K	
R013	1-216-055-00	METAL CHIP	1.8K 5% 1/10W	R002	1-230-720-11	RES. ADJ. CARBON 9.7K	
R014	1-216-055-00	METAL CHIP	1.8K 5% 1/10W	*****			
R015	1-216-055-00	METAL CHIP	1.8K 5% 1/10W	* 1-656-412-11	SW-227 BOARD		
R016	1-216-065-00	METAL CHIP	33K 5% 1/10W	*****			
R017	1-216-631-00	METAL CHIP	22K 5% 1/10W	(Ref No 7,000 series)			
R018	1-216-073-00	METAL CHIP	10K 5% 1/10W	\ CONNECTOR >			
R019	1-216-001-00	METAL CHIP	10 5% 1/10W	CW01	1-564-013-11	PIN, CONNECTOR 20	
R020	1-216-001-00	METAL CHIP	10 5% 1/10W	\ POTENTIOMETER >			
R021	1-216-089-91	METAL GLAZE	47K 5% 1/10W	S601 1-571-300-21 SWITCH POTENTIOMETER			
R022	1-216-053-00	METAL CHIP	1.5K 5% 1/10W	*****			
R023	1-216-089-91	METAL GLAZE	47K 5% 1/10W				
R024	1-216-053-00	METAL CHIP	1.5K 5% 1/10W				
R025	1-216-633-11	METAL CHIP	22K 0.5% 1/10W				
R026	1-216-636-11	METAL CHIP	30M 0.5% 1/10W				
R028	1-216-061-00	METAL CHIP	3.3K 5% 1/10W				
R029	1-216-079-00	METAL CHIP	18K 5% 1/10W				
R030	1-216-081-00	METAL CHIP	22K 5% 1/10W				
R041	1-216-065-00	METAL CHIP	33K 5% 1/10W				
R042	1-216-015-00	METAL CHIP	270 5% 1/10W				
R043	1-216-039-00	METAL CHIP	220 0A 1/10W				

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-7063-910-A	TC-30 (G) BOARD, COMPLETE (PL. NP)		0059	1-163-609-11	CERAMIC CHIP	0.001uf 10% 50V (B)
*	A-7063-905-A	TC-30 (F) BOARD, COMPLETE (B)		0060	1-124-927-11	ELECT	0.7uf 20% 100V (B)
		*****		0062	1-124-903-11	ELECT	1uf 20% 50V (B)
		(Use No. 5, 0.001 series)		0063	1-163-045-00	CERAMIC CHIP	0.001uf 50V (B)
				0066	1-124-907-11	ELECT	10uf 20% 50V (B)
	1-751-906-11	CABLE, FLAT (FMT-5)		0067	1-163-105-00	CERAMIC CHIP	33PF 5% 50V (B)
		< CAPACITOR >		0068	1-163-123-00	CERAMIC CHIP	180PF 5% 50V (B)
0001	1-163-031-11	CERAMIC CHIP	0.01uf 50V	0069	1-163-165-60	CERAMIC CHIP	23PF 5% 50V (B)
0002	1-126-293-11	ELECT	22uf 20% 50V	0070	1-163-123-00	CERAMIC CHIP	180PF 5% 50V (B)
0003	1-126-203-11	ELECT	220PF 20% 50V	0071	1-163-031-11	CERAMIC CHIP	0.01uf 50V (B)
0005	1-163-234-11	CERAMIC CHIP	20PF 5% 50V	0074	1-163-275-11	CERAMIC CHIP	0.001uf 5% 50V (B)
0006	1-163-219-11	CERAMIC CHIP	0.1uf 50V	0075	1-163-125-00	CERAMIC CHIP	220PF 5% 50V (B)
0009	1-163-103-00	CERAMIC CHIP	24PF 5% 50V	0076	1-163-123-00	CERAMIC CHIP	180PF 5% 50V (B)
0010	1-163-124-00	CERAMIC CHIP	200PF 5% 50V	0078	1-124-903-11	ELECT	1uf 20% 50V (B)
0014	1-163-227-11	CERAMIC CHIP	10PF 0.5% 50V	0080	1-124-903-11	ELECT	1uf 20% 50V (B)
0015	1-163-140-11	CERAMIC CHIP	32PF 5% 50V	0081	1-104-952-11	TANTALUM CHIP	22uf 20% 6.3V (B)
0018	1-124-938-11	ELECT	22uf 20% 10V	0082	1-125-157-21	TANTALUM CHIP	10uf 20% 6.3V (B)
0017	1-126-223-11	ELECT	22uf 20% 50V	0083	1-163-031-11	CERAMIC CHIP	0.01uf 50V (B)
0018	1-124-938-11	ELECT	22uf 10V	0084	1-163-031-11	CERAMIC CHIP	0.01uf 50V (B)
0020	1-163-021-11	CERAMIC CHIP	0.001uf 50V	0085	1-126-210-11	ELECT	22uf 20% 50V (B)
0021	1-163-319-11	CERAMIC CHIP	0.1uf 50V	0089	1-163-097-00	CERAMIC CHIP	15PF 5% 50V (B)
0022	1-163-319-11	CERAMIC CHIP	0.1uf 50V	0090	1-163-097-00	CERAMIC CHIP	15PF 5% 50V
0023	1-124-443-00	ELECT	100uf 20% 10V	0091	1-163-257-11	CERAMIC CHIP	180PF 5% 50V
0024	1-124-443-00	ELECT	100uf 09% 10V	0093	1-163-245-11	CERAMIC CHIP	56PF 5% 50V
0025	1-126-250-11	ELECT	22uf 20% 50V	0094	1-163-031-11	CERAMIC CHIP	0.01uf 50V
0027	1-163-031-11	CERAMIC CHIP	0.01uf 50V (B)	0095	1-163-031-11	CERAMIC CHIP	0.01uf 50V
0028	1-163-257-11	CERAMIC CHIP	180PF 5% 50V	0096	1-105-019-11	CERAMIC CHIP	0.1uf 50V
0034	1-163-031-11	CERAMIC CHIP	0.01uf 50V	0097	1-163-319-11	CERAMIC CHIP	0.1uf 50V
0035	1-163-219-11	CERAMIC CHIP	0.1uf 50V			< CONNECTOR >	
0036	1-163-119-11	CERAMIC CHIP	0.1uf 50V	* C000F	1-493-047-21	MINI-SUB CONNECTOR 15P	
0037	1-124-443-00	ELECT	100uf 20% 10V	C000G	1-506-057-11	PCB CONNECTOR 2P	
0038	1-124-443-00	ELECT	100uf 20% 10V			< DIODE >	
0044	1-163-021-11	CERAMIC CHIP	0.01uf 50V (B)	0001	8-719-801-78	DIODE 1SS104 (B)	
0042	1-163-117-00	CERAMIC CHIP	180PF 5% 50V (B)			< DELAY LINE >	
0043	1-163-025-00	CERAMIC CHIP	0.041uf 50V (B)	DL001	1-415-111-00	DELAY LINE (1H) (B)	
0044	1-163-021-11	CERAMIC CHIP	0.01uf 50V (B)			< IC >	
0045	1-124-907-11	ELECT	10uf 20% 50V (B)	IC001	8-759-900-11	IC 80140538YP	
0046	1-163-123-00	CERAMIC CHIP	470PF 5% 50V (B)	IC002	8-762-036-00	IC CX242270 (B)	
0047	1-124-907-11	ELECT	10uf 20% 50V (B)	IC004	8-752-031-04	IC CX242194 (B)	
0049	1-163-118-00	CERAMIC CHIP	110PF 5% 50V (B)				
0050	1-163-118-00	CERAMIC CHIP	110PF 5% 50V (B)				
0051	1-163-103-00	CERAMIC CHIP	27PF 5% 50V (B)				
0052	1-163-103-00	CERAMIC CHIP	27PF 5% 50V (B)				
0053	1-163-319-11	CERAMIC CHIP	0.1uf 50V (B)				
0054	1-163-319-11	CERAMIC CHIP	0.1uf 50V (B)				
0055	1-124-907-11	ELECT	10uf 20% 50V (B)				
0057	1-163-097-00	CERAMIC CHIP	0.0047uf 5% 50V (B)				
0058	1-124-907-11	ELECT	10uf 20% 50V (B)				

Ref. No.	Part No.	Description	Remark
< JUMPER RESISTOR >			
JR001	1-216-295-00	METAL CHIP	0 5% 1/10W
JR002	1-216-296-00	METAL CHIP	0 5% 1/8W
JR003	1-216-296-00	METAL CHIP	0 5% 1/10W
JR004	1-216-296-00	METAL CHIP	0 5% 1/8W
JR005	1-216-296-00	METAL CHIP	0 5% 1/8W
JR006	1-216-296-00	METAL CHIP	0 5% 1/8W
JR007	1-216-296-00	METAL CHIP	0 5% 1/8W
JR008	1-216-296-00	METAL CHIP	0 5% 1/8W
JR009	1-216-295-00	METAL CHIP	0 5% 1/10W
JR010	1-216-295-00	METAL CHIP	0 5% 1/8W
JR011	1-216-296-00	METAL CHIP	0 5% 1/8W
JR012	1-216-296-00	METAL CHIP	0 5% 1/10W
JR013	1-216-295-00	METAL CHIP	0 5% 1/10W
JR014	1-216-296-00	METAL CHIP	0 5% 1/8W
JR015	1-216-295-00	METAL CHIP	0 5% 1/10W
JR016	1-216-295-00	METAL CHIP	0 5% 1/10W
JR017	1-216-295-00	METAL CHIP	0 5% 1/10W
JR018	1-216-295-00	METAL CHIP	0 5% 1/10W
JR021	1-216-296-00	METAL CHIP	0 5% 1/8W
JR022	1-216-296-00	METAL CHIP	0 5% 1/8W
JR024	1-216-295-00	METAL CHIP	0 5% 1/10W
JR025	1-216-295-00	METAL CHIP	0 5% 1/10W
JR026	1-216-296-00	METAL CHIP	0 5% 1/8W
JR027	1-216-295-00	METAL CHIP	0 5% 1/10W
JR028	1-216-296-00	METAL CHIP	0 5% 1/10W
JR030	1-216-296-00	METAL CHIP	0 5% 1/8W
JR031	1-216-296-00	METAL CHIP	0 5% 1/8W
JR032	1-216-295-00	METAL CHIP	0 5% 1/10W
JR033	1-216-296-00	METAL CHIP	0 5% 1/8W
JR034	1-216-296-00	METAL CHIP	0 5% 1/8W
JR035	1-216-296-00	METAL CHIP	0 5% 1/8W
JR036	1-216-296-00	METAL CHIP	0 5% 1/8W
JR037	1-216-296-00	METAL CHIP	0 5% 1/8W
JR038	1-216-296-00	METAL CHIP	0 5% 1/8W
JR039	1-216-296-00	METAL CHIP	0 5% 1/8W
JR040	1-216-296-00	METAL CHIP	0 5% 1/8W
JR041	1-216-296-00	METAL CHIP	0 5% 1/8W
JR042	1-216-296-00	METAL CHIP	0 5% 1/8W
JR043	1-216-295-00	METAL CHIP	0 5% 1/10W
JR044	1-216-295-00	METAL CHIP	0 5% 1/10W
JR045	1-216-296-00	METAL CHIP	0 5% 1/8W
JR046	1-216-296-00	METAL CHIP	0 5% 1/8W
JR047	1-216-296-00	METAL CHIP	0 5% 1/8W
JR048	1-216-296-00	METAL CHIP	0 5% 1/8W
JR049	1-216-296-00	METAL CHIP	0 5% 1/8W
JR050	1-216-296-00	METAL CHIP	0 5% 1/8W
JR051	1-216-296-00	METAL CHIP	0 5% 1/8W

Ref. No.	Part No.	Description	Remark
JR052	1-216-296-00	METAL CHIP	0 5% 1/8W
JR053	1-216-296-00	METAL CHIP	0 5% 1/8W
JR054	1-216-296-00	METAL CHIP	0 5% 1/8W
JR055	1-216-296-00	METAL CHIP	0 5% 1/10W
JR056	1-216-295-00	METAL CHIP	0 5% 1/10W
JR057	1-216-295-00	METAL CHIP	0 5% 1/10W
JR058	1-216-295-00	METAL CHIP	0 5% 1/10W
JR059	1-216-295-00	METAL CHIP	0 5% 1/10W
JR060	1-216-295-00	METAL CHIP	0 5% 1/10W
JR061	1-216-296-00	METAL CHIP	0 5% 1/8W
JR062	1-216-295-00	METAL CHIP	0 5% 1/10W
JR063	1-216-296-00	METAL CHIP	0 5% 1/8W
JR064	1-216-296-00	METAL CHIP	0 5% 1/8W
JR065	1-216-296-00	METAL CHIP	0 5% 1/10W
JR066	1-216-295-00	METAL CHIP	0 5% 1/10W
JR067	1-216-296-00	METAL CHIP	0 5% 1/8W
JR068	1-216-296-00	METAL CHIP	0 5% 1/8W
JR069	1-216-295-00	METAL CHIP	0 5% 1/8W
JR072	1-216-296-00	METAL CHIP	0 5% 1/8W
JR093	1-216-296-00	METAL CHIP	0 5% 1/8W
JR094	1-216-296-00	METAL CHIP	0 5% 1/8W
< COIL >			
L001	1-410-390-11	INDUCTOR CHIP 56uH	
L002	1-410-390-11	INDUCTOR CHIP 100uH	
L003	1-410-390-11	INDUCTOR CHIP 56uH	
L004	1-410-391-11	INDUCTOR CHIP 6.8uH	
L005	1-408-418-60	INDUCTOR 54uH	
L006	1-808-413-00	INDUCTOR 22uH	
L007	1-408-413-00	INDUCTOR 22uH	
L008	1-410-390-11	INDUCTOR CHIP 50uH	
L010	1-408-409-00	INDUCTOR 8.2uH (B)	
L011	1-408-408-00	INDUCTOR 8.2uH (B)	
L012	1-408-410-80	INDUCTOR 12uH (B)	
L013	1-408-410-80	INDUCTOR 12uH (B)	
L014	1-408-409-00	INDUCTOR 10uH (B)	
L015	1-408-409-00	INDUCTOR 10uH (B)	
L024	1-410-392-11	INDUCTOR CHIP 33uH	
L025	1-410-379-11	INDUCTOR CHIP 6.8uH	
L026	1-410-395-11	INDUCTOR CHIP 22uH	
< VARIABLE COIL >			
V001	1-408-530-80	COIL VARIABLE (B)	
V002	1-408-532-80	COIL VARIABLE (B)	
V003	1-408-532-80	COIL VARIABLE (B)	
< TRANSISTOR >			
Q001	8-725-010-25	TRANSISTOR	MS0601-RT1
Q002	8-725-010-25	TRANSISTOR	MS0601-RT1
Q003	8-725-010-25	TRANSISTOR	MS0601-RT1
Q005	8-725-010-25	TRANSISTOR	MS0601-RT1
Q006	8-725-010-25	TRANSISTOR	MS0601-RT1

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q007	8-729-010-25	TRANSISTOR	MS6001-REL	R031	1-216-009-00	METAL CHIP	22K 5% 1/10W
Q009	8-729-010-25	TRANSISTOR	MS6001-REL	R032	1-216-005-00	METAL CHIP	4.7K 5% 1/10W
Q010	8-729-010-25	TRANSISTOR	MS6001-REL	R033	1-216-205-00	METAL CHIP	0 5% 1/10W
Q013	8-729-421-10	TRANSISTOR	UM2213 (B)	R034	1-216-205-00	METAL CHIP	0 5% 1/10W (NS)
Q014	8-729-010-25	TRANSISTOR	MS6001-REL (B)	R042	1-216-009-00	METAL GLAZE	47K 5% 1/10W (NS)
Q015	8-729-010-25	TRANSISTOR	MS6001-REL (B)	R043	1-216-005-00	METAL CHIP	4.7K 5% 1/10W (B)
Q016	8-729-010-25	TRANSISTOR	MS6001-REL (B)	R044	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q017	8-729-010-25	TRANSISTOR	MS6001-REL	R045	1-216-005-00	METAL CHIP	4.7K 5% 1/10W (B)
Q019	8-729-010-25	TRANSISTOR	MS6001-REL	R047	1-216-055-00	METAL CHIP	1.0K 5% 1/10W (B)
Q021	8-729-010-25	TRANSISTOR	MS6001-REL (B)	R048	1-216-051-00	METAL CHIP	1.2K 5% 1/10W (B)
Q022	8-729-010-25	TRANSISTOR	MS6001-REL (B)	R049	1-216-043-00	METAL CHIP	500 5% 1/10W (B)
Q023	8-729-010-25	TRANSISTOR	MS6001-REL (B)	R050	1-216-057-00	METAL CHIP	2.2K 5% 1/10W (B)
Q024	8-729-010-25	TRANSISTOR	MS6001-REL (B)	R051	1-216-001-00	METAL CHIP	22K 5% 1/10W (B)
Q025	8-729-010-25	TRANSISTOR	MS6001-REL	R052	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q026	8-729-010-25	TRANSISTOR	MS6001-REL	R053	1-216-053-00	METAL CHIP	2.2K 5% 1/10W
Q027	8-729-010-25	TRANSISTOR	MS6001-REL	R056	1-216-205-00	METAL CHIP	0 5% 1/10W (B)
Q028	8-729-901-06	TRANSISTOR	MTAL4EK (B)	R058	1-216-001-00	METAL CHIP	22K 5% 1/10W
Q029	8-729-421-10	TRANSISTOR	UM2213	R059	1-216-025-00	METAL CHIP	100 5% 1/10W
Q030	8-729-421-10	TRANSISTOR	UM2213 (B)	R060	1-216-066-00	METAL CHIP	4.7K 5% 1/10W
Q031	8-729-421-10	TRANSISTOR	UM2213 (B)	R071	1-216-057-00	METAL CHIP	2.2K 5% 1/10W (B)
< RESISTOR >							
R001	1-216-001-00	METAL CHIP	22K 5% 1/10W	R073	1-216-001-00	METAL CHIP	22K 5% 1/10W (B)
R002	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R074	1-216-033-00	METAL CHIP	200 5% 1/10W (B)
R003	1-216-041-00	METAL CHIP	430 5% 1/10W	R075	1-216-038-00	METAL CHIP	300 5% 1/10W (B)
R004	1-216-056-00	METAL CHIP	3.0K 5% 1/10W	R077	1-216-073-00	METAL CHIP	10K 5% 1/10W (B)
R005	1-216-073-00	METAL CHIP	1.2K 5% 1/10W	R078	1-216-038-00	METAL CHIP	300 5% 1/10W (B)
R006	1-216-001-00	METAL CHIP	22K 5% 1/10W	R079	1-216-038-00	METAL CHIP	300 5% 1/10W (B)
R008	1-216-205-00	METAL CHIP	0 5% 1/10W	R080	1-216-121-00	METAL CHIP	10K 5% 1/10W (B)
R009	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R081	1-216-079-00	METAL CHIP	10K 5% 1/10W (B)
R010	1-216-049-00	METAL CHIP	1K 5% 1/10W	R082	1-216-085-00	METAL CHIP	4.7K 5% 1/10W (B)
R011	1-216-049-00	METAL CHIP	1K 5% 1/10W	R083	1-216-128-11	METAL GLAZE	5K 5% 1/10W (B)
R014	1-216-046-00	METAL CHIP	680 5% 1/10W	R084	1-216-097-00	METAL CHIP	100K 5% 1/10W (B)
R015	1-216-046-00	METAL CHIP	680 5% 1/10W	R085	1-216-077-00	METAL CHIP	15K 5% 1/10W (B)
R016	1-216-049-00	METAL CHIP	1K 5% 1/10W	R087	1-216-060-00	METAL GLAZE	2K 5% 1/10W (B)
R017	1-216-046-00	METAL CHIP	680 5% 1/10W	R088	1-216-060-00	METAL GLAZE	2K 5% 1/10W (B)
R018	1-216-046-00	METAL CHIP	680 5% 1/10W	R089	1-216-067-00	METAL CHIP	1.0K 5% 1/10W (B)
R019	1-216-047-00	METAL CHIP	820 5% 1/10W	R090	1-216-067-00	METAL CHIP	5.0K 5% 1/10W (B)
R020	1-216-081-00	METAL CHIP	22K 5% 1/10W	R091	1-216-205-00	METAL CHIP	0 5% 1/10W (B)
R021	1-216-005-00	METAL CHIP	4.7K 5% 1/10W	R092	1-216-205-00	METAL CHIP	0 5% 1/10W (B)
R022	1-216-081-00	METAL CHIP	22K 5% 1/10W	R093	1-216-205-00	METAL CHIP	0 5% 1/10W (B)
R023	1-216-205-00	METAL CHIP	0 5% 1/10W	R094	1-216-077-00	METAL CHIP	15K 5% 1/10W (B)
R024	1-216-245-00	METAL CHIP	0 5% 1/10W	R095	1-216-049-00	METAL CHIP	1K 5% 1/10W (B)
R025	1-216-045-00	METAL CHIP	4.7K 5% 1/10W	R096	1-216-205-00	METAL CHIP	0 5% 1/10W (B)
R026	1-216-040-00	METAL GLAZE	47K 5% 1/10W	R097	1-216-038-00	METAL CHIP	1K 5% 1/10W (B)
R027	1-216-205-00	METAL CHIP	0 5% 1/10W	R098	1-216-605-11	METAL CHIP	27K 0 5% 1/10W (B)
R028	1-216-205-00	METAL CHIP	0 5% 1/10W	R099	1-216-205-00	METAL CHIP	0 5% 1/10W (B)
R029	1-216-001-00	METAL GLAZE	47K 5% 1/10W	R100	1-216-073-00	METAL CHIP	10K 5% 1/10W (B)
R030	1-216-025-00	METAL CHIP	100 5% 1/10W	R101	1-216-061-00	METAL CHIP	3.3K 5% 1/10W (B)
				R102	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
				R103	1-216-057-00	METAL CHIP	2.2K 5% 1/10W (B)

TC-30

TK-26

TM-119

TU-145

Ref. No.	Part No.	Description	Remark
R104	1-216-049-00	METAL CHIP	1K 5% 1/10W
R105	1-216-049-00	METAL CHIP	1K 5% 1/10W
R106	1-216-043-00	METAL CHIP	500 5% 1/10W
R107	1-216-043-00	METAL CHIP	500 5% 1/10W
R108	1-216-037-00	METAL CHIP	330 5% 1/10W
R111	1-216-049-00	METAL CHIP	1K 5% 1/10W
R112	1-216-049-00	METAL CHIP	1K 5% 1/10W
R113	1-216-031-00	METAL CHIP	150 5% 1/10W
R114	1-216-081-00	METAL CHIP	22K 5% 1/10W
R115	1-216-005-00	METAL CHIP	4.7K 5% 1/10W
R118	1-216-295-00	METAL CHIP	0 5% 1/10W
R501	1-216-212-00	METAL GLAZE	3.9K 5% 1/10W
< VARIABLE RESISTOR >			
RW001	1-216-019-11	RES. ADJ. CARBON 47K	(B)
RW002	1-241-636-11	RES. ADJ. CARBON 10K	(B)
RW003	1-201-630-11	RES. ADJ. CARBON 10K	(B)
< VIBRATOR >			
3001	1-377-117-11	VIBRATOR CRYSTAL (4.43MHz) 401	
*****			
* A-7063-937-A TK-26 (G) BOARD COMPLETE			
*****			
(Ref. No. 7,000 series)			
< BUZZER >			
B351	1-520-000-11	BUZZER, PIEZOELECTRIC	
< CAPACITOR >			
C501	1-163-018-00	CERAMIC CHIP	0.1uF 25V
C502	1-124-289-11	ELECT	47uF 20% 16V
C503	1-163-036-00	CERAMIC CHIP	0.1uF 25V
C504	1-164-336-11	CERAMIC CHIP	0.1uF 25V
C505	1-104-405-11	CAP. DOUBLE LAYERS	0.22uF
< CONNECTOR >			
* CW501 1-181-050-21 MOUNTING CONNECTOR 27P			
* CW502 1-691-050-21 MOUNTING CONNECTOR 27P			
* CW503 1-691-084-21 MOUNTING CONNECTOR 25P			
* CW504 1-691-084-21 MOUNTING CONNECTOR 25P			
* CW507 1-564-013-11 PIN. CONNECTOR 3P			
* CW508 1-505-481-11 PIN. CONNECTOR 3P			
< DIODE >			
D503	8-719-104-15	DIODE 1N4148	

Ref. No.	Part No.	Description	Remark
< IC >			
IC501	8-759-973-85	IC 8621108	
< JUMPER RESISTOR >			
JR502	1-214-295-00	METAL CHIP	0 5% 1/10W
JR503	1-214-295-00	METAL CHIP	0 5% 1/10W
JR504	1-214-296-00	METAL CHIP	0 5% 1/10W
< RESISTOR >			
R501	1-216-295-00	METAL CHIP	0 5% 1/10W
R502	1-216-013-00	METAL CHIP	33 5% 1/10W
R504	1-216-013-00	METAL CHIP	33 5% 1/10W
R507	1-216-013-00	METAL CHIP	33 5% 1/10W
R508	1-216-013-00	METAL CHIP	33 5% 1/10W
R509	1-216-017-00	METAL CHIP	47 5% 1/10W
R511	1-214-296-00	METAL CHIP	0 5% 1/10W
R512	1-216-295-00	METAL CHIP	0 5% 1/10W
R514	1-216-295-00	METAL CHIP	0 5% 1/10W
*****			
* TM-119 BOARD (Supplied with RW01)			
*****			
(Ref. No. 5,000 series)			
< CONNECTOR >			
* CW001 1-505-481-11 PIN. CONNECTOR 3P			
*****			
* A-7063-936-A TU-145 (G) BOARD COMPLETE (AC, NE, AE)			
* A-7063-937-A TU-146 (G) BOARD COMPLETE (B)			
* A-7063-938-A TU-145 (G) BOARD COMPLETE (B)			
*****			
(Ref. No. 5,000 series)			
1-554-110-40 CABLE, P/M			
1-751-602-11 CABLE, FLAT (FMT-1)			
< CAPACITOR >			
C551	1-164-164-11	CERAMIC CHIP	0.002uF 10% 50V
C252	1-163-017-10	CERAMIC CHIP	0.001uF 5% 50V
C253	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C254	1-163-037-11	CERAMIC CHIP	0.002uF 10% 25V
C255	1-124-257-00	ELECT	2.2uF 20% 50V
C901	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C902	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C903	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C905	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C906	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C911	1-163-037-11	CERAMIC CHIP	0.001uF 50V
C912	1-124-977-11	ELECT	47uF 20% 20V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C913	1-163-011-11	CERAMIC CHIP	0.01uF 50V (B)			< COIL >	
C914	1-124-477-11	ELECT	47uF 20% 25V (B)	L901	1-408-370-24	INDUCTOR 10uH	
C915	1-163-021-13	CERAMIC CHIP	0.01uF 50V	L902	1-408-992-11	INDUCTOR 100uH	
C916	1-124-477-11	ELECT	47uF 20% 25V	L903	1-408-370-24	INDUCTOR 10uH	(B)
C918	1-164-161-11	CERAMIC CHIP	9.022uP 10% 100V	L904	1-408-992-11	INDUCTOR 100uH	
C919	1-163-001-11	CERAMIC CHIP	0.01uF 50V	L907	1-408-370-24	INDUCTOR 10uH	(VC, NP, AE)
C920	1-124-477-11	ELECT	4.7uF 20% 200V			< TRANSISTOR >	
C924	1-124-034-5E	ELECT	33uF 20% 16V (VC, NP, AE)	Q231	8-729-421-22	TRANSISTOR	UM2211
C925	1-124-034-5E	ELECT	33uF 20% 16V (VC, NP, AE)	Q251	8-729-080-05	TRANSISTOR	MSB709-RTI
C926	1-163-227-11	CERAMIC CHIP	100P 0.5PF 50V (VC, NP, AE)	Q254	8-729-080-25	TRANSISTOR	MSM01-RTI
C927	1-163-227-11	CERAMIC CHIP	100P 0.5PF 50V (VC, NP, AE)	Q301	8-729-422-23	TRANSISTOR	2SD61A-S
C928	1-170-403-00	MYLAR	0.01uF 5% 50V (VC, NP, AE)	Q302	8-729-080-25	TRANSISTOR	MSM01-RTI
C930	1-163-031-11	CERAMIC CHIP	0.01uF 50V (VC, NP, AE)	Q303	8-729-080-25	TRANSISTOR	MSM01-RTI
C931	1-124-477-11	ELECT	47uF 20% 25V (VC, NP, AE)	Q304	8-729-040-25	TRANSISTOR	MSM01-RTI
C932	1-163-031-11	CERAMIC CHIP	0.01uF 50V (VC, NP, AE)			< RESISTOR >	
C934	1-163-031-11	CERAMIC CHIP	0.01uF 50V	R253	1-210-295-00	METAL CHIP	0 5% 1/10W
C935	1-124-477-11	ELECT	47uF 20% 25V	R254	1-210-053-00	METAL CHIP	1 5% 5% 1/10W
C936	1-124-034-5E	ELECT	22uF 20% 16V	R255	1-210-421-00	METAL CHIP	1M 5% 1/10W
C937	1-124-034-5E	ELECT	33uF 20% 16V	R256	1-210-085-00	METAL CHIP	6.7K 5% 1/10W
C938	1-124-034-5E	ELECT	33uF 20% 16V	R257	1-210-059-00	METAL CHIP	2.7K 5% 1/10W
C942	1-126-308-11	ELECT	1uF 20% 50V	R258	1-210-063-00	METAL CHIP	2.9K 5% 1/10W
C943	1-124-034-5E	ELECT	33uF 20% 16V	R259	1-210-053-00	METAL CHIP	1.5K 5% 1/10W
C945	1-126-308-11	ELECT	1uF 20% 50V	R260	1-210-057-00	METAL CHIP	1.2K 5% 1/10W
C947	1-124-477-11	ELECT	47uF 20% 25V	R301	1-210-265-00	METAL CHIP	0 5% 1/10W
C948	1-124-067-11	ELECT	10uF 20% 50V	R902	1-410-997-31	INDUCTOR CHIP 2.2uH	
C950	1-164-027-4E	ELECT	4 7uF 20% 160V	R903	1-210-295-00	METAL CHIP	0 5% 1/10W (A)
C959	1-163-030-00	CERAMIC CHIP	0.1uF 25V	R904	1-210-295-00	METAL CHIP	0 5% 1/10W (B)
		< CONNECTOR >		R905	1-210-295-00	METAL CHIP	0 5% 1/10W
* C960	1-001-059-21	HOUSING, CONNECTOR 17P		R907	1-210-025-00	METAL CHIP	100 5% 1/10W
		< DIODE >		R908	1-210-025-00	METAL CHIP	100 5% 1/10W
D251	8-719-001-4E	DIODE	1SS493	R909	1-210-025-00	METAL CHIP	100 5% 1/10W
D901	8-719-043-13	DIODE	MS2309-H-TX	R910	1-210-057-00	METAL CHIP	2.2K 5% 1/10W
D902	8-719-210-33	DIODE	EC100S2	R911	1-210-075-00	METAL CHIP	12K 5% 1/10W
D904	8-719-210-33	DIODE	EC100S2	R912	1-210-071-00	METAL CHIP	8.2K 5% 1/10W
		< IC >		R913	1-210-049-00	METAL CHIP	1K 5% 1/10W
IC901	8-759-512-35	IC	T046415 (VC, NP, AE)	R916	1-210-025-00	METAL CHIP	100 5% 1/10W
IC902	8-759-182-88	IC	PQ09T250	R918	1-210-038-00	METAL CHIP	250 5% 1/10W
IC903	8-759-182-88	IC	PQ03T250	R919	1-210-041-00	METAL CHIP	470 5% 1/10W
		< TUNER >		R921	1-210-295-00	METAL CHIP	0 5% 1/10W
TJ9001	1-691-285-11	TUNER (BFF-30402) (B)		R922	1-210-049-00	METAL CHIP	1K 5% 1/10W (VC, NP, AE)
TJ9001	1-690-205-11	TUNER (BFF-30611) (B)		R923	1-210-049-00	METAL CHIP	1K 5% 1/10W (VC, NP, AE)
TJ9001	1-690-205-11	TUNER (BFF-30611) (B)		R924	1-210-055-00	METAL CHIP	1.2K 5% 1/10W (VC, NP, AE)
TJ9001	1-690-205-11	TUNER (BFF-30611) (B)		R925	1-210-295-00	METAL CHIP	0 5% 1/10W
TJ9001	1-690-205-11	TUNER (BFF-30611) (B)		R926	1-210-045-00	METAL CHIP	880 5% 1/10W
TJ9001	1-690-205-11	TUNER (BFF-30611) (B)		R927	1-210-049-00	METAL CHIP	1K 5% 1/10W
TJ9001	1-693-207-11	TUNER (BFF-30401) (VC, NP, AE)		R929	1-210-295-00	METAL CHIP	0 5% 1/10W (VC, NP, AE)

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

Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



Ref. No.	Part No.	Description	Remark
R929	1-216-295-00	METAL CHIP	0 5% 1/10W (CR, D)
R930	1-216-097-00	METAL CHIP	2.2K 5% 1/10W (VC, NP, AE)
R931	1-216-097-00	METAL CHIP	2.2K 5% 1/10W (VC, NP, AE)
R937	1-216-295-00	METAL CHIP	0 5% 1/10W
R940	1-216-295-00	METAL CHIP	0 5% 1/10W
R941	1-216-295-00	METAL CHIP	0 5% 1/10W
R943	1-216-041-00	METAL CHIP	470 5% 1/10W
R944	1-216-041-00	METAL CHIP	470 5% 1/10W
R945	1-216-295-00	METAL CHIP	0 5% 1/10W
R946	1-216-295-00	METAL CHIP	0 5% 1/10W
R947	1-216-295-00	METAL CHIP	0 5% 1/10W
R948	1-216-295-00	METAL CHIP	0 5% 1/10W (VC, NP, AE)
R950	1-216-222-00	METAL GLAZE	10M 5% 1/8W
R951	1-216-295-00	METAL CHIP	0 5% 1/10W
R955	1-216-295-00	METAL CHIP	0 5% 1/10W
R956	1-216-222-00	METAL GLAZE	10M 5% 1/8W
< VARIABLE RESISTOR >			
R9001	1-241-763-11	RES. ADJ. CARBON 4.7K	(VC, NP, AE)
< VIBRATOR >			
X301	1-507-923-11	VIBRATOR CRYSTAL (10MHz) (VC, NP, AE)	
*****			
A	4-7062-028-A	VJ-121 (3) BOARD COMPLETE (VC, NP, AE)	
V	4-7068-000-A	VI-121 (1) BOARD COMPLETE (AL, UE)	
*****			
(Ref No 2,000 series)			
J-751-600-11	CABLE, FLAT (FVF-1)		
1-751-606-11	CABLE, FLAT (FVF-2)		(VC, NP, B)
3-831-441-XX	CUSTOM (3)		
< CAPACITOR >			
C046	1-163-031-11	CERAMIC CHIP	0.01uF 50V
C100	1-126-154-11	ELECT	47uF 20% 6.3V
C101	1-126-443-00	ELECT	10uF 20% 10V
C102	1-163-008-00	CERAMIC CHIP	0.1uF 25V
C103	1-163-295-11	CERAMIC CHIP	100PF 5% 50V
C104	1-163-131-00	CERAMIC CHIP	300PF 5% 50V
C106	1-163-257-11	CERAMIC CHIP	100PF 5% 50V
C107	1-163-249-11	CERAMIC CHIP	82PF 5% 50V
C108	1-163-235-11	CERAMIC CHIP	22PF 5% 50V
C109	1-126-154-11	ELECT	47uF 20% 6.3V
C110	1-126-176-11	ELECT	22uF 20% 10V
C111	1-126-154-11	ELECT	47uF 20% 6.3V
C112	1-163-235-11	CERAMIC CHIP	22PF 5% 50V
C113	1-126-154-11	ELECT	47uF 20% 6.3V
C114	1-124-036-11	ELECT	22uF 20% 10V

Ref. No.	Part No.	Description	Remark
C115	1-163-103-00	CERAMIC CHIP	22PF 5% 50V
C116	1-163-121-00	CERAMIC CHIP	150PF 5% 50V
C117	1-163-101-00	CERAMIC CHIP	22PF 5% 50V
C118	1-126-154-11	ELECT	47uF 20% 6.3V
C119	1-124-105-11	CERAMIC CHIP	2.2uF 16V
C122	1-163-113-00	CERAMIC CHIP	68PF 5% 50V
C123	1-163-049-00	CERAMIC CHIP	18PF 5% 50V
C124	1-163-101-11	CERAMIC CHIP	0.01uF 50V
C125	1-126-154-11	ELECT	47uF 20% 6.3V
C126	1-163-243-11	CERAMIC CHIP	47PF 5% 50V
C127	1-163-051-11	CERAMIC CHIP	0.01uF 50V
C128	1-126-154-11	ELECT	47uF 20% 6.3V
C129	1-126-154-11	ELECT	47uF 20% 6.3V
C130	1-163-051-11	CERAMIC CHIP	0.01uF 50V
C131	1-163-243-11	CERAMIC CHIP	47PF 5% 50V
C132	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
C133	1-126-157-11	ELECT	10uF 20% 16V
C134	1-163-127-00	CERAMIC CHIP	270PF 5% 50V
C135	1-163-243-11	CERAMIC CHIP	47PF 5% 50V
C136	1-126-154-11	ELECT	47uF 20% 6.3V
C137	1-163-051-11	CERAMIC CHIP	0.01uF 50V
C138	1-163-051-11	CERAMIC CHIP	0.01uF 50V
C139	1-126-154-11	ELECT	47uF 20% 6.3V
C140	1-163-051-11	CERAMIC CHIP	0.01uF 50V
C141	1-126-154-11	ELECT	47uF 20% 6.3V
C142	1-124-154-11	ELECT	47uF 20% 6.3V
C143	1-163-051-11	CERAMIC CHIP	0.01uF 50V
C144	1-126-154-11	ELECT	47uF 20% 6.3V
C145	1-126-154-11	ELECT	47uF 20% 6.3V
C147	1-163-257-11	CERAMIC CHIP	180PF 5% 50V
C148	1-126-154-11	ELECT	47uF 20% 6.3V
C150	1-126-154-11	ELECT	47uF 20% 6.3V
C151	1-126-157-11	ELECT	10uF 20% 16V
C152	1-163-238-11	CERAMIC CHIP	33PF 5% 50V
C154	1-163-245-11	CERAMIC CHIP	56PF 5% 50V
C155	1-124-028-11	ELECT	22uF 20% 10V
C156	1-126-157-11	ELECT	10uF 20% 16V
C157	1-126-154-11	ELECT	47uF 20% 6.3V
C158	1-163-051-11	CERAMIC CHIP	0.01uF 50V
C159	1-163-121-00	CERAMIC CHIP	150PF 5% 50V
C160	1-163-235-11	CERAMIC CHIP	22PF 5% 50V
C161	1-163-047-00	CERAMIC CHIP	0.0047uF 5% 50V
C162	1-165-125-00	CERAMIC CHIP	220PF 5% 20V
C163	1-163-051-11	CERAMIC CHIP	0.01uF 50V
C164	1-126-154-11	ELECT	47uF 20% 6.3V
C165	1-163-049-00	CERAMIC CHIP	18PF 5% 50V
C166	1-163-051-11	CERAMIC CHIP	0.01uF 50V
C167	1-126-157-11	ELECT	10uF 20% 16V
C168	1-163-229-11	CERAMIC CHIP	42PF 5% 50V

Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark		
C169	1-103-249-11 CERAMIC CHIP	02PF	5%	50V	C224	1-103-038-11 CERAMIC CHIP	0.01uF	50V
C170	1-126-154-11 ELECT	31uF	20%	6.3V	C225	1-103-249-11 CERAMIC CHIP	10PF	5%
C171	1-126-154-11 ELECT	47uF	20%	6.3V	C226	1-103-113-06 CERAMIC CHIP	68PF	5%
C173	1-126-154-11 ELECT	45uF	20%	6.3V	C228	1-126-154-11 ELECT	47uF	20%
C174	1-126-157-11 ELECT	10uF	20%	16V	C229	1-127-109-11 CERAMIC ISOLATED	33uF	20%
C175	1-124-002-00 ELECT	0.47uF	20%	50V	C230	1-126-157-11 ELECT	10uF	20%
C176	1-126-157-11 ELECT	10uF	20%	16V	C235	1-103-035-00 CERAMIC CHIP	0.047uF	50V
C177	1-103-034-11 CERAMIC CHIP	0.01uF	5%	50V	C002	1-127-515-11 ELECT (SOLID)	47uF	20%
C178	1-126-154-11 ELECT	47uF	20%	6.3V	C000	1-103-034-11 CERAMIC CHIP	0.04uF	50V
C179	1-126-157-11 ELECT	10uF	20%	16V	C000	1-103-034-11 CERAMIC CHIP	0.04uF	50V
C180	1-126-162-51 ELECT	3.3uF	20%	50V	C005	1-126-154-11 ELECT	47uF	20%
C181	1-124-306-11 ELECT	1uF	20%	50V	C006	1-126-154-11 ELECT	47uF	20%
C182	1-126-154-11 ELECT	47uF	20%	6.3V	C007	1-126-154-11 ELECT	47uF	20%
C183	1-126-154-11 ELECT	47uF	20%	6.3V	C008	1-126-154-11 ELECT	47uF	20%
C184	1-124-472-11 ELECT	0.01uF	20%	10V	C010	1-103-031-11 CERAMIC CHIP	0.01uF	50V
C185	1-124-484-11 ELECT	0.22uF	20%	50V	C016	1-103-031-11 CERAMIC CHIP	0.01uF	50V
C186	1-124-154-11 ELECT	47uF	20%	6.3V	C017	1-126-157-11 ELECT	10uF	20%
C187	1-103-034-11 CERAMIC CHIP	0.01uF	5%	50V	C501	1-126-154-11 ELECT	47uF	20%
C188	1-103-034-11 CERAMIC CHIP	0.01uF	5%	50V	C502	1-103-031-11 CERAMIC CHIP	0.01uF	50V
C189	1-126-154-11 ELECT	47uF	20%	6.3V	C503	1-103-031-11 CERAMIC CHIP	0.01uF	50V
C190	1-103-031-11 CERAMIC CHIP	0.01uF	5%	50V	C504	1-103-035-00 CERAMIC CHIP	0.047uF	50V
C191	1-103-031-11 CERAMIC CHIP	0.01uF	5%	50V	C505	1-103-127-00 CERAMIC CHIP	270PF	5%
C192	1-103-035-00 CERAMIC CHIP	0.047uF	10%	50V	C507	1-103-035-00 CERAMIC CHIP	0.047uF	50V
C193	1-124-090-11 ELECT	1uF	20%	50V	C508	1-103-243-11 CERAMIC CHIP	47PF	5%
C194	1-124-254-00 ELECT	0.68uF	20%	50V	C509	1-103-241-11 CERAMIC CHIP	39PF	5%
C195	1-103-037-11 CERAMIC CHIP	0.02uF	10%	25V	C511	1-103-240-11 CERAMIC CHIP	0.02PF	5%
C196	1-124-303-11 ELECT	1uF	20%	50V	C511	1-103-104-00 CERAMIC CHIP	30PF	5%
C200	1-126-154-11 ELECT	47uF	20%	6.3V	C512	1-104-909-11 CERAMIC CHIP	0.033uF	10%
C201	1-103-031-11 CERAMIC CHIP	0.01uF	5%	50V	C514	1-104-182-11 CERAMIC CHIP	0.0033uF	10%
C202	1-103-031-11 CERAMIC CHIP	0.01uF	5%	50V	C515	1-103-031-11 CERAMIC CHIP	0.01uF	50V
C203	1-103-031-11 CERAMIC CHIP	0.01uF	5%	50V	C516	1-103-031-11 CERAMIC CHIP	0.01uF	50V
C204	1-103-031-11 CERAMIC CHIP	0.01uF	5%	50V	C517	1-126-154-11 ELECT	47uF	20%
C205	1-216-245-00 METAL CHIP	0	5%	1/10W	C518	1-103-031-11 CERAMIC CHIP	0.01uF	50V
C206	1-103-037-00 CERAMIC CHIP	15PF	5%	50V	C519	1-103-253-11 CERAMIC CHIP	180PF	5%
C207	1-124-307-11 ELECT	10uF	10%	16V	C520	1-103-133-00 CERAMIC CHIP	680PF	5%
C208	1-103-031-11 CERAMIC CHIP	0.01uF	5%	50V	C521	1-103-038-11 CERAMIC CHIP	0.01uF	50V
C209	1-126-157-11 ELECT	10uF	20%	16V	C522	1-103-038-11 CERAMIC CHIP	0.01uF	50V
C210	1-103-031-11 CERAMIC CHIP	0.01uF	5%	50V	C524	1-103-038-11 CERAMIC CHIP	0.01uF	50V
C212	1-126-154-11 ELECT	47uF	20%	6.3V	C525	1-103-133-00 CERAMIC CHIP	68PF	5%
C214	1-124-435-11 ELECT	22uF	20%	10V	C526	1-103-125-00 CERAMIC CHIP	220PF	5%
C215	1-103-035-00 CERAMIC CHIP	0.047uF	5%	50V	C527	1-103-133-00 CERAMIC CHIP	68PF	5%
C216	1-103-038-00 CERAMIC CHIP	0.1uF	25%	50V	C528	1-103-251-11 CERAMIC CHIP	100PF	5%
C217	1-103-125-00 CERAMIC CHIP	210PF	5%	50V	C529	1-103-031-11 CERAMIC CHIP	0.01uF	50V
C218	1-104-005-11 CERAMIC CHIP	0.47uF	25%	50V	C532	1-126-154-11 ELECT	47uF	20%
C219	1-103-121-00 CERAMIC CHIP	150PF	5%	50V	C533	1-103-031-11 CERAMIC CHIP	0.01uF	50V
C220	1-103-121-00 CERAMIC CHIP	150PF	5%	50V	C534	1-103-031-11 CERAMIC CHIP	0.01uF	50V
C221	1-103-283-11 CERAMIC CHIP	310PF	5%	50V	C535	1-103-031-11 CERAMIC CHIP	0.01uF	50V
C222	1-103-131-04 CERAMIC CHIP	390PF	5%	50V	C536	1-103-031-11 CERAMIC CHIP	0.01uF	50V
C223	1-103-031-11 CERAMIC CHIP	0.01uF	5%	50V	C537	1-103-031-11 CERAMIC CHIP	0.01uF	50V

## VI-121

Ref. No.	Part No.	Description	Remark	Ref No.	Part No.	Description	Remark				
C538	1-163-067-00	CERAMIC CHIP	4PF	50V	C622	1-126-143-11	ELECT	4.7uF	20%	50V	
C539	1-163-065-00	CERAMIC CHIP	20PF	50V	C623	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C540	1-163-227-11	CERAMIC CHIP	100PF	0.50F	50V	C624	1-126-154-11	ELECT	47uF	20%	6.3V
C541	1-163-225-11	CERAMIC CHIP	22PF	5%	50V	C625	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C542	1-163-113-90	CERAMIC CHIP	48PF	5%	50V	C626	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C543	1-163-031-11	CERAMIC CHIP	0.01uF		50V	C627	1-126-154-11	ELECT	47uF	20%	6.3V
C544	1-163-065-00	CERAMIC CHIP	20PF		50V	C628	1-126-154-11	ELECT	47uF	20%	6.3V
C545	1-163-227-11	CERAMIC CHIP	100PF	0.50F	50V	C629	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C546	1-163-067-00	CERAMIC CHIP	4PF		50V	C630	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C547	1-163-225-11	CERAMIC CHIP	22PF	5%	50V	C631	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C551	1-163-031-11	CERAMIC CHIP	0.01uF		50V	C632	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C552	1-163-031-11	CERAMIC CHIP	0.01uF		50V	C633	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C553	1-163-031-11	CERAMIC CHIP	0.01uF		50V	C634	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C554	1-163-038-09	CERAMIC CHIP	0.1uF		25V	C635	1-126-154-11	ELECT	47uF	20%	6.3V
C555	1-126-154-11	ELECT	47uF	20%	6.3V	C643	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C556	1-163-031-11	CERAMIC CHIP	0.01uF		50V	C646	1-126-154-11	ELECT	47uF	20%	6.3V
C557	1-163-031-11	CERAMIC CHIP	0.01uF		50V	C649	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C558	1-163-154-11	ELECT	47uF	20%	6.3V	C650	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C559	1-163-031-11	CERAMIC CHIP	0.01uF		50V	C651	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C560	1-126-154-11	ELECT	47uF	20%	6.3V	C654	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C561	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C655	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C562	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C656	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C563	1-163-031-11	CERAMIC CHIP	0.01uF		50V	C658	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C565	1-163-031-11	CERAMIC CHIP	0.01uF		50V	C659	1-126-143-11	ELECT	4.7uF	20%	50V
C566	1-163-227-11	CERAMIC CHIP	27PF	5%	50V	C660	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C567	1-163-031-11	CERAMIC CHIP	0.01uF		50V	C661	1-126-154-11	ELECT	47uF	20%	6.3V
C568	1-163-097-00	CERAMIC CHIP	15PF	5%	50V	C662	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C570	1-163-129-06	CERAMIC CHIP	200PF	5%	50V	C663	1-126-154-11	ELECT	47uF	20%	6.3V
C581	1-163-109-00	CERAMIC CHIP	67PF	5%	50V	C665	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C602	1-163-109-03	CERAMIC CHIP	67PF	5%	50V	C666	1-126-154-11	ELECT	47uF	20%	6.3V
C603	1-163-109-00	CERAMIC CHIP	47PF	5%	50V	C702	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C604	1-163-109-06	CERAMIC CHIP	47PF	5%	50V	C706	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C605	1-163-031-11	CERAMIC CHIP	0.01uF		50V	C709	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C606	1-126-152-11	ELECT	10uF	20%	16V	C710	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C607	1-163-109-03	CERAMIC CHIP	67PF	5%	50V	C711	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C608	1-126-154-11	ELECT	47uF	20%	6.3V	C712	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C609	1-126-154-11	ELECT	47uF	20%	6.3V	C713	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C610	1-163-031-11	CERAMIC CHIP	0.01uF		50V	C714	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C611	1-163-146-11	CERAMIC CHIP	1uF		16V	C715	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C612	1-163-031-11	CERAMIC CHIP	0.01uF		50V	C716	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C613	1-163-031-11	CERAMIC CHIP	0.01uF		50V	C717	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C614	1-126-162-11	ELECT	3.3uF	20%	50V	C719	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C615	1-126-162-11	ELECT	3.3uF	20%	50V	C720	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C616	1-163-031-11	CERAMIC CHIP	0.01uF		50V	C721	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C617	1-163-004-11	CERAMIC CHIP	0.1uF	10%	25V	C722	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C618	1-163-031-11	CERAMIC CHIP	0.01uF		50V	C723	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C619	1-126-162-11	ELECT	3.3uF	20%	50V	C724	1-163-241-11	CERAMIC CHIP	20PF	5%	50V
C620	1-163-031-11	CERAMIC CHIP	0.01uF		50V	C725	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C621	1-163-031-11	CERAMIC CHIP	0.01uF		50V						

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C726	1-163-011-11	CERAMIC CHIP	0.01uF	50V	C7662	1-573-843-11	CONNECTOR, BOARD TO BOARD 15P
C727	1-163-001-11	CERAMIC CHIP	0.01uF	50V		< DIODE >	
C728	1-126-154-11	ELECT	47uF	20% 6.3V	D101	8-719-104-24	DIODE 1S207H
C729	1-163-020-00	CERAMIC CHIP	0.1uF	25V	D102	8-719-801-78	DIODE 1S5134
C731	1-163-057-00	CERAMIC CHIP	150PF	5% 50V	D104	8-719-801-78	DIODE 1S5134
C732	1-163-031-11	CERAMIC CHIP	0.01uF	50V	D501	8-719-801-78	DIODE 1S5134
C733	1-163-031-11	CERAMIC CHIP	0.01uF	50V	D502	8-719-106-44	DIODE 38P, 1A, 80
C734	1-163-031-11	CERAMIC CHIP	0.01uF	50V	D503	8-719-801-78	DIODE 1S5134
C735	1-163-257-11	CERAMIC CHIP	180PF	5% 50V	D504	8-719-801-78	DIODE 1S5134
C736	1-163-243-11	CERAMIC CHIP	47PF	5% 50V	D505	8-719-801-78	DIODE 1S5134
C737	1-163-245-11	CERAMIC CHIP	56PF	5% 50V	D506	8-719-801-78	DIODE 1S5134
C738	1-163-031-11	CERAMIC CHIP	0.01uF	50V	D507	8-719-801-78	DIODE 1S5134
C801	1-163-031-21	CERAMIC CHIP	0.01uF	50V	D508	8-719-801-78	DIODE 1S5134
C802	1-163-029-00	CERAMIC CHIP	0.047uF	50V		< FERRITE BEAD >	
C803	1-126-154-21	ELECT	47uF	20% 6.3V	FB001	1-412-364-11	INDUCTOR 0.01
C804	1-163-257-11	CERAMIC CHIP	120PF	5% 50V	FB002	1-412-364-11	INDUCTOR 0.01
C805	1-163-031-11	CERAMIC CHIP	0.01uF	50V	FB003	1-412-364-11	INDUCTOR 0.01
C807	1-163-097-00	CERAMIC CHIP	15PF	5% 50V		< FILTER >	
C808	1-163-275-11	CERAMIC CHIP	6.80uF	5% 50V	FL101	1-239-168-12	FILTER, LOW PASS (00 000)
C809	1-126-154-11	ELECT	4.7uF	20% 6.3V	FL102	1-239-169-21	FILTER, LOW PASS (0)
C810	1-216-295-00	METAL CHIP	0 SE	1/10W	FL103	1-216-774-11	FILTER, LOW PASS (0)
C811	1-163-145-00	CERAMIC CHIP	0.001uF	5% 50V	FL104	1-409-808-11	TRAP
C812	1-163-031-11	CERAMIC CHIP	0.01uF	50V	FL105	1-239-174-21	FILTER, CHIRRA BAND PASS
C813	1-124-001-11	ELECT	1uF	20% 50V	FL106	1-415-858-11	DELAY LINE
C814	1-163-171-00	CERAMIC CHIP	100PF	5% 50V	FL107	1-415-858-11	DELAY LINE
C815	1-124-963-11	ELECT	1uF	20% 50V	FL108	1-239-236-11	ENCAPSULATED COMPONENT
C816	1-163-031-11	CERAMIC CHIP	0.01uF	50V	FL109	1-239-236-11	ENCAPSULATED COMPONENT
C817	8-161-051-11	CERAMIC CHIP	0.01uF	50V	FL110	1-239-236-11	ENCAPSULATED COMPONENT
C900	1-126-154-11	ELECT	47uF	20% 6.3V	FL111	1-239-236-11	ENCAPSULATED COMPONENT
C901	1-126-154-11	ELECT	47uF	20% 6.3V	FL112	1-239-025-11	FILTER, LOW PASS
C902	1-126-176-11	ELECT	220uF	20% 10V	FL113	1-239-153-11	FILTER, BAND PASS
C906	1-126-154-11	ELECT	47uF	20% 6.3V		< IC >	
C908	1-163-243-11	CERAMIC CHIP	47PF	5% 50V	IC103	8-758-711-47	IC 74V000
C907	1-163-245-11	CERAMIC CHIP	56PF	5% 50V	IC104	8-758-884-76	IC 74C112EP
C909	1-163-243-11	CERAMIC CHIP	56PF	5% 50V	IC105	8-752-065-89	IC 74C010Q
		< FILTER >			IC106	8-750-009-10	IC 74V0000P
CF601	1-211-289-00	FILTER CERAMIC (4.4MHz)			IC107	8-758-009-19	IC 74V0010P
		< CONNECTOR >			IC108	8-758-009-10	IC 74V0000P
CH101	1-569-338-11	CONNECTOR, BOARD TO BOARD 15P			IC109	8-759-504-86	IC 74V0521
CH102	1-569-338-11	CONNECTOR, BOARD TO BOARD 15P			IC110	8-758-310-71	IC 74V0500P
CH103	1-569-338-11	CONNECTOR, BOARD TO BOARD 15P			IC111	8-752-044-63	IC 74C1750M
CH104	1-569-338-11	CONNECTOR, BOARD TO BOARD 15P			IC112	8-759-012-40	IC 74C0116M
CH105	1-891-053-21	HOUSING, CONNECTOR 21P			JCS03	8-759-990-72	IC 74C0116M
CH106	1-569-337-11	CONNECTOR, BOARD TO BOARD 11P			IC101	8-754-506-47	IC 74S001E
CH107	1-881-047-21	HOUSING, CONNECTOR 15P			IC102	8-752-333-24	IC 74C1100M
CH108	1-841-047-21	HOUSING, CONNECTOR 15P	(CN, JP, B)		IC103	8-752-334-55	IC 74C11750M
CH109	1-573-842-11	CONNECTOR, BOARD TO BOARD 10P			IC104	8-752-342-61	IC 74C01105AQ

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
IC94	8-759-910-03	IC NJ4227M		L511	1-408-984-21	INDUCTOR 150uH	
IC95	8-759-296-38	IC 852350P-7000		L512	1-408-984-21	INDUCTOR 150uH	
IC92	8-759-084-76	IC NML1132P		L513	1-408-982-21	INDUCTOR 160uH	
		< JUMPER RESISTOR >		L515	1-408-972-21	INDUCTOR 150uH	
JR90	1-216-296-00	METAL CHIP 0	5% 1/8W	L516	1-408-970-21	INDUCTOR 160uH	
JR94	1-216-296-00	METAL CHIP 0	5% 1/8W (VC, NP, E)	L518	1-408-982-11	INDUCTOR 160uH	
JR95	1-216-296-00	METAL CHIP 0	5% 1/8W (VC, NP, E)	L519	1-408-982-11	INDUCTOR 160uH	
JR96	1-216-296-00	METAL CHIP 0	5% 1/8W (VC, NP, E)	L520	1-408-987-21	INDUCTOR 5.5uH	
JR97	1-216-296-00	METAL CHIP 0	5% 1/8W (VC, NP, E)	L521	1-408-972-21	INDUCTOR 150uH	
JR98	1-216-296-00	METAL CHIP 0	5% 1/8W (VC, NP, E)	L522	1-408-970-21	INDUCTOR 160uH	
		< COIL >		L523	1-408-985-21	INDUCTOR 180uH	
L101	1-408-982-11	INDUCTOR 160uH		L601	1-408-982-11	INDUCTOR 160uH	
L102	1-408-987-21	INDUCTOR 5.5uH		L602	1-408-979-21	INDUCTOR 47uH	
L103	1-408-970-21	INDUCTOR 160uH		L706	1-408-984-21	INDUCTOR 150uH	
L104	1-410-380-11	INDUCTOR CHIP 56uH		L708	1-408-984-21	INDUCTOR 150uH	
L105	1-410-390-11	INDUCTOR CHIP 56uH		L709	1-408-982-11	INDUCTOR 160uH	
L106	1-410-380-11	INDUCTOR CHIP 56uH		L710	1-408-987-21	INDUCTOR 35uH	
L107	1-410-380-11	INDUCTOR CHIP 27uH		L711	1-408-983-21	INDUCTOR 120uH	
L108	1-410-391-11	INDUCTOR CHIP 68uH				< TRANSISTOR >	
L109	1-408-982-11	INDUCTOR 160uH		Q004	8-728-901-01	TRANSISTOR 1PC144EX	
L110	1-410-381-11	INDUCTOR CHIP 160uH		Q005	8-729-001-01	TRANSISTOR 1PC144EX	
L111	1-408-982-11	INDUCTOR 160uH		Q100	8-728-010-25	TRANSISTOR MS9001-KTL	
L112	1-408-982-11	INDUCTOR 160uH		Q101	8-729-010-25	TRANSISTOR MS9001-KTJ	
L113	1-410-393-11	INDUCTOR CHIP 100uH		Q102	8-729-010-05	TRANSISTOR MS9709-BTJ	
L114	1-408-982-11	INDUCTOR 160uH		Q103	8-729-010-25	TRANSISTOR MS9001-KTJ	
L115	1-408-970-21	INDUCTOR 160uH		Q104	8-729-010-25	TRANSISTOR MS9001-KTJ	
L117	1-410-380-21	INDUCTOR CHIP 39uH		Q105	8-729-102-07	TRANSISTOR 2SC2229-F1J	
L118	1-410-390-11	INDUCTOR CHIP 56uH		Q106	8-729-010-25	TRANSISTOR MS9001-KTJ	
L119	1-408-948-00	INDUCTOR 220uH		Q107	8-724-010-25	TRANSISTOR MS9001-KTJ	
L120	1-408-981-21	INDUCTOR 25uH		Q109	8-728-010-25	TRANSISTOR MS9001-KTJ	
L121	1-408-970-21	INDUCTOR 160uH		Q110	8-728-010-25	TRANSISTOR MS9001-KTJ	
L122	1-410-388-21	INDUCTOR CHIP 39uH		Q111	8-729-001-06	TRANSISTOR 1PC144EX	
L124	1-408-982-11	INDUCTOR 160uH		Q112	8-729-010-25	TRANSISTOR MS9001-KTJ	
L125	1-408-982-11	INDUCTOR 160uH		Q113	8-729-010-25	TRANSISTOR MS9001-KTJ	
L127	1-410-386-11	INDUCTOR CHIP 27uH		Q114	8-729-010-25	TRANSISTOR MS9001-KTJ	
L129	1-410-393-21	INDUCTOR CHIP 150uH		Q115	8-729-010-25	TRANSISTOR MS9001-KTJ	
L401	1-408-982-21	INDUCTOR 160uH		Q116	8-729-001-01	TRANSISTOR 1PC144EX	
L501	1-408-982-11	INDUCTOR 160uH		Q119	8-729-010-25	TRANSISTOR MS9001-KTJ	
L502	1-408-985-21	INDUCTOR 180uH		Q119	8-724-010-25	TRANSISTOR MS9709-BTJ	
L504	1-408-968-21	INDUCTOR 6.8uH		Q120	8-724-010-25	TRANSISTOR MS9001-KTJ	
L505	1-408-983-11	INDUCTOR 2.7uH		Q121	8-729-010-25	TRANSISTOR MS9001-KTJ	
L506	1-408-973-21	INDUCTOR 150uH		Q122	8-729-001-01	TRANSISTOR 1PC144EX	
L507	1-408-972-21	INDUCTOR 150uH		Q123	8-729-010-25	TRANSISTOR MS9001-KTJ	
L508	1-408-982-11	INDUCTOR 160uH		Q124	8-729-102-07	TRANSISTOR 2SC2229-F1J	
L509	1-408-982-11	INDUCTOR 160uH		Q125	8-729-102-07	TRANSISTOR 2SC2229-F1J	
L510	1-408-985-21	INDUCTOR 270uH		Q127	8-729-010-25	TRANSISTOR MS9001-KTJ	
				Q128	8-729-010-25	TRANSISTOR MS9001-KTJ	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
0129	8-729-010-25	TRANSISTOR	MSD601-RFL	0507	8-729-901-01	TRANSISTOR	DTCL44EK
0130	8-729-901-06	TRANSISTOR	DTA144EK	0508	8-729-010-06	TRANSISTOR	DTA144EK
0131	8-729-010-25	TRANSISTOR	MSD601-RFL	0509	8-729-010-25	TRANSISTOR	MSD601-RFL
0132	8-729-010-25	TRANSISTOR	MSD601-RFL	0510	8-729-901-01	TRANSISTOR	DTCL44EK
0133	8-729-102-07	TRANSISTOR	ZSG2223-FL3	0511	8-729-901-06	TRANSISTOR	DTA144EK
0135	8-729-102-07	TRANSISTOR	ZSG2223-FL3	0512	8-729-901-01	TRANSISTOR	DTCL44EK
0136	8-729-102-07	TRANSISTOR	ZSG2223-FL3	0513	8-729-010-25	TRANSISTOR	MSD601-RFL
0137	8-729-901-06	TRANSISTOR	DTA144EK	0514	8-729-010-25	TRANSISTOR	MSD601-RFL
0138	8-729-010-05	TRANSISTOR	MSD709-RFL	0515	8-729-010-25	TRANSISTOR	MSD601-RFL
0139	8-729-010-05	TRANSISTOR	MSD709-RFL	0516	8-729-010-25	TRANSISTOR	MSD601-RFL
0140	8-729-901-01	TRANSISTOR	MSD601-RFL	0517	8-729-010-25	TRANSISTOR	MSD601-RFL
0141	8-729-901-01	TRANSISTOR	DTCL44EK	0518	8-729-901-01	TRANSISTOR	DTCL44EK
0142	8-729-010-05	TRANSISTOR	MSD709-RFL	0519	8-729-901-01	TRANSISTOR	DTCL44EK
0144	8-729-901-01	TRANSISTOR	DTCL44EK	0520	8-729-901-01	TRANSISTOR	DTCL44EK
0145	8-729-901-01	TRANSISTOR	DTCL44EK	0521	8-729-901-01	TRANSISTOR	DTCL44EK
0146	8-729-010-25	TRANSISTOR	MSD601-RFL	0524	8-729-010-25	TRANSISTOR	MSD601-RFL
0147	8-729-010-25	TRANSISTOR	MSD601-RFL	0525	8-729-901-06	TRANSISTOR	DTA144EK
0149	8-729-010-05	TRANSISTOR	MSD709-RFL	0528	8-729-801-40	TRANSISTOR	ZSC2044-F
0150	8-729-010-05	TRANSISTOR	MSD709-RFL	0529	8-729-230-49	TRANSISTOR	ZSC2712-VG
0151	8-729-010-05	TRANSISTOR	MSD709-RFL	0530	8-729-216-23	TRANSISTOR	ZSA1182-Y
0152	8-729-010-05	TRANSISTOR	MSD709-RFL	0531	8-729-000-04	TRANSISTOR	ZSA1217T-46
0153	8-729-010-25	TRANSISTOR	MSD601-RFL	0532	8-729-010-05	TRANSISTOR	MSD709-RFL
0154	8-729-010-25	TRANSISTOR	MSD601-RFL	0533	8-729-901-01	TRANSISTOR	DTCL44EK
0155	8-729-901-01	TRANSISTOR	DTCL44EK	0536	8-729-010-05	TRANSISTOR	MSD709-RFL
0156	8-729-901-01	TRANSISTOR	DTCL44EK	0535	8-729-010-25	TRANSISTOR	MSD601-RFL
0157	8-729-901-01	TRANSISTOR	DTCL44EK	0536	8-729-901-01	TRANSISTOR	DTCL44EK
0158	8-729-901-06	TRANSISTOR	DTA144EK	0537	8-729-901-01	TRANSISTOR	DTCL44EK
0159	8-729-202-38	TRANSISTOR	ZSC2720H-A	0538	8-729-010-25	TRANSISTOR	MSD601-RFL
0160	8-729-202-38	TRANSISTOR	ZSC2720H-A	0539	8-729-010-25	TRANSISTOR	MSD601-RFL
0161	8-729-010-25	TRANSISTOR	MSD601-RFL	0540	8-729-010-05	TRANSISTOR	MSD709-RFL
0162	8-729-010-25	TRANSISTOR	MSD601-RFL	0510	8-729-010-25	TRANSISTOR	MSD601-RFL
0163	8-729-010-25	TRANSISTOR	MSD601-RFL	0511	8-729-010-25	TRANSISTOR	MSD601-RFL
0164	8-729-010-25	TRANSISTOR	MSD601-RFL	0512	8-729-010-05	TRANSISTOR	MSD709-RFL
0165	8-729-010-25	TRANSISTOR	MSD601-RFL	0513	8-729-010-25	TRANSISTOR	MSD601-RFL
0166	8-729-010-25	TRANSISTOR	MSD601-RFL	0514	8-729-128-28	TRANSISTOR	ZSC1623-LS1,6
0167	8-729-901-01	TRANSISTOR	DTCL44EK	0515	8-729-010-05	TRANSISTOR	MSD709-RFL
0401	8-729-901-06	TRANSISTOR	DTA144EK	0610	8-729-010-05	TRANSISTOR	MSD709-RFL
0402	8-729-901-01	TRANSISTOR	DTA144EK	0617	8-729-010-25	TRANSISTOR	MSD601-RFL
0403	8-729-901-06	TRANSISTOR	DTA144EK	0618	8-729-010-25	TRANSISTOR	MSD601-RFL
0404	8-729-901-04	TRANSISTOR	DTA144EK	0620	8-729-010-05	TRANSISTOR	MSD709-RFL
0405	8-729-901-04	TRANSISTOR	DTA144EK	0621	8-729-010-06	TRANSISTOR	MSD709-RFL
0406	8-729-901-04	TRANSISTOR	DTA144EK	0623	8-729-010-25	TRANSISTOR	MSD601-RFL
0407	8-729-010-25	TRANSISTOR	MSD601-RFL	0624	8-729-010-05	TRANSISTOR	MSD709-RFL
0408	8-729-010-25	TRANSISTOR	MSD601-RFL	0701	8-729-010-05	TRANSISTOR	MSD601-RFL
0501	8-729-102-07	TRANSISTOR	ZSG2223-FL3	0702	8-729-010-25	TRANSISTOR	MSD601-RFL
0502	8-729-010-25	TRANSISTOR	MSD601-RFL	0701	8-729-010-05	TRANSISTOR	MSD709-RFL
0503	8-729-010-25	TRANSISTOR	MSD601-RFL	0704	8-729-010-25	TRANSISTOR	MSD601-RFL
0504	8-729-901-01	TRANSISTOR	DTCL44EK	0705	8-729-901-06	TRANSISTOR	DTA144EK
0505	8-729-901-01	TRANSISTOR	DTCL44EK				
0506	8-729-102-07	TRANSISTOR	ZSG2223-FL3				

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark	
Q706	8-729-002-07	TRANSISTOR	2SC2270-RT1	R125	1-216-037-00	METAL CHIP	330 Ω 1/10W	
Q707	8-729-010-25	TRANSISTOR	MS9604-RT1	R126	1-216-041-00	METAL CHIP	470 Ω 1/10W	
Q708	8-729-001-01	TRANSISTOR	D7C144EK	R128	1-216-037-00	METAL CHIP	10K Ω 1/10W	
Q709	8-729-001-08	TRANSISTOR	D7C144EK	R129	1-216-065-00	METAL CHIP	4.7K Ω 1/10W	
Q711	8-729-010-25	TRANSISTOR	MS9604-RT1	R120	1-216-065-00	METAL CHIP	33K Ω 1/10W	
Q712	8-729-001-03	TRANSISTOR	D7C144EK	R121	1-216-001-00	METAL CHIP	22K Ω 1/10W	
Q713	8-729-010-25	TRANSISTOR	MS9604-RT1	R122	1-216-047-00	METAL CHIP	820 Ω 1/10W	
Q714	8-729-010-25	TRANSISTOR	MS9604-RT1	R123	1-216-037-00	METAL CHIP	330 Ω 1/10W	
Q715	8-729-001-01	TRANSISTOR	D7C144EK	R124	1-216-043-00	METAL CHIP	560 Ω 1/10W	
Q716	8-729-010-25	TRANSISTOR	MS9604-RT1	R125	1-216-073-00	METAL CHIP	10K Ω 1/10W	
Q717	8-729-010-25	TRANSISTOR	MS9601-RT1	R126	1-216-025-00	METAL CHIP	100 Ω 1/10W	
Q718	8-729-010-25	TRANSISTOR	MS9604-RT1	R127	1-216-073-00	METAL CHIP	10K Ω 1/10W	
Q719	8-729-010-25	TRANSISTOR	MS9601-RT1	R128	1-216-073-00	METAL CHIP	10K Ω 1/10W	
Q720	8-729-010-25	TRANSISTOR	MS9604-RT1	R129	1-216-073-00	METAL CHIP	10K Ω 1/10W	
Q722	8-729-010-25	TRANSISTOR	MS9604-RT1	R130	1-216-073-00	METAL CHIP	10K Ω 1/10W	
Q801	8-729-001-08	TRANSISTOR	D7C144EK	R131	1-216-047-00	METAL CHIP	820 Ω 1/10W	
Q102	8-729-001-01	TRANSISTOR	D7C144EK	R132	1-216-047-00	METAL CHIP	820 Ω 1/10W	
Q104	8-729-420-12	TRANSISTOR	2N4212	R133	1-216-065-00	METAL CHIP	4.7K Ω 1/10W	
Q805	8-729-420-20	TRANSISTOR	2N4212	R134	1-216-046-00	METAL CHIP	750 Ω 1/10W	
Q100	8-729-001-01	TRANSISTOR	D7C144EK	R135	1-216-041-00	METAL CHIP	470 Ω 1/10W	
Q901	8-729-001-01	TRANSISTOR	D7C144EK	(V.C. MP. B)	R136	1-216-069-00	METAL CHIP	6.8K Ω 1/10W
Q101	8-729-010-25	TRANSISTOR	MS9604-RT1	(A.E. UB)	R137	1-216-021-00	METAL CHIP	15K Ω 1/10W
Q102	8-729-010-25	TRANSISTOR	MS9601-RT1	R138	1-216-073-00	METAL CHIP	15K Ω 1/10W	
Q103	8-729-001-01	TRANSISTOR	D7C144EK	R139	1-216-049-00	METAL CHIP	1K Ω 1/10W	
Q804	8-729-001-01	TRANSISTOR	D7C144EK	(V.C. MP. B)	R140	1-216-049-00	METAL CHIP	1K Ω 1/10W
Q104	8-729-010-25	TRANSISTOR	MS9601-RT1	(A.E. UB)	R141	1-216-049-00	METAL CHIP	1K Ω 1/10W
Q805	8-729-001-01	TRANSISTOR	D7C144EK	R142	1-216-049-00	METAL CHIP	1K Ω 1/10W	
Q150	8-729-001-01	TRANSISTOR	D7C144EK	R143	1-216-063-00	METAL CHIP	2.8K Ω 1/10W	
Q151	8-729-001-08	TRANSISTOR	D7C144EK	R144	1-216-057-00	METAL CHIP	2.2K Ω 1/10W	
Q152	8-729-001-01	TRANSISTOR	D7C144EK	R145	1-216-049-00	METAL CHIP	1K Ω 1/10W	
Q196	8-729-001-01	TRANSISTOR	D7C144EK	R146	1-216-085-00	METAL CHIP	23K Ω 1/10W	
Q198	8-729-001-01	TRANSISTOR	D7C144EK	R147	1-216-091-00	METAL CHIP	560 Ω 1/10W	
Q199	8-729-001-01	TRANSISTOR	D7C144EK	R148	1-216-041-00	METAL CHIP	470 Ω 1/10W	
		< RESISTOR >		R149	1-216-049-00	METAL CHIP	1K Ω 1/10W	
R092	1-216-073-00	METAL CHIP	10K Ω 1/10W	R150	1-216-049-00	METAL CHIP	1K Ω 1/10W	
R102	1-216-065-00	METAL CHIP	33K Ω 1/10W	R151	1-216-057-00	METAL CHIP	2.2K Ω 1/10W	
R103	1-216-049-00	METAL CHIP	1K Ω 1/10W	R152	1-216-057-00	METAL CHIP	2.2K Ω 1/10W	
R104	1-216-061-00	METAL CHIP	2.2K Ω 1/10W	R153	1-216-049-00	METAL CHIP	1K Ω 1/10W	
R105	1-216-059-00	METAL CHIP	2.7K Ω 1/10W	R154	1-216-049-00	METAL CHIP	1K Ω 1/10W	
R106	1-216-041-00	METAL CHIP	470 Ω 1/10W	R155	1-216-057-00	METAL CHIP	2.2K Ω 1/10W	
R107	1-216-029-00	METAL CHIP	300 Ω 1/10W	R156	1-216-027-00	METAL CHIP	150 Ω 1/10W	
R108	1-216-001-00	METAL CHIP	180 Ω 1/10W	R157	1-216-081-00	METAL CHIP	22K Ω 1/10W	
R109	1-216-029-00	METAL CHIP	300 Ω 1/10W	R158	1-216-091-00	METAL CHIP	22K Ω 1/10W	
R110	1-216-039-00	METAL CHIP	390 Ω 1/10W	R159	1-216-049-00	METAL CHIP	1K Ω 1/10W	
R111	1-216-069-00	METAL CHIP	6.8K Ω 1/10W	R160	1-216-065-00	METAL CHIP	4.7K Ω 1/10W	
R112	1-216-041-00	METAL CHIP	470 Ω 1/10W	R161	1-216-049-00	METAL CHIP	1K Ω 1/10W	
R113	1-216-047-00	METAL CHIP	820 Ω 1/10W	R162	1-216-025-00	METAL CHIP	270 Ω 1/10W	
R114	1-216-041-00	METAL CHIP	470 Ω 1/10W	R163	1-216-039-00	METAL CHIP	390 Ω 1/10W	
				R164	1-216-041-00	METAL CHIP	470 Ω 1/10W	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark		
K164	1-216-043-00	METAL CHIP	560 5%	1/100	R219	1-216-045-00	METAL CHIP	328 5%	1/100
K167	1-216-057-00	METAL CHIP	2.2K 5%	1/100	R220	1-216-077-00	METAL CHIP	36K 5%	1/100
K168	1-216-296-00	METAL CHIP	0 5%	1/100	R221	1-216-049-00	METAL CHIP	1K 5%	1/100
K169	1-216-025-00	METAL CHIP	100 5%	1/100	R222	1-216-760-11	METAL CHIP	220K 0.50%	1/100
K170	1-216-073-00	METAL CHIP	10K 5%	1/100	R223	1-216-609-11	METAL CHIP	100K 0.5%	1/100
K171	1-216-073-00	METAL CHIP	10K 5%	1/100	R224	1-216-405-11	METAL CHIP	27K 0.2%	1/100
K172	1-216-041-00	METAL CHIP	420 5%	1/100	R225	1-216-401-11	METAL CHIP	68K 0.5%	1/100
K173	1-216-049-00	METAL CHIP	1K 5%	1/100	R226	1-216-057-00	METAL CHIP	2.2K 5%	1/100
K174	1-216-049-00	METAL CHIP	1K 5%	1/100	R227	1-216-049-00	METAL CHIP	1K 5%	1/100
K175	1-216-073-00	METAL CHIP	10K 5%	1/100	R228	1-216-073-00	METAL CHIP	10K 5%	1/100
K176	1-216-073-00	METAL CHIP	270 5%	1/100	R229	1-216-077-00	METAL CHIP	25K 5%	1/100
K177	1-216-041-00	METAL CHIP	420 5%	1/100	R230	1-216-041-00	METAL CHIP	320 5%	1/100
K178	1-216-043-00	METAL CHIP	560 5%	1/100	R231	1-216-043-00	METAL CHIP	470 5%	1/100
K179	1-216-040-00	METAL CHIP	1K 5%	1/100	R232	1-216-056-00	METAL GLAZE	1.1K 5%	1/100
K180	1-216-045-00	METAL CHIP	680 5%	1/100	R233	1-216-047-00	METAL CHIP	820 5%	1/100
K181	1-216-296-00	METAL CHIP	0 5%	1/100	R234	1-216-049-00	METAL CHIP	1K 5%	1/100
K182	1-216-073-00	METAL CHIP	10K 5%	1/100	R237	1-216-295-00	METAL CHIP	0 5%	1/100
K183	1-216-073-00	METAL CHIP	10K 5%	1/100	R238	1-216-059-00	METAL CHIP	2.7K 5%	1/100
K184	1-216-073-00	METAL CHIP	10K 5%	1/100	R239	1-216-045-00	METAL CHIP	1K 5%	1/100
K186	1-216-059-00	METAL CHIP	2.7K 5%	1/100	R240	1-216-075-00	METAL CHIP	12K 5%	1/100
K187	1-216-067-00	METAL CHIP	5.6K 5%	1/100	R242	1-216-295-00	METAL CHIP	0 5%	1/100
K188	1-216-065-00	METAL CHIP	4.7K 5%	1/100	R243	1-216-075-00	METAL CHIP	12K 5%	1/100
K189	1-216-029-00	METAL CHIP	150 5%	1/100	R244	1-216-045-00	METAL CHIP	1K 5%	1/100
K190	1-216-057-00	METAL CHIP	2.2K 5%	1/100	R245	1-216-075-00	METAL CHIP	12K 5%	1/100
K191	1-216-073-00	METAL CHIP	10K 5%	1/100	R246	1-216-065-00	METAL CHIP	33K 5%	1/100
K192	1-216-053-00	METAL CHIP	1.5K 5%	1/100	R247	1-216-069-01	METAL GLAZE	47K 5%	1/100
K193	1-216-030-00	METAL CHIP	750 5%	1/100	R248	1-216-043-01	METAL GLAZE	43K 5%	1/100
K195	1-216-041-00	METAL CHIP	420 5%	1/100	R249	1-216-295-00	METAL CHIP	0 5%	1/100
K196	1-216-029-00	METAL CHIP	150 5%	1/100	R250	1-216-075-00	METAL CHIP	12K 5%	1/100
K197	1-216-031-00	METAL CHIP	180 5%	1/100	R251	1-216-069-01	METAL GLAZE	47K 5%	1/100
K198	1-216-049-00	METAL CHIP	1K 5%	1/100 (6& 0B)	R252	1-216-295-00	METAL CHIP	0 5%	1/100
K199	1-216-049-00	METAL CHIP	1K 5%	1/100 (CC, MF, B)	R253	1-216-075-00	METAL CHIP	12K 5%	1/100
R200	1-216-057-00	METAL CHIP	2.2K 5%	1/100	R254	1-216-069-01	METAL GLAZE	47K 5%	1/100
R201	1-216-069-00	METAL CHIP	6.8K 5%	1/100	R255	1-216-069-00	METAL CHIP	2.9K 5%	1/100
R202	1-216-043-00	METAL CHIP	500 5%	1/100	R256	1-216-067-00	METAL CHIP	5.6K 5%	1/100
R203	1-216-073-00	METAL CHIP	10K 5%	1/100	R257	1-216-079-00	METAL CHIP	18K 5%	1/100
R204	1-216-073-00	METAL CHIP	10K 5%	1/100	R258	1-216-045-00	METAL CHIP	680 5%	1/100
R205	1-216-049-00	METAL CHIP	1K 5%	1/100	R259	1-216-049-00	METAL CHIP	1K 5%	1/100
R207	1-216-035-00	METAL CHIP	270 5%	1/100	R260	1-216-073-00	METAL CHIP	10K 5%	1/100
R208	1-216-073-00	METAL CHIP	10K 5%	1/100	R261	1-216-073-00	METAL CHIP	10K 5%	1/100
R209	1-216-073-00	METAL CHIP	10K 5%	1/100	R262	1-216-073-00	METAL CHIP	10K 5%	1/100
R210	1-216-081-01	METAL GLAZE	47K 5%	1/100	R263	1-216-295-00	METAL CHIP	0 5%	1/100
R211	1-216-085-00	METAL CHIP	33K 5%	1/100	R264	1-216-205-00	METAL CHIP	0 5%	1/100
R212	1-216-045-00	METAL CHIP	1K 5%	1/100	R267	1-216-073-00	METAL CHIP	10K 5%	1/100
R214	1-216-073-00	METAL CHIP	10K 5%	1/100 (WC)	R268	1-216-049-00	METAL CHIP	1K 5%	1/100
R215	1-216-073-00	METAL CHIP	10K 5%	1/100	R269	1-216-061-00	METAL CHIP	1.1K 5%	1/100
R216	1-216-077-00	METAL CHIP	25K 5%	1/100	R270	1-216-641-11	METAL CHIP	390 0.5%	1/100
R217	1-216-295-00	METAL CHIP	0 5%	1/100	R271	1-216-643-11	METAL CHIP	470 0.5%	1/100
R218	1-216-073-00	METAL CHIP	10K 5%	1/100	R272	1-216-049-00	METAL CHIP	1K 5%	1/100



Ref No	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R273	1-216-063-00	METAL CHIP	3.4K 5% 1/10W	R510	1-216-073-00	METAL CHIP	10K 5% 1/10W
R274	1-216-063-11	METAL CHIP	3.2K 0.5% 1/10W	R511	1-216-043-00	METAL CHIP	500 5% 1/10W
R275	1-216-063-13	METAL CHIP	1.2K 0.5% 1/10W	R512	1-216-043-00	METAL CHIP	3K 5% 1/10W
R276	1-216-295-00	METAL CHIP	0 5% 1/10W	R513	1-216-025-00	METAL CHIP	1.8K 5% 1/10W
R277	1-216-073-00	METAL CHIP	10K 5% 1/10W	R514	1-216-051-00	METAL CHIP	1.2K 5% 1/10W
R278	1-216-073-00	METAL CHIP	10K 5% 1/10W	R515	1-216-081-00	METAL CHIP	22K 5% 1/10W
R279	1-216-045-00	METAL CHIP	1K 5% 1/10W	R516	1-216-081-00	METAL CHIP	22K 5% 1/10W
R280	1-216-073-00	METAL CHIP	10K 5% 1/10W	R517	1-216-037-00	METAL CHIP	130 5% 1/10W
R281	1-216-073-00	METAL CHIP	10K 5% 1/10W	R518	1-216-043-00	METAL CHIP	470 5% 1/10W
R282	1-216-081-00	METAL CHIP	22K 5% 1/10W	R519	1-216-043-00	METAL CHIP	470 5% 1/10W
R283	1-216-077-00	METAL CHIP	15K 5% 1/10W	R520	1-216-037-00	METAL CHIP	330 5% 1/10W
R284	1-216-046-00	METAL CHIP	750 5% 1/10W	R521	1-216-043-00	METAL CHIP	470 5% 1/10W
R285	1-216-043-00	METAL CHIP	500 5% 1/10W	R522	1-216-043-00	METAL CHIP	470 5% 1/10W
R286	1-216-077-00	METAL CHIP	330 5% 1/10W	R523	1-216-108-11	METAL CHIP	430K 0.50% 1/10W
R287	1-216-045-00	METAL CHIP	1K 5% 1/10W	R524	1-216-056-11	METAL CHIP	68K 0.50% 1/10W
R288	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R525	1-216-077-00	METAL CHIP	15K 5% 1/10W
R289	1-216-045-00	METAL CHIP	1K 5% 1/10W	R526	1-216-082-11	METAL CHIP	22K 0.5% 1/10W
R290	1-216-045-00	METAL CHIP	1K 5% 1/10W	R527	1-216-043-00	METAL CHIP	470 5% 1/10W
R291	1-216-063-00	METAL CHIP	3.4K 5% 1/10W	R528	1-216-073-00	METAL CHIP	10K 5% 1/10W
R292	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R529	1-216-073-00	METAL CHIP	10K 5% 1/10W
R293	1-216-097-00	METAL CHIP	100K 5% 1/10W	R530	1-216-043-00	METAL CHIP	560 5% 1/10W
R294	1-216-063-00	METAL CHIP	3.3K 5% 1/10W	R531	1-216-043-00	METAL CHIP	560 5% 1/10W
R300	1-216-295-00	METAL CHIP	0 5% 1/10W	R532	1-216-068-00	METAL CHIP	6.2K 5% 1/10W
R302	1-216-205-00	METAL CHIP	0 5% 1/10W	R533	1-216-043-00	METAL CHIP	560 5% 1/10W
R305	1-216-081-91	METAL GLAZE	47K 5% 1/10W	R534	1-216-047-00	METAL CHIP	820 5% 1/10W
R306	1-216-049-00	METAL CHIP	1K 5% 1/10W	R535	1-216-054-00	METAL GLAZE	1.4K 5% 1/10W
R307	1-216-047-00	METAL CHIP	820 5% 1/10W	R536	1-216-054-00	METAL GLAZE	1.4K 5% 1/10W
R308	1-216-049-00	METAL CHIP	1K 5% 1/10W	R537	1-216-049-00	METAL CHIP	1K 5% 1/10W
R309	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R538	1-216-049-00	METAL CHIP	1K 5% 1/10W
R310	1-216-295-00	METAL CHIP	0 5% 1/10W	R539	1-216-032-00	METAL CHIP	220 5% 1/10W
R311	1-216-049-00	METAL CHIP	6.8K 5% 1/10W	R540	1-216-049-00	METAL CHIP	1K 5% 1/10W
R312	1-216-049-91	METAL GLAZE	47K 5% 1/10W	R541	1-216-049-00	METAL CHIP	1K 5% 1/10W
R313	1-216-295-00	METAL CHIP	0 5% 1/10W	R542	1-216-295-00	METAL CHIP	0 5% 1/10W
R315	1-216-295-00	METAL CHIP	0 5% 1/10W (NE. CR)	R546	1-216-073-00	METAL CHIP	10K 5% 1/10W
R407	1-163-001-11	CERAMIC CHIP	0.91W 50W	R547	1-216-049-00	METAL CHIP	1K 5% 1/10W
R408	1-216-073-00	METAL CHIP	10K 5% 1/10W	R550	1-216-359-11	METAL CHIP	120K 0.50% 1/10W
R409	1-216-081-00	METAL CHIP	22K 5% 1/10W	R551	1-216-041-00	METAL CHIP	670 5% 1/10W
R410	1-216-049-00	METAL CHIP	1K 5% 1/10W	R552	1-216-041-00	METAL CHIP	470 5% 1/10W
R411	1-216-081-00	METAL CHIP	22K 5% 1/10W	R553	1-216-051-00	METAL CHIP	1.2K 5% 1/10W
R412	1-216-049-00	METAL CHIP	1K 5% 1/10W	R555	1-216-049-00	METAL CHIP	1K 5% 1/10W
R501	1-216-085-00	METAL CHIP	33K 5% 1/10W	R556	1-216-041-00	METAL CHIP	470 5% 1/10W
R502	1-216-077-00	METAL CHIP	15K 5% 1/10W	R557	1-216-041-00	METAL CHIP	470 5% 1/10W
R503	1-216-045-00	METAL CHIP	500 5% 1/10W	R558	1-216-081-00	METAL CHIP	22K 5% 1/10W
R504	1-216-039-00	METAL CHIP	280 5% 1/10W	R559	1-216-047-00	METAL CHIP	820 5% 1/10W
R505	1-216-044-00	METAL CHIP	470 5% 1/10W	R560	1-216-041-00	METAL CHIP	1K 5% 1/10W
R506	1-216-049-00	METAL CHIP	1K 5% 1/10W	R561	1-216-035-00	METAL CHIP	230 5% 1/10W
R507	1-216-049-00	METAL CHIP	1K 5% 1/10W	R562	1-216-049-00	METAL CHIP	1K 5% 1/10W
R508	1-216-073-00	METAL CHIP	10K 5% 1/10W	R563	1-216-049-00	METAL CHIP	1K 5% 1/10W
R509	1-216-043-00	METAL CHIP	500 5% 1/10W	R564	1-216-295-00	METAL CHIP	0 5% 1/10W

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark		
R545	1-216-049-00	METAL CHIP	1R 5%	1/10W	R624	1-216-049-00	METAL CHIP	1K 5%	1/10W
R546	1-216-049-00	METAL CHIP	1K 5%	1/10W	R625	1-216-049-00	METAL CHIP	1K 5%	1/10W
R547	1-216-049-00	METAL CHIP	700 5%	1/10W	R626	1-216-049-00	METAL CHIP	1K 5%	1/10W
R548	1-216-049-00	METAL CHIP	800 5%	1/10W	R627	1-216-295-00	METAL CHIP	0 5%	1/10W
R549	1-216-073-00	METAL CHIP	10K 5%	1/10W	R628	1-216-295-00	METAL CHIP	0 5%	1/10W
R570	1-216-049-00	METAL CHIP	1R 5%	1/10W	R629	1-216-025-00	METAL CHIP	100 5%	1/10W
R572	1-216-025-00	METAL CHIP	20K 5%	1/10W	R632	1-216-053-00	METAL CHIP	1.5K 5%	1/10W
R573	1-216-081-00	METAL CHIP	22K 5%	1/10W	R633	1-216-025-00	METAL CHIP	100 5%	1/10W
R574	1-216-049-00	METAL CHIP	1K 5%	1/10W	R634	1-216-049-00	METAL CHIP	1K 5%	1/10W
R575	1-216-045-00	METAL CHIP	600 5%	1/10W	R635	1-216-049-00	METAL CHIP	1K 5%	1/10W
R576	1-216-049-00	METAL CHIP	1K 5%	1/10W	R636	1-216-045-00	METAL CHIP	600 5%	1/10W
R578	1-216-051-00	METAL CHIP	1.2K 5%	1/10W	R637	1-216-049-00	METAL CHIP	470 5%	1/10W
R580	1-216-041-00	METAL CHIP	470 5%	1/10W	R640	1-216-073-00	METAL CHIP	10K 5%	1/10W
R581	1-216-041-00	METAL CHIP	470 5%	1/10W	R642	1-216-024-00	METAL CHIP	220 5%	1/10W
R582	1-216-295-00	METAL CHIP	0 5%	1/10W	R643	1-216-043-00	METAL CHIP	3.2K 5%	1/10W
R585	1-216-645-11	METAL CHIP	560 0.5%	1/10W	R646	1-216-051-00	METAL CHIP	3.2K 5%	1/10W
R587	1-216-645-11	METAL CHIP	560 0 5%	1/10W	R648	1-216-041-00	METAL CHIP	22K 5%	1/10W
R588	1-216-049-00	METAL CHIP	1K 5%	1/10W	R649	1-216-073-00	METAL CHIP	220 5%	1/10W
R589	1-216-045-00	METAL CHIP	600 5%	1/10W	R670	1-216-295-00	METAL CHIP	0 5%	1/10W
R590	1-216-025-00	METAL CHIP	100 5%	1/10W	R671	1-216-045-00	METAL CHIP	4.7K 5%	1/10W
R591	1-216-045-00	METAL CHIP	600 5%	1/10W	R672	1-216-295-00	METAL CHIP	0 5%	1/10W
R592	1-216-025-00	METAL CHIP	100 5%	1/10W	R673	1-216-061-00	METAL CHIP	22K 5%	1/10W
R593	1-216-049-00	METAL CHIP	1K 5%	1/10W	R674	1-216-035-00	METAL CHIP	270 5%	1/10W
R594	1-216-073-00	METAL CHIP	10K 5%	1/10W	R676	1-216-121-00	METAL CHIP	14 5%	1/10W
R596	1-216-089-01	METAL GLAZE	47K 5%	1/10W	R677	1-216-295-00	METAL CHIP	0 5%	1/10W
R598	1-216-081-00	METAL CHIP	22K 5%	1/10W	R680	1-216-295-00	METAL CHIP	0 5%	1/10W
R597	1-216-025-00	METAL CHIP	100 5%	1/10W	R681	1-216-049-00	METAL CHIP	1K 5%	1/10W
R598	1-216-080-01	METAL GLAZE	47K 5%	1/10W	R683	1-216-045-00	METAL CHIP	1K 5%	1/10W
R599	1-216-057-00	METAL CHIP	2.2K 5%	1/10W	R684	1-216-089-01	METAL GLAZE	47K 5%	1/10W
R602	1-216-073-00	METAL CHIP	10K 5%	1/10W	R685	1-216-089-01	METAL GLAZE	47K 5%	1/10W
R603	1-216-081-00	METAL CHIP	22K 5%	1/10W	R686	1-216-041-00	METAL CHIP	470 5%	1/10W
R604	1-216-121-00	METAL CHIP	1M 5%	1/10W	R687	1-216-061-00	METAL CHIP	3.2K 5%	1/10W
R606	1-216-049-00	METAL CHIP	1K 5%	1/10W	R701	1-216-043-00	METAL CHIP	560 5%	1/10W
R607	1-216-049-00	METAL CHIP	1K 5%	1/10W	R702	1-216-071-00	METAL CHIP	6.2K 5%	1/10W
R608	1-216-049-00	METAL CHIP	1K 5%	1/10W	R703	1-216-043-00	METAL CHIP	560 5%	1/10W
R609	1-216-073-00	METAL CHIP	220 5%	1/10W	R704	1-216-043-00	METAL CHIP	560 5%	1/10W
R610	1-216-043-00	METAL CHIP	500 5%	1/10W	R705	1-216-073-00	METAL CHIP	10K 5%	1/10W
R611	1-216-096-00	METAL CHIP	82K 5%	1/10W	R706	1-216-073-00	METAL CHIP	10K 5%	1/10W
R612	1-216-025-00	METAL CHIP	100 5%	1/10W	R712	1-216-049-00	METAL CHIP	1K 5%	1/10W
R613	1-216-041-00	METAL CHIP	470 5%	1/10W	R713	1-216-073-00	METAL CHIP	10K 5%	1/10W
R614	1-216-295-00	METAL CHIP	0 5%	1/10W	R714	1-216-073-00	METAL CHIP	10K 5%	1/10W
R615	1-216-081-00	METAL CHIP	22K 5%	1/10W	R715	1-216-030-00	METAL CHIP	390 5%	1/10W
R616	1-216-081-00	METAL CHIP	22K 5%	1/10W	R716	1-216-047-00	METAL CHIP	220 5%	1/10W
R617	1-216-065-00	METAL CHIP	1.5K 5%	1/10W	R717	1-216-049-00	METAL CHIP	1K 5%	1/10W
R618	1-216-012-00	METAL CHIP	33 5%	1/10W	R718	1-216-027-00	METAL CHIP	120 5%	1/10W
R619	1-216-049-00	METAL CHIP	1K 5%	1/10W	R719	1-216-045-00	METAL CHIP	500 5%	1/10W
R620	1-216-041-00	METAL CHIP	470 5%	1/10W	R720	1-216-025-00	METAL CHIP	100 5%	1/10W
R622	1-216-043-00	METAL CHIP	1K 5%	1/10W	R721	1-216-049-00	METAL CHIP	470 5%	1/10W
R623	1-216-041-00	METAL CHIP	470 5%	1/10W	R722	1-216-043-00	METAL CHIP	1K 5%	1/10W

Ref. No.	Part No.	Description	Remark
R721	1-216-077-00	METAL CHIP	15K 5% 1/10W
R724	1-216-075-00	METAL CHIP	10K 5% 1/10W
R725	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R726	1-216-054-00	METAL CHIP	1.5K 5% 1/10W
R728	1-216-049-00	METAL CHIP	1K 1% 1/10W
R729	1-216-295-00	METAL CHIP	0 5% 1/10W
R730	1-216-047-00	METAL CHIP	420 5% 1/10W
R731	1-216-060-00	METAL CHIP	5.6K 5% 1/10W
R732	1-216-049-00	METAL CHIP	1K 5% 1/10W
R733	1-216-073-00	METAL CHIP	15K 5% 1/10W
R734	1-216-000-00	METAL GLAZE	5K 5% 1/10W
R735	1-216-035-00	METAL CHIP	270 5% 1/10W
R736	1-216-004-00	METAL CHIP	230 5% 1/10W
R737	1-216-045-00	METAL CHIP	540 5% 1/10W
R738	1-216-045-00	METAL CHIP	540 5% 1/10W
R739	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R740	1-216-041-00	METAL CHIP	470 5% 1/10W
R741	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R742	1-216-075-00	METAL CHIP	10K 5% 1/10W
R743	1-216-073-00	METAL CHIP	10K 5% 1/10W
R744	1-216-081-00	METAL CHIP	22K 5% 1/10W
R745	1-216-083-00	METAL CHIP	22K 5% 1/10W
R746	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R747	1-216-049-00	METAL CHIP	1K 5% 1/10W
R748	1-216-023-00	METAL CHIP	62 5% 1/10W
R749	1-216-045-00	METAL CHIP	540 5% 1/10W
R750	1-216-025-00	METAL CHIP	100 5% 1/10W
R751	1-216-037-00	METAL CHIP	330 5% 1/10W
R752	1-216-041-00	METAL CHIP	470 5% 1/10W
R753	1-216-041-00	METAL CHIP	470 5% 1/10W
R754	1-216-072-00	METAL CHIP	100K 5% 1/10W
R755	1-216-075-00	METAL CHIP	10K 5% 1/10W
R756	1-216-081-00	METAL CHIP	22K 5% 1/10W
R757	1-216-085-00	METAL CHIP	33K 5% 1/10W
R758	1-216-049-00	METAL CHIP	1K 5% 1/10W
R759	1-216-063-00	METAL CHIP	6.8K 5% 1/10W
R760	1-216-081-00	METAL CHIP	22K 5% 1/10W
R761	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R762	1-216-041-00	METAL CHIP	470 5% 1/10W
R763	1-216-043-00	METAL CHIP	560 5% 1/10W
R765	1-216-049-00	METAL CHIP	1K 5% 1/10W
R766	1-216-073-00	METAL CHIP	10K 5% 1/10W
R767	1-216-072-00	METAL CHIP	10K 5% 1/10W
R768	1-216-295-00	METAL CHIP	0 5% 1/10W
R769	1-216-072-00	METAL CHIP	10K 5% 1/10W
R770	1-216-295-00	METAL CHIP	0 5% 1/10W
R801	1-216-295-00	METAL CHIP	0 5% 1/10W (AG USE)
R804	1-216-608-11	METAL CHIP	39K 0.5% 1/10W
R805	1-216-579-11	METAL CHIP	15K 0.5% 1/10W

Ref. No.	Part No.	Description	Remark
R806	1-216-295-00	METAL CHIP	0 5% 1/10W
R809	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R810	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R811	1-216-089-01	METAL GLAZE	47K 5% 1/10W
R812	1-216-638-11	METAL CHIP	91K 0.5% 1/10W
R813	1-216-081-00	METAL CHIP	3.3K 5% 1/10W
R814	1-216-285-00	METAL CHIP	0 5% 1/10W
R820	1-216-049-00	METAL CHIP	1K 5% 1/10W
R850	1-216-285-00	METAL CHIP	0 5% 1/10W
R800	1-809-354-11	THERMISTOR	NTC (2125)
R901	1-216-041-00	METAL CHIP	470 5% 1/10W
R902	1-216-075-00	METAL CHIP	10K 5% 1/10W
R903	1-216-270-11	METAL CHIP	1M 0.50% 1/10W
R904	1-216-041-00	METAL CHIP	470 5% 1/10W
R905	1-216-081-00	METAL CHIP	22K 5% 1/10W
R910	1-216-037-00	METAL CHIP	330 5% 1/10W
R911	1-216-075-00	METAL CHIP	10K 5% 1/10W
R912	1-216-067-00	METAL CHIP	100K 5% 1/10W
R914	1-216-295-00	METAL CHIP	0 5% 1/10W
R915	1-216-025-00	METAL CHIP	100 5% 1/10W

## - VARIABLE RESISTOR &gt;

RV101	1-241-303-21	RES. ADJ.	METAL GLAZE 2.2K
RV102	1-241-332-11	RES. ADJ.	METAL GLAZE 1K
RV103	1-241-332-11	RES. ADJ.	METAL GLAZE 1K
RV104	1-241-333-21	RES. ADJ.	METAL GLAZE 2.2K
RV105	1-241-335-21	RES. ADJ.	METAL GLAZE 2.2K
RV106	1-241-332-11	RES. ADJ.	METAL GLAZE 1K
RV107	1-241-335-11	RES. ADJ.	METAL GLAZE 10K
RV108	1-241-337-11	RES. ADJ.	METAL GLAZE 47K
RV109	1-241-336-11	RES. ADJ.	METAL GLAZE 22K
RV110	1-241-336-11	RES. ADJ.	METAL GLAZE 22K
RV111	1-241-336-11	RES. ADJ.	METAL GLAZE 22K
RV112	1-241-337-11	RES. ADJ.	METAL GLAZE 47K
RV113	1-241-336-11	RES. ADJ.	METAL GLAZE 22K
RV101	1-241-334-11	RES. ADJ.	METAL GLAZE 4.7K
RV102	1-241-334-11	RES. ADJ.	METAL GLAZE 4.7K
RV101	1-241-304-11	RES. ADJ.	METAL GLAZE 4.7K
RV102	1-241-301-11	RES. ADJ.	METAL GLAZE 470
RV103	1-241-301-11	RES. ADJ.	METAL GLAZE 470
RV105	1-241-332-11	RES. ADJ.	METAL GLAZE 1K

## &lt; VIBRATOR &gt;

X101	1-577-117-11	VIBRATOR	CRYSTAL (4.499MHz)
------	--------------	----------	--------------------

Ref. No.	Part No.	Description	Remark
A-701-905-A VP-38 (G) BOARD, COMPLETE (70)			
*****			
(Ref. No. 4,000 series)			
< CAPACITOR >			
C801	1-163-025-09	CERAMIC CHIP	0.047uf 50V
C802	1-124-157-11	ELECT	100P 20% 16V
C803	1-163-025-04	CERAMIC CHIP	0.047uf 50V
C804	1-163-020-11	CERAMIC CHIP	33PF 5% 50V
C805	1-163-020-11	CERAMIC CHIP	33PF 5% 50V
C806	1-163-089-11	CERAMIC CHIP	0.033uf 50% 25V
C807	1-163-025-04	CERAMIC CHIP	0.047uf 50V
C808	1-164-004-11	CERAMIC CHIP	0.1uf 50% 25V
C809	1-124-157-11	ELECT	100P 20% 16V
< FILTER >			
CF801	1-567-182-11	OSCILLATOR CERAMIC 10.0MHz	
< CONNECTOR >			
CH801	1-573-024-11	CONNECTOR, BOARD TO BOARD 10P	
< IC >			
IC801	8-758-147-36	IC uP75004-G8-562-384	
IC802	8-758-040-04	IC SD45642	
< COIL >			
L801	1-903-982-11	INDUCTOR 100uH	
< RESISTOR >			
R801	1-216-000-01	METAL GLAZE	47K 5% 1/10W
R802	1-216-073-00	METAL CHIP	30K 5% 1/10W
R803	1-216-073-00	METAL CHIP	30K 5% 1/10W
R804	1-216-000-01	METAL GLAZE	47K 5% 1/10W
R805	1-216-121-00	METAL CHIP	1M 5% 1/10W
R807	1-216-119-00	METAL CHIP	320K 5% 1/10W
R806	1-216-097-00	METAL CHIP	1.09K 5% 1/10W
R808	1-216-066-00	METAL CHIP	5.1K 5% 1/10W
R809	1-216-119-00	METAL CHIP	320K 5% 1/10W
R811	1-216-025-00	METAL CHIP	100 5% 1/10W
R812	1-216-295-00	METAL CHIP	0 5% 1/10W
R813	1-216-049-00	METAL CHIP	1K 5% 1/10W
R814	1-216-000-00	METAL CHIP	1K 5% 1/10W
R815	1-216-049-00	METAL CHIP	1K 5% 1/10W
R816	1-216-049-00	METAL CHIP	1K 5% 1/10W
R817	1-216-049-00	METAL CHIP	1K 5% 1/10W
R821	1-216-295-00	METAL CHIP	0 5% 1/10W

Ref. No.	Part No.	Description	Remark
A-701-903-A WC-10 (G) BOARD, COMPLETE			
*****			
(Ref. No. 2,000 series)			
< CAPACITOR >			
C903	1-126-154-11	ELECT	47uf 20% 6.3V
C902	1-126-162-11	ELECT	4.7uf 20% 50V
C920	1-163-121-00	CERAMIC CHIP	150PF 5% 50V
C921	1-163-020-00	CERAMIC CHIP	0.047uf 50V
C922	1-163-025-00	CERAMIC CHIP	0.047uf 50V
C923	1-163-025-00	CERAMIC CHIP	0.047uf 50V
C924	1-163-024-00	CERAMIC CHIP	0.068uf 50V
C925	1-163-024-00	CERAMIC CHIP	0.068uf 50V
C927	1-163-021-11	CERAMIC CHIP	0.01uf 50V
C929	1-163-021-00	CERAMIC CHIP	0.025uf 5% 50V
C940	1-163-964-00	CERAMIC CHIP	0.027uf 10% 25V
C945	1-163-126-00	CERAMIC CHIP	200PF 5% 50V
C946	1-163-121-00	CERAMIC CHIP	150PF 5% 50V
C947	1-163-021-11	CERAMIC CHIP	0.01uf 50V
C948	1-163-021-11	CERAMIC CHIP	0.01uf 50V
C949	1-163-021-11	CERAMIC CHIP	0.01uf 50V
C950	1-163-021-11	CERAMIC CHIP	0.01uf 50V
C951	1-163-021-11	CERAMIC CHIP	0.01uf 50V
C952	1-163-021-11	CERAMIC CHIP	0.01uf 50V
C953	1-163-021-11	CERAMIC CHIP	0.01uf 50V
C954	1-163-026-00	CERAMIC CHIP	0.068uf 50V
C955	1-163-021-11	CERAMIC CHIP	0.01uf 50V
C956	1-163-026-00	CERAMIC CHIP	0.068uf 50V
C957	1-163-021-11	CERAMIC CHIP	0.01uf 50V
C959	1-126-154-11	ELECT	07uf 20% 6.3V
C909	1-163-021-11	CERAMIC CHIP	0.01uf 50V
C962	1-163-021-11	CERAMIC CHIP	0.01uf 50V
C963	1-163-021-11	CERAMIC CHIP	0.01uf 50V
C964	1-126-154-11	ELECT	07uf 20% 6.3V
C905	1-163-021-11	CERAMIC CHIP	0.01uf 50V
C967	1-126-154-11	ELECT	47uf 20% 6.3V
C968	1-163-021-11	CERAMIC CHIP	6.03uf 50V
C969	1-163-119-11	CERAMIC CHIP	6.1uf 50V
C970	1-163-021-11	CERAMIC CHIP	0.01uf 50V
C932	1-163-021-11	CERAMIC CHIP	0.01uf 50V
C935	1-126-154-11	ELECT	47uf 20% 6.3V
C977	1-126-154-11	ELECT	47uf 20% 6.3V
C978	1-163-124-00	CERAMIC CHIP	150PF 5% 50V
C979	1-126-154-11	ELECT	47uf 20% 6.3V
C981	1-126-154-11	ELECT	47uf 20% 6.3V
C985	1-163-021-11	CERAMIC CHIP	39PF 5% 50V

**WC-10**

Ref. No.	Part No.	Description	Remark
< CONNECTOR >			
CH001	1-573-824-11	CONNECTOR BOARD TO BOARD 10P	
CH002	1-573-820-11	CONNECTOR BOARD TO BOARD 10P	
< DIODE >			
DD01	8-719-104-24	DIODE 1S2436	
< FILTER >			
FD001	1-406-688-11	DELAY LINE LC	
FD002	1-406-909-21	LINE LC DELAY	
< IC >			
IC001	8-759-300-71	IC 74LS088FP	
IC002	8-759-048-22	IC 74LS258FP	
< COIL >			
LD05	1-440-383-31	INDUCTOR CHIP 15uH	
< TRANSISTOR >			
Q002	8-729-040-29	TRANSISTOR MS1601-RTJ	
Q003	8-729-040-25	TRANSISTOR MS1601-RTJ	
Q006	8-729-010-25	TRANSISTOR MS1601-RTJ	
Q008	8-729-010-25	TRANSISTOR MS1601-RTJ	
Q009	8-729-010-25	TRANSISTOR MS1601-RTJ	
Q010	8-729-010-25	TRANSISTOR MS1601-RTJ	
Q011	8-729-010-05	TRANSISTOR MS1709-RTJ	
Q012	8-729-010-25	TRANSISTOR MS1601-RTJ	
Q013	8-729-010-25	TRANSISTOR MS1601-RTJ	
Q014	8-729-021-19	TRANSISTOR U22143	
Q017	8-729-040-25	TRANSISTOR MS1601-RTJ	
Q018	8-729-040-05	TRANSISTOR MS1709-RTJ	
< RESISTOR >			
R001	1-216-045-00	METAL CHIP 180 5% 1/10W	
R002	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R005	1-216-057-00	METAL CHIP 5.6K 5% 1/10W	
R006	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R010	1-216-073-00	METAL CHIP 18K 5% 1/10W	
R012	1-216-043-00	METAL CHIP 540 5% 1/10W	
R013	1-216-017-00	METAL CHIP 330 5% 1/10W	
R017	1-216-039-00	METAL CHIP 390 5% 1/10W	
R022	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R028	1-216-029-00	METAL CHIP 390 5% 1/10W	
R029	1-216-089-01	METAL GLAZE 47K 5% 1/10W	
R030	1-216-081-01	METAL GLAZE 47K 5% 1/10W	
R041	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R047	1-216-029-00	METAL CHIP 390 5% 1/10W	

Ref. No.	Part No.	Description	Remark
R038	1-216-055-00	METAL CHIP 1.5K 5% 1/10W	
R039	1-216-020-00	METAL CHIP 390 5% 1/10W	
R041	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R042	1-216-048-00	METAL CHIP 910 5% 1/10W	
R045	1-216-023-13	METAL CHIP 180 0.5% 1/10W	
R046	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R049	1-216-090-00	METAL CHIP 51K 5% 1/10W	
R050	1-216-090-00	METAL CHIP 51K 5% 1/10W	
R051	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R052	1-216-073-00	METAL CHIP 18K 5% 1/10W	
R053	1-216-049-00	METAL CHIP 120K 5% 1/10W	
R054	1-216-085-00	METAL CHIP 70K 5% 1/10W	
R055	1-216-094-00	METAL GLAZE 75K 5% 1/10W	
R056	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R057	1-216-043-00	METAL CHIP 540 5% 1/10W	
R058	1-216-020-00	METAL CHIP 2.2K 5% 1/10W	
R061	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R062	1-216-073-00	METAL CHIP 18K 5% 1/10W	
R065	1-216-049-00	METAL CHIP 8K 5% 1/10W	
R066	1-216-049-00	METAL CHIP 18K 5% 1/10W	
R067	1-216-105-00	METAL CHIP 0 5% 1/10W	
R070	1-216-045-00	METAL CHIP 180 5% 1/10W	
R071	1-216-235-00	METAL CHIP 0 5% 1/10W	
R073	1-216-235-00	METAL CHIP 0 5% 1/10W	
R074	1-216-235-00	METAL CHIP 0 5% 1/10W	
R075	1-216-051-11	METAL CHIP 8K 0.5% 1/10W	
R076	1-216-048-00	METAL CHIP 910 5% 1/10W	
R077	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R079	1-216-061-00	METAL CHIP 22K 5% 1/10W	
R080	1-216-073-00	METAL CHIP 18K 5% 1/10W	
R089	1-216-045-00	METAL CHIP 180 5% 1/10W	
R091	1-216-073-00	METAL CHIP 18K 5% 1/10W	
R092	1-216-073-00	METAL CHIP 18K 5% 1/10W	
R093	1-216-089-01	METAL GLAZE 47K 5% 1/10W	
R094	1-216-045-00	METAL CHIP 180 5% 1/10W	
R096	1-216-049-00	METAL CHIP 8K 5% 1/10W	
R097	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
< VARIABLE RESISTOR >			
R004	1-216-056-11	RES. ADJ. TRIMMET 10K	
R002	1-216-056-11	RES. ADJ. TRIMMET 10K	
R003	1-216-056-11	RES. ADJ. TRIMMET 10K	

Ref. No.	Part No.	Description	Remark
MISCELLANEOUS			
31	1-467-230-31	REMOTE COMMANDER (RMT-V130B)	
63	1-751-001-11	CABLE, FLAT (RMT-2) 23P	
65	1-705-141-11	CABLE, FLAT (RMT-7) 25P	
△100	1-258-132-11	JACKET, AC (KOMPULAD)	
204	1-601-254-13	CONNECTOR, TRANSLATION 10P	
205	1-601-671-11	CONNECTOR, TRANSLATION 10P	
215	1-704-157-11	CONNECTOR, TRANSLATION 15P	
118	1-602-408-11	SWITCH, ROTARY	
△100A	1-576-228-11	FUSE, GLASS TUBE (250V/2A)	
W002	0-7040-080-A	DRUM ASSY (DOW-0704-R)	
W002	0-835-818-01	MOTOR, PG SCE-0501A	
W003	X-1942-946-1	MOTOR ASSY, CDM	
W004	A-4756-573-A	MOTOR BLOCK ASSY, T04Y	

#### HARDWARE LIST

A1	7-435-048-79	SCREW, TAPPING -#8TP X1/2 TYPE2 IT-1
A2	7-421-770-07	SCREW -#VTT 2 (3M) (S)
A3	7-402-045-01	SCREW -#S 304
A5	7-424-105-04	STOP RING 3.3. TYPE -E
A6	7-435-545-14	SCREW -#8TP 3/8 TYPE2 IT-1
A7	7-421-712-03	SCREW -# 2X3
A8	7-428-261-15	SCREW -#S 2X5
A9	7-485-041-79	SCREW -#8TP 5/8 TYPE2 IT-1
A11	7-438-001-01	W 3. SMALL
A12	7-438-004-01	W 2. MIDDLE
A15	7-435-104-14	-PTP 2X1
A16	7-435-047-79	SCREW -#8TP 3/10

Ref. No.	Part No.	Description	Remark
ACCESSORIES & PACKING MATERIALS			
	1-467-230-31	REMOTE COMMANDER (RMT-V130B)	
△	1-574-054-11	CORD, POWER (AC)	
△	1-575-131-11	CORD, POWER (OP. AC)	
△	1-575-132-11	CORD, POWER (B)	
	1-575-934-11	CORD (WITH CONNECTOR) (STEREO AV CABLE)	
△	1-500-066-21	CORD, POWER (B)	
	1-606-593-11	CORD, CONNECTION (AERIAL CABLE) (CV, AE, MP, LB)	
	1-606-661-11	CORD, CONNECTION (AUDIO CABLE)	
	1-606-902-11	CORD, CONNECTION (AERIAL CABLE) (B)	
	1-761-697-23	CORD, CONNECTION (S VIDEO CABLE)	
	1-761-778-21	CORD, CONNECTION (LANC CONTROL (I) CABLE)	
	3-695-968-01	DRIVER, VOLUME	
	3-710-901-11	SCREW, TAPPING (B)	
	3-750-350-11	MANUAL, INSTRUCTION (ENGLISH) (B)	
	3-750-350-41	MANUAL, INSTRUCTION (DANISH, PORTUGUESE, SWEDISH) (MP)	
	3-750-350-51	MANUAL, INSTRUCTION (SPANISH) (MP)	
	3-750-350-61	MANUAL, INSTRUCTION (DUTCH) (MP, AE)	
	3-750-350-71	MANUAL, INSTRUCTION (FRENCH) (CV, MP, B)	
	3-750-350-81	MANUAL, INSTRUCTION (GERMAN) (CV, MP)	
	3-750-350-91	MANUAL, INSTRUCTION (ITALIAN) (CV, AE)	
*	3-955-049-01	CUSHION (UPPER)	
*	3-955-619-01	CUSHION (LOWER)	
*	3-958-120-01	INDIVIDUAL CARTON	
*	8-931-019-32	COVER, PROTECTION	

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

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



SECTION 6  
INTERFACE AND IC PIN FUNCTION

6-1. SYSTEM CONTROL — VIDEO - AUDIO BLOCK INTERFACE (MA-173 BOARD)

Signal	Pin No.	I/O	VTR MODE													
			STOP	FF	REW	X2 X4	-X2 -X4	PB (AUDIO MUTE)	X1 (AUDIO MUTE)	PICTURE SEARCH (+/-) CUE	SEARCH (H) REVIEW	PB- PAUSE	SLOW	REVERSE SLOW	REC PAUSE	
SF/TLP	IC003②	0	*1	H	H	*1	*2	*2	*2	*2	*2	*2	*1	*1	*9	H/L
VA PB MODE	IC003⑤	0	L	L	H	H	H	H	H	H	H	H	H	H	L	L
JOG VD *3	IC003②	0	L	L	L	L	L	L	L	L	L	L	L	L	L	L
RP PE MODE	IC003⑤	0	L	L	L	L	L	L	L	L	L	L	L	L	H	L
PE ON	IC003⑤	0	H	H	H	H	H	H	H	H	H	H	H	H	L	H
RF SWP	IC003⑤	0	L	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4
JOG	IC003⑤	0	L	L	L	H	H	H	H	H	H	H	H	H	L	L
SF/TLP DET	IC003⑤	1	L	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	—	—	H
CLONG DET	IC003⑤	1	H	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	H
DI COMP SYNC	IC003④	1	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7
AUDIO PB	IC003⑤	0	L	L	L	*8	*8	H	*8	*8	H	*8	*8	*8	L	L
AFM MUTE	IC003⑤	0	L	L	L	H	H	L	H	H	H	H	H	H	L	L
VIDEO CS	IC003⑤	0														
S02	IC003⑤	0														
SK2	IC003⑤	0														

V-cycle="Low" pulse

V-cycle pulse rank

V-cycle="Low" pulse rank

- \* 1. This outputs the result of determining what was the previous mode.  
 "High" output in SP mode, "Low" output in LP mode.
- \* 2. This outputs the result of determining which record mode the playback tape has.
- \* 3. Pseudo VD signal (However, only in after record mode).
- \* 4. Pulse of 25Hz, 90% duty (synchronized with the rotation of the drum)
- \* 5. "High" at the SP record portion and "Low" at the LP record portion of tape.
- \* 6. "High" at the blank portion or at any drop out portion of tape.  
 Head chugging detection input.
- \* 7. Composite sync signal input separated from line input video signal, camera video signal or playback video signal. (This signal has positive polarity).
- \* 8. "Low" during shuttle editing from REC PAUSE, "High" while in any other mode entered and "Low" when LP mode is entered.
- \* 9. This varies according to SF/TLP switching. It becomes "High" when SP mode is entered and "Low" when LP mode is entered.



**6-2. MECHANICAL CONTROL - SERVO BLOCK INTERFACE (MA-175 BOARD)**

Signal	Pin No.	I/O	VTR MODE													
			STOP	EF	REW	X2	-X2	PB	PICTURE SEARCH	REVIEW	PB+ PAUSE	SLOW	REVERSE SLOW	REC PAUSE		
T. REEL FG IC902 (5)	I	I	-	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1
S. REEL FG IC902 (6)	I	I	-	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1
ATF ERROR IC902 (4)	I	I	-	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2
DRUM PG IC902 (8)	I	I	-	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3
DRUM FG IC902 (9)	I	I	-	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4
CAP PG/RMS CAP FG IC902 (7)	I	I	-	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5
CAP ON IC902 (10)	O	O	L	H	H	H	H	H	H	H	H	H	H	H	H	H
REF PILOT IC902 (5)	O	O	*7	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6
RF PB MODE IC902 (6)	O	O	L	L	L	L	L	L	L	L	L	L	L	L	L	L
DRUM RVS *11 IC902 (8)	O	O	H	H	H	H	H	H	H	H	H	H	H	H	H	H
CAP FWD IC902 (9)	O	O	L	H	L	H	L	H	L	H	L	H	L	H	L	H
DRUM PWM IC902 (7)	O	O	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
CAP PWM IC902 (10)	O	O	L	L	L	L	L	L	L	L	L	L	L	L	L	L

- \* 1. The amplitude modulated pulse is input by the rotation of the reel.
- \* 2. ATF error voltage input.
- \* 3. Approximately 25Hz.
- \* 4. Approximately 150Hz.
- \* 5. 500 Pz pulses are input by one rotation of the cassette. Approximately 1320Hz during REC/PB (SP) mode.
- \* 6. Four frequencies are output as synchronized with the rotation of the drum.  
 f1 = 104.025kHz, f2 = 117.194kHz, f3 = 162.705kHz, f4 = 146.468kHz
- \* 7.  $\Pi(101.025kHz)$  or  $\Pi(162.705kHz)$  is output.
- \* 8. "High" pulse when tape is delivered.
- \* 9. "Low" pulse when tape is delivered.
- \* 10. PWM signal with a period.
- \* 11. Normally "High". Temporarily "Low" when a full top cassette is loaded (drum reverse rotation).

66-3. MECHANICAL CONTROL MICRO COMPUTER CXP87140 (MA-173 BOARD IC003)  
PORT FUNCTION DESCRIPTION

Pin No.	Signal	Function
1	VHKS	Tallent kill.
2	JOG VD	0 Posivo V limiting output in speed change playback mode.
3	EMERG	0 Video memory write control.
4	JOG	0 "M" as speed change playback mode.
5	FF FB M/DOB	0 "L" in any mode other than record mode.
6	FEARN	0 "T" when thing error is turned ON.
7	INTERNAL VD	0 Internal VD.
8	SP	0 "M" as SP mode.
9	XSERV REQ	0 Enable/blank waveform control.
10	TRSW	0 Trm sign/chose button input.
11	N.C.	Not used.
12	PCAM ACT	0 "M" when PCAM is effective.
13	C DOWN SW	0 Composite down switch input.
14	REC EFF SW	0 Picture record inhibit switch input.
15	M/SP SW	0 ME/MP switch input.
16	M/PHI HP SW	0 ME/PHI/MP switch input.
17	R/S SW	0 R/S for switch input.
18	MODE 1 SW	0 Mechanical deck MATRIX input.
19	MODE 2 SW	0 Mechanical deck MATRIX input.
20	MODE 3 SW	0 Mechanical deck MATRIX input.
21	MODE 4 SW	0 Mechanical deck MATRIX input.
22	MODE 5 SW	0 Mechanical deck MATRIX input.
23	STB	0 Stereo signal output to EVH.
24	VIDEO CS	0 CS output to video IC.
25	VIDEO CS	0 CS output to video IC.
26	VISO CS	0 CS output to VSO IC.
27	PCM CS	0 CS output to PCM IC.
28	MEMORY CS	0 CS output to memory control IC.
29	PCM SELL 1	0 Audio output control.
30	PCM SELL 2	0 Audio output control.
31	N.C.	Not used.
32	N.C.	Not used.
33	PCM FB	0 "M" in PCM playback mode.
34	N.C.	Not used.
35	UNSEL 2	0 Input signal select.
36	UNSEL 1	0 Input signal select.
37	AF REC	0 After record control.
38	TOP/END LED	0 Tape ejection sensor LED control.
39	GND	GND.

Pin No.	Signal	Function
40	RESET	0 Reset input.
41	VSS	GND.
42	3EM XTAL	0 3.14159MHz.
43	3EM EXTAL	0 3.14159MHz.
44	3EM RYCS	0 CS input for communication with MC microcomputer.
45	S1 BUS	0 Data input for communication with MC microcomputer.
46	S0 BUS	0 Data output for communication with MC microcomputer.
47	SCR	0 Check input for communication with MC microcomputer.
48	TR LOAD	0 Try in control output.
49	TR UNLOAD	0 Try out control output.
50	HR DPT	0 HR determination input.
51	APM MODULE DET	0 APM module determination input.
52	A VSS	Analog GND.
53	A VREF	Analog reference SV.
54	A VDD	Analog VDD SV.
55	TR HI	0 Try state switch input (HI). Analog input.
56	TR DMT	0 Try state switch input (DMT). Analog input.
57	FB SP DPT	0 Feedback mode, SP/PLP discrimination input to "M" for SF.
58	N.C.	Not used.
59	TOP S	0 Tape top determination input. Analog input.
60	END S	0 Tape top determination input. Analog input.
61	JATE ERR	0 JATE error input. Analog input.
62	THEBM	0 Temperature compensation input. Analog input.
63	N.C.	Not used.
64	REEL FB	0 Reel FB input.
65	CLOCK DET	0 Clock detect input.
66	DI SYNC	0 Composite sync input.
67	REEL PG	0 Reel PG input.
68	DRUM PG	0 Drum PG input.
69	DRUM PG	0 Drum PG input.
70	CAP PG	0 Capstan PG input.
71	V MUTE	0 Video mute output.
72	AFM MUTE	0 AFM MUTE output.
73	MICHA INH	0 Output signal which is supplied during mechanism transfer.
74	DEORM INVS	0 Deam direction control output.
75	CAP PWM	0 CAP PWM output for capstan.
76	DRUM PWM	0 PWM output for drum.
77	HMS CAP PG	0 Capstan PL input for HMS counter.

Pin No	Signal	UD	Function
79	ATE CLK	0	Output for ATE clock.
79	C-SIG	1	Communication data input for specific peripheral IC.
80	C-SIG	0	Communication data output for specific peripheral IC.
81	C-SIG2	0	Communication clock output for specific peripheral IC.
82	AFM OUTSEL	0	AFM output control "H", "L" and "M" levels.
83	AFM RIDGE	0	AFM mode control "H", "L" and "M" levels.
84	AUDIO PG	0	"H" to audio playback mode.
85	REP PILOT	0	ATF pilot output.
86	XTAL	1	XTAL BATT.
87	EXTAL	0	XTAL BATT.
88	VSS		GND.
89	VDD		+5V.
90	N.C.	0	Not used.
91	CAP ON	0	Capstan (ON signal).
92	CAP FWD	0	Capstan direction select signal.
93	DRUM ACC	0	Drum acceleration signal.
94	DRUM BRK	0	Drum brake signal.
95	CAM LOAD	0	Capstan compartment motor control.
96	CAM UNLOAD	0	Cassette compartment motor control.
97	ENT	0	"L" in auto mode.
98	VA PR ADJ06	0	"H" in playback mode.
99	RF SWP	0	RF switching pulse output.
100	PRBA	0	Play/stop REC pulse.

**6-4. MODE CONTROL MICRO COMPUTER M689096 (MA-173 BOARD #C002)  
PORT FUNCTION DESCRIPTION**

Pin No.	Signal	Function
1	XTAL 25K	32.768Kc oscillator connecting pin.
2	EXTAL 25K	1 Connected to ground.
3	MODE 0	1 Connected to ground.
4	MODE 1	1 Connected to ground.
5	XTAL 32M	0 DMHZE multi oscillator connecting pin.
6	EXTAL 32M	1 GND.
7	VSS	0
8	MC RESET	1 Resets signal input (from JT D584-200).
9	LANC P CONT	0 LANC IC power control.
10	S/STEP	0 Switch output between line video input and S/V.
11	MCAM/STAN (MP, UB mode)	0 APRI select in MCAM.
12	F PAL (B mode)	0 Transcable force PAL.
13	TUNER ON (A/C, MP, UB mode)	0 Tuner power output.
14	STS 1 (B mode)	0 Tuner system BCL.
15	STS 2 (B mode)	0 Tuner system E/L reject output (B mode) only.
16	COMPOS	0 CS output for communication with system control.
17	COMD/RESET	0 System control reset signal output.
18	HIFT CS	0 FT microcomputer chip select signal.
19	POWER FAIL	1 Power failure detect input.
20	CO VD	1 V sync signal input.
21	EURO S/V	0 EURO A/V output S/V select signal.
22	C+ BET	1 CANAL+ select signal input.
23	C+ DATA	0 CANAL+ control signal.
24	C+ CLK	0 CANAL+ control signal.
25	BCL	1 IC BUS clock.
26	S/OA	1 IC BUS clock.
27	H/LED	0 H/LED control.
28	H. C.	0 Not used.
29	REC LED	0 REC LED control.
30	0V	0 GND.
31	PPTR (AV CONT)	0 BIRD A/V input select output.
32	SYS RESET	0 SYSTEM RESET OUTPUT.
33	TIMER LED	0 TIMER REC LED output.
34	SIGCS IN	1 SIGCS signal input.
35	LANC RP	1 LANC vakeup pin.
36	EVK STB	0 D/A strobe signal for EVR (MA-115 board) only.
37	VPS LED	0 VPS LED control.

Pin No.	Signal	I/O	Function
38	JOC 1	I	JOG data port input.
39	JOC 2	I	JOG data port input.
40	MC V OUF	O	V sync signal output.
39-48	R. C.	O	N. C.
49	VCC	O	+5V
50-51	H. C.	O	N. C.
52	VPEP	O	+5V.
53-54	R. C.	O	N. C.
55	VSS	O	GND.
56-59	H. C.	O	N. C.
60	VCC	O	+5V.
61-74	H. C.	O	N. C.
75	RF MOD DN	O	RF modulator power control.
76	MC SH	I	Serial data input.
77	MC SH	I	Serial data input.
78	MC S/O	O	Serial data output.
79	MC S/O	O	Check output for serial communication.
80	MEMO CS	O	EEPROM chip select signal output (MA-173 board) IC008.
81	MEMO CLK	O	EEPROM clock output (MA-173 board) IC008.
82	MEMO DATA	I/O	EEPROM data input/output (MA-173 board) IC008.
83	AVSS	O	0VTL.
84-91	A/D0-A/D7	I	A/D input for key read.
92	AVCC	I	+5V.
93	DEST	I	VC-0V (PT) approx 84V, AB: approx 1V, UB: approx 24V, B: approx 1.0V
94	S S/W INPUT	I	5 pin switch input (determination detect) line.
95	H. C.	O	N. C.
96	JBSSEL 1	O	CANAL+ input select.
97	LANC IN	I	LANC input.
98	LANC OUT	LANC output.	
99	TA MUTE	O	UV timer mute.
100	VCC	O	+5V.

6-5. TIMER/TUNER CONTROL MICRO COMPUTER MESSAGE (FM-16 BOARD K101)  
PORT FUNCTION DESCRIPTION

Pin No.	Signal	Function
1	X-TIME SW	0 28kHz oscillator connecting pin
2	EXTAL-28K	0
3	AMP0-0	1 Connected to ground
4	MOD-1	0 Connected to ground
5	X-TAL-16K	0 16kHz main oscillator connecting pin
6	EXTAL-16K	1
7	VSS	0 GND
8	RESET SW	100 Reset signal input
9	PULL-ENABLE	0 Enable output for U/V tuner frequency setting
10	DATA-DATA	0 Data output for U/V tuner frequency setting
11	FLG-CLOCK	0 Clock output for U/V tuner frequency setting
12	VPS-CS	0 CS output for VPS microcomputer
13	N.C.	0 N.C.
14	TIME-AP-REC-LED	0 Time code after record LED control output
15	MC-RESET	0 Reset output for MC microcomputer which is driven "L" to reset
16	INIT-CS	1 CS input for communications with MC microcomputer
17	POWER-FAIL	1 Power failure detect input which is driven "L" when power failure is detected
18	V-SYNC	1 V synchronize output from MC microcomputer
19	TUNER-V-DET	1 V detect input from U/V tuner
20	CS-CS	0 CS output for character generator control
21	AP-REC-LED	0 PCM after record LED control output
22	POWER-FAIL-COPY	0 Power failure detect output which is driven "L" when power failure is detected
23	N.C.	0 N.C.
24	VB-LED	0 Video boost LED control
25	CASSET-LED	0 Cassette in LED control
26	N.C.	0 N.C.
27	N.C.	0 N.C.
28	ON	0 Connected to ground
29	MC-S0	1 Data input for communications with MC microcomputer
30	MC-S1	0 Data output for communications with MC microcomputer
31	MC-S2K	1 Clock input for communications with MC microcomputer
32	LED-CS	0 CS output for LED controller
33	N.C.	0 N.C.
34	CS-V-DET	1 Signal presence determination input (Blue Back)
35	N.C. (LCD BL-CDDIT)	0 Flash "L" in the present
36	N.C.	0 N.C.
37	N.C.	0 N.C.

Pin No.	Signal	Function
38	POWER-CDDIT	0 Power on: H
39-48	S0-S10	0 FDP segments 01-10: Display tube control signal.
49	VCC	+5V
50-52	S11-S13	0 FDP segments 11-13: Display tube control input
53	VDDP	0 Voltage for display tube
54-57	S14-S17	0 FDP segments 14-17: Display tube control signal
58	VSS	GND
59-61	S18-S20	0 FDP segments 18-20: Display tube control signal
62-64	G12-G14	0 FDP and 12-14: Display tube control signal
65	VCC	+5V
66-74	G01-G11	0 FDP and 07-11: Display tube control signal.
75	N.C.	0 N.C.
76	N.C.	0 N.C.
77	TT-OSU-S1	1 Serial data input for character generator, VPS, and LCD
78	TT-OSU-S2	0 Serial data output for character generator, VPS, and LCD
79	TT-OSU-S2K	0 Serial communication clock output for character generator, VPS and LCD
80	MEM-CS	0 EPROM chip select signal output (FM-16 board IC10)
81	MEM-CLK	0 EPROM clock output (FM-16 board IC10)
82	MEM-DATA	140 EPROM data I/O output (FM-16 board IC10)
83	AVSS	GND
84	AFT-IN	1 V/C signal AFT input
85	N.C.	0 N.C.
86	N.C.	0 N.C.
87	J4-C	0 N.C.
88	PCM-LED	0 PCM LED control
89	HIFI-LED	0 HIFI LED control
90	TBC-LED	0 TBC LED control
91	DNR-LED	0 DNR LED control
92	AVCC	+5V
93	N.C.	0 N.C.
94	STANDBY-LED	0 Standby LED control
95	N.C.	0 N.C.
96	REMOTE-LED	0 Remote LED control
97	N.C.	0 N.C.
98	N.C.	0 N.C.
99	BULZER-CDDIT	0 Bulzer out
100	VCC	+5V

## 6-6. PCM/AFM AUDIO OUTPUT CONTROL

### 1) PB MODE OUTPUT CONTROL

#### 1-1) PCM POSITION (AUDIO MONITOR SW)

PCM ON/OFF	PCM ID	AFM MODE DET	MAIN/SUB	DISPLAY	OUTPUT PATTERN (MA-173 BOARD)							
					PCM SEL1	PCM SEL2	OUT SBL3	OUT SEL4	AFM OUT SEL	AFM MUTE	AFM MODE	
					IC003	IC004	IC010	IC011	IC018	IC019	IC020	
ON	STEREO	-	STEREO	STEREO	H	H	L	L	-	M	-	
			L	L	H	L	L	L	-	R	-	
			R	R	L	H	L	L	-	R	-	
	BILINGUAL	-	MAIN+SUB	MAIN+SUB	H	H	L	L	-	R	-	
			MAIN	MAIN	H	L	L	L	-	R	-	
			SUB	SUB	L	H	L	L	-	R	-	
MONO	-	-	No change	-	H	H	L	L	-	R	-	
OFF	-	L	STEREO	STEREO	L	L	L	L	L	L	M	
			L	L	L	L	L	L	H	L	M	
			R	R	L	L	L	L	M	L	M	
	-	H	MAIN+SUB	MAIN+SUB	L	L	L	L	L	L	M	
			MAIN	MAIN	L	L	L	L	H	L	M	
			SUB	SUB	L	L	L	L	M	L	M	
	-	M	-	No change	-	L	L	L	L	H	L	M

### 1) PB MODE OUTPUT CONTROL

#### 1-2) MIX POSITION (AUDIO MONITOR SW)

PCM ON/OFF	PCM ID	AFM MODE DET	MAIN/SUB	DISPLAY	OUTPUT PATTERN (MA-173 BOARD)						
					PCM SEL1	PCM SEL2	OUT SBL3	OUT SEL4	AFM OUT SEL	AFM MUTE	AFM MODE
					IC003	IC004	IC010	IC011	IC018	IC019	IC020
ON	STEREO	L (STEREO)	STEREO	STEREO	H	H	L	L	L	L	M
			L	L	H	L	L	L	H	L	M
			R	R	L	H	L	L	M	L	M
		H (BILINGUAL)	STEREO	STEREO	H	H	L	L	L	L	M
			L	L	H	L	L	L	H	L	M
			R	R	L	H	L	L	M	L	M
	M (MONO)	STEREO	STEREO	H	H	L	L	H	L	M	
		L	L	H	L	L	L	R	L	M	
		R	R	L	H	L	L	R	L	M	
	BILINGUAL	L (STEREO)	MAIN+SUB	MAIN+SUB	H	H	L	L	L	L	M
			MAIN	MAIN	H	L	L	L	H	L	M
			SUB	SUB	L	H	L	L	M	L	M
		H (BILINGUAL)	MAIN+SUB	MAIN+SUB	H	H	L	L	L	L	M
			MAIN	MAIN	H	L	L	L	H	L	M
			SUB	SUB	L	H	L	L	M	L	M
		M (MONO)	MAIN+SUB	MAIN+SUB	H	H	L	L	H	L	M
			MAIN	MAIN	H	L	L	L	R	L	M
			SUB	SUB	L	H	L	L	R	L	M
MONO	-	-	No display	H	H	L	L	H	L	M	

1) PB MODE OUTPUT CONTROL

1-3) MIX POSITION (AUDIO MONITOR SW) STD POSITION

PCM ON/OFF	PCM ID	AFM MODE DET	MAIN/SUB	DISPLAY	OUTPUT PATTERN (MA-173 BOARD)							
					PCM SEL1	PCM SEL2	OUT SEL1	OUT SEL2	AFM OUT SEL	AFM MUTE	AFM MODE	
					IC009	IC009	IC001	IC001	IC002	IC002	IC002	
OFF	-	L	STEREO	STEREO	L	L	L	L	L	L	L	M
			L	L	L	L	L	L	H	L	M	
			R	R	L	L	L	L	M	L	M	
	-	H	MAIN+SUB	MAIN+SUB	L	L	L	L	L	L	L	M
			MAIN	MAIN	L	L	L	L	H	L	M	
			SUB	SUB	L	L	L	L	M	L	M	
-	M	No change	-	L	L	L	L	H	L	M		

• See BE mode when in after record mode.

2) EE MODE OUTPUT CONTROL

INPUT STEREO/BILINGUAL MODE	AUDIO MONITOR SW	MAIN/SUB	DISPLAY	OUTPUT PATTERN (MA-125 BOARD)						
				PCM SEL1	PCM SEL2	OUT SEL1	OUT SEL2	AFM OUT SEL	AFM MUTE	AFM MODE
				IC009	IC009	IC002	IC002	IC002	IC002	IC002
TUNER MONO	AUTO	-	-	H	H	L	L	H	H	L
	MIX			H	H	L	L	H	L	L
	STD			L	L	L	L	H	L	L
TUNER ST LINE ST	AUTO	-	STEREO	H	H	L	L	L	H	H
	MIX	-		H	H	L	L	L	L	H
	STD	-		L	L	L	L	L	L	H
TUNER BIL LINE BIL	AUTO	MAIN+SUB	MAIN+SUB	H	H	L	L	L	H	M
		MAIN	MAIN	H	L	L	L	H	M	
		SUB	SUB	L	H	L	L	M	H	M
	MIX	MAIN+SUB	MAIN+SUB	H	H	L	L	L	L	M
		MAIN	MAIN	H	L	L	L	H	L	M
		SUB	SUB	L	H	L	L	M	L	M
	STD	MAIN+SUB	MAIN+SUB	L	L	L	L	L	L	M
		MAIN	MAIN	L	L	L	L	R	L	M
		SUB	SUB	L	L	L	L	M	L	M

- "AFM MUTE" is to be driven "H" when After Record (including After Record PAUSE) is selected.
- Dip. HiFl is lit when STEREO/BILINGUAL is displayed. However, it is lit off when After Record (including PAUSE) is selected.
- Whether Playback or REC System is selected, the "AFM MIX" port is driven "H" when the Audio Monitor switch is placed in MIX. Otherwise, it is driven "L".
- EE System is followed in SHUTTLE EDIT mode.
- Each signal has the levels shows below.
  - AFM OUTSEL --H=4.0V or more, M=2.0 to 2.7V, L=0.8V or less.
  - AFM MODE DET--H=3.4V to 4.75V, M=1.5 to 2.6V, L=0 to 0.8V.
  - AFM MODE --H=4.0V or more, M=2.0 to 2.7V, L=0.8V or less.

- In MUTE mode.
  - OUTSEL1, 2="L", AFM MUTE="H"

3) INPUT SELECT CONTROL

MA-173 BOARD	LINE1	LINE2	LINE3	TUNER
INSEL1 (IC009)	L	L	H	L
INSEL2 (IC009)	L	H	L	L
INSEL3 (IC009)	H	H	L	L

• H=4V or more, L=0.8V or less

## SECTION 7 ADJUSTMENTS

### (SERVICE MODE)

→ This unit uses the EVR (Electronic Variable Resistor) for performing adjustments and tests. These functions are implemented by the SENSER LANC system.

#### 1. SENSER LANC

SENSER LANC is the LANC format designed to perform EVR (electronic variable resistor) adjustments and various tests for this 8mm VTR by using the LANC (Control L). The SENSER LANC is synonymous with the old SERVICE LANC. But there have been enhancements and the SENSER LANC is now used as a unified word.

#### 2. HOW TO USE THE RM-95 JIG (ADJUSTMENT REMOTE CONTROL)

The RM-95 jig is used to operate the SENSER LANC. This jig will create the SENSER LANC Mode. Because of this, the HOLD switch has been modified for service purpose.

Note that the old models of the RM-95 have no page display function and it is needed to replace their microcomputers within these old models.

Old	$\mu$ PD7503G-A71-12 $\mu$ PD7503G-C23-12	8-758-142-56 8-758-146-77	No Page display (The microcomputer must be replaced.)
New	$\mu$ PD7503G-C56-12	8-758-148-35	Page display

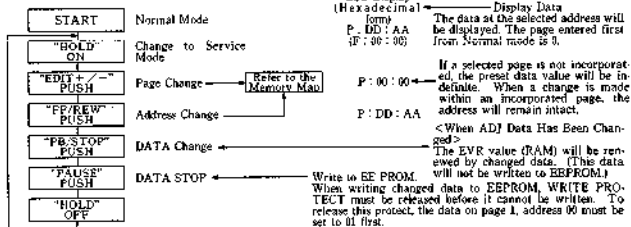
LCD Display of RM-95

Example



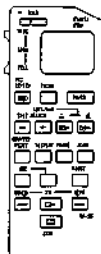
This means that the data on page 1, address 3D is 3F.

#### 3. HOW TO CHANGE THE SERVICE MODE WITH RM-95



RM-95 (J-6082-053-B)

Command	Action	RM-95 Control Button Pushed
Page Up	Page +1	Edit Search +
Page Down	Page -1	Edit Search -
Address Up	Address +1	Fast Forward
Address Down	Address -1	Rewind
Data Up	Data +1	Play Back
Data Down	Data -1	Stop
Store	Writes data to EEPROM, RAM	Pause





#### 4. SENSER LANC MEMORY MAP



This unit has pages 0 to F allocated as listed below.

PAGE	Page Allocation
0	
1	D Page Protect Release
2	
3	
4	
5	
6	F Page Protect Release
7	
8	
9	
A	
B	
C	
D	EEPROM on the MA Board
E	
F	EEP ROM on the FM Board

Note) There are 16 different pages from C to F available. These pages are allocated as listed above. In particular, address 00 on each page is called category. For example, "category 3 on page 2" means that data 03 is placed at address 00 on page 2.

#### 5. EEPROM WRITE PROTECT

EEPROM Write Protect is released and established as follows:

Page	Address 00
------	------------

Data	Function
00	Normal (Write Protected)
01	Write Protect Release

Note 1: EEPROM on page D is located on the MA board.

Note 2: After completing necessary adjustments/repairs, be sure to return the data at this address to 00.

Note 3: No special adjustment (data write) is required for page F.

To release page F from protection, write 01 onto address 00 on page 6.

## 6. TEST MODE SETTING

Page 3	Address 01
--------	------------

Data	Function
01	<p>Track Shift Playback</p> <ul style="list-style-type: none"> <li>Automatic discrimination between SP and LP is also inhibited and REC SP/LP is followed.</li> <li>Data at address 08 in category 2 should be changed if you want to change track shift amount.</li> </ul>

Page B	Address 10
--------	------------

Data	Function
06	<p>Clock Adjustment</p> <ul style="list-style-type: none"> <li>When 2F is written to address 23 in category 0 in port check mode, BUZZER OUT will oscillate at 4096Hz.</li> </ul>

## 7. EMERGENCY CODES

These codes can be used to check the condition of failure (abnormality) that occurred

Page D	Address EC
--------	------------

### First Emergency Code

...The code of the first failure that occurred.

Page D	Address E8
--------	------------

### Second Emergency Code

...The code of the second failure that occurred.

Page D	Address E4
--------	------------

### Last Emergency Code

...The code of the last failure that occurred (This data will be renewed each time a failure occurs).

**Note 1:** After completing necessary adjustments/repairs, be sure to rewrite the data address EC, E8 and E4 to 00.

**Note 2:** When writing data, after setting the data, be sure to press the PAUSE button on the adjustment remote control.

Code	Condition of Failure
00	No failure
10	Load Direction, Cam Encoder Failure
11	Unload Direction, Cam Encoder Failure
22	T Reel Rotational Failure
23	S Reel Rotational Failure
24	PG Failure at Start of T Reel
25	PG Failure at Start of S Reel
30	Failure at Start of Capstan
31	Failure During Stationary Operation of Capstan
40	PG Failure at Start of Drum
41	PG Failure at Start of Drum
42	PG Failure During Stationary Operation of Drum
60	FL Cassette Compartment Failure
70	DEW EJECT Failure

### 8. D PAGE MEMORY MAP

Note) When replacing EEPROM on the MA board, set data on page D as follows.

Address	Function	Initial Value	Memo Column
00		00	
01		00	
02			
03	Adjustment Mode	04	
04	Switching Position Adjustment (LOW)	Adjustment	
05	Switching Position Adjustment (HIGH)	Adjustment	
06			
07		7C	
08		56	
09		AD	
0A		38	
0B		39	
0C		39	
0D		39	
0E		FD	
0F		39	
10		21	
11		22	
12		10	
13	SP/LP Voltage Adjustment	Adjustment	
14			
15			
16			
17	Capstan Duty Adjustment	Adjustment	
18	PB VCO Adjustment	Adjustment	
19			
1A	FF VCO Adjustment	Adjustment	
1B	REW VCO Adjustment	Adjustment	
1C	High Speed FF VCO Adjustment	Adjustment	
1D	High Speed REW VCO Adjustment	Adjustment	
1E			
1F			
20			
21			
22			
23			
24			
25			
26			
27			
28		7C	
29		56	
2A		AD	
2B			
2C		7C	
2D		56	

Address	Function	Initial Value	Memo Cotam
2E		2D	
2F			
30-DF	Not used		
E0			
E1			
E2			
E3			
E4	Emergency Code (LAST)	00	
E5		00	
E6		00	
E7		00	
E8	Emergency Code (2nd)	00	
E9		00	
EA		00	
EB		00	
EC	Emergency Code (3rd)	00	
ED		00	
EE		00	
EF		00	
F0			
F1			
F2			
F3			
F4			
F5			
F6			
F7			
F8			
F9			
FA			
FB			
FC			
FD			
FE			
FF			

## 7-1. MECHANICAL ADJUSTMENTS

### For Mechanical Adjustments

For the procedures how to adjust and check the mechanism, as well as how to replace mechanical parts, refer to the separate 8mm Video Mechanical Adjustment Manual V (9-973-445-11).

However, for the procedures how to set the Track Shift mode, refer to the following text.

#### 1-1. TAPE PASS ADJUSTMENT

##### (TRACK SHIFT)

The 8mm Video Tape Recorder system uses the AFT (Automatic Track Finding) function in which four different pilot signals are used for controlling the tape speed instantaneously to provide high precision tracking. This eliminates the Tracking Adjustment control, thus allowing accurate tracing.

In spite of its advantageous feature, the AFT system may have a difficulty in adjusting the tape pass system. The ATF will automatically corrects tracing even if the head has only a little tracing distortion. This may make it impossible to perform a complete adjustment.

Therefore, when performing a fine adjustment for tracking, the Track Shift mode should be entered before starting this adjustment. This mode will force to operate the ATF to shift the amount of tracking by a given quantity (approximately 1/4), so that tracking can be easily fine adjusted. Furthermore, no track shift jig is needed.

##### 1-1-1. Setting the Track Shift Mode

- 1) Place the adjustment remote control RM-95 (J-6082-055-B) in the HOLD ON position.
- 2) Operate the EDIT +/- button to select adjustment page 3.
- 3) Operate the FF/REW button to select adjustment address 1.
- 4) Operate the PB/STOP button to set to adjustment data 1. (This will go to the Test Mode 3 (Pass Adjustment).)

**Note 1:** For details of the Test Mode, refer to "SECTION 2. SERVICE MODE."

**Note 2:** If the LP mode is recognized by the system wrongly, operate the Recording Time SP/LP button to enter the SP mode.

**Note 3:** After adjustment, operate the PB/STOP button to reset to adjustment data 1. Place the remote control in the HOLD OFF position to return to the normal mode.

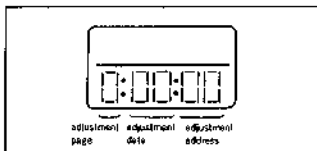


Fig. 7-1-1.

##### 1-1-2. Preparation before Adjustment

- 1) Clean the surfaces over which tape moves past (of the tape guides, drum, capstan shaft and pinch rollers).
- 2) Oscilloscope Connection and Waveform Output:  
1 ch: Drum head's RF signal output, RP-165 board CN001 pin ③ (PB Y)  
External trigger input: RP-165 board CN001 pin ② (RF SWP)  
GND: RP-165 board CN001 pin ① (GND)
- 3) Play back alignment tape for tracking (WR5-1CP)
- 4) Check that RF waveform observed on the oscilloscope is flat on both entrance and exit sides.  
If not flat, perform necessary adjustment according to the separate 8 mm Video Mechanical Adjustment V.

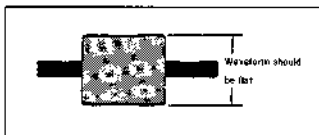


Fig. 7-1-2.

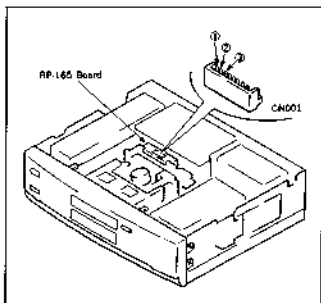


Fig. 7-1-3.

## 7-2. ELECTRICAL ADJUSTMENTS

See the adjusting part location diagram from on page 7-38 for the adjustment.

For details of the SENSER LANC, refer to "7 SERVICE MODE".

### 2-1. PREPARATION BEFORE ADJUSTMENT

#### 2-1-1. Equipment Required

The measuring instruments used for this alignment include:

- 1) Monitor TV
- 2) Oscilloscope, dual-trace, bandwidth of 30MHz or more, with delay mode (A probe 10:1 should be used unless otherwise specified)
- 3) Frequency counter
- 4) Pattern generator (with Video Output terminal; refer to Section 7-2-1. Equipment Connection)
- 5) Digital voltmeter
- 6) Audio generator
- 7) Audio level meter
- 8) Audio distortion meter
- 9) Audio attenuator
- 10) Vector scope
- 11) Alignment tapes
  - For tracking adjustment (WR5-1CP)  
Part No.: 8-967-995-07
  - For video frequency adjustment (WR5-7CG)  
Part No.: 8-967-995-19
  - For L mode operation check
    - For SP (WR5-5CSP)  
Part No.: 8-967-995-46
    - or (WR5-4CSP)  
Part No.: 8-967-995-47
    - For LP (WR5-4CL)  
Part No.: 8-967-995-56
  - For E mode operation check (ME tape)
    - For SP (WR5-9CSE)  
Part No.: 8-967-995-48
    - For LP (WR5-8CLE)  
Part No.: 8-967-995-57
  - For AFM stereo operation check (WR5-9CS)  
Part No.: 8-967-995-28
- 12) Adjustment remote control (J-6082-453-B)

### 2-1-2. Equipment Connection

According to the specification of the input terminal (S VIDEO or VIDEO), connect required measuring instruments as shown in Fig. 7-2-1, and perform adjustment. The input terminal is specified in the parentheses ( ) in the signal column. Unless otherwise specified, either terminal may be used. Note that the S VIDEO input terminal takes precedence. When performing adjustment with the VIDEO input terminal, pull out the connector from the S VIDEO input terminal.

**Note 1 :** When S VIDEO input is specified for a specific adjustment, if the adjustment is performed with VIDEO input, the product specifications for this unit may not be satisfied. The specified input must be always used.

**Note 2 :** If an adjustment is performed by using a VTR with S Video output terminal as a signal source, the performance of this unit will be affected by that VTR. A pattern generator with Y/C separation output terminal should be used whenever possible.

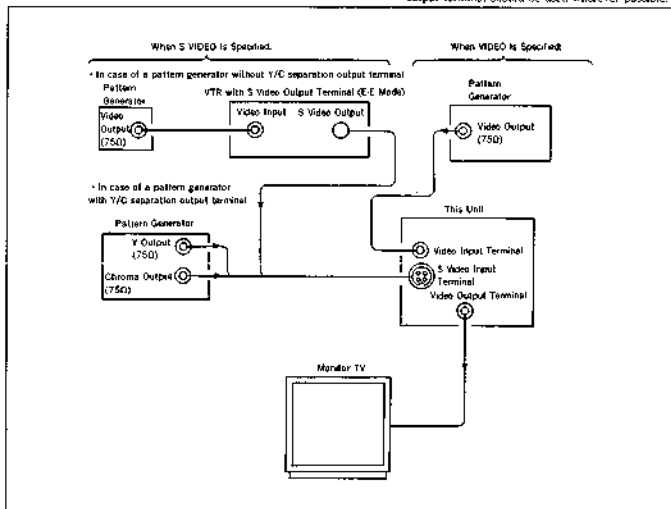


Fig. 7-2-1.

### 2-1-3. Input Signal Check

Video signal produced by a pattern generator is used as an adjustment signal to perform electrical alignment for this unit. This video signal must satisfy the specification.

#### 1) S VIDEO Input

Connect an oscilloscope to the Y Signal terminal of the S Video Input terminal. Check that the synchronizing signal of the Y signal is approximately at 0.3Vp-p and that its video portion has an amplitude of approximately 0.7Vp-p. (When a VTR with S video output terminal is used, in addition to these checks, make sure that there are no residual chroma and burst signals.) Then, connect the scope to the Chroma signal terminal of the S Video Input terminal and check that the chroma signal has a burst signal amplitude of 0.3Vp-p and the burst signal waveform is flat. And check that the amplitude ratio of burst signal to chroma signal is 0.30 : 0.66. The Y and chroma signals used for electrical alignment are shown in Fig. 7-2-2.

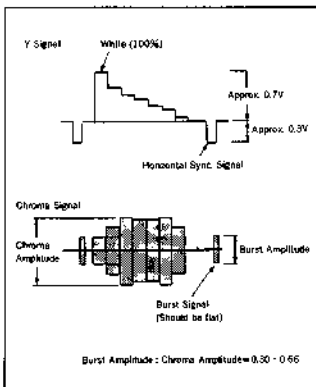


Fig. 7-2-2. Color Bar Signals of Pattern Generator

#### 2) VIDEO Input

Connect an oscilloscope to the Video Input terminal. Check that the synchronizing signal of the Y signal has an amplitude of approximately 0.7V and that the burst signal has an amplitude of approximately 0.3V and its waveform is flat. And check that the level ratio of burst signal to "red" signal is 0.30 : 0.66.

The video signal (color bar) used for electrical alignment this unit is shown in Fig. 7-2-3.

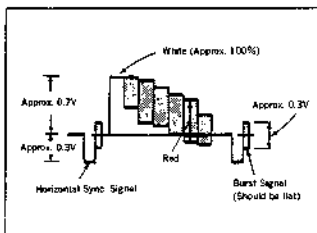


Fig. 7-2-3. Color Bar Signals of Pattern Generator



### 2-1-4. Alignment Tapes

The following alignment tapes are available.

The tape specified in the signal column for the adjustment to be performed should be used.

Note that if no tape code is specified for the adjustments in which alignment tapes for operation check are used, any tape for operation check may be used.

Alignment Tape	Record Mode	Tape Type	Tape Speed	Contents of Record		Applications
				Video Area	PCM Area	
Tracking WRS-1CP	L	MP	SP	CH2: 1MHz tape pass adjustment signal Switching position adjustment marker (CH1: 9MHz)		Tape pass adjustment Switching position adjustment
Video frequency characteristic WRS-7CE	E	ME	SP	RF sweep 0~15MHz Marker 2, 4.5, 7, 8.5, 10MHz		Frequency characteristic
Operation check WRS-4CSP or WRS-5CSP	L	MP	SP	<ul style="list-style-type: none"> <li>Video signal Color bar 4 min. Monoscope 4 min.</li> <li>Audio signal (AFM) 400Hz 60% modulated</li> </ul>	<ul style="list-style-type: none"> <li>Audio signal (PCM) Monoscope portion 50Hz 20sec. This cycle 400Hz 20sec. is repeated 14 times</li> <li>Color bar portion 1kHz, 4min.</li> </ul>	Operation check
WRS-6CSE	E	ME	SP		400Hz, 8min.	
WRS-4CL	L	MP	LP	<ul style="list-style-type: none"> <li>Video signal Color bar 4 min. Monoscope 4 min.</li> <li>Audio signal (AFM) 400Hz 60% modulated</li> </ul>		
WRS-3CL	L	MP	LP			
WRS-8ULE	E	ME	LP		<ul style="list-style-type: none"> <li>Audio signal (PCM) 400Hz</li> </ul>	
AFM stereo operation check WRS-9CS	L	MP	SP	<ul style="list-style-type: none"> <li>Video signal Color bar 4 min. Monoscope 4 min.</li> <li>Audio signal (AFM) Stereo portion (color bar) Lch: 400Hz Rch: 1kHz (L+R 1.5MHz±20kHz DEV) (L-R 1.5MHz±30kHz DEV) Bilingual portion (monoscope) MAIN: 400Hz (1.5MHz±60kHz DEV) SUB: 1kHz (1.7MHz±30kHz DEV)</li> </ul>	<ul style="list-style-type: none"> <li>Audio signal (PCM) 400Hz, 8 min.</li> </ul>	AFM stereo operation check

Note: Recording Mode

L ..... Conventional mode

E ..... Hi 8 (High Band) mode

Tape Type

MP ..... Metal powder tape

ME ..... Metal evaporated tape

The color bar signal recorded on these alignment tapes are shown in Fig. 7-2-4.

**Note:** This waveform is measured at the VIDEO-OUT terminal (terminated at 75Ω).

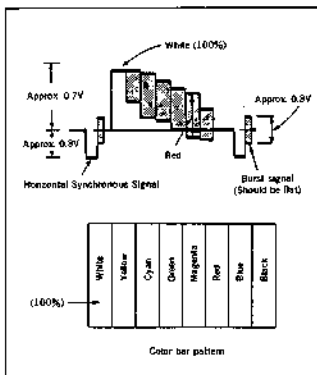


Fig. 7-2-4. Color Bar Signal of Alignment Tape

## 2x1-5. Input/Output Levels and Impedance

### Antenna

75-ohm asymmetrical aerial socket

### EURO-AY: LINE 1

21-pin

Video input: pin 20

Audio input: pins 2 and 6

Video/Luminance output: pin 19

Chrominance output: pin 15

Audio output: pins 1 and 3

### CANAL PLUS (EV-S9000E G/MP)

21-pin

### PAY-TV (EV-S9000E VC)

Video input: pin 20

Audio input: pins 2 and 6

Video output: pin 19

Audio output: pins 1 and 3

### LINE IN 2 and 3

S VIDEO IN (4-pin mini DIN) 1 each

Y: 1 V<sub>p-p</sub> 75ohms

(unbalanced), sync negative

C: 0.3 V<sub>p-p</sub> (colour burst) 75 ohms (unbalanced)

VIDEO IN (phono jack) 1 each

Input signal: 1 V<sub>p-p</sub>, 75 ohms (unbalanced), sync negative

AUDIO IN (phono jack) (2 each)

Input level: -7.5 dBs

(0 db = 0.775 Vrms)

Input impedance: more than 47 kilohms

### LINE OUT

S VIDEO OUT (4-pin mini DIN)

Y: 1 V<sub>p-p</sub> 75 ohms

(unbalanced), sync negative

C: 0.3 V<sub>p-p</sub> (colour burst) 75 ohms (unbalanced)

VIDEO OUT (phono jack)

Output signal: 1 V<sub>p-p</sub>, 75 ohms, (unbalanced), sync negative

AUDIO OUT (phono jack)

Standard output: -7.5 dBs at load impedance 47 kilohms

Output Impedance: less than 10 kilohms

### Microphone input

Mini-jack -60 dBa for

low impedance

microphone

### Headphone jack

Stereo mini-jack -26 dBa,

8 ohms

### CONTROL S IN

Mini-jack

### LANC

Stereo mini-mini-jack

## 2-2. POWER SUPPLY CHECK

### 2-2-1. Output Voltage Check (PS-316 Board)

Mode	E-E
Measurement Instrument	Digital voltmeter
UN 13.5V check	
Measurement point	CN002 pin ①, CN003 pin ②
Specified value	13.5 ± 1.5Vdc
UN 5.8V check	
Measurement point	CN002 pin ③, CN003 pin ④
Specified value	6.0 ± 0.2Vdc
SW 5V check	
Measurement point	CN002 pin ⑤, CN003 pin ⑥
Specified value	5.0 ± 0.2Vdc
UN -5V check	
Measurement point	CN003 pin ⑦
Specified value	-5.0 ± 0.2Vdc
SW -5V check	
Measurement point	CN003 pin ⑧
Specified value	-5.0 ± 0.2Vdc

#### [Check Method]

- 1) Each of these supply voltages must meet its specified value.

## 2-3. SYSTEM CONTROL SYSTEM ADJUSTMENTS

### 2-3-1. Timer Clock Adjustment (FM-16 Board)

Mode	E-E
Signal	Arbitrary
Measurement point	IC101 pin ⑩ (BUZZER OUT)
Measuring Instrument	Frequency counter
Adjustment element	CT001
Specified value	4096.040 ± 0.010Hz

**Note:** A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

#### [Adjustment Method]

- 1) Place the adjustment remote control RM-95 (J-4082-053-B) in the HOLD ON position.
- 2) Set address 09 on B page with data 01.
- 3) Set address 10 on B page with data 06.
- 4) Set address 06 on B page with data 00.
- 5) Set address 23 on B page with data 2F.
- 6) Use CT001 to adjust to 4096.040 ± 0.010Hz.
- 7) After this adjustment, push on the **RESET** key.

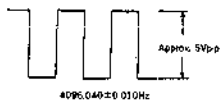


Fig. 7-2-5.

## 2-4. SERVO SYSTEM ADJUSTMENTS

### [Adjustment sequence]

1. PWM Frequency Adjustment
2. Switching Position Adjustment
3. CAP Duty Adjustment
4. SP/LP Discrimination Check
5. SLOW Adjustment

### 2-4-1. PWM Frequency Adjustment (MA-175 Board)

Mode	Record
Signal	Arbitrary
Measurement point	IC302 pin ①
Measuring instrument	Frequency counter
Adjustment element	RV301
Specified value	$475 \pm 25\text{kHz}$

### [Adjustment Method]

- 1) Set Recording Time to SP mode.
- 2) Use RV301 to adjust to  $475 \pm 25\text{kHz}$
- 3) Set Recording Time to LP mode.
- 4) Check for at  $475 \pm 25\text{kHz}$
- 5) If the specification is not met, repeat Steps 1) to 4).

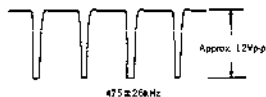


Fig. 7-2-6.

### 2-4-2. Switching Position Adjustment

Mode	Playback
Signal	Alignment tape. For operation check (WR5-ICF)
Measurement point	CH-1: RP-166 board CN001 pin ② (RF SWP) CH-2: RP-166 board CN001 pin ③ (PB RF 2CH)
Measuring instrument	Oscilloscope
Adjustment page	D
Adjustment address	05 04
Specified value	$t=0 \pm 5\mu\text{sec}$

### [Adjustment Method]

- 1) Place the adjustment remote control RM-95 (J-6082-053-B) in the HOLD ON position.
- 2) Use EDIT +/- button to select adjustment page 1.
- 3) Use FF/REW button to select adjustment address ① 0.
- 4) Use PB/STOP button to set to adjustment data ① 1.
- 5) Press PAUSE button on the remote control to store the adjustment data.
- 6) Use EDIT +/- button to select adjustment page ① 1.
- 7) Use FF/REW button to select adjustment address ① 5.
- 8) Operate PB/STOP button to change and set adjustment data so that  $t=0 \pm 25\mu\text{sec}$ .
- 9) Press PAUSE button on the remote control to store the adjustment data.
- 10) Use FF/REW button to select adjustment address ① 4.
- 11) Use FF/REW button to change and set adjustment data so that  $t=0 \pm 5\mu\text{sec}$ .
- 12) Press PAUSE button to store the adjustment data.

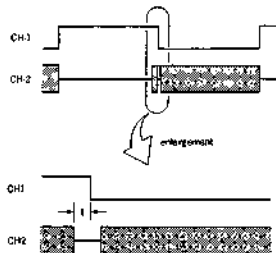


Fig. 7-2-7.

### 2-4-3. CAP Duty Adjustment

Mode	Record (LP mode)
Signal	Arbitrary
Measurement point	MA-173 board CN303 pin ① (CAP FG) and pin ② (CAP ERROR)
Measuring instrument	Oscilloscope
Adjustment page	D
Adjustment address	17
Specified value	$t_1 = t_2$

#### [Adjustment Method]

- 1) Place the adjustment remote control RM-95 (J-6062-053-B) in the HOLD ON position.
- 2) Set data at address 00 on page 1 to 01.
- 3) Change data at address 17 on page D and adjust so that  $t_1 = t_2$  (50% duty).



Fig. 7-2-8.

- 4) At this time, check that the V1 at pin ② level is minimum level.
- 5) Press PAUSE button to store the adjustment data.

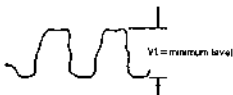


Fig. 7-2-9.

### 2-4-4. SP/LP Discrimination Check

(1) SP mode

Mode	Record (SP mode)
Signal	Arbitrary
Measurement point	MA-173 board CN303 pin ④ (SP/LP DET) and pin ⑤ (V REF)
Measuring instrument	Oscilloscope
Specified value	0.15V <sub>p-p</sub> or more

#### [Check Method]

- 1) Connect CH1 of an oscilloscope with CN303 pin ④ and CH2 with CN303 pin ⑤.
- 2) Check the difference in voltage at between pin ④ and pin ⑤.
- 3) If the specification is not satisfied, with adjustment remote control RM-95 (J-6062-053-B), change data at address 13 on page D and adjust so that the difference falls into the specified range.

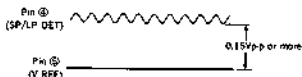


Fig. 7-2-10.

(2) LP mode

Mode	Record (LP mode)
Signal	Arbitrary
Measurement point	MA-173 board CN303 pin ④ (SP/LP DET) and pin ⑤ (V REF)
Measuring instrument	Oscilloscope
Specified value	0.35Vp-p or more

**[Check Method]**

- 1) Connect CH1 of an oscilloscope with CN303 pin ④ and CH2 with CN303 pin ⑤.
- 2) Check the difference in voltage at between pin ④ and pin ⑤.
- 3) If the specification is not satisfied, with adjustment remote control RM-95 (J-6082-083-B), change data at address 13 on page D and adjust so that the difference falls into the specified range.
- 4) After adjustment, perform the discrimination check in SP mode again.

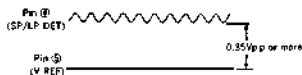


Fig. 7-2-11.

**2-4-5. SLOW Adjustment**

Mode	Self-record playback (SP and LP modes)
Signal	Color bar
Measurement point	CH-1: RP-165 board CN001 pin ② (RP SWP) CH-2: RP-165 board CN001 pin ④ (PB Y)
Measuring instrument	Oscilloscope
Adjustment page	D
Adjustment address	21 (SLOW TRACON DATA (LP)) 20 (SLOW TRACON DATA (SP)) 23 (-SLOW TRACON DATA (LP)) 22 (-SLOW TRACON DATA (SP))
Specified value	A=B

**[Adjustment Method]**

- 1) Record color bar signal in both SP and LP modes
- 2) Play back the recorded signal
- 3) Place the adjustment remote control in the HOLD ON position.
- 4) Use EDIT +/- button to select adjustment page **D**
- 5) Use FF/REW button to select adjustment address **21**.
- 6) Enter LP mode and check that the record is played back.
- 7) Use the remote commander or the EDIT SHUTTLE SLOW on the set to enter SLOW (1/5) mode.
- 8) Operate PB/STOP button on the remote control RM-95 to change and set adjustment data so that A=B
- 9) Press PAUSE button on the remote control to store the adjustment data.
- 10) In the same manner, select adjustment address **20** for SP Mode SLOW (1/5) mode, adjustment address **23** for LP Mode -SLOW (1/5) mode, and address **22** for SP Mode -SLOW (1/5) mode and adjust so that A=B.

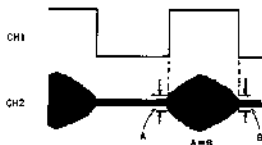


Fig. 7-2-12.

## 2-5. VIDEO SYSTEM ADJUSTMENTS

Color video signal supplied from a pattern generator is used as a video input signal for Video System Alignment in the Recording mode. This signal should be checked to ensure that it meets the specifications provided in Figs. 7-2-2 and 7-2-3 and "INPUT SIGNAL CHECK".

The adjustments in Video System Alignment should be performed in the following sequence.

### [Adjustment sequence]

1. Playback Frequency Characteristic Adjustment
2. SYNC AGC Adjustment
3. Accel Y Level Adjustment
4. Accel C Level Adjustment
5. Chroma Comb Filter Adjustment
6. Pre-emphasis Input Level Adjustment
7. L Mode Y FM Carrier Frequency, Y FM Deviation Adjustment
8. E Mode Y FM Carrier Frequency, Y FM Deviation Adjustment
9. Chroma Emphasis Adjustment
10. L Mode De-emphasis Level Adjustment
11. L Mode Playback Level Adjustment
12. E Mode De-emphasis Level Adjustment
13. E Mode Playback Level Adjustment
14. Recording Chroma Level Pre Adjustment
15. Recording Y Level Adjustment
16. L Mode Recording Chroma Level Adjustment
17. E Mode Recording Chroma Level Adjustment
18. Y/Chroma Adjustment
19. Carrier Leak Adjustment

## 2-5-1. Playback Frequency Characteristic Adjustment (RP-165 Board)

Note: The designation ( ) stands for adjustment on CH 2.

Mode	Playback
Signal	Alignment tape: for frequency characteristic adjustment (WRS-7CE)
Measurement point	CN001 pin ③ (PB RF 1CH) CN001 pin ⑤ (PB RF 2CH) External trigger: CN001 pin ④ (RF SWP) Trigger slope: (+)
Measuring Instrument	Oscilloscope
Adjustment element	RV001 (RV002)
Specified value	4.5MHz level : 8.5MHz level = 3 : (2 ± 0.2)

### [Adjustment Method]

- 1) Use RV001 (RV002) to adjust so that the ratio of 4.5MHz level to 8.5MHz of PB RF output waveform is 3 : (2 ± 0.2).

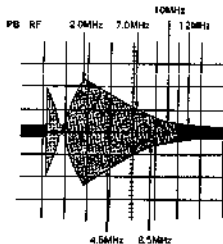


Fig. 7-2-13.

### 2-5-2. SYNC AGC Adjustment (VI-121 Board)

Mode	E-E
Signal	Color bar (S VIDEO)
Measurement point	CN101 pin Ⓞ (DI Y (X))
Measuring instrument	Oscilloscope
Adjustment element	RV107
Specified value	$1.00 \pm 0.05 \text{Vpp}$

#### [Adjustment Method]

- 1) Use RV107 to adjust to  $1.00 \pm 0.05 \text{Vpp}$ .

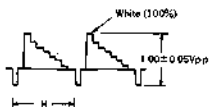


Fig. 7-2-14.

### 2-5-3. Accel Y Level Adjustment (VI-121 Board)

Mode	E-E
Signal	Color bar (VIDEO)
Measurement point	IC105 pin Ⓞ (VIN 1)
Measuring instrument	Oscilloscope
Adjustment element	RV601
Specified value	$0.50 \pm 0.02 \text{Vpp}$

#### [Adjustment Method]

- 1) Use RV601 to adjust to  $0.50 \pm 0.02 \text{Vpp}$ .

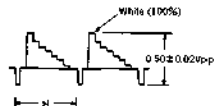


Fig. 7-2-15.

### 2-5-4. Accel C Level Adjustment (VI-121 Board)

Mode	E-E
Signal	Color bar (VIDEO)
Measurement point	CN101 pin Ⓞ (VI C (X))
Measuring instrument	Oscilloscope
Adjustment element	RV602
Specified value	$120 \pm 10 \text{mVpp}$

#### [Adjustment Method]

- 1) Use RV602 to adjust to  $120 \pm 10 \text{mVpp}$ .



Fig. 7-2-16.



### 2-5-5. Chroma Comb Filter Adjustment (VI-121 Board)

Mode	Playback
Signal	Alignment tape: For operation check, color bar portion (WR5-8CSP)
Measurement point	Line Video out terminal
Measuring instrument	Vectorscope
Adjustment element	RV112 (GAIN) RV103 (PHASE)
Specified value	No difference on the scope screen when <b>EDIT</b> key is turned ON/OFF.

#### [Adjustment Method]

- 1) Connect a vector scope to the line output video terminal.
- 2) Playback alignment tape.
- 3) Adjust RV112 and RV103 so that there is no difference on the scope screen when **EDIT** key is turned ON/OFF.

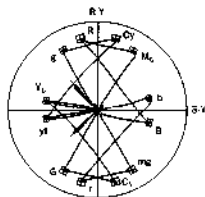


Fig. 7-2-17.

### 2-5-6. Pre-emphasis Input Level Adjustment (VI-121 Board)

Mode	E-E
Signal	Color bar (S VIDEO)
Measurement point	IC105 pin ②
Measuring instrument	Oscilloscope
Adjustment element	RV106
Specified value	$0.50 \pm 0.02V_{p-p}$

#### [Adjustment Method]

- 1) Use RV106 and adjust to  $0.50 \pm 0.02V_{p-p}$ .

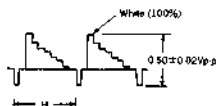


Fig. 7-2-18.

### 2-5-7. L Mode Y FM Carrier Frequency, Y FM Deviation Adjustment

**Note 1:** After this adjustment, be sure to perform "2-5-8. E Mode Y FM Carrier Frequency, Y FM Deviation Adjustment".

**Note 2:** The S Video Line output terminal should be terminated at 75Ω.

- (1) L Mode Y FM Carrier Frequency Adjustment  
(VI-121 Board)

Mode	E-E
Signal	No signal (select Line In)
Measurement point	IC105 pin ② (Y RF OUT)
Measuring instrument	Frequency counter Oscilloscope
Adjustment element	RV111
Specified value	$4.38 \pm 0.05MHz$

**Note:** A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

**[Adjustment Method]**

- 1) Insert MP type cassette tape.
- 2) Use RV111 to adjust to  $4.38 \pm 0.05$  MHz.



$4.38 \pm 0.05$  MHz

Fig. 7-2-19.

**(2) L Mode Y FM Deviation Adjustment (V-121 Board)**

Mode	Record and playback
Signal	Color bar (S VIDEO)
Measurement point	S Video Line Output, Y Signal terminal
Measuring instrument	Oscilloscope
Adjustment element	RV110
Specified value	Playback level should be at $1.00 \pm 0.05$ V <sub>p-p</sub> value

**[Adjustment Method]**

- 1) Insert MP type cassette tape.
- 2) Record color bar signal.
- 3) Play back the recorded signal.
- 4) Check the playback output level.  
Specification:  $1.00 \pm 0.05$  V<sub>p-p</sub>
- 5) If the specification is not met, rotate RV110 as directed below and then repeat Steps 1) to 4).

	Direction of Rotating RV110
Over specified value	Counterclockwise (↺)
Below specified value	Clockwise (↻)



Fig. 7-2-20.

**2-5-8. E Mode Y FM Carrier Frequency, Y FM Deviation Adjustment**

**Note 1:** When performing this adjustment, it is a prerequisite that "2-5-7. L Mode FM Carrier Frequency, Y FM Deviation Adjustment" has been completed.

**Note 2:** The S Video Line output terminal should be terminated at 75Ω.

**(1) E Mode Y FM Carrier Frequency Adjustment (V-121 Board)**

Mode	E-E
Signal	No signal (select Line In)
Measurement point	JC705 pin ⑧ (Y RF OUT)
Measuring instrument	Frequency counter Oscilloscope
Adjustment element	RV109
Specified value	$5.96 \pm 0.05$ MHz

**Note:** A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

**[Adjustment Method]**

- 1) Insert ME type cassette tape.
- 2) Use RV109 to adjust to  $5.96 \pm 0.05$  MHz.



$5.96 \pm 0.05$  MHz

Fig. 7-2-21.

(2) E Mode Y FM Deviation Adjustment (V-121 Board)

Mode	Record and playback
Signal	Color bar (S VIDEO)
Measurement point	S Video Line Output, Y Signal terminal
Measuring instrument	Oscilloscope
Adjustment element	RV108
Specified value	Playback level should be at $1.00 \pm 0.05V_{p-p}$ .

[Adjustment Method]

- 1) Insert ME type cassette tape.
- 2) Record color bar signal.
- 3) Play back the recorded signal.
- 4) Check the playback output level.  
Specification:  $1.00 \pm 0.05V_{p-p}$
- 5) If the specification is not met, rotate RV108 as directed below and then repeat Steps 1) to 4)

	Direction of Rotating RV108
Over specified value	Counterclockwise ( ◯ )
Below specified value	Clockwise ( ◯ )

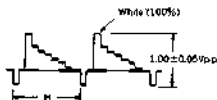


Fig. 7-2-22.

2-5-9. Chroma Emphasis Adjustment (V-121 Board)

Mode	E-E
Signal	Color bar
Measurement point	IC105 pin ⑧ (B.EMPH ⑧)
Measuring instrument	Oscilloscope
Adjustment element	RV113
Specified value	R component should be reduced to a minimum.

[Adjustment Method]

- 1) Adjust RV113 to allow the latter half of the yellow component in the chroma signal to have a minimum amplitude.

Allow the latter half of the yellow component to have a minimum amplitude.



Fig. 7-2-23.

2-5-10. L Mode De-emphasis Level Adjustment (V-121 Board)

Mode	Playback
Signal	Alignment tape: For operation check, color bar portion (WR5-9CSP)
Measurement point	IC105 pin ④ (V CCD OUT)
Measuring instrument	Oscilloscope
Adjustment element	RV102
Specified value	$0.50 \pm 0.05V_{p-p}$

[Adjustment Method]

- 1) Use RV102 to adjust to  $0.50 \pm 0.05V_{p-p}$ .



Fig. 7-2-24.

**2-5-11. L Mode Playback Level Adjustment  
(VI-121 Board)**

Mode	Playback
Signal	Alignment tape: For operation check, color bar portion (WR5-5CSP)
Measurement point	CN101 pin ④ (DI Y (X))
Measuring instrument	Oscilloscope
Adjustment element	RV105
Specified value	$1.00 \pm 0.01 \text{Vp-p}$

**[Adjustment Method]**

- 1) Use RV105 to adjust to  $1.00 \pm 0.01 \text{Vp-p}$ .



Fig. 7-2-25.

**2-5-12. E Mode De-emphasis Level Adjustment  
(VI-121 Board)**

Mode	Playback
Signal	Alignment tape: For operation check, color bar portion (WR5-8CSE)
Measurement point	IC105 pin ④ (Y CCD OUT)
Measuring instrument	Oscilloscope
Adjustment element	RV101
Specified value	$0.50 \pm 0.05 \text{Vp-p}$

**[Adjustment Method]**

- 1) Use RV101 to adjust to  $0.50 \pm 0.05 \text{Vp-p}$ .

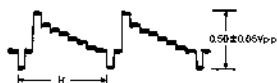


Fig. 7-2-26.

**2-5-13. E Mode Playback Level Adjustment  
(VI-121 Board)**

Mode	Playback
Signal	Alignment tape: For operation check, color bar portion (WR5-8CSE)
Measurement point	CN101 pin ④ (DI Y (X))
Measuring instrument	Oscilloscope
Adjustment element	RV104
Specified value	$1.00 \pm 0.01 \text{Vp-p}$

**[Adjustment Method]**

- 1) Use RV104 to adjust to  $1.00 \pm 0.01 \text{Vp-p}$ .



Fig. 7-2-27.

**2-5-14. Recording Chroma Level Pre Adjustment  
(VI-121 Board)**

Mode	E:E
Signal	Color bar
Measurement point	Q701 (Emitter)
Measuring instrument	Oscilloscope
Adjustment element	RV705
Specified value	$140 \pm 10 \text{mVp-p}$

**[Adjustment Method]**

- 1) Insert ME type cassette tape.  
2) Use RV705 to adjust to  $140 \pm 10 \text{mVp-p}$ .



Fig. 7-2-28.

### 2-5-15. Recording Y Level Adjustment (VI-121 Board)

Mode	E-E
Signal	No signal (select Line In)
Measurement point	CN105 pin ① (REC Y/C (X))
Measuring instrument	Oscilloscope (20MHz bandwidth)
Adjustment element	RV701
Specified value	$650 \pm 10mVp-p$

Note: Set an oscilloscope to 20MHz bandwidth.

#### [Adjustment Method]

- 1) Insert ME tape.
- 2) Use RV701 to adjust to  $650 \pm 10mVp-p$



Fig. 7-2-29.

### 2-5-16. L Mode Recording Chroma Level Adjustment (VI-121 Board)

Mode	E-E
Signal	Color bar
Measurement point	CN105 pin ① (REC RF)
Measuring instrument	Oscilloscope
Adjustment element	RV702
Specified value	$90 \pm 10mVp-p$

#### [Adjustment Method]

- 1) Connect between emitter and collector (+B) of Q716.
- 2) Insert MP type cassette tape.
- 3) Adjust RV702 so that the flat portion of the chroma signal red component has the level  $90 \pm 10mVp-p$
- 4) After this adjustment, remove to connect.

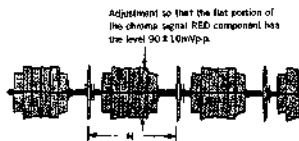


Fig. 7-2-30.

### 2-5-17. E Mode Recording Chroma Level Adjustment (VI-121 Board)

Mode	Record
Signal	Color bar
Measurement point	CN105 pin ① (REC RF)
Measuring instrument	Oscilloscope
Adjustment element	RV703
Specified value	$140 \pm 10mVp-p$

#### [Adjustment Method]

- 1) Connect between emitter and collector (+B) of Q716.
- 2) Insert ME type cassette tape.
- 3) Record color bar signal.
- 4) Adjust RV703 so that the flat portion of the chroma signal red component has the level  $140 \pm 10mVp-p$ .
- 5) After this adjustment, remove to connect.

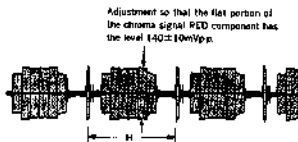


Fig. 7-2-31.

### 2-5-18. Y/Chroma Adjustment (WC-10 Board)

Mode	Playback
Signal	Alignment tape: For operation check, color bar portion (WR5-5CSP)
Measurement point	Y Signal: CN002 pin ③ C Signal: CN002 pin ⑤
Measuring instrument	Oscilloscope
Adjustment element	RV003
Specified value	$0 \pm 50 \text{ nS}$

#### [Adjustment Method]

- 1) Connect CH1 of an oscilloscope with CN002 pin ③ and CH2 with CN002 pin ⑤.
- 2) Match waveform on CH1 with waveform on CH2, and use RV003 to adjust so that Y coincides with C at point a.

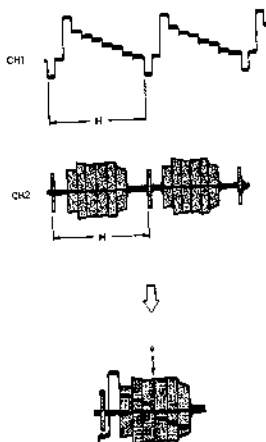


Fig. 7-2-32.

### 2-5-19. Carrier Leak Adjustment (WC-10 Board)

Mode	Playback
Signal	Alignment tape: For operation check, color bar portion (WR5-5CSP)
Measurement point	Video Line Output terminal
Measuring instrument	Vector scope
Adjustment element	RV001 RV002
Specified value	Adjust the carrier to the center.

#### [Adjustment Method]

- 1) Use RV001 and RV002 to adjust so that the carrier is in the center of the scope.

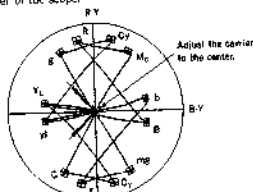


Fig. 7-2-33.

## 2-6. SECAM-PAL CONVERSION SYSTEM ADJUSTMENTS

- Make this adjustment aligning the PAL video system.
- For this adjustment, use the equipment listed below.

### 2-6-1. Equipment Required

- (1) PAL colour Monitor TV
- (2) Oscilloscope. Dual trace. Bandwidth more than 30MHz with delay mode
- (3) SECAM colour-bar generator
- (4) PAL vector scope
- (5) Frequency counter
- (6) Digital voltmeter

### 2-6-2. 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 the Video input terminal. 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. 7-2-34, shows video signals (colour bars) used in making the electrical adjustment.

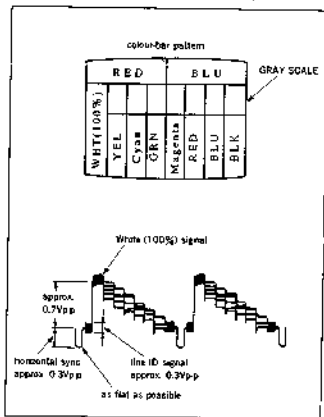


Fig. 7-2-34.

### [Adjustment sequence]

1. Bell Filter Adjustment
2. VCO Adjustment
3. I REF Adjustment
4. B-Y fo Adjustment
5. R-Y fo Adjustment
6. Color level Adjustment

### 2-6-3. Bell Filter Adjustment (TC-30 Board)

Mode	E-E
Signal	SECAM color bar
Measurement point	IC0A3 pin @ (CL022)
Measuring instrument	Oscilloscope
Adjustment element	LV001
Specified value	20mVp-p or less

### [Adjustment Method]

- 1) Use LV001 to adjust to 20mVp-p or less.

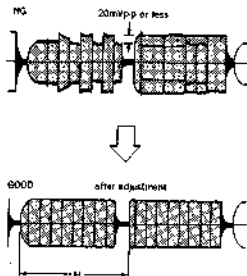


Fig. 7-2-35.

#### 2-6-4 VCO Adjustment (TC-30 Board)

Mode	E-E
Signal	SECAM color bar
Measurement point	IC003 pin ④ (HD OUT) (CL026)
Measuring instrument	Oscilloscope Frequency counter
Adjustment element	RV001
Specified value	$15.625 \pm 0.01 \text{ kHz}$

##### [Connection]

- 1) Connect between pin ④ and pin ⑤ of IC003 with a jumper wire.

##### [Adjustment Method]

- 1) Use RV001 to adjust to  $15.625 \pm 0.01 \text{ kHz}$ .
- 2) After this adjustment, open the shorted pin.

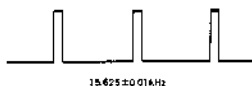


Fig. 7-2-36.

#### 2-6-5. I REF Adjustment (TC-30 Board)

Mode	E-E
Signal	SECAM color bar
Measurement point	IC003 pin ③ (HD OUT) (CL026) CN001 pin ④ (V1 Y)
Measuring instrument	Oscilloscope
Adjustment element	RV002
Specified value	$4.5 \pm 0.1 \mu\text{sec}$

##### [Adjustment Method]

- 1) Use RV002 to adjust to  $4.5 \pm 0.1 \mu\text{sec}$ .

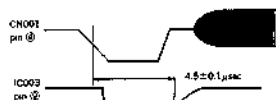


Fig. 7-2-37.

#### 2-6-6. B-Y Adjustment (TC-30 Board)

Mode	E-E
Signal	SECAM color bar
Measurement point	IC004 pin ④ (B-Y) (CL032)
Measuring instrument	Oscilloscope
Adjustment element	LV003
Specified value	$0.05 \text{ Vp-p}$ or less

##### [Connection]

- 1) Connect between pin ④ and pin ⑤ of IC003 with a jumper wire.

##### [Adjustment Method]

- 1) Use LV003 to adjust to  $0.05 \text{ Vp-p}$  or less.  
(Set a blank level by the black level.)
- 2) After this adjustment, open the shorted pin.

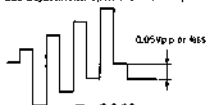


Fig. 7-2-38.

#### 2-6-7. R-Y Adjustment (TC-30 Board)

Mode	E-E
Signal	SECAM color bar
Measurement point	IC004 pin ④ (R-Y) (CL033)
Measuring instrument	Oscilloscope
Adjustment element	LV002
Specified value	$0.05 \text{ Vp-p}$ or less

##### [Connection]

- 1) Connect between pin ④ and pin ⑤ of IC003 with a jumper wire.

##### [Adjustment Method]

- 1) Use LV002 to adjust to  $0.05 \text{ Vp-p}$  or less.  
(Set a blank level by the black level.)
- 2) After this adjustment, open the shorted pin.



Fig. 7-2-39.



### 2-6-8. Color Level Adjustment (TC-30 Board)

Mode	B-E
Signal	SECAM color bar
Measurement point	IC004 pin ⑤ (B-Y) (CL032)
Measuring instrument	Oscilloscope
Adjustment element	RV003
Specified value	$750 \pm 50 \text{ mVp-p}$

#### [Connection]

- 1) Connect between pin ⑤ and pin ⑥ of IC003 with a jumper wire.

#### [Adjustment Method]

- 1) Use RV003 to adjust to  $750 \pm 50 \text{ mVp-p}$ .
- 2) After this adjustment, open the shorted pins.

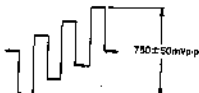


Fig 7-2-40.

### 2-7. DIGITAL SYSTEM ADJUSTMENTS

The adjustments provided in Digital System Adjustments should be performed in the following sequence.

#### [Adjustment sequence]

1. AFC Adjustment
2. AFC Adjustment
3. Read Clock (YRCK) Adjustment
4. Read Clock (CRCK) Adjustment
5. Y Output Level Adjustment

### 2-7-2. AFC Adjustment (DI-51 Board)

Mode	Playback
Signal	Alignment tape. For operation check (WR5-SCSP or WR5-PCSE)
Measurement point	IC800 pin ② (YWCK) (CL820 or CL821)
Measuring instrument	Frequency counter
Adjustment element	CV800
Specified value	$14218.750 \pm 50 \text{ kHz}$

**Note:** A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

#### [Connection]

- 1) Connect between pin ⑤ (VSIN) and pin ⑥ (VDD) of IC800 by inserting  $10 \text{ k}\Omega$  (1-249-429-11). (This will make AFC free running.)
- 2) Short between pin ⑩ (PWM) and pin ⑪ (PEO) of IC800.

#### [Adjustment Method]

- 1) Use CV800 to adjust to  $14218.750 \pm 50 \text{ kHz}$ .
- 2) After this adjustment, perform the following check.

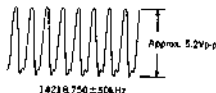


Fig 7-2-41.

#### [Connection]

- 1) Remove the resistor inserted between pin ⑤ (VSIN) and pin ⑥ (VDD) of IC800. (This will enter the AFC mode.)
- 2) Open between pin ⑩ (PWM) and pin ⑪ (PEO) of IC800.
- 3) Check the waveform at the following measuring points.

◆ (RPD) Waveform Check

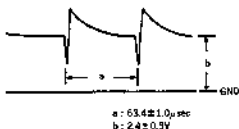
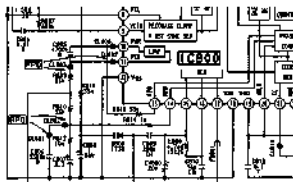


Fig. 7-2-42.

◆ (FPD) Waveform Check

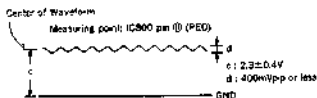


Fig. 7-2-43.

◆ (AFH) Waveform Check

Measuring point CH-1 IC300 pin ⑩ (AFH)  
CH-2 CN160 pin ⑩ (VI Y (X))

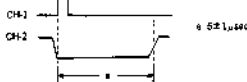


Fig. 7-2-44.

2-7-2. APC Adjustment (DI-S1 Board)

Mode	Playback
Signal	Alignment tape: Fox operation check (WR5-5CSP or WR5-9CSE)
Measurement point	IC300 pin ⑩ (C'WCK)
Measuring instrument	Frequency counter
Adjustment element	CV390
Specified value	$14734475 \pm 50\text{Hz}$

**Note:** A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

[Connection]

- 1) Open pin ② (V1 C (X)) of CN100.
- 2) Connect between CL352 (Q253 (E)) and GND by inserting  $0.01 \mu\text{F}$  capacitor (1-J02-129-11).

[Adjustment Method]

- 1) Use CV390 to adjust to  $14734475 \pm 50\text{Hz}$ .
- 2) After this adjustment, perform the following check.



Fig. 7-2-45.

[Connection]

- 1) Remove the capacitor inserted between CL252 (Q253 (E)) and GND.
- 2) Connect pin ② (V1 C (X)) of CN100. (This will enter the APC mode.)
- 3) Check the waveforms at pin ⑩ of IC300.

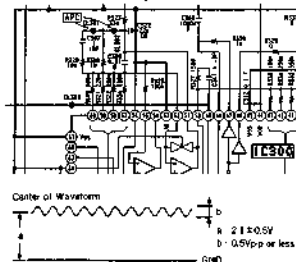


Fig. 7-2-46.

### 2-7-3. Read Clock (YRCK) Adjustment (DI-51 Board)

Mode	Playback
Signal	Alignment tape: For operation check (WR5-SCSP or WR5-8CSE)
Measurement point	IC600 pin ④ (YWCK) (CL504 or CL505)
Measuring instrument	Frequency counter
Adjustment element	CV500
Specified value	14218750 ± 200Hz

**Note:** A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

#### [Adjustment Method]

- 1) Use CV500 to adjust to 14218750 ± 200Hz.



14218750 ± 200Hz

Fig. 7-2-47.

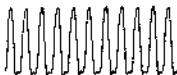
### 2-7-4. Read Clock (CRCK) Adjustment (DI-51 Board)

Mode	Playback
Signal	Alignment tape: For operation check (WR5-SCSP or WR5-8 CSE)
Measurement point	IC600 pin ④ (CRCK) (CL600 or CL601)
Measuring instrument	Frequency counter
Adjustment element	CV600
Specified value	17734475 ± 100Hz

**Note:** A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

#### [Adjustment Method]

- 1) Use CV600 to adjust to 17734475 ± 100Hz.



17734475 ± 100Hz

Fig. 7-2-48.

### 2-7-5. Y Output Level Adjustment (DI-51 Board)

**Note:** For this Adjustment, the sequence of adjustments (1) and (2) should be performed twice.

- (1) D/A Amplifier Gain Adjustment

Mode	Playback
Signal	Alignment tape: For operation check, color bar portion (WR5-SCSP or WR5-8CSE)
Measurement point	CN100 pin ④ (DI Y)
Measuring instrument	Oscilloscope
Adjustment element	RV700
Specified value	240 ± 10mV

#### [Adjustment Method]

- 1) Adjust RV700 so that the center of the pedestal level is 240 ± 10mV above from the center of the sync tip level.



Fig. 7-2-49.

(2) A/D Amplifier Gain Adjustment

Mode	Playback
Signal	Alignment tape: For operation check, color bar portion (WR5-9CSP or WR5-8CSE)
Measurement point	CN100 pin ⑩ (DI Y)
Measuring instrument	Oscilloscope
Adjustment element	RV200
Specified value	$760 \pm 10 \text{ mV}$

[Adjustment Method]

- Adjust RV200 so that the center of the pedestal level is  $760 \pm 10 \text{ mV}$  above from the center of sync tip level.



Fig. 7-2-50.

2-8. CHARACTER GENERATOR SYSTEM CHECK

2-8-1. CG OSC CHECK (MA-173 Board)

Mode	Record
Signal	Arbitrary
Measurement point	IC705 pin ⑩ (EXD)
Measuring instrument	Frequency counter
Specified value	$6.85 \pm 0.05 \text{ MHz}$

Note: A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

[CHECK Method]

- Check to  $6.85 \pm 0.05 \text{ MHz}$ .

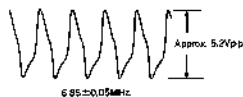


Fig. 7-2-51.

## 2-9. PCM AUDIO SYSTEM ADJUSTMENTS

Color bar signal should be used as Video signal input for performing this adjustment.

### [Connection of Equipment for Audio Measurement]

In addition to equipment for video measurement, equipment for audio systems measurement should be connected as illustrated below.

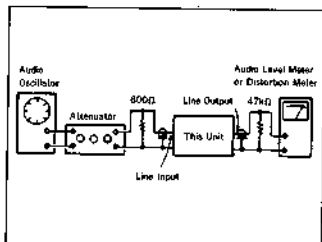


Fig. 7-2-52.

Unless otherwise specified, place the switches and controls of this unit in the following positions.

- Input Select switch ..... LINE 3
  - ◆ Audio Monitor (PCM/MIX/STD) switch ..... PCM
- The adjustments should be performed in the following sequence.

### [Adjustment sequence]

1. Master Clock Adjustment
2. Recording Level Adjustment
3. Offset Adjustment
4. Playback VCO Check
5. Playback Level Adjustment
6. E.E Output Level Check
7. Overall Frequency Characteristic Check
8. Overall Distortion Factor Check
9. Overall Noise Level Check

### 2-9-1. Master Clock Adjustment (PC-61 Board)

Mode	Record
Signal	Arbitrary
Measurement point	IC703 pin ⑤ (MCK 1)
Measuring instrument	Frequency counter
Adjustment element	CV701
Specified value	$11.50 \pm 0.05\text{MHz}$

**Note 1:** A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

### [Connection]

- 1) Short between pin ④ (TST 4) and pin ⑥ (A VDD) of IC703.
- 2) Short between pin ④ (TST ④) and pin ⑤ (VSS) of IC703.
- 3) Short between pin ③ (LPP Y) and pin ④ (LPP X) of IC703.

### [Adjustment Method]

- 1) Use CV701 to adjust to  $11.50 \pm 0.05\text{MHz}$ .

**Note 2:** After this adjustment, open the shorted pins.



Fig. 7-2-53.

### 2-9-2. Recording Level Adjustment (PC-61 Board)

Mode	Record
Signal	400Hz, $-7.5\text{dBs}$
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Audio level meter
Adjustment element	RV703
Specified value	Left side: $-7.5 \pm 0.5\text{dBs}$ Right side: $\pm 1.5\text{dBs}$ with respect to left side level

### [Adjustment Method]

- 1) Adjust RV703 so that the left side level is at  $-7.5 \pm 0.5\text{dBs}$ .
- 2) At this time, check that the right level is within  $\pm 1.5\text{dBs}$  of the left side level.

### 2-9-3. Offset Adjustment (PC-61 Board)

Mode	Self-record playback
Signal	400Hz, +3dBs
Measurement point	Left side: IC701 pin ① Right side: IC701 pin ②
Measuring instrument	Oscilloscope
Adjustment element	Left side: RV701 Right side: RV702
Specified value	Top and bottom clips observed on waveform should be equal with each other

#### [Adjustment Method]

- Record signal.
- Play back the recorded portion.
- Check that the clip at the top is equal with the clip at the bottom of the waveform observed.
- If not equal, rotate the RV701 on the left side and RV702 on the right side as directed below. Then, repeat Steps 1) to 3) to check for the clip.

	Direction of Rotating RV701 or RV702
Top clip less	Counterclockwise (↺)
Top clip more	Clockwise (↻)

**Note:** In this adjustment, the left and right sides will be affected by each other. Alternately adjust the left and right sides.

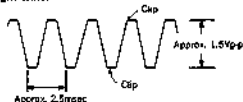


Fig. 7-2-54.

### 2-9-4. Playback VCO Check (PC-61 Board)

Mode	Playback, Fast Forward Search, Rewind Search
Signal	Arbitrary tape (Tape which does not contain PCM signal.)
Measurement point	CN703 pin ① (PB VCO)
Measuring instrument	Frequency counter
Specified value	Playback : 11.50±0.05MHz Fast Forward Search: 11.59±0.05MHz Rewind Search : 12.20±0.05MHz FF : 11.98±0.05MHz REW : 12.20±0.05MHz

**Note 1:** A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

#### [Connection]

- Connect pin ① (TEST) of CN703 to 5V.

#### [Adjustment Method]

- Use the remote commander to enter the Playback mode.
- Check to 11.50±0.05MHz.
- Use the remote commander to execute Fast Forward Search. (Press SERACH on "Fast Forward" side.)
- Check to 11.59±0.05MHz.
- Use the remote commander to execute Rewind Search. (Press SERACH on "Rewind" side.)
- Check to 12.20±0.05MHz.
- Use the remote commander to enter the FF mode.
- Check to 11.98±0.05MHz.
- Use the remote commander to enter the REW mode.
- Check to 12.20±0.05MHz.

**Note 2:** After this adjustment, open pin ① of CN703.



During Playback	: 11.50±0.05MHz
During Fast Forward Search	: 11.59±0.05MHz
During Rewind Search	: 12.20±0.05MHz
During FF	: 11.98±0.05MHz
During REW	: 12.20±0.05MHz

Fig. 7-2-55.

### 2-9-5. Playback Level Adjustment (PC-61 Board)

Mode	Playback
Signal	Alignment tape. For operation check, 400Hz portion (WRS-9CS)
Measurement point	Audio Line Output terminal, left and right
Measuring instrument	Audio level meter
Adjustment element	RV705
Specified value	Left side: $-7.5 \pm 0.3\text{dB}$ Right side: $\pm 1.5\text{dB}$ with respect to left side level

#### [Adjustment Method]

- 1) Adjust RV705 so that the left side level is at  $-7.5 \pm 0.3\text{dB}$ .
- 2) At this time, check that the right level is within  $\pm 1.5\text{dB}$  of the left side level.

### 2-9-6. E-E Output Level Check

Mode	E-E
Signal	400Hz, $-7.5\text{dB}$
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Audio level meter
Specified value	$-7.5 \pm 3\text{dB}$

#### [Check Method]

- 1) Place the Recording Level control in  $\text{E}$  position.
- 2) Check that the indicated value of a peak level meter is  $-3$  to  $+3\text{dB}$ .
- 3) Check that the respective levels of Audio Line Output terminals, left and right are  $-7.5 \pm 3\text{dB}$ .

### 2-9-7. Overall Frequency Characteristic Adjustment

Mode	Self-record playback
Signal	① 400Hz, $-7.5\text{dB}$ ② 20Hz, $-7.5\text{dB}$ ③ 1kHz, $-7.5\text{dB}$ : Audio Line Input terminals, left and right
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Audio level meter
Specified value	The playback output levels of 20Hz and 1kHz should be $0 \pm 3\text{dB}$ with 400Hz playback output level at $0\text{dB}$ .

#### [Check Method]

- 1) Record signals ① to ③ in turn.
- 2) Play back the recorded portion.
- 3) Check that the respective playback output levels of 20Hz and 1kHz are  $0 \pm 3\text{dB}$  with 400Hz playback output level at  $0\text{dB}$ .

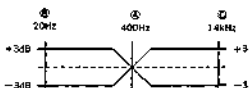


Fig. 7-2-56

### 2-9-8. Overall Distortion Factor Check

Mode	Self-record playback
Signal	400Hz, $-7.5\text{dB}$ : Audio Line Input terminals, left and right
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Distortion meter
Specified value	0.35% or less

#### [Check Method]

- 1) Record signal.
- 2) Play back the recorded portion.
- 3) Check that the distortion factor is 0.35% or less.

### 2-9-9. Overall Noise Level Check

Mode	Self-record playback
Signal	No signal (insert a shorting plug into the Audio Line Input jacks, left and right.)
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Audio level meter
Specified value	-82dBs or less <sup>total</sup>

#### [Check Method]

- 1) Record.
- 2) Play back recorded portion.
- 3) Check that the noise level is -82dBs or less.

Note: This is a value when an IHF-A weighing filter is used.

### 2-10. AFM AUDIO SYSTEM ADJUSTMENTS

Color bar signal should be used as Video signal input for performing this adjustment.

#### [Connection of Equipment for Audio Measurement]

In addition to equipment for video measurement, the audio measurement equipment should be connected as illustrated below.

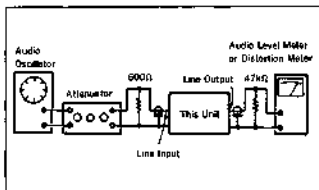


Fig. 7-2-57.

Unless otherwise specified, place the switches and controls of this unit in the following positions:

- Input Select switch ..... LINE 3
- Audio Monitor (PCM/MIX/STD) switch ..... STD

The adjustments should be performed in the following sequence

#### [Adjustment sequence]

1. Carrier Frequency 1.5MHz Check
2. Carrier Frequency 1.7MHz Check
3. 1.5MHz Deviation Adjustment
4. 1.7MHz Deviation Adjustment
5. Playback Separation 2 Adjustment
6. Playback Separation 1 Adjustment
7. E-E Output Level Check
8. Overall Frequency Characteristic Check
9. Overall Distortion Factor Check
10. Overall Noise Check



**2-10-1. Carrier Frequency 1.5MHz Check  
(MA-173 Board)**

Mode	Record
Signal	No signal
Measurement point	IC501 pin ⑧ (VCO OUT)
Measuring instrument	Frequency counter
Specified value	1500 ± 3kHz

**Note 1:** A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

**[Check Method]**

- 1) Check to 1500 ± 3kHz.



Fig. 7-2-58.

**2-10-2. Carrier Frequency 1.7MHz Check  
(MA-173 Board)**

Mode	Record
Signal	No signal
Measurement point	IC501 pin ⑧ (VCO OUT)
Measuring instrument	Frequency counter
Specified value	1700 ± 3kHz

**Note 1:** A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.

**[Check Method]**

- 1) Check to 1700 ± 3kHz.



Fig. 7-2-59.

**2-10-3. 1.5MHz Deviation Adjustment  
(MA-173 Board)**

Mode	Playback
Signal	Alignment tape: For operation check (WR5-9CS)
Measurement point	Audio Line Output terminal, left
Measuring instrument	Audio level meter
Adjustment element	RV501
Specified value	-7.5 ± 0.5dB

**[Adjustment Method]**

- 1) Use RV501 to adjust to -7.5 ± 0.5dB.

**2-10-4. 1.7MHz Deviation Adjustment  
(MA-173 Board)**

Mode	Playback
Signal	Alignment tape: For operation check (WR5-9CS)
Measurement point	Audio Line Output terminal, right
Measuring instrument	Audio level meter
Adjustment element	RV502
Specified value	-7.5 ± 0.5dB

**[Adjustment Method]**

- 1) Use RV502 to adjust to -7.5 ± 0.5dB.

**2-10-5. Playback Separation 2 Check  
(MA-173 Board)**

Mode	Playback
Signal	Alignment tape: For operation check, stereo portion (WR5-9CS)
Measurement point	Audio Line Output terminal, right
Measuring instrument	Oscilloscope
Specified value	400Hz component minimum (no distortion should be present on 1kHz waveform.)

**[Check Method]**

- 1) Check that 400Hz component on the right level is at minimum

**2-10-6. Playback Separation 1 Check  
(MA-173 Board)**

Mode	Playback
Signal	Alignment tape: For operation check, stereo portion (WR5-9CS)
Measurement point	Audio Line Output terminal, left
Measuring instrument	Oscilloscope
Specified value	1kHz component minimum (no distortion should be present on 400Hz waveform.)

**[Check Method]**

- 1) Check that 1kHz component on the left level is at minimum.

**2-10-7. E-E Output Level Check**

Mode	E-E
Signal	400Hz, $-7.5\text{dB}$ s
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Audio level meter
Specified value	$-7.5 \pm 3\text{dB}$ s

**[Check Method]**

- 1) Check that the indicated value of a peak level meter is  $-3$  to  $+3\text{dB}$ s
- 2) Check that the respective levels of Audio Line Output terminals, left and right are  $-7.5 \pm 3\text{dB}$ s.

**2-10-8. Overall Frequency Characteristic Check**

Mode	Self-record playback
Signal	Ⓐ 400Hz, $-17.5\text{dB}$ s Ⓑ 20Hz, $-17.5\text{dB}$ s Ⓒ 14kHz, $-17.5\text{dB}$ s : Audio Line Input terminals, left and right
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Audio level meter
Specified value	The playback output level is 0dB at 400Hz; check that it is $-3 \pm 3\text{dB}$ at 20Hz and $0 \pm 3\text{dB}$ at 14kHz.

**[Check Method]**

- 1) Record signals Ⓐ to Ⓒ in turn.
- 2) Play back the recorded portion.
- 3) When the playback output level is 0dB at 400Hz, check that it is  $-3 \pm 3\text{dB}$  at 20Hz and  $0 \pm 3\text{dB}$  at 14kHz.

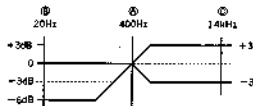


Fig. 7-2-60.

### 2-10-9. Overall Distortion Factor Check

Mode	Self-record playback (Bilingual mode)
Signal	400Hz, $-7.5\text{dB}$ s : Audio Line Input terminals, left and right
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Distortion meter
Specified value	Left side, 1.0% or less <i>Note</i> Right side, 1.5% or less <i>Note</i>

#### [Check Method]

- 1) Record signal.
- 2) Play back the recorded portion.
- 3) Check that the distortion factor is 1.0% or less on the left side and 1.5% or less on the right side *Note*.

**Note:** These are values when a 200Hz - 6kHz BPF is used



Fig. 7-2-61.

### 2-10-10. Overall Noise Level Check

Mode	Self-record playback
Signal	No signal (Insert a shorting plug into the Audio Line Input jacks, left and right.)
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Audio level meter
Specified value	Left side, $-68\text{dB}$ s or less <i>Note</i> Right side, $-68\text{dB}$ s or less <i>Note</i>

#### [Check Method]

- 1) Record.
- 2) Play back recorded portion.
- 3) Check that the noise level is  $-68\text{dB}$ s or less on the left side and  $-68\text{dB}$ s on the right side.

**Note:** These are values when an IHF-A weighing filter is used.

### 2-11. TUNER SYSTEM ADJUSTMENTS

This adjustment should be made in the VHF/UHF Broadcasting Listening mode.

The adjustments should be made in the following sequence.

#### [Adjustment sequence]

1. 30V Voltage Check
2. AGC Adjustment
3. Separation Adjustment

#### 2-11-1. 30V Voltage Check (TU-145 Board)

Signal	Arbitrary
Measurement point	Q901 (Emitter)
Measuring instrument	Digital voltmeter
Specified value	$31.3 \pm 1.5\text{V}$

#### [Check Method]

- 1) Check to  $31.3 \pm 1.5\text{V}$

#### 2-11-2. AGC Adjustment (TU-145 Board)

Mode	E-B
Signal	TV signal (62dB $\mu$ )
Measurement point	IF901 pin ①
Measuring instrument	Digital voltmeter
Adjustment element	AGC VR (IF901)
Specified value	$6 \pm 0.5\text{V}$

#### [Adjustment Method]

- 1) Use AGC VR to adjust the voltage value to  $6 \pm 0.5\text{V}$
- 2) When the TV signal input is changed from 58dB to 62dB, check that the voltage at TU902 pin ① changes from less than 6.0V to 6.0V or more.

### 2-11.3. Separation Adjustment (TU-145 Board)

Signal	Stereo L CH: 400Hz, 100% modulated R CH: No modulation
Measurement point	Audio Line Output terminals, left and right
Measuring instrument	Oscilloscope
Adjustment element	RV901

#### [Adjustment Method]

- 1) Set a sound multiplex signal generator to Stereo mode. Set L CH to 400Hz, 100% modulated.
- 2) Connect an oscilloscope to the R channel of Audio Line Output.
- 3) Adjust RV901 so that R CH output is minimized. In this adjustment, do not rotate RV901 fully.



# EV-S9000E AE/B/E/NP/UB/VC

## RMT-138B

### SONY SERVICE MANUAL



UK(UB) Model  
German(VC) Model  
Italian(AE) Model  
North European(NP) Model  
French(B) Model  
Singapore(E) Model

## CORRECTION-1

Correct your service manual as shown below.

Page 7-27 2-7-2. APC Adjustment (DI-S1 Board)

☐ : Corrected portion

INCORRECTION	CORRECTION								
<p>2-7-2. APC Adjustment (DI-S1 Board)</p> <table border="1"><tr><td>Adjustment element</td><td>CV300</td></tr><tr><td>Specified value</td><td>14734475 ± 50Hz</td></tr></table> <p>Note: A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.</p> <p>[Connection]</p> <ol style="list-style-type: none"><li>1) Open pin ② (VI C (X)) of CN100.</li><li>2) Connect between CL252 (Q253 (E)) and GND by inserting 0.01μF capacitor (1-102-129-11).</li></ol> <p>[Adjustment Method]</p> <ol style="list-style-type: none"><li>1) Use CV300 to adjust to 14734475 ± 50Hz.</li><li>2) After this adjustment, perform the following check.</li></ol>  <p>14734475 ± 50Hz</p> <p>Fig. 7-2-45.</p>	Adjustment element	CV300	Specified value	14734475 ± 50Hz	<p>2-7-2. APC Adjustment (DI-S1 Board)</p> <table border="1"><tr><td>Adjustment element</td><td>CV300</td></tr><tr><td>Specified value</td><td>17734475 ± 50Hz</td></tr></table> <p>Note: A frequency counter should be connected through a buffer amplifier (oscilloscope, etc.) having a high impedance and a low capacitance.</p> <p>[Connection]</p> <ol style="list-style-type: none"><li>1) Open pin ② (VI C (X)) of CN100.</li><li>2) Connect between CL252 (Q253 (E)) and GND by inserting 0.01μF capacitor (1-102-129-11).</li></ol> <p>[Adjustment Method]</p> <ol style="list-style-type: none"><li>1) Use CV300 to adjust to 17734475 ± 50Hz.</li><li>2) After this adjustment, perform the following check.</li></ol>  <p>17734475 ± 50Hz</p> <p>Fig. 7-2-45.</p>	Adjustment element	CV300	Specified value	17734475 ± 50Hz
Adjustment element	CV300								
Specified value	14734475 ± 50Hz								
Adjustment element	CV300								
Specified value	17734475 ± 50Hz								

# EV-S9000E AE/B/E/NP/UB/VC

## RMT-138B

### SONY SERVICE MANUAL

UK(UB) Model  
 German(VC) Model  
 Italian(AE) Model  
 North European(NP) Model  
 French(B) Model  
 Singapore(E) Model

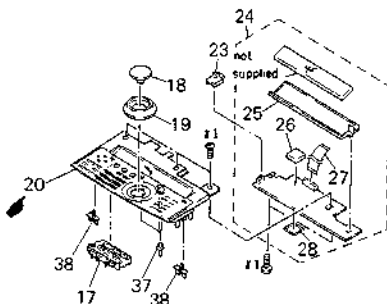
## CORRECTION-2

Correct your service manual as shown below

○ Page 5-2 6-1-1. CABINET AND FRONT PANEL ASSEMBLIES

■ : Corrected portion

INCORRECTION			CORRECTION		
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
20	X-3844-300-1	HOUSING ASSY (VC)	20	1-467-362-31	SWITCH BLOCK, CONTROL (VC)
20	X-3843-614-1	HOUSING ASSY(NP, AE, UB, B, E)	20	1-467-363-41	SWITCH BLOCK, CONTROL (NP, AE, UB, B, E)



Sony Corporation  
 Consumer A & V Products Company  
 Home A & V Products Div.

English  
 9440470-1

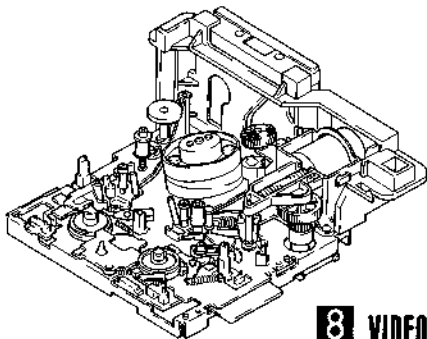
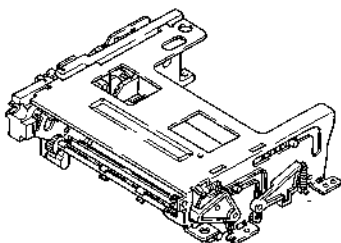
# 8 mm Video MECHANICAL ADJUSTMENT MANUAL V

---

## F MECHANISM

Video 8

File with the SERVICE MANUAL



**8** VIDEO RECORDER  
**SONY**



## TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
<b>1. MAIN FEATURES</b>		3
<b>2. PREPARATION FOR MECHANICAL CHECK, ADJUSTMENT AND REPLACEMENT</b>		4
2-1	FL Cassette Compartment Assembly	4
2-2	Operation with FL Cassette Compartment Assembly Removed	5
2-2-1	Activating Loading	5
2-2-2	Activating Play Status	5
2-2-3	Activating Ejection	5
2-3	Handling of Mode Selector II	6
2-3-1	General	6
2-3-2	Operation	7
<b>3. PERIODIC CHECK AND MAINTENANCE</b>		9
3-1	Cleaning of Rotary Drum Assembly	9
3-2	Cleaning of Tape Path	9
3-3	Periodic Check Items	11
3-4	Service Tags List	11
<b>4. MECHANICAL CHECK, ADJUSTMENT AND REPLACEMENT</b>		12
4-1	RP Block	12
4-2	Impedance Roller	13
4-3	HC Roller Assembly	13
4-4	Penulium Base Assembly and Soli Brake Assembly (T)	14
4-5	Brake (S) Arm and Brake (T) Arm Assembly	15
4-6	Tension Regulator Assembly, Reel Table (S) Assembly and Reel Table (T) Assembly	16
4-7	TG2 Assembly	17
4-8	TG7 Arm Assembly	18
4-9	Clam Motor Assembly	19
4-10	Pinch Arm Assembly	20
4-11	Worm Wheel Brackets	21
4-12	Capsule Motor	22
4-13	Drum Assembly	23
4-14	Polley Base Assembly	24

<u>Section</u>	<u>Title</u>	<u>Page</u>
4-15	Loading Drive Lever	25
4-16	Rotary Switch and Main Cam	26
4-17	Slide Plate	27
4-18	Loading Gear (S) Assembly	28
4-19	Loading Gear (T) Assembly	29
4-20	Coaster (S)	30
4-21	Coaster (T) Assembly	30
4-22	Rotary Upper Drum Replacement	31
4-23	Adjustment of Tension Regulator Position	32
4-24	PNW Back Tension Adjustment	32
4-25	Reel Torque Check	32
4-26	FL Worm Wheel	33
<b>5. TAPE PATH ADJUSTMENT</b>		34
5-1	Preparation for Adjustment	35
5-2	Tracking Adjustment	36
5-3	No.2 Guide (TG2) Adjustment	36
5-3-1	No.2 Guide (TG2) Height Presetting	36
5-3-2	No.2 Guide (TG2) Adjustment	37
5-4	No.7 Guide (TG7) Adjustment	37
5-5	CUE and REV Waveform Check	37
5-6	Check After Adjustment	38
5-6-1	Tracking Check	38
5-6-2	Running Check	38
5-6-3	Tape Path Check	38
<b>6. EXPLODED VIEWS</b>		39
6-1	Front Loading Assembly	39
6-2	MD Chassis Assembly (1)	40
6-3	MD Chassis Assembly (2)	41
6-4	MD Chassis Assembly (3)	42
<b>7. DIAGRAMS</b>		43
<b>8. ELECTRICAL PARTS LIST</b>		46

## 1. MAIN FEATURES

The mechanism developed exclusively for the 8mm video provides the following features.

1. Faster rewind time than U mechanism.  
4 times high speed. (about 1 minute in case of P120 cassette.)
2. Jog shuttle supporting by addition of forced swing mechanism.
3. High speed start on Picture mechanism.  
Stop → playback about 0.8 sec.
4. Head clogging prevention by adoption of new cleaning roller.
5. Reduction of the number of parts. (about 40 parts less than U mechanism.)
6. FL capstan motor drive.

## 2. PREPARATION FOR MECHANICAL CHECK, ADJUSTMENT AND REPLACEMENT

For removal of the cabinet and boards, refer to "Disassembly" in each Service Manual

Mechanical adjustment is done in the **EJECT** mode. (To select the **EJECT** mode, refer to "2-3, Handling of Mode Selector II".)

### 2-1. FL CASSETTE COMPARTMENT ASSEMBLY (Fig. 1)

#### 1. Removal

- 1) Select the **EJECT** mode.
- 2) Remove three screws ① and remove the FL cassette compartment ② toward the arrow.

#### 2. Mounting

- 1) Select the **EJECT** mode.
- 2) Mount the FL cassette compartment ② with its tab ④ engaged with the hole ③ in mechanical chassis.
- 3) Tighten three screws ①.

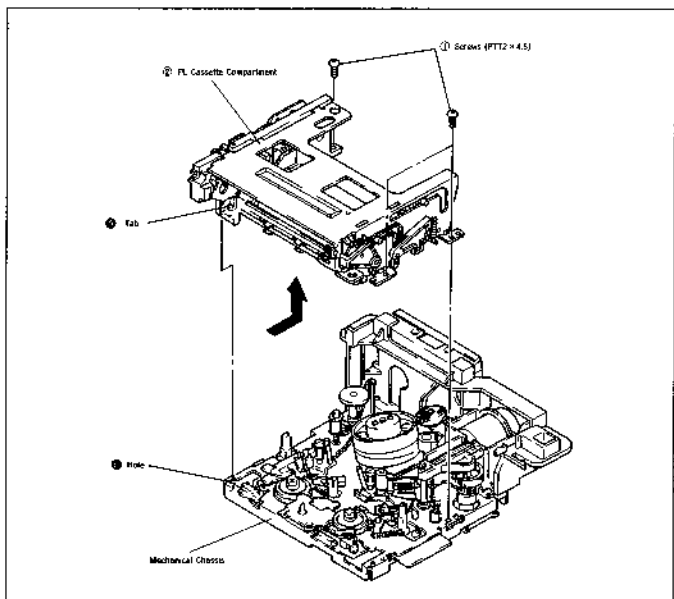


Fig. 1

## 2-2. OPERATION WITH FL CASSETTE COMPARTMENT ASSEMBLY REMOVED (Fig. 2)

### 2-2-1. Activating Loading

- 1) Referring to the Service Guide, supply the power with the cabinet removed.
- 2) Cover the LED ① with an opaque cap ②.
- 3) Press the cassette down switch ③ three times.

### 2-2-2. Activating Play Status

- 1) Perform each step in 2-2-1. Activating Loading.
- 2) Press the PLAY button while keeping the cassette down switch pressed.

### 2-2-3. Activating Ejection

- 1) Press the EJECT button.

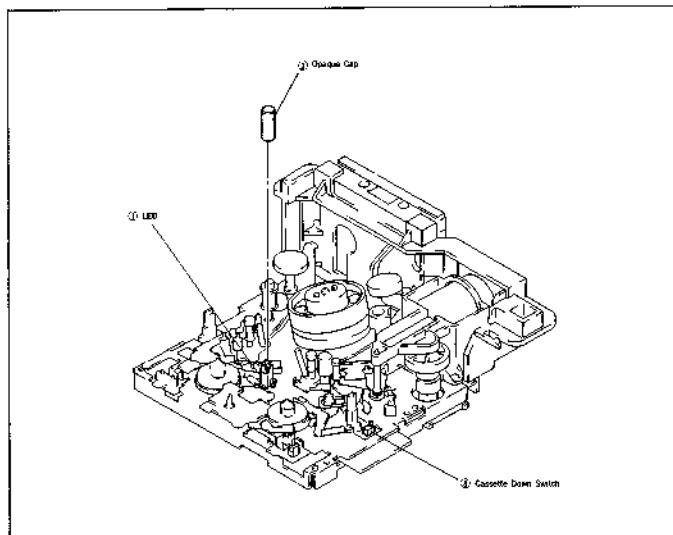


Fig. 2

## 2-3. HANDLING OF MODE SELECTOR I

### 2-3-1. General

The mode selector is used as a mechanism drive tool to help maintenance of various mechanical decks, and it provides the following functions.

#### 1. MANUAL test

In this mode, the motor is driven only during the time that the switch is pressed, so that the operator can control the motor freely.

#### 2. STEP test

In this mode, the motor is driven from the present status attained from sensor until the status changes to another status, so that the operator can confirm every operations.

#### 3. AUTO test

This mode checks if the mechanism operates normally following the status change table registered to each mechanical deck through a sequence of operation in all phases of the mechanism. If it detects a faulty status change during operation, it displays "NG" and stops operation.

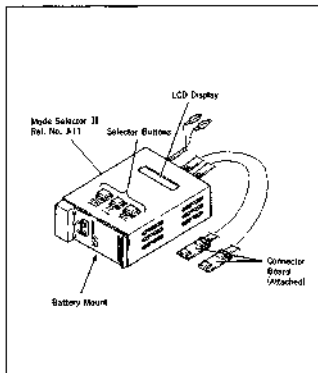


Fig. 3

## MODE SELECTOR I (J-6082-282-A) CONNECTION

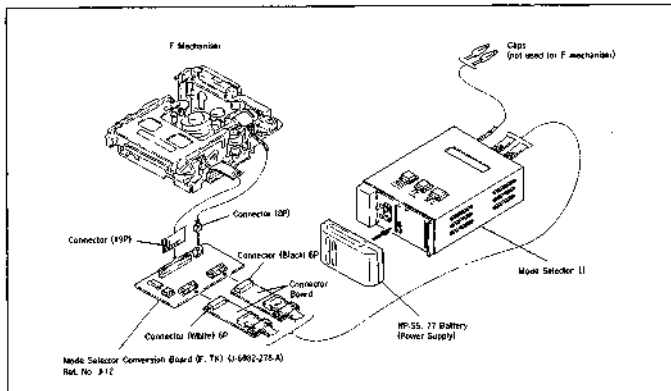
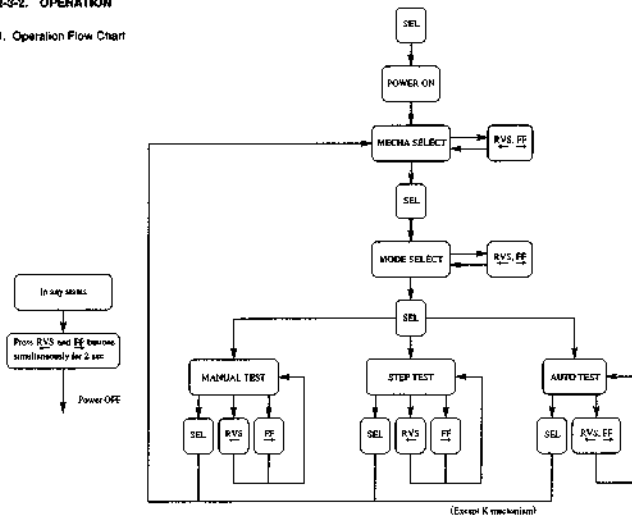


Fig. 4

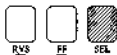
## 2-3-2. OPERATION

### 1. Operation Flow Chart



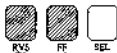
### 2. Mode Selector II power ON

Press the SEL button to turn on the power supply.



### 3. Mode Selector II power OFF

At the power ON, press RVS and FF buttons simultaneously for more than 2 seconds to turn off the power supply.



### 4. Mechanism selection

The "MECHA SELECT" is displayed on LCD immediately after the power supply is turned on. Call the desired mechanism by pressing the RVS or FF button, and press the SEL button. Thus, the mechanism has been selected. (Fig. 5-1 Indicates F mechanism.)

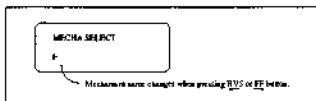


Fig. 5-1

## 5. Mode selection

Select the test mode "MANUAL", "STEP" or "AUTO" to be executed.

Call the desired mode by pressing the RVS or FF button, and press the SEL button. Thus, the mode has been selected.

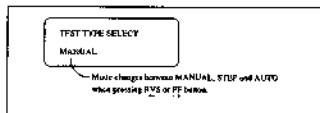


Fig. 5-2

## 6. MANUAL test

This mode drives the motor only during the time that the RVS or FF button is pressed.

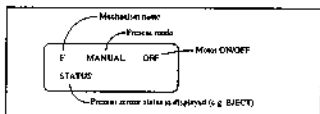


Fig. 5-3

## 7. STEP test

This mode drives the motor from the present status until the status changes in the direction selected with RVS or FF button.

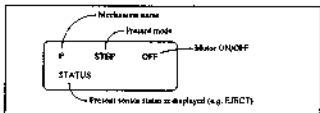


Fig. 5-4

## 8. AUTO test

This mode checks if the operation sequence stored for each mechanical deck is normal, and if the signals from sensors that execute a sequence of operation meet the stored sequence. The same operation is executed if either RVS or FF is pressed.

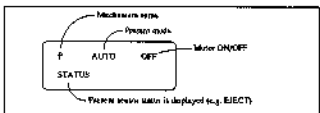


Fig. 5-5

### Mechanism status (position) change sequence

After selection of mechanism, if either MANUAL or STEP mode is selected and the RVS or FF button is pressed, the mechanism status (position) can be designated (Designated status is displayed at STATUS position.)

EJECT ↔ UNLOAD END ↔ STOP 1 ↔ HIGH SPEED REW. ↔ DEW  
 SPEED REW ↔ DEW ↔ LOAD END ↔ STOP 2 ↔ FWD P ↔ RVS P

MD name				Code	F mechanism
A	B	C	D		
0	1	1	1	1	EJECT
0	0	1	1	2	UNLOAD END
1	0	1	0	3	STOP 1
1	0	1	1	4	HIGH SPEED REW.
1	0	0	0	5	DEW
1	1	0	0	6	
1	1	1	0	7	LOAD END
0	1	1	0	8	STOP 2
0	1	0	0	9	
1	1	0	1	10	FWD, P/FWD
0	0	0	1	11	RVS P/RVS
1	0	0	1	12	

## 9. Battery alarm display

In case of low voltage of battery, which is a power supply of Mode Selector, the alarm message is displayed (not synchronous display).

In such a case, no operation is available, requiring battery replacement.

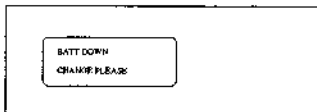


Fig. 5-6

### 3. PERIODIC CHECK AND MAINTENANCE

• Carry out the following maintenance and periodic checks in order not only to fully exhibit the functions and performance of the set, but also for the equipment and tape. After repairing, service the set as follows, regardless of the length of use.

#### 3-1. CLEANING OF ROTARY DRUM ASSEMBLY

1) Gently apply chamois cloth (Ref. No. J-2) soaked in cleaning liquid (Ref. No. J-1) to the rotary drum assembly.

Clean it by rotating the upper rotary drum assembly slowly counterclockwise by hand.

**Note:** Do not rotate the motor by power or rotate the upper rotary drum assembly clockwise by hand. Also, the head tap is highly likely to be damaged if the chamois cloth is moved in a perpendicular direction to the it, make sure to follow the instructions above for cleaning the rotary drum assembly.

#### 3-2. CLEANING OF TAPE PATH (Fig.6)

1) In the **JECT** mode, clean the tape running system (TG1, 2, 3, 4, 5, 6, 7, pinch roller, and capstan shaft) and the lower drum, using a super fine applicator (Ref. No. J-3) soaked in the cleaning liquid.

**Note:** Note that no oil or grease of each link mechanism adheres to the super fine applicator (Ref. No. J-3).

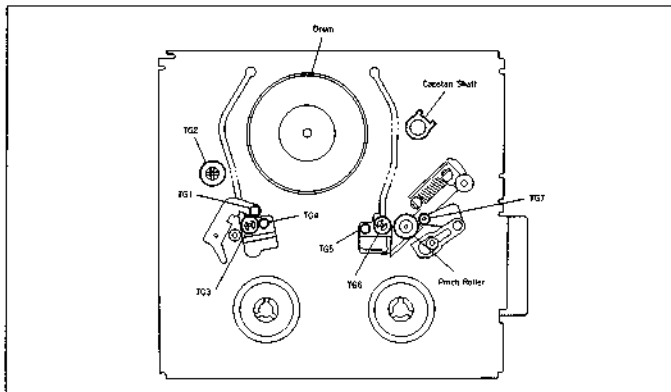


Fig. 6



### 3-3. PERIODIC CHECK ITEMS

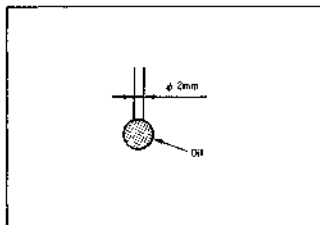
Location of Maintenance and check		Hours of Use (H)										Remarks
		500	1000	1500	2000	2500	3000	3500	4000	4500	5000	
Tape transport System	Cleaning of tape path surface	○	○	○	○	○	○	○	○	○	○	Be careful of oil
	Cleaning and degaussing of rotary assembly	○	○	○	○	○	○	○	○	○	○	Be careful of oil
Driving System	Timing belt	-	☆	-	☆	-	☆	-	☆	-	☆	3-953-986-01
	Timing belt (FL)	-	☆	-	☆	-	☆	-	☆	-	☆	3-954-079-01
	Capsun shaft	-	⊙	-	⊙	-	⊙	-	⊙	-	⊙	Be absolutely careful not to get oil on the tape path surface.
	Relay pulley shaft	-	⊙	-	⊙	-	⊙	-	⊙	-	⊙	
Performance Confirmation	Loading motor	-	☆	-	☆	-	☆	-	☆	-	☆	X-3942-946-1
	Abnormal noise	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	
	Back tension measurement	-	☆	-	☆	-	☆	-	☆	-	☆	
	Brake system	-	☆	-	☆	-	☆	-	☆	-	☆	
	FWD, RVS torque measurement	-	☆	-	☆	-	☆	-	☆	-	☆	

○ : Cleaning    ⊙ : Oil    ☆ : Confirmation

**Note :** When overhauling, refer to the items above to replace parts.

**Note :** Concerning oil

- Be sure to use specified oil. (If you use oil with different viscosity, etc., it may cause troubles.)  
Oil : Part No. 7-661-018-18 (Mitsubishi Diamond Oil Hydrofluid NT-68)
- When lubricating bearings, be sure use oil free from dust, etc. (If you use oil with dust, etc. contained, it may cause bearings to be worn out or seized.)
- A drip of oil refers to an amount attached to the tip of a  $\phi$  2mm suck shown in the right figure.

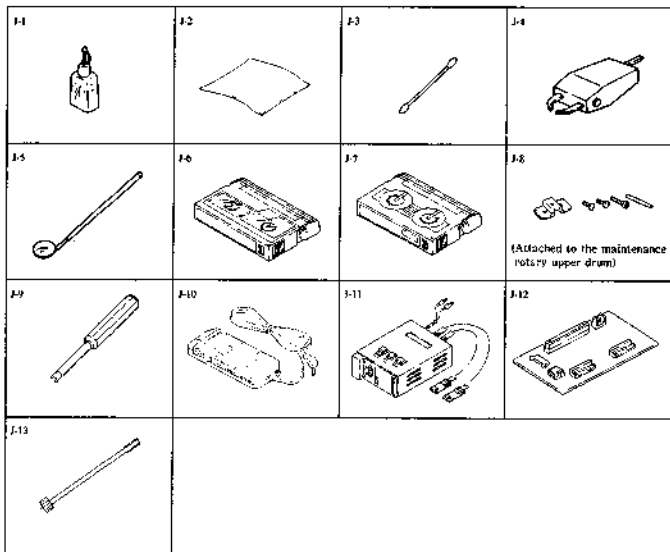


### 3-4. SERVICE JGS LIST

Ref. No.	Name	Part No.	Fixture No.	Usage and Others
J-1	Cleaning fluid	Y-2031-001-0		
J-2	Charcoal cloth	Z-054-697-00		
J-3	Super fine applicator (Made by NIPPON APPLICATOR, P752D)			
J-4	Head degausser	Widely available		
J-5	Small mirror for adjustment Spine mirror	J-6080-079-A J-6080-030-1	SL-5052	Tape path
J-6	Alignment tape NTSC (WR5-1NP) PAL (WR5-1CP)	8-967-995-02 8-967-995-07		Tape path
J-7	FWD and RVS winding torque cassette	J-6080-824-A	GD-2086	
J-8	Rotary drum jig	(Attached to the maintenance rotary upper drum)		
J-9	Screwdriver for tape path	J-6082-026-A		For tape guide adjustment
J-10	Adjusting remote controller (Modified RM-95)	J-6082-053-B		Tape path (Sealing of PATH mode)
J-11	Mode selector II	J-6082-282-A		For all models
J-12	Mode selector conversion board (F, TK)	J-6082-278-A		
J-13	FWD B.T. adjusting drives chip	J-6082-187-A		

Other equipments: • Oscilloscope

• Analog tester (30 kΩ)



#### 4. MECHANICAL CHECK, ADJUSTMENT AND REPLACEMENT

**Note:** Use the Mode selector II (Ref. No. J-11) for the following mechanical checks, adjustments and replacements.

**Note:** The modes in  are those set by pressing the Mode selector buttons.

##### 4-1. RP BLOCK (Fig.7)

###### 1. Removal

- 1) Remove a screw ①.
- 2) Disconnect the connector ②.
- 3) Disengage claws ③ at two places and remove the RP block ④.
- 4) Remove a screw ⑤, then the RP frame ⑥ in arrow direction.

###### 2. Mounting

- 1) Mount the RP frame with its slot ⑥ engaged with the chassis ⑦.
- 2) Tighten a screw ⑧.
- 3) Mount the RP block ④ and tighten a screw ①.
- 4) Connect the connector ②.

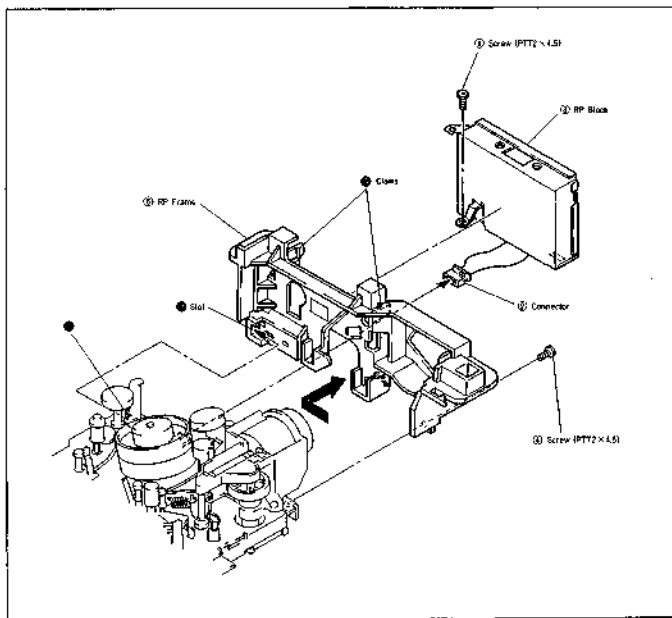


Fig. 7

#### 4-2. IMPEDANCE ROLLER (Fig. 8)

##### 1. Removal

- 1) Referring to 2-1, remove the FL cassette compartment assembly.
- 2) Referring to 4-1, remove the RP block.
- 3) Remove a tension coil spring ①.
- 4) Disengage a claw ② and remove the impedance roller base assembly ③.
- 5) Disengage a claw ④ and remove the impedance roller ⑤.

##### 2. Mounting

- 1) Mount the impedance roller ⑤, then the impedance roller base assembly ③.
- 2) Attach a tension coil spring ①.
- 3) Referring to 4-1, mount the RP block.
- 4) Referring to 2-1, mount the FL cassette compartment assembly.

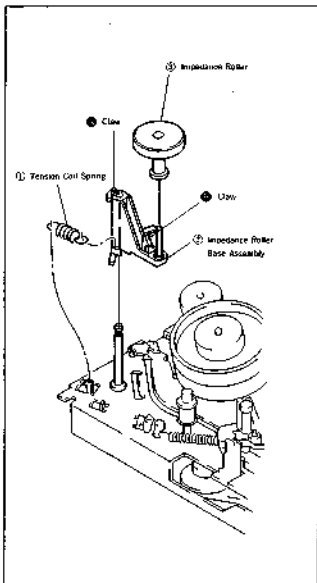


Fig. 8

#### 4-3. HC ROLLER ASSEMBLY (Fig. 9)

##### 1. Removal

- 1) Referring to 4-1, remove the RP block.
- 2) Disengage a claw ② and remove the HC arm assembly ①.
- 3) Remove a lock washer ③, then the HC roller assembly ④.

##### 2. Mounting

- 1) Mount the HC roller assembly ④ and fix with a lock washer ③.
- 2) Mount the HC arm assembly ①.
- 3) Referring to 4-1, mount the RP block.

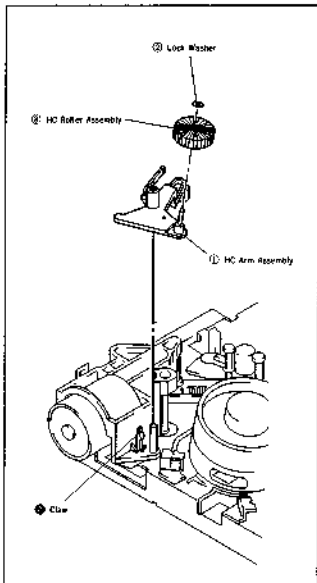


Fig. 9

#### 4-4. PENDULUM BASE ASSEMBLY AND SOFT BRAKE ASSEMBLY (T) (Fig. 10)

##### 1. Removal

- 1) Referring to 2-1, remove the FL cassette compartment assembly.
- 2) Remove a tension coil spring ①.
- 3) Disengage a claw ⑥ and remove the soft brake (T) assembly ②.
- 4) Remove two screws ③, then the reel unlock plate ④.
- 5) Remove the pendulum base assembly ⑤.

##### 2. Mounting

- 1) Mount the pendulum base assembly ⑤ with its shaft ⑦ inserted in the ⑧ of pendulum forcing arm.
- 2) Mount the reel unlock plate ④ and tighten two screws ③.
- 3) Mount the soft brake (T) assembly ② and attach a tension coil spring ①.
- 4) Referring to 2-1, mount the FL cassette compartment assembly.

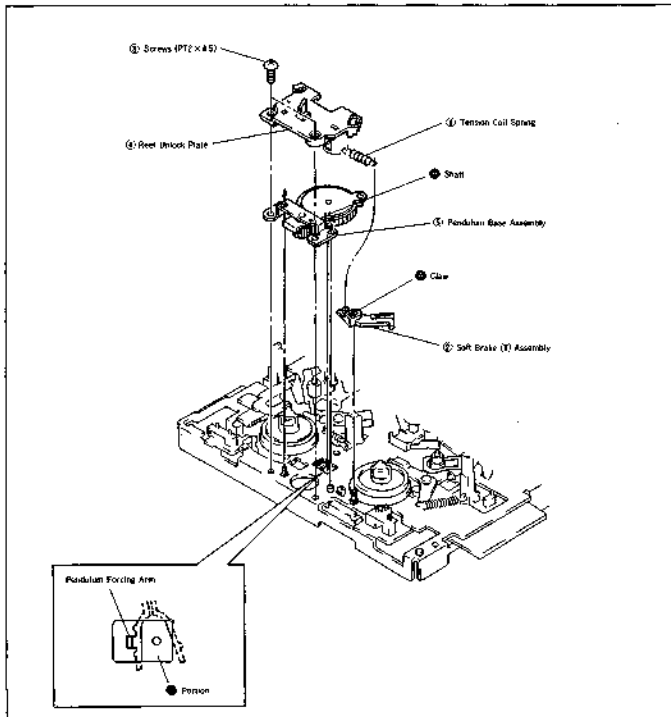


Fig. 10

#### 4-5. BRAKE (S) ARM AND BRAKE (T) ARM ASSEMBLY (Fig. 11)

##### 1. Removal

- 1) Referring to 2-1, remove the FL cassette compartment assembly.
- 2) Remove a tension coil spring ①.
- 3) Disengage a claw ② and remove the brake (S) arm ③.
- 4) Remove a tension coil spring ②.
- 5) Remove a lock washer 1.5 ④, then the brake (T) arm assembly ⑤.

##### 2. Mounting

- 1) Mount the brake (T) arm assembly ⑤ with its shaft inserted into a hole ⑥ in mechanical chassis.
- 2) Attach a lock washer ④.
- 3) Attach a tension coil spring ②.
- 4) Insert the shaft ⑦ of brake (S) arm ③ into a groove ⑧ of slide plate, and the shaft ⑧ of brake (S) drive lever into a hole ⑨ in brake (S) arm respectively.
- 5) Attach a tension spring ①.
- 6) Referring to 2-1, mount the FL cassette compartment assembly.

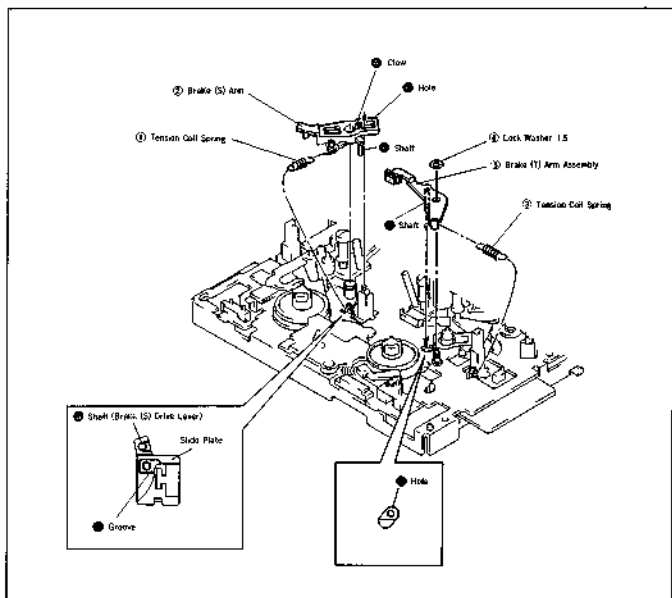


Fig. 11

**4-6. TENSION REGULATOR ASSEMBLY, REEL TABLE (S) ASSEMBLY AND REEL TABLE (T) ASSEMBLY (Fig. 12)**

**1. Removal**

- 1) Referring to 2-1, remove the FL cassette component assembly.
- 2) Referring to 4-5, remove the brake (S) arm and brake (T) arm assembly.
- 3) Remove a tension coil spring (1).
- 4) Remove a screw (2), then the tension regulator band assembly (3) and the tension regulator assembly (4).

**Note :** Do not twist or bend, or do not touch the felt surface when removing the tension regulator band assembly.

- 5) Remove the reel table (S) assembly (5) and the reel table (T) assembly (6).

**2. Mounting**

- 1) Mount the reel table (S) assembly (5) and the reel table (T) assembly (6).
- 2) Mount the tension regulator assembly (4) with its shafts (7), (8) inserted into holes (9), (10) in chassis respectively.
- 3) Wind the tension regulator band assembly (3) onto the reel table (S) assembly (5).

**Note :** Do not twist or bend, or do not touch the felt surface when mounting the tension regulator band assembly.

- 4) Mount the tension regulator band assembly (3), meeting with the dowels (11) of the chassis.
- 5) Tighten a screw (2).
- 6) Attach a tension coil spring (1).
- 7) Referring to 4-5, mount the brake (S) arm and the brake (T) arm assembly.
- 8) Referring to 2-1, mount the FL cassette component assembly.
- 9) Referring to 4-23, adjust the tension regulator position.
- 10) Referring to 4-24, adjust the FWD back tension.

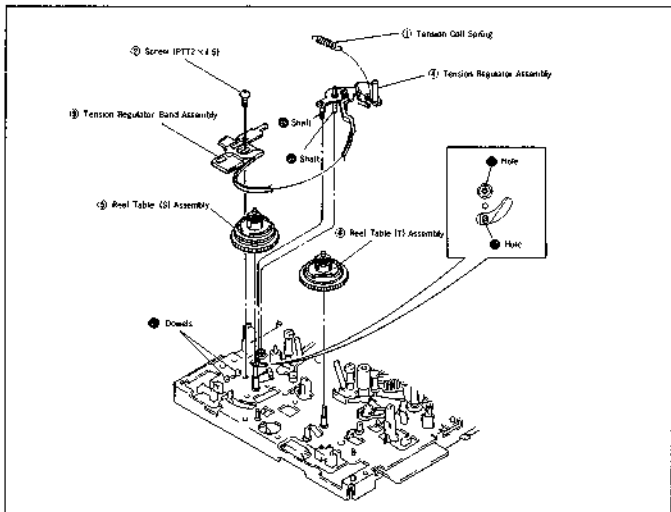


Fig. 12

#### 4-7. TG2 ASSEMBLY (Fig. 13)

##### 1. Removal

- 1) Remove the TG2 upper flange ①.
- 2) Remove the TG2 roller ②, TG2 sleeve ③, TG2 lower flange ④ and compression coil spring ⑤.

##### 2. Mounting

- 1) Mount the compression coil spring ⑤, TG2 lower flange ④, TG2 sleeve ③ and TG2 roller ②.
- 2) Rotate the TG2 upper flange ① by 4 to 6 turns to fix on the shaft.

##### 3. Presetting of TG2 Height

- 1) Rotate to adjust the TG2 upper flange ① so that the height from top surface of mechanical chassis to top surface of TG2 upper flange is 22.12mm.

**Note:** After mounting, perform 5. Tape Path Adjustment.

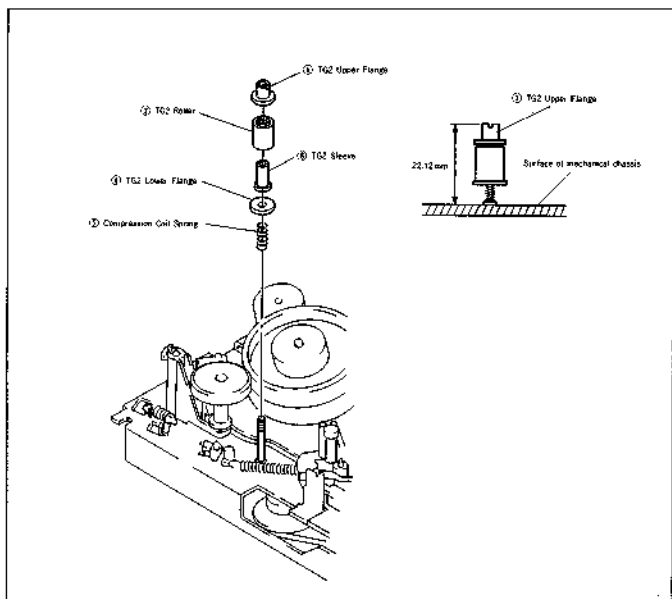


Fig 13



#### 4-6. TG7 ARM ASSEMBLY (Fig.14)

##### 1. Removal

- 1) Referring to 2-1, remove the FL cassette compartment assembly.
- 2) Remove the TG7 height adjusting screw ①, then the TG7 spacer ② and reel table thrust washer ③, and reel table thrust washer ③.
- 3) Remove the TG7 arm assembly ④ and a torsion coil spring ⑤.

##### 2. Mounting

- 1) Insert the shaft ⑥ of TG7 arm assembly ④ into a groove ⑦ in TG7 drive lever, and attach a torsion coil spring ⑤ as shown below.
- 2) Mount a reel table thrust washer ③ and a TG7 spacer ②, and tighten tentatively the TG7 height adjusting screw. At this time, the height from mechanical chassis top surface to TG7 arm top surface should be 3.3mm.
- 3) Referring to 2-1, mount the FL cassette compartment assembly.

**Note :** After mounting, perform 5. Tape Path Adjustment.

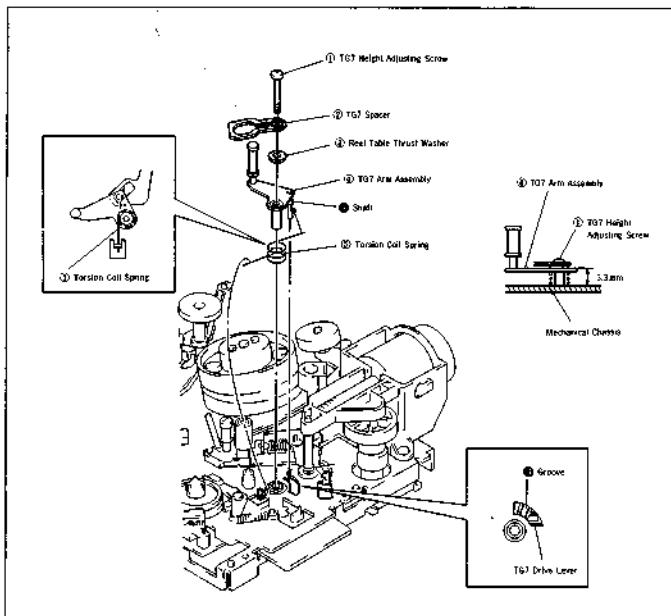


Fig. 14

#### 4-9. CAM MOTOR ASSEMBLY (Fig. 15)

##### 1. Removal

- 1) Referring to 4-1, remove the RP block.
- 2) Remove a screw (1).
- 3) Disengage a claw (2) and remove the cam motor assembly (3) in the arrow direction.

##### 2. Mounting

- 1) Mount the cam motor assembly (3) with its hole (4) inserted into the shaft (5) of chassis.
- 2) Tighten a screw (1).
- 3) Referring to 4-1, mount the RP block.

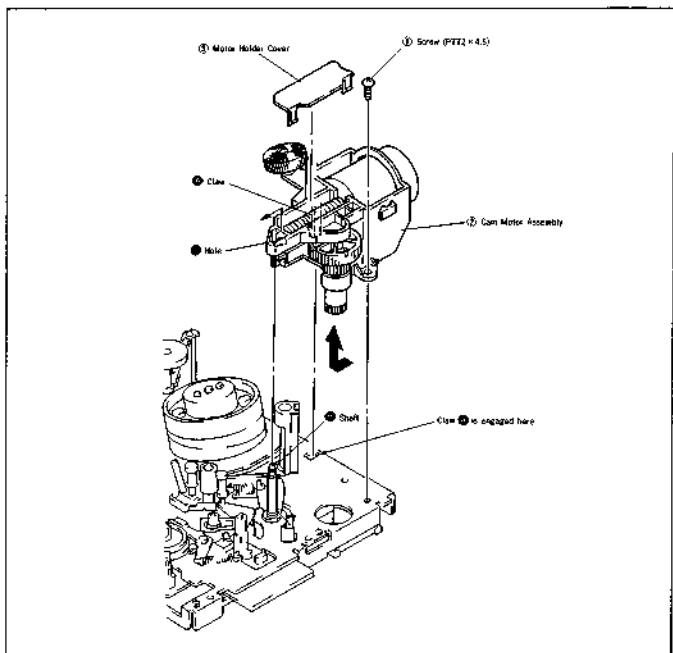


Fig. 15

#### 4-16. PINCH ARM ASSEMBLY (Fig. 16)

##### 1. Removal

- 1) Referring to 2-1, remove the FL cassette compartment assembly.
- 2) Execute the loading until the pinch arm assembly ② becomes level.
- 3) Referring to 4-9, remove the cam motor assembly.
- 4) Remove a torsion coil spring ①, then the pinch arm assembly ②.

##### 2. Mounting

- 1) Mount the pinch arm assembly ② with its hole ④ inserted into the claw ⑤ of pinch drive lever on the chassis.
- 2) Attach a torsion coil spring ① as shown below.
- 3) Referring to 4-9, mount the cam motor assembly.
- 4) Referring to 2-1, mount the FL cassette compartment assembly.

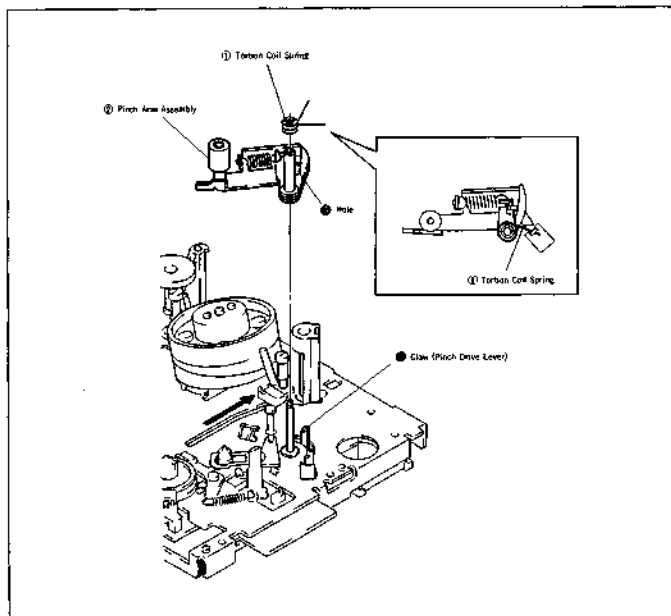


Fig. 16

#### 4-11. WORM WHEEL BRACKET (Fig. 17)

##### 1. Removal

- 1) Remove a screw ①, then the shaft earth assembly ②.
- 2) Remove a screw ③, then the worm wheel bracket ④ in the arrow direction.

##### 2. Mounting

- 1) Mount the worm wheel bracket ④ with its hole ⑤ inserted into the shaft ⑥ of mechanical chassis.
- 2) Tighten a screw ③.
- 3) Mount the shaft earth assembly ② and tighten a screw ①.

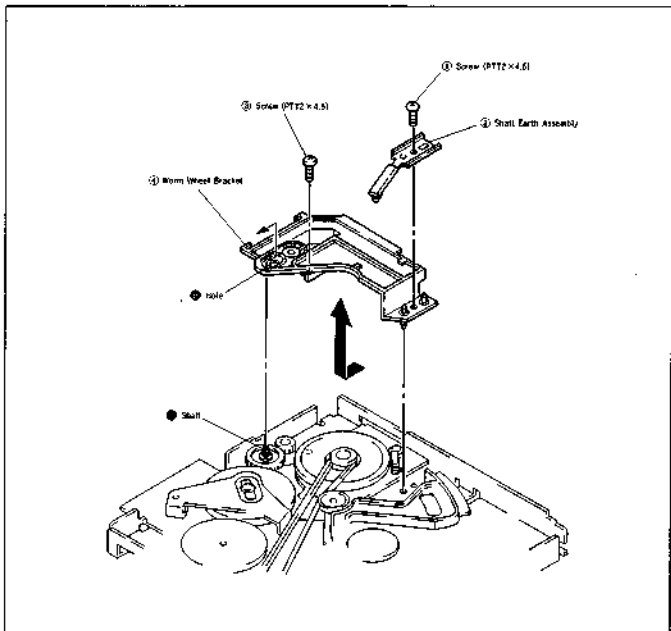


Fig. 17

#### 4-12. CAPSTAN MOTOR (Fig. 18)

##### 1. Removal

- 1) Referring to 4-11, remove the worm wheel bracket.
- 2) Disengage the timing belt ①.
- 3) Remove a screw ②, then the capstan motor ③.

##### 2. Mounting

- 1) Mount the capstan motor ③ with its dowels ④ inserted into holes ⑤ in the mechanical chassis at two places.

**Note :** Do not touch the capstan motor shaft, oil seal and rotor.

- 2) Tighten a screw ②.
- 3) Engage the timing belt ①.
- 4) Referring to 4-11, mount the worm wheel bracket.

**Note :** After mounting, perform 5. Tape Path Adjustment.

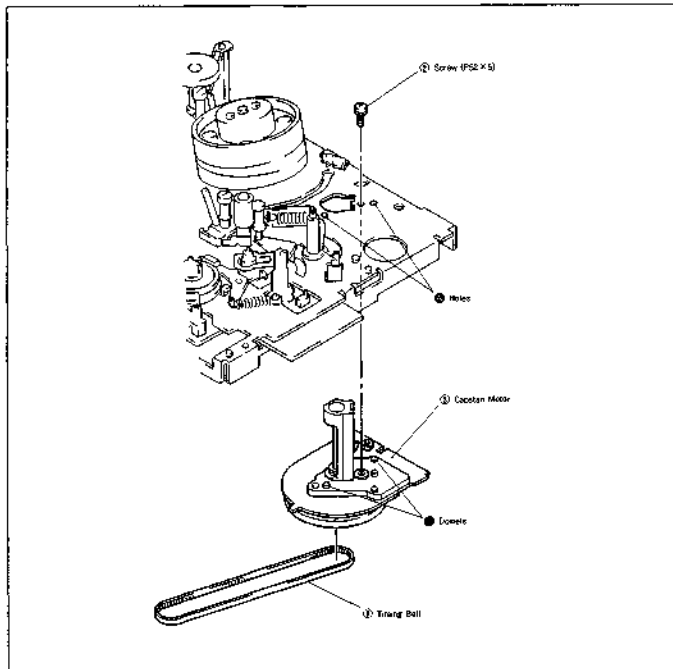


Fig. 18

#### 4-13. DRUM ASSEMBLY (Fig. 19)

##### 1. Removal

- 1) Referring to 4-1, RP Block, disconnect the connector for drum.
- 2) Remove three screws (M2x5) ①.
- 3) Remove the drum assembly ②.

**Note :** Do not touch the outer surface of drum; hold portions (A) and (B) of drum.

##### 2. Mounting

- 1) Mount the drum ② while aligning with dowels ③ of chassis at two places.

**Note :** Do not touch the outer surface of drum; hold portions (A) and (B) of drum.

- 2) Tighten three screws (M2x5) ①.

2)-1 Tighten a screw ① to the torque 29.42mN·m (300g·cm).

2)-2 Tighten a screw ① to the torque 29.42mN·m (300g·cm), then return 45°. (Apply a screw locking agent.)

2)-3 Tighten a screw ① to the torque 29.42mN·m (300g·cm), then return 45°. (Apply a screw locking agent.)

**Note :** After mounting, perform 5. Tape Path Adjustment.

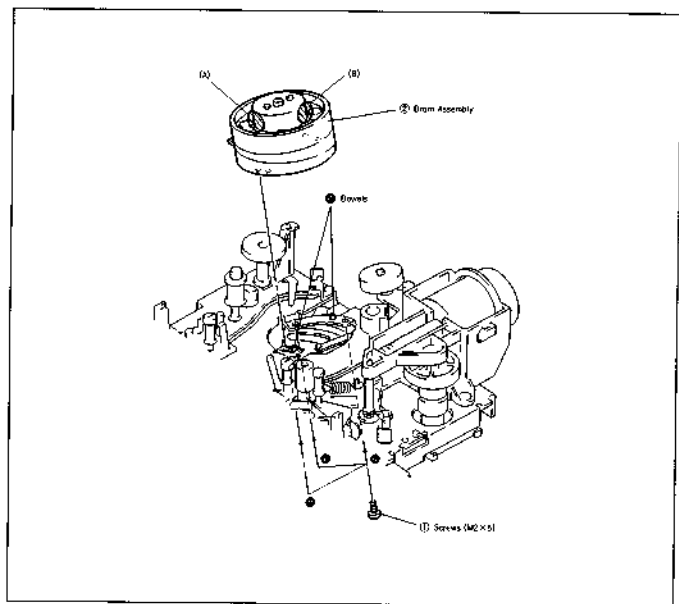


Fig. 19

#### 4-14. PULLEY BASE ASSEMBLY (Fig. 20)

##### 1. Removal

- 1) Remove a screw ①, then the W2, middle ②.
- 2) Disengage a claw ④ and remove the pulley base assembly ③.

##### 2. Mounting

- 1) Mount the pulley base assembly ③ on the shaft ⑤ of mechanical chasses, and engage the timing belt ⑥ with the pulley ⑦.
- 2) Mount the W2, middle ② and tighten tentatively the screw ①.
- 3) Tighten the screw ① at the position where the portion (A) of pulley base assembly ③ is pushed with 14g force.

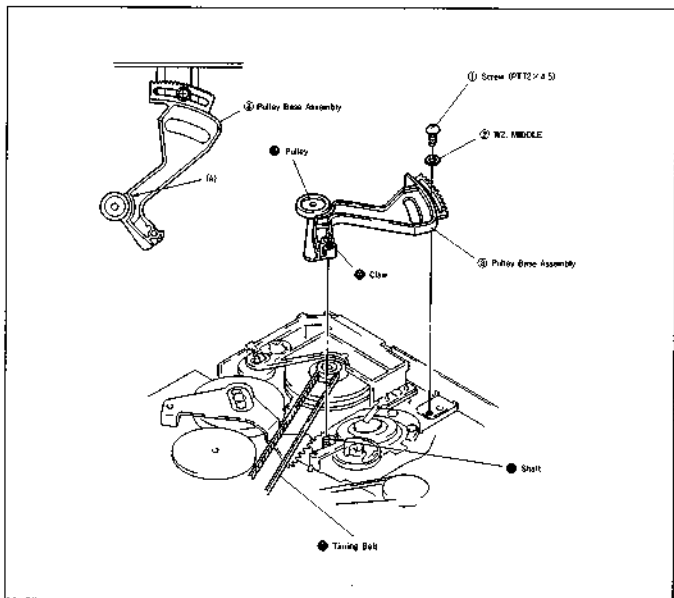


Fig 20

#### 4-15. LOADING DRIVE LEVER (Fig. 21)

##### 1. Removal

- 1) Disengage the timing belt (1).
- 2) Remove a screw (2), then the W3, small (3).
- 3) Remove the loading drive lever (4).

##### 2. Mounting

- 1) Mount the loading drive lever (4) on the shaft (5) of chassis with its shaft (6) inserted into the loading roller (7).  
At this time, insert the shaft (8) of main cam into the hole (9) in loading drive lever, the shaft (10) of loading drive lever into a slot in main cam, and align a line (11) on loading drive lever with a line (12) on loading gear (T) respectively.
- 2) Mount the W3, small (3) and tighten tentatively the screw (2).
- 3) Engage the timing belt (1).

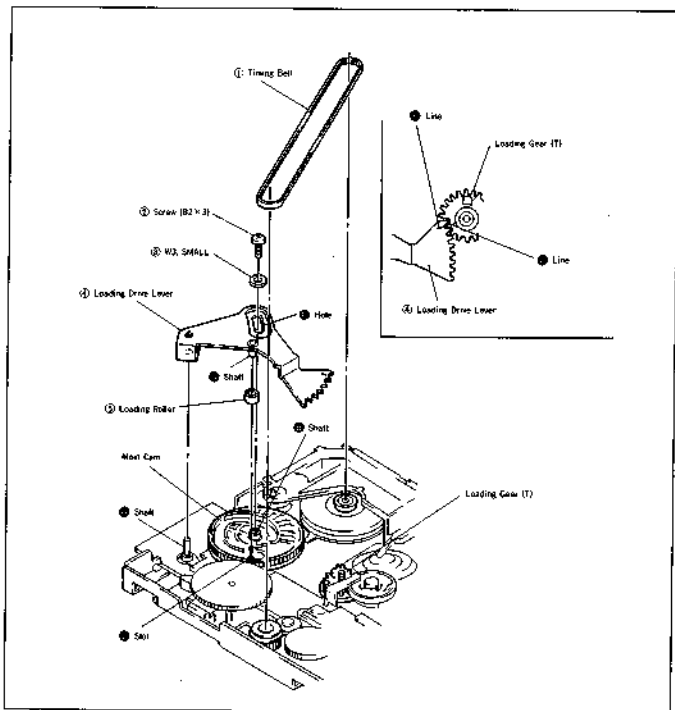


Fig. 21



#### 4-16. ROTARY SWITCH AND MAIN CAM (Fig. 22)

##### 1. Removal

- 1) Referring to 4-11, remove the worm wheel bracket.
- 2) Referring to 4-15, remove the loading drive lever.
- 3) Remove the cam relay gear ①.
- 4) Disengage claws ④ at two places, and disconnect the rotary switch ② from the connector ⑤.
- 5) Remove the main cam ③.

##### 2. Mounting

- 1) Mount the main cam ③ with its cam groove ⑥ inserted into the shaft ⑦ of slide plate drive lever, and cam groove ⑥ into the shaft ⑧ of pinch drive lever respectively.
- 2) Referring to 4-15, mount the loading drive lever.
- 3) Mount the cam relay gear ①.
- 4) Referring to 4-11, mount the worm wheel bracket.
- 5) Connect the rotary switch ② to the connector ⑤ while aligning ▲ marks each other, and its recess ⑨ with the recess ⑩ of main cam ③.

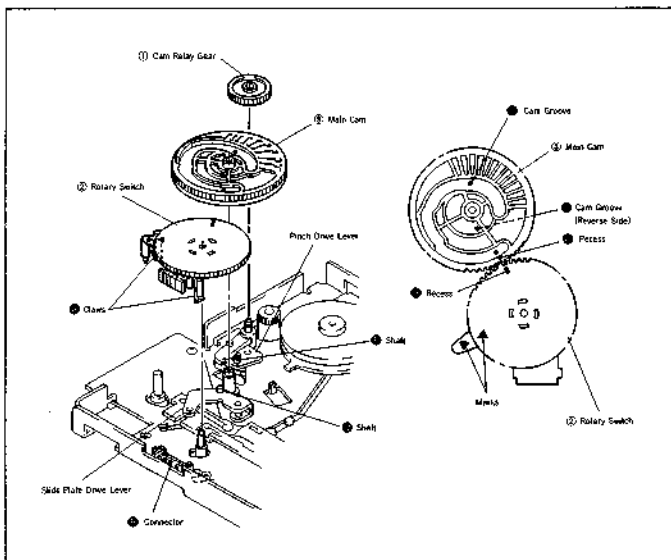


Fig. 22

#### 4-17. SLIDE PLATE (Fig. 23)

##### 1. Removal

- 1) Referring to 4-11, remove the worm wheel bracket.
- 2) Referring to 4-15, remove the loading drive lever.
- 3) Referring to 4-16, remove the rotary switch and main cam.
- 4) Remove the slide plate drive lever (1).
- 5) Disengage the timing belt (2).
- 6) Disengage a claw (3) and remove the FL pulley gear (drive) (4).
- 7) Remove a tension coil spring (4), then the FL switching arm assembly (5).
- 8) Remove the brake (S) drive lever (6).
- 9) Remove two lock washers 1.5 (6), then the slide plate (7).

##### 2. Mounting

- 1) Mount the slide plate (7) with its groove (8) inserted into the shaft (9) of chassis, the groove (10) into the shaft (11) of S take-up assembly, and the groove (12) into the shaft (13) respectively. At this time, insert the shaft (14) into the groove (15) in slide plate while holding the tension regulator sub-arm toward the arrow.
- 2) Mount two lock washers 1.5 (6).
- 3) Referring to 3) of Mounting in 4-18, mount the brake (S) drive lever (6).
- 4) Mount the FL switching arm assembly (5) and a tension coil spring (4).
- 5) Mount the FL pulley gear (drive) (4) and engage the timing belt (2).
- 6) Mount the slide plate drive lever (1) with its shaft (1) inserted into a groove (16) in slide plate (7), and its hole into the shaft (17) of chassis.
- 7) Referring to 4-16, mount the rotary switch and main cam.
- 8) Referring to 4-15, mount the loading drive lever.
- 9) Referring to 4-11, mount the worm wheel bracket.

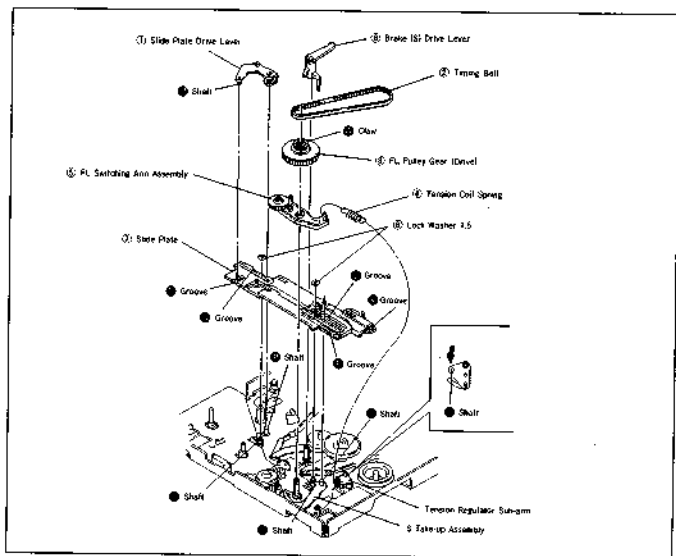


Fig. 23

#### 4-16. LOADING GEAR (S) ASSEMBLY (Fig. 24)

##### 1. Removal

- 1) Referring to 4-15, remove the loading drive lever.
- 2) Disengage a claw  $\textcircled{4}$  and remove the brake (S) drive lever  $\textcircled{1}$ .
- 3) Remove the coaster leaf spring  $\textcircled{2}$ .
- 4) Disengage a claw  $\textcircled{4}$  and remove the loading gear (S) assembly  $\textcircled{3}$ .

##### 2. Mounting

- 1) Mount the loading gear (S) assembly  $\textcircled{3}$  on the shaft  $\textcircled{6}$  of chassis with its arm engaged with the shaft  $\textcircled{1}$  of coaster. At this time, align the portion  $\textcircled{7}$  of loading gear (T) assembly with the portion  $\textcircled{8}$  of loading gear (S) assembly.
- 2) Mount the coaster leaf spring  $\textcircled{2}$ .
- 3) Mount the brake (S) drive lever  $\textcircled{1}$  on the shaft  $\textcircled{4}$  of chassis with its shaft  $\textcircled{5}$  inserted into the portion  $\textcircled{9}$  of brake (S) arm, and the shaft  $\textcircled{5}$  into the groove  $\textcircled{10}$  in loading gear (S) assembly  $\textcircled{3}$ .
- 4) Referring to 4-15, mount the loading drive lever.

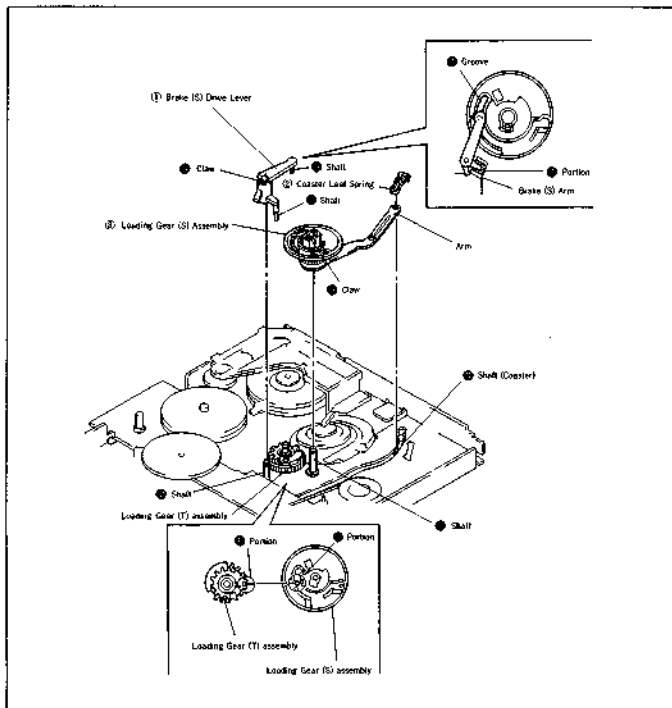


Fig. 24

#### 4-18. LOADING GEAR (T) ASSEMBLY (Fig. 26)

##### 1. Removal

- 1) Referring to 4-15, remove the loading drive lever.
- 2) Referring to 4-18, remove the loading gear (S) assembly.
- 3) Remove the coaster leaf spring ①, then the loading gear (T) assembly ②.

##### 2. Mounting

- 1) Mount the loading gear (T) assembly ② on the shaft ③ of chassis with its arm engaged with the shaft ④ of coaster.
- 2) Mount the coaster leaf spring ①.
- 3) Referring to 4-18, mount the loading gear (S) assembly.
- 4) Referring to 4-15, remove the loading drive lever.

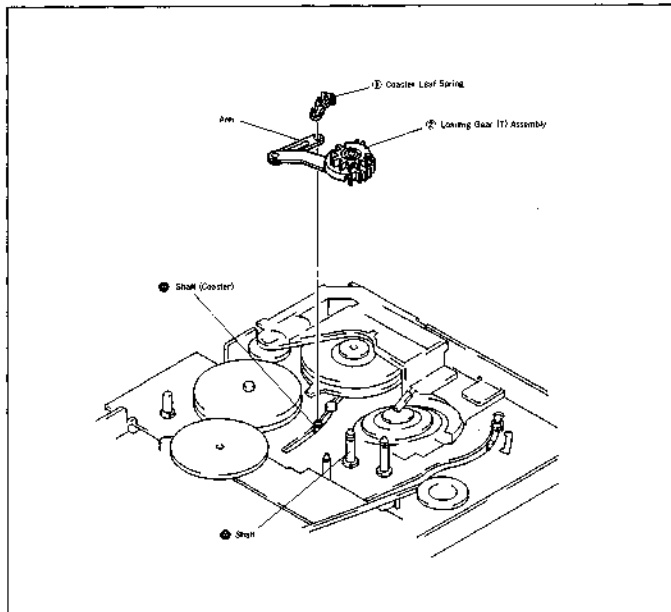


Fig. 26

#### 4-20. COASTER (S) (Fig. 26)

##### 1. Removal

- 1) Referring to 4-2, remove the impedance roller assembly.
- 2) Remove a screw (1), then the catcher (S) (2).
- 3) Remove the coaster leaf spring (3), then the coaster (S) (4).

##### 2. Mounting

- 1) Mount the coaster (S) (4).
- 2) Mount the catcher (S) (2) with its holes inserted into dowels (5) of chassis at two places.
- 3) Tighten a screw (1).
- 4) Referring to 4-18 Loading Gear (S) Assembly, mount the coaster leaf spring (3).
- 5) Referring to 4-2, mount the impedance roller assembly.

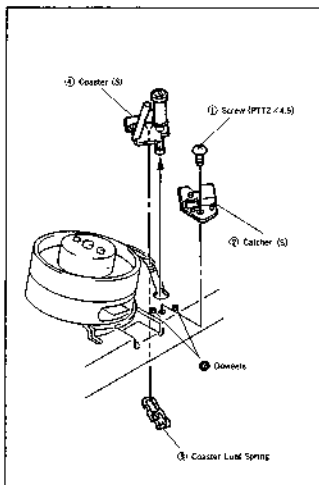


Fig 26

#### 4-21. COASTER (T) (Fig. 27)

##### 1. Removal

- 1) Remove a screw (1), then the catcher (T) (2).
- 2) Remove the coaster leaf spring (3), then the coaster (T) (4).

##### 2. Mounting

- 1) Mount the coaster (T) (4).
- 2) Mount the catcher (T) (2) with its holes inserted into dowels (5) of chassis at two places.
- 3) Referring to 4-19 Loading Gear (T) Assembly, mount the coaster leaf spring (3).

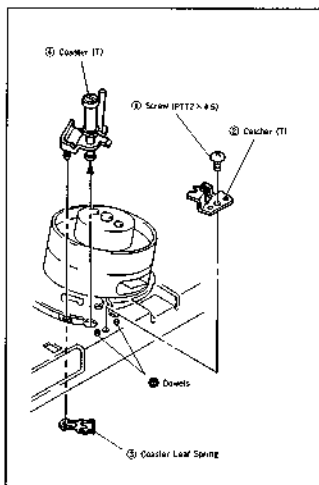


Fig 27

## 4-22. ROTARY UPPER DRUM REPLACEMENT

### 1. Removal

\* If possible, make a recording before removal.

- 1) Remove the two screws ① (Fig. 28).
- 2) Mount the jig ② (Ref. No. J-8) with the two supplied screws ③, then screw the attached hexagon socket screws ④ to the jig ②. The rotary upper drum ⑤ will move upward and come off (Fig. 29).

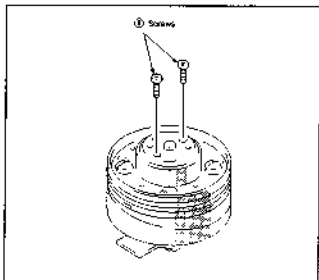


Fig. 28

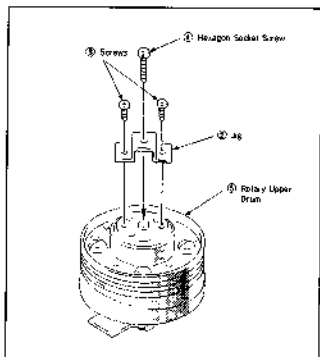


Fig. 29

### 2. Installation

- 1) Wipe clean the flange surface and the rotary upper drum ⑤ surface that makes contact with it, and confirm that they are free from dirt and scratches.
- 2) Insert the jig ② (Ref. No. J-8) into the drum positioning hole, then set then set the rotary upper drum ⑤ by passing the jig through its positioning hole ⑦. (Fig. 30)
- 3) Remove the jig ② and push down the rotary upper drum ⑤ gently by hand. If it does not go all the way down, secure it temporarily by tightening the two screws ① alternately (Fig. 28).
- 4) Tighten strongly both two screws ①, and loosen both screws once, then tighten them again (for stable seating)
- 5) Insert the jig ② into the positioning hole ⑦ again and confirm that it goes in smoothly. If it does not, loosen the two screws ①, repeat step 2) of the Removal paragraph and restart the setting procedure.
- 6) Tighten the screws ①.

**Note :** After installing, be sure to perform tape path adjustment as described in section 5.

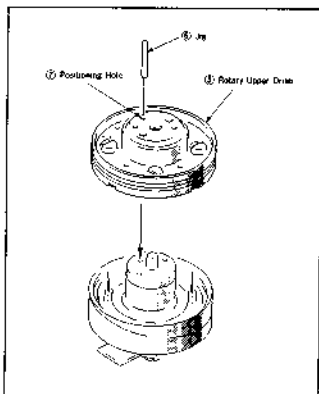


Fig. 30

#### 4-23. ADJUSTMENT OF TENSION REGULATOR POSITION (Fig. 31)

##### 1. Adjustment

- 1) Set a casset tape and run the tape in the PB mode.
- 2) With the tape running, check that the distance from No. 1 guide to No. 2 guide upper flange is 5.5 mm. (On the centerline of TG2 guide)
- 3) If they are not at the specified positions, perform adjustment in step 4) and subsequent steps.
- 4) Loosen the screw ①.
- 5) If No. 1 guide is located inside the specified position, shift the tension adjusting base toward the arrow ② using the FWD B.T. adjusting driver (Ref No. J-13). Or, if it is located outside, shift toward the arrow ③.
- 6) Tighten the screw ①.

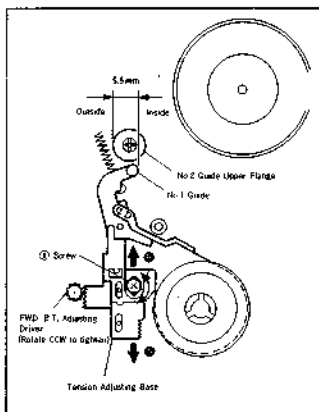


Fig. 31

#### 4-24. FWD BACK TENSION ADJUSTMENT (Fig. 32)

- 1) Select the TEST mode I using the adjusting remote controller (Ref No. J-10).
- 2) Set the torque cassette (Ref No. J-7)
- 3) Select the FWD mode, and check that the torque of S reel table is  $0.98 \sim 1.17 \text{ mN} \cdot \text{m}$  ( $9 \sim 12 \text{ g} \cdot \text{cm}$ ). If it is out of standard, adjust the tension adjusting arm position.

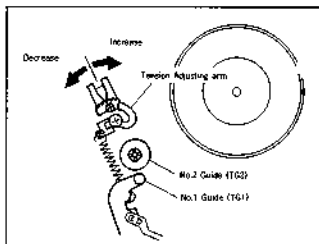


Fig. 32

#### 4-25. REEL TORQUE CHECK

- 1) Set the torque cassette.
- 2) Select the FWD mode, and check that the torque fluctuation center of T reel table is  $0.98 \sim 1.96 \text{ mN} \cdot \text{m}$  ( $10 \sim 20 \text{ g} \cdot \text{cm}$ ).
- 3) Select the RVS mode, and check that the torque fluctuation center of S reel table is  $1.77 \sim 2.75 \text{ mN} \cdot \text{m}$  ( $18 \sim 28 \text{ g} \cdot \text{cm}$ ).
- 4) Select the REV mode, and check that the torque of T reel table is  $0.98 \sim 1.96 \text{ mN} \cdot \text{m}$  ( $10 \sim 20 \text{ g} \cdot \text{cm}$ ).
- 5) If the above data is not satisfied, the tension regulator band, T hard tab or T soft assembly will be faulty. Check them first, and if no abnormality is found, replace respective reel tables.

#### 4-26. FL WORM WHEEL (Fig. 33)

##### 1. Removal

- 1) Disengage tabs **④** at four places and remove the gear cover **①**.
- 2) Remove the drive gear **②**, then the FL worm wheel **③**.

##### 2. Mounting

- 1) Mount the FL worm wheel **③**.
- 2) Meet a hole **⑤** in drive arm (T) on right side with a hole in chassis, and also a hole **⑥** in FL worm wheel **③** with a hole in side plate.  
Meet a hole **⑦** in drive gear **②** with a hole in side plate.  
Meeting respective holes, mount the drive gear **②**.
- 3) Mount the gear cover **①**.

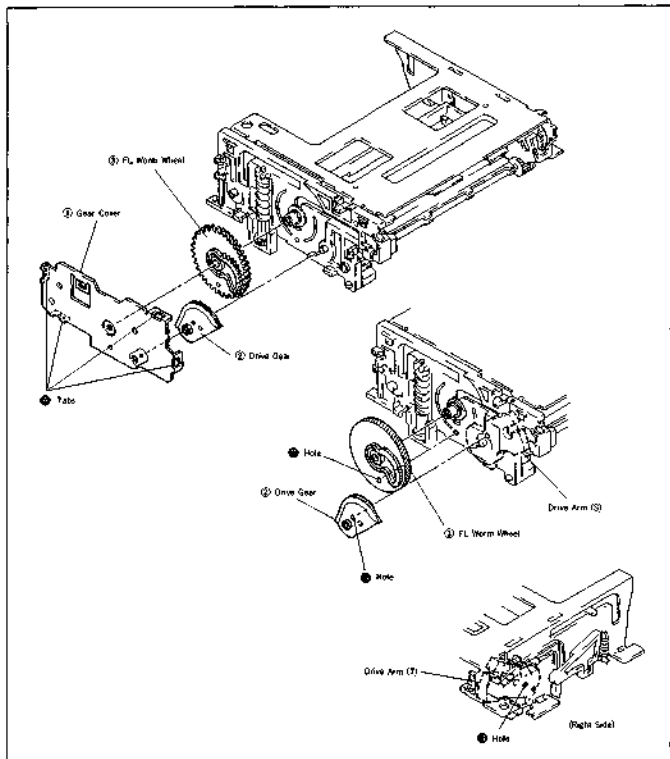


FIG. 33



## 5. TAPE PATH ADJUSTMENT

The Beta video system uses ATF (Automatic Track Finding) which simultaneously controls a tape running speed based on 4 types of pilot signals and performs high-precision tracking.

This does away a tracking control knob and allows accurate track tracing.

On the other hand, however, the ATF system has a problem in adjusting the tape path system. That is, if head tracing is out of order a little, the ATF automatically corrects it, which means that perfect adjustment cannot be done.

Therefore, in the F mechanism, the ATF system is forcibly operated to shift a tracking amount constantly (approx. 1/4) by setting the PATH mode with the adjusting remote controller (Ref No. J-10). So, fine tracking adjustments can be easily done.

Also, the PATH mode setting varies with the model, and therefore, refer to the Service Manual.

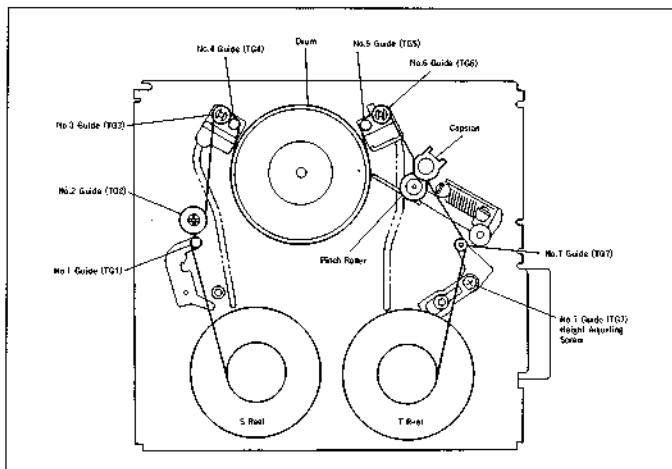


Fig. 34

**[Note on Adjustment of No.7 Guide (TG7)]**

The height adjustment screw for No.7 guide (TG7) is located at some distance from the guide (refer to Fig.42).

Therefore, when performing section 5-4, No.7 Guide (TG7) Adjustment it is convenient to use the alignment tape for tracking (Ref. No. J-6), modified as follows, and perform adjustment in playback mode.

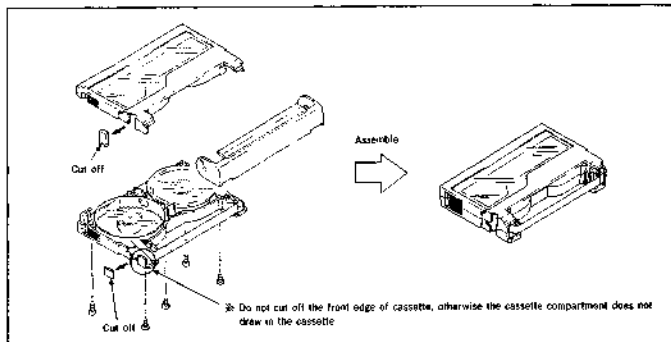


Fig. 35

**5-1. PREPARATION FOR ADJUSTMENT**

- 1) Clean the tape running surface (tape guides, drum, capstan shaft, pinch roller) (Fig. 34).
- 2) Set the PATH mode using the adjusting remote controller.
- 3) connect an oscilloscope to the check pin connector of the set.
- 4) Play back a tracking alignment tape (NTSC : WR5-INP, or PAL : WR5-LOP).
- 5) Check that a RF waveform is flat at the inlet and outlet of the oscilloscope (Fig. 36 ㉑).

If not flat, make adjustment with the procedures below.

When the RF waveform is not flat at the inlet/outlet ; See Fig. 36 ㉒ and ㉓.

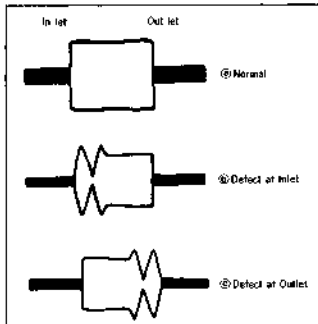


Fig. 36

## 5-2. TRACKING ADJUSTMENT (Fig. 37, 38)

- 1) Play back the tracking alignment tape.
- 2) Loosen the No.3 guide (TG3) lock screw ① and turn the No.3 guide to flatten the waveform at the inlet.
- 3) Tighten the No.3 guide (TG3) lock screw ① to lock the No.3 guide.
- 4) Loosen the No.6 guide (TG6) lock screw ② and turn the No.6 guide to flatten the waveform at the outlet.
- 5) Tighten the No.6 guide (TG6) lock screw ② to lock the No.6 guide. When this is done, make sure that the waveform does not change at the outlet.

**Note:** Be careful not to loosen the lock screw too much because the guide is easily moved.

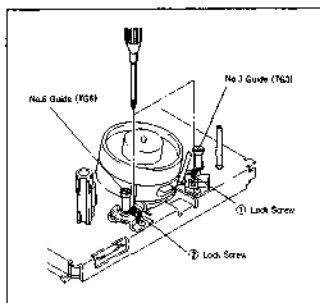


Fig. 37



Fig. 38

## 5-3. No.2 GUIDE (TG2) ADJUSTMENT

When the No.2 guide has been turned or replaced, perform height presetting before this adjustment.

### 5-3-1. No. 2 GUIDE (TG2) HEIGHT PRESETTING (Fig. 39)

- 1) Rotating the TG2 upper flange, adjust the height from top surface of mechanical chassis to top surface of TG2 upper flange to 22.12mm.

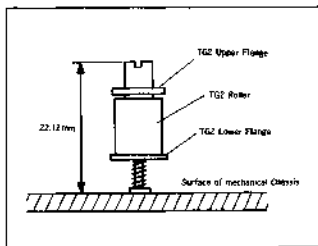


Fig. 39

### (Reference)

This F mechanism is equipped with four adjustable guides (TG2, 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
TG2, 3, 6	Raise	Counterclockwise
	Lower	Clockwise
TG7	Raise	Clockwise
	Lower	Counterclockwise

### 5-3-2. No. 2 GUIDE (TG2) ADJUSTMENT (Fig. 40, 41)

- 1) Play back a thin tape like the PG-120MP, etc. and set the REV mode.
  - 2) Confirm that the tape is not bent at the lower flange ② of the No.2 guide (TG2) ① (Fig. 40). If it is, turn the upper flange ③ of the No.2 guide (TG2) 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 coking fine adjustment as described in sections 5-2.
  - 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 (Fig. 41), turn the upper flange ③ of the No. 2 guide (TG2) ① 90° counterclockwise 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).

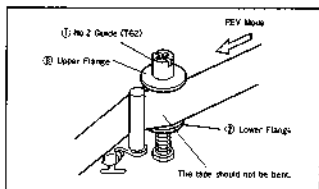


Fig. 40

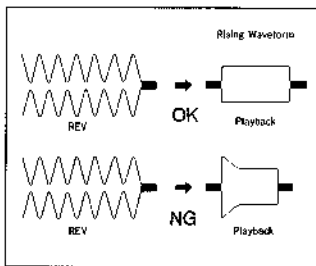


Fig. 41

### 5-4. No.7 GUIDE (TG7) ADJUSTMENT (Fig. 42)

**Note:** This adjustment requires the No. 7 guide adjusting cassette (Fig. 35).

- 1) Play back the No.7 guide adjusting cassette and set the REV mode.
  - 2) Confirm that the tape is not bent between the No.6 guide (TG6) ① and the capstan ②. If it is, turn the high adjusting screw ④ of the No.7 guide (TG7) ③ until the tape is straightened.
  - 3) Set the playback mode again and confirm that the tape is not bent between the capstan ② and the No.7 guide (TG7) ③ (specification : 0.5mm or less). If the tape is bent beyond the specification, turn the high adjusting screw ④ until bending is within the specification (0.5mm).
- If in the REV mode tape bending between the No. 6 guide (TG6) ① and the capstan ② is 0.3mm or less, adjustment can be considered completed.

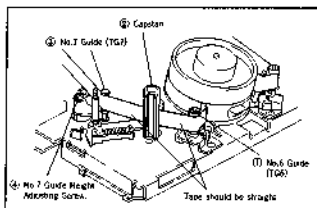


Fig. 42

### 5-5. CUE AND REV WAVEFORM CHECK (Fig. 43)

- 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 (Fig. 43). In case pitch is not constant, perform section 5-2, Tracking Fine Adjustment and section 5-4, No.7 Guide Adjustment.
- 2) Set the CUE mode. Confirm that waveform peaks still maintain a constant pitch of 5 seconds or more (Fig. 43). Otherwise, perform section 5-2 Tracking Fine Adjustment.

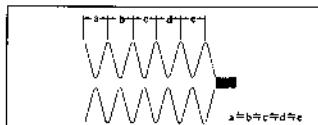


Fig. 43

## 5-6. CHECK AFTER ADJUSTMENT

### 5-6-1. TRACKING CHECK

- 1) Confirm that the amplitude of RF waveform is reduced to approx. 3/4 when the track shift mode is set (Fig. 44).
- 2) Then, confirm that the minimum amplitude value (EMIN) is 65% of the maximum value (EMAX) or larger (Fig. 45).
- 3) Confirm that no large fluctuations occur on the waveform (Fig. 45).

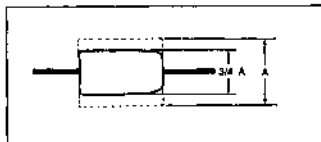


Fig. 44

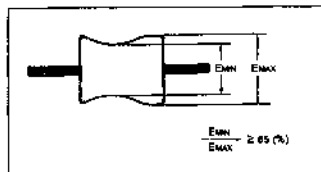


Fig. 45

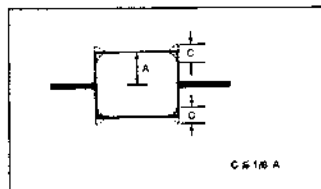


Fig. 46

### 5-6-2. RISING CHECK (Fig. 47)

- 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.
- 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.

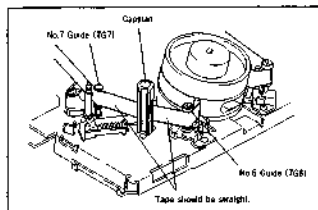


Fig. 47

### 5-6-3. TAPE PATH CHECK (Fig. 48)

- 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 0.3mm, 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 0.3mm at the flange 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.

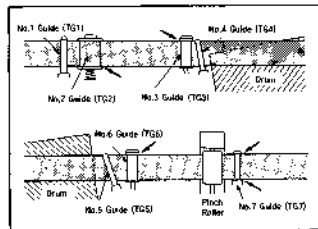


Fig. 48

## SECTION 6 EXPLODED VIEWS

**NOTE:**

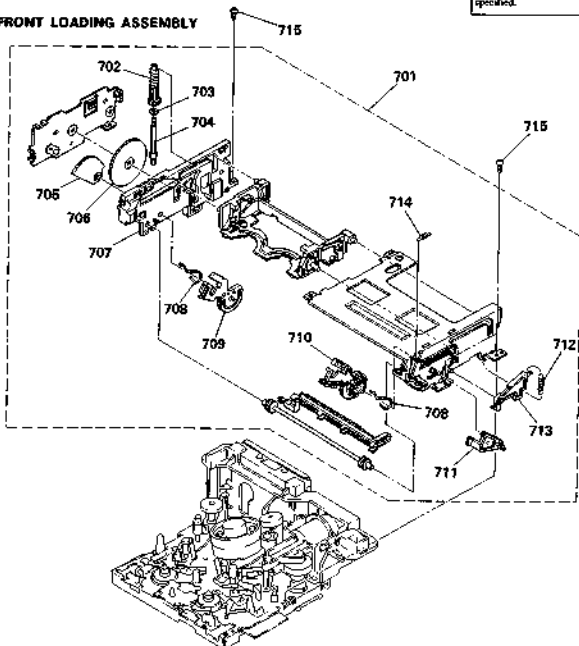
● Items marked " " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

● The mechanical parts with no reference number in the exploded views are not supplied.

● Hardware (nuts) list is given in the last of this parts list.

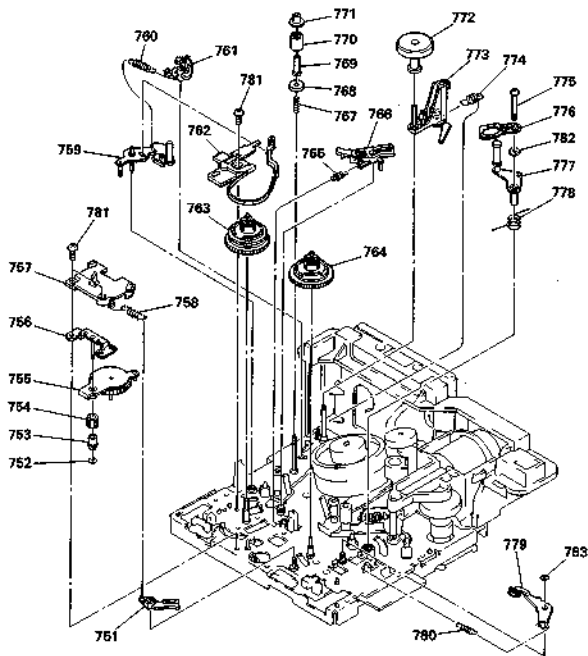
The components identified by **dash**  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

### 6-1. FRONT LOADING ASSEMBLY



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
701	A-7091-911-A	FL. BLOCK ASSY		709	3-954-024-01	ARM (S), DRIVING	
702	3-954-025-01	GEAR, PL. WORM		710	3-954-023-01	ARM (S), DRIVING	
703	3-738-212-11	RETAINER, THROUSE, BEEL TABLE		711	3-954-041-01	ARM, DOOR SAVORING	
704	3-954-029-01	SHAFT, PL. WORM GEAR		712	3-954-042-01	SPRING, TENSION	
705	3-954-030-01	GEAR, DRIVING		713	3-954-040-01	ARM, CASSETTE IN SWICH	
706	3-954-019-01	WHEEL, PL. WORM		714	3-954-044-01	SPRING, TENSION	
707	3-954-012-01	PLATE (S), STOP		715	3-732-312-01	SCREEN (251, 5), TAPPING	
708	3-954-042-01	SPRING, PRESS					

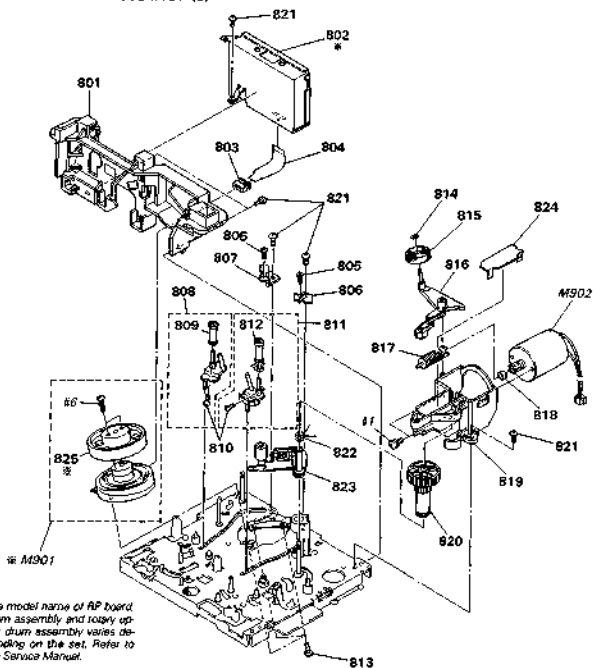
## 6-2. MD CHASSIS ASSEMBLY (1)



Ref. No.	Part No.	Description	Remark
751	3-2943-111-1	BRAKE (T) ASSY, SOFT	
752	3-720-829-03	WASHER, STOPPER	
753	3-954-321-01	BEARING, PENDULUM DRIVING	
754	3-954-059-01	GEAR, PENDULUM TO IVING	
755	3-3942-951-1	GEAR ASSY, PENDULUM	
756	3-3943-162-1	BASE ASSY, PENDULUM	
757	3-824-003-01	PLATE, RELEASE, VEEL LOCK	
758	3-955-122-01	SEALING, THROU (C)	
759	3-3942-953-1	TENSION REGULATOR ASSY	
760	3-824-074-01	SPRING, TENSION	
761	3-824-103-01	ARM, TENSION ADJUSTMENT	
762	3-3942-956-1	BRAND ASSY, TENSION REGULATION	
763	3-3942-954-1	TABLE (S) ASSY, VEEL	
764	3-3942-953-1	TABLE (T) ASSY, VEEL	
765	3-824-086-01	SPRING, TENSION	
766	3-954-071-01	ARM, DRIVE (S)	
767	3-954-091-01	SPRING, COMPRESSION	

Ref. No.	Part No.	Description	Remark
768	3-726-682-02	FLANGE, LOWER, TCG	
769	3-726-685-01	ROLLER, TCG	
770	3-726-683-31	ROLLER, TCG	
771	3-726-684-01	FLANGE, UPPER, TCG	
772	3-954-282-01	ROLLER (D)	
773	3-3943-015-1	BASE ASSY, BOLLER	
774	3-954-281-01	SPRING, TENSION	
775	3-954-086-01	SCREW, TOP HEIGHT ADJUSTMENT	
776	3-954-085-01	SPACER, TCG	
777	3-3943-858-1	ARM ASSY, TCG	
778	3-824-085-01	SPRING (TOP), TENSION	
779	3-3943-161-1	BRAKE (T) ASSY	
780	3-983-978-01	SPRING, TENSION	
781	3-732-817-01	SCREW (214.5), TAPPING	
782	3-732-212-11	RETAINER, THRUST, VEEL TABLE	
783	3-669-465-00	WASHER (I) S, STOPPER	

### 6-3. MD CHASSIS ASSEMBLY (2)

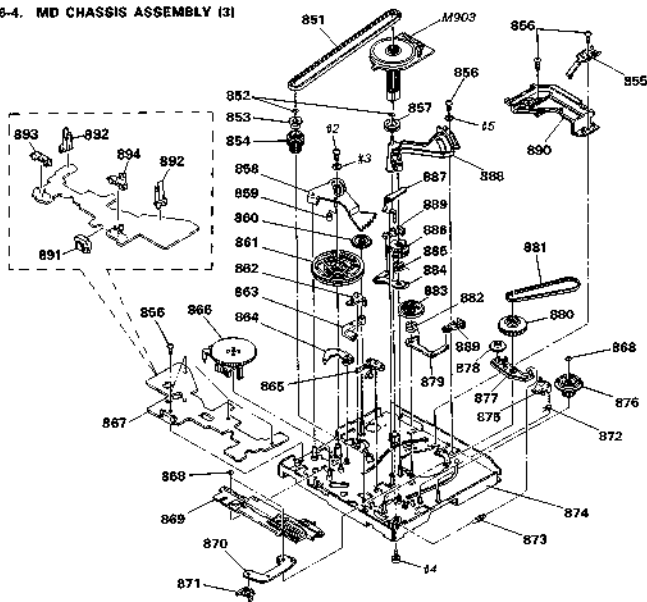


\* The model name of AP board drum assembly and rotary upper drum assembly varies depending on the set. Refer to the Service Manual.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
▼ 801	3-935-623-01	FRAME, RP		815	1-3943-192-1	ROLLER ASSY, IC	
● 802	※	RP BOARD, COMPLETE		816	1-3942-947-1	ARM ASSY, HC	
803	1-691-471-11	CONNECTOR, TRANSLATION 11P		817	3-732-385-01	GRUB (CAM, NORM)	
804	1-649-568-11	PP-696 FLEXIBLE BOARD		818	3-696-396-01	RUBBER, JOINT	
805	3-934-985-01	SCREW (M1.4X0.2)		819	3-934-024-01	HOLDER, MOTOR	
806	3-954-091-01	CATCHER (T)		820	3-954-023-01	WHEEL, CAM NORM	
807	3-954-090-01	CATCHER (S)		821	3-732-817-01	SCREW (2.4, S), TAPPING	
808	A-7940-338-A	COASTER (S) BLOCK ASSY		822	1-994-105-01	SPRING (PENCIL DRIVING)	
809	X-3941-755-1	ROLLER ASSY (2), TC3		823	1-3942-945-1	ARM ASSY, PUNCH	
810	3-947-504-01	SCREW (M1.2X2)		824	3-958-047-02	MOTOR HOLDER COVER	
811	A-7940-339-A	COASTER (T) BLOCK ASSY		825	※	DRUM UPPER, ROTARY	
812	X-3941-756-1	ROLLER ASSY (2), T06		M901	※	DRUM ASSY	
813	3-698-493-01	SCREW (M2.5), P1		M902	X-3942-946-1	MOTOR ASSY, CAM	
814	3-321-383-01	WASHER, STOPPER					



### 6-4. MD CHASSIS ASSEMBLY (3)

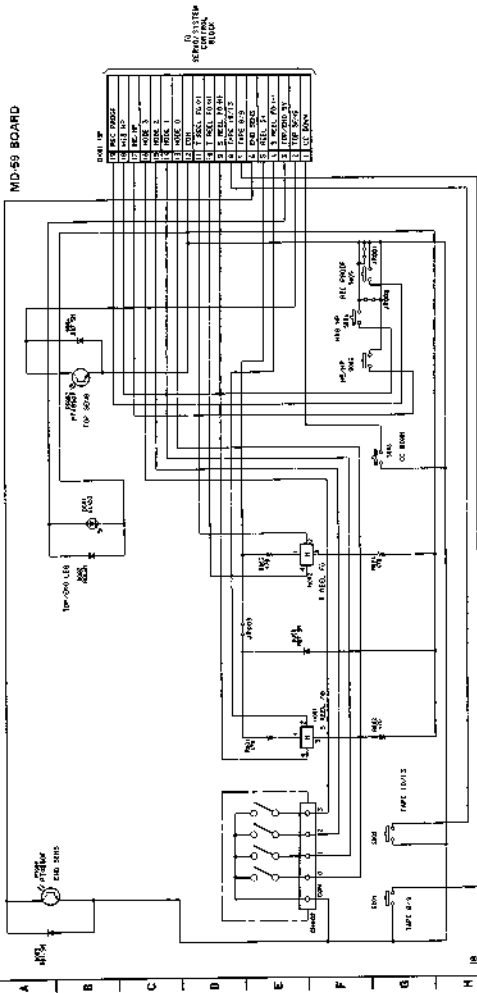


Ref.No.	Part No.	Description	Remark	Ref No.	Part No.	Description	Remark
851	3-953-980-01	BELT, TIMING		871	3-2942-950-1	CHASSIS ASSY, MECHANICAL	
852	3-726-829-01	BRUSH, STOPPER		872	3-954-001-01	ARM, TENSION REGULATOR SUB	
853	3-284-102-02	FLANGE, REEL, DELAY		876	3-803-903-01	GEAR, PL, PULLEY	
854	3-954-061-01	GEAR, REEL, RELAY		877	3-953-979-01	ARM, PL, SELECTION	
855	3-3942-960-1	GRIND ASSY, SWIFT		876	3-953-980-01	GEAR, PL, SELECTION	
856	3-732-817-01	SCREW (2X4.5), TAPPING		879	3-2942-948-1	ARM (S) ASSY, LOADING	
857	X-3843-016-3	PULLEY ASSY, BELT		880	3-803-081-01	GEAR (LOADING), PL, PULLEY	
858	3-954-014-01	LEVER, LOADING DRIVING		881	3-954-079-01	BEELT (PL), TIMING	
859	3-864-323-01	ROLLER, LOAD/INC		882	3-953-956-01	SPRING (S), TORSION	
860	3-954-013-01	GEAR, CAM RELAY		883	3-953-991-01	GEAR (S), LOADING	
861	3-954-050-01	CAM, MAIN		884	X-3912-518-1	ARM (T) ASSY, LOADING	
862	3-854-009-01	LEVER, PINCH DRIVING		885	3-954-000-01	SPRING (T), TORSION	
863	3-954-016-01	LEVER, TGT DRIVING		886	3-853-992-01	GEAR (T), LOADING	
864	3-854-007-01	LEVER, SLIDE PLATE DRIVING		867	3-264-072-01	LEVER, DRAW (S) DRIVING	
865	3-953-975-01	ARM, FINGER/IN COMPRESSION		888	3-2942-962-1	BASE ASSY, PULLEY	
866	1-692-480-11	SWITCH, ROTARY		889	3-956-640-01	SPRING, LEAF, CONSTANT	
867	1-698-320-11	MG-39 BOARD		890	3-954-040-01	RETAINER, ROD, WHEEL	
868	3-669-405-00	WASHER (1.5), STOPPER		891	1-730-630-13	CONNECTOR, ROD, XRD	
869	3-953-972-01	PLATE, SLIDE		892	3-953-985-01	HOLDER, ST SENSOR	
870	3-953-974-01	ARM, S TWIST-UP		893	3-954-638-01	HOLDER (S), PUSH SWITCH	
871	3-953-975-01	CLAMP, S TAKE-UP		894	3-951-639-01	HOLDER (T), PUSH SWITCH	
872	3-956-386-01	SPRING, TORSION		M903	8-835-199-03	WAGON, DC SOE-0501A	
873	3-953-982-01	SPRING, TENSION					

SCHEMATIC DIAGRAM

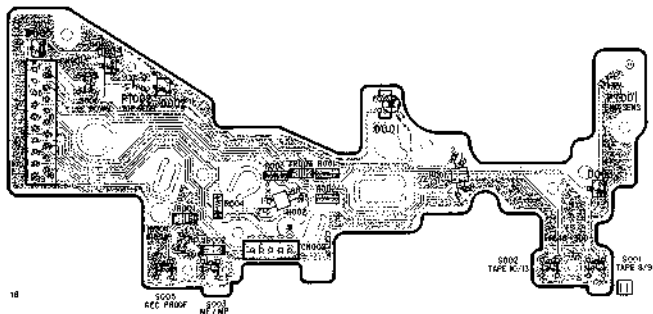
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

MD-59 BOARD



PRINTED WIRING BOARD

MD-69 BOARD



# 8 mm Video MECHANICAL ADJUSTMENT MANUAL V

## SECTION 8

### ELECTRICAL PARTS LIST

#### MD-59

#### NOTE:

● Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.

● -XX and -X means standardized parts, so they may have some difference from the original one.

#### ● RESISTORS

All resistors are in ohms.

METAL: Metal-film resistor.

METAL-OXIDE: Metal oxide-film resistor.

F: nonflammable

● Marks marked "\*" are not specified since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

#### ● SEMICONDUCTORS

In each case,  $\mu$  :  $\mu$ , for example:

$\mu A$  :  $\mu A$ ,  $\mu PA$  :  $\mu PA$

$\mu FB$  :  $\mu FB$ ,  $\mu FC$  :  $\mu FC$ ,  $\mu PD$  :  $\mu PD$

#### ● CAPACITORS

$\mu F$  :  $\mu F$

#### ● COILS

$\mu H$  :  $\mu H$

When indicating parts by reference number, please include the board

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
●	1-646-905-13	MD-59 BOARD		5003	1-695-107-11	SWICH, PUSH (MEAN)	
		*****		5004	1-692-497-11	SWICH, PUSH (HS MP)	
				5005	1-692-497-11	SWICH, PUSH (SEC PROOF)	
	3-963-965-01	HOLDER, ST SENSOR		5006	1-570-955-11	SWITCH, PUSH (1 KEY) (CC DOWN)	
	3-964-638-01	HOLDER (S), PUSH SWITCH		*****			
	3-964-839-01	HOLDER (T), PUSH SWITCH		MISCELLANEOUS			
		< CONNECTOR >		*****			
CHK01	3-569-341-11	CONNECTOR, BOARDED TO BOARD 15P		905	1-691-679-11	CONNECTOR, TRANSLATION 11P	
● CHK02	3-750-630-11	CONNECTOR (SWR HW)		904	1-649-565-11	PP-696 FLEXIBLE BOARD	
		< DIODE >		925	*	DRUM ASSY	
D001	8-719-986-42	DIODE GLASS		896	1-002-486-11	SWITCH, ROTARY	
D002	8-719-106-79	DIODE RW3M-B1		891	1-750-630-11	CONNECTOR (CMB MD)	
D003	8-719-106-23	DIODE RW7.5M-B2		M001	*	DRUM ASSY	
D004	8-719-106-25	DIODE RW7.5M-B2		M002	1-2942-946-1	MOTOR ASSY, CAM	
D005	8-719-106-23	DIODE RW7.5M-B2		M003	8-825-489-01	MOTOR, CC SCE-NOVLA	
		< WIRE ELEMENT >		*****			
W001	1-908-118-11	ELEMENT, HALL HW-300H		HARDWARE LIST			
W002	1-908-118-11	ELEMENT, HALL HW-300A		*****			
		< JUMPER RESISTOR >		R1	7-682-645-01	SCREEN +PS 304	
JR001	1-216-296-00	METAL CHIP 0 5% 1/2W		R2	7-621-772-08	SCREEN +B 253	
JR002	1-216-296-00	METAL CHIP 0 5% 1/2W		R3	7-688-001-01	* S, SMALL	
JR003	1-216-296-00	METAL CHIP 0 5% 1/2W		R4	7-628-253-45	SCREEN +PS 245	
		< TRANSFORMER >		R5	7-688-001-01	* S, MIDDLE	
PT001	8-729-907-25	TRANSISTOR PFA850F		R6	7-627-853-57	PRECISION SCREEN +P 235 TYPES	
PT002	8-728-807-25	TRANSISTOR PFA850F					
		< RESISTOR >					
R001	1-216-199-00	METAL GLAZE 470 5% 1/2W					
R002	1-216-199-00	METAL GLAZE 470 5% 1/2W					
R003	1-216-199-00	METAL GLAZE 470 5% 1/2W					
R004	1-216-199-00	METAL GLAZE 470 5% 1/2W					
		< SWITCH >					
S001	1-692-497-11	SWICH, PUSH (DOME 8/9)					
S002	1-692-497-11	SWICH, PUSH (TYPE 10/13)					

# 8 mm Video MECHANICAL ADJUSTMENT MANUAL V

---

## **F MECHANISM**

### **CORRECTION-1**

Correct your MECHANICAL ADJUSTMENT MANUAL V as shown below.

**Subject:**

1. Change of Mounting and Removal of FL Worm Wheel
2. Change of Disassembly Figure, Parts

#### 4-26. FL WORM WHEEL (Fig. 33)(Page 33)

##### 1. Removal

- 1) Disengage tabs ④ at four places and remove the gear cover ①.
- 2) Remove the FL worm wheel ②.

##### 2. Mounting

- 1) Mount the FL worm wheel ②.
- 2) Meeting the hole ③ in drive gear with the hole in side plate, mount the FL worm wheel ② while meeting the hole ③ in FL worm wheel with the hole in side plate.
- 3) Mount the gear cover ①.

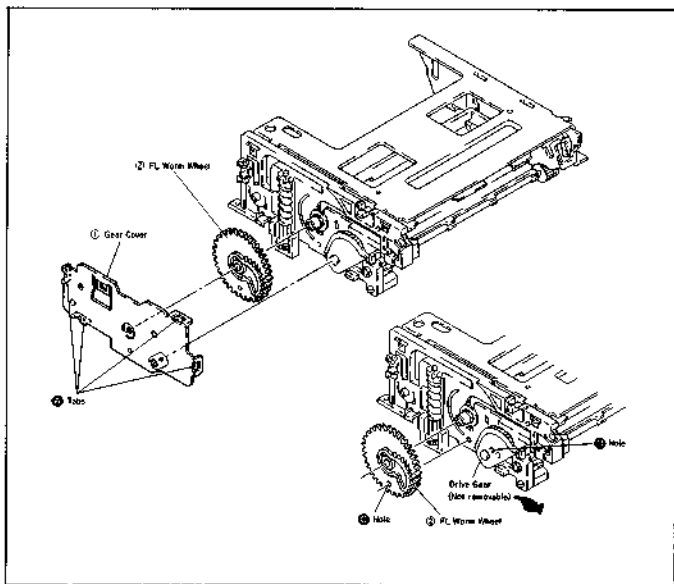
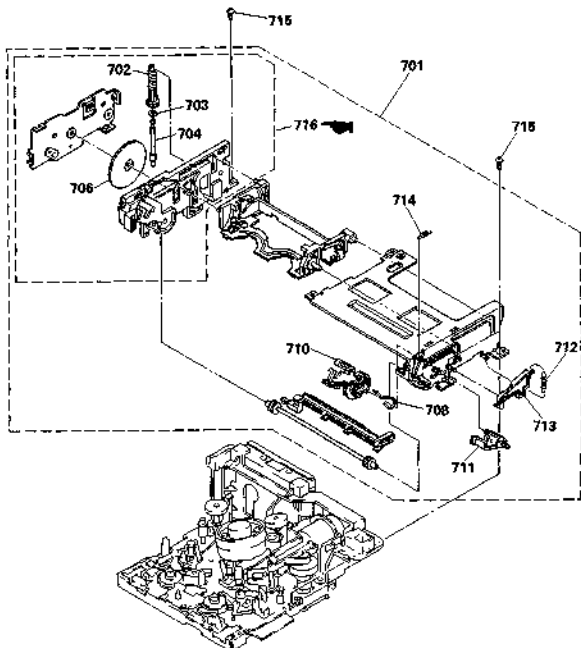


Fig. 33

☛ : Indicates Corrected portion

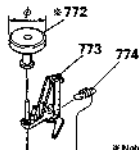
### 6-1. FRONT LOADING ASSEMBLY (Page 39)



Ref. No.	Part No.	Description	Remark
701	A-7091-941-A	FL. BLOCK ASSY	
702	3-954-023-01	GEAR, FL. WORM	
703	3-228-012-14	RETAINER, THROST. REEL TABLE	
704	3-954-029-01	SWAFT, FL. WORM GEAR	
706	3-954-019-01	WHEEL, FL. WORM	
708	3-954-041-01	SPRING, PRESS	

Ref. No.	Part No.	Description	Remark
710	3-954-023-01	ARM (T), DRIVING	
711	3-954-041-01	ARM, DOOR SWITCHING	
712	3-954-043-01	SPRING, TENSION	
713	3-954-040-01	ARM, CASSETTE IN SWITCH	
714	3-954-044-01	SPRING, TENSION	
715	3-732-017-01	SCREW (2X4.5), TAPPING	
716	A-7091-942-A	PLATE (S), SIDE ASSY	☛

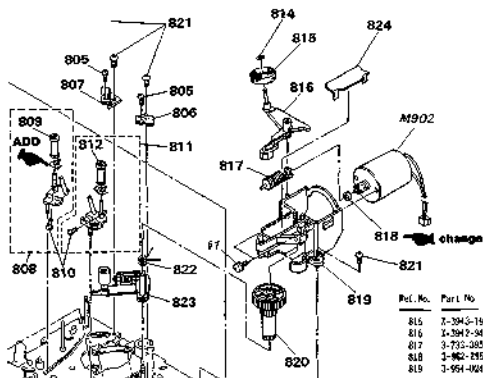
## 6-2. MD CHASSIS ASSEMBLY (1) (Page 40)



※ Note that there are two kinds of impedance roller (M) weights whose diameters are as follows.  
NTSC model : φ 19  
PAL model : φ 10

Ref. No.	Part No.	Description	Remark
768	3-726-830-02	FLANGE, LOWER, TCG	
769	3-726-885-01	SLEEVE, REC	
770	3-726-883-01	ROLLER, TCG	
771	3-726-884-01	FLANGE, UPPER, TCG	
772	3-864-210-01	ROLLER (M) (IMPEDANCE)	ADD
773	3-962-051-01	ROLLER (M) (IMPEDANCE)	ADD
773	1-3943-015-1	BASE ASSY, ROLLER	
774	3-354-224-01	SPRING, TENSION	
775	3-354-096-01	SCREW, TCG HEIGHT ADJUSTMENT	
776	3-354-090-01	SPACER, TCG	
777	1-3942-968-1	ARM ASSY, TCG	
778	3-354-003-01	SPRING (TCG), TORSION	
779	1-3943-161-1	FRAME (T) ASSY	
780	3-953-978-01	SPRING, TENSION	
781	3-732-817-01	SCREW (224.5), TAPPING	
782	3-738-212-11	WASHER, THINWALL, BRASS TABLE	
783	3-669-463-00	WASHER (1.5), STOPPER	

## 6-3. MD CHASSIS ASSEMBLY (2) (Page 41)



Ref. No.	Part No.	Description	Remark
815	3-3945-192-01	ROLLER ASSY, HC	
816	1-3942-947-1	ARM ASSY, HC	
817	3-733-385-01	GEAR (CAM), BORN	
818	3-962-295-01	WASHER, BROWN	change
819	3-954-024-01	WASHER, MOTOR	
820	3-954-025-01	WHEEL, C/W BURN	
821	3-732-817-01	SCREW (224.5), TAPPING	
822	3-964-105-01	SPRING (P/NCH) DRIVING	
823	1-3942-942-1	ARM ASSY, P/NCH	
824	3-958-047-02	MOTOR, BORDER COVER	
825	φ	DRUM, UPPER, NOTAPY	
4001	※	DRUM ASSY	
M902	1-3942-946-1	MOTOR ASSY, C/W	

Sony Corporation  
Consumer A&V Products Company  
Home A&V Products Div.

English  
9418113-1



# 8mm Video MECHANICAL ADJUSTMENT MANUAL V

---

**F MECHANISM**

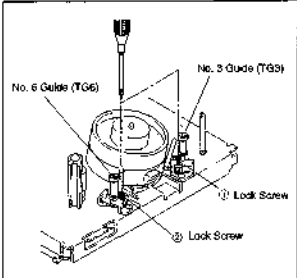
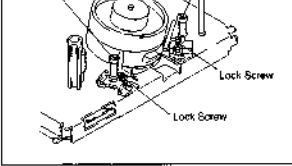
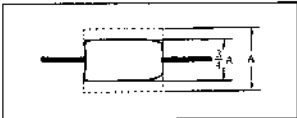
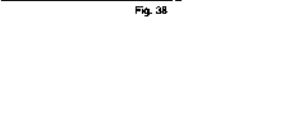
**video 8**

## **CORRECTION-2**

Please correct your 8mm Video MECHANICAL ADJUSTMENT MANUAL V

**Subject : 5-2. TRACKING ADJUSTMENT**

(97-005)

Incorrect	Correct
<p><b>5-2. TRACKING ADJUSTMENT (Fig. 37, 38)</b></p> <ol style="list-style-type: none"> <li>1) Play back the tracking alignment tape.</li> <li>2) Loosen the No. 3 guide (TG3) lock screw ① and turn the No. 3 guide to flatten the waveform at the inlet.</li> <li>3) Tighten the No. 3 guide (TG3) lock screw ① to lock the No. 3 guide.</li> <li>4) Loosen the No. 6 guide (TG6) lock screw ② and turn the No. 6 guide to flatten the waveform at the outlet.</li> <li>5) Tighten the No. 6 guide (TG6) lock screw ② to lock the No. 6 guide. When this is done, make sure that the waveform does not change at the outlet.</li> </ol> <p>Note : Be careful not to loosen the lock screw too much because the guide is easily moved.</p>	<p><b>5-2. TRACKING ADJUSTMENT (Fig. 37, 38)</b></p> <ol style="list-style-type: none"> <li>1) Play back the tracking alignment tape.</li> <li>2) Turn the No. 3 guide to flatten the waveform at the inlet.</li> <li>3) Turn the No. 6 guide to flatten the waveform at the outlet.</li> </ol> <p>Note : Be careful not to touch the lock screw.</p>
 <p>Fig. 37</p>	 <p>Fig. 37</p>
 <p>Fig. 38</p>	 <p>Fig. 38</p>