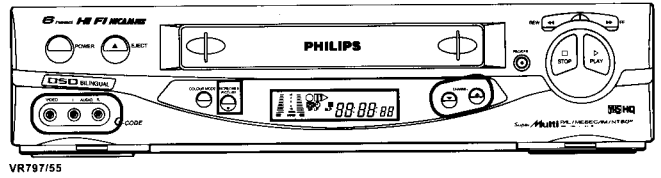


Service Service Service



Service Manual

Contents

Chapter

- 1 Disassembly
- 2 Mechanism adjustments
- 3 Electrical adjustments
- 4 Charts and diagrams
- 5 Parts lists

Specification:

Video & Hi Fi recording:	Rotary six-head helical scan system
Antenna input Signal:	PAL B/G, D/K, M, I, SECAM K1.
Antenna:	VHF/UHF 75Ω external antenna terminal
VHF Output Signal:	UHF channel 36 (adjustable CH32-40) 75Ω unbalanced
Power requirement:	AC 110V – 240V, ~ 50/60Hz
Power consumption:	24W
Operating temperature:	+41°F (5°C) to 104°F (40°C)
Relative humidity:	10% to 80%
Weight:	4.2kg
Dimensions:	400 x 94 x 334mm (VR797/55) 400 x 94 x 342mm (VR897/55) 400 x 94 x 342mm (VR997/55)

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.



TABLE OF CONTENTS

Section	Title	Page
1.	DISASSEMBLY	
1.1	DISASSEMBLY FLOW CHART	1-1
1.2	HOW TO READ THE DISASSEMBLY AND ASSEMBLY ...	1-1
1.3	DISASSEMBLY/ASSEMBLY METHOD	1-1
1.4	CASSETTE HOUSING INSTALLATION	1-4
1.5	SERVICE POSITION	1-4
1.5.1	How to take out the Mechanism and Main board assemblies	1-4
1.5.2	Caution on casset loading when mech in Service mode	1-5
1.5.3	Cass loading and ejecting procedures when mechanism is in service mode	1-5
1.5.4	Opening on the chassis	1-6
1.6	MECHANISM SERVICE MODE	1-7
1.6.1	How to set the 'MECHANISM SERVICE MODE'	1-7
1.7	EMERGENCY DISPLAY FUNCTION	1-8
1.7.1	How to display record of an emergency fault	1-8
1.7.2	Detail of emergency faults	1-8
1.7.3	How to clear emergency record	1-8
1.8	TECHNICAL INFORMATION	1-9
1.8.1	Syscon CPU pin function (IC701) 1/2	1-9
1.8.2	Syscon CPU pin function (IC701) 2/2	1-10

2. MECHANISM ADJUSTMENT

2.1	PREPARATION	2-1
2.1.1	Precautions	2-1
2.1.2	Check without cassette housing assy	2-1
2.1.3	Manual removal of loaded tape	2-1
2.1.4	Test Equipment	2-2
2.2	MAIN MECHANISM PARTS	2-2
2.2.1	Cleaning	2-3
2.2.2	Lubrication	2-3
2.3	INSPECTION AND MAINTENANCE	2-4
2.3.1	Suggested servicing schedule for main components	2-4
2.4	DISASSEMBLY/ASSEMBLY PROCEDURE OF MECHANISM	2-4
2.4.1	Precaution before disassembling mechanism	2-4
2.4.2	How to set the exclusive operation mode (MECHANISM ASSEMBLING MODE)	2-4
2.5	MAIN PARTS REPLACEMENT OF MECHANISM	2-4
2.5.1	Pinch Rollar Arm Assy	2-4
2.5.2	A/C Head	2-5
2.5.3	Pinch Plate	2-5
2.5.4	Loading Motor	2-6
2.5.5	Lever Assy, Sub Deck Assy, Capstan Motor	2-6
2.5.6	Control Bracket	2-7
2.5.7	Slit disk (take-up)	2-7
2.5.8	Control Plate	2-7
2.5.9	Sub Brake (take-up), Control Cam	2-8
2.5.10	Slide Plate	2-8
2.5.11	Change Lever, Rotary Encoder	2-8
2.5.12	Sub Brake (supply), Tension Band Assy, Tension Arm Assy, Take-up Lever Assy, Slit Disk (supply)	2-9
2.5.13	Take-up Head, Tension Arm Lever	2-9
2.5.14	Guide Rail	2-10
2.5.15	Stator Assembly	2-10
2.5.16	Rotor Assembly	2-10
2.5.17	Upper Drum Assy	2-11
2.6	CHECKUP & ADJUSTMENT OF MECHANISM PHASE	2-12
2.6.1	Precaution	2-12
2.6.2	Loading Arm Assy (supply, take-up)	2-12
2.6.3	Rotary Encoder, Change Lever, Control Cam	2-13
2.6.4	Slide Plate	2-13
2.6.5	Control Plate	2-13
2.7	TAPE INTERCHANGEABILITY ADJUSTMENT	2-14
2.7.1	Tape pattern	2-14
2.7.2	A/C head height & azimuth	2-15
2.7.3	A/C head phase (X-value)	2-16
2.7.4	Tension pole position	2-16

Section	Title	Page
3.	ELECTRICAL ADJUSTMENT	
3.1	PRECAUTION	3-1
3.1.1	Required test equipment	3-1
3.1.2	Required adjustment tools	3-1
3.1.3	Color bar signal, color bar pattern	3-1
3.2	SERVO CIRCUIT	3-2
3.2.1	PB switching point	3-2
3.2.2	SLOW Tracking preset	3-2
3.3	ON SCREEN CIRCUIT	3-3
3.3.1	Character position	3-3
3.4	SYSCON CIRCUIT	3-3
3.4.1	Timer Clock	3-3
3.5	DEMULATOR CIRCUIT	3-3
3.5.1	Stereo separation	3-3
3.6	TUNER CIRCUIT	3-4
3.6.1	VCO	3-4
3.6.2	RF AGC	3-4
3.7	VIDEO CIRCUIT	3-4
3.7.1	Auto picture	3-4

4. CHARTS AND DIAGRAMS

SCHMATIC DIAGRAM NOTES	4-1
CIRCUIT BOARD NOTES	4-2
4.1 BOARD INTERCONNECTIONS	4-3
4.2 SYSCON CONTROL BLOCK DIAGRAM	4-5
4.3 VIDEO BLOCK DIAGRAM	4-7
4.4 AUDIO BLOCK DIAGRAM	4-9
4.5 VIDEO & N.AUDIO SCHEMATIC DIAGRAM	4-11
4.6 FMA SCHEMATIC DIAGRAM	4-13
4.7 SYSTEM CONTROL SCHEMATIC DIAGRAM	4-15
4.8 SWITCHING REGULATOR SCHEMATIC DIAGRAM	4-17
4.9 TUNER SCHEMATIC DIAGRAM	4-19
4.10 ON SCREEN SCHEMATIC DIAGRAM	4-21
4.11 MAIN AND A/C HEAD CIRCUIT BOARDS	4-25
4.12 I.F. SCHEMATIC DIAGRAM	4-27
4.13 I.F. CIRCUIT BOARD	4-29
4.14 DEMODULATOR SCHEMATIC DIAGRAM	4-31
4.15 DEMODULATOR CIRCUIT BOARD	4-33
4.16 DISPLAY, SW JACK, REC SAFETY, CASSETTE SWITCH SCHEMATIC DIAGRAM	4-35
4.17 DISPLAY, CASSETTE SW, SW, REC SAFETY AND SW/JACK CIRCUIT BOARD	4-37
4.18 AUDIO EFFECT SCHEMATIC DIAGRAM	4-39
4.19 AUDIO EFFECT CIRCUIT BOARD	4-41
4.20 MIC AMP SCHEMATIC DIAGRAM	4-43
4.21 MIC AMP CIRCUIT BOARD	4-44
4.22 REMOTE CONTROL SCHEMATIC DIAGRAM VR797/55 ..	4-45
4.23 R.CONTROL SCHEMATIC DIAGRAM VR897, VR997	4-46
4.24 FDP GRID ASSIGNMENT AND ANODE CONNECTION	4-47

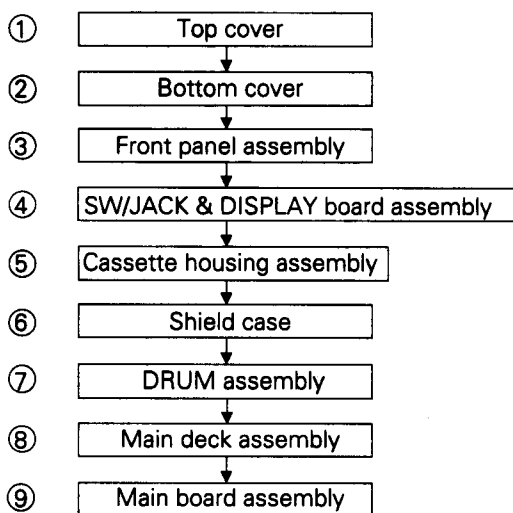
5. PARTS LIST

5.1 ACCESSORIES AND ASSEMBLY <M1>	5-1
5.2 CABINET AND CHASSIS ASSEMBLY <M2>	5-3
5.3 MECHANISM ASSEMBLY <M4>	5-5
5.4 ELECTRICAL PARTS LIST	5-5
MAIN BOARD ASSEMBLY <03>	5-5
AUDIO/CONTROL HEAD BOARD ASSY <12>	5-11

SECTION 1 DISASSEMBLY

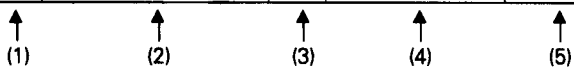
1.1 DISASSEMBLY FLOW CHART

This flowchart lists the disassembly steps for the cabinet parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally laid.



1.2 HOW TO READ THE DISASSEMBLY AND ASSEMBLY

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	TOP COVER	D1	5(S1)	
②	BOTTOM COVER	D2	(S2), 7(L1)	
③	FRONT PANEL ASSEMBLY	D3	7(L2), *JOG/SHUTTLE *CN707(HR-DD840U ONLY)	<NOTE 1>
④	DISPLAY BOARD ASSEMBLY	D4	7(L3), *CN1201, *CN1203(HR-DD740U ONLY) *CN1202	<NOTE 2>
⑤	CASSETTE HOUSING ASSEMBLY	D5	2(S3), 2(S4)	<NOTE 3>
⑥	SHIELD CASE	D6	2(S5), *CN1	



(1) Order of steps in Procedure

When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) NO. of parts Figures.

(2) Part name to be removed or installed.

(3) Fig.No. showing procedure or part location

(4) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered. P = Spring, W = Washer, S = Screw, L = Locking tab, * = Unhook, unlock, release, unplug or unsolder.

(5) Adjustment information for installation

1.3 DISASSEMBLY/ASSEMBLY METHOD

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	TOP COVER	D1	5(S1)	
②	BOTTOM COVER	D2	(S2), 7(L1)	
③	FRONT PANEL ASSEMBLY	D3	7(L2), *JOG/SHUTTLE *CN708(VR897, VR997 ONLY)	<NOTE1>
④	SW/JACK & DISPLAY BOARD ASSEMBLY (VR797, 897 ONLY)	D4A	13(L3), *CN1201, *CN1205	<NOTE2>
	SW & DISPLAY BOARD ASSEMBLY (VR997 ONLY)	D4B	11(L3), *CN1201 (S10)	<NOTE2>
⑤	CASSETTE HOUSING ASSEMBLY	D5	2(S3), 2(S4)	<NOTE3>
⑥	SHIELD CASE	D6	2(S5), *CN1	
⑦	DRUM ASSEMBLY	D7	3(S6), WR1(L4) HEAD CLEANER	<NOTE4>
⑧	MAIN DECK ASSEMBLY	D8	2(S7), WR2, WR3, 2(L5), *CN703	<NOTE5>
⑨	MAIN BOARD ASSEMBLY	D9	3(S8), (S9)	

<NOTE1>

When reattaching the front panel assembly, make sure that the door opener (Ⓐ) of the cassette housing assembly is lowered in position prior to the reinstallation.

<NOTE2>

When plugging the connector in, check that the flat wire is inserted properly and fully.

<NOTE3>

When reattaching the cassette housing assembly, pay careful attention to the switch lever not to make it touch the REC switch knob of the REC SAFETY board assembly from the upside.

(If the REC switch knob of the REC SAFETY board assembly is damaged, cassette loading is impossible.)

<NOTE4>

When plugging the connector in, check that the flat wire is inserted properly and fully.

<NOTE5>

- When removing the Main deck assembly only, unhook the two spacers connecting it with the Main board assembly with pliers from the back side of the Main board assembly first, and then remove the Main deck assembly.
- When reattaching the Main deck assembly to the Main board assembly, make sure to set the spacers into the retaining slots respectively.

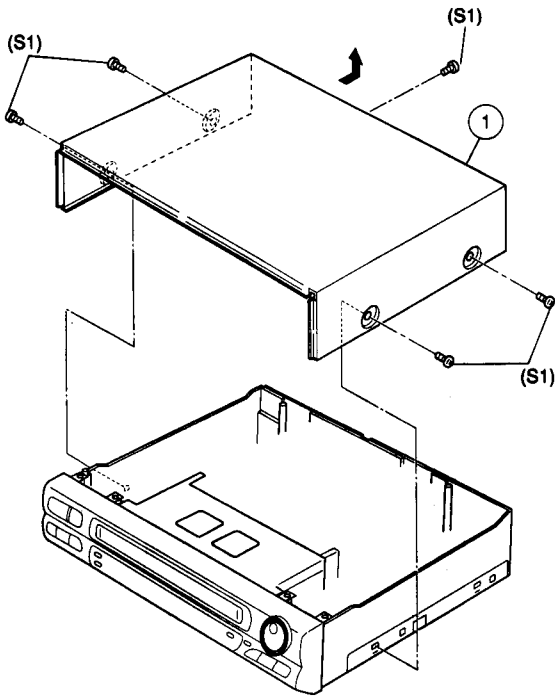


Fig. D1

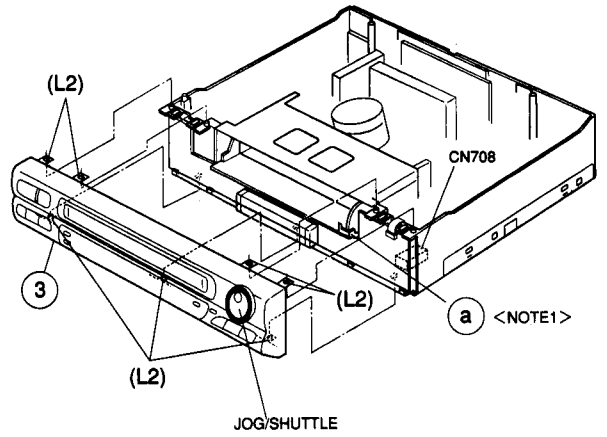


Fig. D3

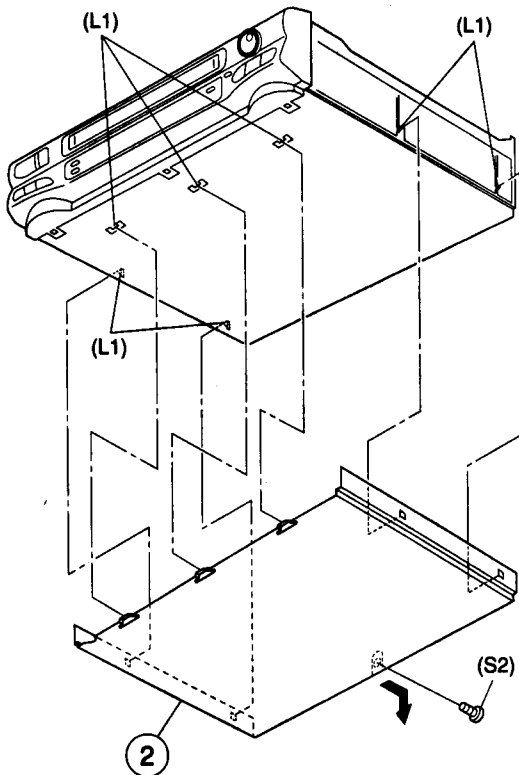


Fig. D2

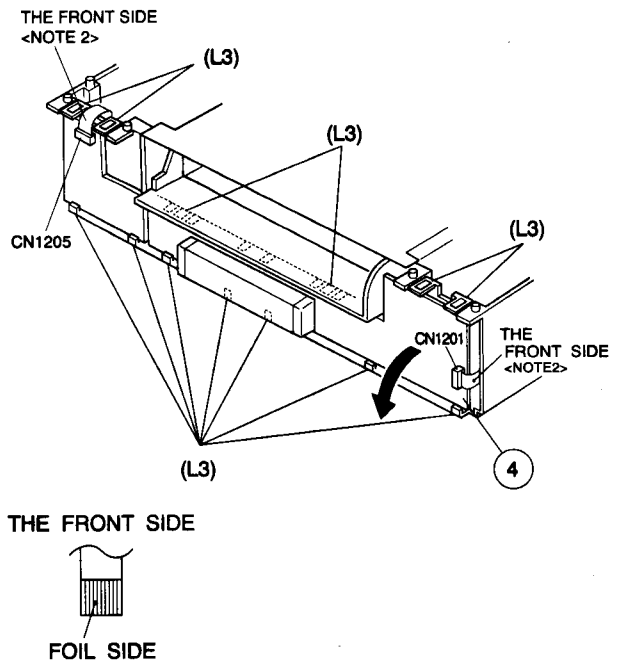


Fig. D4A

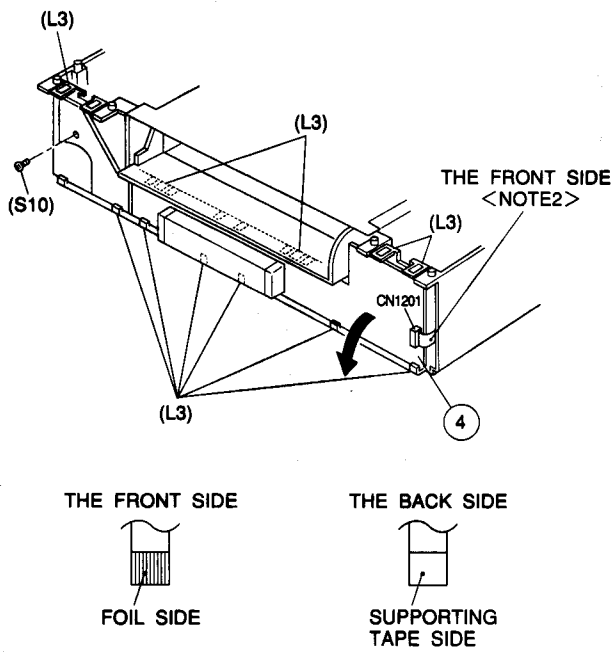


Fig. D4B

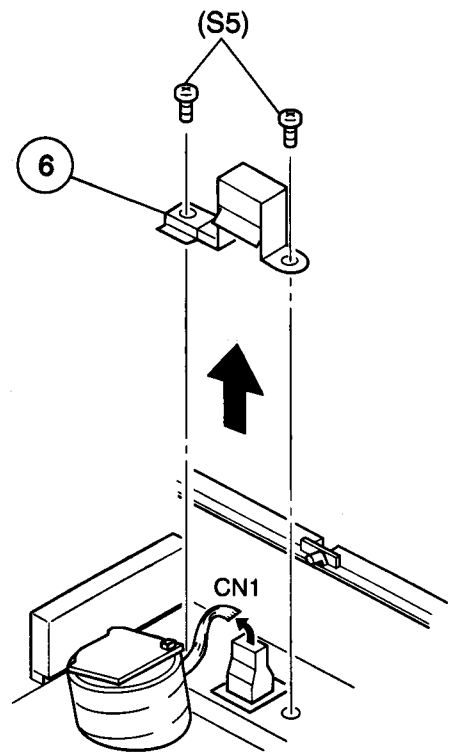


Fig. D6

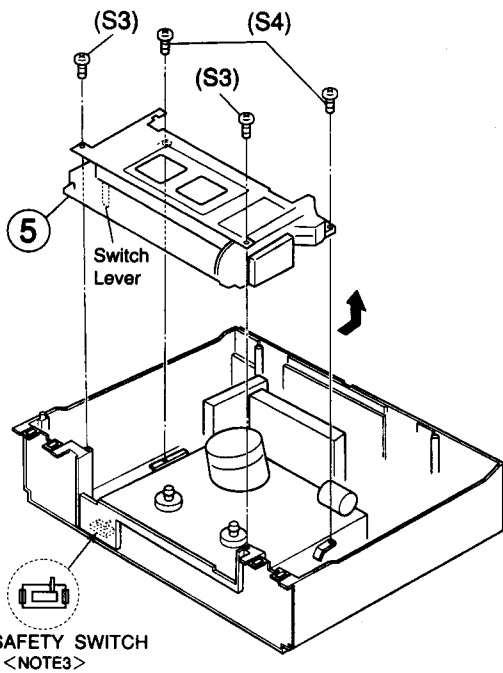


Fig. D5

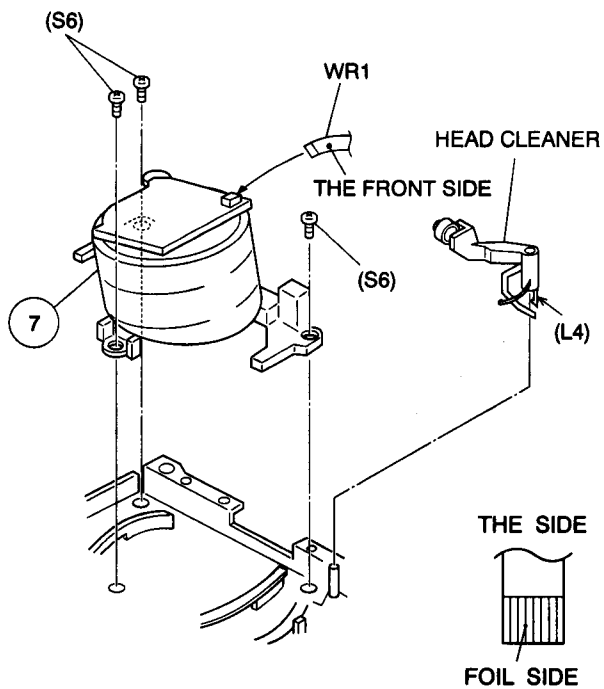


Fig. D7

1.4 CASSETTE HOUSING INSTALLATION

NOTE: *Observe the mechanical phase and position (see figure) when installing the cassette housing assembly. If these are incorrect, the system will not operate properly even when tape is inserted.*

1. Check that the hole of the control cam are aligned to the deck hole. If necessary, turn the loading motor belt by hand to adjust the position.

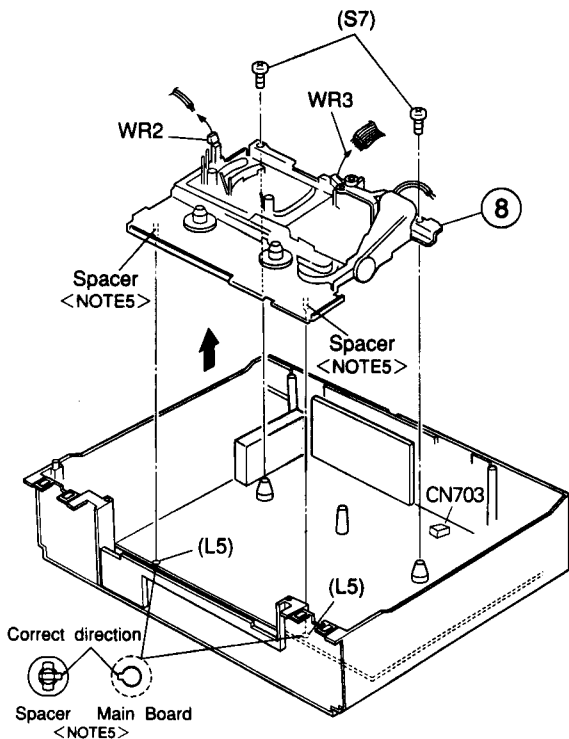


Fig. D8

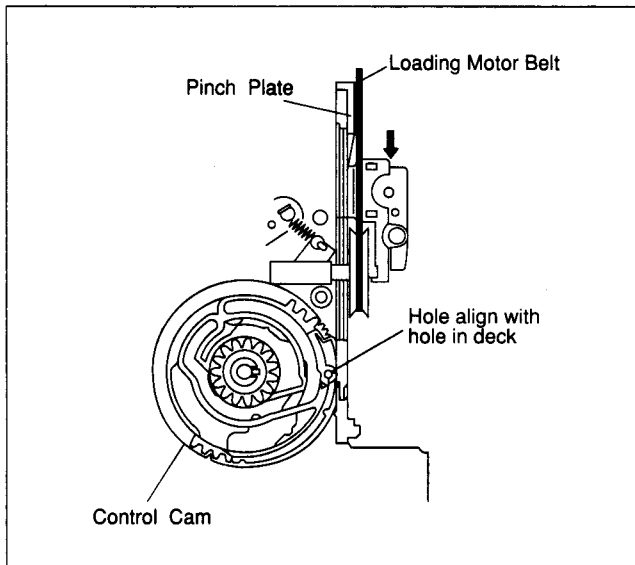


Fig. 1-4-1

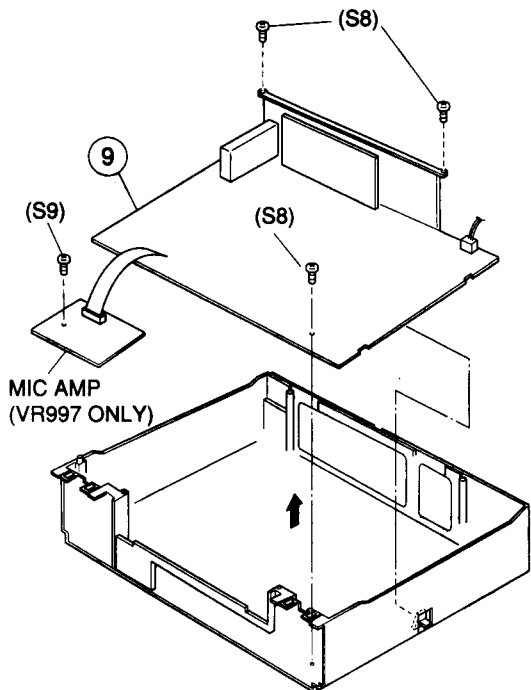


Fig. D9

1.5 SERVICE POSITION

1.5.1 How to take out the Mechanism and Main board assemblies.

- (1) Remove the Top cover, Front panel assembly, CN1201 and CN1202 of DISPLAY board assembly.
- (2) Take out 5 screws (A), 2 screws (B) and 1 screw (C) as shown in Fig.1-5-1.

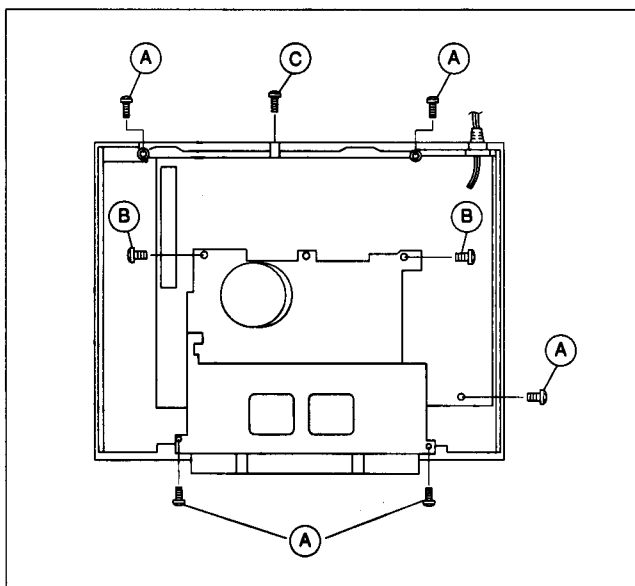


Fig. 1-5-1

(3) Remove the Mechanism assembly (including Cassette housing) and Main board assembly out of the chassis as shown in Fig. 1-5-2.

(5) Turn over the Mechanism assembly and Main board assembly then connect CN1201 of the DISPLAY board assembly.

(6) Carry out checks & repairs as necessary as shown in Fig.1-5-3.

Note: When input the AUDIO/VIDEO signal from connector, connect CN1205 of the SW/JACK board assembly. (VR797, 897 ONLY)

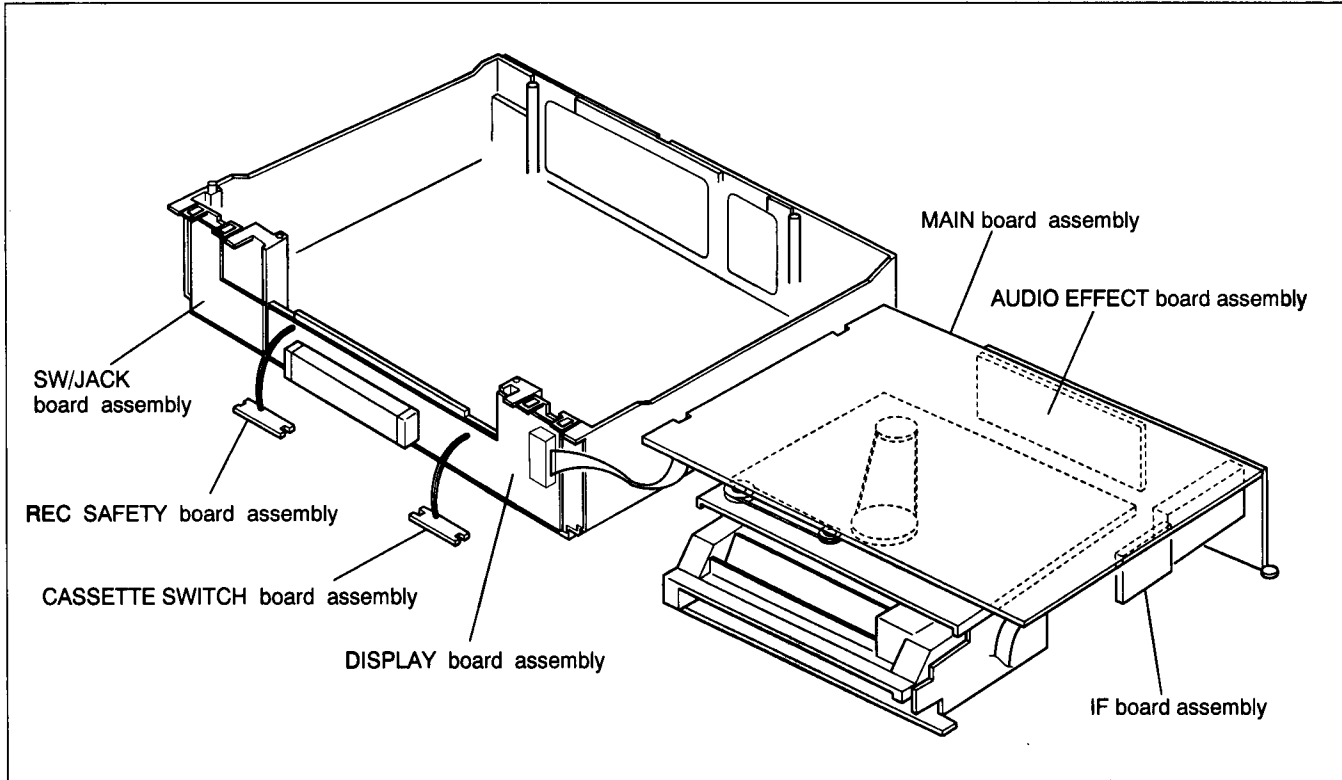


Fig. 1-5-3

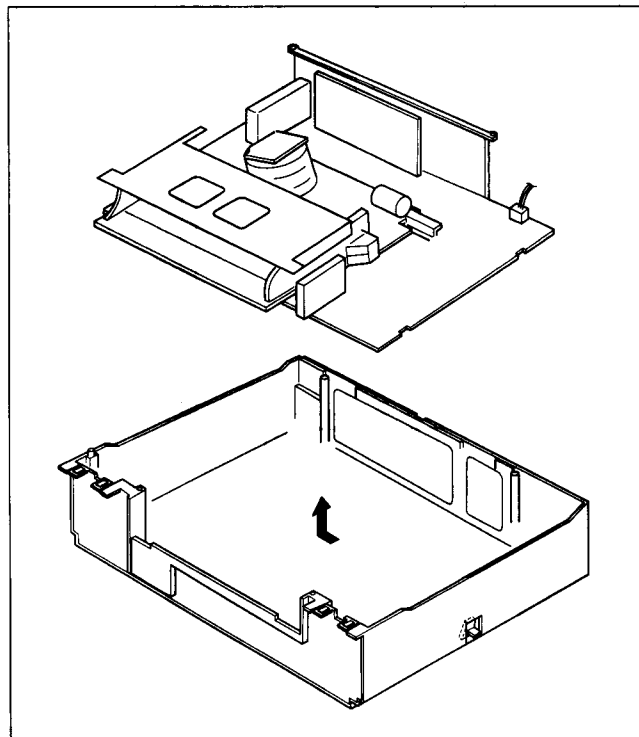


Fig. 1-5-2

1.5.2 Cautions on cassette loading when mechanism is in service position

The REC SAFETY board assembly of this set serves both for detecting the safety tab (erasure prevention tab) of a cassette and detecting a cassette loaded. Therefore, cassette loading in the condition that the mechanism is disassembled from the set needs manual operation of the switches of the REC SAFETY board assembly and the CASSETTE SWITCH board assembly.

1.5.3 Cassette loading and ejecting procedures when mechanism is in service position

- (1) Insert a cassette tape halfway into the cassette housing assembly.
- (2) Press the switch of the REC SAFETY board assembly to turn on.
- (3) When the cassette loading begins and the cassette goes down to the bottom, immediately press the switch of the REC SAFETY board assembly to turn off and hold the status that the switch of the CASSETTE SWITCH board assembly is turned on. (Fix the switch with adhesive tape or put a screwdriver, etc. on it to leave the switch in the ON status.)
- (4) In this status, desired operations (recording, playback, fast forward, rewind, etc.) can be performed.

Note: When the mechanism is in the service position, the safety tab of cassette tape is not detected and recording on cassette tapes without safety tab is possible. Therefore, carefully choose a cassette tape for operation in this mode so as to avoid using cassette tapes of important recording.

(5) For ejecting the cassette in this status, do it in the reverse order of cassette loading mentioned above.

Note: If the manual operation REC SAFETY switch timing is incorrect, the cassette may be completely or partially ejected, and the cassette is often ejected incompletely. In such a case, it is possible to take out the cassette by hand.

If it is desired to load a cassette again after the cassette is ejected in the above procedure, make sure to set the tray of the cassette housing assembly in the frontmost position prior to loading the cassette once again.

1.5.4 Opening on the chassis.

The chassis assembly has openings for easy access to the checkpoints and connector pins as shown in Fig. 1-5-4.

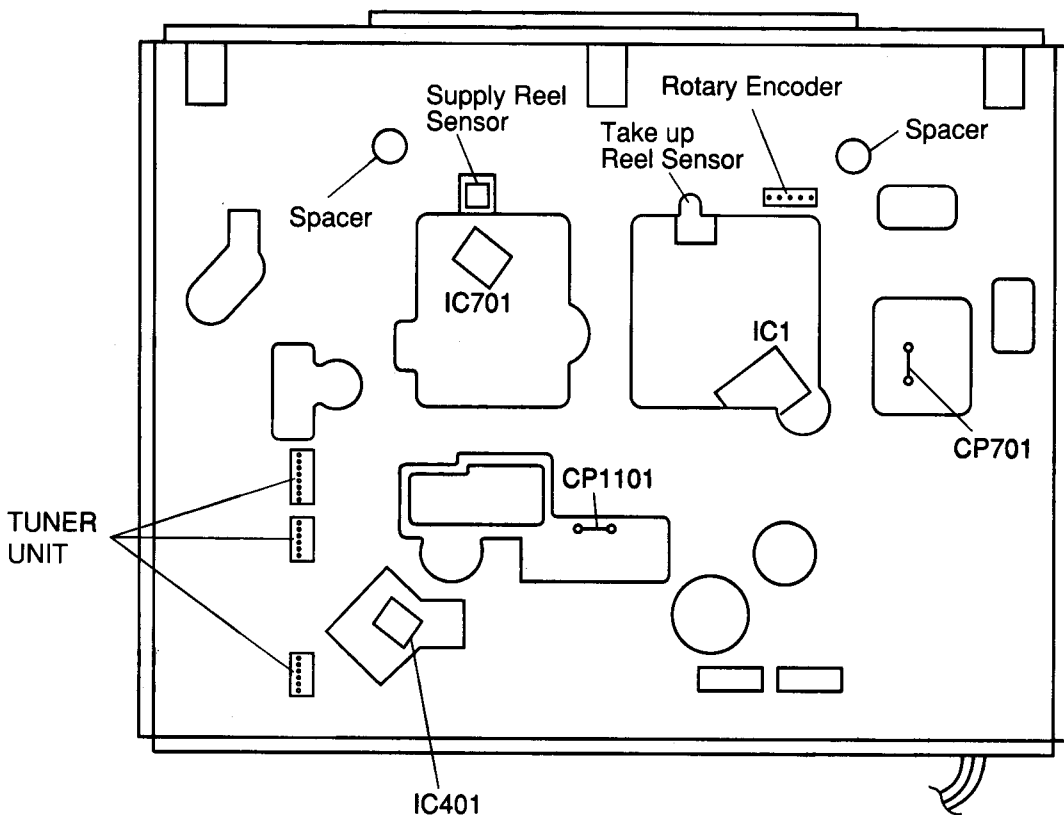


Fig. 1-5-4

1.6 MECHANISM SERVICE MODE

This model has a unique function to enter the mechanism into every operation mode without loading of any cassette tape. This function is called the "MECHANISM SERVICE MODE".

1.6.1 How to set the "MECHANISM SERVICE MODE"

- (1) Disconnect VCR from AC.
- (2) Remove the Top cover, Front panel assembly and cassette housing assembly. (See Page 1-2, 1-3)

- (3) Connect TP1202 (GND) and TP1201 (TEST) on the DISPLAY board assembly with a jump wire.
- (4) Connect VCR to AC.
- (5) Press the POWER button.
- (6) Select the desired operation modes with the operation buttons or remote controller.

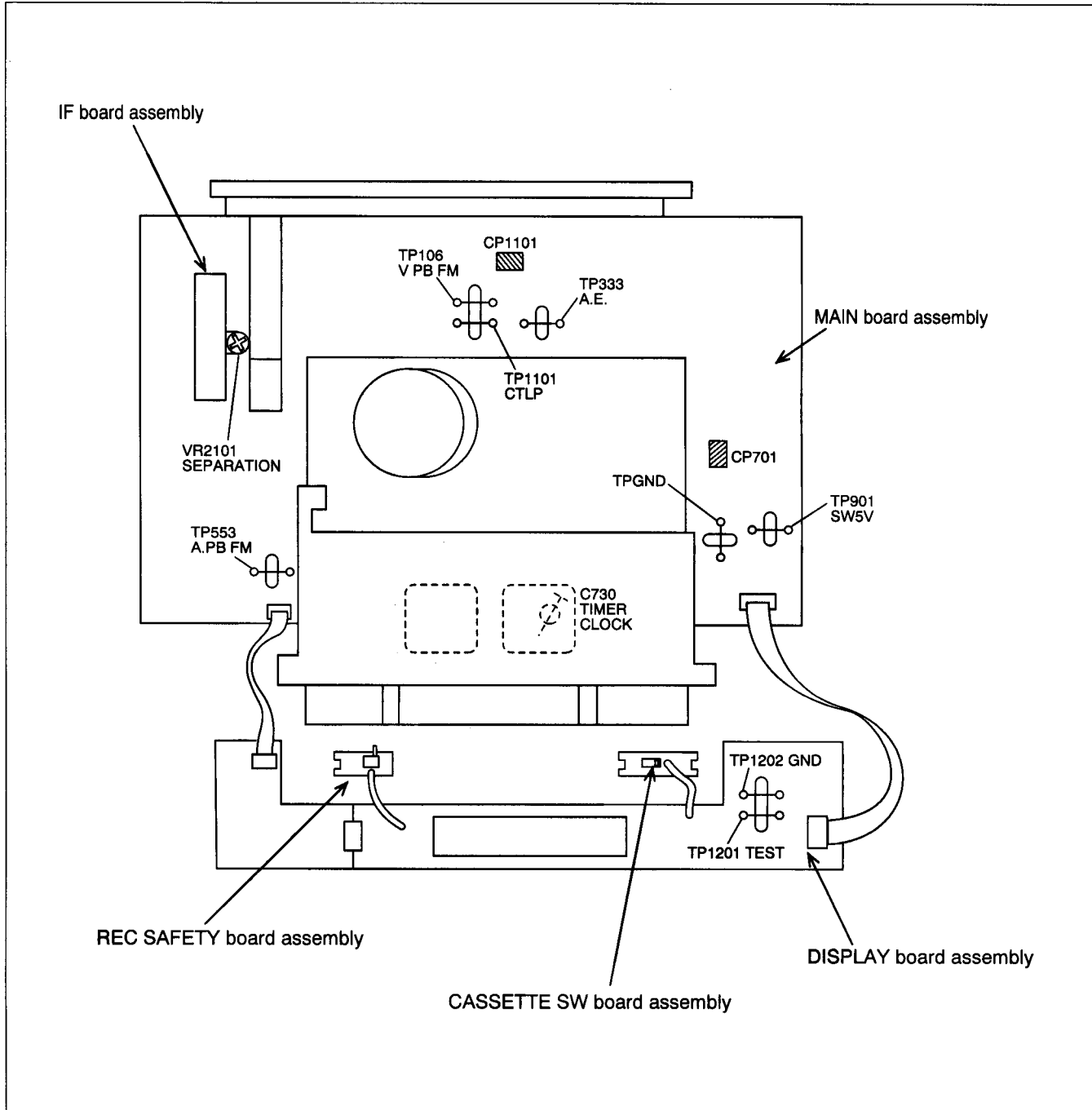


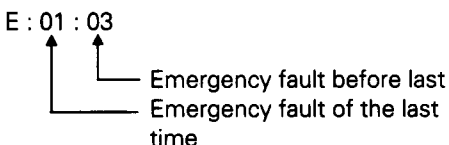
Fig. 1-6-1

1.7 EMERGENCY DISPLAY FUNCTION

This product has the function to store the last two previous emergency faults which can be displayed in the FDP when servicing.

1.7.1 How to display record of an emergency faults

- (1) Press "N" button of the presetting unit more than 2 seconds, and the two previous emergency faults are shown in the FDP.
- (2) Press "N" button of the presetting unit again when return the normal mode.

[Example] E : 01 : 03


[Example] E : — : — ← No record of emergency

1.7.2 Detail of emergency faults

FDP	Symptom	Detect mode	Resulting mode
E : 01	Loading motor rotates for more than 8 Sec without shift to next mode.	Loading	POWER OFF
E : 02	Loading motor rotates for more than 8 Sec without shift to next mode.	Unloading	POWER OFF
E : 03	TU REEL FG input is absent(for more than 4 Sec)	REC/PLAY/FF/REW SEARCH FF/SEARCH REW	STOP → POWER OFF
E : 04	DRUM FF input is absent(for more than 3 Sec)	REC/PLAY/FF/REW SEARCH FF/SEARCH REW	STOP
E : 06	CAPSTAN FG input is absent(for more than 1 Sec)	REC/PLAY/FF/REW SEARCH FF/SEARCH REW	STOP → POWER OFF
E : 07	No SWD5V/12V	POWER ON	POWER OFF

Table 1-7-1 EMERGENCY FAULTS

1.7.3 How to clear emergency record

Press the COUNTER RESET button on the remote controller in the emergency record display mode, and the record of the emergency fault(s) is cleared.

1.8 TECHNICAL INFORMATION
1.8.1 Syscon CPU pin function (IC701) 1/2

PIN NO.	LABEL	IN/OUT	NOTE
1	AFC S CURVE	IN	TUNING CHECK
2	START SENSOR	IN	LEADER TAPE DETECT (DETECT ON : L)
3	SYNC DET (L)	IN	SYNC DETECT (NO SYNC : H)
4	LOCK DET	IN	TUNING LOCK CHECK
5	END SENSOR	IN	TRAILER TAPE DETECT (DETECT ON : L)
6	IND (L)	IN	AUDIO INDICATOR LEVEL INPUT (Lch)
7	IND (R)	IN	AUDIO INDICATOR LEVEL INPUT (Rch)
8	ND (L)/FMA ENV	IN	NORAML AUDIO DETECT (NORMAL AUDIO : L)
9	VIDEO ENV.	IN	DC for VIDEO PB FM
10	PROTECT	IN	SWD 5 V/12 V DETECT
11	ECHO V	-	NC
12	V. PULSE	OUT	V. PULSE ADDITION TIMING CONTROL
13	REC ST (H)	OUT	NORMAL AUDIO REC START : H
14	RC IN	IN	REMOTE CONTROL DATA INPUT
15	COL ROT	OUT	COLOR ROTATION SIGNAL
16	HEAD SEL	OUT	HEAD SELECT
17	ENV COMP	IN	PB ENVELOPE COMPARATER INPUT
18	D. FF	OUT	VIDEO PB FM (CH-1, CH-2) SWITCHING PULSE
19	A. FF	-	NC
20	COMB OFF (H)	OUT	COMB FILTER ON/OFF CONTROL
21	19 μ (H)	OUT	19 μ HEAD SELECT : H
22	REC (H)	OUT	REC MODE : H
23	A/M/S	OUT	PRE/REC IC CONTROL (AUTO : M/MANUAL : H/S & S ; L)
24	H. RECST (L)	OUT	HiFi AUDIO REC START : L
25	R. LOC/R. PAUSE	-	NC
26	LMC 1	OUT	LOADING MOTOR DRIVE (1)
27	LMC 2	OUT	LOADING MOTOR DRIVE (2)
28	LMC 3	OUT	LOADING MOTOR DRIVE (3)
29	CASS SW	IN	CASSETTE TAPE LOAD SWITCH (CASS IN : L)
30	REC SAFETY	IN	REC SAFETY SWITCH DETECT (SW ON : L)
31	LS C	IN	MECHANISM MODE DETECT (C)
32	LS B	IN	MECHANISM MODE DETECT (B)
33	LS A	IN	MECHANISM MODE DETECT (A)
34	NUB	-	GND
35	NUA	-	GND
36	CLK SEL	-	Hi FIXED
37	Vcc	-	Vcc 5 V
38	X IN	-	SYSTEM CLOCK
39	X OUT	-	SYSTEM CLOCK
40	Vss	-	GND
41	XC IN	-	TIMER CLOCK
42	XC OUT	-	TIMER CLOCK
43	RESET	-	RESET
44	P CTL (H)	OUT	POWER ON/OFF CONTROL (POWER ON : H)
45	TU CLK/K.O. CLK	OUT	SERIAL DATA SHIFT CLOCK OUTPUT
46	TU CE	OUT	TUNER UNIT CHIP ENABLE
47	TU DATA/K.O. DATA	OUT	TUNER AND KARAOKE CONTROL SERIAL DATA OUTPUT
48	A. MUTE	OUT	AUDIO MUTE CONTROL
49	SP (L)	OUT	SP MODE ; L
50	NTSC (L)	OUT	NTSC MODE : L

Table 1-8-1 SYSCON CPU pin function (1/2)

1.8.2 Syscon CPU pin function (IC701) 2/2

PIN NO.	LABEL	IN/OUT	NOTE
51	RAE	-	NC
52	P. MUTE (L)	OUT	PICTURE MUTE CONTROL (MUTE ON : L)
53	SHTL	IN	SHUTTLE SWITCH
54	JSB	IN	JOG DIAL PULSE INPUT (B)
55	JSA	IN	JOG DIAL PULSE INPUT (A)
56	IP ON (H)	OUT	INCREDIBLE PICTURE ON/OFF CTL (IP ON : H)
57	VAPT ON (H)	OUT	VIDEO APERTURE ON/OFF CTL (VAPT ON : H)
58	MESECAM DET (H)	OUT	MESECAM DETECT
59	EXP DATA	OUT	EXPANDER IC (IC705) DATA OUTPUT
60	KC STB	-	NC
61	EXP CLK	OUT	EXPANER IC (IC705, IC706) TRANSFER CLOCK
62	EVR CS	OUT	NC
63	EXP2 DATA	OUT	EXPANDER IC (IC706) DATA OUTPUT
64	OSD CS	OUT	ON SCREEN IC CHIP SELECT
65	SSB DATA	OUT	VIDEO AND AUDIO IC CONTROL DATA
66	FDP CS	OUT	CLOCK OUTPUT PERMISSION
67	SSB CLK	OUT	VIDEO AND IC DATA TRANSFER CLOCK
68	DATA O	OUT	ON SCREEN CONTROL DATA OUTPUT
69	DATA I	IN	ON SCREEN CONTROL DATA INPUT
70	S CLK	OUT	ON SCREEN DATA TRANSFER CLOCK
71	I2C CLK	OUT	EEPROM (IC702) DATA TRANSFER CLOCK
72	I2C DATA	OUT	EEPROM (IC702) DATA OUTPUT
73	PB SPE (L)	OUT	SPECIAL PB MODE : L
74	FRONT (H)	OUT	FRONT INPUT SELECT : H
75	BEST (L)	OUT	B.E.S.T. MODE : L
76	CAP REV (L)	OUT	CAPSTAN MOTOR CONTROL (FWD : H/REV : L)
77	CAP CTL V	OUT	CAPSTAN MOTOR VOLTAGE CONTROL
78	DRUM CTL V	OUT	DRUM MOTOR VOLTAGE CONTROL
79	SP FG	IN	SUPPLY REEL ROTATION DET/TAPE REMAIN
80	TU FG	IN	TAKE UP REEL ROTATION DET/TAPE REMAIN
81	BEST CTL	OUT	B.E.S.T. CONTROL
82	POWER DET	IN	POWER SOURCE DETECT
83	C	-	NC
84	C. SYNC	IN	COMPOSITE SYNC
85	C. FG IN	IN	CAPSTAN FG INPUT (TAPE SPEED/BACK SPACE COUNT)
86	D. PG IN	IN	DRUM PICKUP PULSE INPUT (SWITCHING PULSE)
87	D. FG IN	IN	DRUM FG PULSE INPUT
88	AMP Vss	-	GND
89	AMP VREF OUT	OUT	CTL PULSE AMP REFERENCE VOLTAGE
90	AMP VREF IN	IN	CTL PULSE AMP REFERENCE VOLTAGE
91	CTL (-)	IN/OUT	CTL (-) SIGNAL
92	CTL (+)	IN/OUT	CTL (+) SIGNAL
93	CTL SW OUT	OUT	CTL (+) SIGNAL OUTPUT
94	CTL AMP IN	-	CTL PULSE INPUT
95	AMP C	-	CAPACITOR CONNECT TERMINAL for CTL AMP CIRCUIT
96	CTL Vss	-	Vss
97	CTL AMP OUT	OUT	CTL PULSE OUTPUT
98	AMP Vcc	-	Vcc
99	AVcc	-	Vcc
100	MUSIC DET	IN	MUSIC DETECT (DET ON : H)

Table 1-8-2 SYSCON CPU pin function (2/2)

SECTION 2 MECHANISM ADJUSTMENT

2.1 PREPARATION

2.1.1 Precautions

- (1) Disconnect VCR from AC power before soldering.
- (2) Avoid imparting stress to wires when disengaging connectors.
- (3) Determine and correct the cause of difficulty before proceeding to adjustments. Do not disturb settings unnecessarily.
- (4) Use care not to damage tabs, claws, etc during repairs.
- (5) Install the cassette housing assembly only when the mechanism is in the MECHANISM ASSEMBLING MODE position.
- (6) When installing the Front panel assembly, be sure to engage the housing door with the door opener of the cassette housing assembly.

If this is omitted, the cassette door will not open at Eject and the cassette can not be removed. (See SECTION 1 DISASSEMBLY)

2.1.2 Check without cassette housing assembly.

Mechanism operations can be observed easily by removing the cassette housing assembly. Use the MECHANISM SERVICE MODE (See SECTION 1 DISASSEMBLY).

2.1.3 Manual removal of loaded tape

When the deck enters the emergency mode with cassette tape loaded and it can not be ejected by pressing the EJECT button, take out of the cassette tape according to the following procedure.

- (1) Disconnect the power cord from AC outlet then take out the Top cover and Front panel assembly.
- (2) Turn the loading motor on the Main deck assembly by hand in the unloading direction to where the pole base assembly (supply and take-up) is positioned below the cassette tape. At that time, pay careful attention to the tape not to get soiled with grease.
- (3) Take out 4 screws of the cassette housing assembly. (See SECTION 1 DISASSEMBLY)
- (4) Remove the cassette housing with slackened tape and guard panel of cassette.
- (5) Wind up the tape by turning the reel hub (either supply or take-up side for convenience) from the bottom of the cassette, and remove the cassette tape.

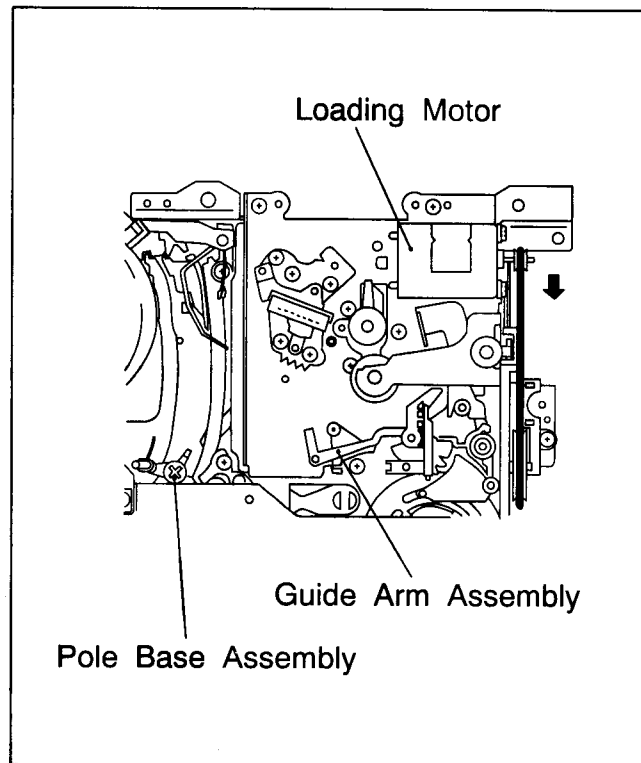


Fig. 2-1-1

2.1.4 Test Equipment

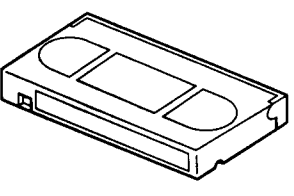
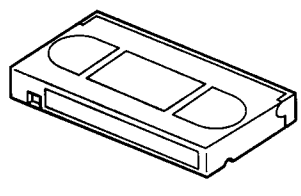
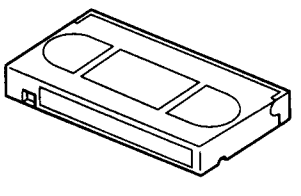

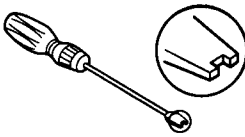
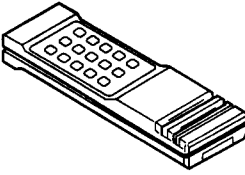
Alignment tape (SP) 4822 397 30262	Alignment tape (LP) 4822 397 30261	Back tension cassette gauge 4822 395 90615	A/C head positioning tool 4822 395 90916
			
Roller driver 4822 395 90904	Presetting unit 4822 395 90915		
			

Table 2-1-1 Test equipment

2.2 MAIN MECHANISM PARTS

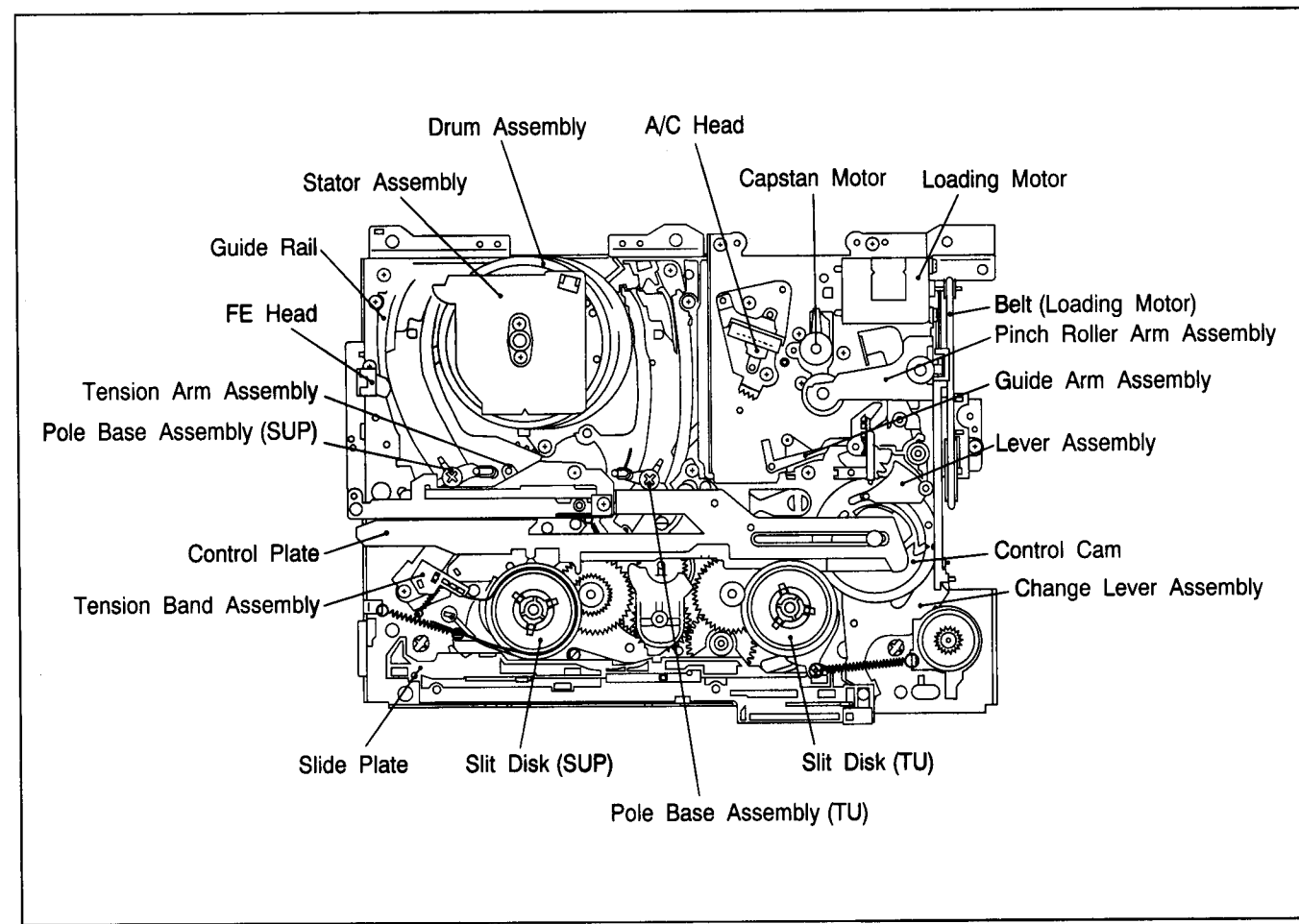


Fig. 2-2-1 Top view of main deck

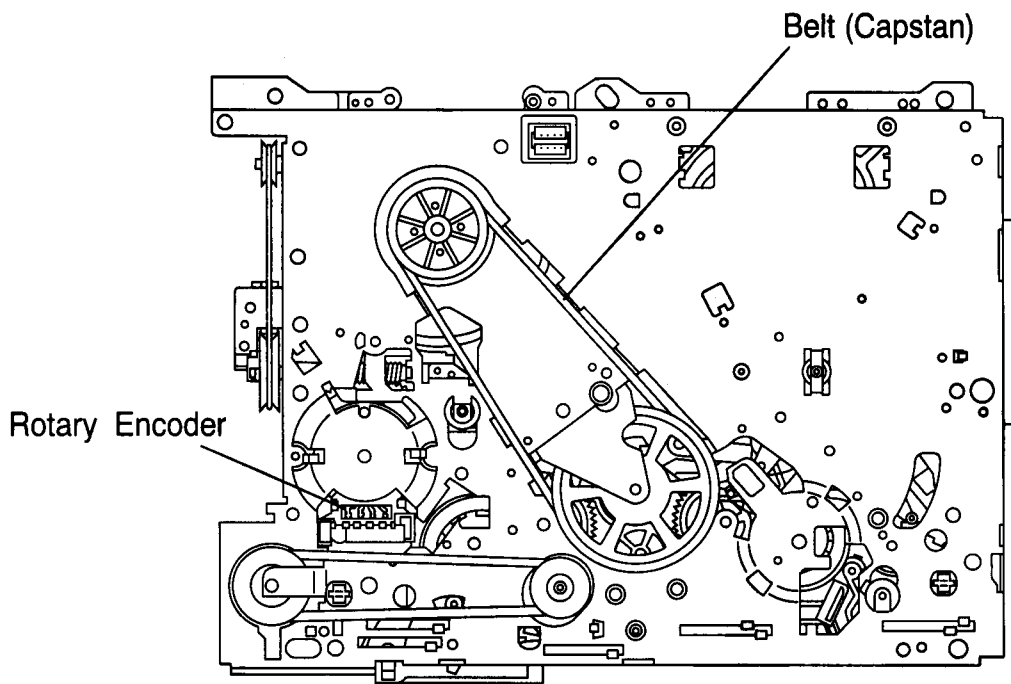


Fig. 2-2-2 Bottom view of main deck

2.2.1 Cleaning

Periodic cleaning of the tape transport system is desirable, but usually not feasible in practice. Therefore, perform cleaning when a set is brought in for repairs or maintenance. Contamination of the video heads, tape guides and brush can detract from playback picture quality and in extreme cases, even damage the tape. For cleaning, use a finemesh cotton cloth (about the texture of a white dress-shirt) moistened in alcohol. It is recommended to also clean the tape tension posts and capstan.

- To clean the video heads, press the moistened cloth gently against the upper drum with fingertip and turn the drum by hand.
- Do not use a vertical stroke, as this may damage the heads.

2.2.2 Lubrication

Oil and grease do not normally require periodic replenishing. Apply only when replacing lubricated parts (also clean and replace lubrication of mating parts if soiled). For parts and points to apply oil and grease, refer to the exploded views of the mechanism assembly. Before oiling, clean with alcohol. Apply one or two drops of oil. Avoid excess oil.

1. Grease is not required for a replacement cassette housing assembly, as this has been applied at the factory.

NOTE : *Stir grease that has been stored for an extended period.*

2.3 INSPECTION AND MAINTENANCE

This product employs rotary and moving parts which wear out in the course of usage. Periodic inspection, cleaning, lubrication and maintenance are therefore important for ensuring maximum performance. Worn parts must also be replaced as and when required.

2.3.1 Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning, lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions. However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary. Also note that rubber parts may deform in time, even if the set is not used.

System	Parts Name	Operation Hours	
		~1000H	~2000H
Tape transport	Upper drum assembly	★ ○	○
	A/C head	★ ○	★ ○
	Lower drum motor assembly	★	★ ○
	Pinch roller arm assembly	★	★
	Full erase head	★	★
	Tension arm assembly	★	★
	Guide arm assembly	★	★
Drive	Capstan motor		○
	Belt (Capstan)	○	○
	Belt (Loading motor)		○
	Loading motor		○
	Slit disk (supply, take-up)		○
	Clutch unit (supply, take-up)		○
	Worm gear assembly		○
	Control plate		○
	Slide plate		○
	Other	Brush assembly	★ ○
Tension band assembly		○	○
Rotary encoder			○

★ : Cleaning
○ : Inspection or Replacement if necessary

Table 2-3-1

2.4 DISASSEMBLY/ASSEMBLY PROCEDURE OF MECHANISM

2.4.1 Precaution before disassembling mechanism

This mechanism has an exclusive operation mode provided for disassembling and installation of the mechanism (MECHANISM ASSEMBLING MODE), and it is suggested to set the mechanism to this mode before disassembly and installation. The exclusive mechanism operation mode is not generally used and becomes available by manual setting only. Then this procedure starts with the condition that the cabinet parts and cassette housing assembly have been removed.

2.4.2 How to set the exclusive mechanism operation mode (MECHANISM ASSEMBLING MODE)

- (1) Turn the loading motor belt by hand.
- (2) Confirm that the hole of the control cam are aligned to the deck hole as shown in Fig.2-4-1.

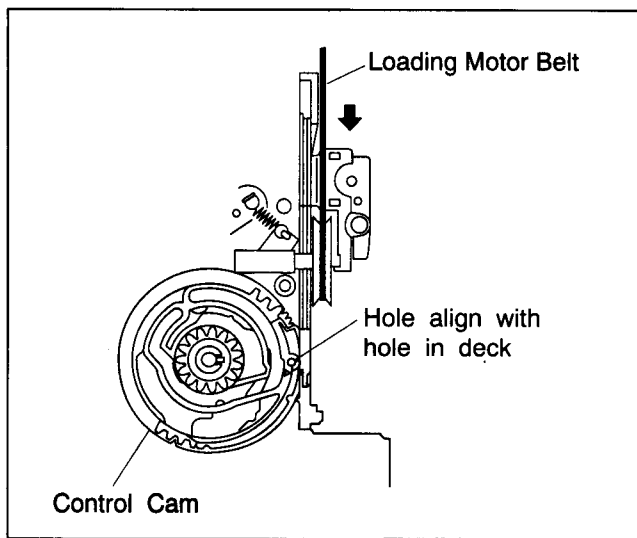


Fig. 2-4-1

2.5 MAIN PARTS REPLACEMENT OF MECHANISM

2.5.1 Pinch Roller Arm Assembly

- (1) Remove the slit washer.
- (2) Tilt up the pinch roller assembly in direction of arrow.

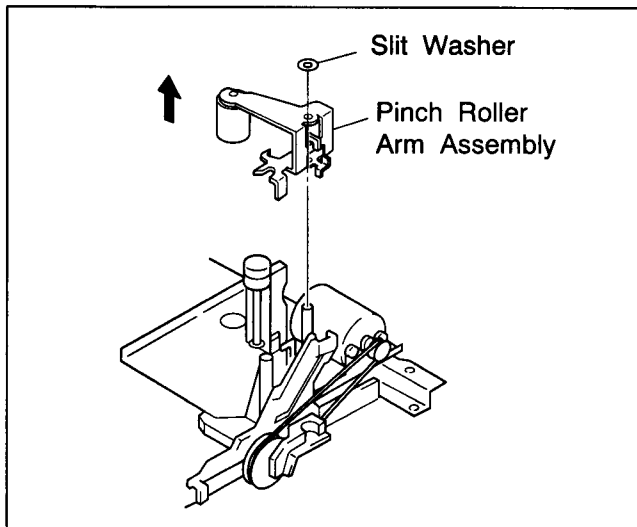


Fig.2-5-1

2.5.2 A/C Head

1. Removal

- (1) Take out 2 screws (A).
- (2) Remove the A/C head with head base.

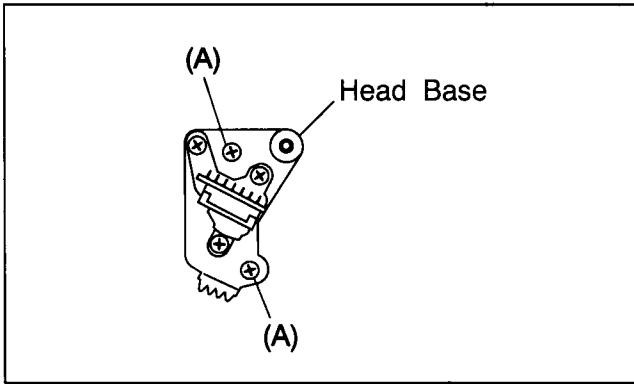


Fig.2-5-2

- (3) When replacing the A/C head only, remove 3 screws (B), use care not to misplace the 3 springs.

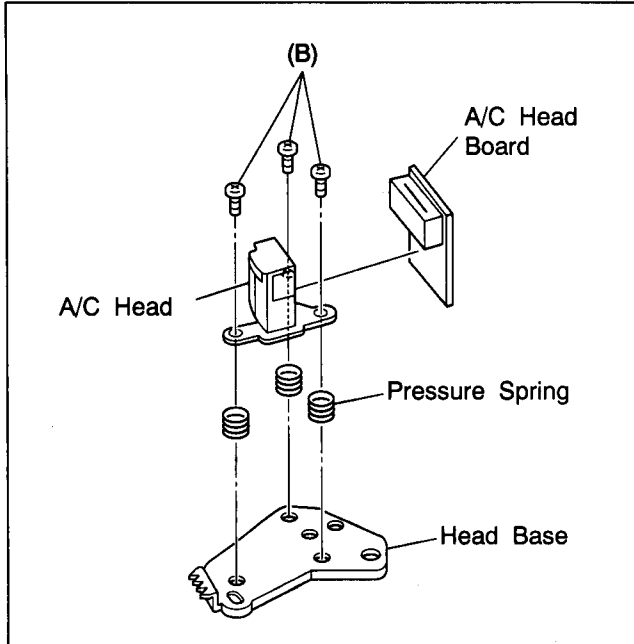


Fig.2-5-3

2. Installation

- (1) Temporarily set A/C head height as indicated in Fig. 2-5-4.

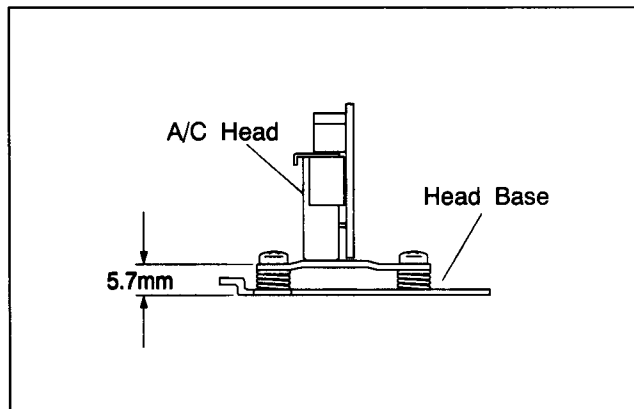


Fig.2-5-4

NOTES:

- It is very important to correctly adjust the control pulse and audio signal in addition to the mechanical tape path.
- Perform interchangeability adjustments after electrical adjustments.

2.5.3 Pinch Plate

1. Removal

- (1) Disengage 2 claws, then remove the pinch plate.

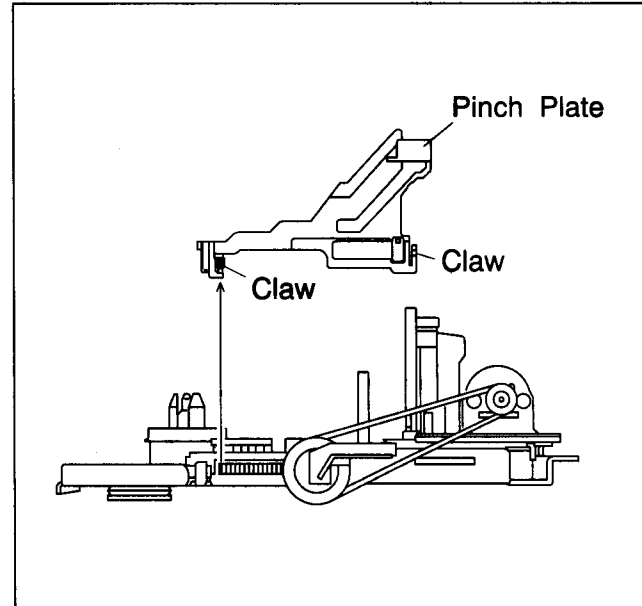


Fig.2-5-5

2. Installation

- (1) When installing pinch plate, align rack of pinch plate and triangle mark of control cam as indicated in Fig.2-5-6.

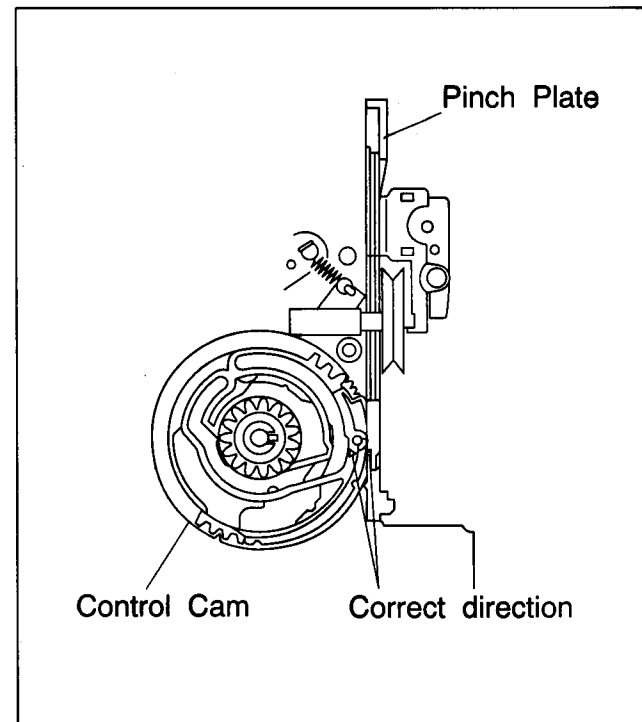


Fig. 2-5-6

2.5.4 Loading Motor

- (1) Disengage the belt between loading motor and worm gear.
- (2) Take out 2 screws (A) then remove the loading motor.

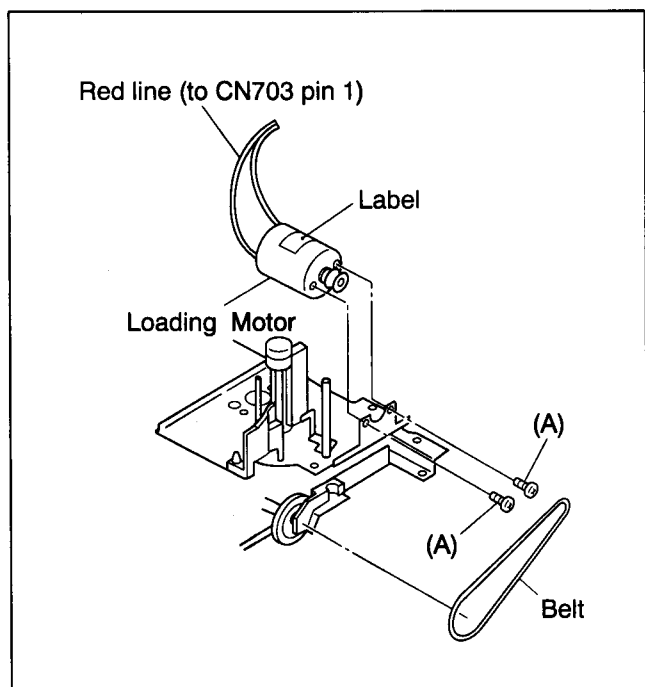


Fig.2-5-7

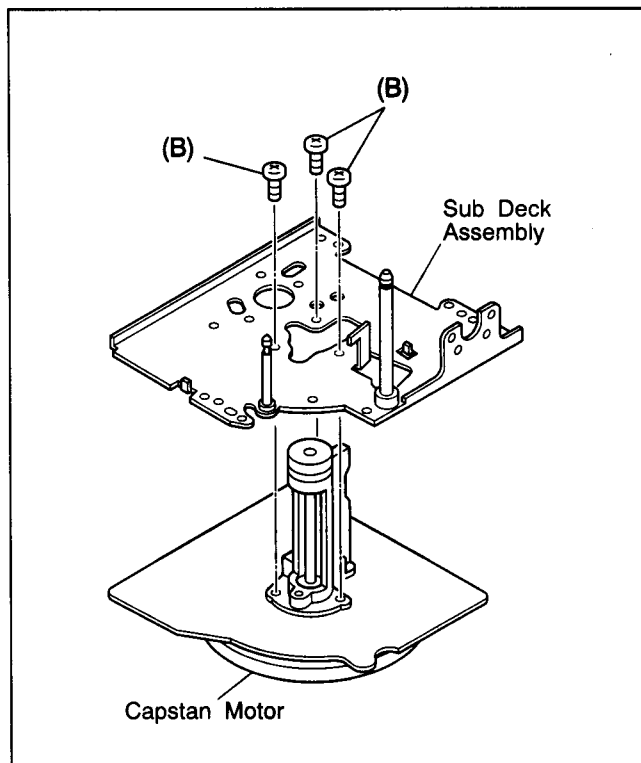


Fig.2-5-9

2.5.5 Lever Assmebly,Sub Deck Assembly,Capstan Motor

- (1) Take out 1 slit washer, then remove the lever assembly.
- (2) Disengage the belt(capstan motor) from bottom of mechanism assembly first as indicated in Fig.2-5-10.
- (3) Take out 3 screws (A) and remove the sub deck assembly as indicated in Fig.2-5-8.
- (4) Take out 3 screws (B) and remove the capstan motor from the sub deck assembly as indicated in Fig.2-5-9.

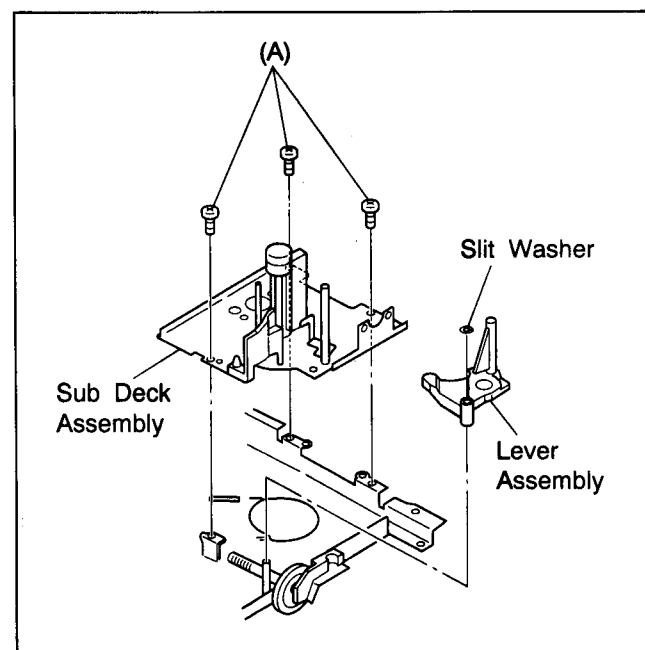


Fig.2-5-8

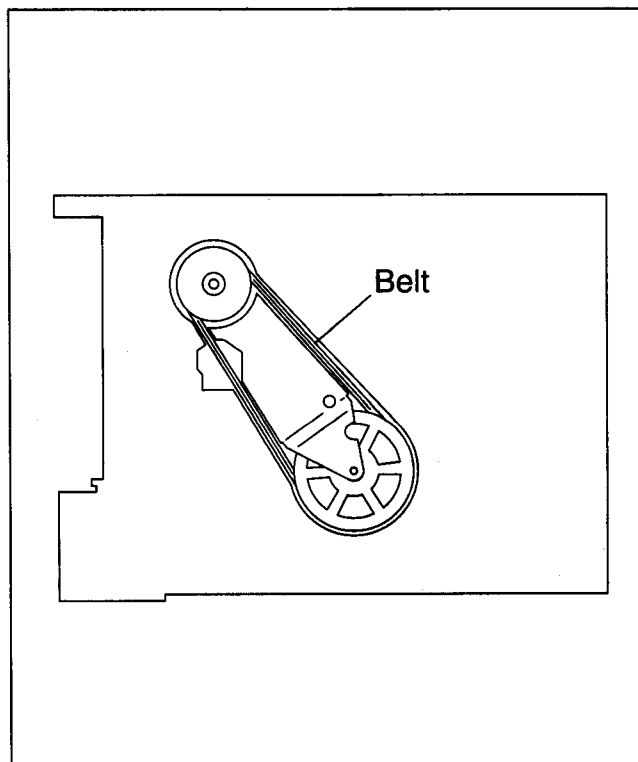


Fig.2-5-10

2.5.6 Control Bracket

- (1) Take out 1 screw (A) and 1 screw (B).
- (2) Remove the control bracket.

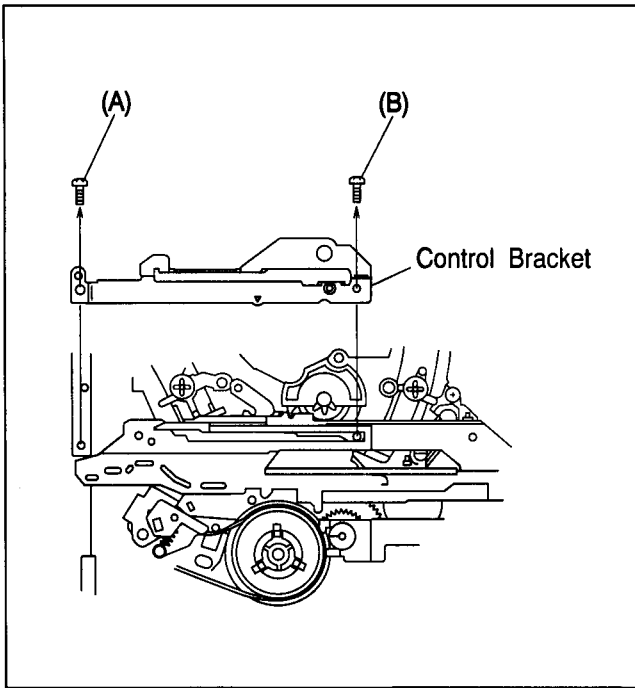


Fig.2-5-11

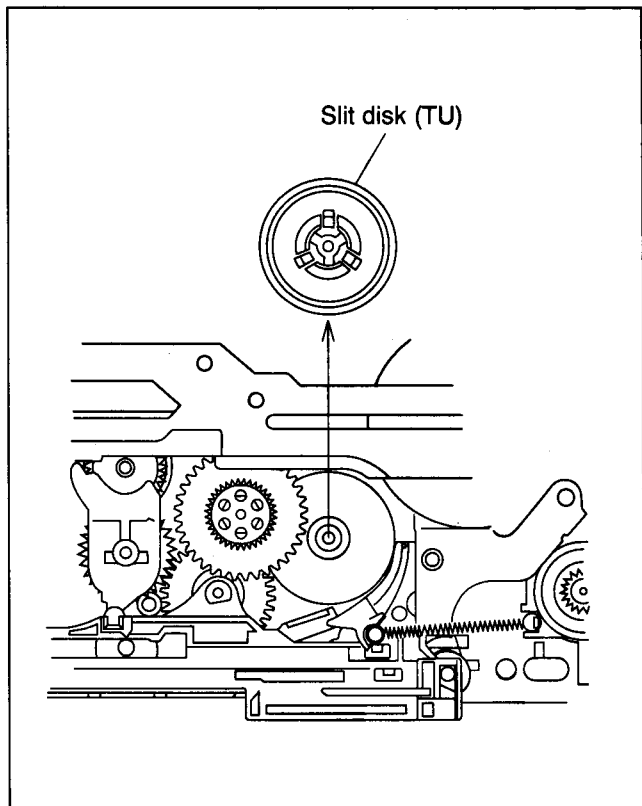


Fig.2-5-13

2.5.7 Slit disk (take-up)

- (1) Take out 1 slit washers.
- (2) Remove the slite disk (take-up).

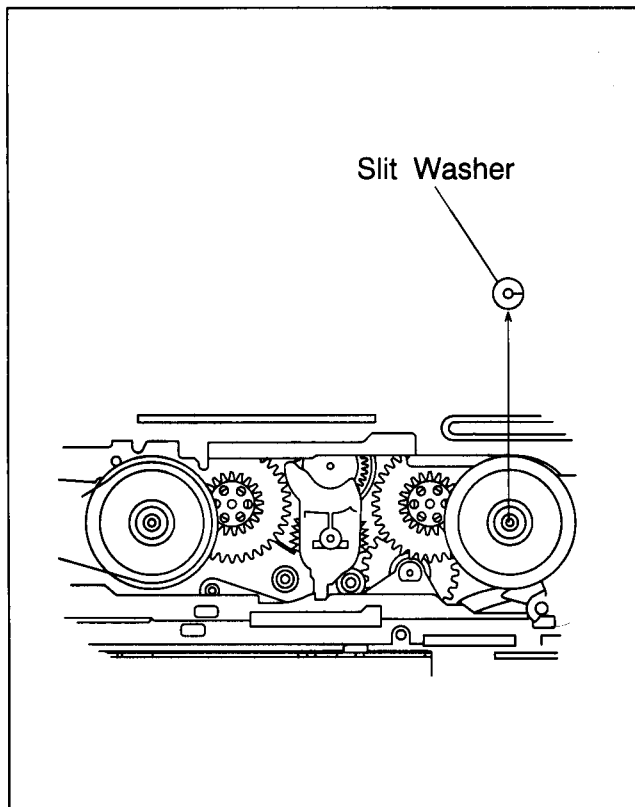


Fig.2-5-12

2.5.8 Control Plate

- (1) Take out 1 slit washer.
- (2) Disengage 2 claws and remove the control plate.

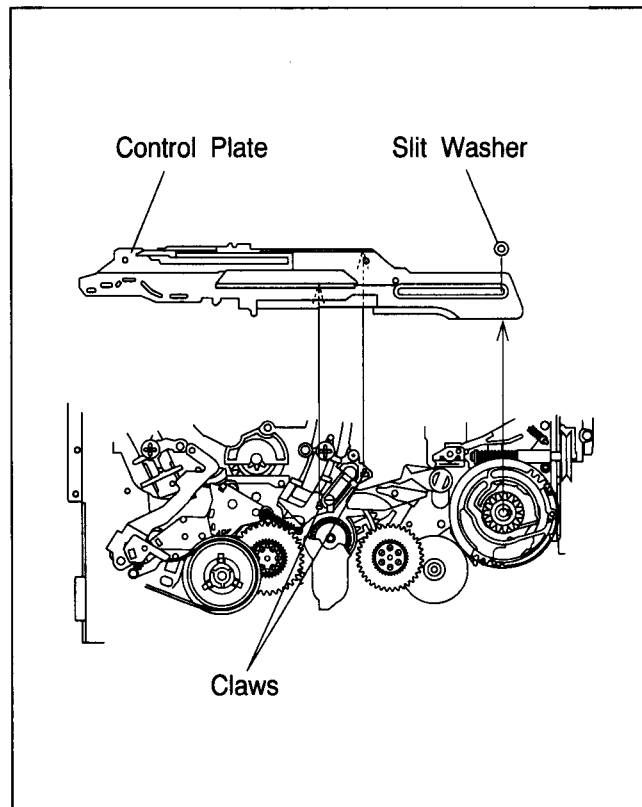


Fig.2-5-14

2.5.9 Sub Brake(take-up),Control Cam

- (1) Disengage 1 spring (a) and 1 claw then remove the sub brake (take-up).
- (2) Disengage 1 claw and remove the control cam.

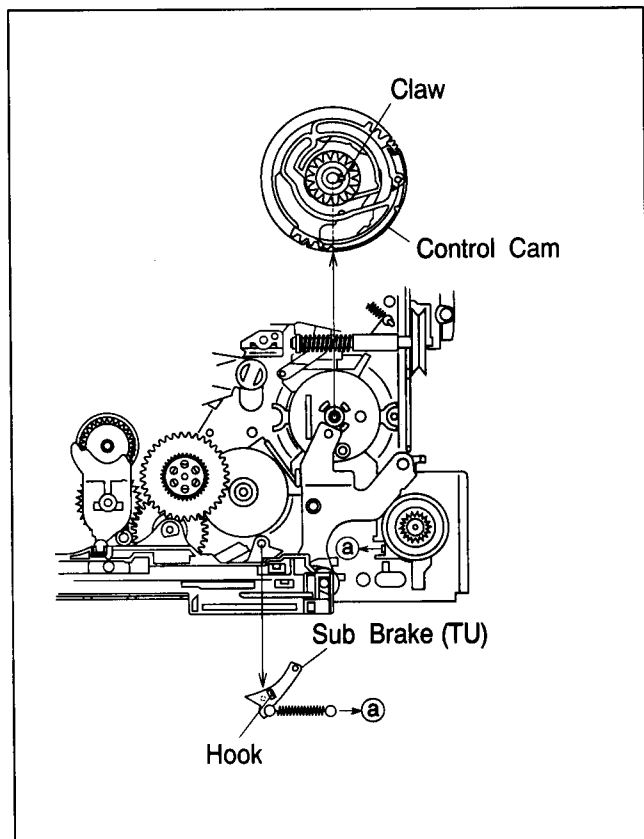


Fig.2-5-15

2.5.10 Slide Plate

- (1) Disengage 7 claws from bottom of the mechanism assembly and remove the slide plate.

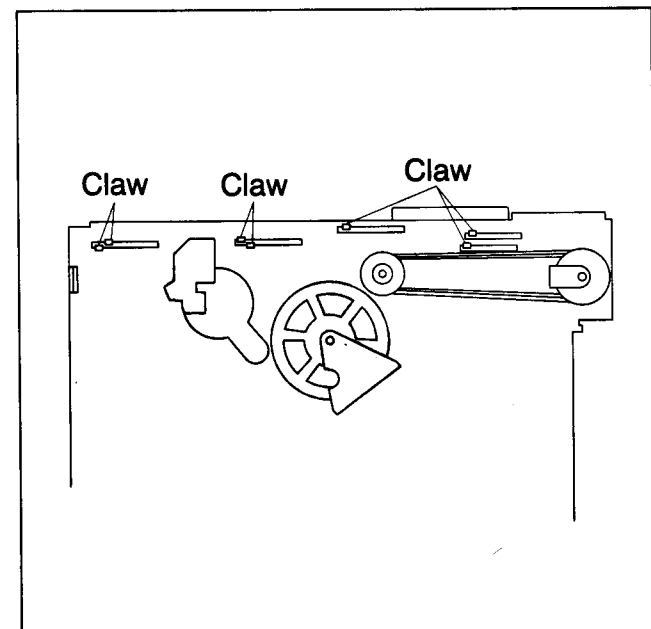


Fig. 2-5-16

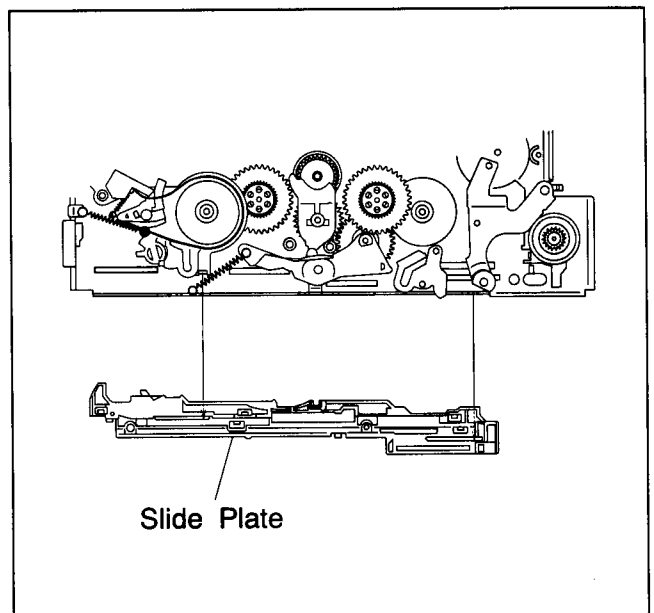


Fig. 2-5-17

2.5.11 Change Lever,Rotary Encoder

- (1) Remove the change lever.
- (2) Disengage 2 claws and remove the rotary encoder.

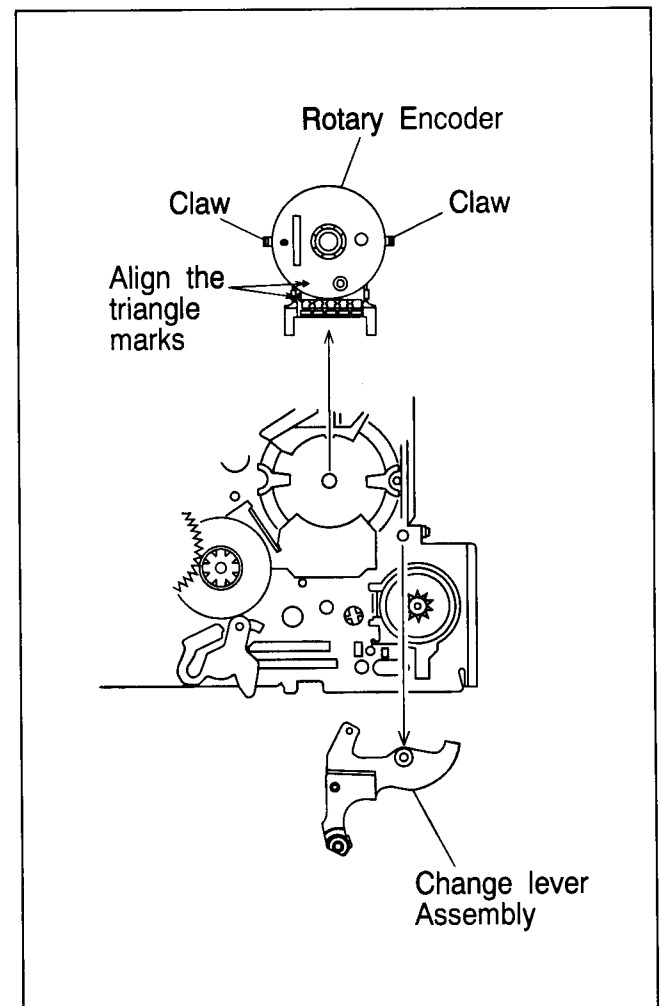


Fig. 2-5-18

2.5.12 Sub Brake (supply), Tension Band Assembly, Tension Arm Assembly, Take-up Lever Assembly, Slit Disk (supply)

- (1) Disengage 1 spring (a).
- (2) Disengage 1 claw and remove the sub brake (supply).
- (3) Take out 1 spring (C) and slit washer then disengage 1 claw.

- (4) Remove the tension arm assembly with tension band assembly.
- (5) Remove the take-up lever assembly.
- (6) Take out 1 slit washer then remove the slit disk (supply).

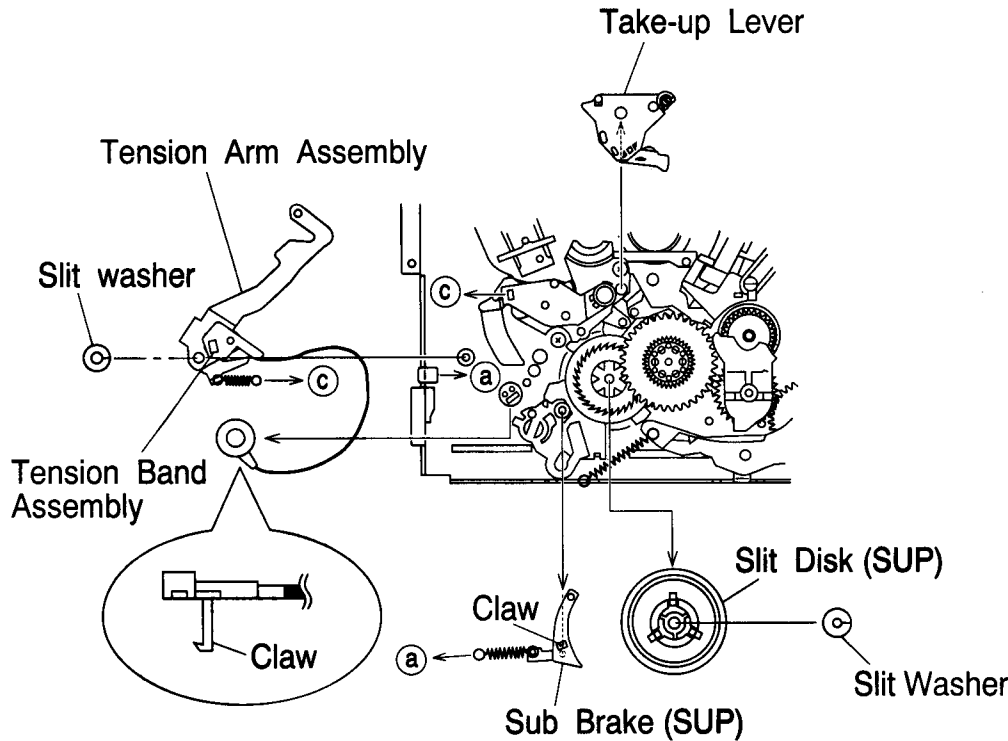


Fig. 2-5-19

2.5.13 Take-up Head, Tension Arm Lever

- (1) Remove the take-up head and tension arm lever.

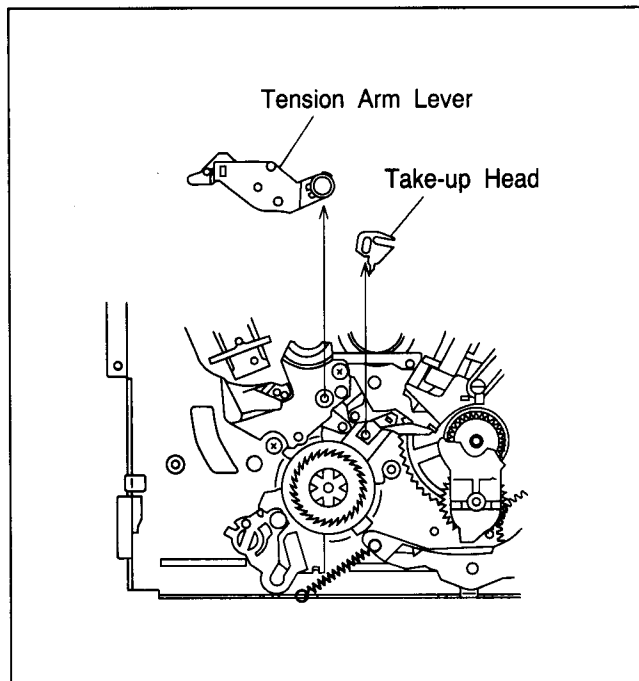


Fig.2-5-20

2.5.14 Guide Rail

- (1) Take out 5 screws (A) and 1 screw (B).
- (2) Disengage 4 claws and remove the guide rail.

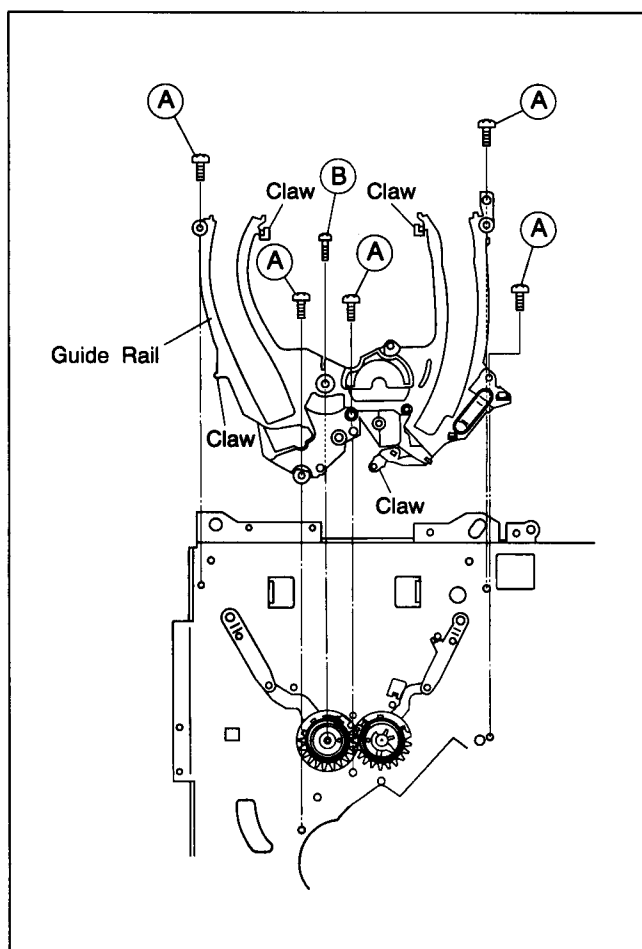


Fig. 2-5-21

2.5.15 Stator Assembly

- (1) Take out 2 screws (A).
- (2) Raise the stator assembly in the direction indicated by the arrow to remove it.
- (3) Remove the flat cable.
- (4) To reinstall, first secure the flat cable, then insert 2 screws (A).
- (5) After reinstalling, be sure to perform PB switching point adjustment (See SECTION 3 ELECTRICAL ADJUSTMENT).

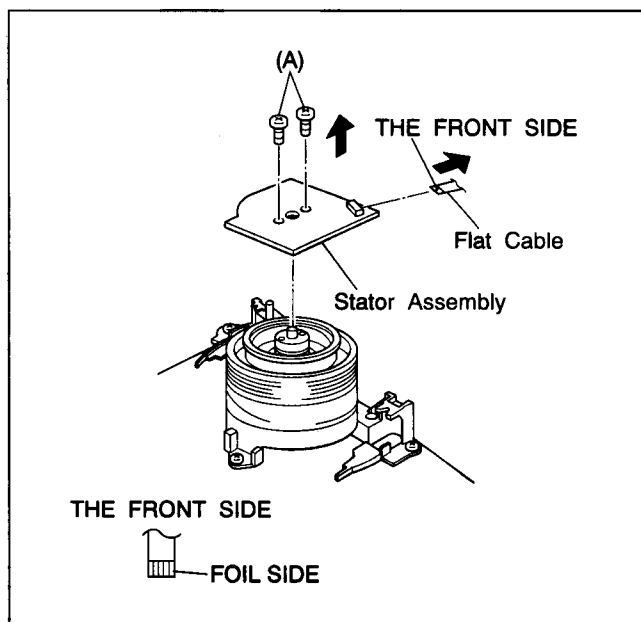


Fig. 2-5-22

NOTE : When refitting the connector, check that the flat wire is inserted correctly.

2.5.16 Rotor Assembly

- (1) Remove the stator Assembly.
- (2) Take out 2 screws (B) and remove the rotor Assembly.

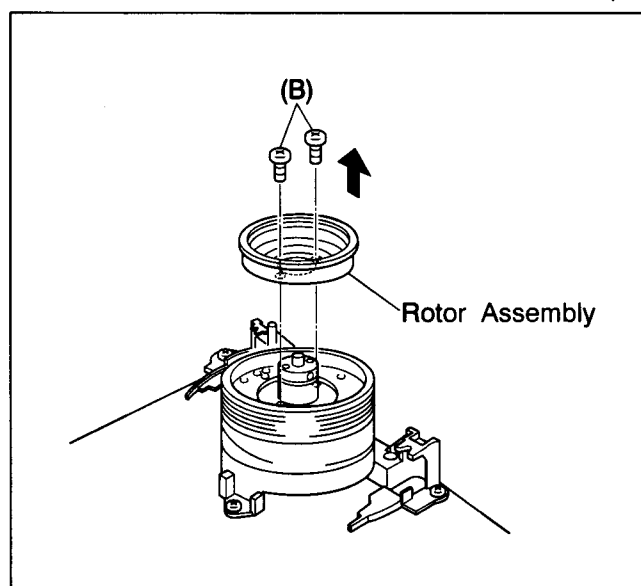


Fig. 2-5-23

(3) Align the upper drum assembly and rotor assembly phase as indicated in Fig.2-5-24.

- (4) Overlap holes (a) of the upper drum assembly with holes (b) of the rotor assembly and secure with 2 screws (B) as indicated in Fig.2-5-23.

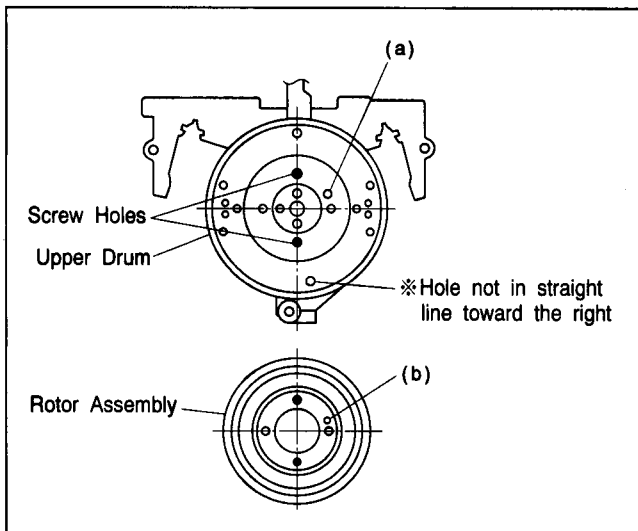


Fig. 2-5-24

2.5.17 Upper Drum Assembly

1. Removal

- (1) Remove the stator assembly and rotor assembly.
- (2) Use a 1.5 mm hexagonal wrench to loosen the collar assembly screw and remove the collar assembly with brush, and remove the cap.
- (3) Remove the upper drum assembly and use tweezers to remove the washer.

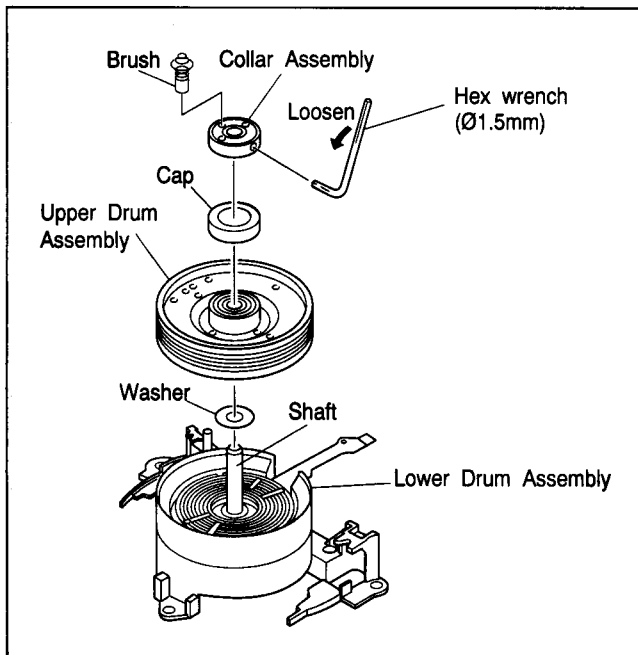


Fig. 2-5-25

NOTE : If the Brush is replaced, do not apply the grease to the contacts.

2. Installation

- (1) Use an air brush to clean the lower drum assembly and the coil section of the new upper drum assembly.
- (2) Set a new washer on the drum shaft as indicated in Fig.2-5-25.

NOTE : Be sure to use the new washer when replace the upper drum assembly.

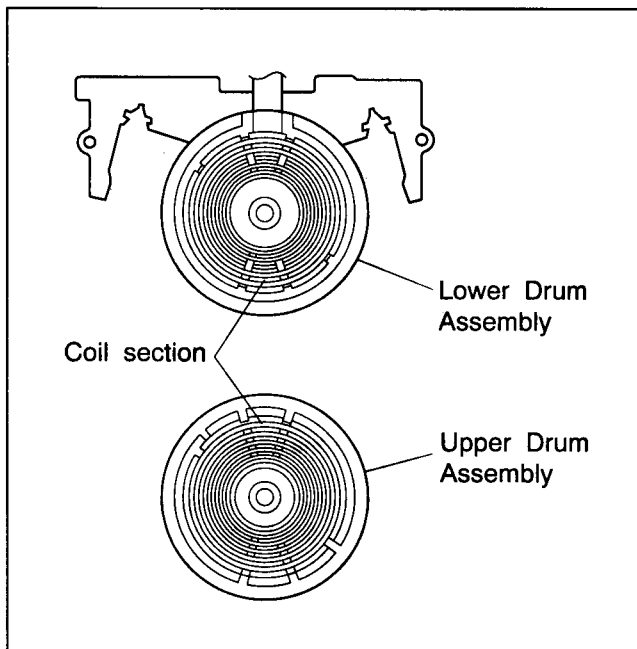


Fig.2-5-26

- (3) Note the top and bottom of the collar assembly and determine the position as indicated in Fig.2-5-27.

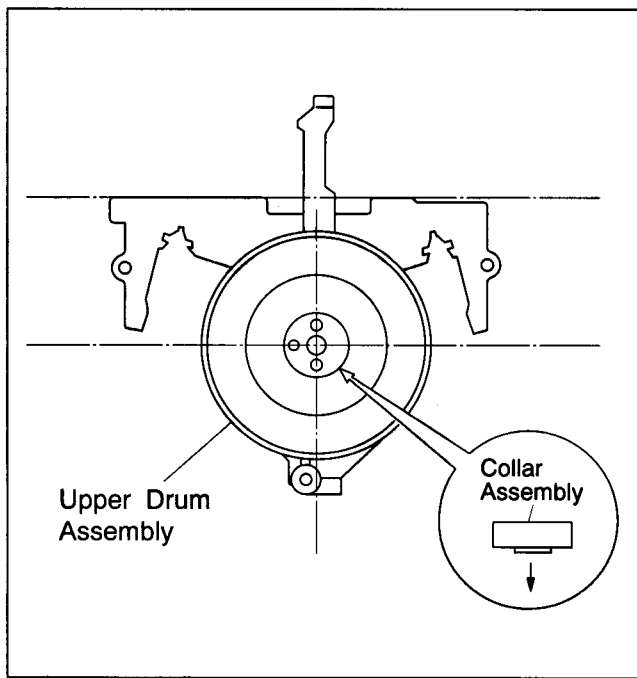


Fig.2-5-27

- (4) While pressing the collar assembly evenly from above with your fingertips, secure the hexagonal screw.

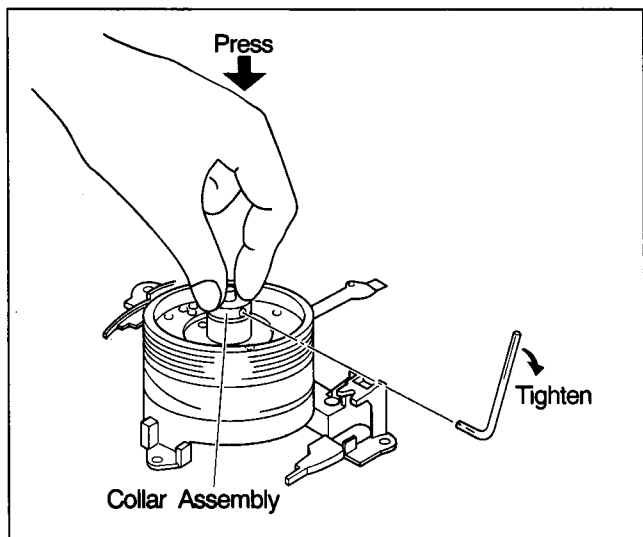


Fig.2-5-28

- (5) After installing, gently turn the upper drum by hand and confirm normal rotation.
- (6) Install the rotor assembly and stator assembly.
- (7) Clean the upper and lower drum assembly and perform the following adjustments;
- PB switching point adjustment
 - Slow tracking preset adjustment
 - Interchangeability adjustment (be sure to check LP mode)

2.6 CHECKUP AND ADJUSTMENT OF MECHANISM PHASE

2.6.1 Precaution

The rotary encoder and syscon circuit are closely interrelated. Therefore, the rotary encoder and control cam connection determines the operations of mechanical parts such as plates, gears, brakes, etc. Correct positioning of these parts is essential for smooth tape loading and mechanical operations.

2.6.2 Loading Arm Assembly (supply, take-up)

- (1) Install the supply loading arm assembly and the take-up loading arm assembly so that their positioning markings on the respective gear face each other and the holes of their arms correspond to the holes on the main deck assembly respectively.
- (2) After setting the guide rails, engage the pole base assemblies with the tip of the loading arms respectively. Then, enter the mechanism into the unloading mode to return the pole base assemblies to the front position.
- (3) Reassemble the peripheral parts of the guide rail to its original position.

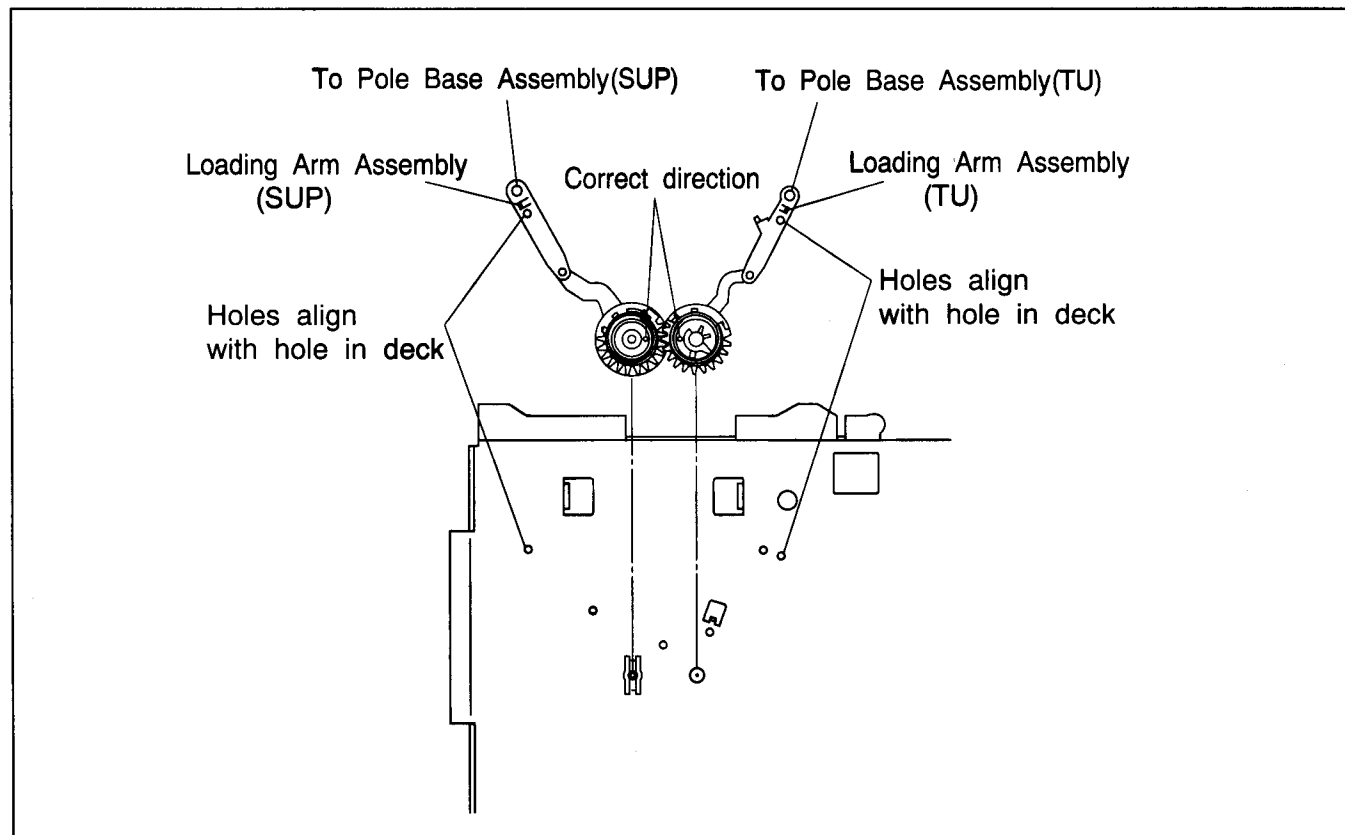


Fig. 2-6-1

2.6.3 Rotary Encoder,Change Lever,Control Cam

- (1) When reinstalling the rotary encoder,adjust its position so as to fit the triangle marks each other and push it deep untill it is locked by the pawls.
- (2) When reinstalling the change lever,set it so as to make its positioning hole correspond to the hole of the main deck assembly.
- (3) When re-engaging the control cam,lower the capstan brake assembly while setting it so as to make its positioning hole correspond to the hole of the main deck assembly.

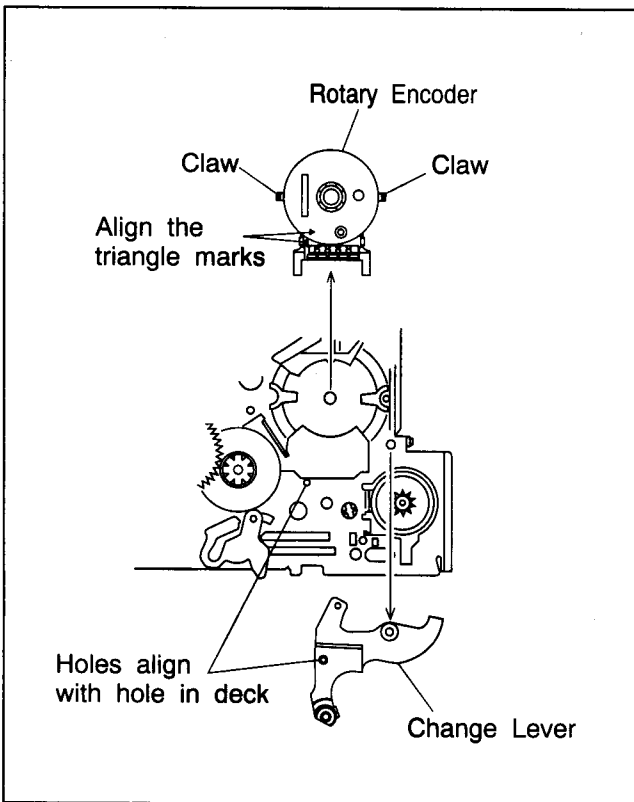


Fig. 2-6-2

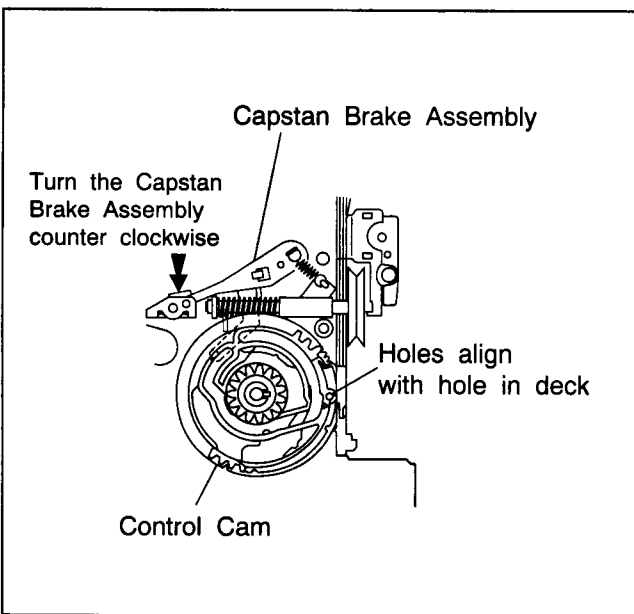


Fig. 2-6-3

2.6.4 Slide Plate

- (1) Lower both the main brake assembly (supply and take-up) until they touch the edge of the main deck assembly while reinstalling the slide plate so as to make the respective positioning holes of the main brake assembly correspond to the holes on the main deck assembly.

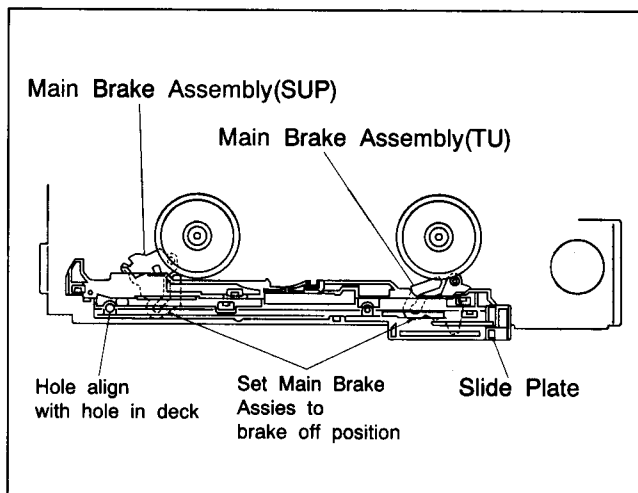


Fig.2-6-4

2.6.5 Control Plate

- (1) Reinstall the control plate so as to set the two positioning holes of it on the holes on the main deck assembly respectively and to set the positioning hole of the take-up lever on the hole of the main deck at the same time. When adjusting the hole position of the take-up lever,use a pair of tweezers to hold and move it since it is pulled by a tension spring.
- (2) After reinstalling the control plate,fix it with the slit washer,control bracket and control bracket-2.

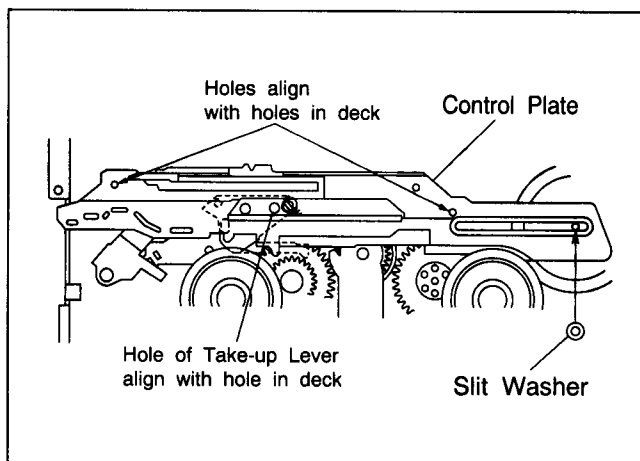


Fig. 2-6-5

2.7 TAPE INTERCHANGEABILITY ADJUSTMENT

- NOTE :**
- *This adjustment is extremely important. However, it is normally not required during routine service. Perform only after replacing major components(A/C head,upper/lower drum assembly,pole base assembly,etc).*
 - *Before using costly alignment tape,use a spare tape and confirm correct operation of the tape transport.*

2.7.1 Tape pattern

- (1) Connect the oscilloscope to TP106(PB FM/COL) on the Main board.Use TP111(D.FF) on the Main board as a trigger.
- (2) Playback the SP stairstep portion of the alignment tape. Confirm that the FM waveform appears as indicated in Fig.2-7-1.
- (3) Set the manual tracking position by simultaneously pressing the CH "▲" and "▼" buttons.
- (4) Operate the tracking adjustment (press the CH buttons during playback) and set for maximum playback FM waveform.
- (5) By operating the CH button, vary the FM waveform from maximum to minimum and vice versa to confirm that the waveform varies nearly in a flat shape as shown in Fig.2-7-1.
- (6) When the FM waveform does not remain flat during this process,first slightly loosen the set screw located at the bottom of the guide rollers.Using the guide roller adjustment tool (Roller driver), adjust the supply and take-up guide rollers (refer to Fig.2-7-2) to obtain the correct waveform as indicated in Fig.2-7-3.
- (7) By pressing the CH buttons several times, vary the FM waveform output from maximum to minimum (and vice versa) gradually,and confirm that the variation proceeds in flat shape, as shown in Fig.2-7-3.
- (8) Next playback the LP stairstep portion of the alignment tape and adjust the tracking control from maximum to minimum the FM waveform,confirm that FM waveform variation is always flat.
- (9) Record the signal and play it back in both of the SP and LP mode,confirm that the FM waveform is flat in both mode.
- (10) After adjustments,tighten the set screw of the guide rollers.
- (11) Confirm that the tape wrinking does not occur at the roller upper or lower limits as indicated in Fig.2-7-4.

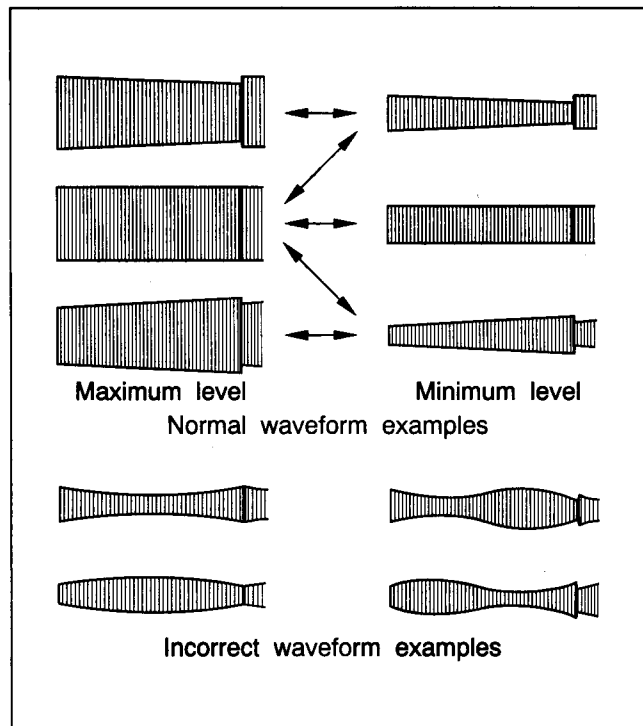


Fig. 2-7-1

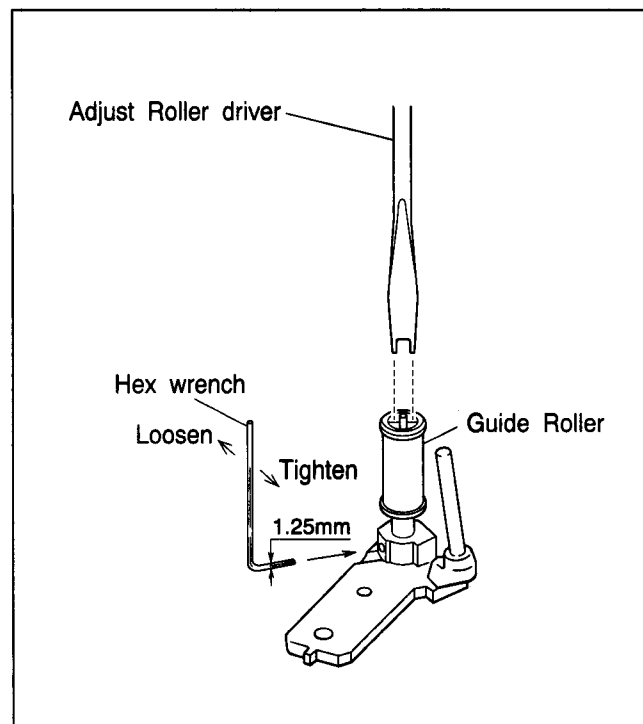


Fig. 2-7-2

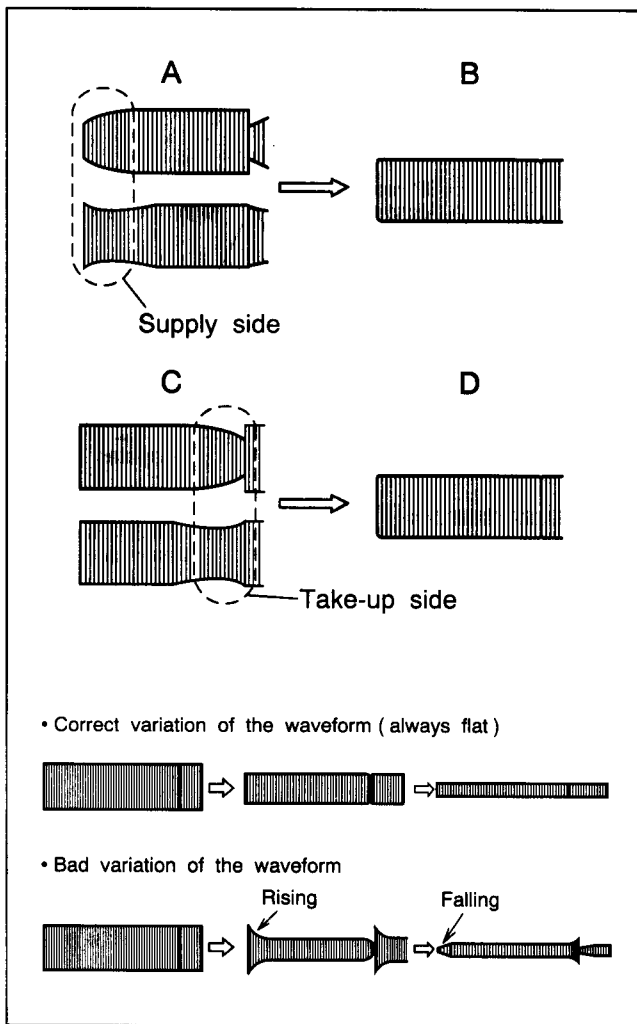


Fig. 2-7-3

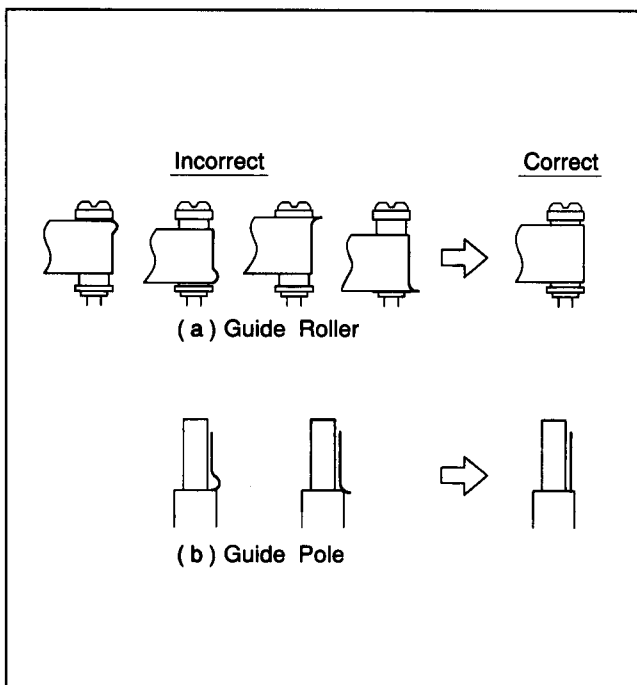


Fig. 2-7-4

2.7.2 A/C head height & azimuth

NOTE : • Temporarily set A/C head height as indicated in Fig. 2-5-4.

- Use spare tape to check the transport and confirm the tape is not scratched or damaged.

1. Tilt

- (1) Use spare tape and set for playback.
- (2) Turn screw (3) clockwise to where the tape curls just slightly at the TU guide pole bottom flange as shown in Fig.2-7-5.
- (3) Then slowly turn screw (3) counterclockwise to where the curling ceases.

2. Height

- (1) Connect CH-1 of a dual trace oscilloscope to Audio Out.
- (2) Connect CH-2 to TP1101(CTL. P) of the Main board assembly and use the ALT mode.
- (3) Playback the SP stairstep portion of the alignment tape.
- (4) Adjust screws (1),(2) and (3) for maximum audio output and control pulse level.

3. Azimuth

- (1) Connect the oscilloscope to Audio Out.
- (2) Playback the SP stairstep portion of the alignment tape.
- (3) Adjust screw (2) so that the audio output is both maximum and with minimum fluctuation.

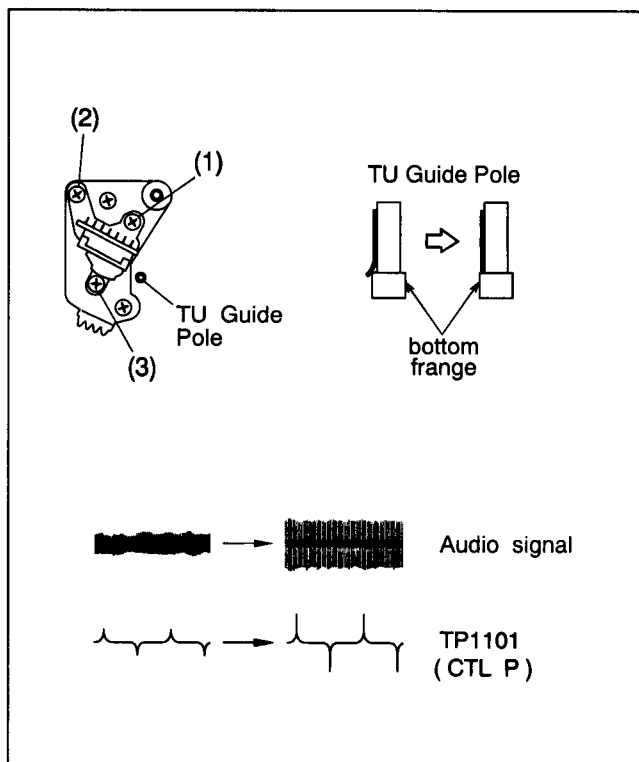


Fig. 2-7-5

2.7.3 A/C head phase(X-value)

- (1) Connect the oscilloscope to TP106(PB FM/COL) on the Main board. Use TP111(D.FF) on the Main board as a trigger.
- (2) Playback the SP stairstep portion of the alignment tape then press the CH "▲" or "▼" button once during playback mode.
- (3) Set the neutral manual tracking position by simultaneously pressing the CH "▲" and "▼" buttons.
- (4) If adjustment is required, slightly loosen screws (4) and (5). Set A/C head positioning tool on the A/C head adjusting boss as indicated in Fig.2-7-6.
- (5) Turn the tool first to position the A/C head fully toward the capstan. Then gradually return it toward the drum and stop at the position of maximum FM waveform output level as shown in Fig.2-7-7.
- (6) Tighten screw (5). Remove the tool and tighten screw (4).
- (7) Eject the SP alignment tape and then re-insert the LP alignment tape.
- (8) Playback the LP stairstep portion of the alignment tape then press the CH "▲" or "▼" button once during playback mode.
- (9) Set the neutral manual tracking position by simultaneously pressing the CH "▲" and "▼" buttons.
- (10) Confirm maximum playback FM waveform output level as shown in Fig.2-7-7.
- (11) If not maximum, slightly loosen the screws (4) and (5). Use the tool and adjust the head position for the nearest maximum point. Then tighten screws (4) and (5).

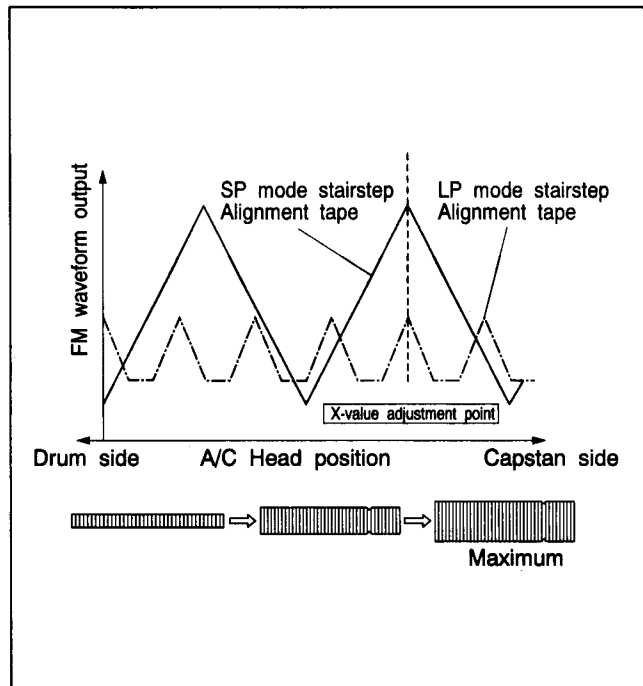


Fig. 2-7-7

2.7.4 Tension pole position

- (1) Set for playback mode using MECHANISM SERVICE MODE(See SECTION 1 DISASSEMBLY).
- (2) Turn the adjust pin so that the tension arm assembly does not touch $\phi 2.5$ pole on the outside.
- (3) After adjustment, use the back tension cassette gauge and set for the playback mode.
- (4) Confirm reading of 29 to 46 g-cm. ($2.8 - 4.5 \times 10^{-3}$ N-m)

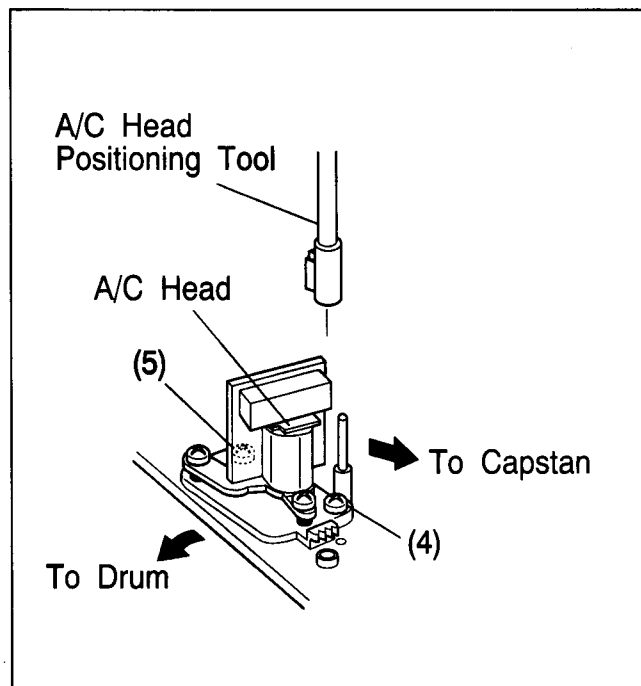


Fig. 2-7-6

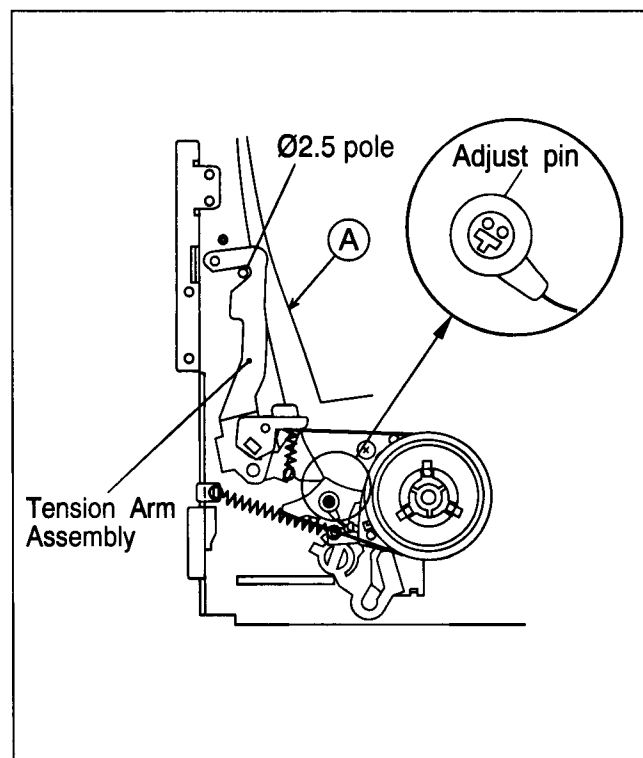


Fig. 2-7-8

SECTION 3 ELECTRICAL ADJUSTMENT

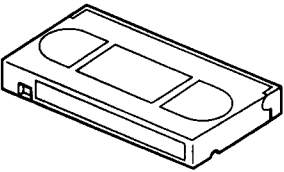
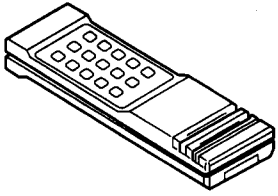
3.1 PRECAUTION

Electrical adjustment are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also do not attempt these adjustments unless the proper equipments is available.

3.1.1 Required test equipment

- ① Color television or monitor
- ② Oscilloscope: wide-band,dual-trace,triggered delayed sweep
- ③ Frequency counter
- ④ Digital voltmeter
- ⑤ Signal generator: RF/IF sweep/maker
- ⑥ Signal generator: PAL color bar, stairstep
- ⑦ Recording tape
- ⑧ Digit-key remote controller(provided)

3.1.2 Required adjustment tools

Alignment tape (SP,stairstep) 4822 397 30262	Presetting unit 4822 395 90915
	

3.1.3 Color bar signal,color bar pattern

- Color bar signal

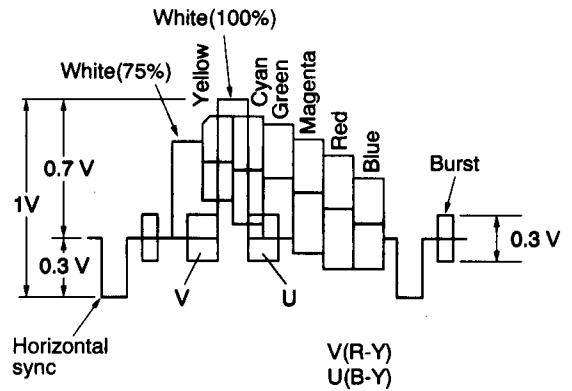


Fig.3-1-1 Color bar signal waveform

- Color bar pattern

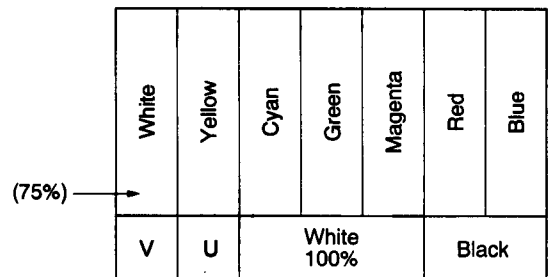


Fig.3-1-2 Color bar pattern

3.2 SERVO CIRCUIT

Notes: • Unless otherwise specified, all measurement point and adjustment parts are located on the MAIN BOARD.

• Depress button "A" on presetting unit to VCR to "code receive" mode.

3.2.1 PB switching point

Signal	• Alignment tape, Stairstep
Mode	• PB
Equipment	• Oscilloscope
Measurement point	• VIDEO OUT TERMINAL
Trigger slope (-)	• TP111(DRUM FF)
Adjustment tool	• Presetting unit
Specification	• $6.5 \pm 0.5H$

- Connect an oscilloscope to VIDEO OUT TERMINAL and external trigger from TP111 (negative slope).
- Playback the stairstep signal of the alignment tape.
- Press the "O" button of the presetting unit.
- The adjustment is performed automatically. Once the adjustment is performed, the VCR will go into the STOP mode.

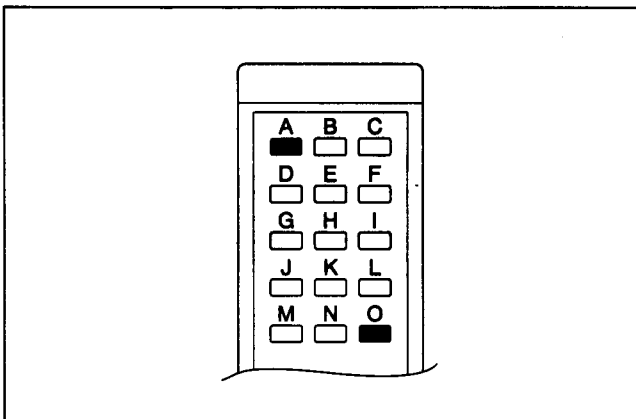


Fig.3-2-1 Presetting unit

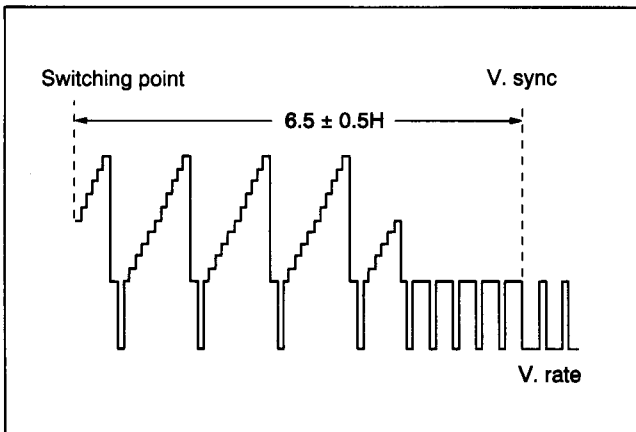


Fig.3-2-2 PB switching point

3.2.2 Slow tracking preset

Signal	• Tuner or color bar
Mode	• SP, REC → PB(SLOW) (NTSC, PAL) • LP/EP REC → PB(SLOW) (LP : PAL, EP : NTSC)
Equipment	• TV-Monitor
Adjustment tool	• Presetting unit
Specification	• Minimum noise

Note : Depress button "A" on presetting unit to VCR to "code receive" mode.

Use only buttons "B" and "C", depressing other buttons during adjustment may cause adjustment errors.

- Record a PAL color bar signal in the SP mode.
- Playback recorded signal on the FWD slow mode.
- Observe the display on the TV monitor and adjust for optimum noise condition (best tracking) by depressing "B" or "C" buttons of the presetting unit.
- Depress the STOP button.
- Confirm that the bar noise is not visible on the TV monitor in the slow mode.
- Repeat steps (1) to (5) in NTSC color bar.
- Repeat steps (1) to (6) in LP/EP mode.

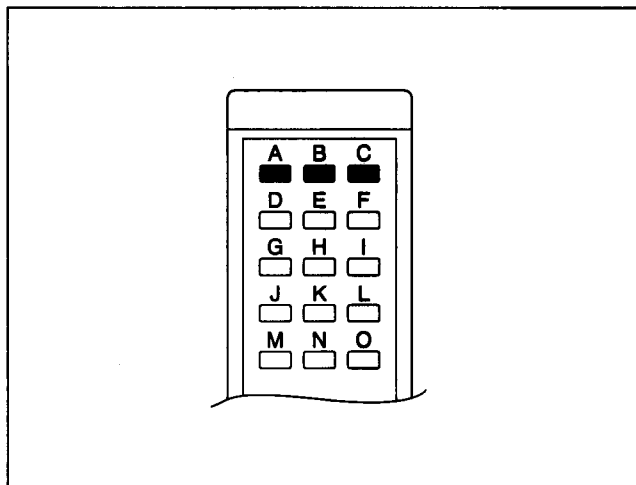


Fig.3-2-3 Presetting unit

3.3 ON SCREEN CHARACTER

Notes: • Unless otherwise specified, all measurement point and adjustment parts are located on the MAIN BOARD.

- Depress button "A" on presetting unit to VCR to "code receive" mode.

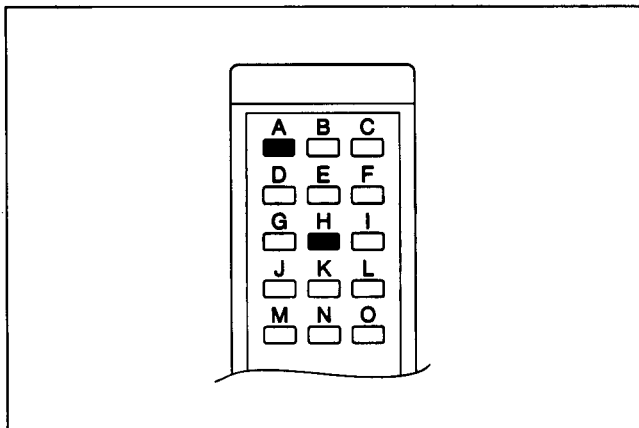


Fig.3-3-1 Presetting unit

3.3.1 Character position

Signal	•No signal
Mode	•EE
Equipment	•TV-monitor
Adjustment tool	•Presetting unit
Specification	•Character centre

- (1) Press the MENU button and display the on screen character.
- (2) Press "H" button on the presetting unit.
- (3) Adjust CH "▲" or "▼" button so that the character is centre position.
- (4) Press the VCR/TV button on remote controller to change the indications of "0E" and "0F" on the FDP.
- (5) Press "H" button on the presetting unit again to return to normal mode.

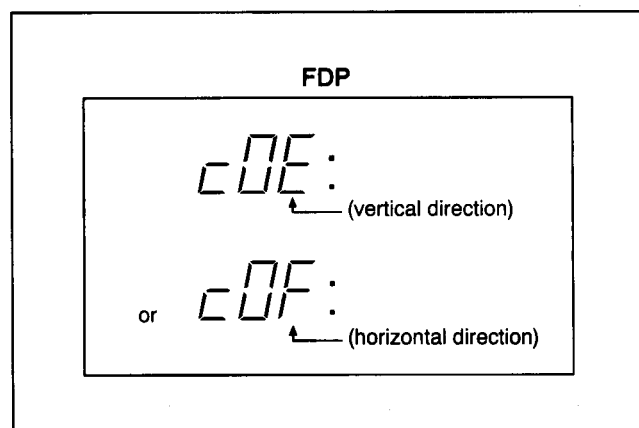


Fig.3-3-2 FDP

3.4 SYSCON CIRCUIT

Notes: • Unless otherwise specified, all measurement point and adjustment parts are located on the MAIN BOARD.

- When preform this adjustment, remove the MECHANISM assembly.

3.4.1 Timer clock

Signal	•No signal
Mode	•EE
Equipment	•Frequency counter
Measurement point	•TP702 round (SYS CLK)
Adjustment tool	•C730 (TIMER CLOCK)
Specification	•8192.057 – 8192.074 Hz [122.0692 – 122.0695 μsec]

- (1) Connect the frequency counter to TP702 round and GND.
- (2) Connect the short wire between TP701 round (TEST) and GND.
- (3) Short the leads of capacitor C709 once in order to reset IC701.
- (4) Disconnect the short wire then connect it again quickly.
- (5) Adjust C730 for 8192.057 – 8192.074 Hz.
(122.0692 – 122.0695 μsec)

3.5 DEMODULATOR CIRCUIT

Note: Unless otherwise specified, all measurement points and adjustment parts are located on the DEMODULATOR BOARD.

3.5.1 Stereo separation

Signal	•Sweep generator output (90 dBμ, 1 kHz)
Mode	•EE
Equipment	•Oscilloscope
Measurement point	•CN1501-pin 3
Adjustment part	•VR1501 (SEPARATION)
Specification	•Minimum

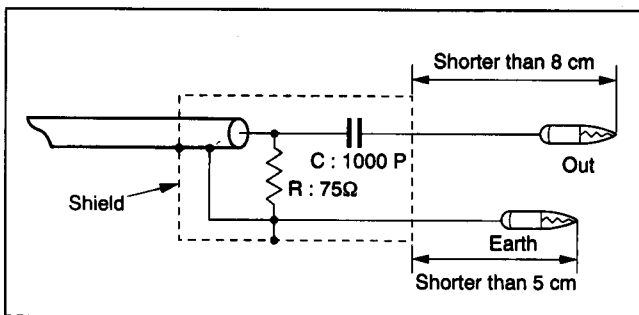


Fig. 3-5-1 Sweeper probe

- (1) Use a sweeper probe as shown in Fig. 3-5-1.
- (2) Supply 1 kHz R-only modulated IF signal to IF terminal of U/V tuner (front end).
- (3) Connect an oscilloscope to CN1501-pin 3.
- (4) Adjust VR1501 for minimum output level.

3.6 TUNER CIRCUIT

Note: Unless otherwise specified, all measurement points and adjustment parts are located on the IF BOARD.

3.6.1 VCO

Signal	•TV broadcasting
Mode	•Tuner
Equipment	•TV-Monitor
Adjustment part	•T2101 (VCO)
Specification	•Fine picture

- (1) Receive a colour broadcasting.
- (2) Adjust T2101 to obtain a fine picture on the monitor.

Note: Before the following adjustment;

- 1) Connect a cable to ANT IN and terminate TV OUT with 75 ohms.
- 2) Set a TV channel signal generator as follows.
Video : 65dB μ 75 Ω , colour bar 87.5% modulation.
Audio : 55dB μ 75 Ω , 1 kHz \pm 50 kHz deviation.

3.6.2 RF AGC

Signal	•TV broadcasting
Mode	•Tuner
Equipment	•TV-Monitor
Adjustment part	•VR2101 (RF AGC)
Specification	•Noise just disappears

Note: Adjust VR2101 (RF AGC) to correct for excess noise in the picture or when streaks cross interference occurs due to strong electrical fields.

- (1) Adjust VR2101 to minimize noise or streaks on the TV screen.
- (2) Adjust for noisy picture with strong signal. Then adjust until noise just disappears. Select other channels to confirm proper pick-up of channels.

3.7 VIDEO CIRCUIT

Notes: • Unless otherwise specified, all measurement point and adjustment parts are located on the MAIN BOARD.

- Depress button "A" on presetting unit to VCR to "code receive" mode.

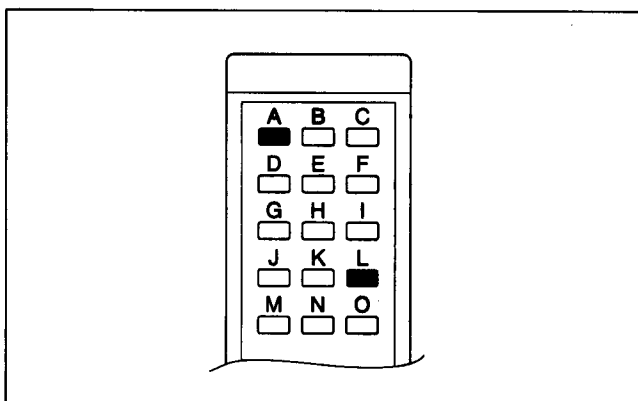


Fig. 3-7-1 Presetting unit

3.7.1 Auto picture (VR897/55 only)


Signal	• Monoscope
Mode	•BEST : OFF •REC then PB •SP/LP •PAL/NTSC
Adjustment tool	•Presetting unit [PTU94008]
Specification	•STOP mode

- (1) Set the B.E.S.T feature to OFF on MENU screen.
- (2) Record a monoscope signal in the SP mode.
- (3) Playback the recorded signal.
- (4) Press the "L" button of the presetting unit during playback.
- (5) Confirm that VCR will go into the STOP mode.
- (6) Repeat steps (2) to (5) in the LP mode.
- (7) Repeat steps (1) to (6) in NTSC mode.

SECTION 4 CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions

The Components identified by the symbol  are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

- 1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).
Chip resistors are 1/16 W.
K: K Ω (1000 Ω), M: M Ω (1000K Ω)
- 2) All capacitance values are in μ F, (P: PF).
- 3) All inductance values are in μ H, (m: mH).
- 4) All diodes are 1SS133, MA165 or IN4148M (refer to parts list).

2. Indications of control voltage

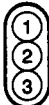
AUX : Active only at high

AUX or AUX(L) : Active at low

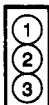
3. Interpreting Connector indications



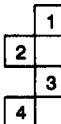
Removable connector



Wire soldered directly on board



Non-removable Board connector



Board to Board

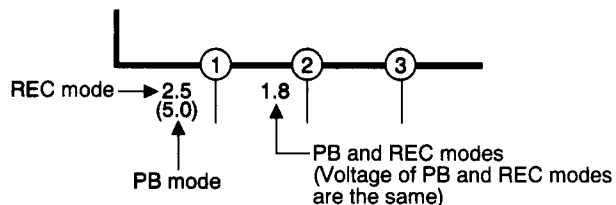


Connected pattern on board

4. Voltage measurement

- 1) Video circuits
REC : Colour bar signal in SP mode, normal VHS mode
PB : Alignment tape, colour bar SP mode, normal VHS mode
— : Unmeasurable or unnecessary to measure
- 2) Audio circuits
REC : 1KHz, -8 dBs sine wave signal in SP mode, Normal VHS mode
PB : REC then playback it
- 3) Movie Camera circuits
Measured using a correctly illuminated gray scale or colour bar test charts in the E-E mode

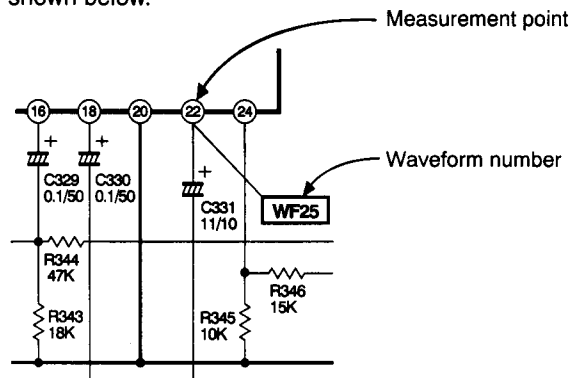
- 4) Indication on schematic diagram
Voltage Indications for REC and PB mode on the schematic diagram are as shown below.



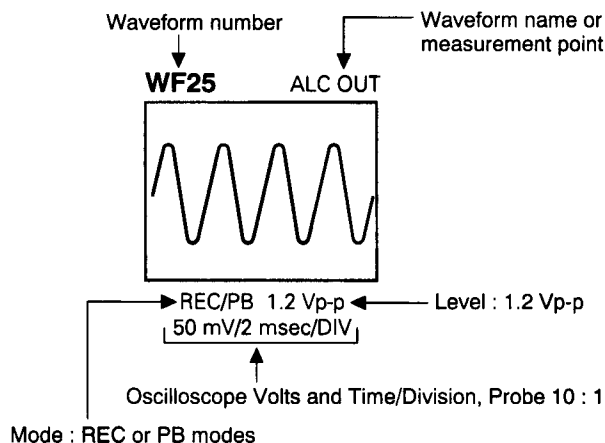
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

- 1) Video circuits
REC : Colour bar signal in SP mode, normal VHS mode
PB : Alignment tape, colour bar SP mode, normal VHS mode
- 2) Audio circuits
REC : 1KHz, -8 dBs sine wave signal in SP mode, normal VHS mode
PB : REC then playback it
- 3) Movie Camera circuits
Measured using a correctly illuminated gray scale or colour bar test charts in the E-E mode
- 4) Indication on schematic diagram
Waveform indications on the schematic diagram are as shown below.








5) Waveform indications





6. Signal path Symbols

The arrows indicate the signal path as follows.

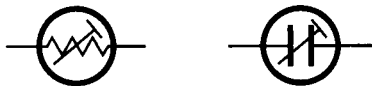
-  Playback signal path
-  Playback and recording signal path
-  Recording signal path (including E-E signal path)
-  Capstan servo path
-  Drum servo path

(Example)

-  R-Y Playback R-Y signal path
-  Y Recording Y signal path

7. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



8. Indication of the parts not mounted on the circuit board

“OPEN” is indicated by the parts not mounted on the circuit board.

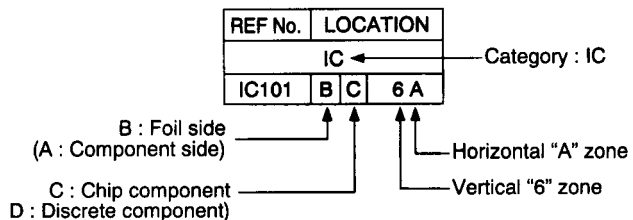


1. Foil and Component sides

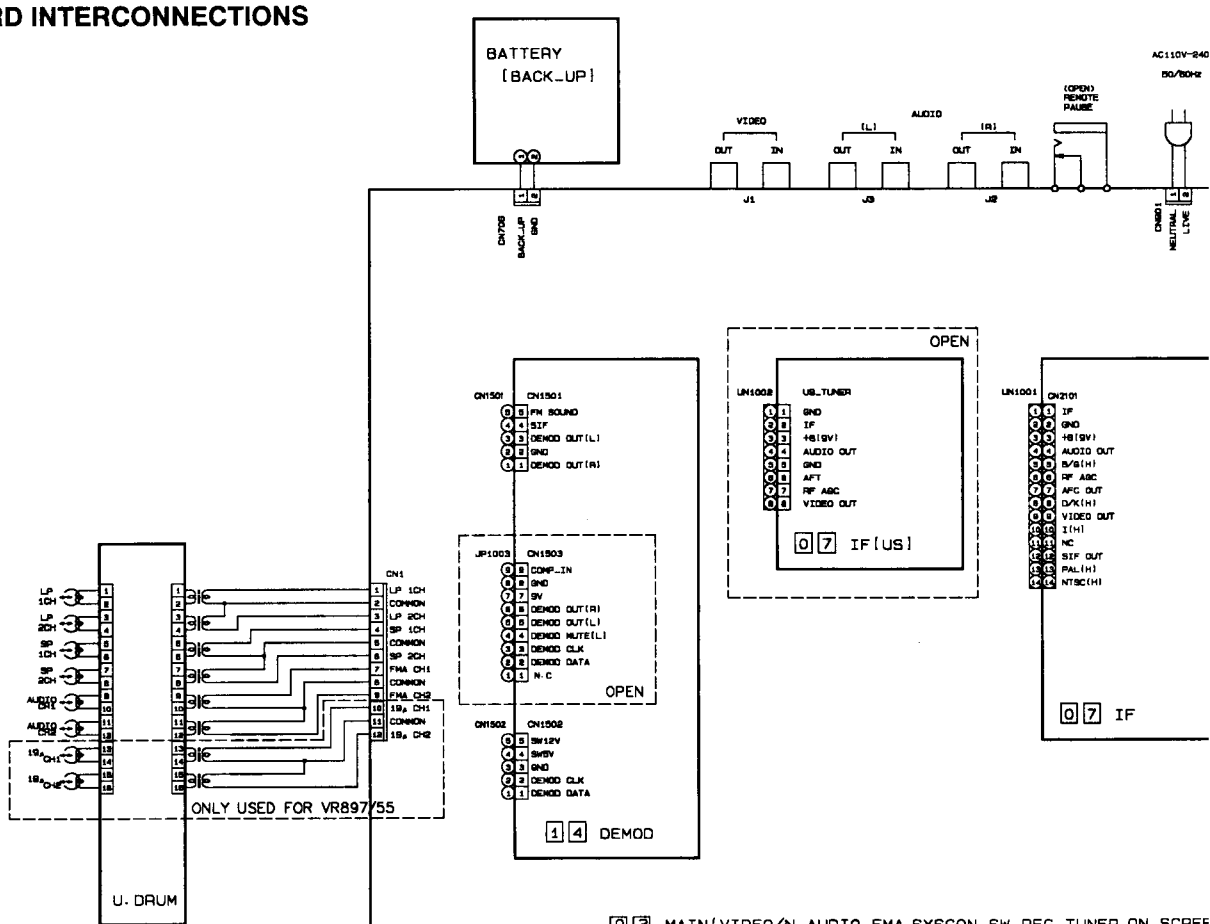
- 1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.
- 2) Component side (A side) :
Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

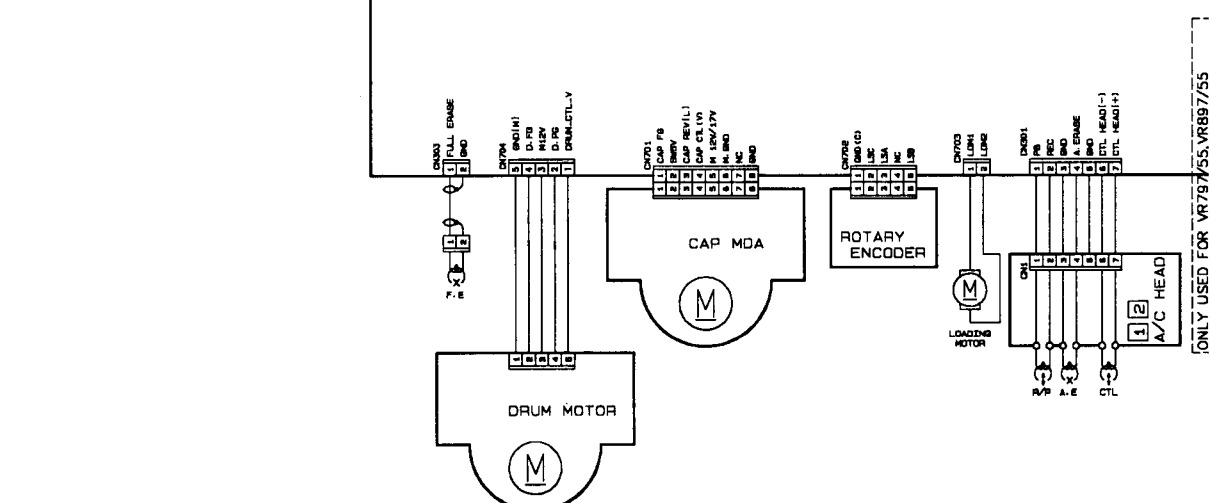
Parts location are indicated by guide scale on the circuit board.



4.1 BOARD INTERCONNECTIONS

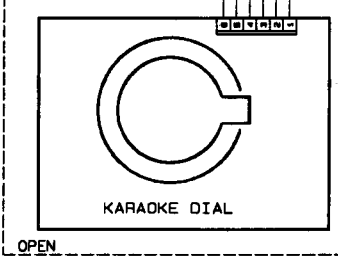
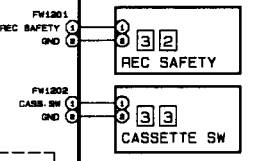
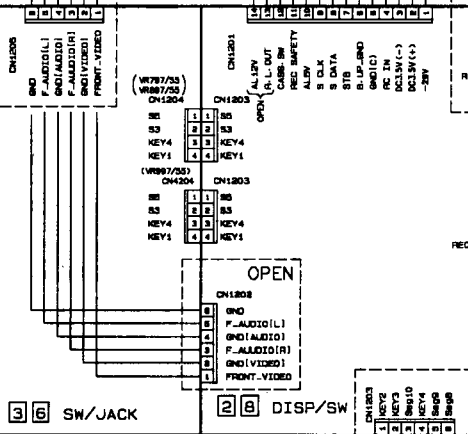
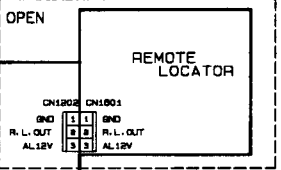
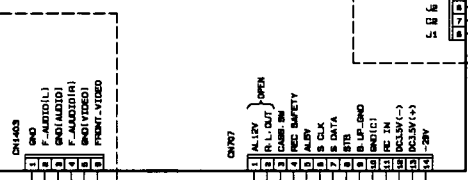
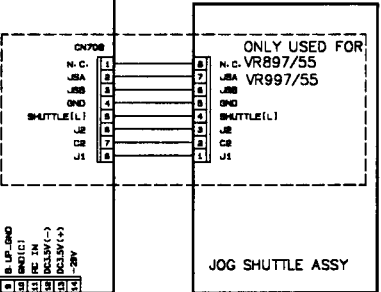
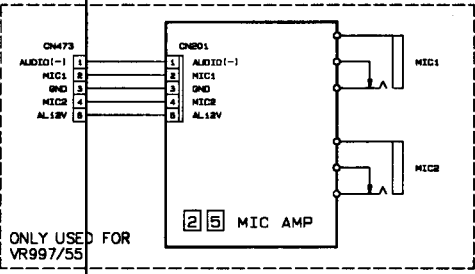
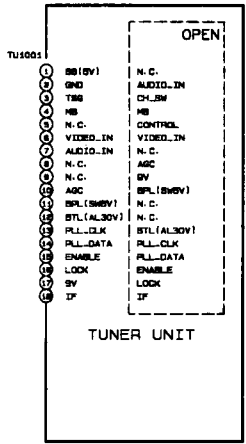
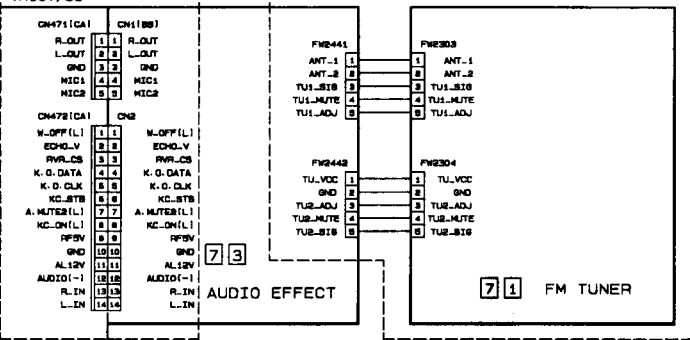


0 3 MAIN (VIDEO/N. AUDIO, FMA, SYSCON, SW, REG, TUNER, ON SCREEN)



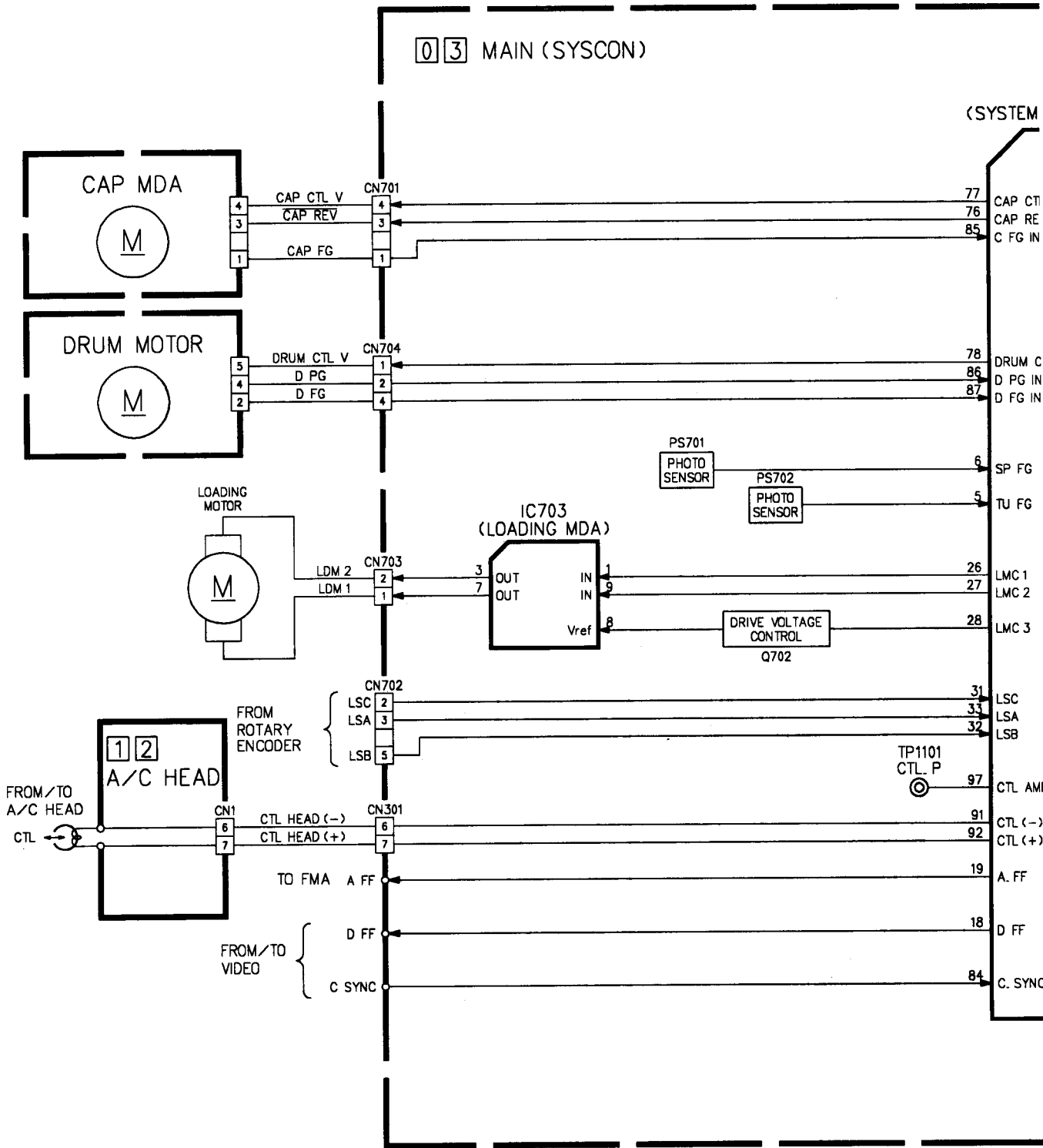
7 3	AUDIO EFFECT
3 6	SW/JACK
3 3	CABINETE SW
3 9	REC SAFETY
2 8	DISP/SW
2 5	NTC AMP
1 4	DEMODO
1 2	A/C HEAD
0 7	IF
0 3	MAIN
NO	NAME

ONLY USED FOR VR997/55 OPEN

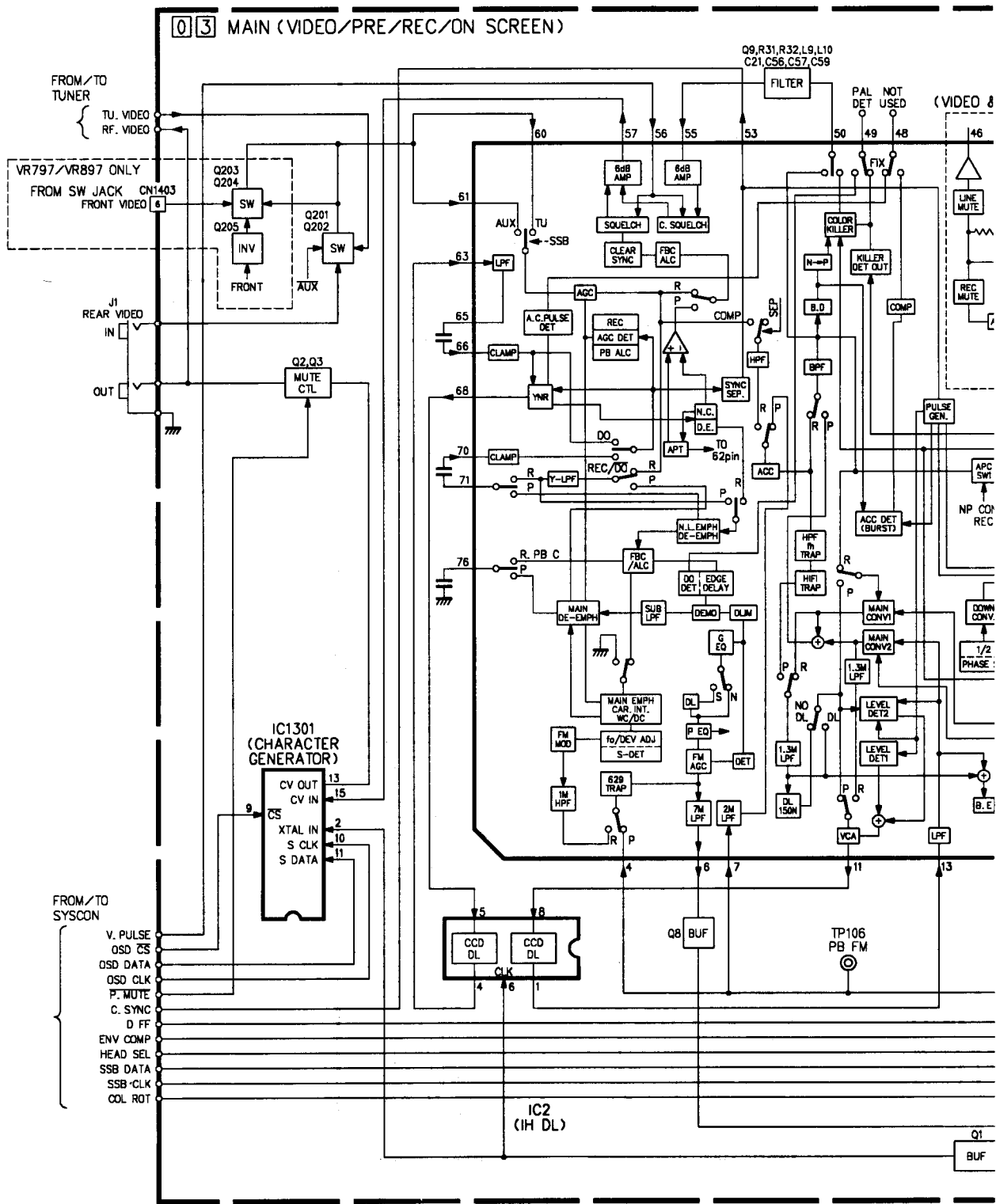


4.2 SYSTEM CONTROL BLOCK DIAGRAM

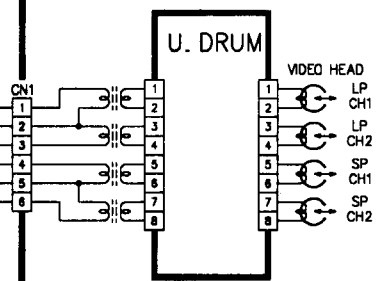
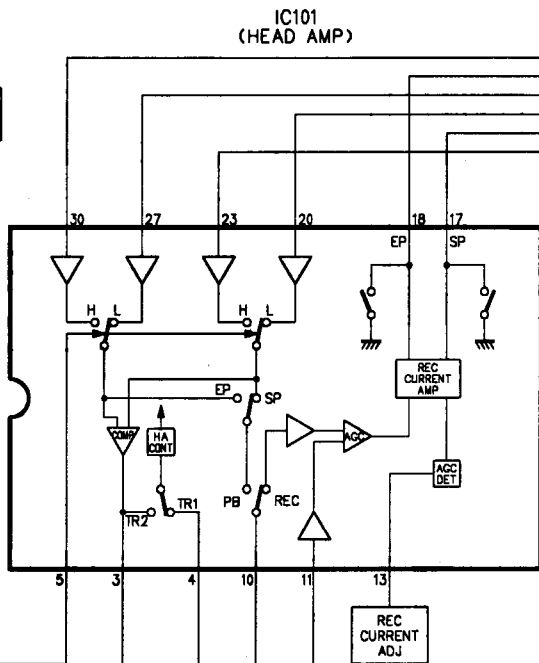
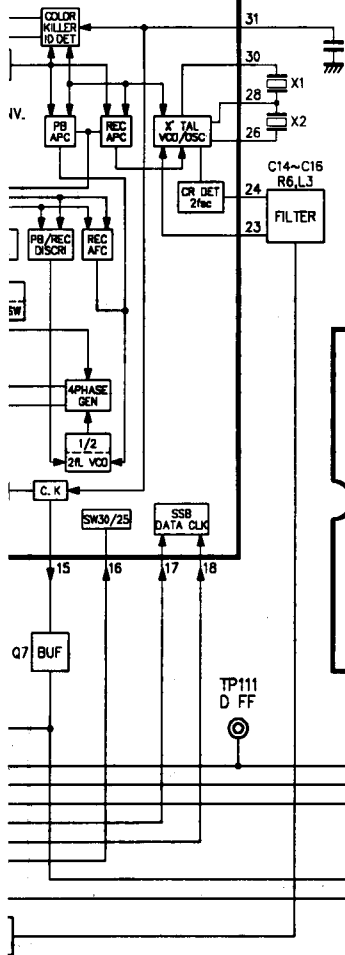
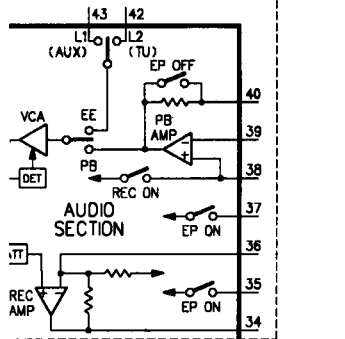
5
4
3
2
1



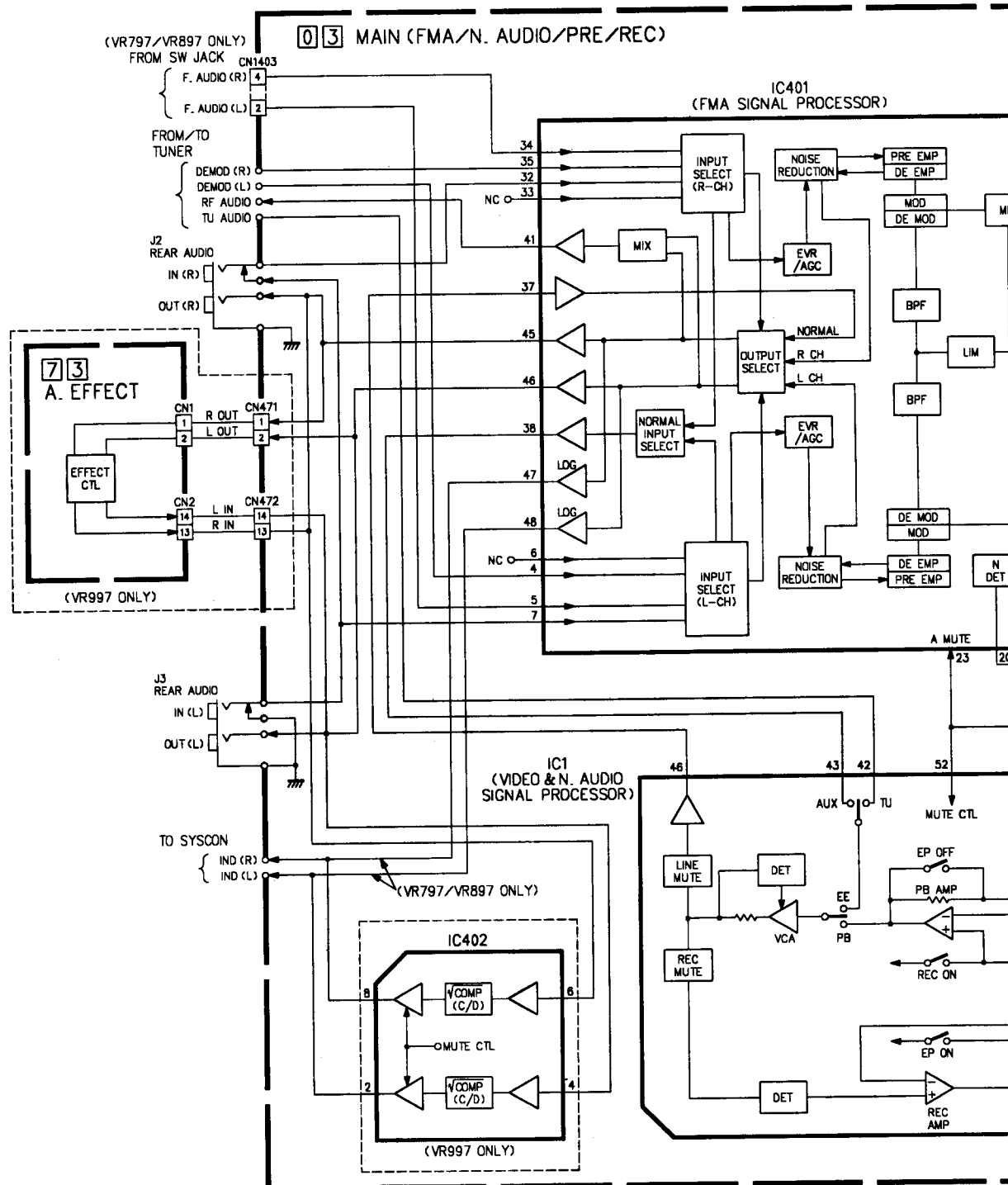
5
4
3
2
1

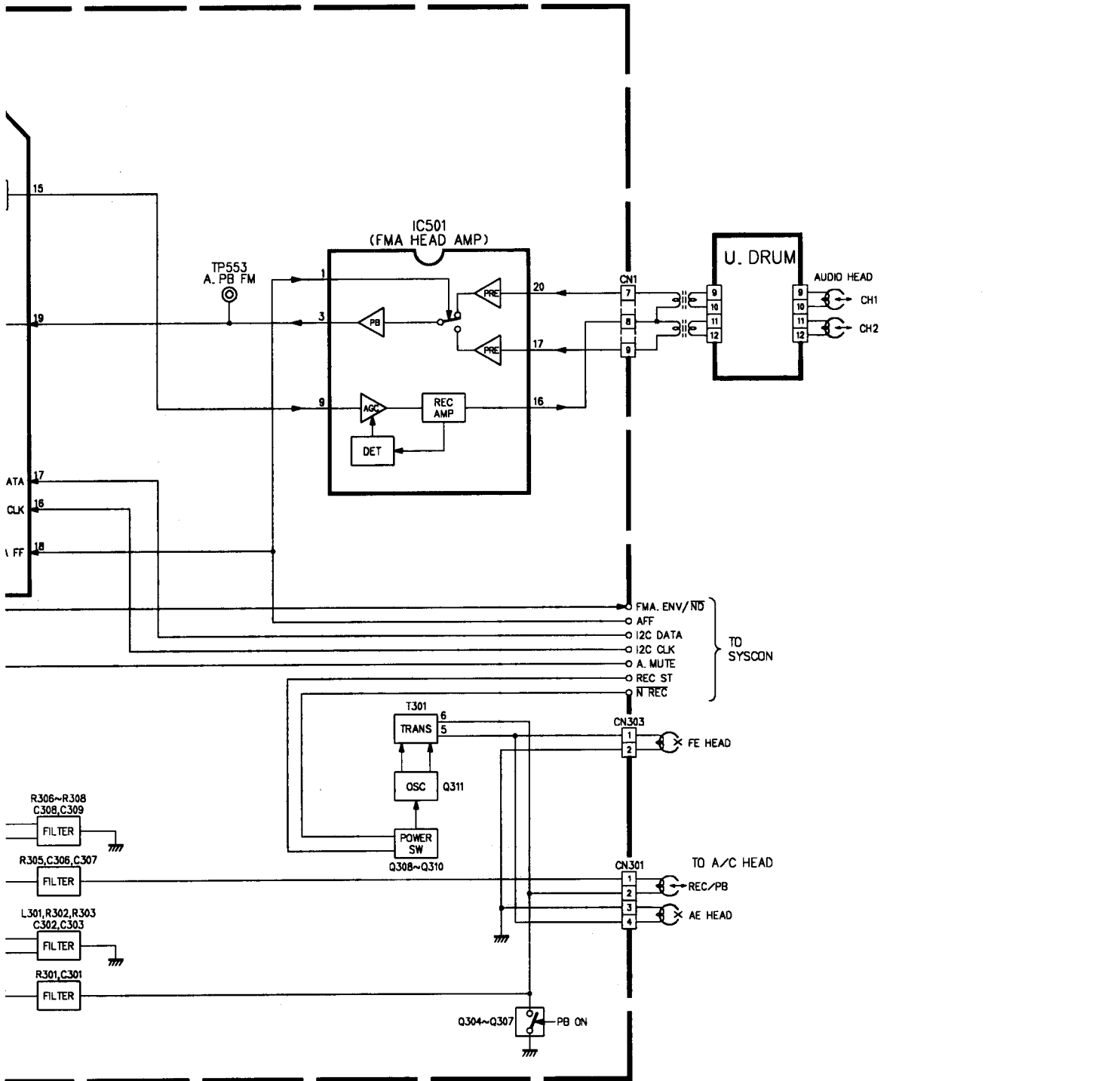


IC1
(N. AUDIO SIGNAL PROCESSOR)



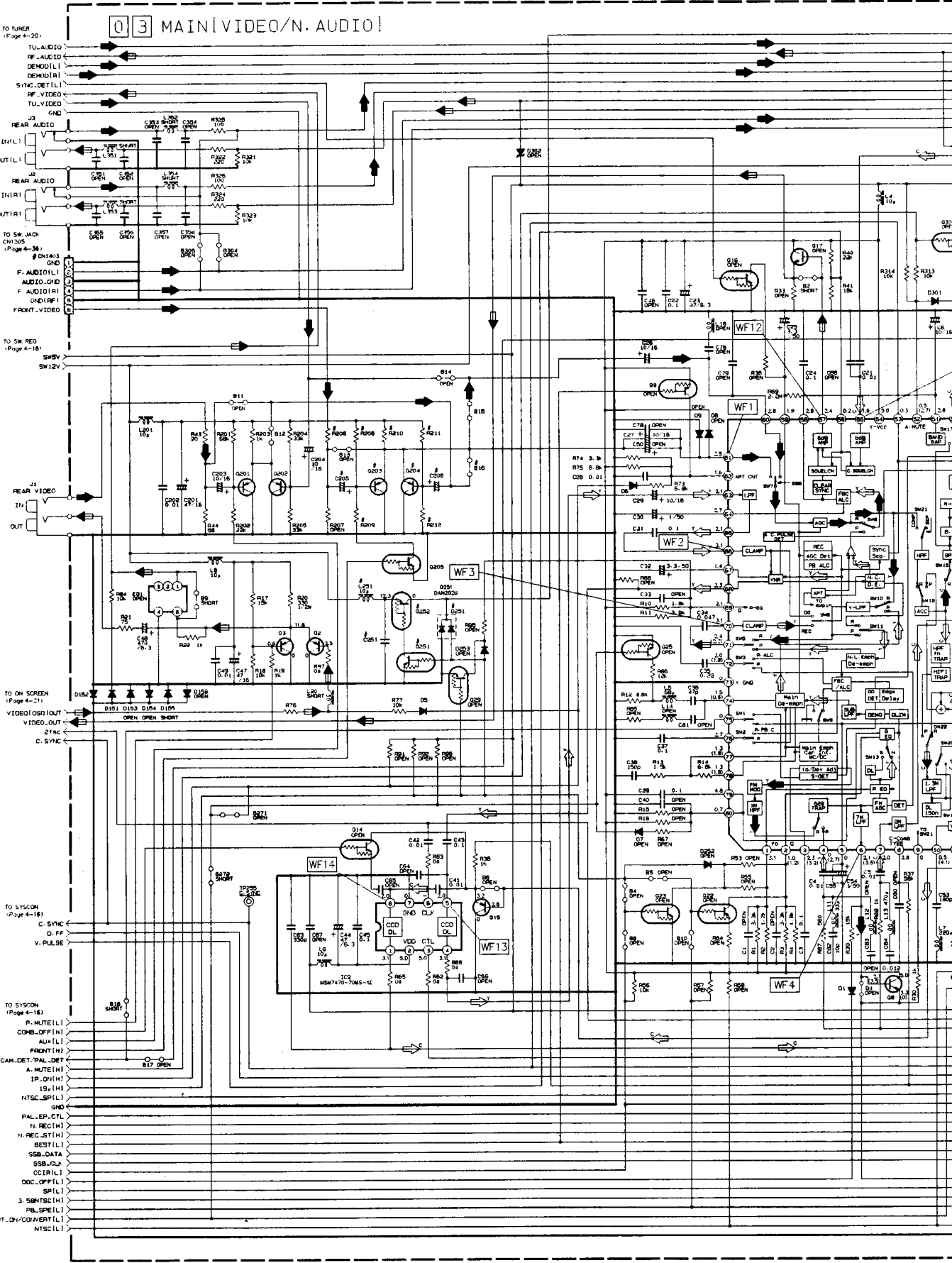
4.4 AUDIO BLOCK DIAGRAM





4.5 VIDEO AND N.AUDIO SCHEMATIC DIAGRAM

5
4
3
2
1



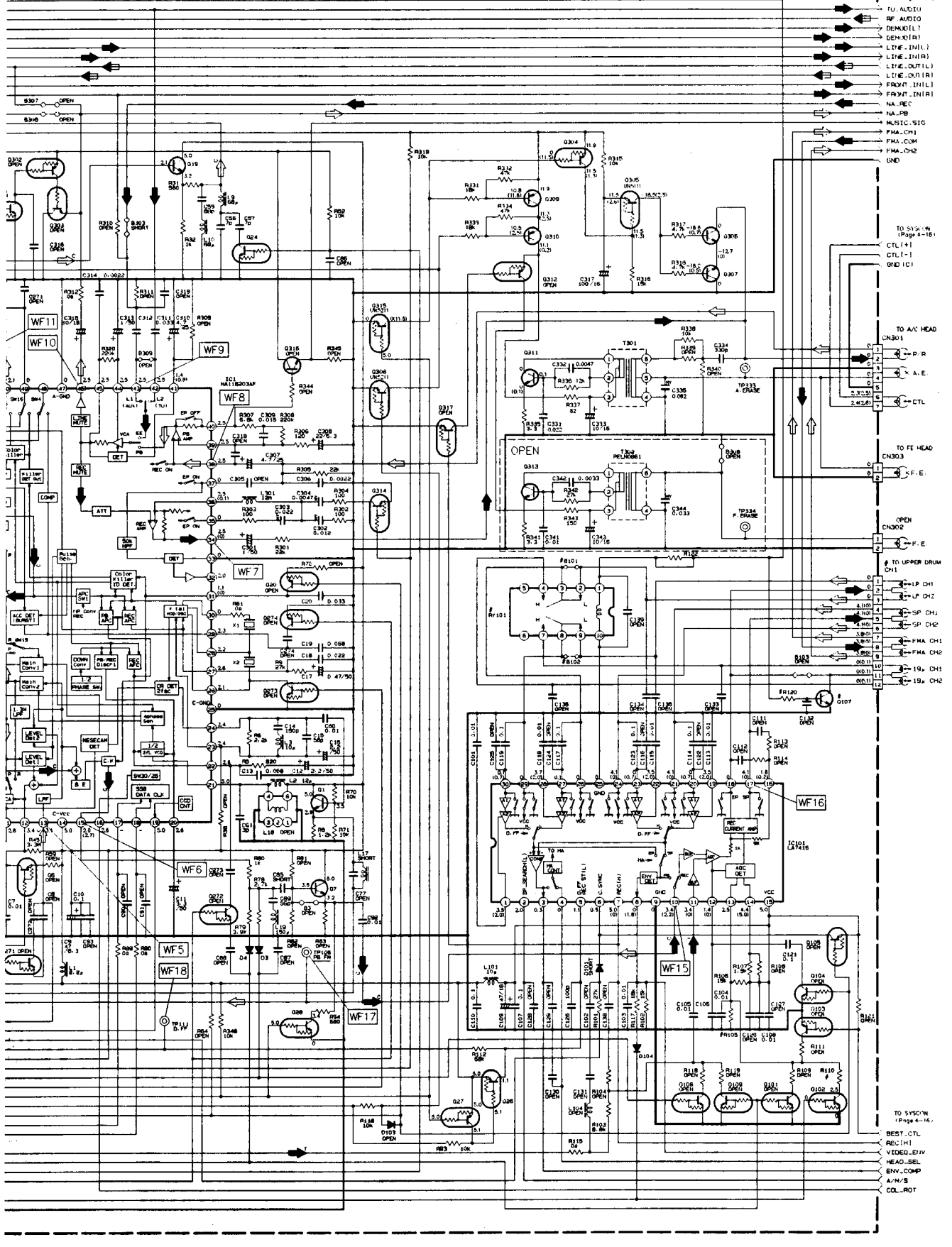
NOTE: 1. UNLESS OTHERWISE SPECIFIED,

ALL PNP TYPE TRANSISTORS ARE 2SB1219A (OR)
 ALL NPN TYPE TRANSISTORS ARE 2SD1219A (ORS)
 ALL PNP TYPE DIGITAL TRANSISTORS ARE UN51E
 ALL NPN TYPE DIGITAL TRANSISTORS ARE UN52E
 ALL DIODES ARE 1N4148M

2. COMPARISON CHART OF MODELS & MARKS (#).

3. For VIDEO, PRE/REC and AUDIO waveforms, please refer to page 4-23.

MODELS	REF NO	CH1	CH1403	B16	Q203,Q204	Q251,Q252	L251	D251	R20
VR797/55	1-9	USED	OPEN	USED	OPEN	OPEN	OPEN	OPEN	0
VR897/55	1-12	USED	OPEN	USED	USED	USED	USED	USED	0
VR997/55	1-9	NOT USED	SHORT	OPEN	OPEN	OPEN	OPEN	OPEN	0PE



TO SYS-4
 (Page 4-16)
 CTL I+1
 CTL I-1
 GRID I C1

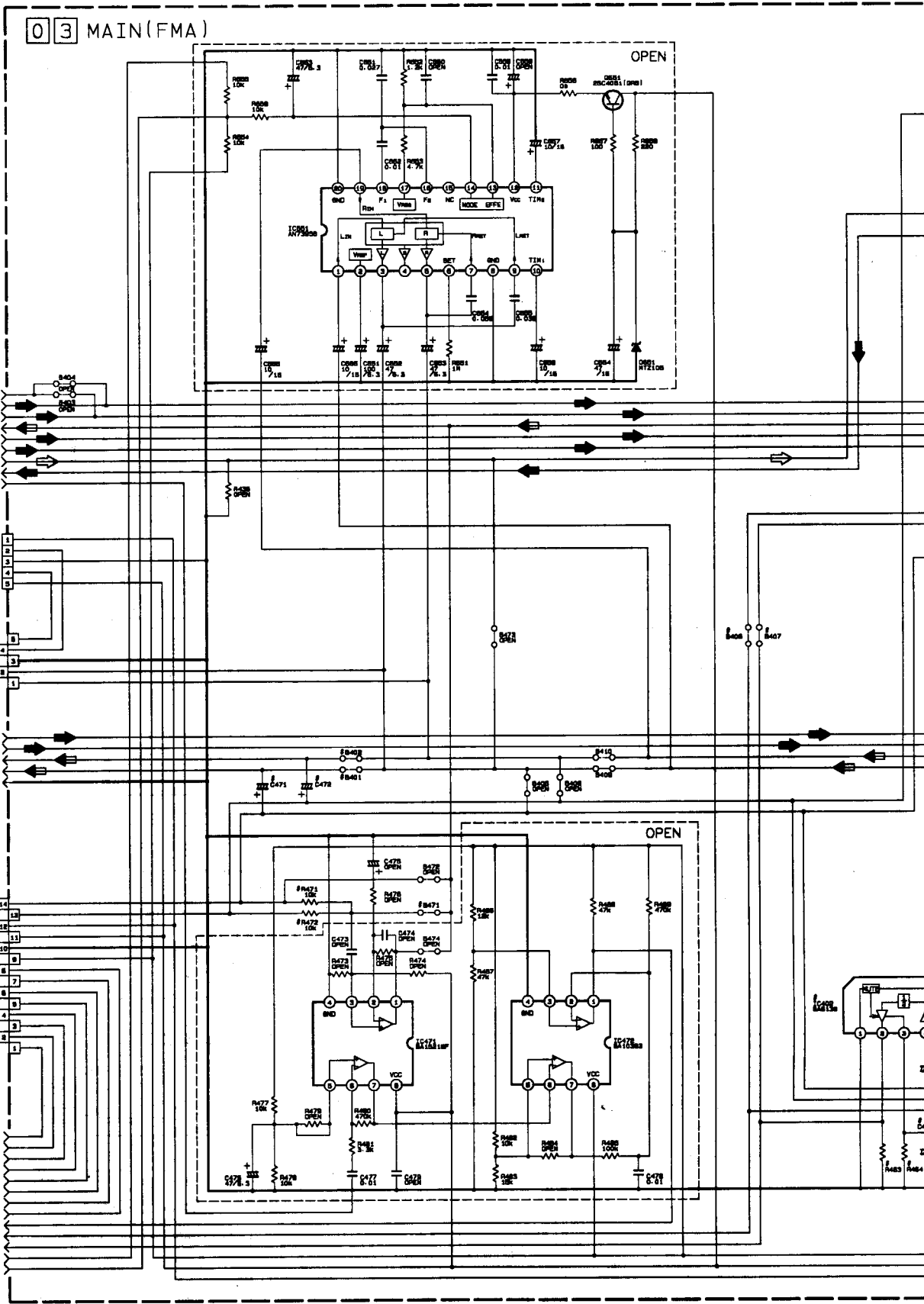
TO A/C HEAD
 CN301
 0
 1
 2
 3
 4
 5
 6
 7
 8
 9
 10
 11
 12

TO FE HEAD
 CN303
 0
 1
 2
 3
 4
 5
 6
 7
 8
 9
 10
 11
 12

TO UPPER DRUM
 CH1
 0
 1
 2
 3
 4
 5
 6
 7
 8
 9
 10
 11
 12

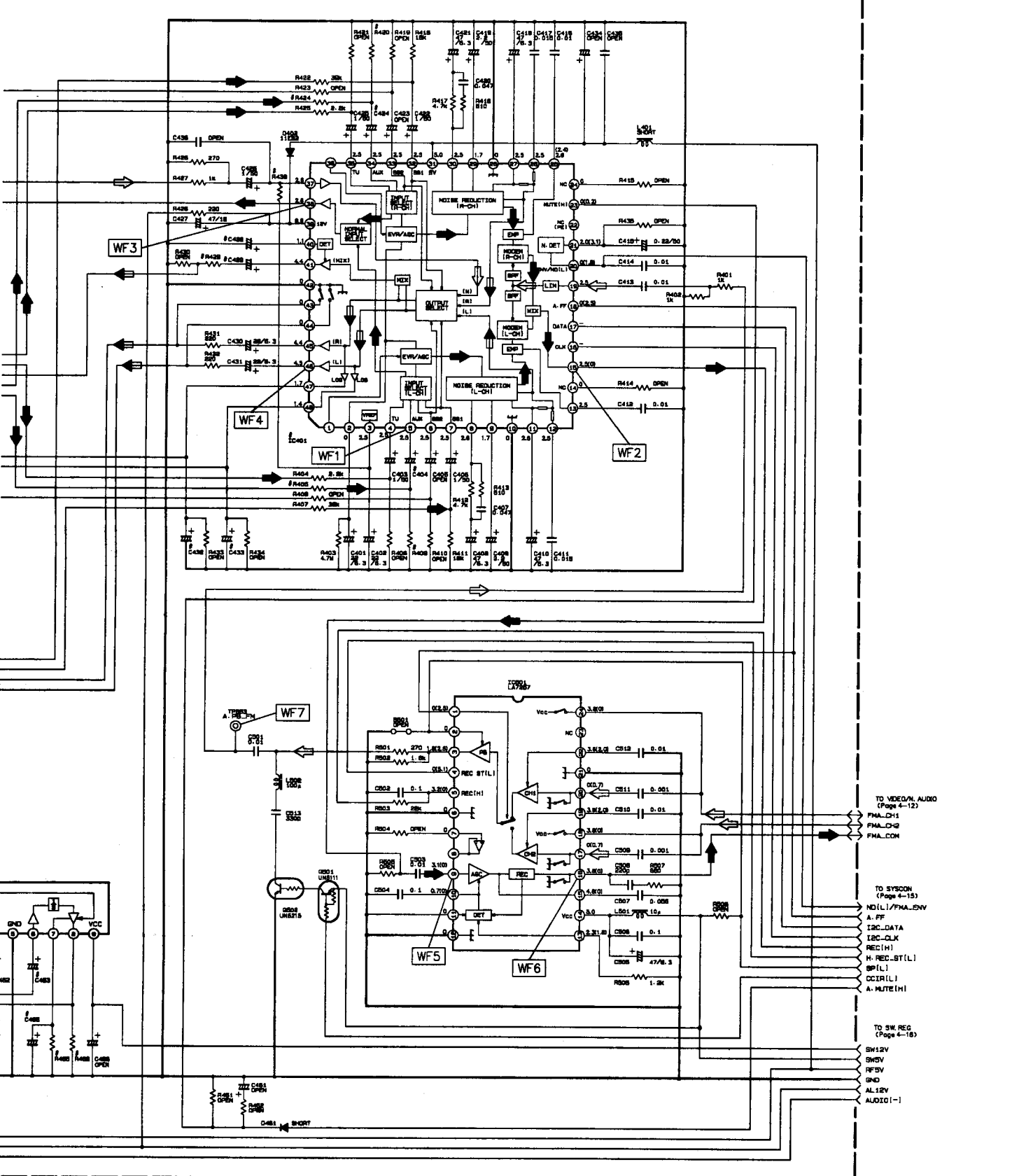
TO SYS-4
 (Page 4-16)
 BEST-CTL
 REC I+1
 VIDEO_SEL
 HEAD_SEL
 ENV_COMP
 A/N/S
 COL_ROT

6	R208	R209	R210	R211	R212	C205	C206	C251	B101,B102	R1101	Q107	R105	R110	R120
	68K	22K	1K	47K	33K	10/16	10/16	OPEN	SHORT	OPEN	OPEN	12K	22K	OPEN
	68K	22K	1K	47K	33K	10/16	10/16	0.01	OPEN	USED	USED	10K	15K	10K
N	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	SHORT	OPEN	OPEN	12K	22K	OPEN



NOTE: 1.COMPARISON CHART OF MODELS & MARKS (#). 2.For FMA waveforms, please refer to page4-23.

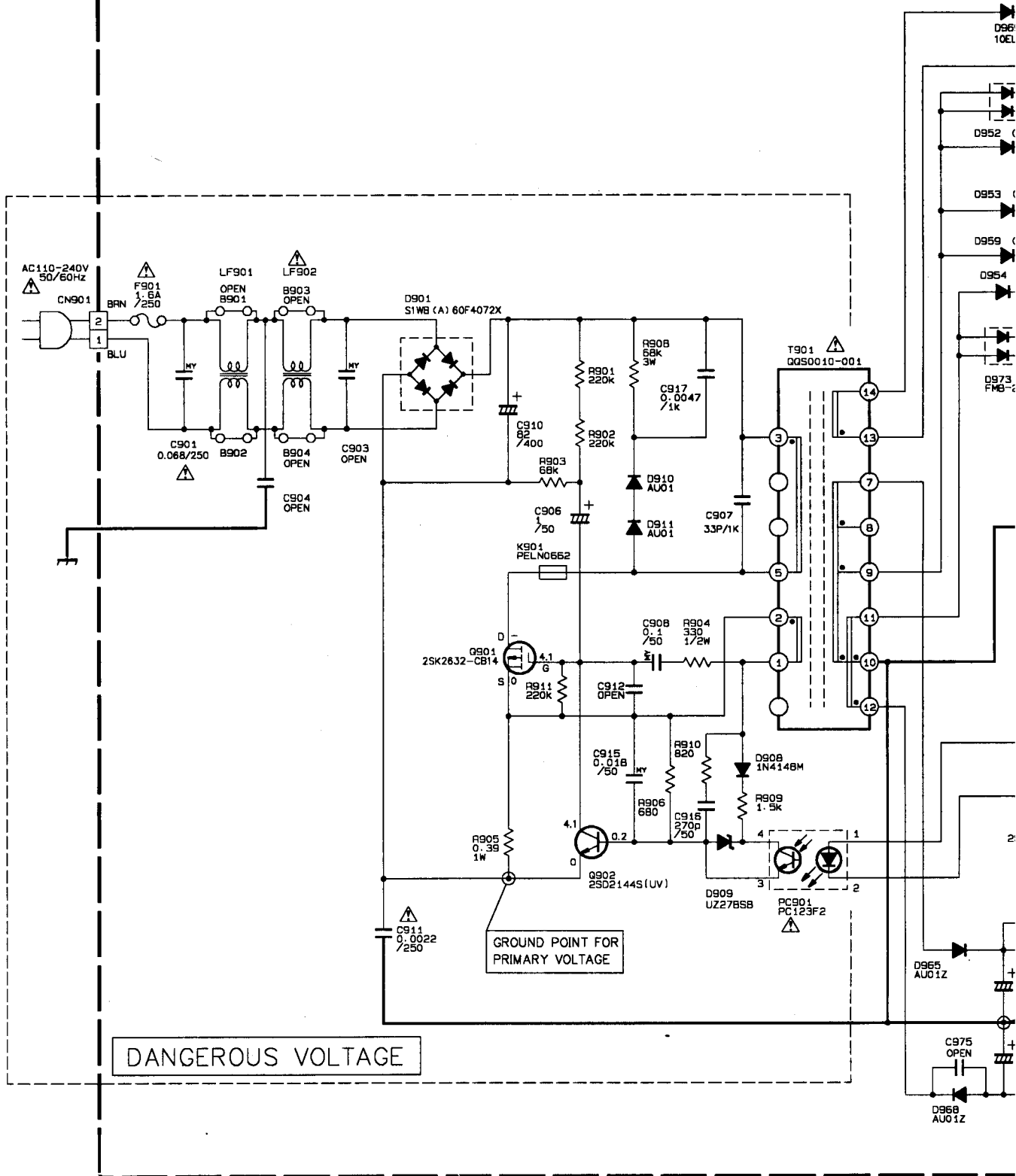
MODELS	REF NO	Q471, Q472, Q473	B401, B402, B407, B408	IC401	IC402	R405	R409	R420	R424	R429	R436	R463	R464	R465	R466	C404	C424	C428	C429
VR797/55		NOT USED	SHORT	AN3664NFB-A	NOT USED	39K	18K	18K	39K	220	47K	OPEN	OPEN	OPEN	OPEN	1/50	1/50	22/8.3	1/50
VR897/55		NOT USED	SHORT	AN3664NFB-A	NOT USED	39K	18K	18K	39K	220	47K	OPEN	OPEN	OPEN	OPEN	1/50	1/50	22/8.3	1/50
VR997/55		USED	OPEN	AN3664NFB	USED	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	10K	18K	18K	10K	OPEN	OPEN	OPEN	OPEN



- TO VIDEO/AUDIO (Page 4-12)
- PMA_CH1
- PMA_CH2
- PMA_COM
- TO SYSCON (Page 4-15)
- ND(L)/PMA_ENV
- A. FF
- ISC_DATA
- ISC_CLK
- REC(H)
- H. REC-ST(L)
- SP(L)
- CCIR(L)
- A. MUTE(H)
- TO SW. REG (Page 4-18)
- SW12V
- SW5V
- RF5V
- GND
- AL12V
- AUDIO(-)

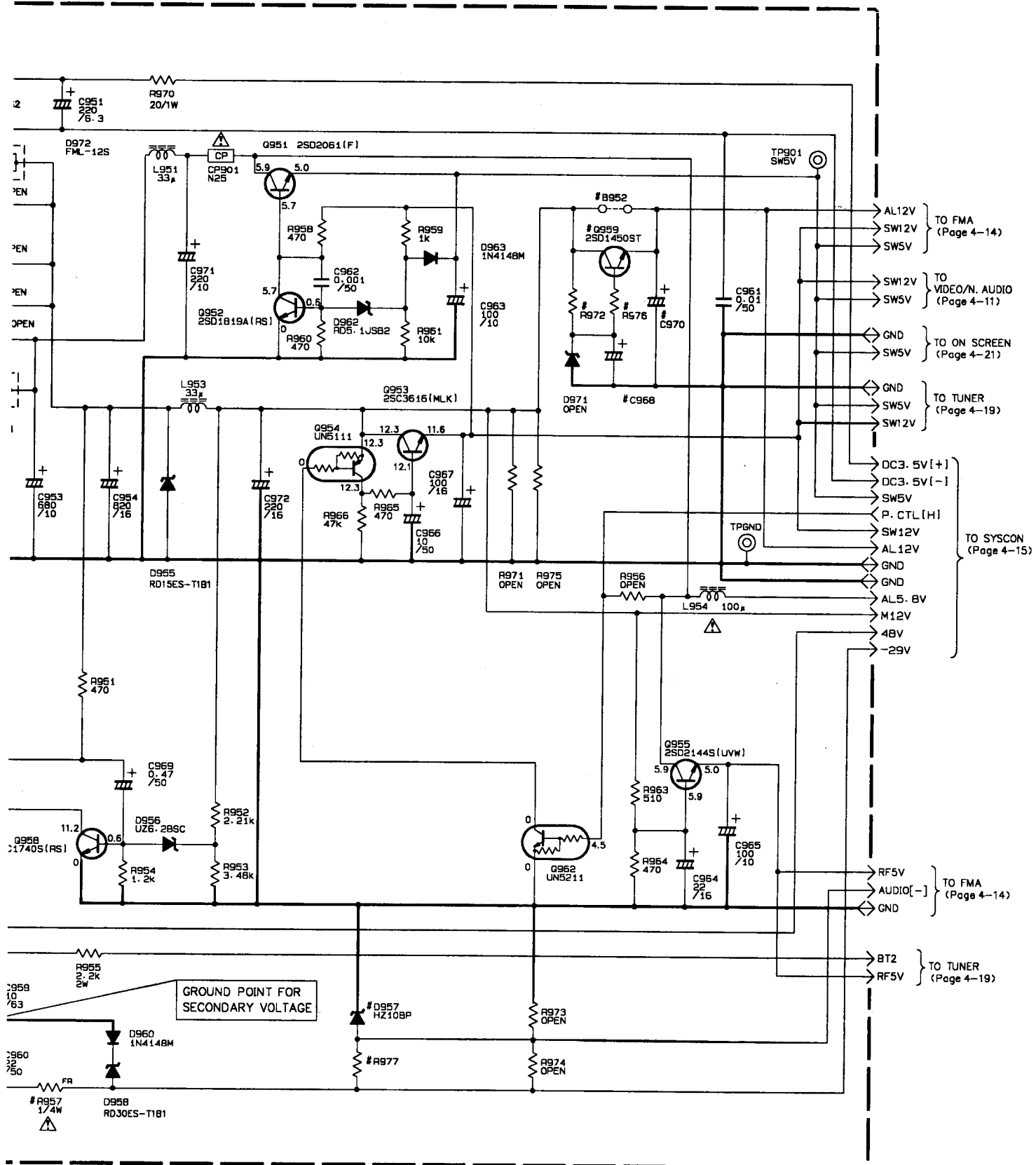
C432,C433	C462,C463	C484,C485	R471,R472	C471,C472	B471
22/0.3	OPEN	OPEN	OPEN	OPEN	OPEN
22/0.3	OPEN	OPEN	OPEN	OPEN	OPEN
OPEN	1/50	33/0.3	10K	47/0.3	SHORT

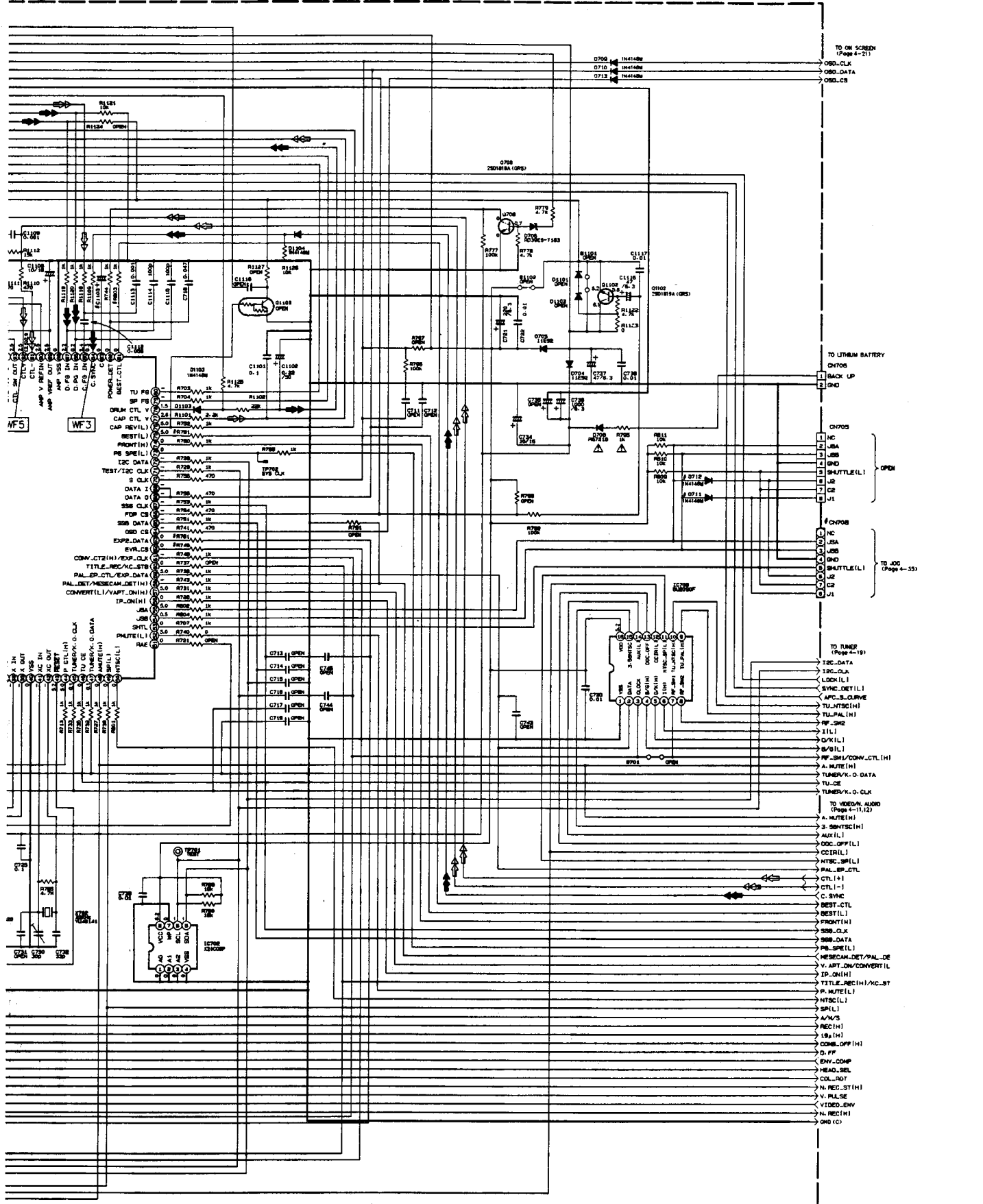
03 MAIN [SW. REG]



NOTE: COMPARISON CHART OF MODELS & MARKS (#).

REF NO MODELS	D957	Q959	B952	R957	R972	R976	R977	C968	C970
VR797/55, VR897/55	NOT USED	NOT USED	SHORT	100	OPEN	OPEN	OPEN	OPEN	OPEN
VR997/55	USED	USED	OPEN	47	220	0	680 2W	47/16	100/16





TO ON SCREEN (Page 4-21)
 0708 2807818A (GRS)
 0700 IN4148M
 0710 284142M
 0713 IN4148M
 OSD_CLK
 OSD_DATA
 OSD_CS

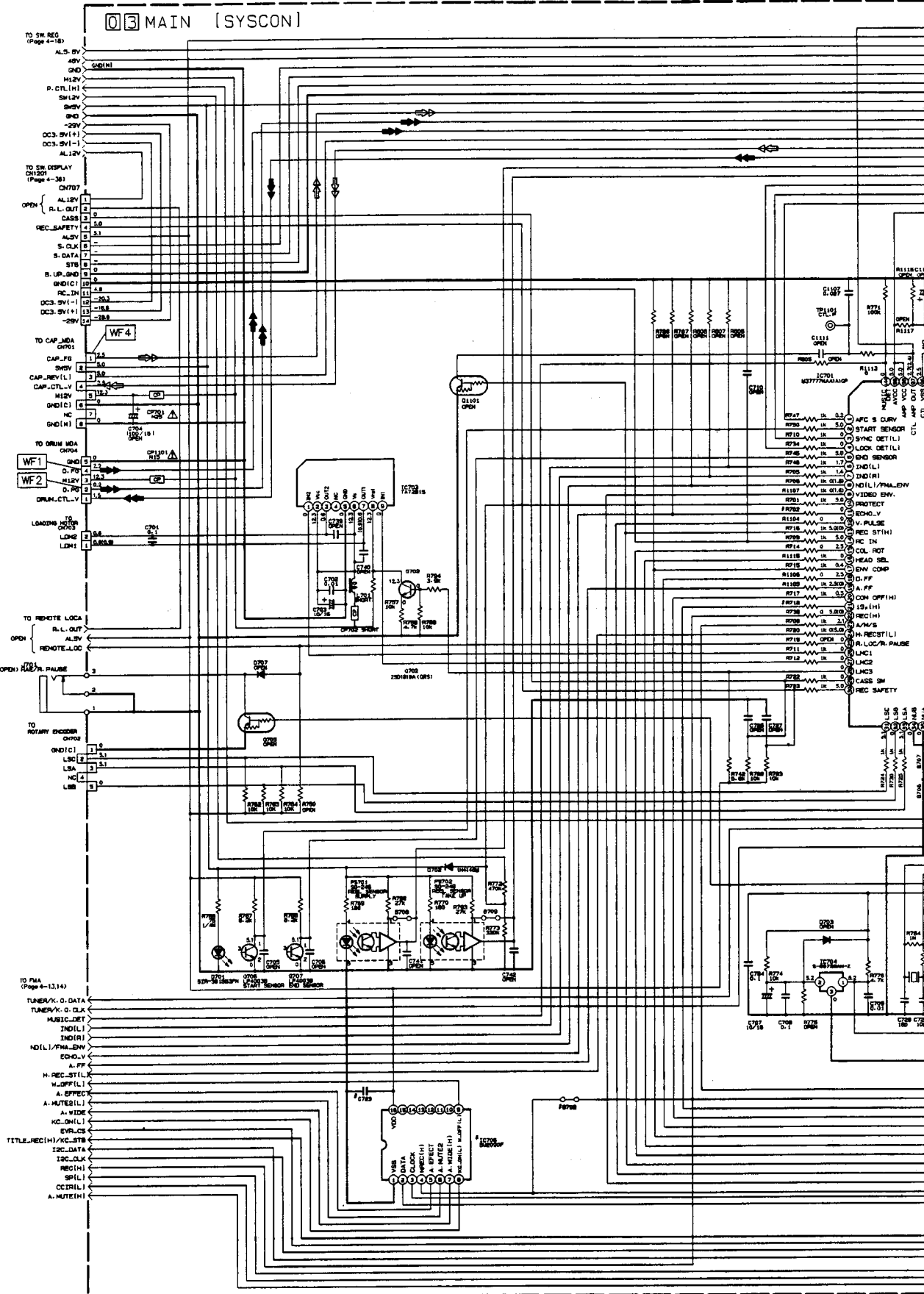
TO LITHIUM BATTERY
 CN705
 BACK UP
 GND

CN705
 1 NC
 2 JSA
 3 JSB
 4 GND
 5 SHUTTLE(L)
 6 J2
 7 J1
 #CN708
 1 NC
 2 JSA
 3 JSB
 4 GND
 5 SHUTTLE(L)
 6 J2
 7 J1
 TO JOC (Page 4-35)

TO TUNER (Page 4-19)
 ITC_DATA
 ITC_CLK
 LOCK(L)
 SYNC_DET(L)
 APC_S_CURVE
 TU_NTSC(IN)
 TU_PAL(IN)
 RF_SDR
 IILI
 D/K(L)
 B/B(L)
 RF_SDR/CONV_CTL(IN)
 A_MUTE(IN)
 TUNER/K.O.DATA
 TU_CE
 TUNER/K.O.CLK

TO VIDEO/AUDIO (Page 4-112)
 A_MUTE(IN)
 S_SMTSC(IN)
 AUX(L)
 DDC_OFF(L)
 CCIR(L)
 NTSC_SP(L)
 PAL_EP_CTL
 CTL(I)
 FRONT(IN)
 C_SYNC
 BEST_CTL
 BEST(L)
 FRONT(IN)
 SSB_CLK
 SSB_DATA
 PB_SPE(L)
 HESECAM_DET/PAL_DE
 V_APT_ON/CONVERTIL
 IP_ON(IN)
 TITLE_REC(IN)/XC_ST
 P_MUTE(L)
 NTSC(L)
 SP(L)
 A/V_S
 REC(IN)
 I5a(IN)
 D_FF
 ENV_COMP
 HEAD_SEL
 COL_ROT
 N_REC_ST(IN)
 V_PAL_DE
 VIDEO_ENV
 N_REC(IN)
 GND(C)

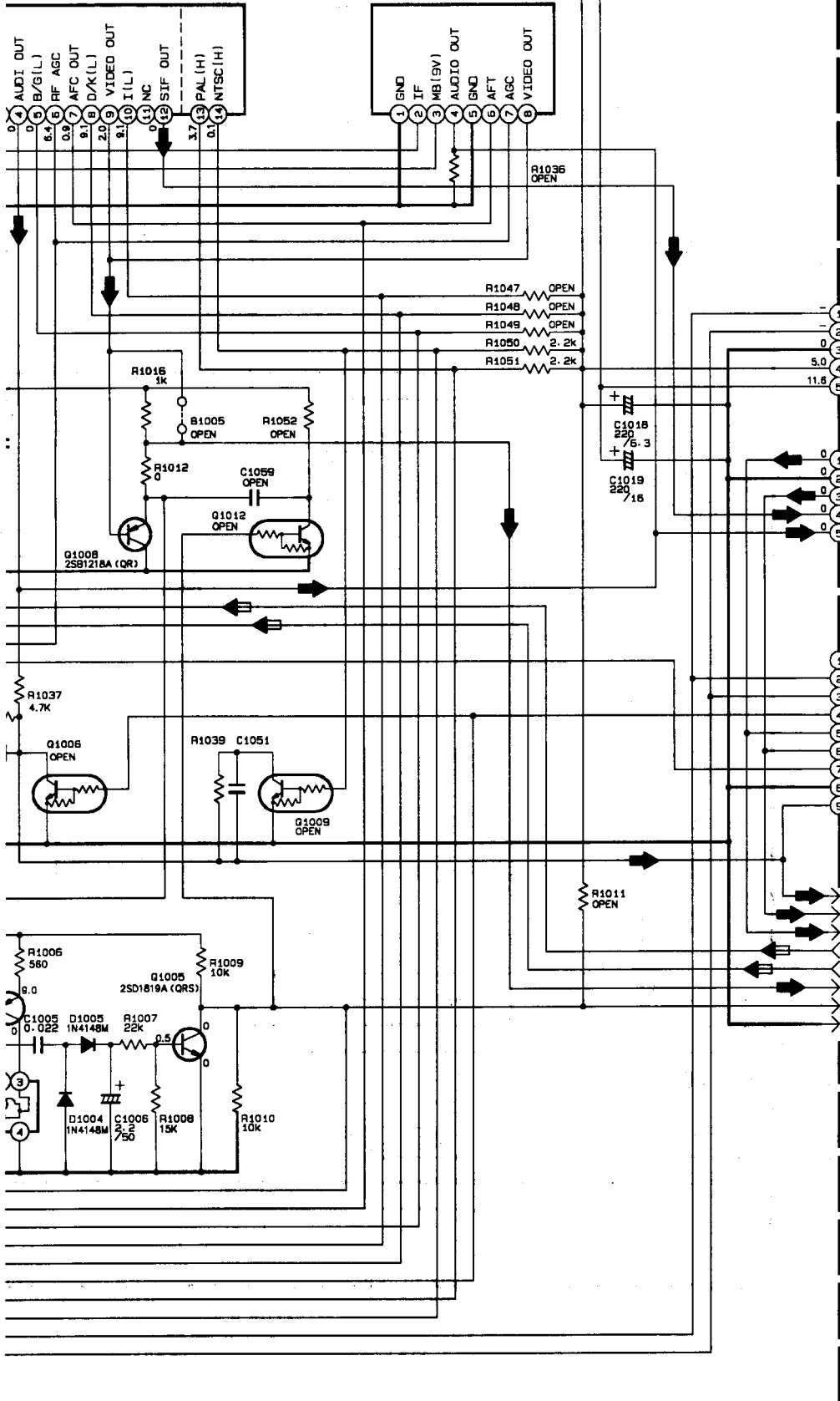
4.7 SYSTEM CONTROL SCHEMATIC DIAGRAM



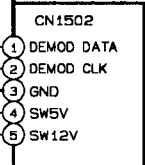
NOTE: 1.COMPARISON CHART OF MODELS & MARKS (#). 2.For SYSCON waveforms, please refer to page4-23.

MODELS	REF NO	IC708	071LD712	8702	R702	R718	R748	R761	C723	0K708
VR797/55		NOT USED	NOT USED	SHORT	OPEN	OPEN	OPEN	OPEN	OPEN	NOT USED
VR897/55		NOT USED	USED	SHORT	OPEN	1K	OPEN	OPEN	OPEN	USED
VR997/55		USED	USED	OPEN	1K	OPEN	1K	1K	0.01	USED

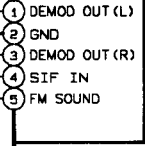
OPEN UN1002 IF UNIT



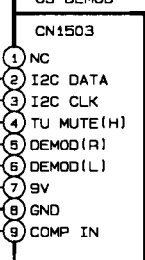
PAL DEMOD



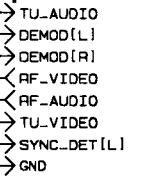
OPEN US DEMOD



OPEN US DEMOD



TO VIDEO/N. AUDIO (Page 4-11)



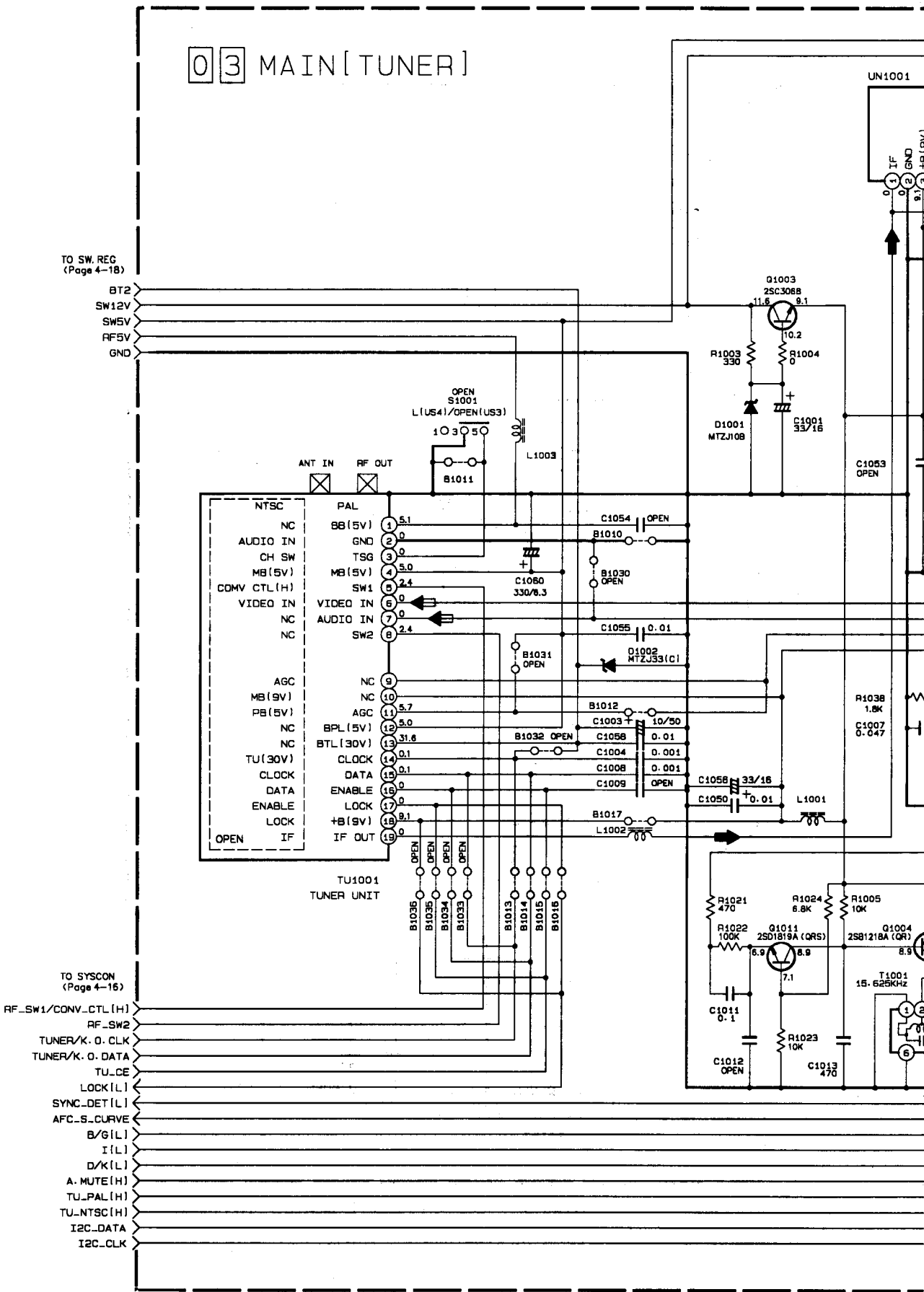
5

4

3

2

1



5

0 3 MAIN [ON SCREEN]

4

TO VIDEO/N. AUDIO
(Page 4-11)

VIDEO [OSD] OUT

VIDEO_OUT

2fsc

C. SYNC

(OPEN) V. PULSE

3

D1301
OPEN

Q1303
OPEN

R1310
OPEN

Q1301
OPEN

B1304
OPEN

R1306
OPEN

C1305
47
/6.3

2

TO SYSCON
(Page 4-16)

OSD_CS

OSD_CLK

OSD_DATA

TITLE_REC(H)/KC_STB

TO SW. REG
(Page 4-18)

SW5V

GND

D1302
OPEN

L1305
33 μ

C1322
OPEN

L1301
10 μ

R1307
10k

R1308
10k

R1309
10k

C1320
0.01

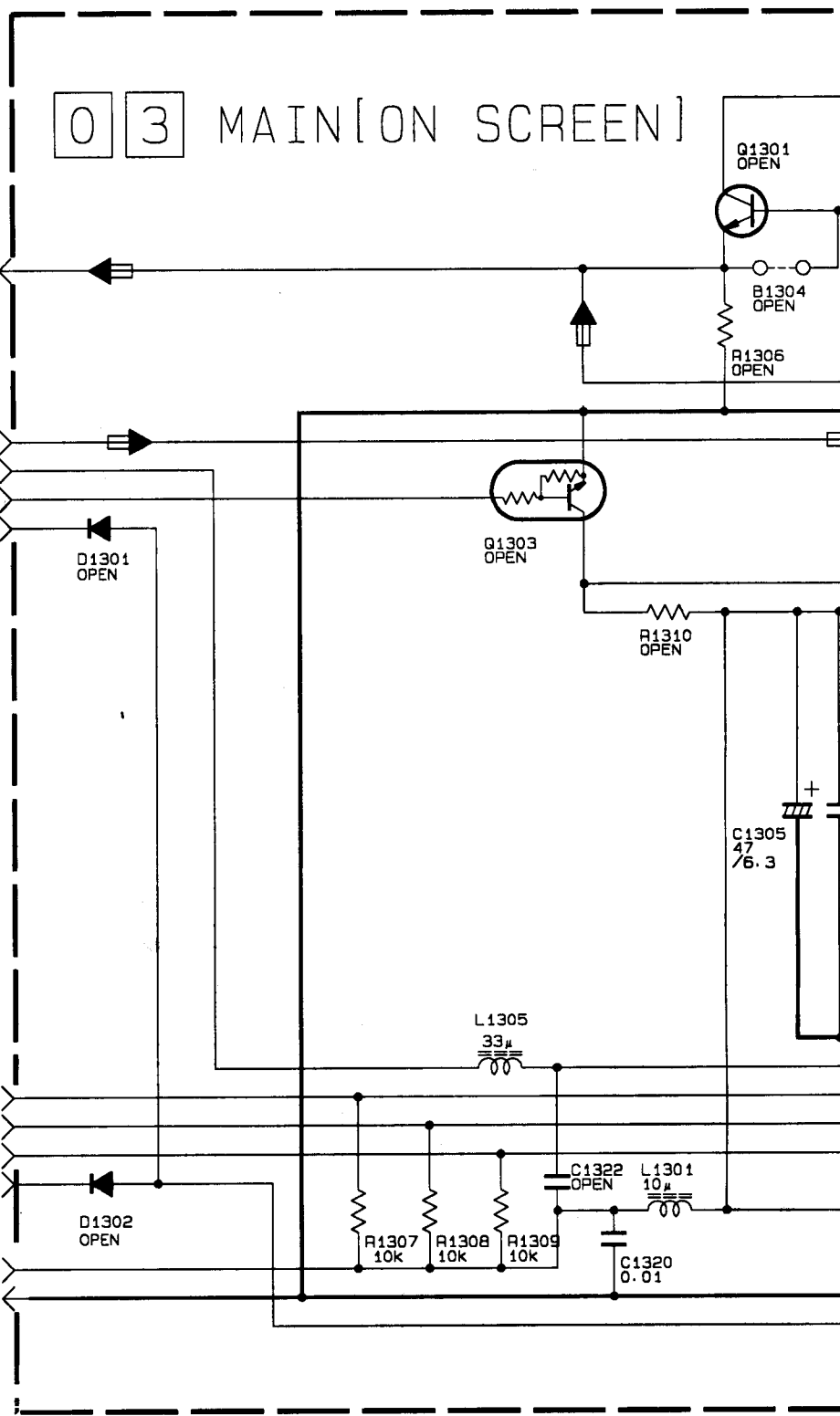
1

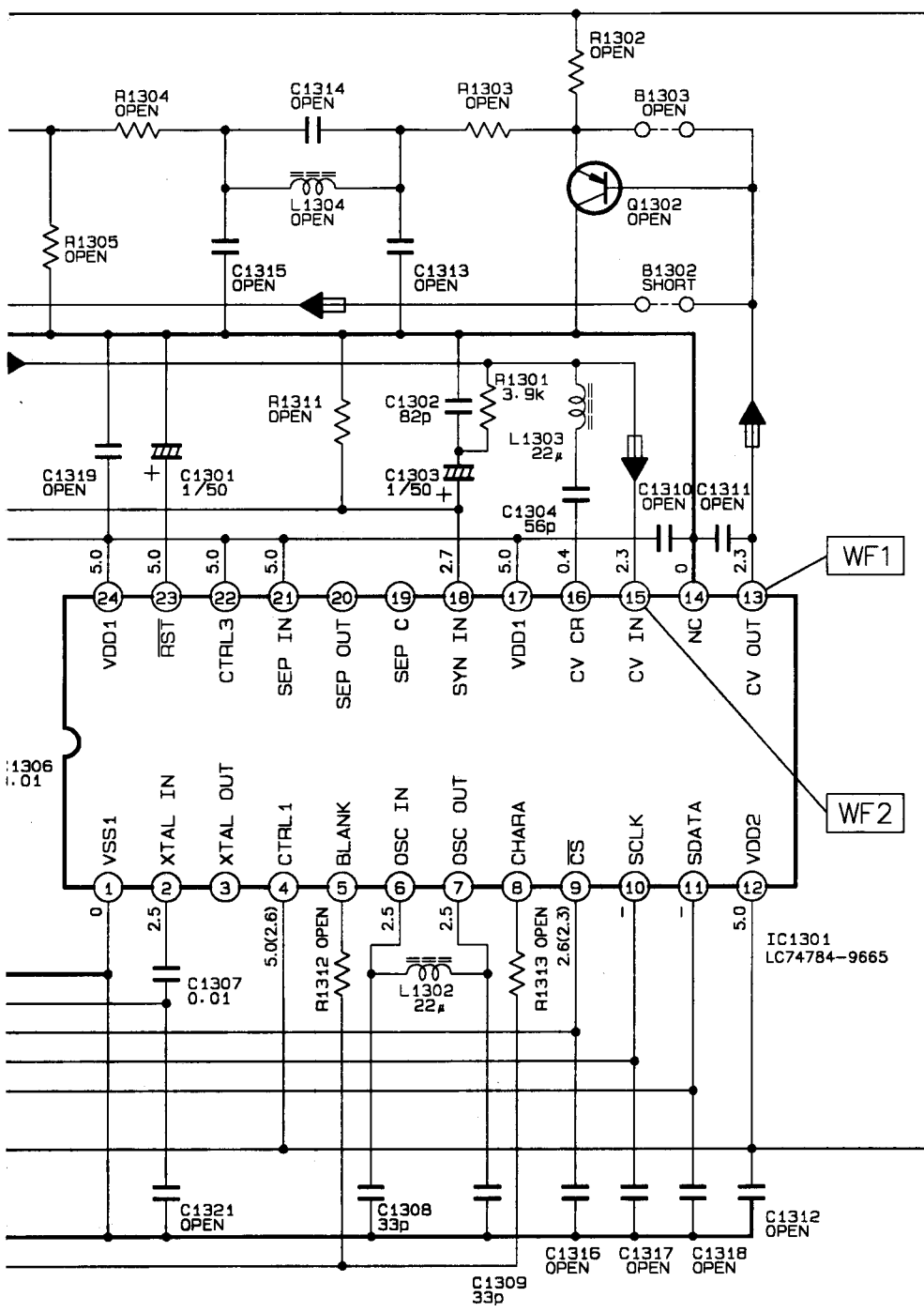
A

B

C

D

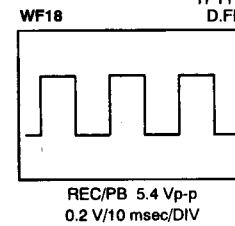
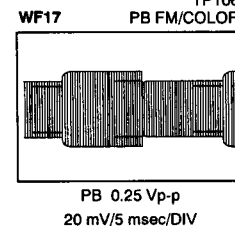
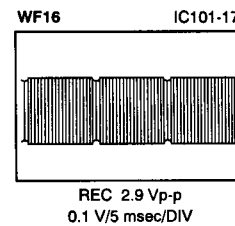
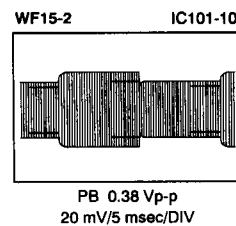
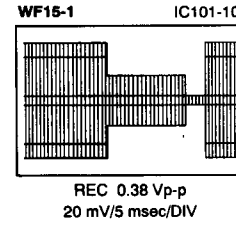
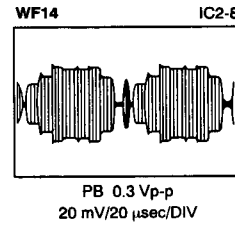
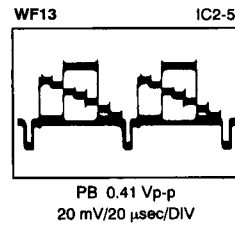
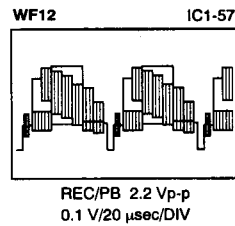
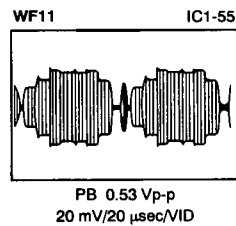
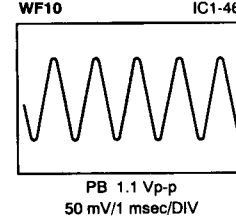
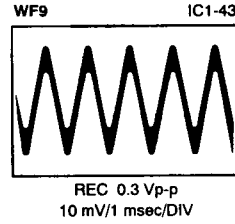
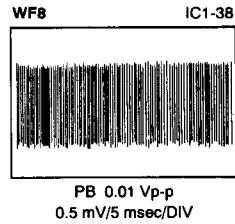
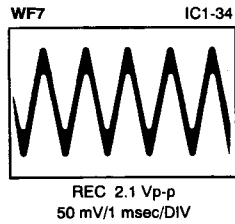
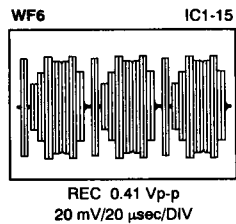
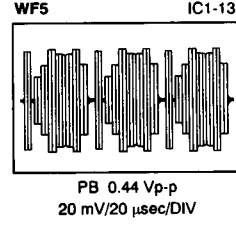
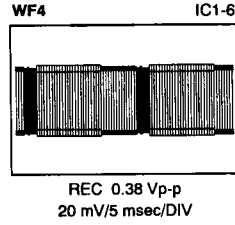
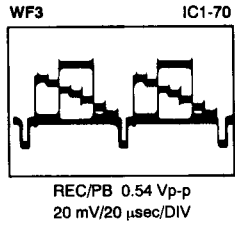
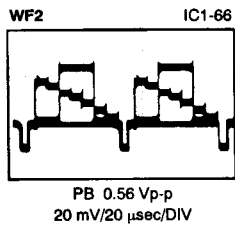
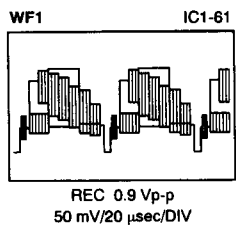




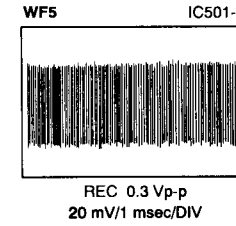
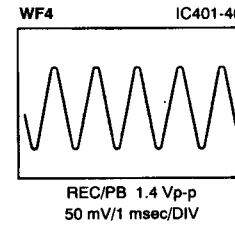
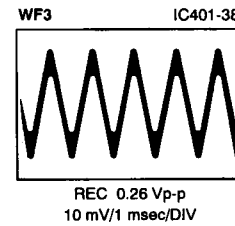
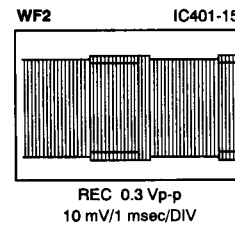
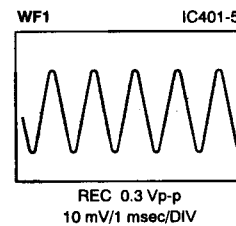
NOTE: For ON SCREEN waveforms, please refer to page4-23.

WAVEFORMS

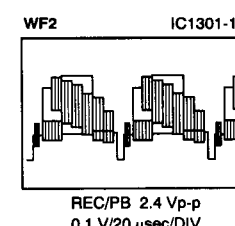
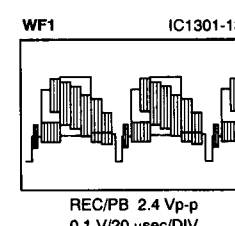
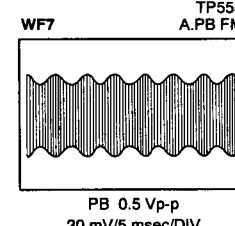
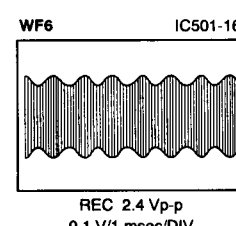
— VIDEO/AUDIO —



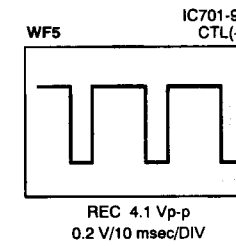
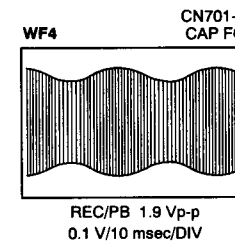
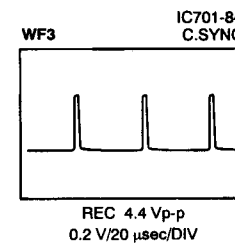
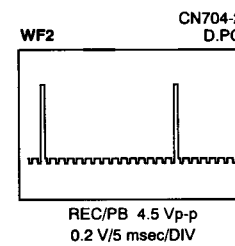
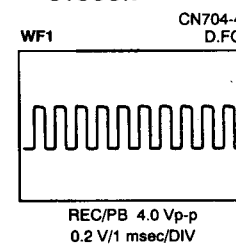
— FMA —



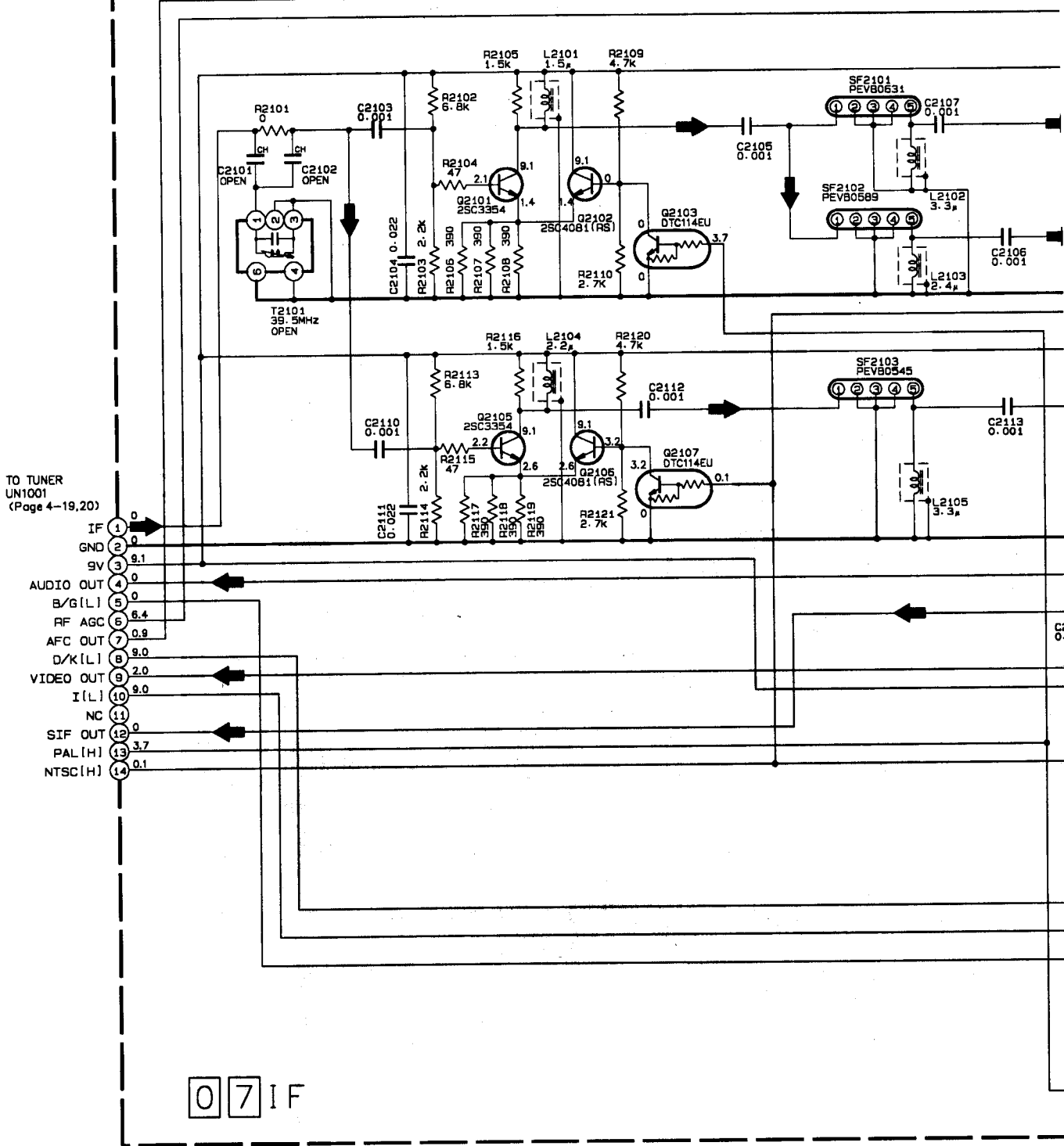
— ON SCREEN —

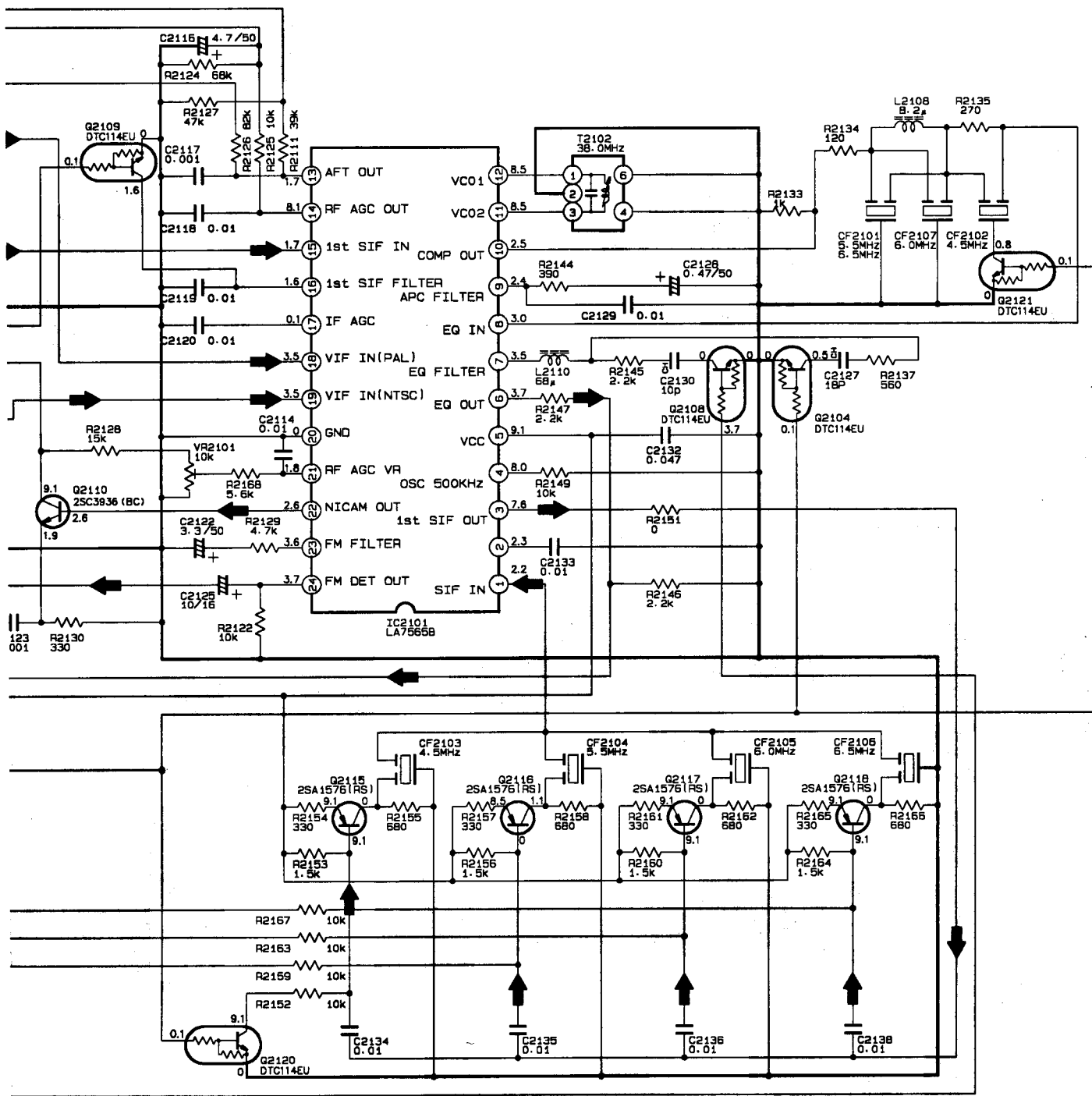


— SYSCON —

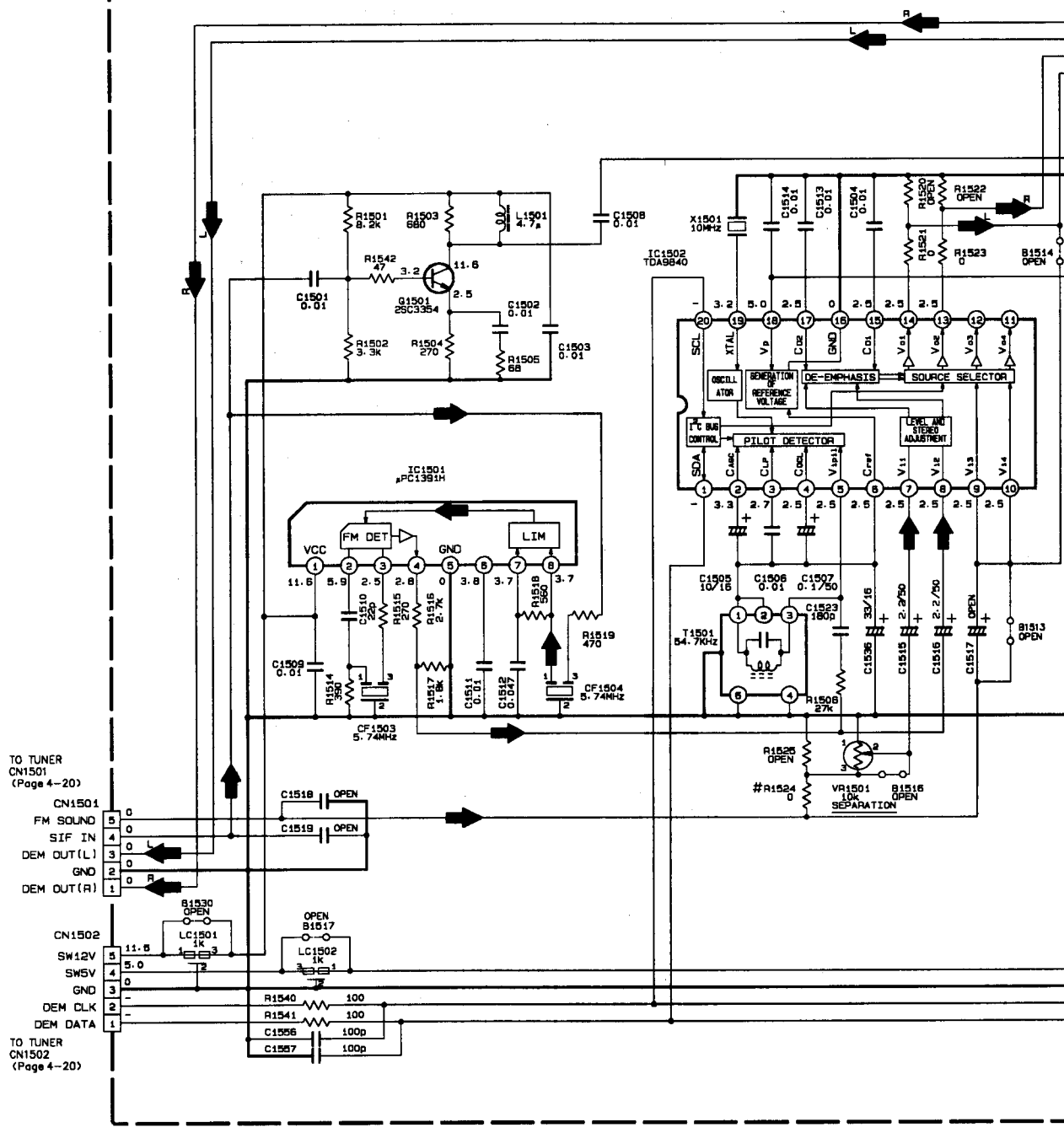


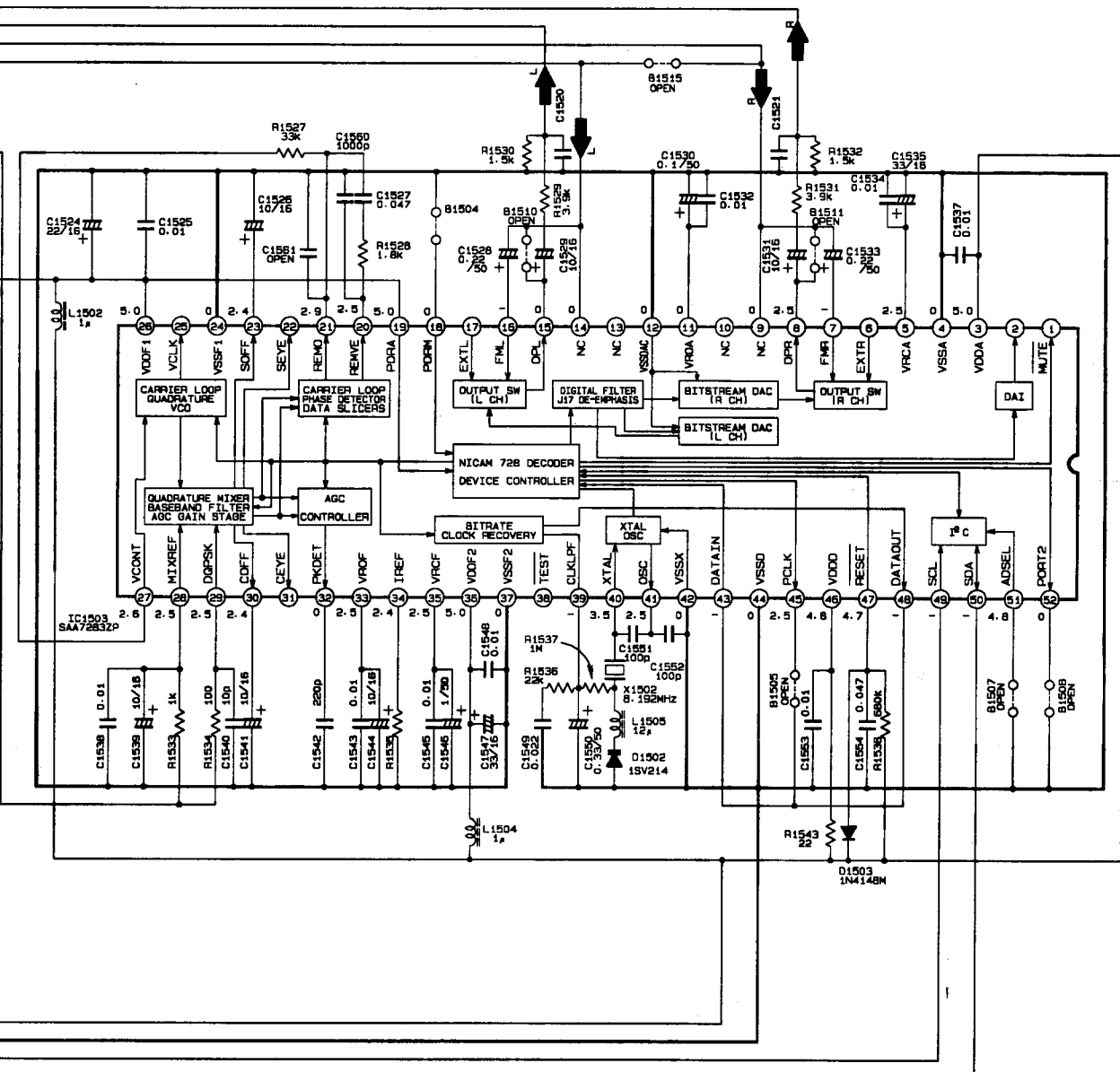
4.12 IF SCHEMATIC DIAGRAM

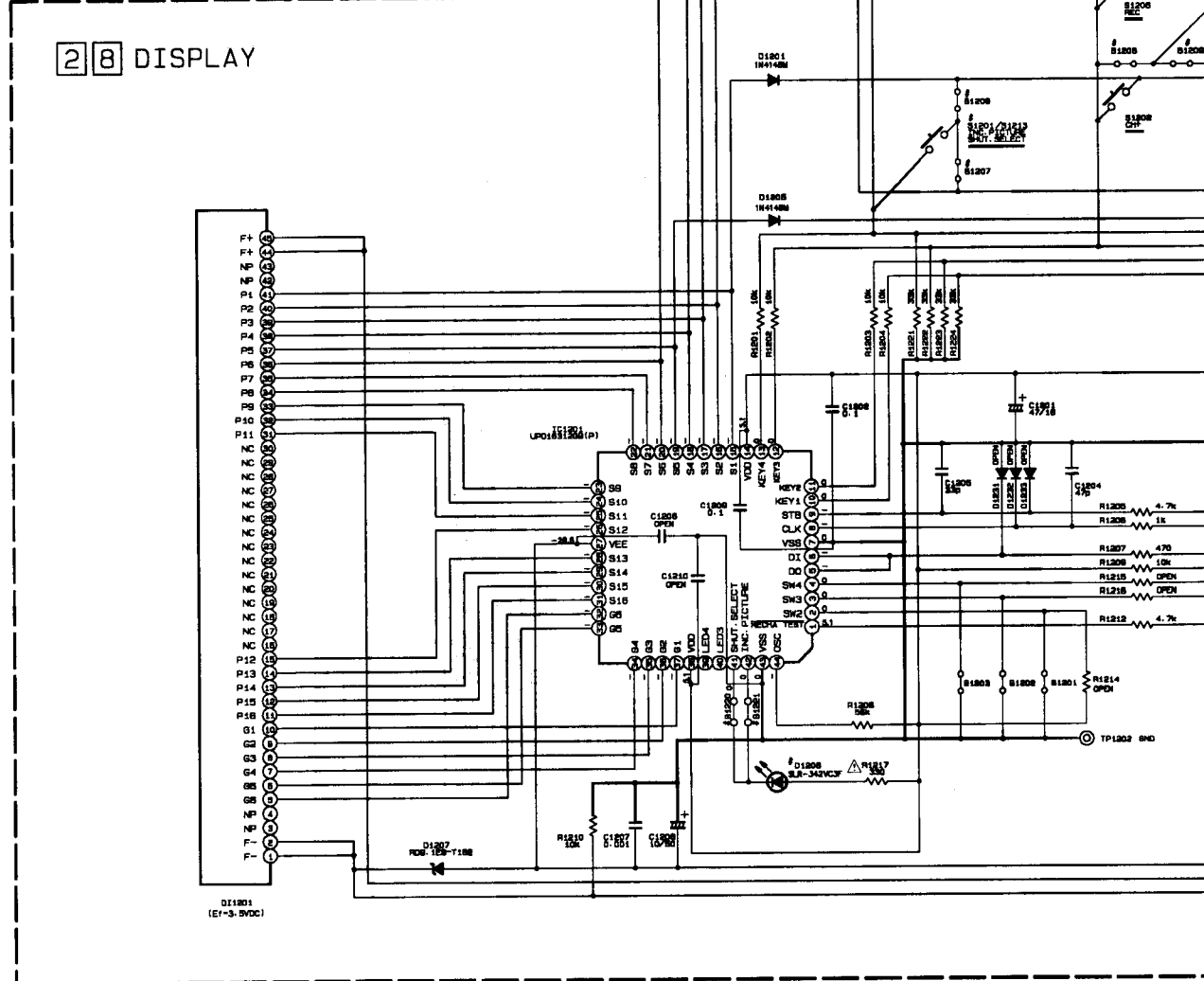
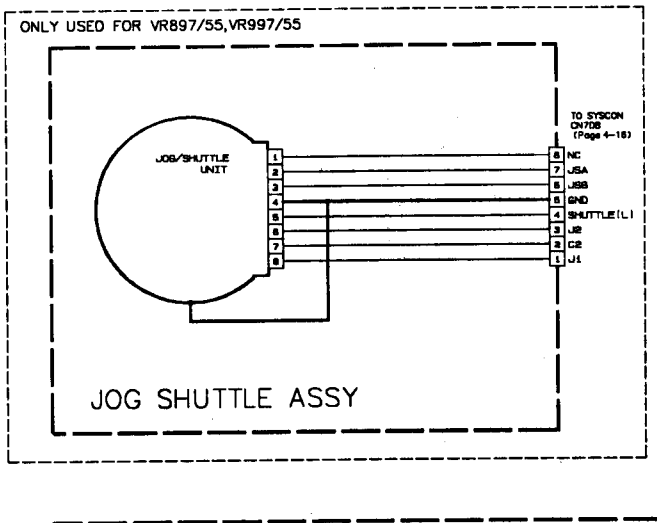




1 4 DEMOD

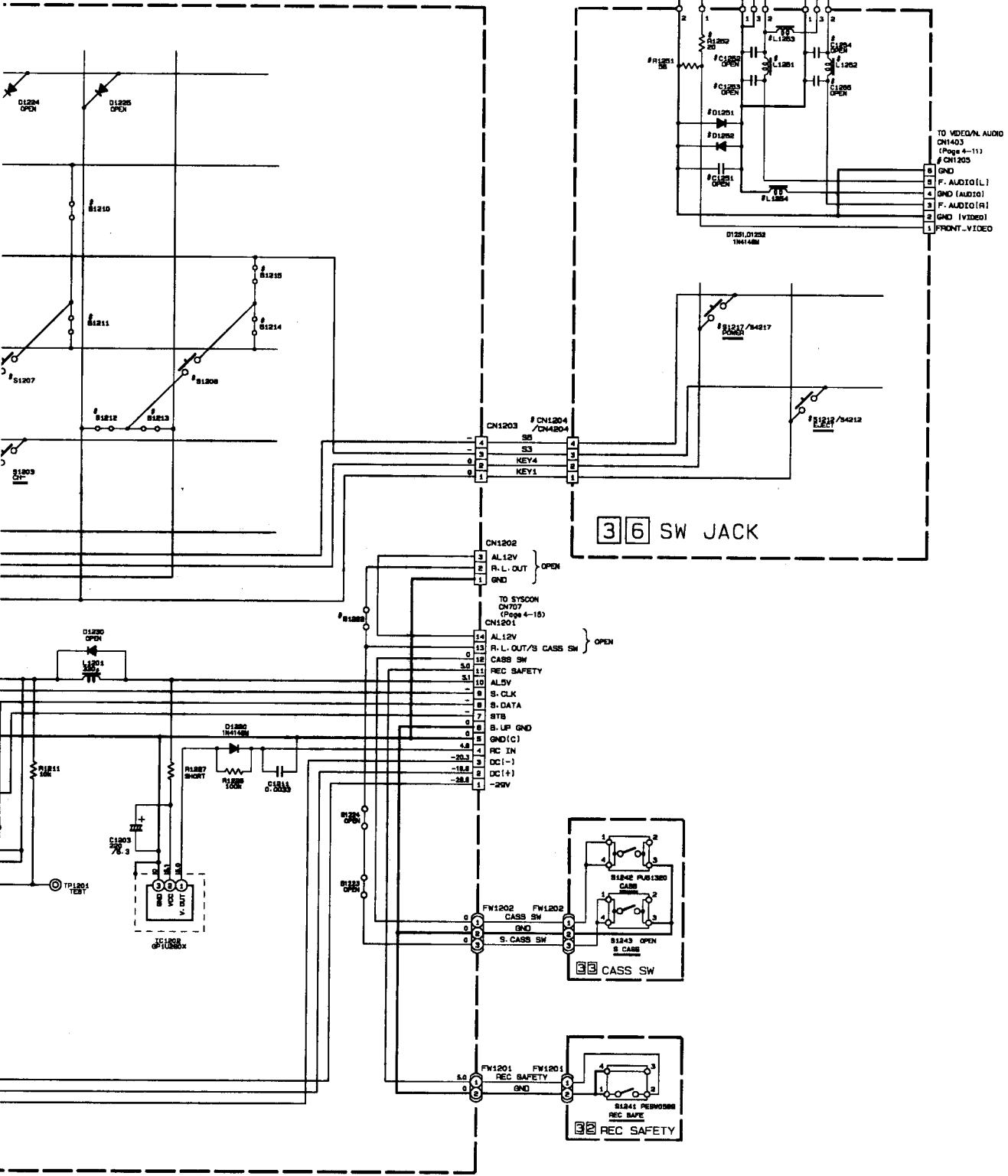






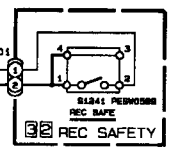
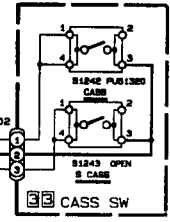
NOTE: COMPARISON CHART OF MODELS & MARKS (#).

MODELS	REF NO	D1222	D1223	S1201	S1213	S1207	S1208	S1210,S1214	S1212,S1217	S4212,S4217	J1201,J1202 J1203	D1251,D1252	R1251	R1252	U1251-U1254	DN1204,DN1205	CN4204	B1206,B1221	B1207,B1220	B1222	B1208 B1211
VR797/55		NOT USED	NOT USED	USED	NOT USED	REW	FF	USED	USED	NOT USED	USED	USED	56	20	SHORT	USED	NOT USED	SHORT	OPEN	OPEN	SH
VR897/55		USED	NOT USED	USED	NOT USED	STOP	PLAY	NOT USED	USED	NOT USED	USED	USED	56	20	SHORT	USED	NOT USED	SHORT	OPEN	SHORT	SH
VR997/55		NOT USED	USED	NOT USED	USED	STOP	PLAY	NOT USED	NOT USED	USED	NOT USED	NOT USED	OPEN	OPEN	OPEN	NOT USED	USED	OPEN	SHORT	OPEN	SH



TO VIDEO/AUDIO
 CN1403
 (Page 4-11)
 # CN1205
 6 GND
 5 F. AUDIO(L)
 4 GND (AUDIO)
 3 F. AUDIO(R)
 2 GND (VIDEO)
 1 FRONT VIDEO

3 6 SW JACK



10, 15	S1208, S1211, S1212, S1214	D1208
SHORT	INC. PICTURE	
OPEN	INC. PICTURE	
OPEN	SHUT. SELECT	

4.18 AUDIO EFFECT SCHEMATIC DIAGRAM

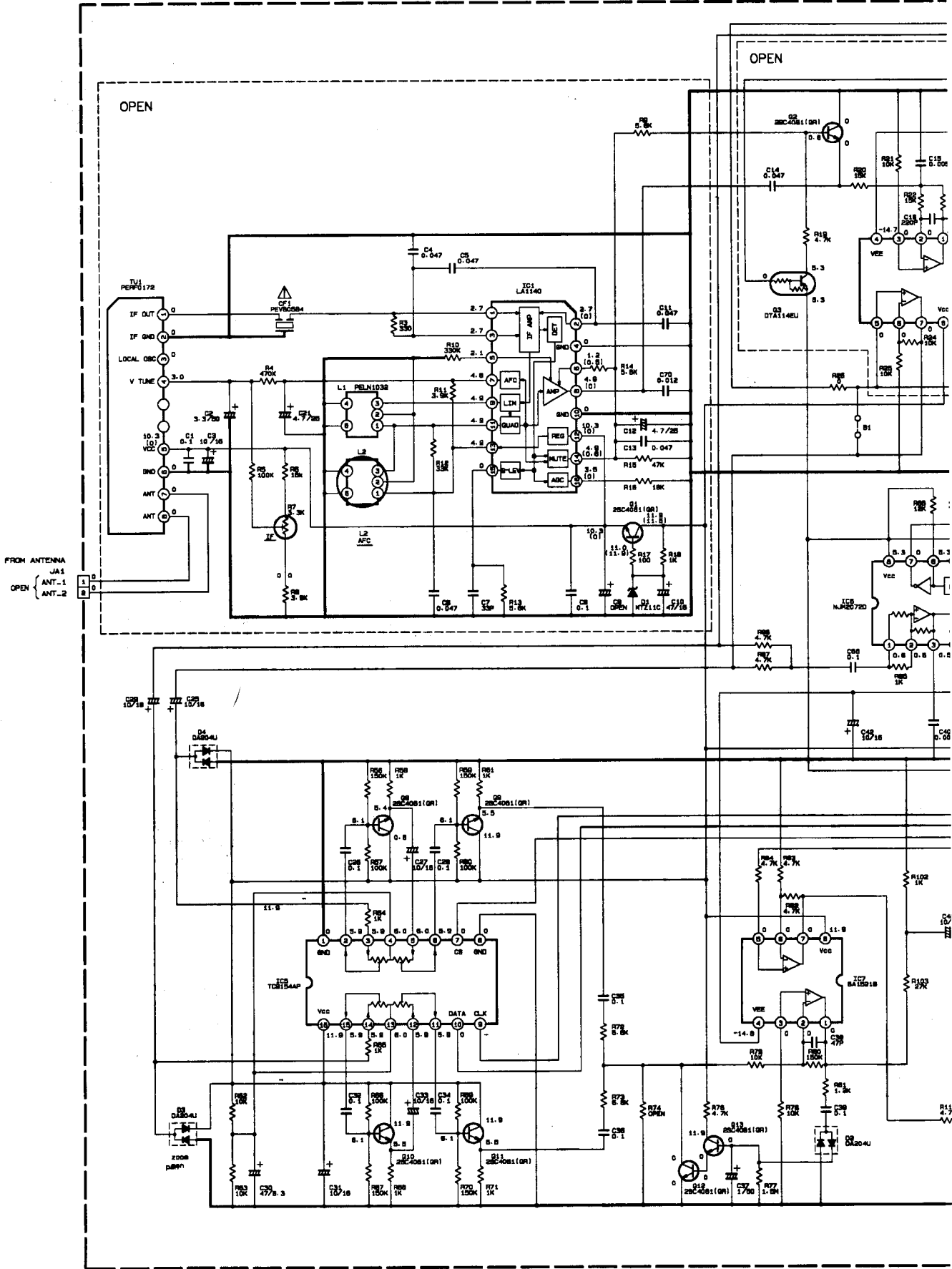
5

4

3

2

1

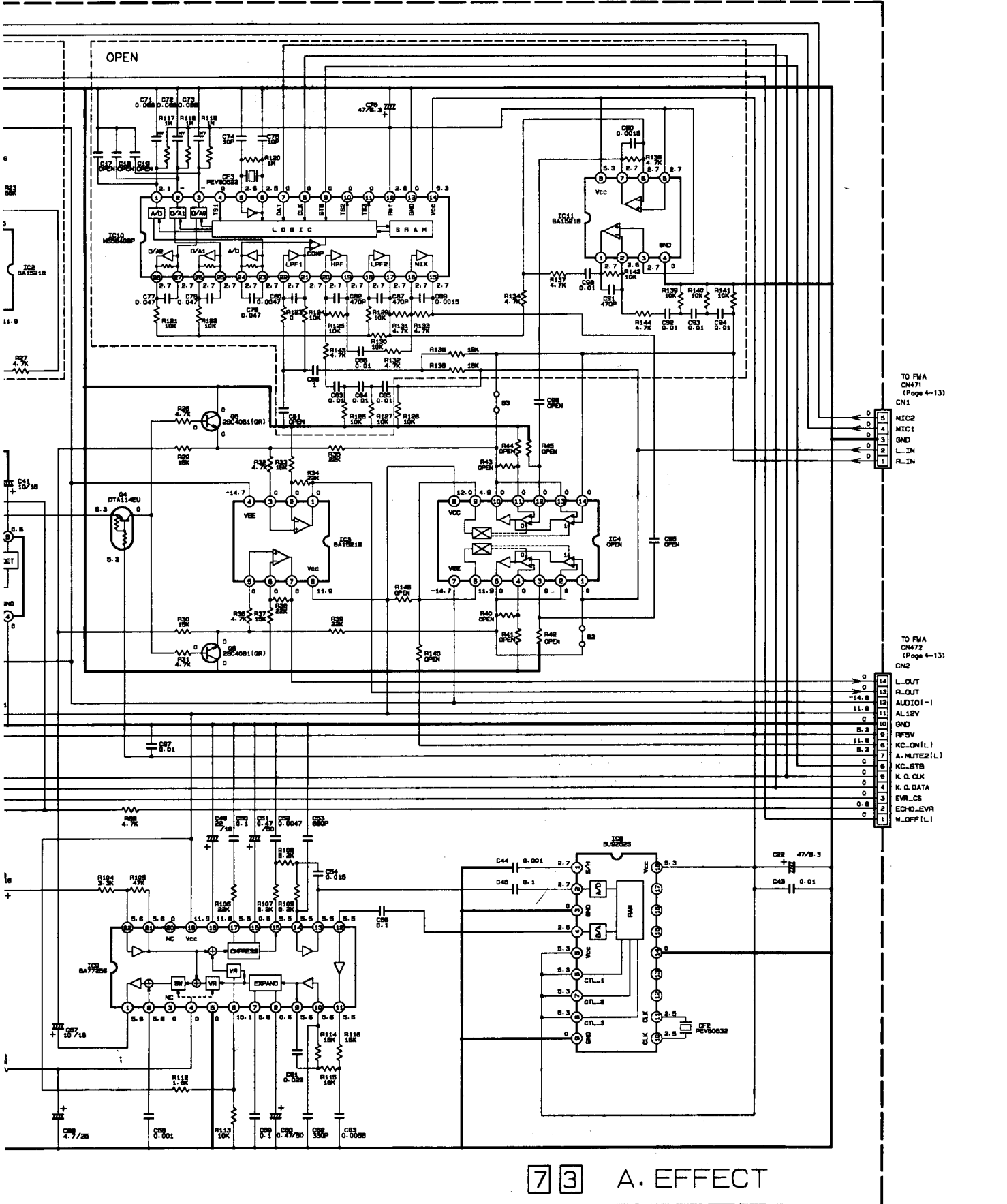


A

B

C

D



TO FMA
CN471
(Page 4-13)
CN1

TO FMA
CN472
(Page 4-13)
CN2

- 14 L-OUT
- 13 R-OUT
- 12 AUDIO(-)
- 11 AL12V
- 10 GND
- 9 RFSV
- 8 NC-DN(L)
- 7 A-NUTER(L)
- 6 K-D CLK
- 5 K-D DATA
- 4 ENV_CS
- 3 ECHO_LVL
- 2 W-OFF(L)
- 1

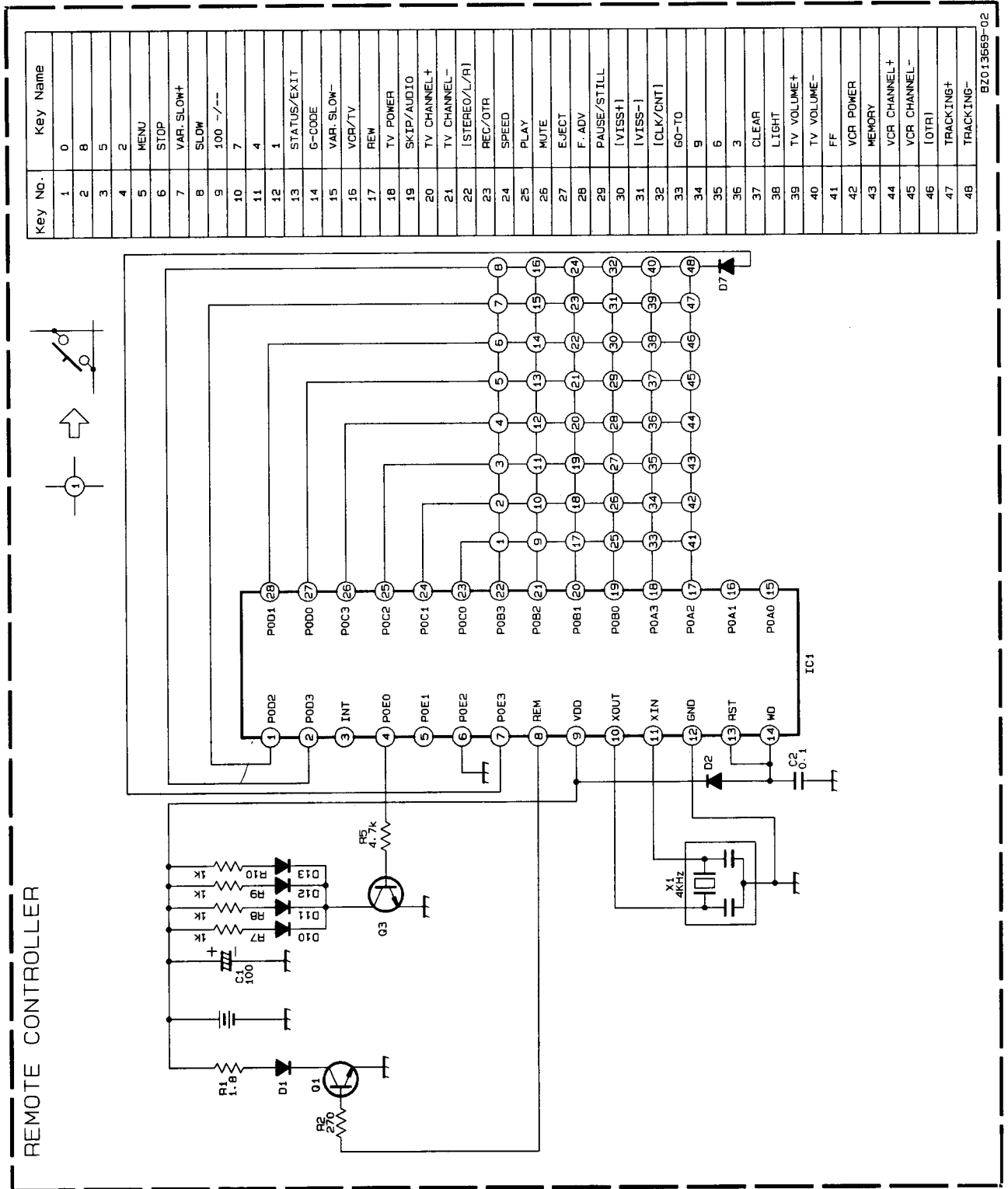
73 A. EFFECT

4.22 REMOTE CONTROL SCHEMATIC DIAGRAM

— FOR VR797/55 —

NOTES:

1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference. Avoid replacing individual parts. Replace the entire unit only.



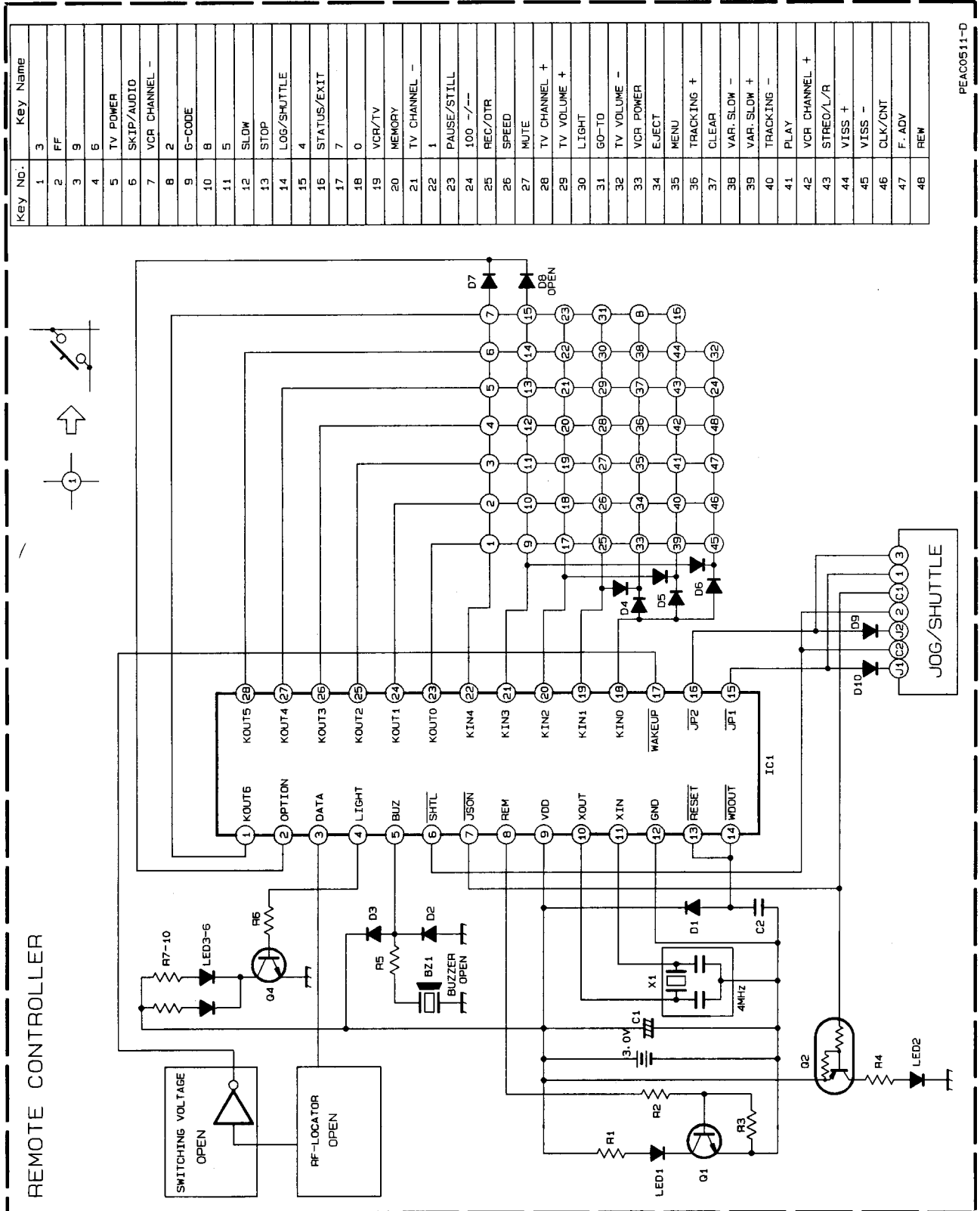
BZ013669-02

REMOTE CONTROLLER

4.23 REMOTE CONTROL SCHEMATIC DIAGRAM

— FOR VR897/55, VR997/55 —

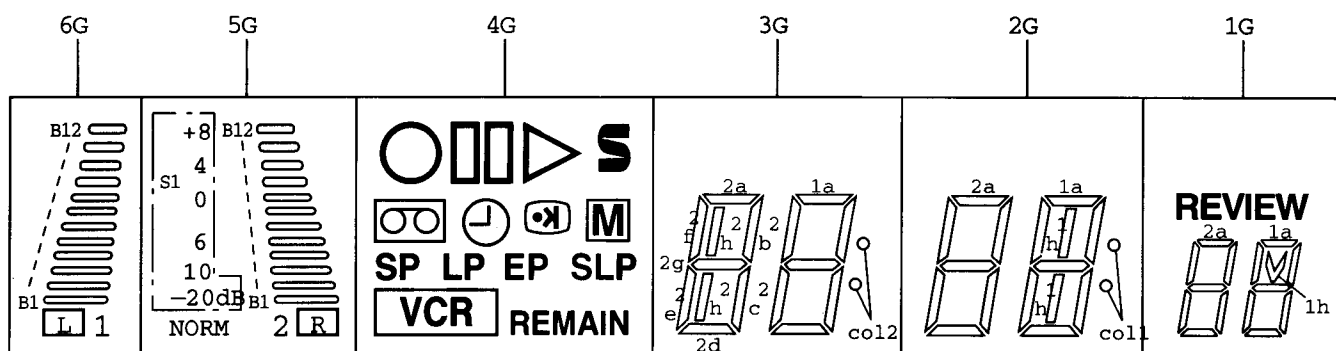
- NOTES:
 1. All parts shown in this schematic are critical for safety.
 2. This schematic is only for reference.
 Avoid replacing individual parts.
 Replace the entire unit only.



PEAC0511-D

4.24 FDP GRID ASSIGNMENT AND ANODE CONNECTION

GRID ASSIGNMENT

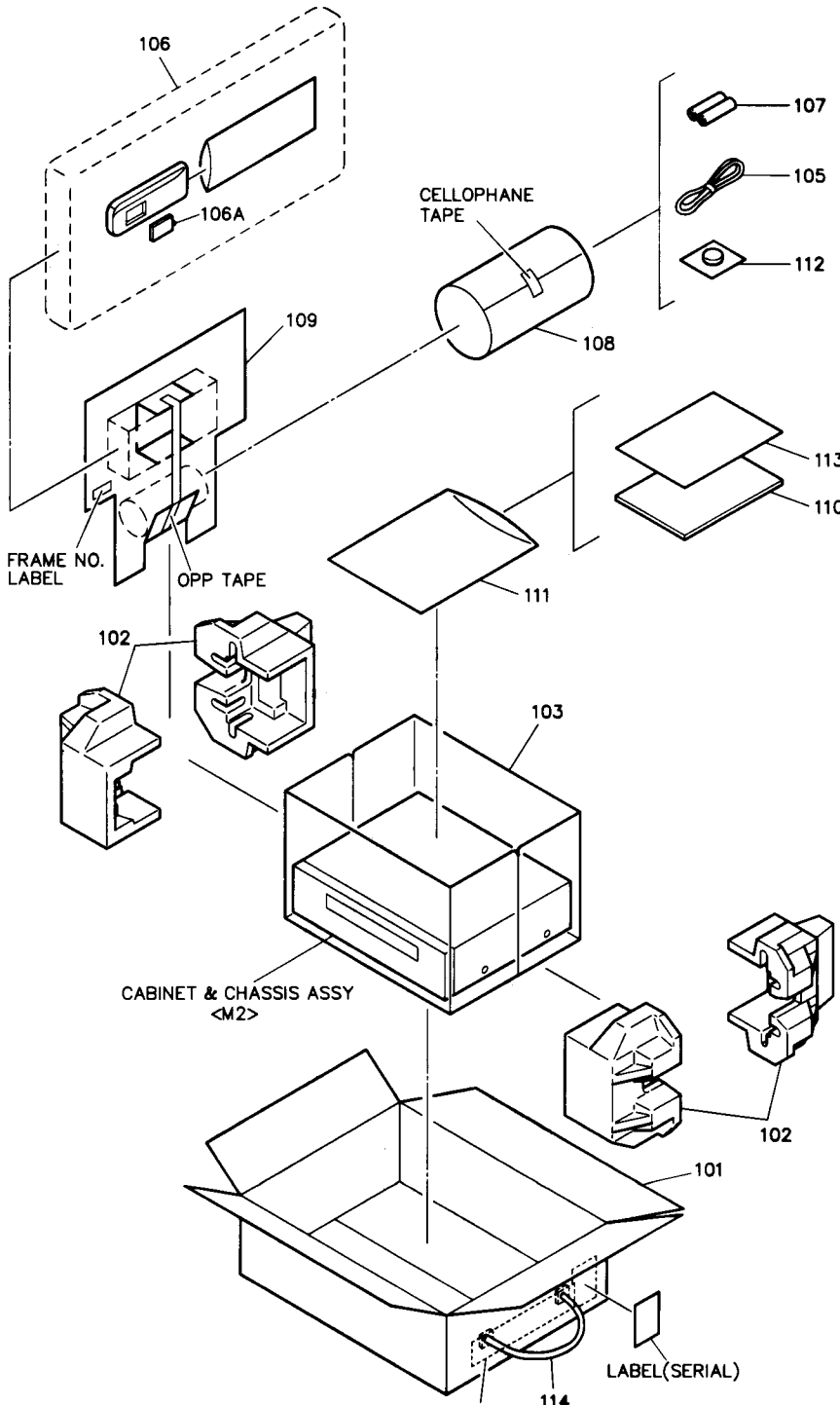


ANODE CONNECTION

	6G	5G	4G	3G	2G	1G
P 1		S1	○	1a	1a	1a
P 2		NORM	▢▢	1b	1b	1b
P 3	1	2	▴	1f	1f	1f
P 4	▢L	▢R	⌚	1g	1g	1g
P 5	B12	B12	⊙	1c	1c	1c
P 6	B11	B11	▢M	1e	1e	1e
P 7	B10	B10	▢▢	1d	1d	1d
P 8	B9	B9	▢VCR	col2	1h	1h
P 9	B8	B8	SP	2a	2a	2a
P10	B7	B7	LP	2b	2b	2b
P11	B6	B6	EP	2f	2f	2f
P12	B5	B5	SLP	2g	2g	2g
P13	B4	B4	REMAIN	2c	2c	2c
P14	B3	B3	S	2e	2e	2e
P15	B2	B2	—	2d	2d	2d
P16	B1	B1	—	2h	col1	REVIEW

SECTION 5 PARTS LIST

5.1 PACKING ASSEMBLY



1. PACKING AND ACCESSORY ASSEMBLY <M1>

106	4822 219 10386	R. CONTROLLER,897/55 997/5
	4822 219 10336	REMOTE CONTROLLER,797/55
106A	4822 442 00417	COVER(BATTERY),897/55 997/55
110	4822 736 15738	INSTRUCTIONS,997/55
	4822 736 15739	INSTRUCTIONS,797/55
	4822 736 15741	INSTRUCTIONS,897/55

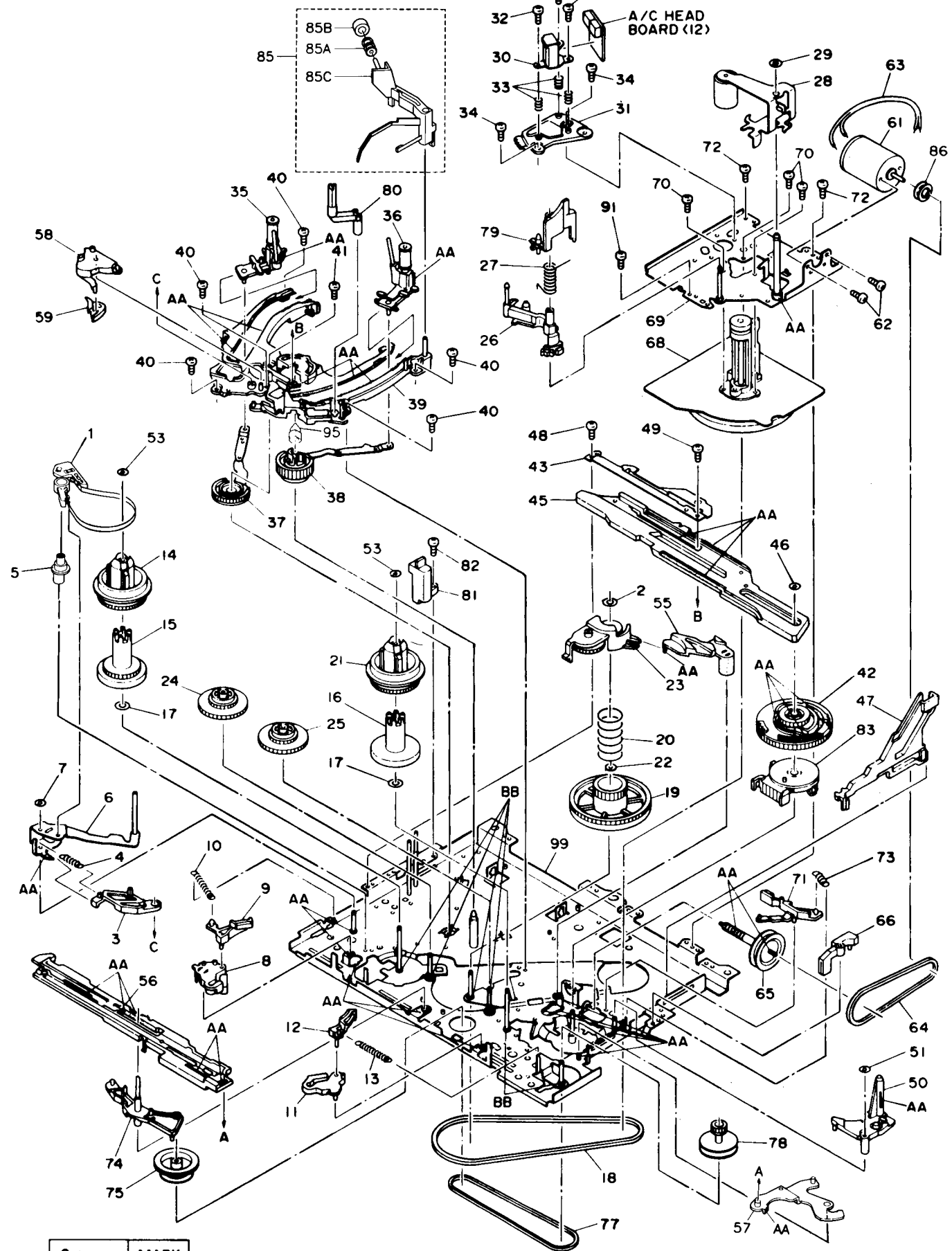
2. CABINET AND CHASSIS ASSEMBLY <M2>

150	4822 459 04793	FRONT PANEL ASSY,897/55
	4822 459 04794	FRONT PANEL ASSY,797/55
	4822 459 04795	FRONT PANEL ASSY,997/55
150A	4822 443 10788	CASSETTE DOOR,797/55 997/55
	4822 443 10841	CASSETTE DOOR,897/55
150B	4822 492 42781	TORSIONSPRING
151	! 4822 442 00534	TOP COVER,797/55 997/55
	! 4822 442 01151	TOP COVER,897/55
154	4822 410 11482	KNOB(JOG),997/55
	4822 410 11471	KNOB(JOG),897/55
155	4822 410 11483	KNOB(SHUTTLE),997/55)
	4822 410 11472	KNOB(SHUTTLE),897/55
156	4822 410 11473	JOG SHUTTLE ASSY,897, 997/55
157	4822 502 30466	SCREW,JOG/SHUTTLE 897, 997
159A	4822 691 10631	DRUM SUB ASSY,797/55 997/55
	4822 691 10652	DRUM SUB ASSY,897/55
159B	4822 691 10632	UPPER DRUM ASSY,797, 997/55
	4822 691 10653	UPPER DRUM ASSY,897/55
159C	4822 479 20199	BRUSH ASSEMBLY,797/55 997/55
	4822 479 20138	BRUSH ASSEMBLY,897/55
159D	4822 532 12803	COLLAR ASSEMBLY,797, 997/55
	4822 532 12281	COLLAR ASSEMBLY,897/55
159E	4822 362 10288	ROTOR ASSY
159F	4822 502 12111	SCREW,X2 897/55
	4822 502 14458	SCREW,X2 797/55 997/55
159G	4822 462 10924	CAP,797/55 997/55
159H	4822 362 10291	STATOR ASSY,797/55 997/55
	4822 362 10292	STATOR ASSY,897/55
159J	4822 502 13277	SCREW,X2
159K	4822 532 12258	WASHER,897/55
	4822 532 12804	WASHER,797/55 997/55
160	! 4822 464 10199	BOTTOM CHASSIS
161	! 4822 443 64635	BOTTOM COVER
163	4822 502 13818	SCREW,X3 DRUM
165	4822 442 00407	SHIELD COVER,PRE/REC
166	4822 502 21251	SCREW,X2 PRE/REC
172	4822 466 40627	FOOT,X2
174	4822 462 10975	CAP,TERMINAL ASSY
176	4822 441 11997	CASSETTE HOUSING ASSY
176A	4822 535 10316	CASSETTE SWITCHPIN
177	! 4822 535 71392	SPACER(SAFETY)
183	4822 535 71384	SPACER,X2 MECHANISM
184	4822 265 11132	TERMINAL ASSY,797, 897/55
	4822 265 11133	TERMINAL ASSEMBLY,997/55
184A	4822 256 10412	BATTERY HOLDER
184B	4822 323 10416	WIRE,997/55
	4822 323 10417	WIRE,797/55 897/55
185	4822 535 71388	SPACER
186	4822 462 10999	FOOT,X3

WIRE

WR1	4822 320 12175	FFC WIRE,DISPLAY
WR2	4822 323 10413	WIRE,SW/JACK 797/55 897/55
WR3	4822 320 12039	FFC WIRE,DRUM
WR4	4822 323 10414	WIRE,FE HEAD
WR5	4822 323 10415	WIRE,JOG 897/55 997/55

5.3 MECHANISM ASSEMBLY



Category	MARK
Grease	AA
Oil	BB

NOTE: The section marked in AA and BB indicate lubrication and greasing areas.

3. MECHANISM ASSEMBLY <M4>

1	4822 466 11535	TENSION BAND ASSEMBLY	39	4822 463 11065	GUIDE RAIL
2	4822 532 11553	SLIT WASHER	42	4822 528 11127	CONTROL CAM
3	4822 402 10367	TENSION ARM LEVER	43	4822 404 31498	CONTROL BRACKET
4	4822 492 11184	TENSION SPRING	45	4822 466 11536	CONTROL PLATE
5	4822 535 10471	ADJUST PIN	46	4822 532 12105	SLIT WASHER
6	4822 403 71294	TENSION ARM ASSEMBLY	47	4822 466 11143	PINCH PLATE
7	4822 532 12326	SLIT WASHER	50	4822 402 10378	LEVER ASSEMBLY
8	4822 403 10318	MAIN BRAKE ASSY (SUPPLY)	51	4822 532 12105	SLIT WASHER
9	4822 403 71295	SUB BRAKE ASSY (SUPPLY)	53	4822 532 12326	SLIT WASHER, X2
10	4822 492 33502	TENSION SPRING	55	4822 402 10381	IDLER LEVER
11	4822 402 10567	MAIN BRAKE ASSY (TAKE UP)	56	4822 466 11332	SLIDE PLATE
12	4822 403 71313	SUB BRAKE ASSY (TAKE UP)	57	4822 402 10735	CHANGE LEVER ASSEMBLY
13	4822 492 33501	TENSION SPRING	58	4822 402 10382	TAKE UP LEVER
14	4822 528 11122	REEL DISK ASSEMBLY (SUPPLY)	59	4822 402 10383	TAKE UP HEAD
15	4822 528 11122	SLIT DISK (SUPPLY)	61	! 4822 361 21766	LOADING MOTOR
16	4822 528 11125	SLIT DISK (TAKE UP)	63	4822 321 63037	WIRE
17	4822 532 12805	SPACER, X2	64	4822 358 10204	BELT
18	4822 358 10182	BELT (CAPSTAN)	65	4822 522 10482	WORM GEAR ASSEMBLY
19	4822 528 11016	PULLEY	66	4822 520 10826	WORM BEARING
20	4822 492 52429	COMPRESSION SPRING	68	! 4822 361 10918	CAPSTAN MOTOR
21	4822 528 11125	REEL ASSEMBLY (TAKE UP)	69	4822 464 10311	SUB DECK ASSEMBLY
22	4822 535 71381	SPACER	71	4822 466 11146	CAPSTAN BRAKE ASSEMBLY
23	4822 402 10734	IDLER ARM ASSEMBLY	73	4822 492 33496	TENSION SPR, CAPSTAN BRAKE
24	4822 528 11126	CLUTCH UNIT (SUPPLY)	74	4822 402 10384	CHANGE ARM ASSEMBLY
25	4822 528 30428	CLUTCH UNIT (TAKE UP)	75	4822 522 10479	CHANGE GEAR
26	4822 463 11104	GUIDE ARM ASSEMBLY	77	4822 358 10184	BELT
27	4822 492 11185	TORSION SPRING	78	4822 522 10648	CASSETTE GEAR
28	4822 528 11051	PINCH ROLLER ARM ASSEMBLY	79	4822 463 11066	LID GUIDE
29	4822 532 11784	SLIT WASHER, P LEVER	80	4822 381 11878	LED PRISM
30	4822 249 10444	AUDIO CONTROL HEAD	81	4822 249 40307	FULL ERASE HEAD
31	4822 464 10168	HEAD BASE	83	4822 691 21046	ROTARY ENCODER
33	4822 492 52267	COMPRESSION SPRING, X3	85	4822 403 71306	CLEANER ASSEMBLY
35	4822 402 10374	POLE BASE ASSEMBLY (SUPPLY)	86	4822 528 81557	MOTOR PULLEY
36	4822 403 71344	POLE BASE ASSY (TAKE UP)	91	4822 502 13276	SCREW
37	4822 402 10376	LOADING ARM ASSY (SUPPLY)	95	4822 462 10925	GUIDE CAP
38	4822 402 10625	LOADING ARM ASSY (TAKE UP)			

4. MAIN BOARD ASSEMBLY <03>

PCB

PW1	4822 214 12561	MAIN BOARD ASSY,897/55
	4822 214 12562	MAIN BOARD ASSY,997/55
	4822 214 12563	MAIN BOARD ASSY,797/55
	(AVAILABLE DURING PRODUCTION ONLY)	

INTEGRATED CIRCUITS

IC1	4822 209 13619	HA118203AF
IC2	4822 209 13621	MSM7470-70MS-XE

INTEGRATED CIRCUITS

IC101	4822 209 15607	LA7416
IC401	4822 209 15608	AN3664NFB
	4822 209 15608	IC,797/55 897/55
IC402	4822 209 82513	BA6138
IC501	4822 209 13631	LA7257
IC701	4822 209 15943	M37777MAA1A1GP
IC702	4822 209 15764	X24C08P
IC703	4822 209 30619	TA7291S
IC704	4822 209 30184	S-80727AN-Z
IC705	4822 209 15944	BU2090F
IC706	4822 209 15944	BU2090F
IC1301	4822 209 15755	LC74784-9665

TRANSISTORS

Q1	4822 130 63593	2SD1819A(QRS)
Q2	4822 130 61075	2SB1218A(QR)
Q3	4822 130 61075	2SB1218A(QR)
Q7	4822 130 63593	2SD1819A(QRS)
Q8	4822 130 63593	2SD1819A(QRS)
Q15	4822 130 61075	2SB1218A(QR)
Q19	4822 130 63593	2SD1819A(QRS)
Q24	4822 130 61286	UN521E
Q26	4822 130 10897	UN511E
Q27	4822 130 10897	UN511E
Q28	4822 130 61286	UN521E
Q102	4822 130 61286	UN521E
Q107	4822 130 63593	2SD1819A(QRS)
Q201	4822 130 61075	2SB1218A(QR)
Q202	4822 130 61075	2SB1218A(QR)
Q203	4822 130 61075	2SB1218A(QR)
Q204	4822 130 61075	2SB1218A(QR)
Q205	4822 130 61286	UN521E
Q251	4822 130 61286	UN521E
Q252	4822 130 10897	UN511E
Q304	4822 130 10897	UN511E
Q305	4822 130 62555	UN5111
Q306	4822 130 63593	2SD1819A(QRS)
Q307	4822 130 63593	2SD1819A(QRS)
Q308	4822 130 61287	UN5211
Q309	4822 130 61075	2SB1218A(QR)
Q310	4822 130 61075	2SB1218A(QR)
Q311	4822 130 63593	2SD1819A(QRS)
Q314	4822 130 61286	UN521E
Q315	4822 130 61287	UN5211
Q501	4822 130 62555	UN5111
Q502	4822 130 61061	UN5215
Q702	4822 130 63593	2SD1819A(QRS)
Q706	4822 130 10898	LP40038-001A
Q707	4822 130 10898	LP40038-001A
Q708	4822 130 63593	2SD1819A(QRS)
Q901	4822 130 10437	2SK2632-CB14
Q902	4822 130 61892	2SD2144S(UV)
Q951	4822 130 10839	2SD2061(F)
Q952	4822 130 63593	2SD1819A(RS)
Q953	4822 130 62794	2SC3616(MLK)
Q954	4822 130 62555	UN5111
Q955	4822 130 61892	2SD2144S(UVW)
Q958	4822 130 42431	2SC1740S(RS)
Q959	4822 130 61544	2SD1450S,T
Q962	4822 130 61287	UN5211

Q1003	4822 130 62793	2SC3068
Q1004	4822 130 61075	2SB1218A(QR)
Q1005	4822 130 63593	2SD1819A(QRS)
Q1008	4822 130 61075	2SB1218A(QR)
Q1011	4822 130 63593	2SD1819A(QRS)
Q1102	4822 130 63593	2SD1819A(QRS)

DIODES

D1	4822 130 30621	1N4148M
D3	4822 130 30621	1N4148M
D4	4822 130 30621	1N4148M
D5	4822 130 30621	1N4148M
D6	4822 130 30621	1N4148M
D104	4822 130 30621	1N4148M
D151	4822 130 30621	1N4148M
D152	4822 130 30621	1N4148M
D251	4822 130 80375	DAN202U
D301	4822 130 30621	1N4148M
D402	4822 130 81748	11ES2
D701	4822 130 83429	SIR-381SB3FM
D702	4822 130 30621	1N4148M
D704	4822 130 81748	11ES2
D705	4822 130 81748	11ES2
D706	4822 130 83944	RD39ES-T1B3
D708	4822 130 83426	RB721Q
D709	4822 130 30621	1N4148M
D710	4822 130 30621	1N4148M
D711	4822 130 30621	1N4148M
D712	4822 130 30621	1N4148M
D713	4822 130 30621	1N4148M
D901	4822 130 83946	S1WB(A)60F4072X
D908	4822 130 30621	1N4148M
D909	4822 130 82691	UZ27BSB
D910	4822 130 82686	AU01
D911	4822 130 82686	AU01
D955	4822 130 83149	RD15ES-T1B1
D956	4822 130 11049	UZ6.2BSC
D957	4822 130 10705	HZ10BP
D958	4822 130 82693	RD30ES-T1B1
D960	4822 130 30621	1N4148M
D962	4822 130 83304	RD5.1JSB2
D963	4822 130 30621	1N4148M
D965	4822 130 82768	AU01Z
D968	4822 130 82768	AU01Z
D969	4822 130 82427	10EL52
D972	4822 130 80703	FML-12S
D973	4822 130 81607	FMB-24
D1001	4822 130 80998	MTZJ10B
D1002	4822 130 81729	MTZJ33(C)
D1004	4822 130 30621	1N4148M
D1005	4822 130 30621	1N4148M
D1103	4822 130 30621	1N4148M
D1104	4822 130 30621	1N4148M

RESISTORS

R1	RESISTOR 3.3kΩ,1/10W
R2	RESISTOR 1.2kΩ,1/10W
R3	RESISTOR 3.3kΩ,1/10W
R4	RESISTOR 1.8kΩ,1/10W
R5	RESISTOR 820Ω,1/10W
R6	RESISTOR 2.2kΩ,1/10W
R8	RESISTOR 1.2kΩ,1/10W
R9	RESISTOR 27kΩ,1/10W
R10	RESISTOR 1.8kΩ,1/10W
R11	RESISTOR 3.9kΩ,1/10W
R12	RESISTOR 6.8kΩ,1/10W
R13	RESISTOR 1.5kΩ,1/10W
R14	RESISTOR 6.8kΩ,1/10W
R17	RESISTOR 15kΩ,1/10W
R18	RESISTOR 10kΩ,1/10W
R19	RESISTOR 0Ω,1/10W
R20	RESISTOR 330Ω,1/2W
R21	RESISTOR 75Ω,1/10W
R22	RESISTOR 1kΩ,1/10W
R30	RESISTOR 1kΩ,1/10W

R31	RESISTOR 560Ω,1/10W	R325	RESISTOR 100Ω,1/10W
R32	RESISTOR 1kΩ,1/10W	R326	RESISTOR 100Ω,1/10W
R36	RESISTOR 1kΩ,1/10W	R331	RESISTOR 18kΩ,1/10W
R37	RESISTOR 56kΩ,1/10W	R332	RESISTOR 47kΩ,1/10W
R39	RESISTOR 15kΩ,1/10W	R333	RESISTOR 18kΩ,1/10W
R40	RESISTOR 22kΩ,1/10W	R334	RESISTOR 47kΩ,1/10W
R41	RESISTOR 18kΩ,1/10W	R335	RESISTOR 3.3Ω,1/10W
R43	RESISTOR 20Ω,1/10W	R336	RESISTOR 12kΩ,1/10W
R44	RESISTOR 56Ω,1/10W	R337	RESISTOR 82Ω,1/10W
R45	RESISTOR 3.3MΩ,1/10W	R338	RESISTOR 10kΩ,1/10W
R52	RESISTOR 10kΩ,1/10W	R346	RESISTOR 10kΩ,1/10W
R56	RESISTOR 10kΩ,1/10W	R401	RESISTOR 1kΩ,1/10W
R61	RESISTOR 0Ω,1/10W	R402	RESISTOR 1kΩ,1/10W
R62	RESISTOR 0Ω,1/10W	R403	RESISTOR 4.7MΩ,1/10W
R63	RESISTOR 0Ω,1/10W	R404	RESISTOR 2.2kΩ,1/10W
R65	RESISTOR 0Ω,1/10W	R405	RES,797/55 897/55 39kΩ,1/10W
R66	RESISTOR 0Ω,1/10W	R407	RESISTOR 39kΩ,1/10W
R70	RESISTOR 10kΩ,1/10W	R409	RES,797/55 897/55 18kΩ,1/10W
R71	RESISTOR 10kΩ,1/10W	R411	RESISTOR 18kΩ,1/10W
R73	RESISTOR 6.8kΩ,1/10W	R412	RESISTOR 4.7kΩ,1/10W
R74	RESISTOR 3.3kΩ,1/10W	R413	RESISTOR 510Ω,1/10W
R75	RESISTOR 6.8kΩ,1/10W	R416	RESISTOR 510Ω,1/10W
R76	RESISTOR 470Ω,1/10W	R417	RESISTOR 4.7kΩ,1/10W
R77	RESISTOR 10kΩ,1/10W	R418	RESISTOR 18kΩ,1/10W
R78	RESISTOR 2.7kΩ,1/10W	R420	RES,797/55 897/55 18kΩ,1/10W
R79	RESISTOR 3.9kΩ,1/10W	R422	RESISTOR 39kΩ,1/10W
R80	RESISTOR 1kΩ,1/10W	R424	RES,797/55 897/55 39kΩ,1/10W
R84	RESISTOR 10kΩ,1/10W	R425	RESISTOR 2.2kΩ,1/10W
R87	RESISTOR 560Ω,1/10W	R426	RESISTOR 270Ω,1/10W
R88	RESISTOR 1kΩ,1/10W	R427	RESISTOR 1kΩ,1/10W
R89	RESISTOR 0Ω,1/10W	R428	RESISTOR 220Ω,1/10W
R90	RESISTOR 0Ω,1/10W	R429	RES,797/55 897/55 220Ω,1/10W
R93	RESISTOR 33kΩ,1/10W	R431	RESISTOR 220Ω,1/10W
R94	RESISTOR 680Ω,1/10W	R432	RESISTOR 220Ω,1/10W
R97	RESISTOR 0Ω,1/10W	R438	RESISTOR 47kΩ,1/10W
R101	RESISTOR 27kΩ,1/10W	R463	RESISTOR,997/55 10kΩ,1/10W
R102	RESISTOR 15kΩ,1/10W	R464	RESISTOR,997/55 18kΩ,1/10W
R103	RESISTOR 6.8kΩ,1/10W	R465	RESISTOR,997/55 18kΩ,1/10W
R105	RESISTOR,897/55 10kΩ,1/10W	R466	RESISTOR,997/55 10kΩ,1/10W
	RESISTOR,797, 997 12kΩ,1/10W	R471	RESISTOR,997/55 10kΩ,1/10W
R106	RESISTOR 15kΩ,1/10W	R472	RESISTOR,997/55 10kΩ,1/10W
R107	RESISTOR 1.5kΩ,1/10W	R501	RESISTOR 270Ω,1/10W
R110	RESISTOR,797, 997 22kΩ,1/10W	R502	RESISTOR 1.8kΩ,1/10W
	RESISTOR,897/55 15kΩ,1/10W	R503	RESISTOR 22kΩ,1/10W
R112	RESISTOR 68kΩ,1/10W	R506	RESISTOR 1.2kΩ,1/10W
R115	RESISTOR 0Ω,1/10W	R507	RESISTOR 680Ω,1/10W
R116	RESISTOR 10kΩ,1/10W	R701	RESISTOR 1kΩ,1/10W
R117	RESISTOR 18kΩ,1/10W	R702	RESISTOR,997/55 1kΩ,1/10W
R120	RESISTOR,897/55 10kΩ,1/10W	R703	RESISTOR 1kΩ,1/10W
R201	RESISTOR 68kΩ,1/10W	R704	RESISTOR 1kΩ,1/10W
R202	RESISTOR 22kΩ,1/10W	R705	RESISTOR 1kΩ,1/10W
R203	RESISTOR 1kΩ,1/10W	R706	RESISTOR 1kΩ,1/10W
R204	RESISTOR 33kΩ,1/10W	R707	RESISTOR 1kΩ,1/10W
R205	RESISTOR 33kΩ,1/10W	R708	RESISTOR 1kΩ,1/10W
R206	RES,797/55 897/55 0Ω,1/10W	R709	RESISTOR 1kΩ,1/10W
R208	RES,797/55 897/55 68kΩ,1/10W	R710	RESISTOR 1kΩ,1/10W
R209	RES,797/55 897/55 22kΩ,1/10W	R711	RESISTOR 1kΩ,1/10W
R210	RES,797/55 897/55 1kΩ,1/10W	R712	RESISTOR 1kΩ,1/10W
R211	RES,797/55 897/55 47kΩ,1/10W	R713	RESISTOR 1kΩ,1/10W
R212	RES,797/55 897/55 33kΩ,1/10W	R714	RESISTOR 1kΩ,1/10W
R301	RESISTOR 22kΩ,1/10W	R715	RESISTOR 1kΩ,1/10W
R302	RESISTOR 100Ω,1/10W	R716	RESISTOR 1kΩ,1/10W
R303	RESISTOR 100Ω,1/10W	R717	RESISTOR 1kΩ,1/10W
R304	RESISTOR 100Ω,1/10W	R718	RESISTOR,897/55 1kΩ,1/10W
R305	RESISTOR 22kΩ,1/10W	R720	RESISTOR 1kΩ,1/10W
R306	RESISTOR 120Ω,1/10W	R722	RESISTOR 2.2kΩ,1/10W
R307	RESISTOR 6.8kΩ,1/10W	R723	RESISTOR 2.2kΩ,1/10W
R308	RESISTOR 220kΩ,1/10W	R724	RESISTOR 1kΩ,1/10W
R312	RESISTOR 0Ω,1/10W	R725	RESISTOR 1kΩ,1/10W
R313	RESISTOR 10kΩ,1/10W	R726	RESISTOR 1kΩ,1/10W
R314	RESISTOR 10kΩ,1/10W	R727	RESISTOR 1kΩ,1/10W
R315	RESISTOR 10kΩ,1/10W	R728	RESISTOR 1kΩ,1/10W
R316	RESISTOR 15kΩ,1/10W	R729	RESISTOR 1kΩ,1/10W
R317	RESISTOR 4.7kΩ,1/10W	R730	RESISTOR 1kΩ,1/10W
R318	RESISTOR 4.7kΩ,1/10W	R731	RESISTOR 0Ω,1/10W
R319	RESISTOR 10kΩ,1/10W	R732	RESISTOR 1kΩ,1/10W
R320	RESISTOR 220kΩ,1/10W	R733	RESISTOR 1kΩ,1/10W
R321	RESISTOR 10kΩ,1/10W	R734	RESISTOR 1kΩ,1/10W
R322	RESISTOR 220Ω,1/10W	R735	RESISTOR 1kΩ,1/10W
R323	RESISTOR 10kΩ,1/10W	R736	RESISTOR 1kΩ,1/10W
R324	RESISTOR 220Ω,1/10W	R738	RESISTOR 1kΩ,1/10W

R739	RESISTOR 1kΩ,1/10W
R740	RESISTOR 560Ω,1/10W
R741	RESISTOR 470Ω,1/10W
R742	RESISTOR 5.6kΩ,1/10W
R743	RESISTOR 1kΩ,1/10W
R744	RESISTOR 1kΩ,1/10W
R745	RESISTOR 1kΩ,1/10W
R746	RESISTOR 1kΩ,1/10W
R747	RESISTOR 1kΩ,1/10W
R748	RESISTOR 1kΩ,1/10W
R749	RESISTOR,997/55 1kΩ,1/10W
R750	RESISTOR 1kΩ,1/10W
R751	RESISTOR 1kΩ,1/10W
R752	RESISTOR 1kΩ,1/10W
R753	RESISTOR 1kΩ,1/10W
R754	RESISTOR 2.2kΩ,1/10W
R755	RESISTOR 470Ω,1/10W
R756	RESISTOR 470Ω,1/10W
R757	RESISTOR 10kΩ,1/10W
R758	RESISTOR 10kΩ,1/10W
R759	RESISTOR 4.7kΩ,1/10W
R761	RESISTOR,997/55 1kΩ,1/10W
R762	RESISTOR 10kΩ,1/10W
R763	RESISTOR 10kΩ,1/10W
R764	RESISTOR 10kΩ,1/10W
R765	RESISTOR 1kΩ,1/10W
R766	RESISTOR 75Ω,1/4W
R767	RESISTOR 8.2kΩ,1/10W
R768	RESISTOR 8.2kΩ,1/10W
R769	RESISTOR 180Ω,1/10W
R770	RESISTOR 180Ω,1/10W
R771	RESISTOR 100kΩ,1/10W
R772	RESISTOR 470kΩ,1/10W
R773	RESISTOR 330kΩ,1/10W
R774	RESISTOR 10kΩ,1/10W
R776	RESISTOR 4.7kΩ,1/10W
R777	RESISTOR 100kΩ,1/10W
R778	RESISTOR 4.7kΩ,1/10W
R779	RESISTOR 4.7kΩ,1/10W
R780	RESISTOR 1kΩ,1/10W
R782	RESISTOR 10kΩ,1/10W
R783	RESISTOR 10kΩ,1/10W
R784	RESISTOR 1MΩ,1/10W
R785	RESISTOR 4.7MΩ,1/10W
R788	RESISTOR 100Ω,1/10W
R789	RESISTOR 10kΩ,1/10W
R790	RESISTOR 10kΩ,1/10W
R792	RESISTOR 27kΩ,1/10W
R793	RESISTOR 27kΩ,1/10W
R794	RESISTOR 3.9kΩ,1/10W
R795	RESISTOR 1kΩ,1/10W
R796	RESISTOR 100kΩ,1/10W
R798	RESISTOR 100kΩ,1/10W
R799	MG RESISTOR 100kΩ
R801	RESISTOR 1kΩ,1/10W
R802	RESISTOR 1kΩ,1/10W
R804	RESISTOR 1kΩ,1/10W
R809	RESISTOR 10kΩ,1/10W
R810	RESISTOR 10kΩ,1/10W
R811	RESISTOR 10kΩ,1/10W
R901	RESISTOR 220kΩ,1/4W
R902	RESISTOR 220kΩ,1/4W
R903	RESISTOR 68kΩ,1/4W
R904	RESISTOR 330Ω,1/2W
R905	MF RESISTOR 0.39Ω,1W
R906	4822 116 81679 RESISTOR 680Ω,1/10W
R908	OMF RESISTOR 68kΩ,3W
R909	RESISTOR 1.5kΩ,1/10W
R910	RESISTOR 820Ω,1/10W
R911	RESISTOR 220kΩ,1/10W
R951	RESISTOR 470Ω,1/10W
R952	CMF RESISTOR 2.21kΩ,1/4W
R953	CMF RESISTOR 3.48kΩ,1/4W
R954	4822 116 81732 RESISTOR 1.2kΩ,1/10W
R955	OMF RESISTOR 2.2kΩ,2W
R957	FUSIBLE RES,797 897/55 100Ω
	FUSIBLE RESISTOR,997/55 47Ω
R958	RESISTOR 470Ω,1/10W
R959	RESISTOR 1kΩ,1/10W
R960	RESISTOR 470Ω,1/10W
R961	RESISTOR 10kΩ,1/10W

R963	RESISTOR 510Ω,1/4W
R964	RESISTOR 470Ω,1/4W
R965	RESISTOR 470Ω,1/10W
R966	RESISTOR 47kΩ,1/10W
R970	OMF RESISTOR 20Ω,1W
R972	RESISTOR,997/55 220Ω,1/10W
R976	RESISTOR,997/55 0Ω,1/10W
R977	4822 117 11894 OMF RESISTOR,997/55 680Ω,2W
R1003	RESISTOR 330Ω,1/10W
R1004	RESISTOR 0Ω,1/10W
R1005	RESISTOR 10kΩ,1/10W
R1006	RESISTOR 560Ω,1/10W
R1007	RESISTOR 22kΩ,1/10W
R1008	RESISTOR 15kΩ,1/10W
R1009	RESISTOR 10kΩ,1/10W
R1010	RESISTOR 6.8kΩ,1/10W
R1012	RESISTOR 0Ω,1/10W
R1016	RESISTOR 1kΩ,1/10W
R1021	RESISTOR 470Ω,1/10W
R1022	RESISTOR 100kΩ,1/10W
R1023	RESISTOR 10kΩ,1/10W
R1024	RESISTOR 6.8kΩ,1/10W
R1037	RESISTOR 4.7kΩ,1/10W
R1038	RESISTOR 1.8kΩ,1/10W
R1050	RESISTOR 2.2kΩ,1/10W
R1051	RESISTOR 2.2kΩ,1/10W
R1101	RESISTOR 2.2kΩ,1/10W
R1102	RESISTOR 22kΩ,1/10W
R1104	RESISTOR 1kΩ,1/10W
R1105	RESISTOR 1kΩ,1/10W
R1106	RESISTOR 2.2kΩ,1/10W
R1107	RESISTOR 1kΩ,1/10W
R1109	RESISTOR 1kΩ,1/10W
R1110	RESISTOR 470Ω,1/10W
R1111	RESISTOR 470Ω,1/10W
R1112	RESISTOR 15kΩ,1/10W
R1113	RESISTOR 0Ω,1/10W
R1115	RESISTOR 1kΩ,1/10W
R1118	RESISTOR 1kΩ,1/10W
R1119	RESISTOR 1kΩ,1/10W
R1120	RESISTOR 1kΩ,1/10W
R1121	RESISTOR 10kΩ,1/10W
R1122	RESISTOR 4.7kΩ,1/10W
R1123	RESISTOR 0Ω,1/10W
R1125	RESISTOR 4.7kΩ,1/10W
R1126	RESISTOR 10kΩ,1/10W
R1301	RESISTOR 3.9kΩ,1/10W
R1307	RESISTOR 10kΩ,1/10W
R1308	RESISTOR 10kΩ,1/10W
R1309	RESISTOR 10kΩ,1/10W
B471	RESISTOR 0Ω,1/10W

CAPACITORS

C3	CAPACITOR 0.1μF,25V
C4	CAPACITOR 0.01μF,50V
C5	CAPACITOR 0.01μF,50V
C6	E CAPACITOR 10μF,16V
C7	CAPACITOR 0.01μF,50V
C9	E CAPACITOR 47μF,6.3V
C10	CAPACITOR 0.1μF,25V
C11	E CAPACITOR 3.3μF,50V
C12	E CAPACITOR 2.2μF,50V
C13	CAPACITOR 0.068μF,25V
C14	CAPACITOR 150pF,50V
C15	CAPACITOR 56pF,50V
C16	E CAPACITOR 2.2μF,50V
C17	E CAPACITOR 0.47μF,50V
C18	CAPACITOR 0.022μF,25V
C19	CAPACITOR 0.068μF,25V
C20	CAPACITOR 0.033μF,25V
C21	CAPACITOR 0.01μF,50V
C22	CAPACITOR 0.1μF,25V
C23	E CAPACITOR 47μF,6.3V
C24	CAPACITOR 0.1μF,25V
C25	E CAPACITOR 3.3μF,50V
C26	E CAPACITOR 10μF,16V
C27	E CAPACITOR 10μF,16V

C28 CAPACITOR 0.01μF,50V
 C29 E CAPACITOR 10μF,16V
 C30 E CAPACITOR 1μF,50V
 C31 CAPACITOR 0.1μF,25V
 C32 E CAPACITOR 3.3μF,50V
 C34 CAPACITOR 0.047μF,25V
 C35 CAPACITOR 0.22μF,16V
 C36 CAPACITOR 47pF,50V
 C37 CAPACITOR 0.1μF,25V
 C38 CAPACITOR 150pF,50V
 C39 CAPACITOR 0.1μF,25V
 C41 CAPACITOR 0.01μF,50V
 C42 CAPACITOR 0.01μF,50V
 C43 CAPACITOR 0.1μF,25V
 C44 E CAPACITOR 47μF,6.3V
 C45 CAPACITOR 0.1μF,25V
 C47 E CAPACITOR 47μF,16V
 C48 E CAPACITOR 470μF,6.3V
 C49 CAPACITOR 0.01μF,50V
 C53 CAPACITOR 180pF,50V
 C54 E CAPACITOR 1μF,50V
 C56 CAPACITOR 7pF,50V
 C57 CAPACITOR 7pF,50V
 C59 CAPACITOR 68pF,50V
 C61 CAPACITOR 3pF,50V
 C63 CAPACITOR 330pF,50V
 C80 CAPACITOR 0.01μF,50V
 C82 CAPACITOR 10pF,50V
 C84 CAPACITOR 0.012μF,50V
 C85 RESISTOR 0Ω,1/10W
 C89 CAPACITOR 56pF,50V
 C92 CAPACITOR 0.01μF,50V
 C99 CAPACITOR 0.1μF,25V
 C101 CAPACITOR 0.01μF,50V
 C103 CAPACITOR 0.01μF,50V
 C104 CAPACITOR 0.01μF,50V
 C105 CAPACITOR 0.01μF,50V
 C106 CAPACITOR 0.1μF,25V
 C107 CAPACITOR 0.1μF,25V
 C108 CAPACITOR 0.01μF,50V
 C109 E CAPACITOR 47μF,16V
 C113 CAPACITOR 0.01μF,50V
 C114 CAPACITOR 0.01μF,50V
 C115 CAPACITOR 0.01μF,50V
 C117 CAPACITOR 0.01μF,50V
 C118 CAPACITOR 0.01μF,50V
 C119 CAPACITOR 0.01μF,50V
 C123 CAPACITOR 0.01μF,50V
 C126 CAPACITOR 100pF,50V
 C201 E CAPACITOR 47μF,16V
 C202 CAPACITOR 0.01μF,50V
 C203 E CAPACITOR 10μF,16V
 C204 E CAPACITOR 10μF,16V
 C205 E CAP,797/55 897/55 10μF,16V
 C206 E CAP,797/55 897/55 10μF,16V
 C251 CAPACITOR,897/55 0.01μF,50V
 C301 E CAPACITOR 1μF,50V
 C302 F CAPACITOR 0.012μF,50V
 C303 F CAPACITOR 0.022μF,50V
 C304 F CAPACITOR 0.0047μF,50V
 C306 CAPACITOR 0.0022μF,50V
 C307 E CAPACITOR 4.7μF,25V
 C308 E CAPACITOR 22μF,6.3V
 C309 CAPACITOR 0.015μF,50V
 C310 E CAPACITOR 4.7μF,25V
 C311 CAPACITOR 0.033μF,25V
 C312 CAPACITOR 0.033μF,25V
 C313 E CAPACITOR 1μF,50V
 C314 CAPACITOR 0.0022μF,50V
 C315 E CAPACITOR 10μF,16V
 C317 E CAPACITOR 100μF,16V
 C331 CAPACITOR 0.022μF,25V
 C332 CAPACITOR 0.0047μF,50V
 C333 E CAPACITOR 10μF,16V
 C334 CAPACITOR 330pF,50V
 C335 F CAPACITOR 0.082μF,50V
 C401 E CAPACITOR 22μF,6.3V
 C402 E CAPACITOR 22μF,6.3V
 C403 E CAPACITOR 1μF,50V
 C404 E CAP,797/55 897/55 1μF,50V
 C406 E CAPACITOR 1μF,50V

C407 CAPACITOR 0.047μF,25V
 C408 E CAPACITOR 47μF,6.3V
 C409 E CAPACITOR 2.2μF,50V
 C410 E CAPACITOR 47μF,6.3V
 C411 CAPACITOR 0.015μF,50V
 C412 CAPACITOR 0.01μF,50V
 C413 CAPACITOR 0.01μF,50V
 C414 CAPACITOR 0.01μF,50V
 C415 E CAPACITOR 0.22μF,50V
 C416 CAPACITOR 0.01μF,50V
 C417 CAPACITOR 0.015μF,50V
 C418 E CAPACITOR 47μF,6.3V
 C419 E CAPACITOR 2.2μF,50V
 C420 CAPACITOR 0.047μF,25V
 C421 E CAPACITOR 47μF,6.3V
 C422 E CAPACITOR 1μF,50V
 C424 E CAP,797/55 897/55 1μF,50V
 C425 E CAPACITOR 1μF,50V
 C426 E CAPACITOR 1μF,50V
 C427 E CAPACITOR 47μF,16V
 C428 E CAP,797/55 897/55 22μF,6.3V
 C429 E CAP,797/55 897/55 1μF,50V
 C430 E CAPACITOR 22μF,6.3V
 C431 E CAPACITOR 22μF,6.3V
 C432 E CAP,797/55 897/55 22μF,6.3V
 C433 E CAP,797/55 897/55 22μF,6.3V
 C462 E CAPACITOR,997/55 1μF,50V
 C463 E CAPACITOR,997/55 1μF,50V
 C464 E CAPACITOR,997/55 33μF,6.3V
 C465 E CAPACITOR,997/55 33μF,6.3V
 C471 E CAPACITOR,997/55 47μF,6.3V
 C472 E CAPACITOR,997/55 47μF,6.3V
 C501 CAPACITOR 0.01μF,50V
 C502 CAPACITOR 0.1μF,25V
 C503 CAPACITOR 0.01μF,50V
 C504 CAPACITOR 0.1μF,25V
 C505 E CAPACITOR 47μF,6.3V
 C506 CAPACITOR 0.1μF,25V
 C507 CAPACITOR 0.056μF,25V
 C508 CAPACITOR 220pF,50V
 C509 CAPACITOR 0.001μF,50V
 C510 CAPACITOR 0.01μF,50V
 C511 CAPACITOR 0.001μF,50V
 C512 CAPACITOR 0.01μF,50V
 C513 CAPACITOR 330pF,50V
 C701 CAPACITOR 0.1μF,25V
 C702 CAPACITOR 0.01μF,50V
 C703 E CAPACITOR 10μF,16V
 C707 E CAPACITOR 10μF,16V
 C708 CAPACITOR 0.1μF,25V
 C709 CAPACITOR 0.01μF,50V
 C718 CAPACITOR 0.047μF,25V
 C720 CAPACITOR 0.01μF,50V
 C721 E CAPACITOR 220μF,6.3V
 C722 CAPACITOR 0.01μF,50V
 C723 CAPACITOR,997/55 0.01μF,50V
 C724 CAPACITOR 0.1μF,25V
 C725 CAPACITOR 0.1μF,25V
 C728 CAPACITOR 18pF,50V
 C729 CAPACITOR 10pF,50V
 C730 TRIM CAP,TIMER CLOCK 30pF
 C732 CAPACITOR 33pF,50V
 C733 CAPACITOR 0.01μF,50V
 C734 E CAPACITOR 10μF,16V
 C736 E CAPACITOR 1000μF,6.3V
 C737 E CAPACITOR 47μF,6.3V
 C738 CAPACITOR 0.01μF,50V
 ! C901 F CAPACITOR 0.068μF
 C906 E CAPACITOR 1μF,50V
 C907 CAPACITOR 33pF
 C908 F CAPACITOR 0.1μF,50V
 C910 E CAPACITOR 82μF
 ! C911 CAPACITOR 0.0022μF
 C915 F CAPACITOR 0.018μF,50V
 C916 CAPACITOR 270pF,50V
 C917 CAPACITOR 0.0047μF,1kV
 C951 E CAPACITOR 220μF,6.3V
 C953 E CAPACITOR 680μF,10V
 C954 E CAPACITOR 820μF,16V
 C959 E CAPACITOR 10μF,63V
 C960 E CAPACITOR 22μF,50V

C961	CAPACITOR 0.01μF,50V
C962	CAPACITOR 0.001μF,50V
C963	E CAPACITOR 100μF,10V
C964	E CAPACITOR 22μF,16V
C965	E CAPACITOR 100μF,10V
C966	E CAPACITOR 10μF,50V
C967	E CAPACITOR 100μF,16V
C968	E CAPACITOR,997/55 47μF,16V
C969	E CAPACITOR 0.47μF,50V
C970	E CAPACITOR,997/55 100μF,16V
C971	E CAPACITOR 220μF,10V
C972	E CAPACITOR 220μF,16V
C1001	E CAPACITOR 33μF,16V
C1003	E CAPACITOR 10μF,50V
C1004	CAPACITOR 0.001μF,50V
C1005	CAPACITOR 0.022μF,25V
C1006	E CAPACITOR 2.2μF,50V
C1007	CAPACITOR 0.047μF,25V
C1008	CAPACITOR 0.001μF,50V
C1011	CAPACITOR 0.1μF,25V
C1013	CAPACITOR 470pF,50V
C1018	E CAPACITOR 220μF,6.3V
C1019	E CAPACITOR 220μF,16V
C1050	CAPACITOR 0.01μF,50V
C1055	CAPACITOR 0.01μF,50V
C1056	E CAPACITOR 33μF,16V
C1058	CAPACITOR 0.01μF,50V
C1060	E CAPACITOR 330μF,6.3V
C1101	CAPACITOR 0.1μF,25V
C1102	E CAPACITOR 0.22μF,50V
C1104	E CAPACITOR 22μF,6.3V
C1107	CAPACITOR 0.027μF,50V
C1108	E CAPACITOR 10μF,16V
C1109	CAPACITOR 0.001μF,50V
C1112	CAPACITOR 0.056μF,25V
C1113	CAPACITOR 0.001μF,50V
C1114	CAPACITOR 100pF,50V
C1115	CAPACITOR 100pF,50V
C1116	E CAPACITOR 47μF,6.3V
C1117	CAPACITOR 0.01μF,50V
C1306	CAPACITOR 0.01μF,50V
C1307	CAPACITOR 0.01μF,50V
C1308	CAPACITOR 33pF,50V
C1309	CAPACITOR 33pF,50V
C1320	CAPACITOR 0.01μF,50V

COILS

L1	4822 157 11281	COIL 2.2μH
L2	4822 157 11282	COIL 12μH
L3	4822 157 11354	COIL 10μH
L4	4822 157 11354	COIL 10μH
L5	4822 157 11334	COIL 68μH
L6	4822 157 11354	COIL 10μH
L7	4822 157 11361	COIL 220μH
L8	4822 157 11354	COIL 10μH
L9	4822 157 62381	COIL 68μH
L10	4822 157 62381	COIL 68μH
L11	4822 157 11355	COIL 33μH
L13	4822 157 11286	COIL 470μH
L19	4822 157 11356	COIL 150μH
L101	4822 157 11354	COIL 10μH
L201	4822 157 11354	COIL 10μH
L251	4822 157 11354	COIL,897/55 10μH
L301	4822 157 63399	COIL 12mH
L351	4822 116 81545	RESISTOR 0Ω,1/10W
L352	4822 116 81545	RESISTOR 0Ω,1/10W
L353	4822 116 81545	RESISTOR 0Ω,1/10W
L354	4822 116 81545	RESISTOR 0Ω,1/10W
L501	4822 157 11354	COIL 10μH
L502	4822 157 11284	COIL 100μH
L951	4822 157 70119	COIL
L953	4822 157 70119	COIL
L954	! 4822 157 60104	COIL 100μH
L1301	4822 157 11354	COIL 10μH
L1302	4822 157 11288	COIL 22μH
L1303	4822 157 11288	COIL 22μH
L1305	4822 157 11355	COIL 33μH

FILTER

LF902	! 4822 157 11291	LINEFILTER
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CRYSTAL RESONATORS

X1	4822 242 10591	CRYSTAL RESONATOR
X2	4822 242 10592	CRYSTAL RESONATOR

CRYSTAL RESONATORS

X701	4822 242 10788	CRYSTAL RESONATOR
X702	4822 242 71894	CRYSTAL RESONATOR

FERRITE BEAD

K901	4822 158 60653	FERRITE BEAD
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PHOTO COUPLER

PC901	! 4822 130 10431	PC123F2
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SENSORS

PS701	4822 209 15614	IC(PHOTO SENSOR)
PS702	4822 209 15614	IC(PHOTO SENSOR)

RELAY

RY101	4822 280 10354	RELAY
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TRANSFORMERS

T301	4822 148 81344	OSC TRANSFORMER
T901	! 4822 146 10895	SW TRANSF
T1001	4822 157 11358	LC TRAP

TUNER & PIN JACKS

TU1001	4822 210 10778	TUNER
J1	4822 264 30321	PIN JACK,VIDEO IN/OUT
J2	4822 265 20668	PIN JACK(SW),AUDIO IN/OUT(R)
J3	4822 265 31198	PIN JACK(SW),AUDIO IN/OUT(L)

FUSE CLIPS

FC901	4822 256 92131	FUSECLIP
FC902	4822 256 92131	FUSECLIP

EARTH PLATES

ET1	4822 492 71711	EARTH PLATE(RF)
HS1	! 4822 255 41286	HEAT SINK,Q901

OTHERS

OT1	4822 502 30731	SCREW,X4 A.EFFECT 997/55
OT2	4822 502 30597	SCREW,Q901

SHIELDS

SD1	4822 441 11786	SHIELD CASE,PRE/REC
SD2	4822 466 11154	SHIELD PLATE,PRE/REC

CONNECTORS

CN1	4822 265 10632	CONN,(1-9) DRUM 797/55 997/55
	4822 265 11121	CONN,(1-12)DRUM 897/55

WIRE & CONNECTOR

CN301	4822 321 63039	WIRE,A/C HEAD
CN303	4822 265 20646	CONNECTOR,(1-2)FE HEAD

CONNECTORS

CN471	4822 267 41258	CONN,(1-5)A.EFFECT 997/55
CN472	4822 267 41259	CONN,(2-14)A.EFFECT 997/5
CN473	4822 320 11665	WIRE,(1-5)MIC 997/55
CN701	4822 265 41526	CONNECTOR,(1-8)CAP MDA
CN702	4822 265 31291	CONN,(1-5)ROTARY ENCODER
CN703	4822 265 20646	CONNECTOR
CN704	4822 265 10633	FFC CONNECTOR,(1-5)DRUM MDA
CN706	4822 265 20646	CONNECTOR,(1-2)BACK UP
CN707	4822 265 11122	FFC CONNECTOR,(3-14)DISPLAY
CN708	4822 265 11124	CONN,(1-8)JOG SHUTTLE 897
CN901	4822 267 31776	CONNECTOR,(1-2)AC IN
CN1403	4822 265 10974	FFC CONN,(1-6)DISPLAY 797

CIRCUIT PROTECTORS

CP701	4822 209 63612	ICP-N25
CP901	4822 209 63612	ICP-N25
CP1101	5322 157 53342	ICP-N15

FUSE

F901	4822 070 31602	FUSE T1.6A
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5. IF BOARD ASSEMBLY <07>

PCB

PW1	4822 214 12552	IF BOARD ASSY (AVAILABLE DURING PRODUCTION ONLY)
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INTEGRATED CIRCUIT

IC2101	4822 209 15946	LA7565B
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TRANSISTORS

Q2101	4822 130 10642	2SC3354
Q2102	4822 130 60669	2SC4081(RS)
Q2103	4822 130 61906	DTC114EU
Q2104	4822 130 61906	DTC114EU
Q2105	4822 130 10642	2SC3354
Q2106	4822 130 60669	2SC4081(RS)
Q2107	4822 130 61906	DTC114EU
Q2108	4822 130 61906	DTC114EU
Q2109	4822 130 61906	DTC114EU
Q2110	4822 130 60668	2SC3936(BC)
Q2115	4822 130 60862	2SA1576(RS)
Q2116	4822 130 60862	2SA1576(RS)
Q2117	4822 130 60862	2SA1576(RS)
Q2118	4822 130 60862	2SA1576(RS)
Q2120	4822 130 61906	DTC114EU
Q2121	4822 130 61906	DTC114EU

RESISTORS

R2101	4822 116 81545	RESISTOR 0Ω,1/10W
R2102	4822 116 81681	RESISTOR 6.8kΩ,1/10W
R2103	4822 116 81659	RESISTOR 2.2kΩ,1/10W
R2104	4822 116 82402	RESISTOR 47Ω,1/10W
R2105	4822 116 81653	RESISTOR 1.5kΩ,1/10W
R2106	4822 117 10757	RESISTOR 390Ω,1/10W
R2107	4822 117 10757	RESISTOR 390Ω,1/10W
R2108	4822 117 10757	RESISTOR 390Ω,1/10W
R2109	4822 116 81674	RESISTOR 4.7kΩ,1/10W
R2110	4822 116 81665	RESISTOR 2.7kΩ,1/10W
R2111	4822 116 81672	RESISTOR 39kΩ,1/10W
R2113	4822 116 81681	RESISTOR 6.8kΩ,1/10W
R2114	4822 116 81659	RESISTOR 2.2kΩ,1/10W
R2115	4822 116 82402	RESISTOR 47Ω,1/10W
R2116	4822 116 81653	RESISTOR 1.5kΩ,1/10W
R2117	4822 117 10757	RESISTOR 390Ω,1/10W
R2118	4822 117 10757	RESISTOR 390Ω,1/10W
R2119	4822 117 10757	RESISTOR 390Ω,1/10W
R2120	4822 116 81674	RESISTOR 4.7kΩ,1/10W
R2121	4822 116 81665	RESISTOR 2.7kΩ,1/10W
R2122	4822 116 81646	RESISTOR 10kΩ,1/10W
R2124	4822 116 81741	RESISTOR 68kΩ,1/10W
R2125	4822 116 81734	RESISTOR 18kΩ,1/10W
R2126	4822 116 81743	RESISTOR 82kΩ,1/10W
R2127	4822 116 81675	RESISTOR 47kΩ,1/10W
R2128	4822 116 81654	RESISTOR 15kΩ,1/10W
R2129	4822 116 81674	RESISTOR 4.7kΩ,1/10W
R2130	4822 116 81667	RESISTOR 330Ω,1/10W
R2133	4822 116 81645	RESISTOR 1kΩ,1/10W
R2134	4822 116 81649	RESISTOR 120Ω,1/10W
R2137	4822 116 81676	RESISTOR 560Ω,1/10W
R2144	4822 117 10757	RESISTOR 390Ω,1/10W
R2145	4822 116 81659	RESISTOR 2.2kΩ,1/10W
R2146	4822 116 81659	RESISTOR 2.2kΩ,1/10W
R2147	4822 116 81659	RESISTOR 2.2kΩ,1/10W
R2149	4822 116 81646	RESISTOR 10kΩ,1/10W
R2151	4822 116 81545	RESISTOR 0Ω,1/10W
R2152	4822 116 81646	RESISTOR 10kΩ,1/10W
R2153	4822 116 81653	RESISTOR 1.5kΩ,1/10W
R2154	4822 116 81667	RESISTOR 330Ω,1/10W
R2155	4822 116 81679	RESISTOR 680Ω,1/10W
R2156	4822 116 81653	RESISTOR 1.5kΩ,1/10W
R2157	4822 116 81667	RESISTOR 330Ω,1/10W
R2158	4822 116 81679	RESISTOR 680Ω,1/10W
R2159	4822 116 81646	RESISTOR 10kΩ,1/10W
R2160	4822 116 81653	RESISTOR 1.5kΩ,1/10W
R2161	4822 116 81667	RESISTOR 330Ω,1/10W
R2162	4822 116 81679	RESISTOR 680Ω,1/10W
R2164	4822 116 81653	RESISTOR 1.5kΩ,1/10W
R2165	4822 116 81667	RESISTOR 330Ω,1/10W
R2166	4822 116 81679	RESISTOR 680Ω,1/10W
R2168	4822 116 81677	RESISTOR 5.6kΩ,1/10W
VR2101	4822 101 10899	V RESISTOR,PF AGC 10kΩ

CAPACITORS

C2103	4822 126 14201	CAPACITOR 0.001μF,50V
C2105	4822 126 14201	CAPACITOR 0.001μF,50V
C2106	4822 126 14201	CAPACITOR 0.001μF,50V
C2107	4822 126 14201	CAPACITOR 0.001μF,50V
C2110	4822 126 14201	CAPACITOR 0.001μF,50V
C2112	4822 126 14201	CAPACITOR 0.001μF,50V
C2113	4822 126 14201	CAPACITOR 0.001μF,50V
C2114	4822 126 14201	CAPACITOR 0.001μF,50V
C2116	4822 124 81293	E CAPACITOR 4.7μF,25V
C2122	4822 124 11734	E CAPACITOR 3.3μF,50V
C2125	4822 124 81252	E CAPACITOR 10μF,16V
C2128	4822 124 11735	E CAPACITOR 0.47μF,50V
C2130	4822 126 14196	CAPACITOR 10pF,50V
C2133	4822 126 14185	CAPACITOR 0.047μF,25V

COILS

L2101	4822 157 63404	COIL 1.5μH
L2102	4822 157 71863	COIL 3.3μH
L2103	4822 157 11415	COIL 2.4μH
L2104	4822 157 11416	COIL 2.2μH
L2105	4822 157 71863	COIL 3.3μH
L2108	4822 157 63402	COIL 8.2μH
L2110	4822 157 62381	COIL 68μH

CERAMIC FILTERS

CF2101	4822 242 10822	C TRAP
CF2102	4822 242 82228	CERAMIC FILTER
CF2103	4822 242 82219	CERAMIC FILTER
CF2104	4822 157 71882	N FILTER
CF2105	4822 242 82222	CERAMIC FILTER
CF2106	4822 242 82223	CERAMIC FILTER
CF2107	4822 242 70898	CERAMIC FILTER

I.F. TRANSFORMER

T2102	4822 148 81435	IF.TRANSFORMER
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FRAME/SHIELD

BK1	4822 402 10846	BRACKET(PWB)
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SAW FILTERS

SF2101	4822 242 82227	SAW FILTER
SF2102	4822 242 82225	SAW FILTER
SF2103	4822 242 82224	SAW FILTER

CONNECTOR

CN2101	4822 265 41135	PIN HEADER,(1-14)MAIN
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6. AUDIO/CONTROL HEAD BOARD ASSY <12>**PCB**

PW1	4822 214 12312	A/CTL HEAD BOARD ASSEMBLY
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CONNECTOR

CN1	4822 267 70336	CONNECTOR,(1-7)MAIN
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7. DEMOD BOARD ASSEMBLY <14>**PCB**

PW1	4822 214 12553	DEMOM BOARD ASSY (AVAILABLE DURING PRODUCTION ONLY)
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INTEGRATED CIRCUITS

IC1501	4822 209 33873	UPC1391H
IC1502	4822 209 32863	TDA9840
IC1503	4822 209 14651	SAA7283ZP

TRANSISTOR

Q1501	4822 130 10642	2SC3354
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DIODES

D1502	4822 130 10643	1SV214
D1503	4822 130 30621	1N4148M

RESISTORS

R1501	4822 116 81742	RESISTOR 8.2kΩ,1/10W
R1502	4822 051 20753	RESISTOR 3.3kΩ,1/10W
R1503	4822 116 81679	RESISTOR 680Ω,1/10W
R1504	4822 116 81664	RESISTOR 270Ω,1/10W
R1506	4822 116 81666	RESISTOR 27kΩ,1/10W
R1514	4822 117 10757	RESISTOR 390Ω,1/10W
R1515	4822 116 81664	RESISTOR 270Ω,1/10W
R1516	4822 116 81665	RESISTOR 2.7kΩ,1/10W
R1517	4822 116 81657	RESISTOR 1.8kΩ,1/10W
R1518	4822 116 81676	RESISTOR 560Ω,1/10W
R1519	4822 116 81738	RESISTOR 470Ω,1/10W
R1521	4822 116 81545	RESISTOR 0Ω,1/10W
R1523	4822 116 81545	RESISTOR 0Ω,1/10W
R1524	4822 116 81545	RESISTOR 0Ω,1/10W
R1527	4822 116 81669	RESISTOR 33kΩ,1/10W
R1528	4822 116 81657	RESISTOR 1.8kΩ,1/10W
R1529	4822 116 81665	RESISTOR 2.7kΩ,1/10W
R1530	4822 116 81659	RESISTOR 2.2kΩ,1/10W
R1531	4822 116 81665	RESISTOR 2.7kΩ,1/10W
R1532	4822 116 81659	RESISTOR 2.2kΩ,1/10W
R1533	4822 116 81645	RESISTOR 1kΩ,1/10W
R1534	4822 116 81644	RESISTOR 100Ω,1/10W
R1536	4822 116 81661	RESISTOR 22kΩ,1/10W
R1537	4822 116 81648	RESISTOR 1MΩ,1/10W
R1538	4822 116 82163	RESISTOR 680kΩ,1/10W
R1540	4822 116 81644	RESISTOR 100Ω,1/10W
R1541	4822 116 81644	RESISTOR 100Ω,1/10W
R1542	4822 116 82402	RESISTOR 47Ω,1/10W
VR1501	4822 101 10899	V RESISTOR,SEPARATION 10kΩ

CAPACITORS

C1505	4822 124 81252	E CAPACITOR 10μF,16V
C1507	4822 124 11736	E CAPACITOR 0.1μF,50V
C1512	4822 126 14185	CAPACITOR 0.047μF,25V
C1515	4822 124 81294	E CAPACITOR 2.2μF,50V
C1516	4822 124 81294	E CAPACITOR 2.2μF,50V
C1524	4822 124 11742	E CAPACITOR 22μF,16V
C1526	4822 124 81252	E CAPACITOR 10μF,16V
C1527	4822 126 14185	CAPACITOR 0.047μF,25V
C1528	4822 124 11833	E CAPACITOR 0.22μF,50V
C1529	4822 124 81252	E CAPACITOR 10μF,16V
C1530	4822 124 11736	E CAPACITOR 0.1μF,50V
C1531	4822 124 81252	E CAPACITOR 10μF,16V
C1533	4822 124 11833	E CAPACITOR 0.22μF,50V
C1535	4822 124 81236	E CAPACITOR 33μF,16V
C1536	4822 124 81236	E CAPACITOR 33μF,16V
C1539	4822 124 81252	E CAPACITOR 10μF,16V
C1540	4822 126 14196	CAPACITOR 10pF,50V
C1541	4822 124 81252	E CAPACITOR 10μF,16V
C1544	4822 124 81252	E CAPACITOR 10μF,16V
C1546	4822 124 81253	E CAPACITOR 1μF,50V
C1547	4822 124 81236	E CAPACITOR 33μF,16V
C1549	4822 126 14186	CAPACITOR 0.022μF,25V
C1550	4822 124 11834	E CAPACITOR 0.33μF,50V
C1551	4822 126 14195	CAPACITOR 100pF,50V
C1552	4822 126 14195	CAPACITOR 100pF,50V
C1554	4822 126 14185	CAPACITOR 0.047μF,25V
C1556	4822 126 14195	CAPACITOR 100pF,50V
C1557	4822 126 14195	CAPACITOR 100pF,50V
C1560	4822 126 14201	CAPACITOR 0.001μF,50V

COILS

L1501	4822 157 71756	COIL 4.7 μ H
L1502	4822 157 62371	COIL 1 μ H
L1504	4822 157 62371	COIL 1 μ H
L1505	4822 157 70128	COIL 12 μ H

RESONATORS

CF1503	4822 242 10559	C DISCRIMINATER
CF1504	4822 242 81878	CERAMIC FILTER

FILTERS

LC1501	4822 157 71348	N FILTER
LC1502	4822 157 71348	N FILTER

CRYSTAL RESONATORS

X1501	4822 242 81875	CRYSTAL RESONATOR
X1502	4822 242 10554	CRYSTAL RESONATOR

FILTER

T1501	4822 157 11417	LC FILTER
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SHIELDS

SD1	4822 466 30483	SHIELD FRAME
SD2	4822 442 00535	SHIELD COVER,X2
SD3	4822 466 11732	PLATE

PIN HEADERS

CN1501	4822 265 10706	PIN HEADER,(1-5)MAIN
CN1502	4822 265 10706	PIN HEADER,(1-5)MAIN

8. MIC AMP BOARD ASSY(VR997/55) <25>**PCB**

PW2	4822 214 12564	MIC AMP BOARD ASSY
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INTEGRATED CIRCUIT

IC201	4822 209 33704	BA15218N
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RESISTORS

R201	4822 116 81645	RESISTOR 1k Ω ,1/10W
R202	4822 116 81646	RESISTOR 10k Ω ,1/10W
R203	4822 051 20753	RESISTOR 3.3k Ω ,1/10W
R204	4822 116 81647	RESISTOR 100k Ω ,1/10W
R205	4822 116 81645	RESISTOR 1k Ω ,1/10W
R206	4822 116 81646	RESISTOR 10k Ω ,1/10W
R207	4822 051 20753	RESISTOR 3.3k Ω ,1/10W
R208	4822 116 81647	RESISTOR 100k Ω ,1/10W

CAPACITORS

C201	4822 126 14201	CAPACITOR 0.001 μ F,50V
C202	4822 124 23831	E CAPACITOR 0.1 μ F,50V
C203	4822 126 14201	CAPACITOR 0.001 μ F,50V
C205	4822 124 23826	E CAPACITOR 10 μ F,16V
C206	4822 126 14201	CAPACITOR 0.001 μ F,50V
C207	4822 124 23831	E CAPACITOR 0.1 μ F,50V
C208	4822 126 14201	CAPACITOR 0.001 μ F,50V
C210	4822 124 23826	E CAPACITOR 10 μ F,16V

JACKS

JA201	4822 265 10749	MIC JACK
JA202	4822 265 10749	MIC JACK

CONNECTOR

CN201	4822 265 31025	CONNECTOR,(1-5)MAIN
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9. DISPLAY BOARD ASSEMBLY <28>**PCB**

PW1	4822 214 12565	DISPLAY BOARD ASSY,897/55
	4822 214 12566	DISPLAY BOARD ASSY,797/55
	4822 214 12567	DISPLAY BOARD ASSY,997/55
		(AVAILABLE DURING PRODUCTION ONLY)

INTEGRATED CIRCUITS

IC1201	4822 209 90492	UPD16312GB(P)
IC1202	4822 130 11051	GP1U280X

DIODES

D1201	4822 130 30621	1N4148M
D1202	4822 130 30621	1N4148M
D1203	4822 130 30621	1N4148M
D1204	4822 130 30621	1N4148M
D1205	4822 130 30621	1N4148M
D1207	4822 130 80793	RD9.1ES-T1B2
D1208	4822 130 10433	SLR-342VC3F
D1220	4822 130 30621	1N4148M
D1222	4822 130 30621	1N4148M
D1223	4822 130 30621	1N4148M

RESISTORS

R1217	4822 117 12862	RESISTOR 330 Ω ,1/4W
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CAPACITORS

C1201	4822 124 23846	E CAPACITOR 47 μ F,16V
C1202	4822 126 13656	CAPACITOR 0.1 μ F,50V
C1203	4822 124 80659	E CAPACITOR 220 μ F,6.3V
C1204	4822 126 12423	CAPACITOR 47pF,50V
C1205	4822 126 11643	CAPACITOR 33pF,50V
C1206	4822 124 23851	E CAPACITOR 10 μ F,50V
C1207	4822 126 11689	CAPACITOR 0.001 μ F,50V
C1209	4822 126 13656	CAPACITOR 0.1 μ F,50V
C1211	4822 126 13976	CAPACITOR 0.0033 μ F,16V

COIL

L1201 4822 157 11357 COIL 330μH

SWITCHES

S1201 4822 276 13529 TACT SWITCH,IP 797/55 897/55
 S1202 4822 276 13529 TACT SWITCH,CH+
 S1203 4822 276 13529 TACT SWITCH,CH-
 S1206 4822 276 13529 TACT SWITCH,REC
 S1207 4822 276 13529 TACT SWITCH,REW 797/55
 4822 276 13529 TACT SWITCH,STOP 897, 997/55
 S1208 4822 276 13529 TACT SWITCH,FF 797/55
 4822 276 13529 TACT SWITCH,PLAY 897, 997/55
 S1209 4822 276 13529 TACT SWITCH,COLOR SYS.
 S1210 4822 276 13529 TACT SWITCH,PLAY 797/55
 S1213 4822 276 13529 TACT SW,SHUTTLE SEL 997/55
 S1214 4822 276 13529 TACT SWITCH,STOP 797/55

HOLDERS

DI1201 4822 130 11052 QLF0007-001
 HD1 4822 256 10251 LED HOLDER,D1208
 HD2 4822 256 10413 FDP HOLDER(L),DI1201
 HD3 4822 256 10414 FDP HOLDER(R),DI1201

WIRES

FW1201 4822 321 63172 PARALLEL WIRE,REC SAFETY
 FW1202 4822 321 63172 PARALLEL WIRE,CASSETTE SW

CONNECTORS

CN1201 4822 265 11122 FFC CONNECTOR,(1-12)MAIN
 CN1203 4822 265 11126 CONNECTOR,(1-4)SW/JACK

10. REC SAFETY BOARD ASSEMBLY <32>**PCB**

PW2 4822 214 12556 REC SAFETY BOARD ASSY

SWITCH

S1241 4822 276 13432 PUSH SWITCH

11. CASSETTE SW BOARD ASSEMBLY <33>**PCB**

PW3 4822 214 12557 CASS SW BOARD ASSY

SWITCH

S1242 4822 276 13655 PUSH SWITCH

12. SW/JACK BOARD ASSEMBLY <36>**PCB**

PW4 4822 214 12558 SW/JACK BOARD ASSY,797/55
 4822 214 12568 SW/JACK BOARD ASSY,997/55

DIODES

D1251 4822 130 30621 1N4148M
 D1252 4822 130 30621 1N4148M

SWITCHES & JACKS

S1212 4822 276 13529 TACT SWITCH,EJECT,797/55
 S1217 4822 276 13529 TACT SWITCH,POWER,797/55
 S4212 4822 276 13529 TACT SWITCH,EJECT 997/55
 S4217 4822 276 13529 TACT SWITCH,POWER 997/55
 J1201 4822 265 11127 PIN JACK,VIDEO 797/55 897/55
 J1202 4822 265 11128 PIN JACK(SW),AUDIO(L) 797/55 8
 J1203 4822 265 31019 PIN JACK(SW),AUDIO(R) 797/55 8

CONNECTORS

CN1204 4822 265 11129 CONN,(1-4)DISPLAY 797/55
 CN1205 4822 265 11131 FFC CONN(1-6)MAIN 797/55
 CN4204 4822 265 11129 CONN,(1-4)DISPLAY 997/55

13. A.EFFECT BOARD ASSEMBLY(VR997/55) <73**PCB**

PW1 4822 214 12569 AUDIO EFFECT BOARD ASSY
 (AVAILABLE DURING PRODUCTION ONLY)

INTEGRATED CIRCUITS

IC3 4822 209 61187 BA15218
 IC5 4822 209 91172 TC9154AP
 IC6 4822 209 91171 NJM2072D
 IC7 4822 209 61187 BA15218
 IC8 4822 209 91167 BU9252S
 IC9 4822 209 91165 BA7725S

TRANSISTORS

Q4 4822 130 61903 DTA114EU
 Q5 4822 130 60669 2SC4081(QR)
 Q6 4822 130 60669 2SC4081(QR)
 Q8 4822 130 60669 2SC4081(QR)
 Q9 4822 130 60669 2SC4081(QR)
 Q10 4822 130 60669 2SC4081(QR)
 Q11 4822 130 60669 2SC4081(QR)
 Q12 4822 130 60669 2SC4081(QR)
 Q13 4822 130 60669 2SC4081(QR)

DIODES

D2 4822 130 80523 DA204U
 D3 4822 130 80523 DA204U
 D4 4822 130 80523 DA204U

RESISTORS

R26	4822 051 20008	RESISTOR 0Ω, 1/10W
R28	4822 116 81674	RESISTOR 4.7kΩ, 1/10W
R29	4822 116 81654	RESISTOR 15kΩ, 1/10W
R30	4822 116 81654	RESISTOR 15kΩ, 1/10W
R31	4822 116 81674	RESISTOR 4.7kΩ, 1/10W
R32	4822 051 20008	RESISTOR 0Ω, 1/10W
R33	4822 116 81653	RESISTOR 1.5kΩ, 1/10W
R34	4822 116 81659	RESISTOR 2.2kΩ, 1/10W
R35	4822 116 81661	RESISTOR 22kΩ, 1/10W
R36	4822 051 20008	RESISTOR 0Ω, 1/10W
R37	4822 116 81653	RESISTOR 1.5kΩ, 1/10W
R38	4822 116 81659	RESISTOR 2.2kΩ, 1/10W
R39	4822 116 81661	RESISTOR 22kΩ, 1/10W
R56	4822 116 81655	RESISTOR 150kΩ, 1/10W
R57	4822 116 81647	RESISTOR 100kΩ, 1/10W
R58	4822 116 81645	RESISTOR 1kΩ, 1/10W
R59	4822 116 81655	RESISTOR 150kΩ, 1/10W
R60	4822 116 81647	RESISTOR 100kΩ, 1/10W
R61	4822 116 81645	RESISTOR 1kΩ, 1/10W
R62	4822 116 81646	RESISTOR 10kΩ, 1/10W
R63	4822 116 81646	RESISTOR 10kΩ, 1/10W
R64	4822 116 81645	RESISTOR 1kΩ, 1/10W
R65	4822 116 81645	RESISTOR 1kΩ, 1/10W
R66	4822 116 81647	RESISTOR 100kΩ, 1/10W
R67	4822 116 81655	RESISTOR 150kΩ, 1/10W
R68	4822 116 81645	RESISTOR 1kΩ, 1/10W
R69	4822 116 81647	RESISTOR 100kΩ, 1/10W
R70	4822 116 81655	RESISTOR 150kΩ, 1/10W
R71	4822 116 81645	RESISTOR 1kΩ, 1/10W
R72	4822 116 81681	RESISTOR 6.8kΩ, 1/10W
R73	4822 116 81681	RESISTOR 6.8kΩ, 1/10W
R76	4822 116 81674	RESISTOR 4.7kΩ, 1/10W
R77	4822 116 81709	RESISTOR 1.5MΩ, 1/10W
R78	4822 116 81646	RESISTOR 10kΩ, 1/10W
R79	4822 116 81646	RESISTOR 10kΩ, 1/10W
R80	4822 116 81655	RESISTOR 150kΩ, 1/10W
R81	4822 116 81732	RESISTOR 1.2kΩ, 1/10W
R82	4822 116 81674	RESISTOR 4.7kΩ, 1/10W
R83	4822 116 81674	RESISTOR 4.7kΩ, 1/10W
R84	4822 116 81674	RESISTOR 4.7kΩ, 1/10W
R85	4822 116 81645	RESISTOR 1kΩ, 1/10W
R86	4822 116 81674	RESISTOR 4.7kΩ, 1/10W
R87	4822 116 81674	RESISTOR 4.7kΩ, 1/10W
R88	4822 116 81651	RESISTOR 12kΩ, 1/10W
R89	4822 116 81674	RESISTOR 4.7kΩ, 1/10W
R102	4822 116 81645	RESISTOR 1kΩ, 1/10W
R103	4822 116 81666	RESISTOR 27kΩ, 1/10W
R104	4822 051 20753	RESISTOR 3.3kΩ, 1/10W
R105	4822 116 81675	RESISTOR 47kΩ, 1/10W
R106	4822 116 81661	RESISTOR 22kΩ, 1/10W
R107	4822 116 81742	RESISTOR 8.2kΩ, 1/10W
R108	4822 116 81742	RESISTOR 8.2kΩ, 1/10W
R109	4822 116 81742	RESISTOR 8.2kΩ, 1/10W
R111	4822 116 81674	RESISTOR 4.7kΩ, 1/10W
R112	4822 116 81657	RESISTOR 1.8kΩ, 1/10W
R113	4822 116 81646	RESISTOR 10kΩ, 1/10W
R114	4822 116 81734	RESISTOR 18kΩ, 1/10W
R115	4822 116 81734	RESISTOR 18kΩ, 1/10W
R116	4822 116 81734	RESISTOR 18kΩ, 1/10W
R128	4822 116 81646	RESISTOR 10kΩ, 1/10W

CAPACITORS

C22	4822 124 23825	E CAPACITOR 47μF, 6.3V
C25	4822 124 23826	E CAPACITOR 10μF, 16V
C27	4822 124 23826	E CAPACITOR 10μF, 16V
C29	4822 124 23826	E CAPACITOR 10μF, 16V
C30	4822 124 23825	E CAPACITOR 47μF, 6.3V
C31	4822 124 23826	E CAPACITOR 10μF, 16V
C33	4822 124 23826	E CAPACITOR 10μF, 16V
C35	4822 126 13897	CAPACITOR 0.1μF, 25V
C36	4822 126 13897	CAPACITOR 0.1μF, 25V
C37	4822 124 23832	E CAPACITOR 1μF, 50V
C38	4822 126 12421	CAPACITOR 47pF, 50V
C40	4822 126 14201	CAPACITOR 0.001μF, 50V
C41	4822 124 23826	E CAPACITOR 10μF, 16V
C42	4822 124 23826	E CAPACITOR 10μF, 16V
C44	4822 126 14201	CAPACITOR 0.001μF, 50V
C48	4822 124 23826	E CAPACITOR 10μF, 16V
C49	4822 124 23827	E CAPACITOR 22μF, 16V
C50	4822 126 13897	CAPACITOR 0.1μF, 25V
C51	4822 124 80344	E CAPACITOR 0.47μF, 50V
C57	4822 124 23826	E CAPACITOR 10μF, 16V
C58	4822 126 14201	CAPACITOR 0.001μF, 50V
C59	4822 126 13897	CAPACITOR 0.1μF, 25V
C60	4822 124 80344	E CAPACITOR 0.47μF, 50V
C61	4822 126 14186	CAPACITOR 0.022μF, 25V
C69	4822 124 80306	E CAPACITOR 4.7μF, 25V

RESONATOR

CF2	4822 242 82253	RESONATOR
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CONNECTORS

CN1	4822 267 41178	CONNECTOR, (1-5) MAIN
CN2	4822 267 41256	CONNECTOR, (2-14) MAIN