Video Cassette Recorder VR1500/58

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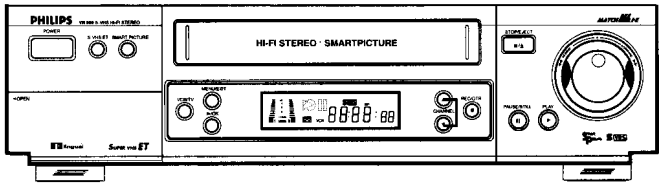


VR1500/58

Service Manual

Contents

Chapter

Specification:

Video & Hi Fi recording:	Rotary six-head helical scan system (2 audio heads)
Antenna input Signal:	PAL BG, DK.
Antenna:	VHF/UHF 75Ω external antenna terminal
VHF Output Signal:	UHF CH36 (Adjusted between CH28 - CH60) 75Ω unbalanced
Power requirement:	AC 220V – 240V
Power consumption:	24W Power On 5.5W Power Off 3W Power Save Mode
Operating temperature:	+5°C to +40°C
Relative humidity:	10% to 80%
Weight:	4.6 kg
Dimensions:	435 x 94 x 343mm

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

Published by CFC99PJVM Videq Service Department Subject to modification 4822 726 15635

ECH15058.pm5

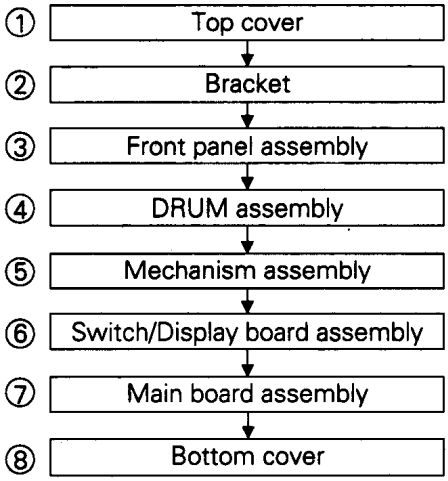
PHILIPS

TABLE OF CONTENTS

SECTION 1
DISASSEMBLY

1.1 DISASSEMBLY FLOW CHART

This flowchart lists the disassembling 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	4(S1), (S2)	
②	BRACKET	D2	2(S3)	
③	FRONT PANEL ASSEMBLY	D3	2(S4),9(L1),WR1, WR2, *CN3012, CN7192, JACK BOARD ASSY	<NOTE 1> <NOTE 2>

(1) (2) (3) (4) (5)

(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,unpluged,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	4(S1), (S2)	
②	BRACKET	D2	2(S3)	
③	FRONT PANEL ASSEMBLY	D3	2(S4),9(L1),WR1, WR2, *CN3012, CN7192, JACK BOARD ASSY	<NOTE 1> <NOTE 2>
④	DRUM ASSEMBLY	D4	3(S5),WR3,WR4, *CN1,(L2),4(L3), (L4),(P1), INERTIA PLATE, ROLLER ARM ASSY, CLEANING BRUSH ASSY	<NOTE 2>
⑤	MECHANISM ASSEMBLY	D5	2(S6),2(S7),WR5 2(L5),*CN1	<NOTE 2> <NOTE 3>
⑥	SWITCH/DISPLAY BOARD ASSEMBLY	D6	7(L6),(L7),WR6,WR7, *CN7191,CN7001, REC SAFETY BOARD ASSY	<NOTE 4>
⑦	MAIN BOARD ASSEMBLY	D7	2(S8), (S9), (S10)	
⑧	BOTTOM COVER	D8	2(S11),4(L8), 7(L9),4(L10), FOOT ASSY, FOOT(REAR)	

<NOTE1>
- When reattaching the Front panel assembly, make sure that the door opener ⓐ of the Cassette holder assembly is lowered in position prior to the reinstallation.

<NOTE2>
- When inserting the flat wire into the connector, be careful not to make a mistake in the positioning of its electrodes.

<NOTE3>
- When it is required to remove the screws (S6) retaining the Mechanism assembly, please refer to the "Procedures for Lowering the Cassette holder assembly". (See on pages 1-3.)
- When removing the Mechanism 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 Mechanism assembly.
- When reattaching the Mechanism assembly to the Main board assembly, take care not to damage the sensors on the Main board assembly (D3001: LED, Q3002: Start sensor, Q3003: End sensor, S3002 : S cassette switch).

<NOTE4>
- The REC safety board assembly is attached to the Switch/Display board assembly. It is therefore necessary to remove the REC safety board assembly before removing the Switch/Display board assembly.
- When inserting the flat wire into the connector, be careful not to make a mistake in the positioning of its electrodes.

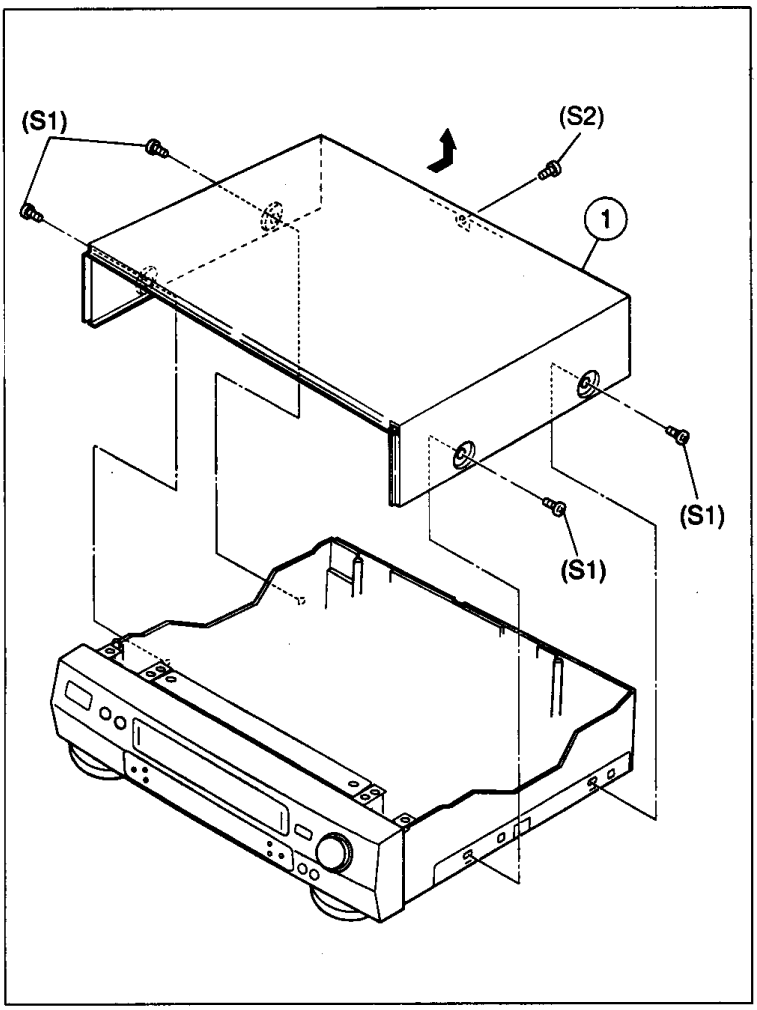


Fig. D1

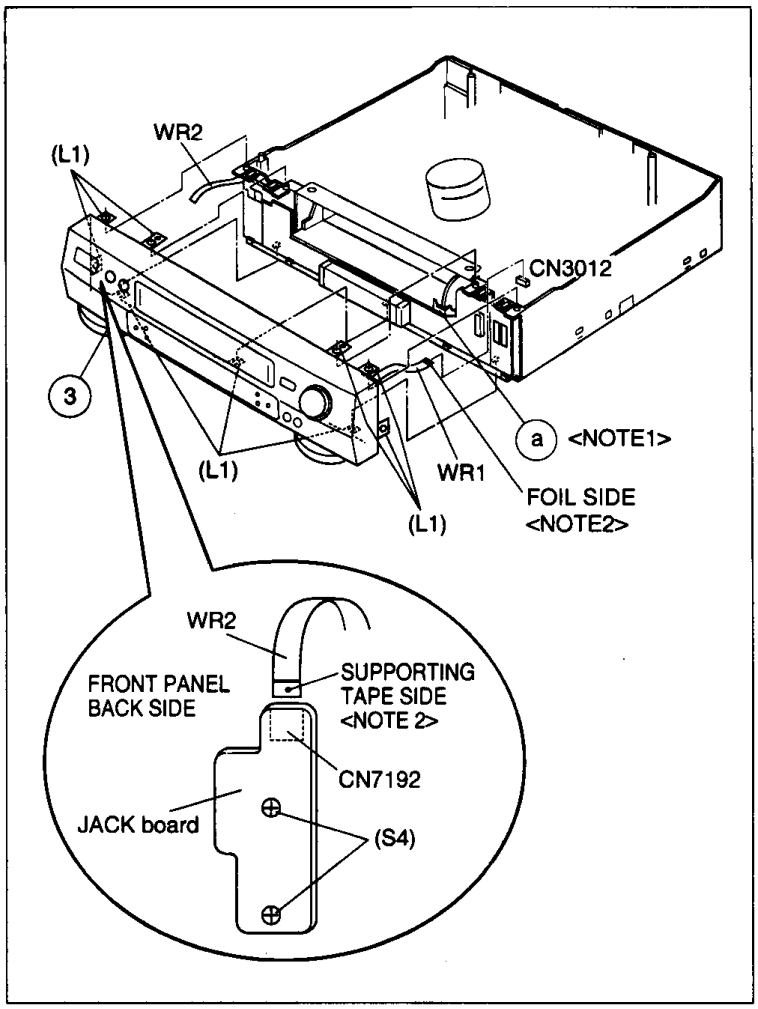


Fig. D3

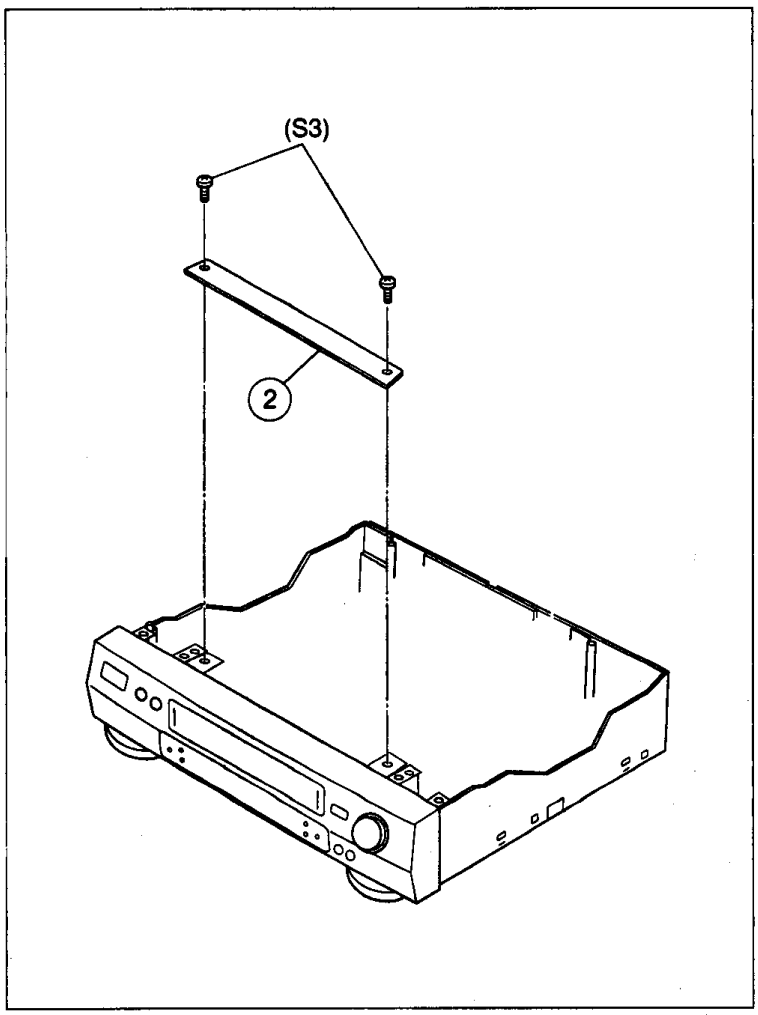


Fig. D2

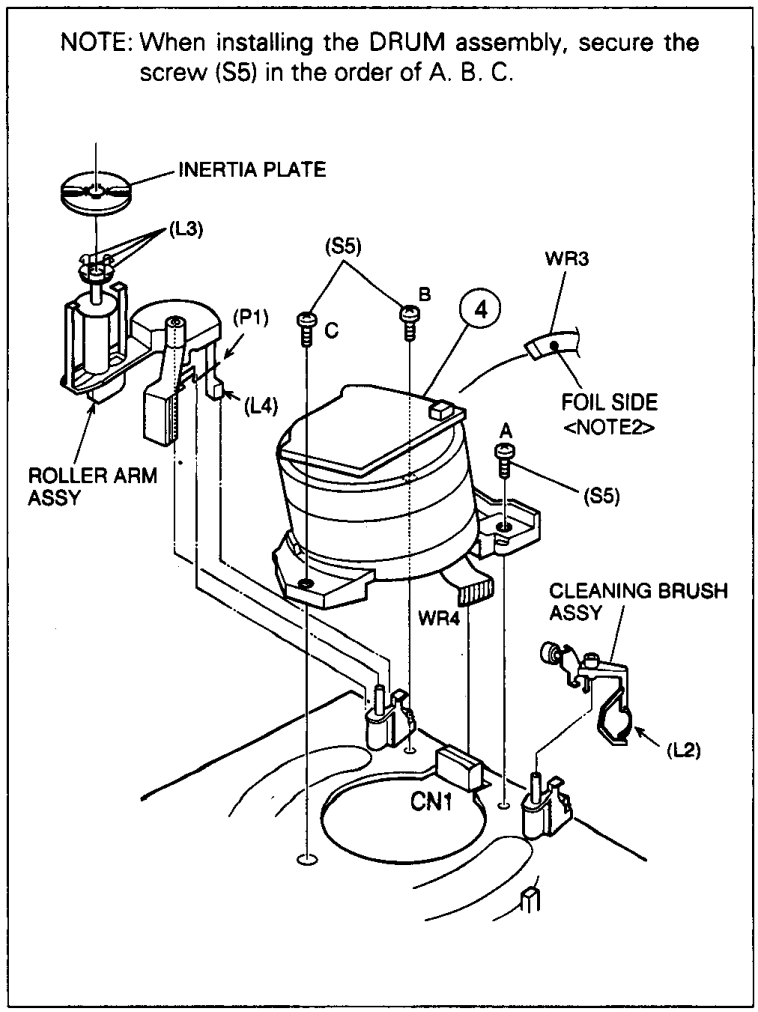


Fig. D4

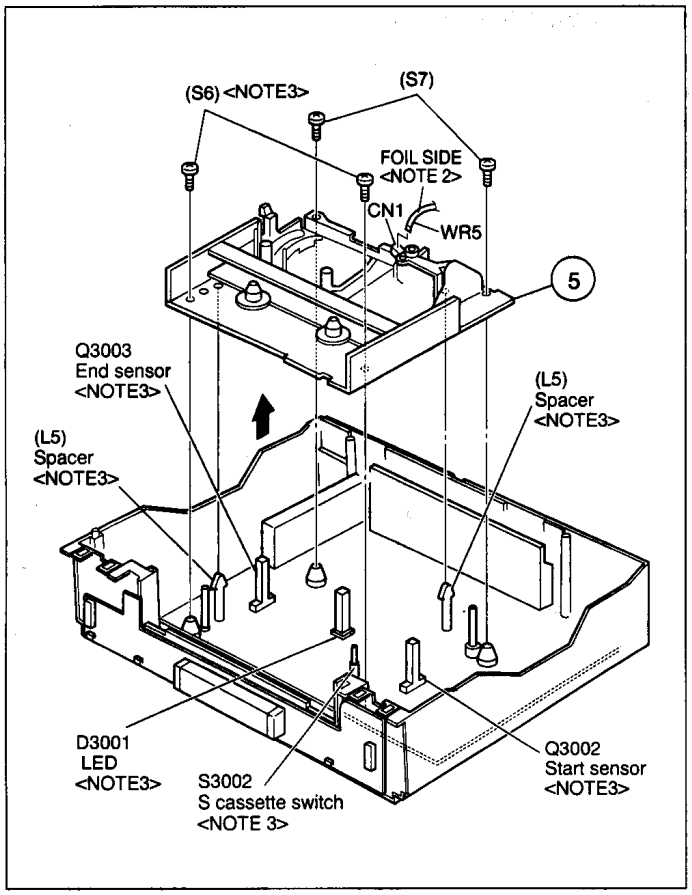


Fig. D5

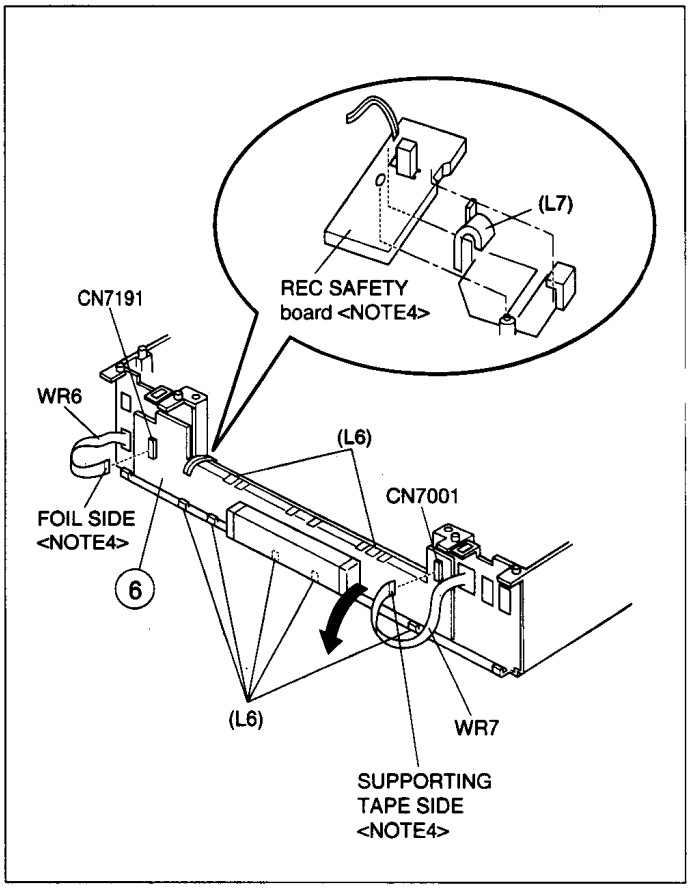


Fig. D6

Procedures for Lowering the Cassette holder assembly

As the mechanism of this unit is integrated with the Housing assembly, the holder must be lowered and the two screws unscrewed when removing the Main deck assembly.

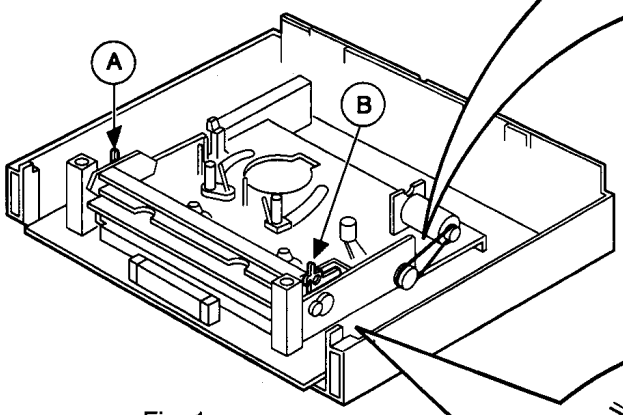


Fig. 1

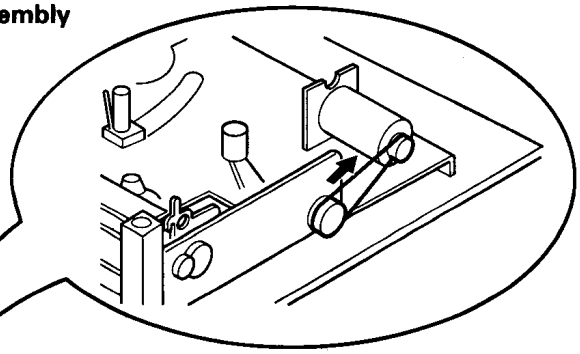


Fig. 2

Turn the loading motor pulley in the direction as indicated by Fig.2. As both Ⓐ and Ⓑ levers are lodged twice, push the levers in the direction as indicated by Fig.3 to release them. When pushing the levers, do it in the order of Ⓐ,Ⓑ,Ⓑ,Ⓐ. When the holder has been lowered, turn the pulley until the cassette holder is securely in place without allowing any up/down movement.

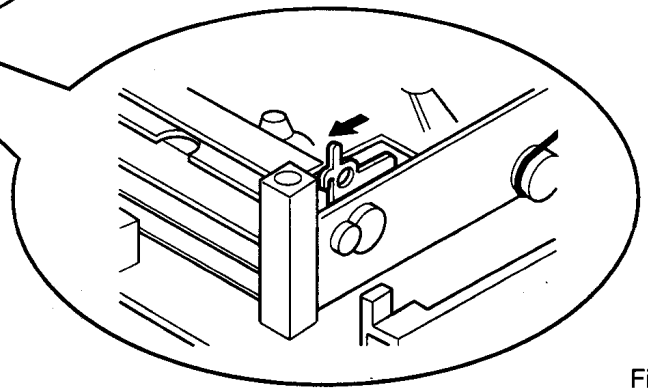


Fig. 3

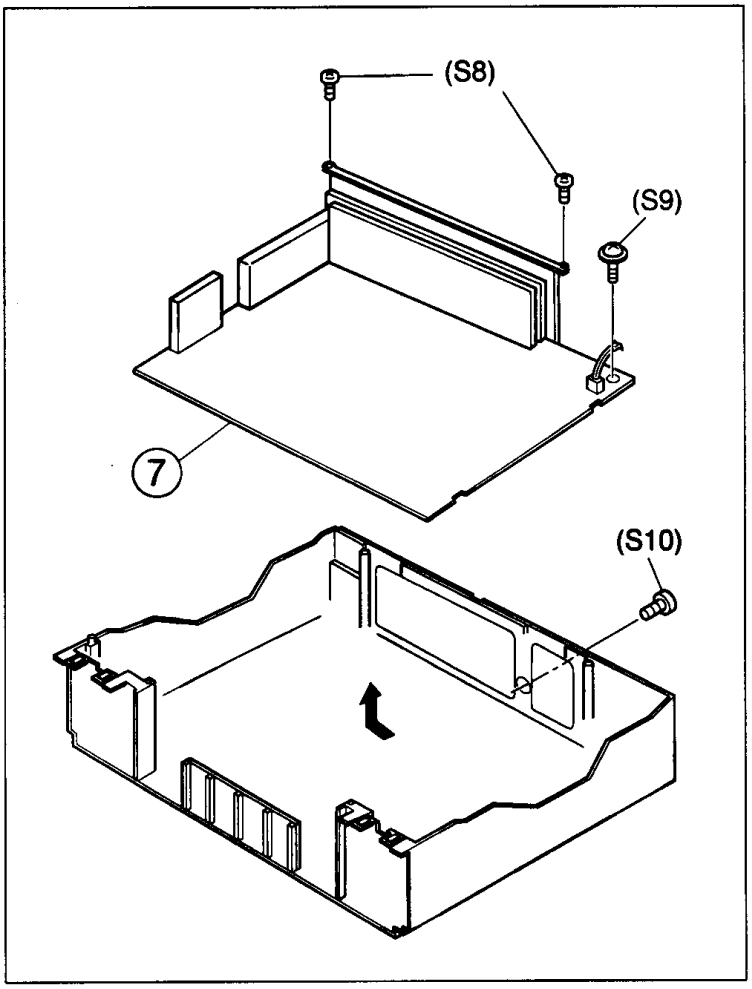


Fig. D7

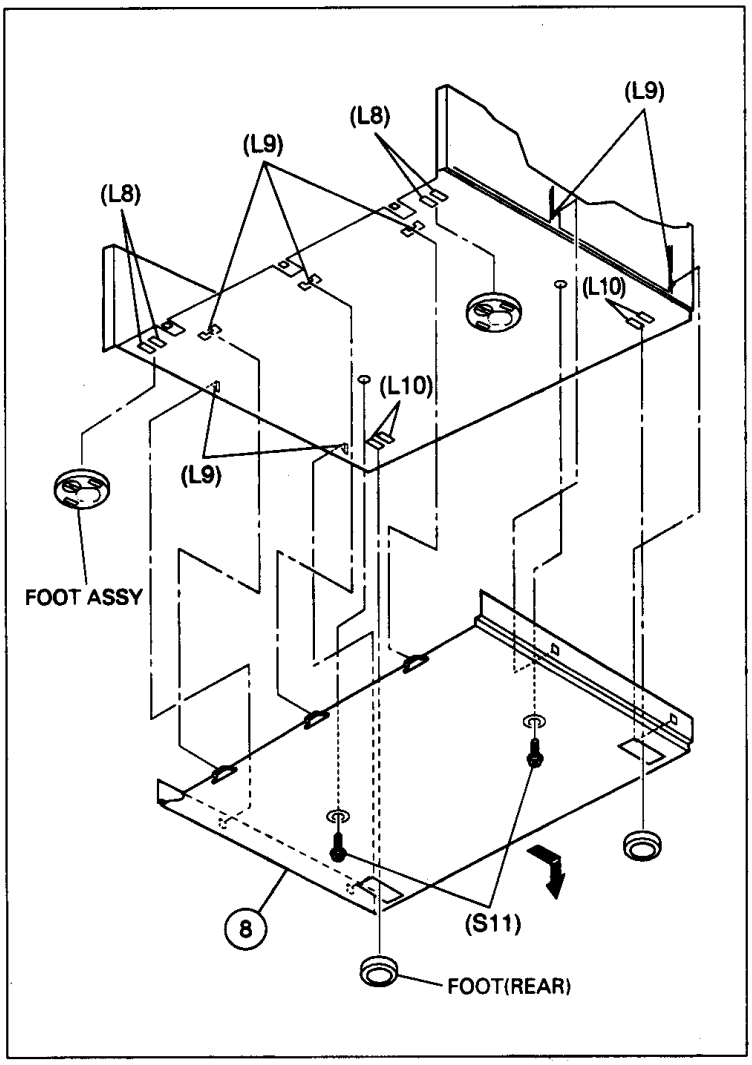


Fig. D8

1.4 SERVICE POSITION

In order to facilitate diagnosis and the repair of the Mechanism assembly, this unit is constructed so as to allow the Mechanism and Main board assemblies to be removed together from the Chassis assembly.

1.4.1 How to take out the Mechanism and Main board assemblies

(1) Remove the Top cover, Bracket, Front panel assembly and JACK board assembly. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD. Take care not to pull the drum wire (Fig.D4) from CN1.)
(2) Lower the cassette holder, and make the preparations required in order to remove the screws from the Mechanism assembly. (Refer to the "Procedures for Lowering the Cassette holder assembly" on pages 1-3 of 1.3 DISASSEMBLY/ASSEMBLY METHOD.)
(3) Take out 2 screws Ⓐ and 2 screws Ⓑ as shown in Fig. 1-4-1.
(4) Remove the flat wires from CN3011 and CN7504 on the Main board assembly.

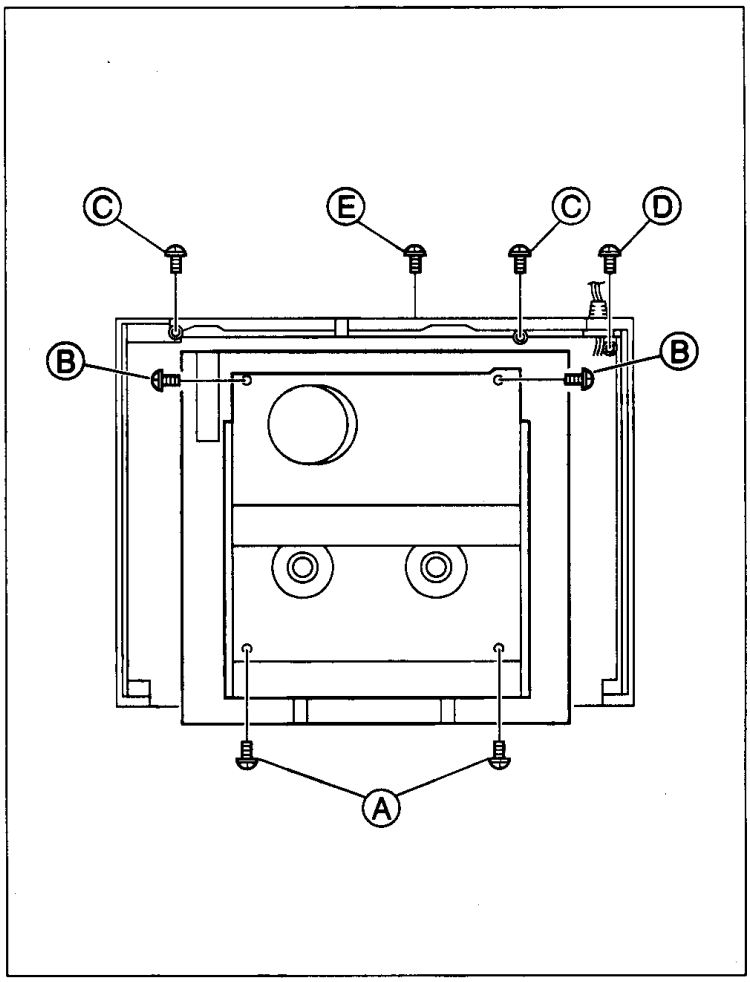


Fig. 1-4-1

(5) Take out 2 screws Ⓒ, 1 screw Ⓓ and 1 screw Ⓔ as shown in Fig. 1-4-1.
(6) Remove the Main board and Mechanism assemblies together while holding the edge of the Main board assembly. At this stage be careful of the power cord and prongs of the jacks on the back side. (See Fig. 1-4-2.)
(7) Remove the Switch/Display board assembly and REC safety board assembly. (Refer to page 1-3 of 1.3 DISASSEMBLY/ASSEMBLY METHOD. Take care not to pull the flat wires (Fig. D6) from CN7001 and CN7191.)

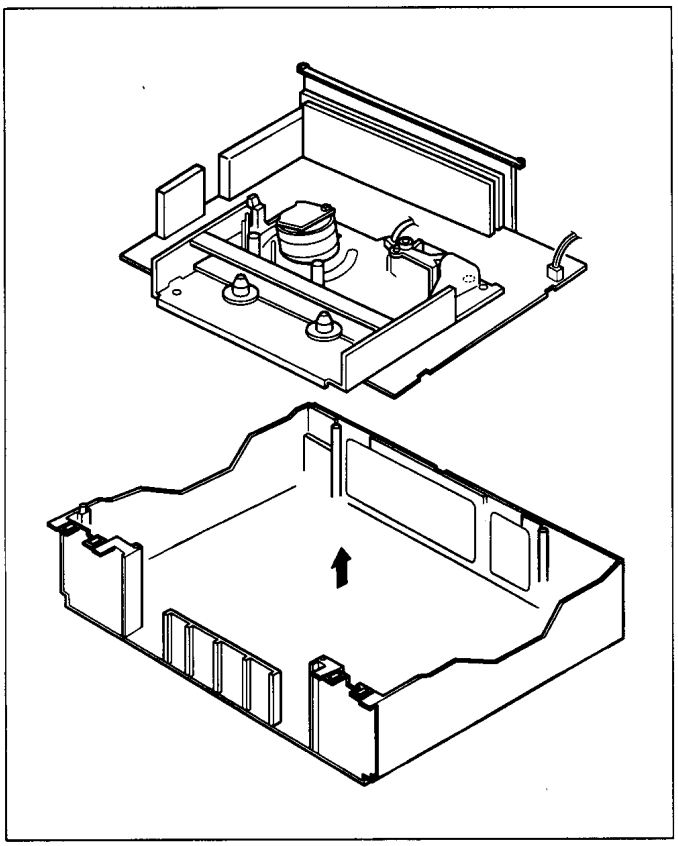


Fig. 1-4-2

(8) Place the Switch/Display board assembly, REC safety board assembly and Jack board assembly on the front side of the Mechanism and Main board assemblies which was removed at the step (6), then connect the flat wires into CN3011 and CN7504 of the Main board assembly and CN7192 of the Jack board assembly. (Refer to Fig. 1-4-3.)

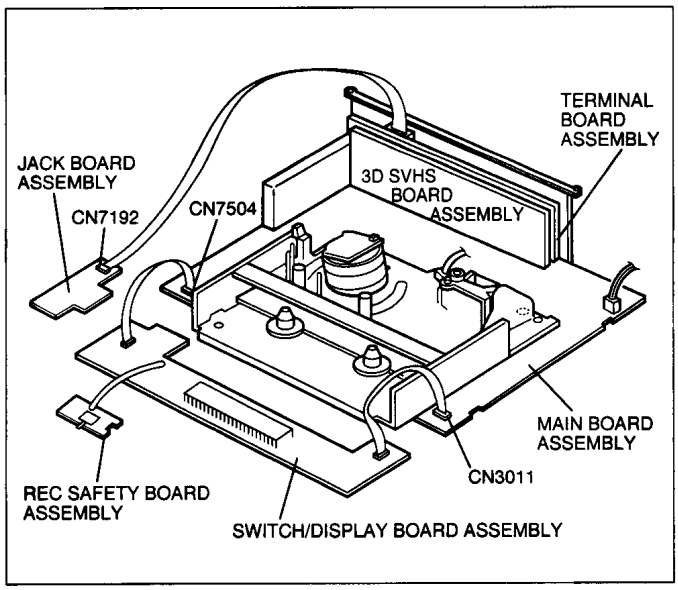


Fig. 1-4-3

(9) Connect the power cord to the isolation transformer and lift the cassette holder.
(Before turning on the power make sure that there is nothing which may produce a short circuit, such as faulty soldering.)

Note: *When carrying out diagnosis and repair of the Main board assembly in the service position, be sure to ground both the Main board and the Mechanism assemblies.*

If they are improperly grounded, there may be noise on the playback picture or the FDP counter display may move even when the mechanism is kept in an inoperative status.

1.4.2 Precautions for cassette loading in the "SERVICE POSITION"

The REC safety board assembly detects cassette loading as well as cassette tabs. Therefore, after the assembly has been removed in the "SERVICE POSITION", it is required to set the switch manually on the REC safety board assembly when a cassette is loaded.

1.4.3 Cassette loading and ejection methods in the "SERVICE POSITION"(See Fig. 1-4-3).

(1) Insert a cassette halfway in the Cassette holder assembly.
(2) Set the switch on the REC safety board assembly to ON (by pressing the switch).
(3) As soon as the cassette starts to be loaded, set the switch on the REC safety board assembly to OFF (by releasing the switch).
(4) Now the desired operation (recording, playback, fast forward, rewind, etc.) is possible in this status (the status shown in Fig. 1-4-3).

NOTES:
- *When performing diagnostics of the tape playback or recording condition in the "SERVICE POSITION", enter the desired mode before turning the set upside down, and do not change the mode during diagnostics while the set is placed upside down. If you want to switch the mode, turn the set to the normal position (the status shown in Fig. 1-4-3).*
- *When performing fast-forward and rewind, be sure to turn the set to the normal position.*
- *In the "SERVICE POSITION", the cassette tabs cannot be detected and recording becomes possible even with a cassette with broken tabs such as the alignment tape. Be very careful not to erase important tapes.*

(5) The switch on the REC safety board assembly does not have to be operated when ejecting a tape. But be sure to turn the set to the normal position before ejecting the tape.

1.5 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".

1.5.1 How to set the "MECHANISM SERVICE MODE"

(1) Disconnect VCR from AC.
(2) Connect TPGND and TP7001(TEST) on the Switch/Display board assembly with a jump wire.
(3) Connect VCR to AC.
(4) Press the POWER button.
(5) With lock levers ⒶⒷ on the left and right of the Cassette holder assembly pulled toward the front, slide the holder in the same direction as the cassette insertion direction. (For the positions of lock levers ⒶⒷ, refer to the "Procedures for Lowering the Cassette holder assembly" on pages 1-3 of 1.3 DISASSEMBLY/ASSEMBLY METHOD.)
(6) The cassette holder lowers and, when the loading has completed, the mechanism enters the desired mode.

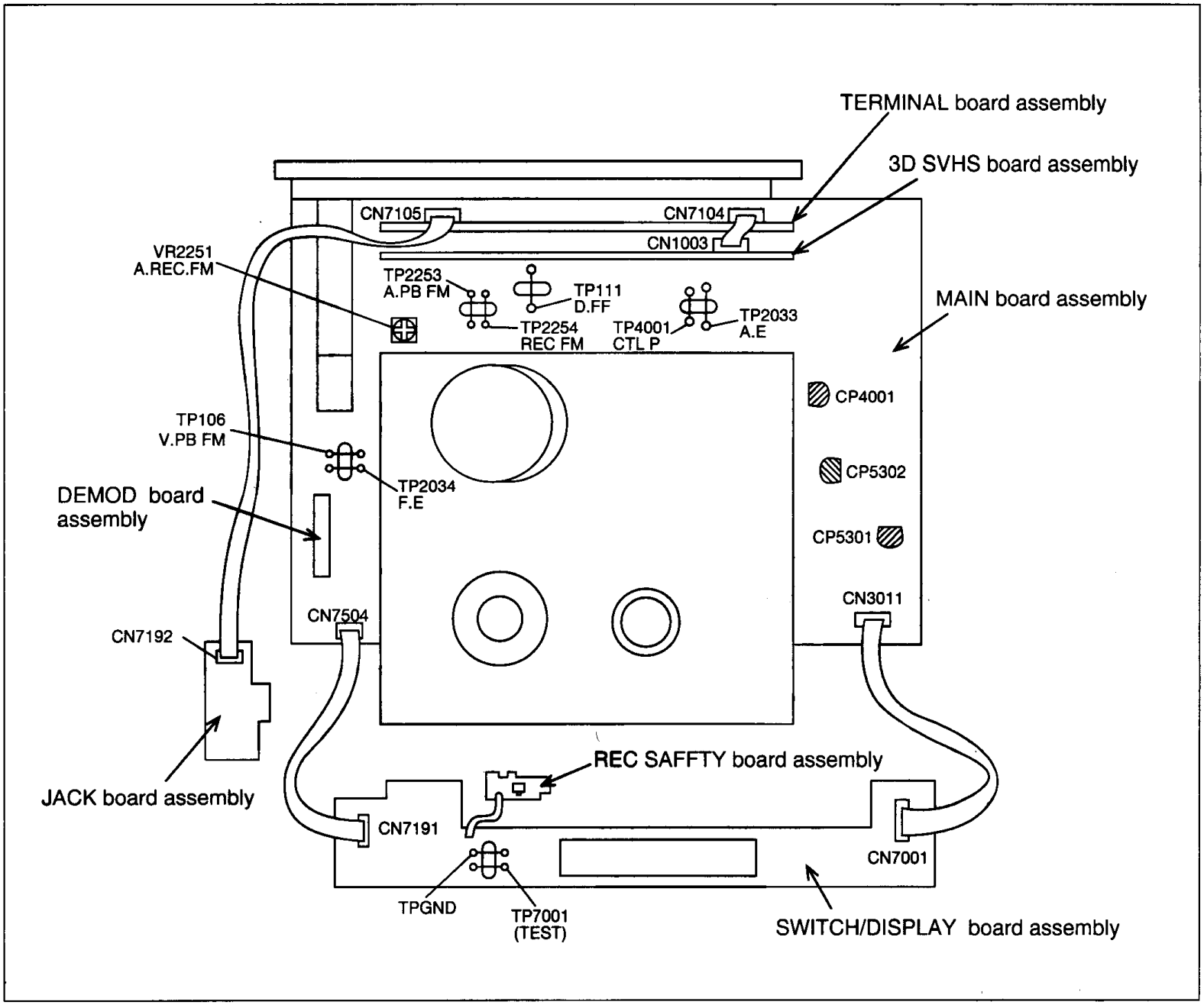


Fig. 1-5-1

1.6 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.

1.6.1 How to display record of an emergency faults

(1) Press the "A" button first then the "N" button of the presetting unit, and the two previous emergency faults are shown in the FDP.
(2) Press the "N" button of the presetting unit again to return to the normal mode.

[Example] E : 01 : 03

- Emergency fault before last
- Emergency fault of the last time

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

1.6.2 Detail of emergency faults

EMG DATA	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 → POWER OFF
E : 06	CAPSTAN FG input is absent. (for more than 4 Sec)	REC/PLAY/FF/REW SEARCH FF/SEARCH REW	STOP → POWER OFF
E : 07	No SWD5V/12V	POWER ON	POWER OFF
E : 08	Initialized action of DD (Dynamic Drum) is not complete for less than 4 seconds.	Connect VCR to AC	STOP
E : 09	DD drive motor is not rotate for more than 2.5 seconds.	on TIME SCAN	STOP

Table 1-6-1 EMERGENCY FAULTS

1.6.3 How to clear emergency record

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

1.7 SYSCON CIRCUIT

1.7.1 Syscon CPU pin function (IC3001) 1/2

PIN NO.	LABEL	IN/OUT	FUNCTION
1	CTL(+)	IN/OUT	CTL(+) SIGNAL
2	SVSS	-	GND
3	CTL(-)	IN/OUT	CTL(-) SIGNAL
4	CTLBIAS	-	CTL BIAS VOLTAGE
5	CTLFB	IN	CTL PULSE FEEDBACK
6	CTLAMPOUT	OUT	CTL PULSE OUTPUT
7	CTLSMTIN	IN	CTL PULSE INPUT
8	CFG	IN	CAPSTAN FG PULSE INPUT
9	SVCC	-	SYSTEM POWER
10	AVCC	-	SYSTEM POWER FOR ANALOG CIRCUIT
11	NORM/MESEC/S	IN	SVHS MODE:H
12	SECAM DET/KILLER OUT	-	NC
13	VIDEO ENV	IN	AUTO TRACKING DETECT/INPUT THE AVERAGE OF PLAYBACK VIDEO SIGNAL
14	START SENSOR	IN	START SENSOR
15	END SENSOR	IN	END SENSOR
16	IND(L)	IN	AUDIO INPUT (LCH) FOR THE FDP AUDIO INDICATOR
17	DD ABS	IN	DYNAMIC DRUM POSITION DETECT
18	SCR ID	IN	SCRAMBLE CONTROL INPUT (SCRAMBLE:H)
19	IND(R)	IN	AUDIO INPUT (RCH) FOR THE FDP AUDIO INDICATOR
20	BS ANT/AFC	IN	TUNING CLOCK
21	LED/RF AGC	IN	NC/CHANGES IN ATS+IC OUTPUT AS CAUSED BY CHANGES IN RECEIVER SENSITIVITY WHEN THE SAME CHANNEL IS RECEIVED MORE THAN ONCE ARE INPUT.
22	A.ENV/ND(L)	IN	AUDIO PB FM ENV.INPUT/NON HiFi MODE:L
23	AVSS	-	GND FOR ANALOG CIRCUIT
24	CTL GAIN	OUT	CONTROL AMP OUT FREQUENCY RESPONSE SWITCHING
25	LSA	IN	MECHANISM MODE DETECT(A)
26	LSB	IN	MECHANISM MODE DETECT(B)
27	LSC	IN	MECHANISM MODE DETECT(C)
28	CAP REV(L)	OUT	CAPSTAN MOTOR REVERSE CONTROL (FWD:H/REV:L)
29	RC	IN	REMOTE CONTROL DATA INPUT
30	R.PAUSE/COMPU IN	IN	REMOTE PAUSE CONTROL / A/V COMPULINK INPUT
31	P50 IN	IN	CONTROL SIGNAL FOR TV LINK
32	LMC3	OUT	LOADING MOTOR DRIVE(3)
33	P50 OUT/COMPU OUT	OUT	CONTROL SIGNAL FOR TV LINK
34	EE(L)	OUT	EE/PB CONTROL (EE MODE:L)
35	LMC1	OUT	LOADING MOTOR DRIVE(1)
36	LMC2	OUT	LOADING MOTOR DRIVE(2)
37	P.CTL(H)	OUT	CONTROL SIGNAL FOR SWITCHING POWER SUPPLY
38	SB G(PWM)	OUT	VOLTAGE CONTROL SIGNAL FOR VIDEO FREQUENCY RESPONSE
39	STB/TEST	OUT	STROBE SIGNAL (FOR FDP DRIVER)
40	POWER DET	IN	DETECTION SIGNAL FOR POWER DOWN OF AC POWER SUPPLY
41	REC SAFETY	IN	REC SAFETY SWITCH DETECT (SW ON:L)
42	PROTECT	IN	DETECTION SIGNAL FOR SW POWER SUPPLY
43	VSS	-	GND
44	TRICK(H)	OUT	SPECIAL PLAYBACK:H
45	VCC	-	SYSTEM POWER
46	N.REC(H)	OUT	NORMAL AUDIO REC MODE CONTROL (REC:H)
47	SUB DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR SUB CPU
48	SUB CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR SUB CPU
49	I2C DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR THE ON-SCREEN IC
50	I2C CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR THE ON-SCREEN IC
51	S.DATA TOSYS	IN	SERIAL DATA TRANSFER OUTPUT FROM THE ON-SCREEN IC TO THE FDP DRIVER
52	S.DATA FRSYS	OUT	SERIAL DATA TRANSFER OUTPUT FROM THE FDP DRIVER TO THE ON-SCREEN IC
53	S.CLK	OUT	SERIAL DATA TRANSMISSION CLOCK FROM THE FDP DRIVER TO THE ON-SCREEN IC
54	SP FG	IN	DETECTION SIGNAL FOR SUPPLY REEL ROTATION/TAPE REMAIN
55	TU FG	IN	DETECTION SIGNAL FOR TAKE-UP REEL ROTATION/TAPE REMAIN
56	LOCK(L)	IN	TUNING PLL LOCK DETECT: L

Table 1-7-1 SYSCON CPU pin function(1/2)

1.7.2 Syscon CPU pin function (IC3001) 2/2

PIN NO.	LABEL	IN/OUT	FUNCTION
57	TU CE	OUT	CHIP ENABLE OF THE TUNER UNIT
58	JUST CLK/CCIR(H)	OUT	NC/EXCEPT FOR NTSC:L
59	EE(L)/DDFG	OUT/IN	EE/PB CONTROL (EE MODE:L)/DYNAMIC DRUM FG INPUT
60	TU CLK	OUT	CLOCK FOR DATA TRANSFER TO THE TUNER UNIT
61	TU DATA	OUT	TUNING DATA
62	FWE	-	NC
63	NMI(L)	-	NC
64	X2	-	TIMER CLOCK (32.768KHz)
65	X1	-	TIMER CLOCK (32.768KHz)
66	RES(L)	-	RESET TERMINAL (RESETON:L)
67	OSC1(IN)	-	MAIN SYSTEM CLOCK(10MHz)
68	VSS	-	GND
69	OSC2(OUT)	-	MAIN SYSTEM CLOCK(10MHz)
70	VCC	-	SYSTEM POWER
71	MODE	-	NC
72	TU A MUTE(H)	OUT	TUNER AUDIO MUTE CONTROL (MUTE:H)
73	TU V MUTE(H)	OUT	TUNER VIDEO CONTROL (MUTE:H)
74	A.MUTE(H)	OUT	AUDIO MUTE CONTROL (MUTE:H)
75	I2C CLK2	OUT	SERIAL DATA TRANSFER CLOCK FOR MEMORY IC
76	I2C DATA2	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR MEMORY IC
77	DDCFWD	OUT	DYNAMIC DRUM CONTROL(FORWARD)
78	DDCREV	OUT	DYNAMIC DRUM CONTROL(REVERSE)
79	DDSPDCTL	OUT	DYNAMIC DRUM SPEED CONTROL
80	V.P.CTL	OUT	V.PULSE CONTROL, V COMPENSATION DURING SPECIAL PLAYBACK
81	ET REC(H)	-	NC
82	VCC	-	SYSTEM POWER
83	SLOW P	OUT	MEMORY TIMING CONTROL IN THE SLOW MODE
84	VSS	-	GND
85	SP SHORT(H)	-	NC
86	LP SHORT(H)	-	NC
87	FLY ON(H)	OUT	FLYING ERASE ON:H
88	A.REC ST(H)	OUT	HIFI AUDIO SOUND RECORDING START
89	SECAM(H)	-	NC
90	HEAD SEL	OUT	HEAD SELECT(LP HEAD:H, SP HEAD:L)
91	OSD CS	OUT	CHIP SELECT FOR THE ON-SCREEN IC
92	SYNC DET(H)	IN	DETECTION OF VIDEO SYNC SIGNAL (DETECTED:H)
93	P.MUTE(L)	OUT	PICTURE MUTE CONTROL (MUTE:L)
94	JSB/STLB	IN	INPUT FOR THE JOG SHUTTLE
95	SHTL(L)/JOGA	IN	INPUT FOR THE JOG SHUTTLE
96	JOGB	IN	INPUT FOR THE JOG SHUTTLE
97	JSA/STLA	IN	INPUT FOR THE JOG SHUTTLE
98	C.SYNC	IN	COMPOSITE SYNC
99	A.FF	OUT	AUDIO FF OUTPUT
100	V.FF	OUT	ROTATION DETECTION SIGNAL FOR DRUM MOTOR/TIMING CONTROL SIGNAL FOR REC
101	CAPPWM	OUT	CAPSTAN MOTOR CONTROL
102	DRUMPWM	OUT	DRUM MOTOR CONTROL
103	SUB RESET/V.UP(H)	OUT	SUB CPU RESET(RESET:L)/NC
104	S.CASS(H)	IN	DETECTION SIGNAL FOR SVHS CASSETTE (SVHS:H)
105	PERI 1S	IN	INPUT FOR THE TERMINAL SLIDE SW POSI IN THE SAT MODE
106	LOCK(L)/P.SAVE(L)	OUT	NC/POWER SAVE:L
107	DPG	IN	DRUM PICKUP PULSE INPUT (SWITCHING PULSE)
108	DFG	IN	DRUM FG PULSE INPUT
109	VCC	-	SYSTEM POWER
110	V.PULSE	OUT	V.PULSE ADDITION TIMING CONTROL
111	VSS	-	GND
112	CTLREF	-	CTL REFERENCE VOLTAGE

Table 1-7-2 SYSCON CPU pin function(2/2)

SECTION 2
MECHANISM ADJUSTMENT

2.1 BEFORE STARTING REPAIR AND ADJUSTMENT

2.1.1 Precautions

(1) Unplug the power cable of the main unit before using your soldering iron.
(2) Take care not to cause any damage to the conductor wires when plugging and unplugging the connectors.
(3) Do not randomly handle the parts without identifying where the trouble is.
(4) Exercise enough care not to damage the lugs, etc. during the repair work.
(5) When installing the front panel assembly, be sure to hook the lug on the back side of the cassette door to the door opener of the cassette holder. If this operation is neglected it will not be possible to remove the cassette when ejecting because the housing door cannot be opened.

2.1.2 Checking for Proper Mechanical Operations

Enter the mechanism service mode when you want to operate the mechanism when no cassette is loaded. (See 1.5 MECHANISM SERVICE MODE.)

2.1.3 Manually Removing the Cassette Tape

1. In case of electrical failures

If you cannot remove the cassette tape which is loaded because of any electrical failure, manually remove it by taking the following steps.

(1) Unplug the power cable and remove the top cover, bracket and front panel assembly. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD.)
(2) Unload the cassette by manually turning the loading motor of the mechanism assembly toward the front. In doing so, hold the tape by the hand to keep the slack away from any grease. (See Fig.2-1-1.)
(3) Bring the pole base assembly (supply or take-up side) to a pause when it reaches the position where it is hidden behind the cassette tape.
(4) Move the top guide toward the drum while holding down the lug Ⓐ of the bracket retaining the top guide. Likewise hold part Ⓑ down and remove the top guide. Section Ⓒ of the top guide is then brought under the cassette lid. Then remove the top guide by pressing the whole cassette tape down. (See Fig.2-1-2.)
(5) Remove the cassette tape by holding both the slackened tape and the cassette lid.
(6) Take up the slack of the tape into the cassette. This completes removal of the cassette tape.

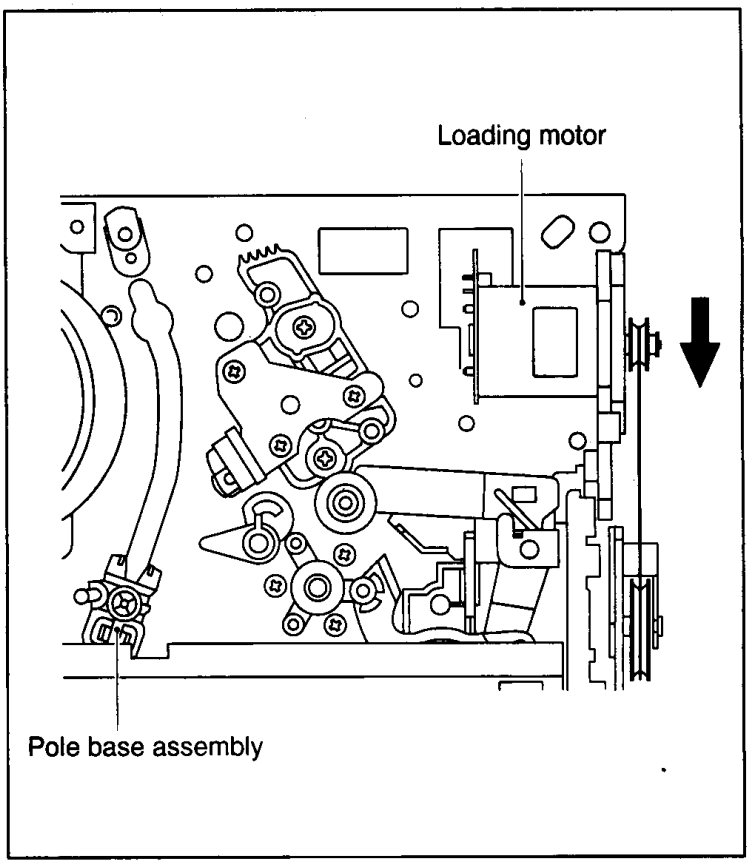


Fig. 2-1-1

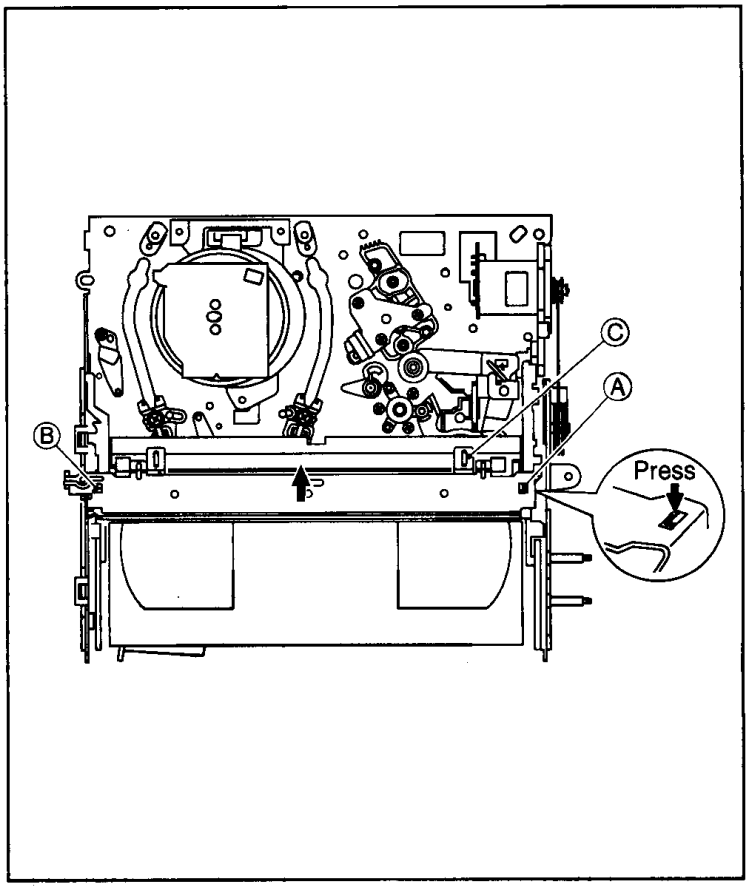


Fig. 2-1-2

2. In case of mechanical failure

If you cannot remove the cassette tape which is loaded because of any mechanical failure, manually remove it by taking the following steps.

(1) Unplug the power cable and remove the top cover, front panel assembly and others so that the mechanism assembly is visible. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD.)

(2) While keeping the tension arm assembly of the mechanism assembly free from tension, pull the tape on the pole base assembly (supply or take-up side) out of the guide roller. (See Fig.2-1-3.)

(3) Take the spring of the pinch roller arm assembly off the hook of the press lever assembly, and detach it from the tape. (See Fig.2-1-4.)

(4) In the same way as in the electrical failure instructions in 2.1.3 (4), remove the top guide.

(5) Raise the cassette tape cover. By keeping it in that position, draw out the cassette tape case from the cassette holder and take out the tape.

(6) By hanging the pinch roller arm assembly spring back on the hook, take up the slack of the tape into the cassette.

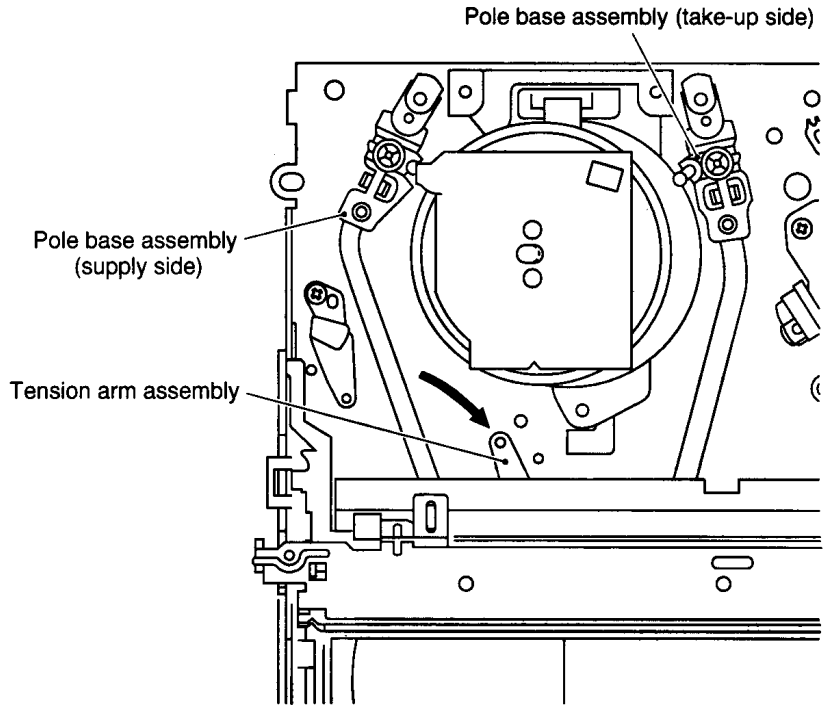


Fig. 2-1-3

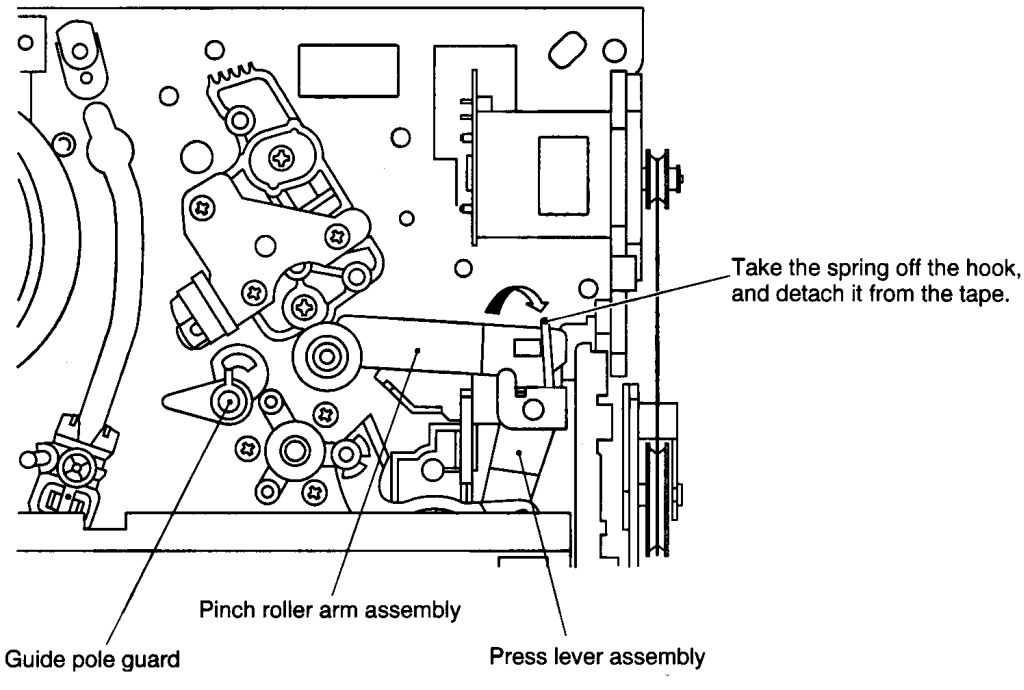


Fig. 2-1-4

2.1.4 Jigs and Tools Required for Adjustment

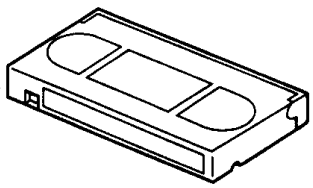
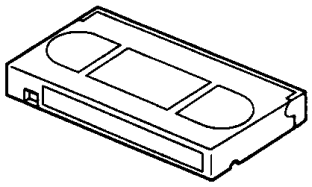
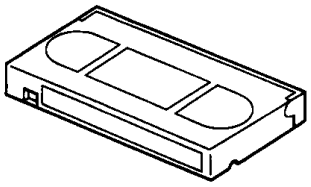
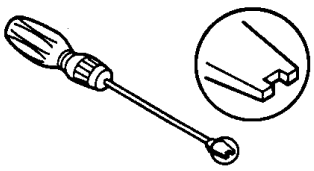
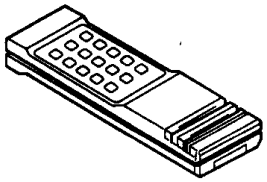
Alignment tape (SP) 4822 397 30262	Alignment tape (LP) 4822 397 30261	Back tension cassette gauge 4822 395 90615	A/C head position bit 4822 395 90916
			
Roller driver **4822 395 90904**	**Presetting unit** **4822 395 90915**		
			

Table 2-1-1 Jigs and tools required for adjustment

2.1.5 Maintenance and Inspection

1. Location of major mechanical parts

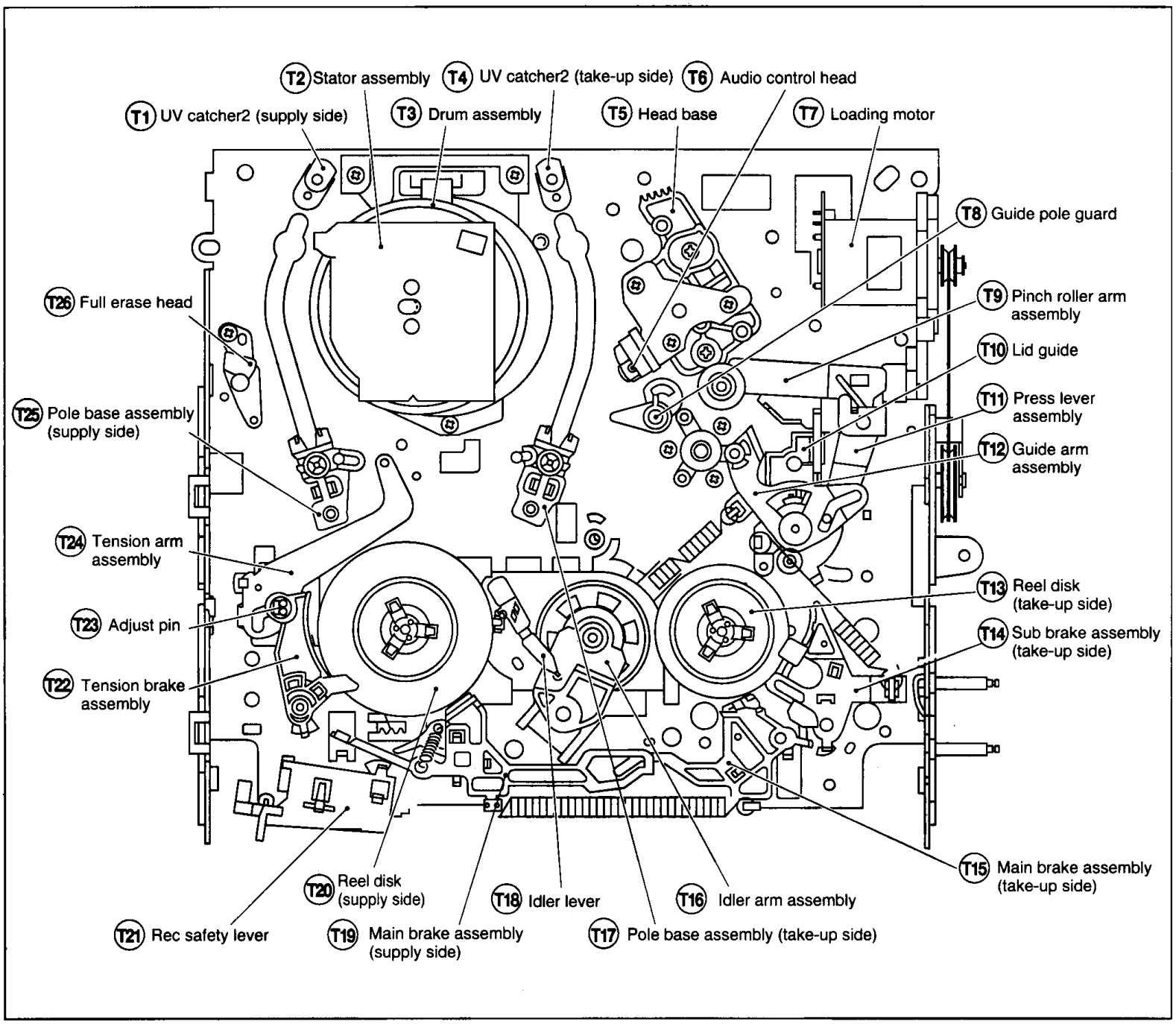


Fig. 2-1-5 Mechanism assembly top side

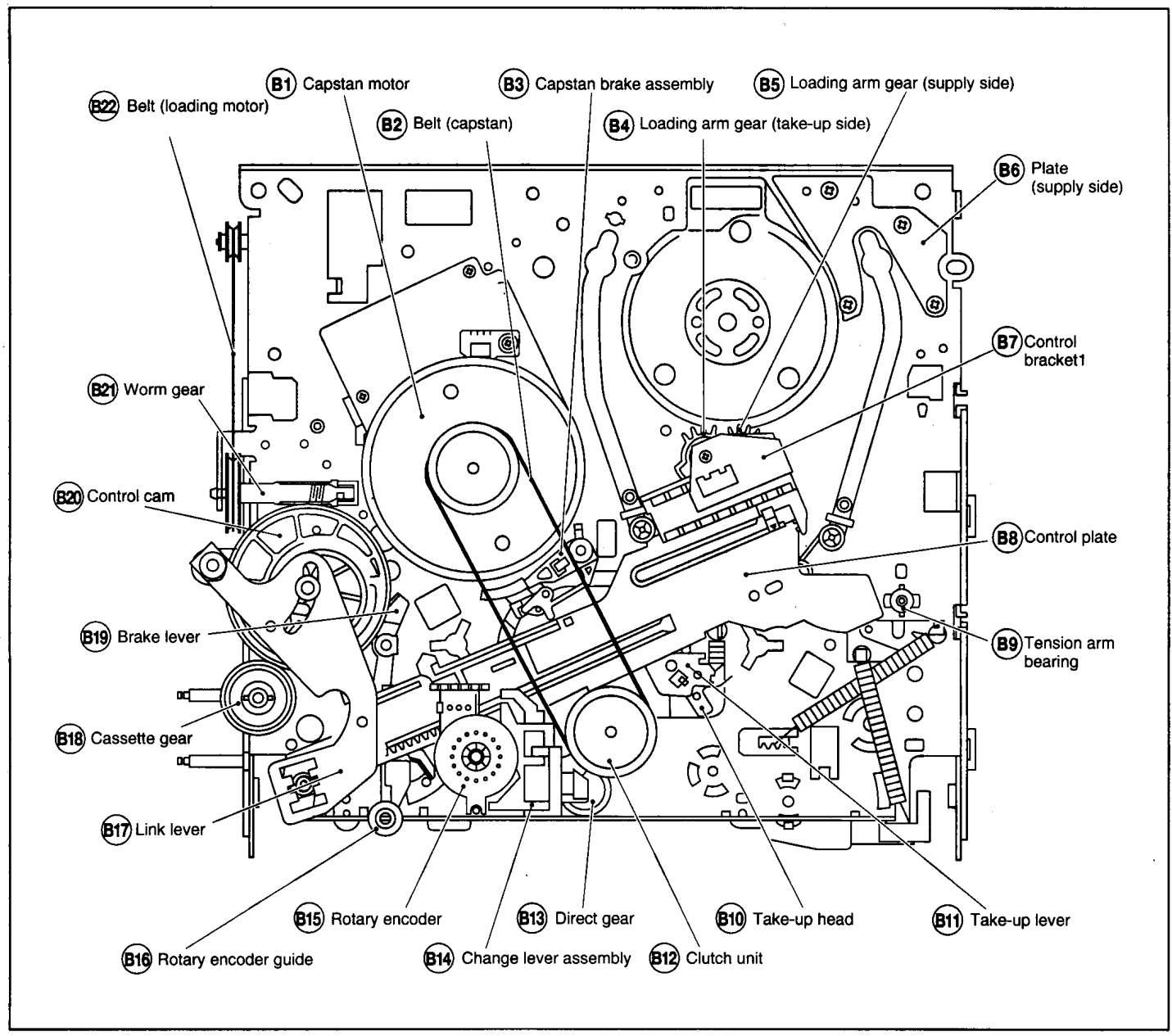


Fig. 2-1-6 Mechanism assembly bottom side

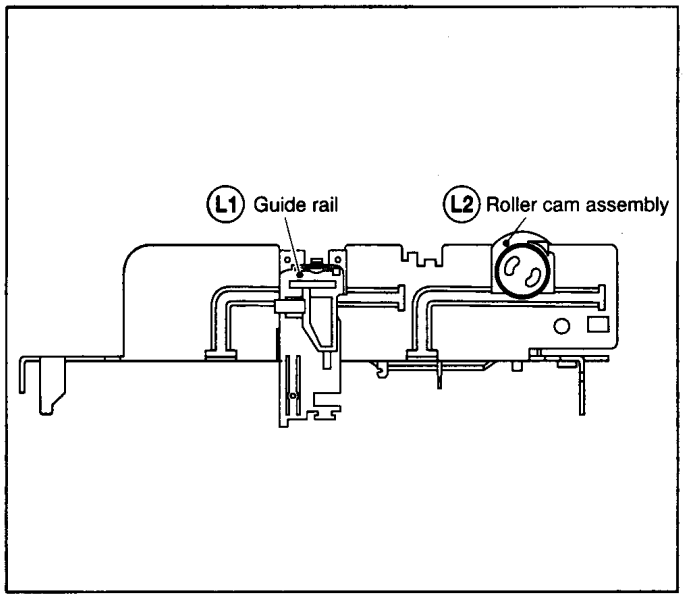


Fig. 2-1-7 Mechanism assembly left side

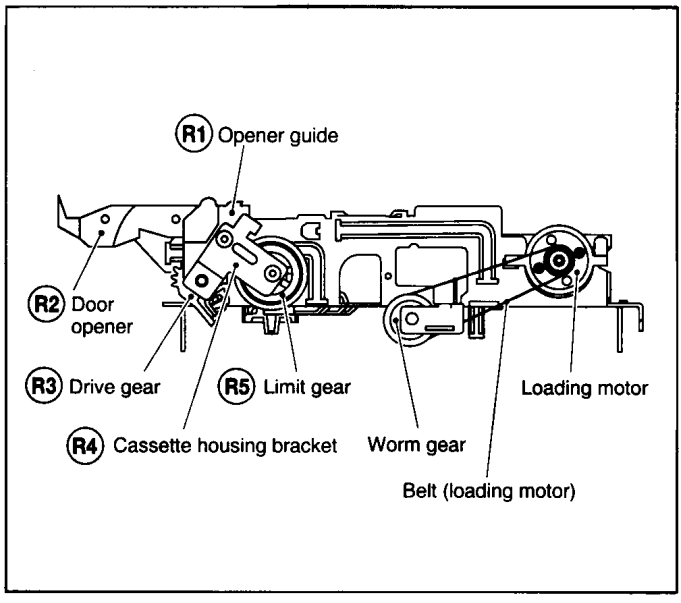


Fig. 2-1-8 Mechanism assembly right side

Note: *This table shows the order in which parts are removed for replacement. To replace parts, remove them in the order of 1 to 18 as shown in the table. To install them, reverse the removal sequence.*
The circled numbers (symbols and numbers) preceding the individual part names represent the numbers in the "Location of major mechanical parts" table. Also, the "T", "B", and "T/B" on the right of each part name shows that the particular part is removed from the front, from the back, and from both sides of the mechanism, respectively.

Symbols and numbers	Removal parts / (Reference items) Replacement parts	Front (T)/Back (B) of mechanism	Nomber of removal steps	(L1) Guide rail	(L2) Roller cam assembly	(R4) Cassette housing bracket	(R1) Opener guide	– Relay gear	– Cassette holder assembly	(R3) Drive gear	– Drive arm	(T9) Pinch roller arm assembly	(T12) Guide arm assembly	(T11) Press lever assembly	(T1,T4) UV catcher2	(B15) Rotary encoder	(B12) Clutch unit	(B14) Change lever assembly	(B13) Direct gear	(B17) Link lever	(B21) Worm gear	(B7) Control bracket1	(B8) Control plate	(B5) Loading arm gear (supply side)	(B4) Loading arm gear (take-up side)	(B11) Take-up lever	(T14) Sub brake assembly (take-up side)	(T15) Main brake assembly (take-up side)	(T13) Reel disk (take-up side)	(T22) Tension brake assembly	(T24) Tension arm assembly	(T18) Idler lever	(B19) Brake lever
(L1)	2.2.3 Guide rail	T	1																														
(L2)	2.2.3 Roller cam assembly	T	1																														
(R4)	2.2.3 Cassette housing bracket	T	1																														
(R1)	2.2.3 Opener guide	T	2			1																											
(R2)	2.2.3 Door opener	T	3			1	2																										
–	2.2.3 Relay gear	T	3			1	2																										
(R5)	2.2.3 Limit gear	T	3			1	2																										
–	2.2.3 Cassette holder assembly	T	6	1	2	3	4	5																									
(R3)	2.2.3 Drive gear	T	4			1	2	3																									
–	2.2.3 Drive arm	T	8	1	2	3	4	5	6	7																							
(T9)	2.2.4 Pinch roller arm assembly	T	1																														
(T12)	2.2.5 Guide arm assembly	T	1																														
(T11)	2.2.5 Press lever assembly	T	3									1	2																				
(T6)	2.2.6 Audio control head	T	1																														
(T7)	2.2.7 Loading motor	T	1																														
(B1)	2.2.8 Capstan motor	T/B	1																														
(T1)(T4)	2.2.9 UV catcher2	T	1																														
(T17)	2.2.9 Pole base assembly (take-up side)	T/B	2												1																		
(T25)	2.2.9 Pole base assembly (supply side)	T/B	2												1																		
(B15)	2.2.10 Rotary encoder	B	1																														
(B12)	2.2.11 Clutch unit	B	1																														
(B14)	2.2.12 Change lever assembly	B	3													1	2																
(B13)	2.2.12 Direct gear	B	4													1	2	3															
–	2.2.12 Clutch gear1	B	5													1	2	3	4														
(B17)	2.2.13 Link lever	B	1																														
(B18)	2.2.14 Cassette gear	B	2																	1													
(B20)	2.2.14 Control cam	B	2																	1													
(B21)	2.2.14 Worm gear	B	1																														
(T10)	- Lid guide	T/B	5									1	2	3							4												
(B7)	2.2.15 Control bracket1	B	1																														
(B8)	2.2.15 Control plate	B	6													1	2	3		4		5											
(B5)	2.2.16 Loading arm gear (supply side)	B	7													1	2	3		4		5	6										
(B4)	2.2.16 Loading arm gear (take-up side)	B	8													1	2	3		4		5	6	7									
–	2.2.16 Loading arm gear shaft	B	9													1	2	3		4		5	6	7	8								
(B11)	2.2.17 Take-up lever	T/B	7													1	2	3		4		5	6										
(B10)	2.2.17 Take-up head	T/B	8													1	2	3		4		5	6			7							
–	2.2.17 Control plate guide	T/B	8													1	2	3		4		5	6			7							
(B3)	2.2.18 Capstan brake assembly	T/B	7													1	2	3		4		5	6										
(T14)	2.2.19 Sub brake assembly(take-up side)	T/B	15	1	2	3	4	5	6	7	8					9	10	11		12		13	14										
(T15)	2.2.20 Main brake assembly(take-up side)	T/B	16	1	2	3	4	5	6	7	8					9	10	11		12		13	14				15						
(T19)	2.2.20 Main brake assembly(supply side)	T/B	9	1	2	3	4	5	6	7	8																						
(T13)	2.2.20 Reel disk (take-up side)	T/B	16	1	2	3	4	5	6	7	8					9	10	11		12		13	14				15						
(T22)	2.2.21 Tension brake assembly	T/B	9	1	2	3	4	5	6	7	8																						
(T20)	2.2.21 Reel disk (supply side)	T/B	10	1	2	3	4	5	6	7	8																				9			
(T24)	2.2.21 Tension arm assembly	T/B	10	1	2	3	4	5	6	7	8																				9			
(B9)	2.2.21 Tension arm bearing	T/B	10	1	2	3	4	5	6	7	8																				9			
(T18)	2.2.22 Idler lever	T/B	17	1	2	3	4	5	6	7	8					9	10	11		12		13	14								15	16		
(T16)	2.2.22 Idler arm assembly	T/B	18	1	2	3	4	5	6	7	8					9	10	11		12		13	14								15	16	17	
(B19)	- Brake lever	T/B	18	1	2	3	4	5	6	7	8					9	10	11		12		13	14				15	16	17					
(B16)	- Rotary encoder guide	T/B	19	1	2	3	4	5	6	7	8					9	10	11		12		13	14				15	16	17					18

2. Cleaning

Regular cleaning of the transport system parts is desirable but practically impossible. So make it a rule to carry out cleaning of the tape transport system whenever the machine is serviced.

When the video head, tape guide and/or brush get soiled, the playback picture may appear inferior or at worst disappear, resulting in possible tape damage.

(1) When cleaning the upper drum (especially the video head), soak a piece of closely woven cloth or Kimu-wipe with alcohol and while holding the cloth onto the upper drum by the fingers, turn the upper drum counterclockwise.

Note: *Absolutely avoid sweeping the upper drum vertically as this will cause damage to the video head.*

(2) To clean the parts of the tape transport system other than the upper drum, use a piece of closely woven cloth or a cotton swab soaked with alcohol.

(3) After cleaning, make sure that the cleaned parts are completely dry before using the video tape.

3. Lubrication

With no need for periodical lubrication, you have only to lubricate new parts after replacement. If any oil or grease on contact parts is soiled, wipe it off and newly lubricate the parts.

(1) See the mechanism assembly and disassembly diagrams (M4) for the lubricating or greasing spots. See Table 2-1-2 for the types of oil or grease to be used.

Type	Symbols on the disassembly diagrams
Grease	AA
Oil	BB

Table 2-1-2 Grease and oil used for the unit

4. 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 assembly	★	★○
	Pinch roller arm assembly	★	★
	Full erase head	★	★
	Tension arm assembly	★	★
	Capstan motor (Shaft)	★	★
	Guide arm assembly	★	★
Drive	Capstan motor		○
	Capstan brake assembly		○
	Main brake assembly		○
	Belt (Capstan)	○	○
	Belt (Loading motor)		○
	Loading motor		○
	Clutch unit		○
	Worm gear		○
	Control plate		○
Other	Brush	★○	★○
	Tension brake assembly	○	○
	Rotary encoder		○

★: Cleaning

○: Inspection or Replacement if necessary

Table 2-1-3

2.2 REPLACEMENT OF MAJOR PARTS

2.2.1 Before Starting Disassembling (Phase matching between mechanical parts)

The mechanism of this unit is closely linked with the rotary encoder and system controller circuits.

Since the system controller detects the status of mechanical operation in response to phases of the rotary encoder (internal switch positions), the mechanism may not operate properly unless such parts as the rotary encoder, control plate, loading arm gear, control cam, cassette gear, limit gear, relay gear and drive gear are installed in their correct positions.

Especially, this model is not provided with any cassette housing assembly, so that cassette loading and unloading must be accomplished by operation of the cassette holder assembly. The latter is in turn driven by such parts as the drive gear, relay gear and limit gear. Exercise enough care, therefore, to have the phases of all this gear matching one another.

(For information on phase matching of the mechanism, see the instructions on how to install individual parts.)

This unit is provided with a mechanism assembly mode. It is therefore necessary to enter this mode for assembling and disassembling procedures.
This mode is usually not in use, manually set it when it is required.

2.2.2 How to Set the Mechanism Assembling Mode

Remove the mechanism assembly and place it bottom side up. (See SECTION 1 DISASSEMBLY.) Turn the worm gear toward the front so that the guide hole of the control cam is brought into alignment with the hole at the mechanism assembly chassis. This position renders the mechanism assembling mode operational. Make sure that the control plate is located in alignment with the mark E. (See Fig.2-2-1.)

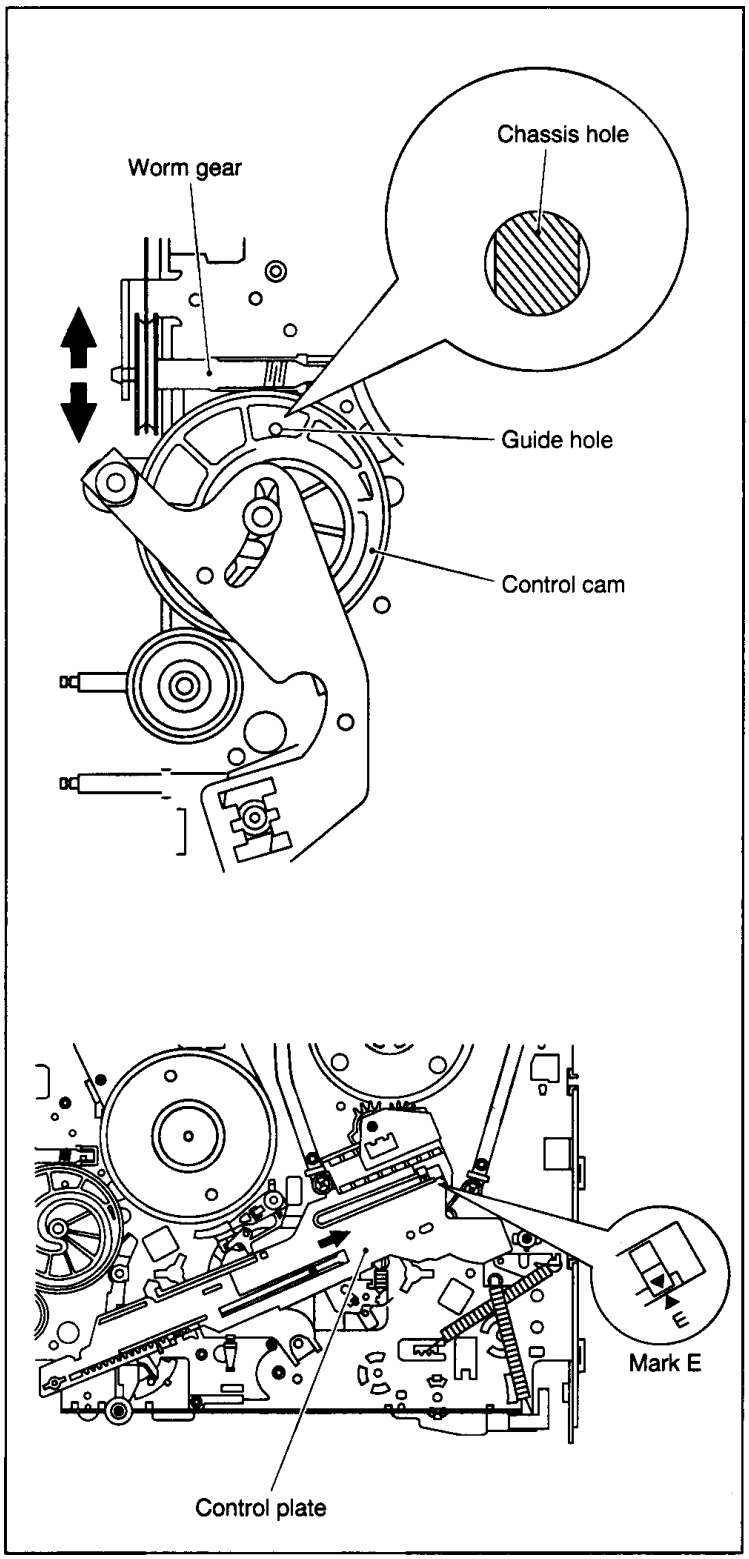


Fig. 2-2-1

2.2.3 Cassette Holder Assembly

1. How to remove

(1) Remove the guide rail and roller cam assembly. (See Fig.2-2-2.)
(3 lugs on the guide rail and one lug on the roller cam assembly)

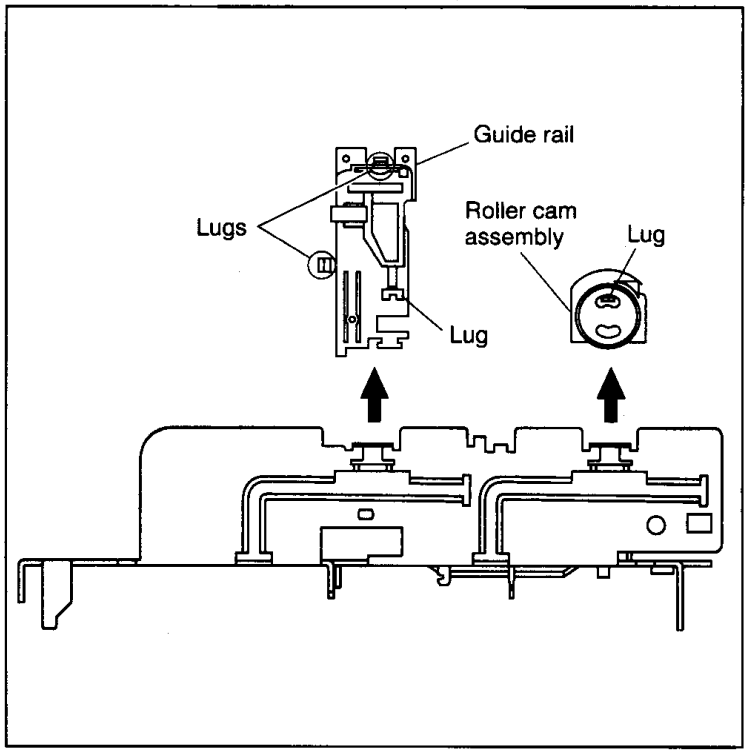


Fig. 2-2-2

(2) Remove the two slit washers and remove the cassette housing bracket. (See Fig.2-2-3.)
(3) Remove the opener guide, spring(A), door opener, relay gear and limit gear. (See Fig.2-2-3.)

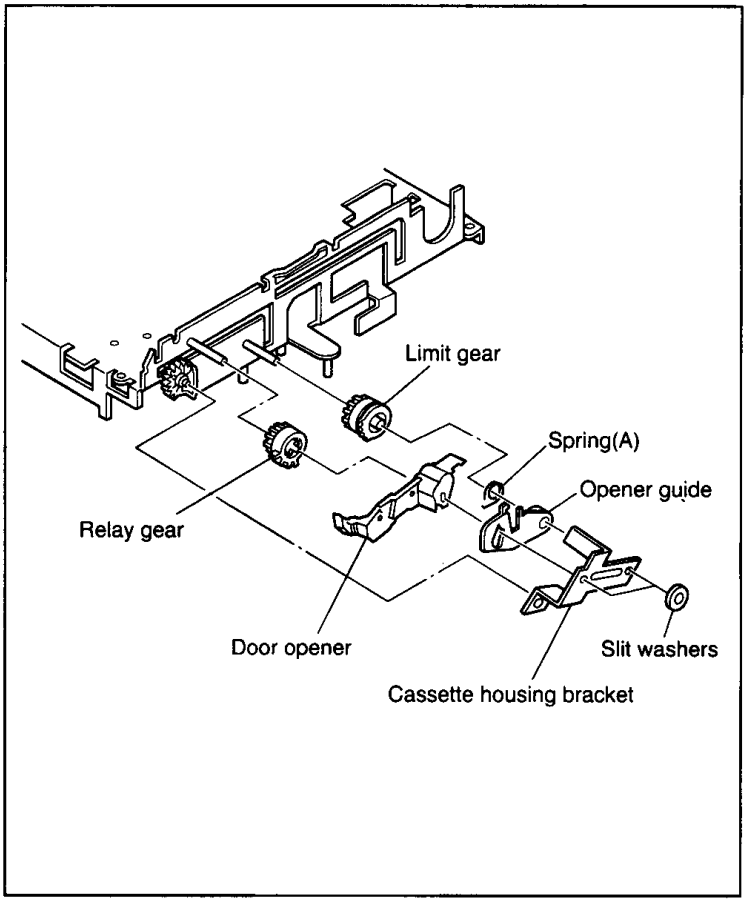


Fig. 2-2-3

(4) While swinging the lock levers (R) and (L) of the cassette holder assembly toward the front, slide the cassette holder assembly until its legs come to where the guide rail and the roller cam assembly have been removed (so that the drive arm is upright). (See Fig.2-2-4.)

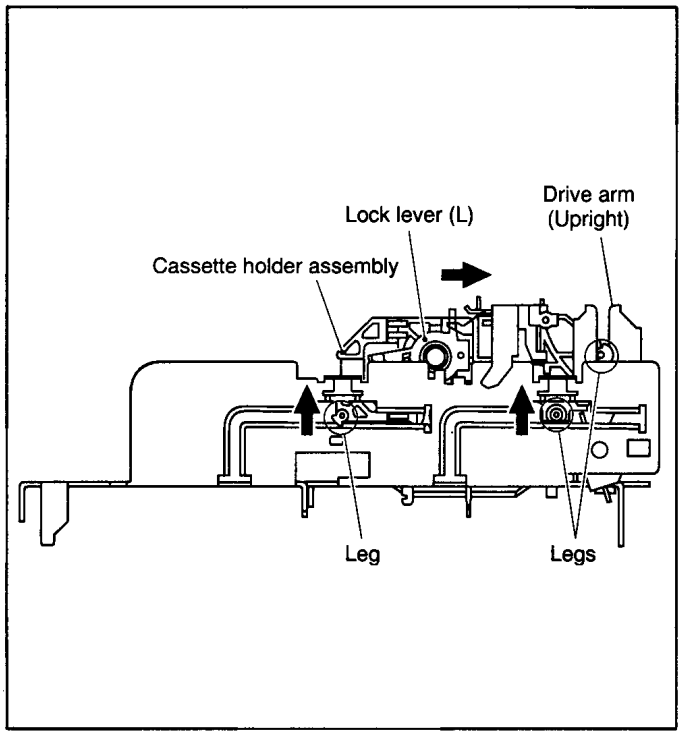


Fig. 2-2-4

(5) While holding the left side of the cassette holder, lift the cassette holder assembly so that the three legs on the left side are all released. Then pull the legs Ⓐ and Ⓑ on the right side out of the rail and also pull up the leg Ⓒ. (See Fig.2-2-5 and Fig.2-2-6.)

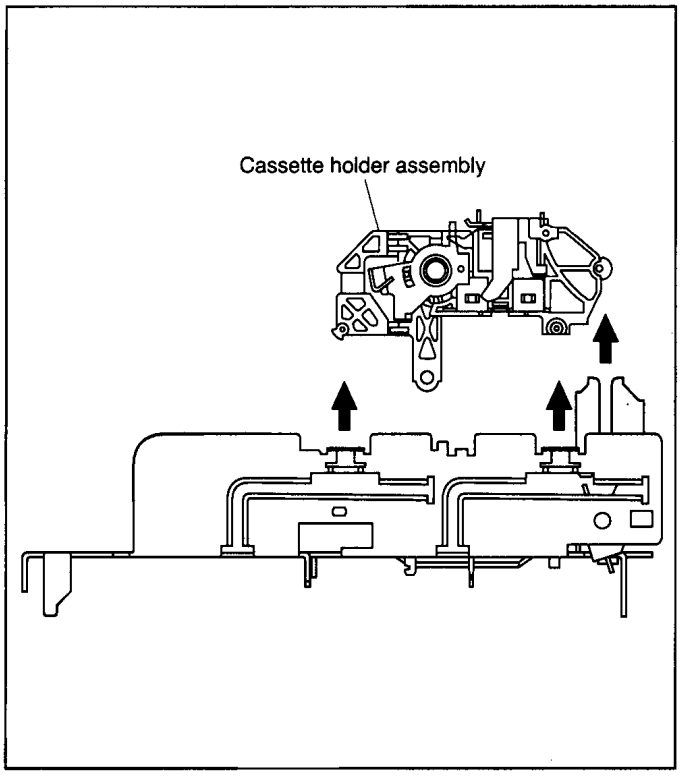


Fig. 2-2-5

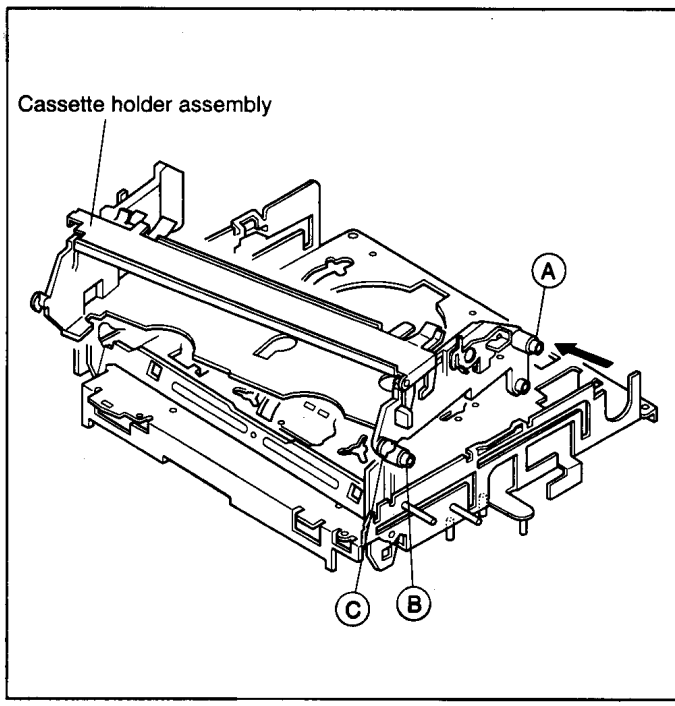


Fig. 2-2-6

(6) Draw out the drive gear, and remove the drive arm.

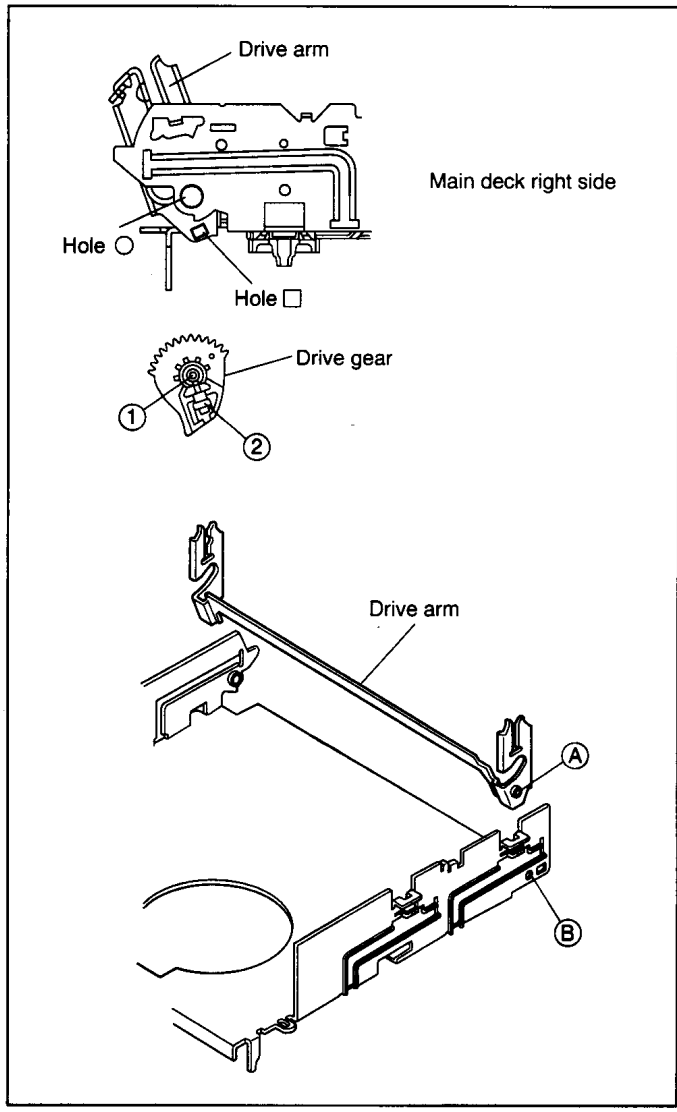


Fig. 2-2-7

2. How to install (Phase matching)

(1) Insert the section Ⓐ of the drive arm into the section Ⓑ of the main deck.

(2) Insert the section ① of the drive gear into the round hole, and the section ② into the square hole on the drive arm. (See Fig.2-2-7.)

(3) Hold the drive arm upright and fit the leg Ⓒ on the right side of the cassette holder assembly into the groove. (See Fig.2-2-8.)

(4) While swinging the lock lever (R) of the cassette holder assembly toward the front, put the legs Ⓐ and Ⓑ into the rail. (See Fig.2-2-8.)

(5) Drop the three legs on the left side of the cassette holder assembly into the groove at one time. (See Fig.2-2-9.)

(6) Slide the whole cassette holder assembly toward the front to bring it to the eject end position.

(7) Install the limit gear so that the notch on the outer circumference of the limit gear is brought into alignment with the guide hole on the main deck. (See Fig.2-2-10.)

(8) Install so that the notch on the periphery of the relay gear is aligned with the notch of the main deck and that hole A of the relay gear is aligned with the hole A of the limit gear and that hole B of the relay gear is aligned with the hole B of the drive gear. (See Fig.2-2-10.)

(9) Install the door opener, opener guide, spring(A) and cassette housing bracket and fasten the two slit washers.

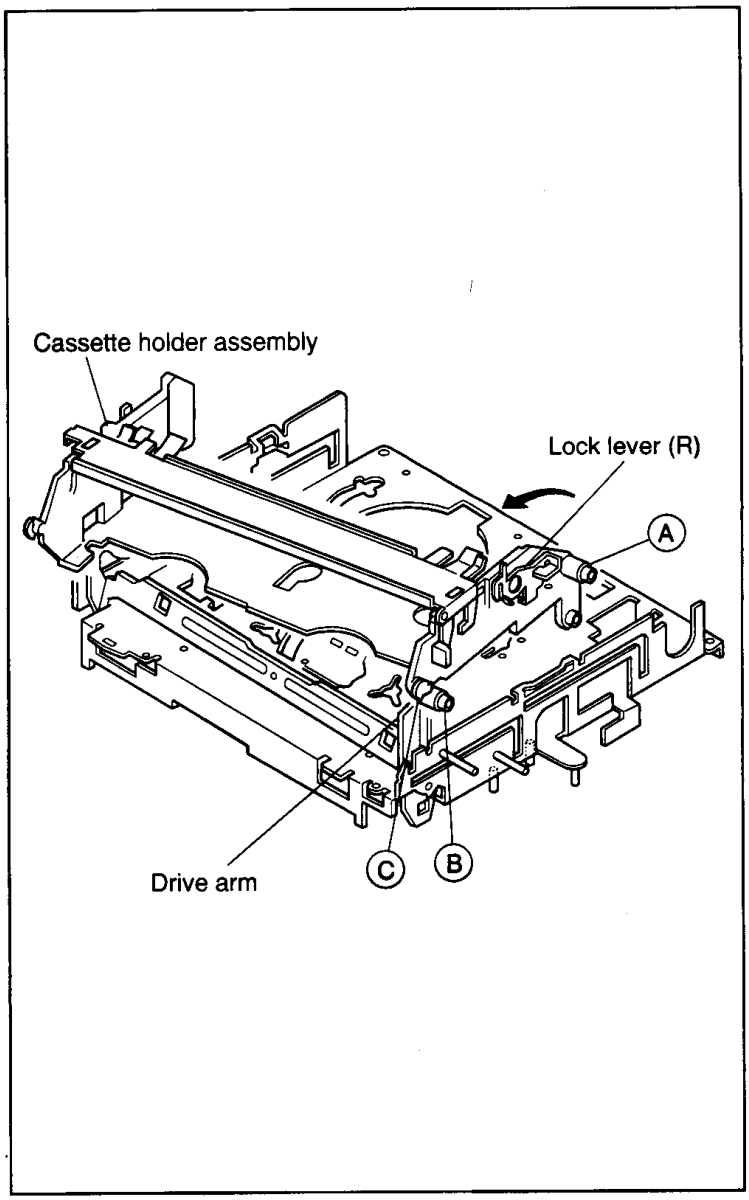


Fig. 2-2-8

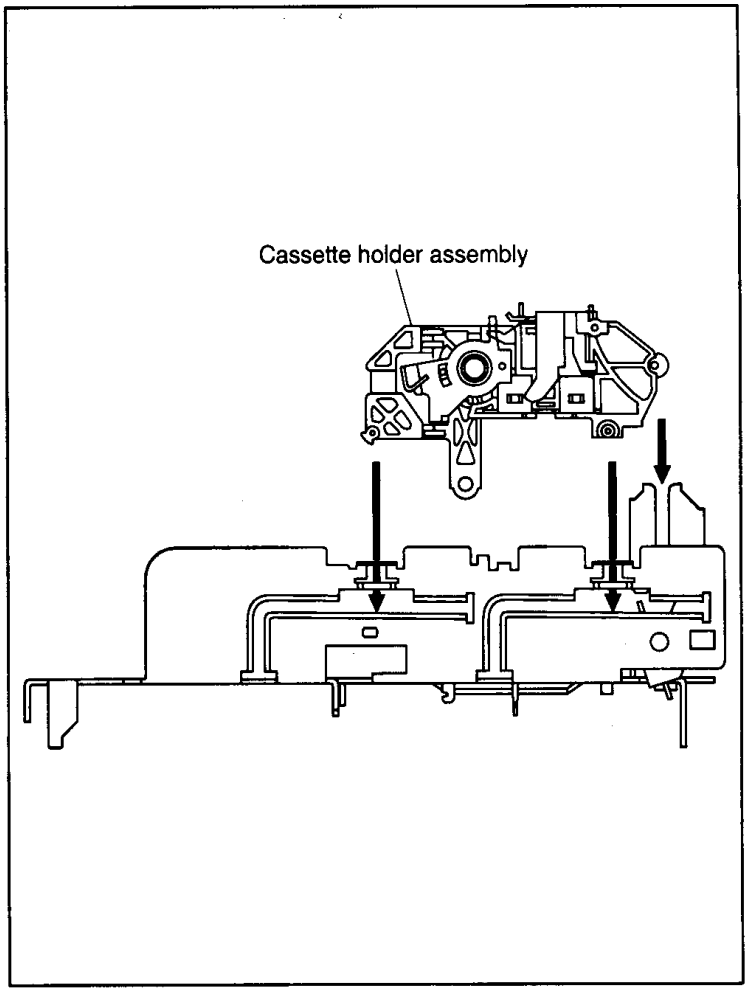


Fig. 2-2-9

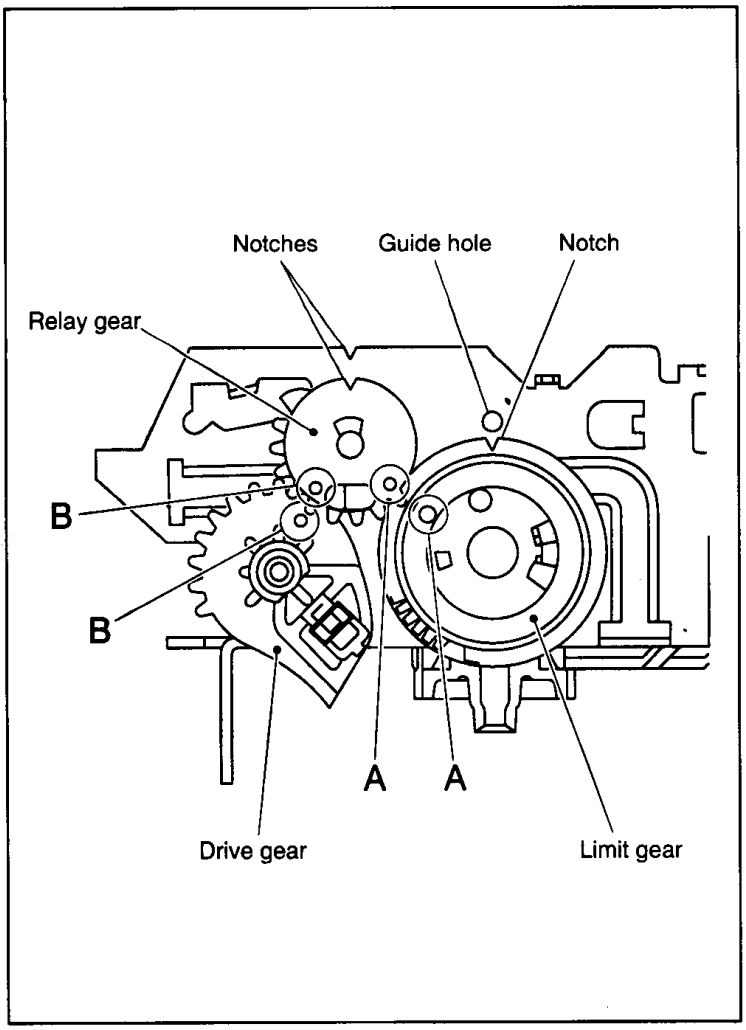


Fig. 2-2-10

2.2.4 Pinch Roller Arm Assembly

1. How to remove

(1) Remove the spring from the hook of the press lever assembly.
(2) Remove the slit washer and remove the pinch roller seat 2. (See Fig.2-2-11.)
(3) Remove the pinch roller arm assembly by pulling it up.

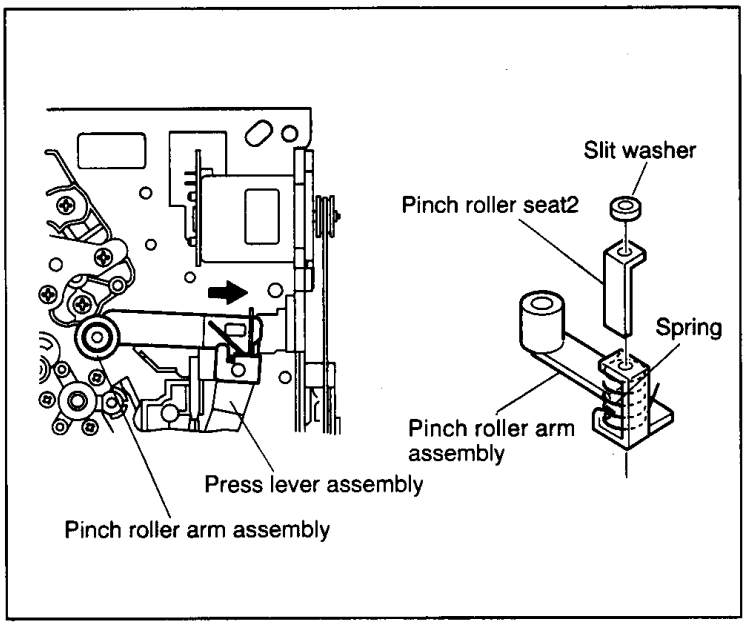


Fig. 2-2-11

2.2.5 Guide Arm Assembly and Press Lever Assembly

1. How to remove

(1) Remove the spring and expand the lug of the lid guide in the arrow-indicated direction. Then remove the guide arm assembly by pulling it up.
(2) Remove the press lever assembly by pulling it up. (See Fig.2-2-12.)

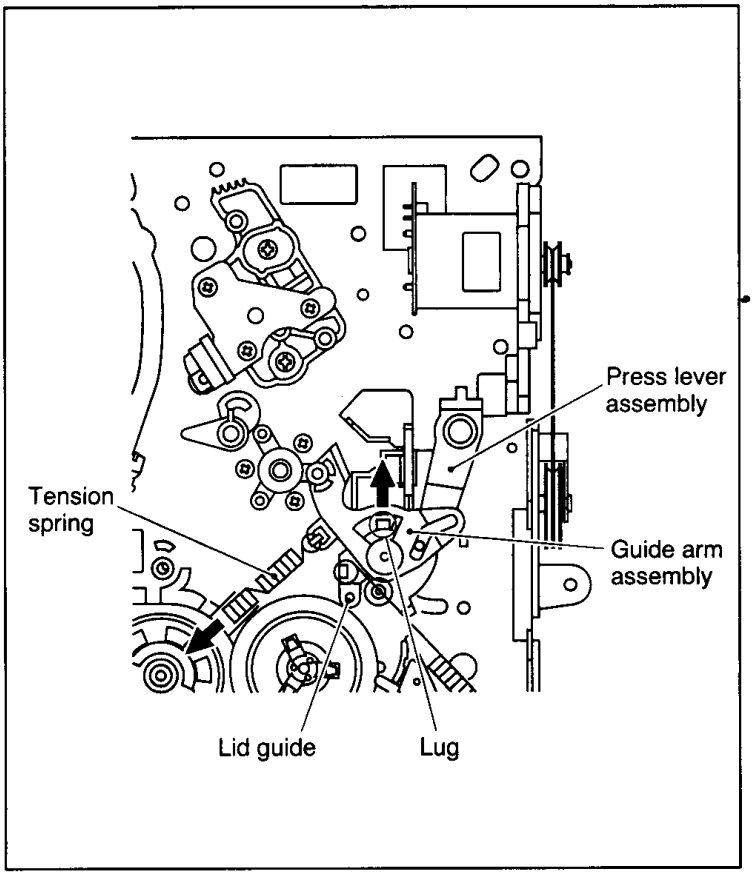


Fig. 2-2-12

2.2.6 Audio Control Head

1. How to remove

(1) Remove the two screws (A) and remove the audio control head together with the head base.

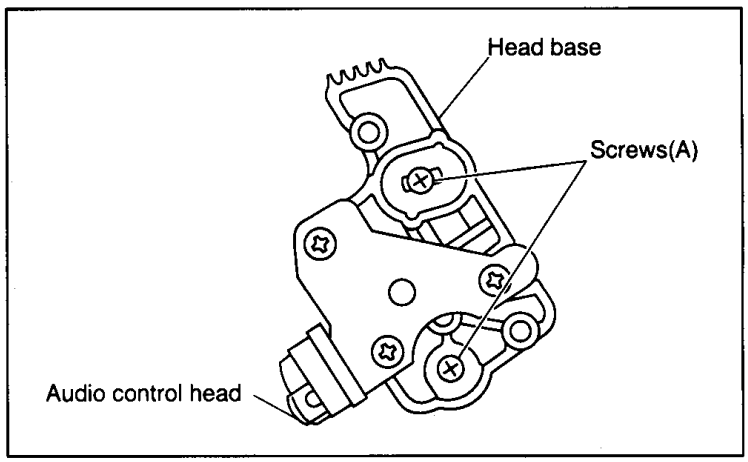


Fig. 2-2-13

(2) When replacing only the audio control head, remove the three screws (B) while controlling the compression spring.

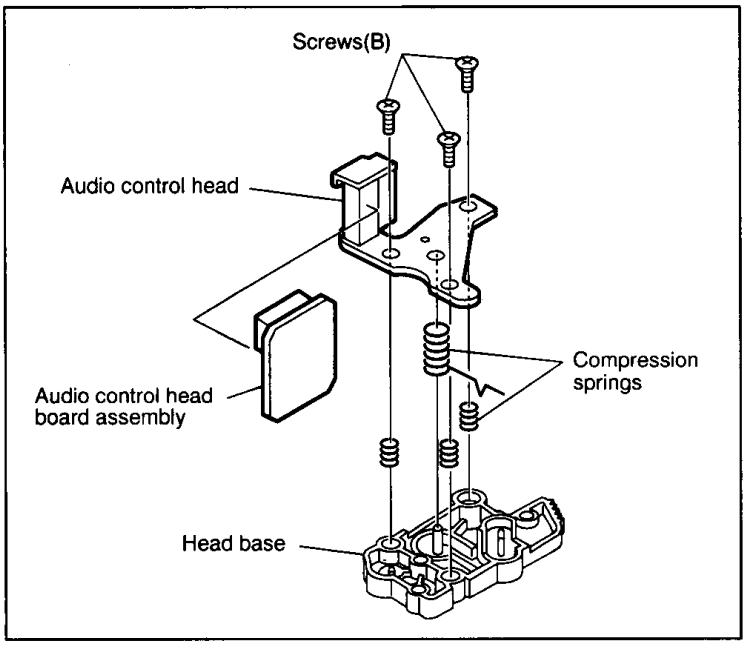


Fig. 2-2-14

2. How to install

(1) To make the post-installation adjustment easier, set the temporary level as indicated in Fig.2-2-15. Also make sure that the screw center is brought into alignment with the center position of the slot.

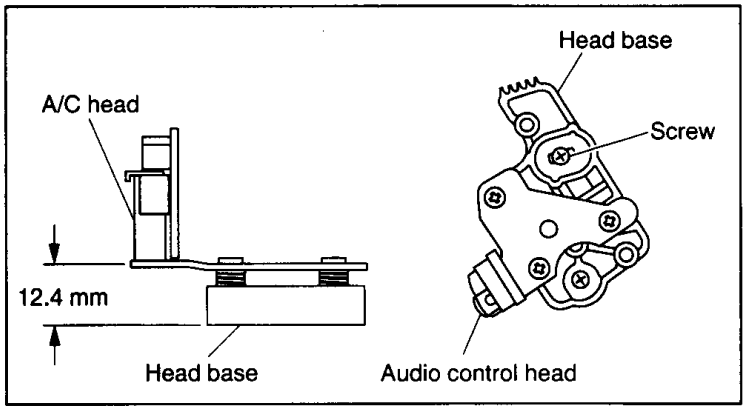


Fig. 2-2-15

2.2.7 Loading Motor

1. How to remove

(1) Remove the belt wound around the worm gear.
(2) Open the two lugs of the motor guide and remove the loading motor, loading motor board assembly and motor guide altogether by pulling them up.
(3) When replacing the loading motor board assembly, take care with the orientation of the loading motor. (Install so that the loading motor label faces upward.)
(4) When the motor pulley has been replaced, choose the fitting dimension as indicated in Fig.2-2-16.

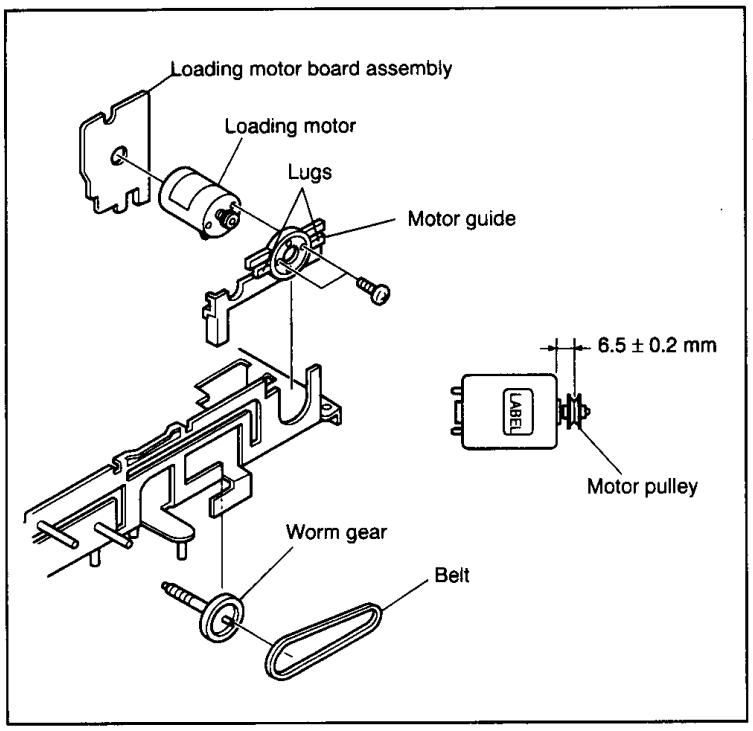


Fig. 2-2-16

2.2.8 Capstan Motor

1. How to remove

(1) Remove the belt (capstan) on the mechanism assembly back side.
(2) Remove the three screws (A) and remove the capstan motor.

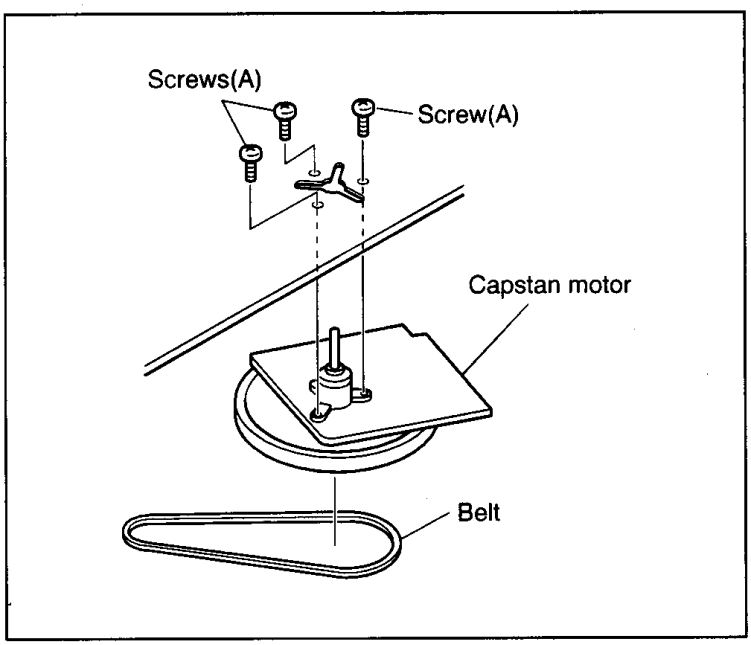


Fig. 2-2-17

2. How to install (Centering the mounting position)

When the capstan motor has once been removed and then reinstalled out of the initial correct position in the rotational direction, the capstan motor current may be unstable during operation in high or low temperatures. This may result in greater Wow & Flutter and occasionally in power breakdown because of current over - load. Install the capstan motor while following the procedure given below.
(The capstan motor is centrally located when the unit is shipped from the factory.)

(1) Provisionally tighten the three screws (A) securing the capstan motor.
(2) Install the mechanism assembly to which the capstan motor is provisionally fastened on the bottom chassis which incorporates the Main board assembly. (No need to tighten the screws for mounting the mechanism.)
Make sure that all the connectors for the mechanism assembly and the Main board assembly are correctly installed as indicated in Fig. 2-2-18.

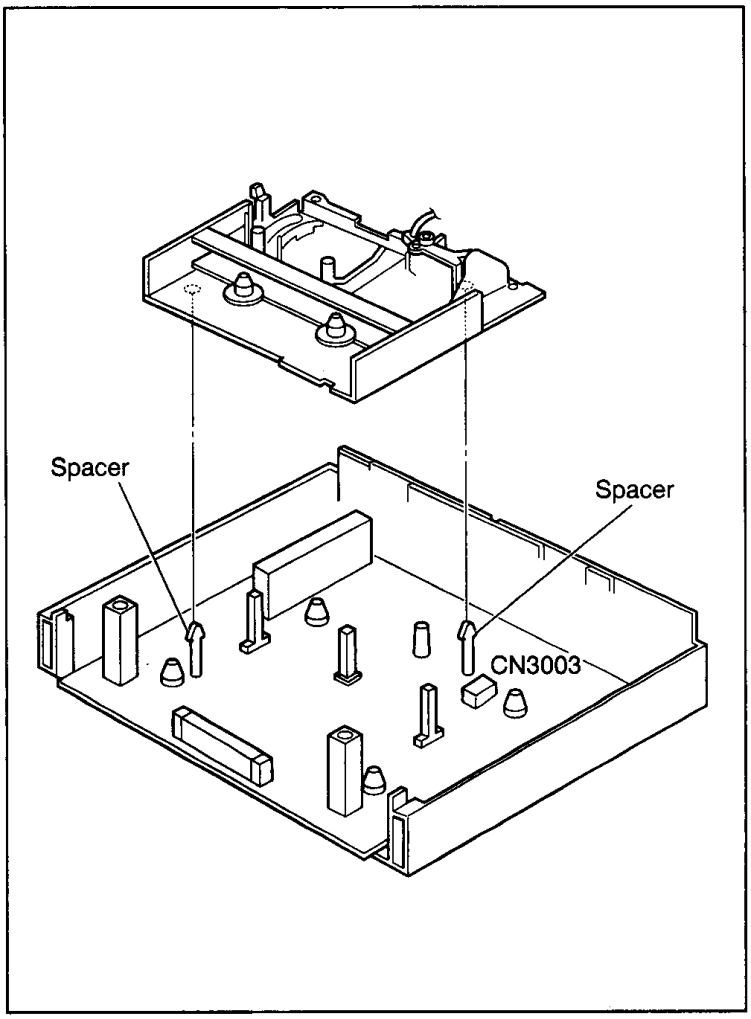


Fig. 2-2-18

(3) Making sure that the connector CN3003 of the capstan motor is correctly mounted, and securely tighten the three screws (A).

Note: *When the capstan motor has been replaced with a new one, perform recording in the EP mode for at least 2 minutes at normal temperatures immediately before starting the FF/REW or SEARCH operations (Aging).*

2.2.9 Pole Base Assembly (supply or take-up side)

1. How to remove

(1) Remove the UV catcher 2 on the removal side by loosening the screw (A).

(2) Remove the pole base assembly on the supply side from the mechanism assembly by loosening the screw (B) on the mechanism assembly back side and sliding the pole base assembly toward the UV catcher 2.

(3) As for the pole base assembly on the take-up side, turn the pulley of the loading motor to lower the cassette holder because the screw (B) is hidden under the control plate. (See the "Procedures for Lowering the Cassette holder assembly" of 1.3 DISASSEMBLY/ASSEMBLY METHOD.) Further turn the motor pulley to move the cassette holder until the screw (B) is no longer under the control plate (in the half-loading position). Then remove it as done for the supply side by removing the screw (B).

NOTE: *After reinstalling the Pole base assembly and the UV catcher2, be sure to perform compatibility adjustment.*

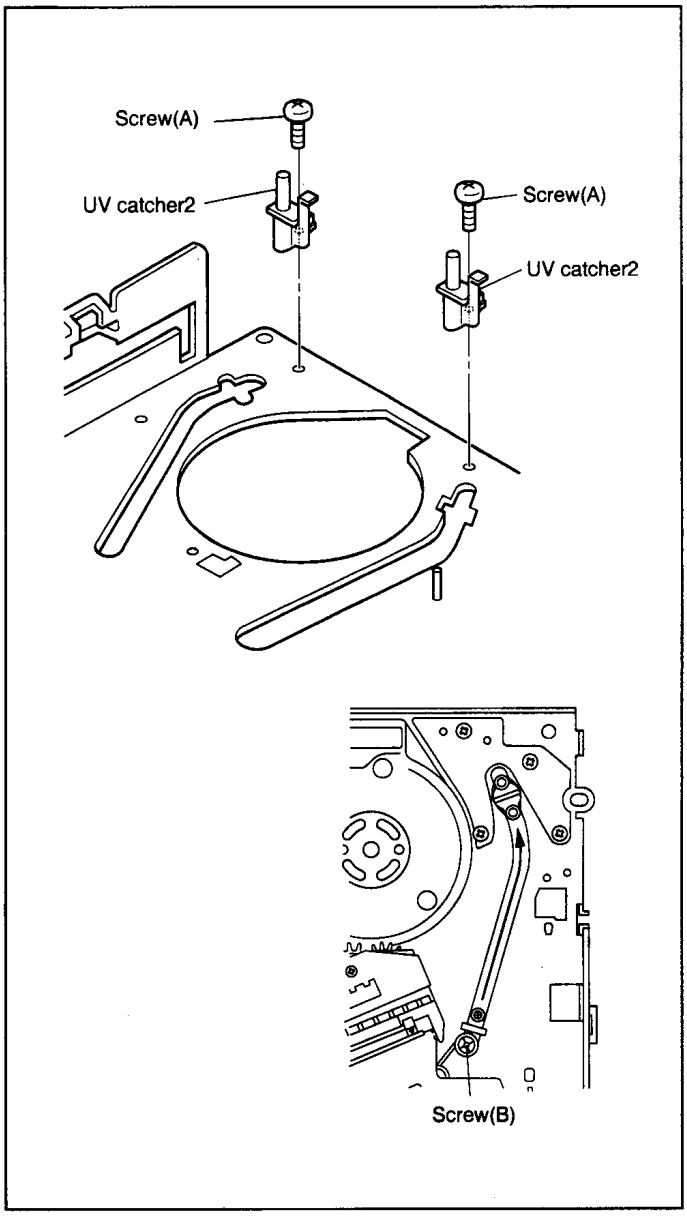


Fig. 2-2-19

2.2.10 Rotary Encoder

1. How to remove

(1) Remove the screw (A) and remove the rotary encoder by pulling it up. (See Fig. 2-2-20.)

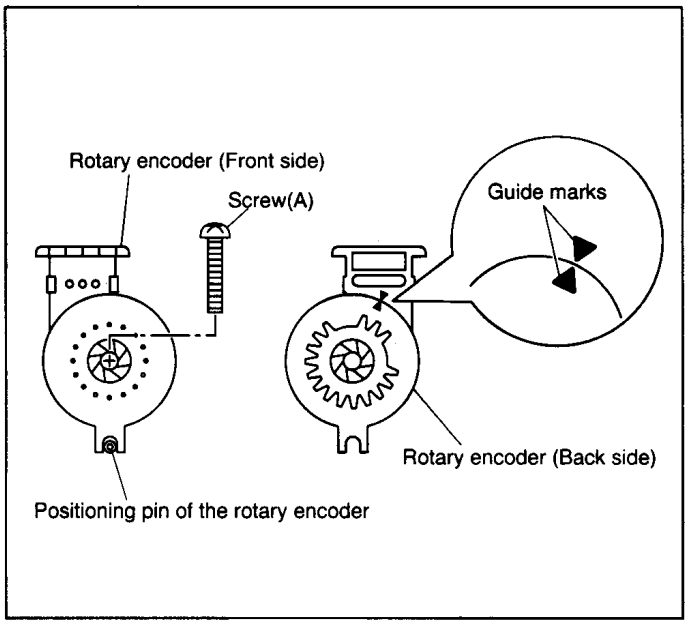


Fig. 2-2-20

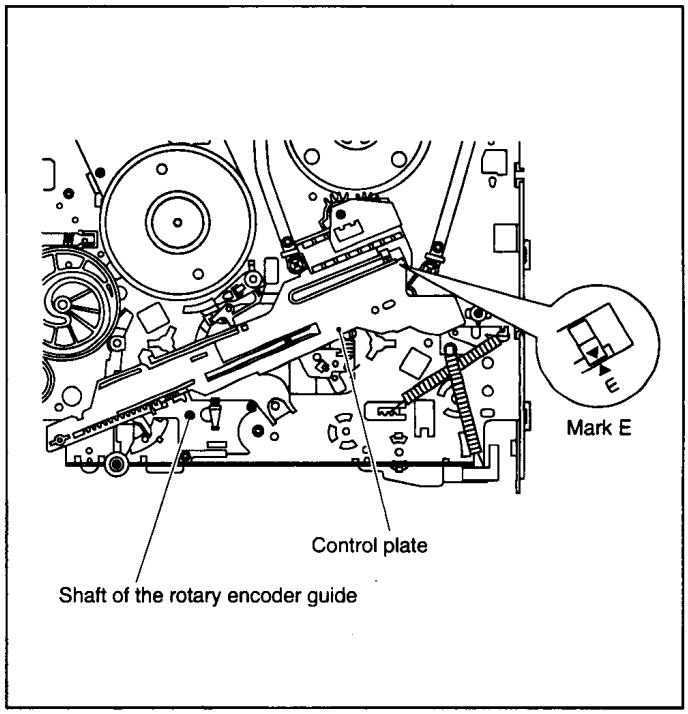


Fig. 2-2-21

2. How to install (Phase matching)

(1) Make sure that the mark E of the control plate is in alignment with the mark ▼ of the loading arm gear shaft and bring the guide marks on the rotary encoder into alignment as indicated in Fig.2-2-20. (See Fig. 2-2-20 and Fig. 2-2-21.)

(2) Turn over the rotary encoder with its guide marks kept in alignment and install it by fitting on the shaft of the rotary encoder guide and the positioning pin.

(3) Tighten the screw (A) to complete the installation.

2.2.11 Clutch Unit

(1) Remove the belt wound around the capstan motor and the clutch unit.
(2) Remove the slit washer and remove the clutch unit.

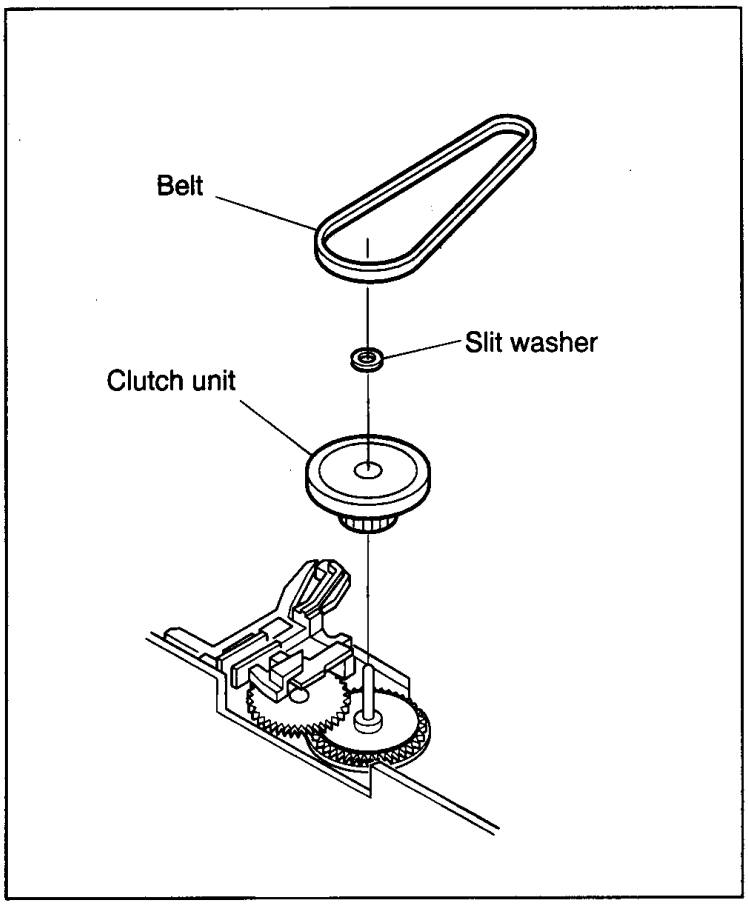


Fig. 2-2-22

2.2.12 Change Lever Assembly, Direct Gear and Clutch Gear1

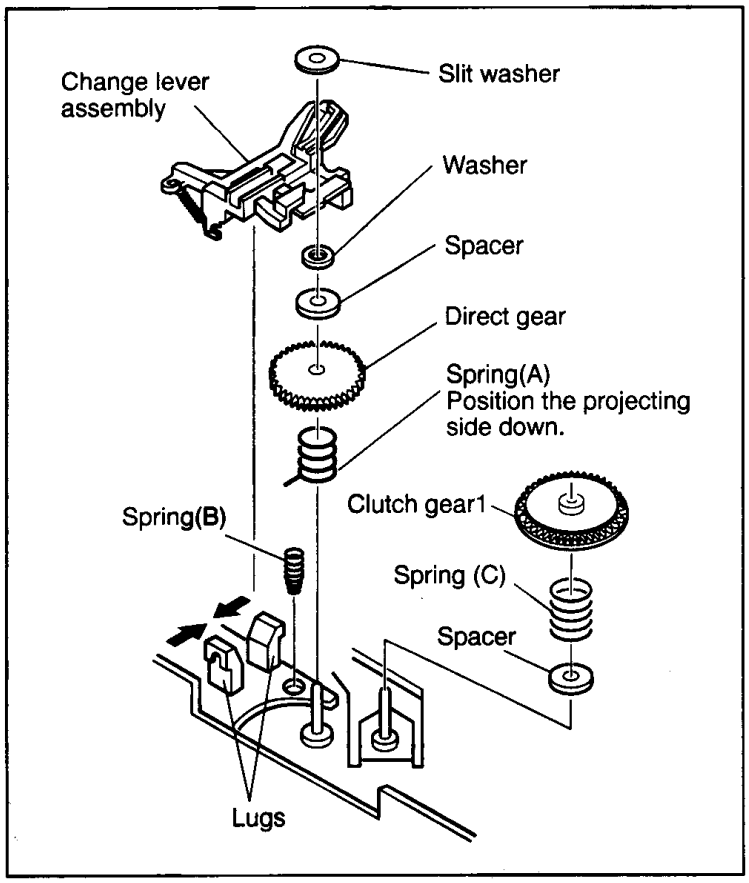


Fig. 2-2-23

1. How to remove

(1) Release the two lugs of the rotary encoder guide in the arrow-indicated direction and remove the change lever assembly.
(2) Remove the slit washer retaining the direct gear and remove the latter.
Take care so as not to lose the washer and spring. (See Fig.2-2-23.)

2. How to install

(1) Install the clutch gear1, spring (A), spring (C), direct gear, spacer and others to the individual shafts of the main deck, and finally the slit washer. (See Fig.2-2-23.)
(2) Let the spring (B) drops into the rotary encoder guide hole and install the change lever assembly.(Take care not to mistake a direction of the spring.) The point is to slightly lift the clutch gear1 and catch it from the both sides with the assembly. (See Fig.2-2-24.)

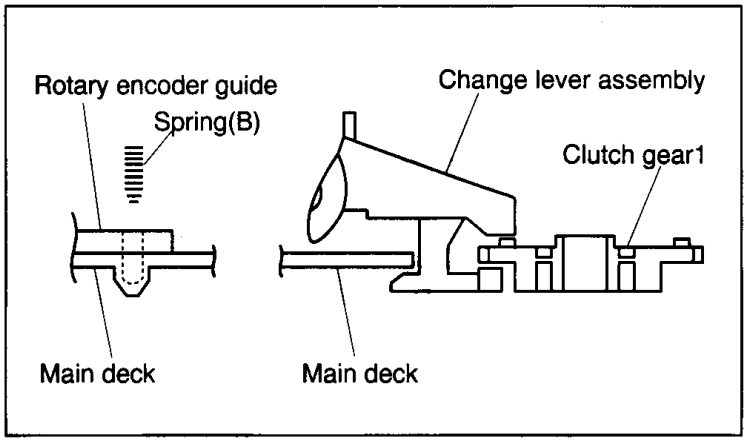


Fig. 2-2-24

2.2.13 Link Lever

1. How to remove

(1) Remove the two slit washers.
(2) Remove the link lever by lifting it from the shaft retained by the slit washers. Then swing the link lever counterclockwise and remove it from the locking section of the control plate.

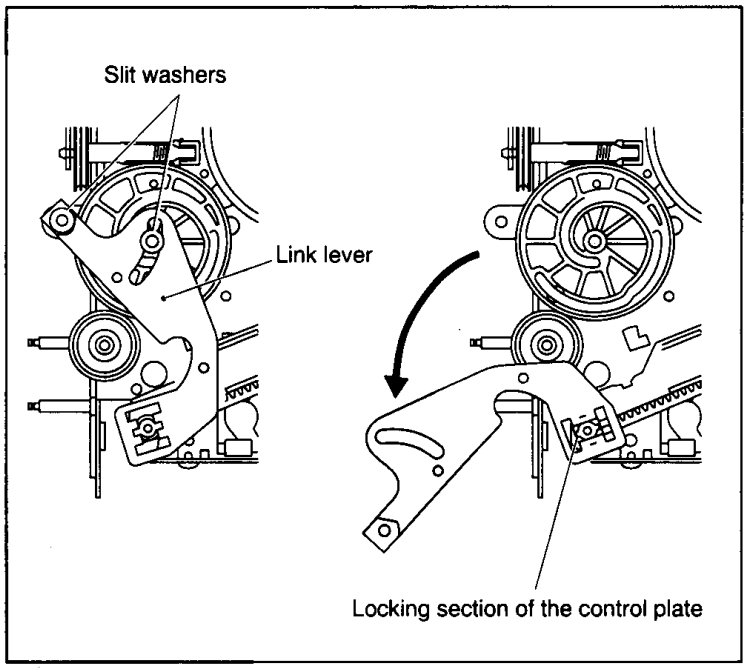


Fig. 2-2-25

2. How to install (Phase matching)

(1) Slide the control plate so that its mark E is aligned with the mark ▼ on the loading arm gear shaft. (See Fig.2-2-26.)
(2) Rotate the worm gear until the guide hole of the control cam is aligned exactly with the guide hole of the main deck. (See Fig.2-2-27.)
(3) Insert the link lever into the locking section of the control plate. (See Fig.2-2-25.)
(4) Rotate the link lever clockwise so that it is installed on the shafts in the center and on the left of the control cam.
(5) Fasten the slit washers at these two points.

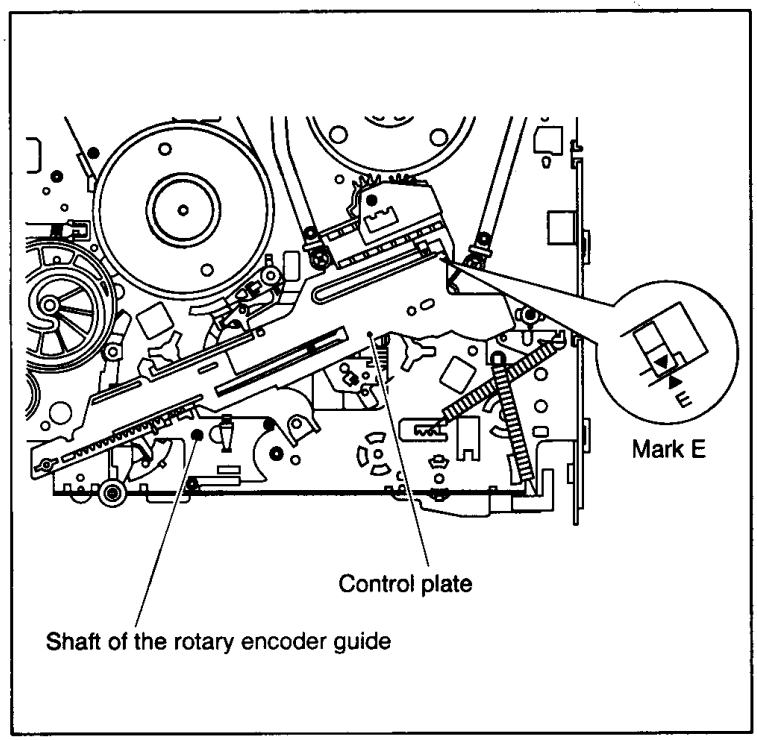


Fig. 2-2-26

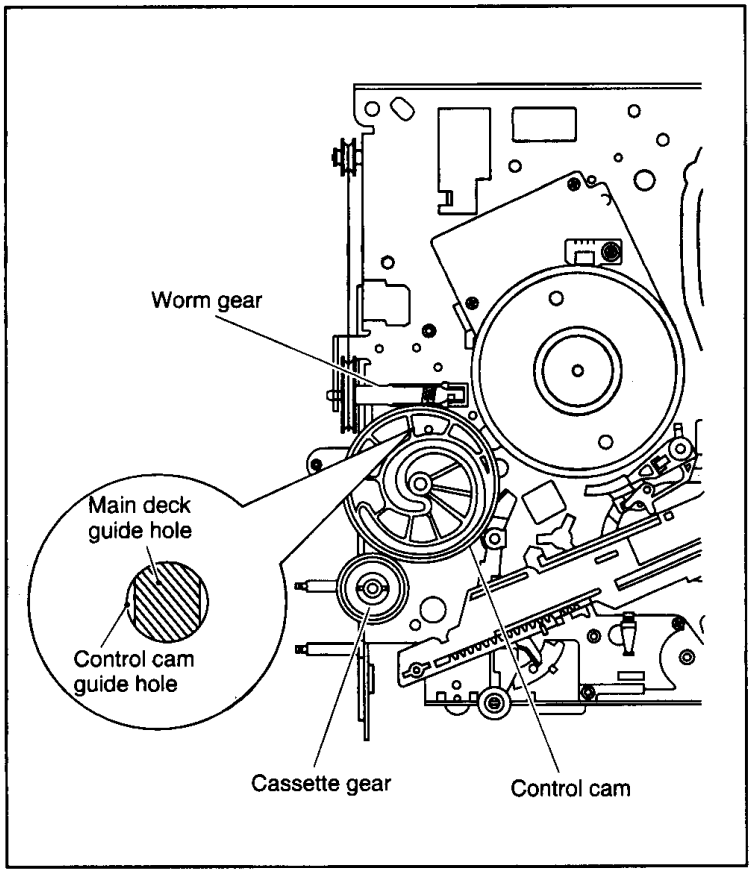


Fig. 2-2-27

2.2.14 Cassette Gear, Control Cam and Worm Gear

1. How to remove

(1) Remove the control cam by lifting it.
(2) Open the two lugs of the cassette gear outward and pull the latter off.
(3) Remove the belt wound around the worm gear and the loading motor.
(4) Open the lug of the lid guide outward and remove the worm gear.

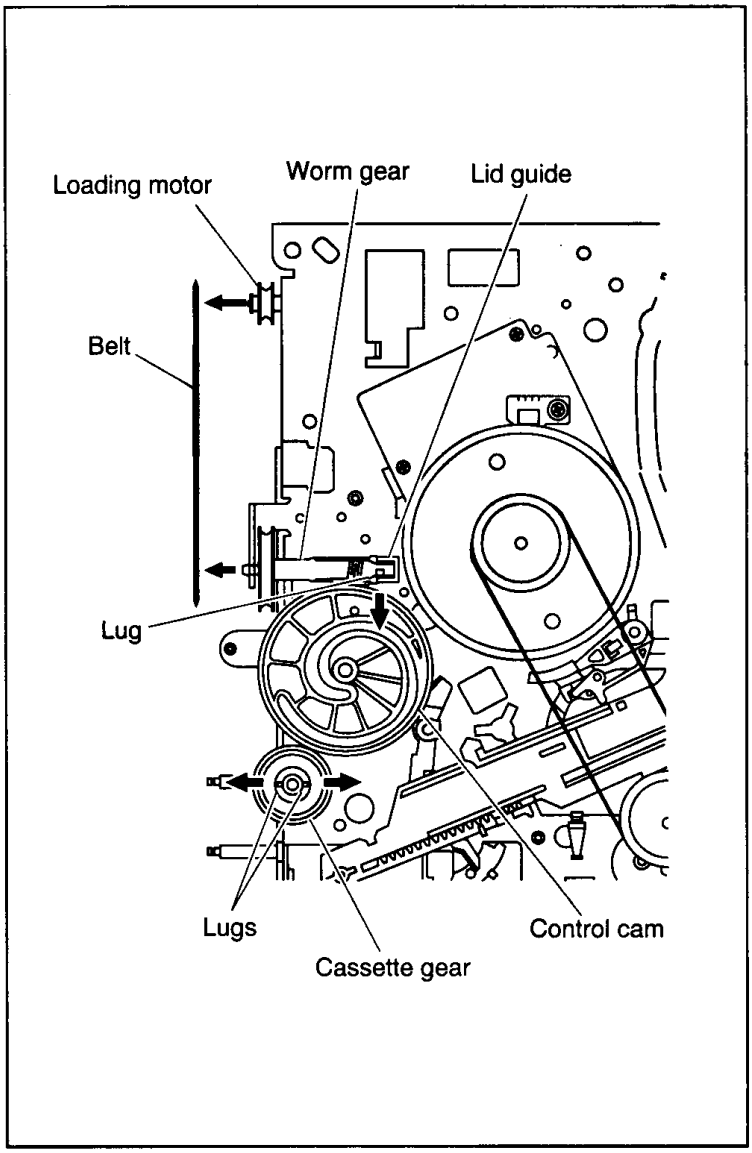


Fig. 2-2-28

2.2.15 Control Plate

1. How to remove

(1) Remove the screw (A) retaining the control bracket 1 and remove the latter.
(2) Slide the control plate as indicated by the arrow and remove the control plate. (See Fig.2-2-29.)

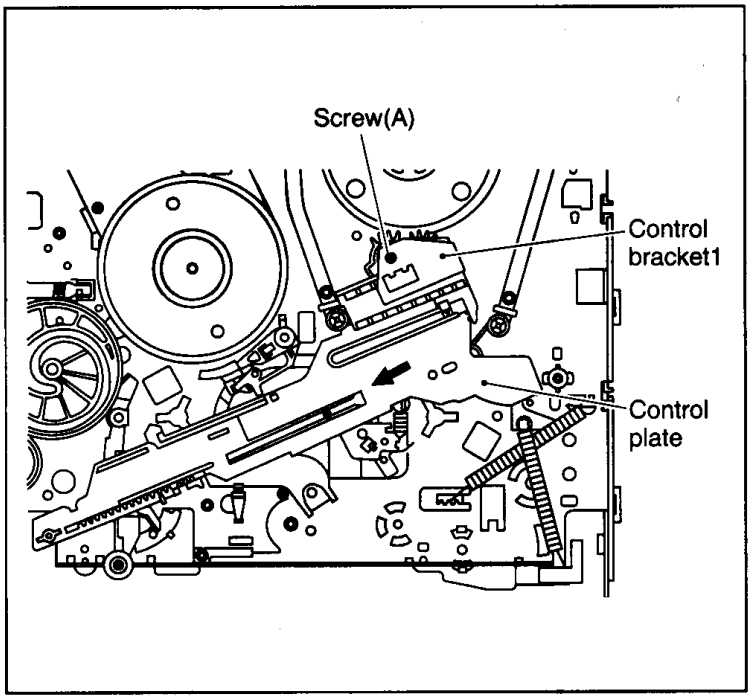


Fig. 2-2-29

2. How to install (Phase matching)

(1) Adjust the position of the idler arm assembly pin as indicated in Fig.2-2-30 (to the left of centre of the R section).

(2) Bring the guide hole of the take-up lever into alignment with the hole at the control plate guide and fix the position by inserting a 1.5 mm hexagonal wrench.

(3) Install the control plate so that the section A of the loading arm gear shaft fits into the hole (A) of the control plate, the section B of the control plate guide into the hole (B), and the control plate comes under the section C of the rotary encoder guide and the section D of the loading arm gear shaft while press-fit the pole base assmebly (supply side) as indicated by the arrow. It is important that the tension arm assembly shaft is positioned closer toward you than the control plate. (See Fig.2-2-31.)

(4) Make sure that the mark E of the control plate is in alignment with the mark ▼ of the loading arm gear shaft. (See Fig.2-2-31.)

(5) Pull off the hexagonal wrench for positioning.

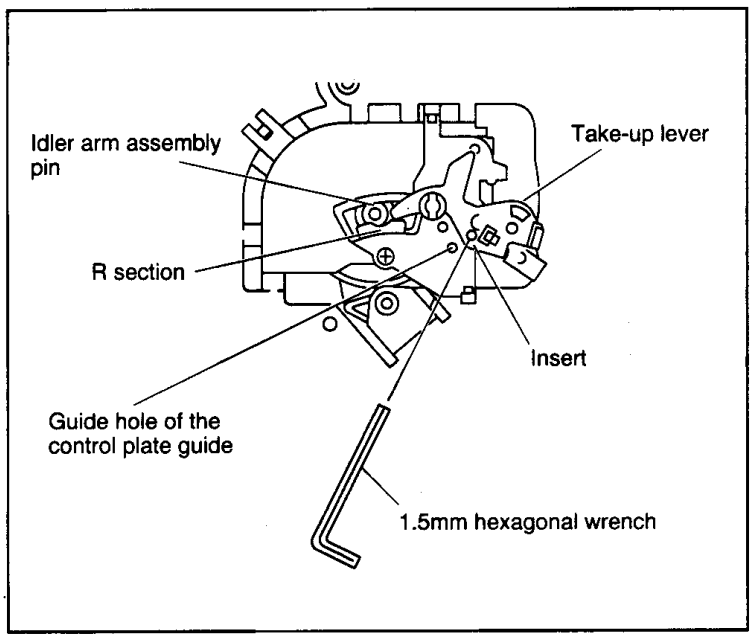


Fig. 2-2-30

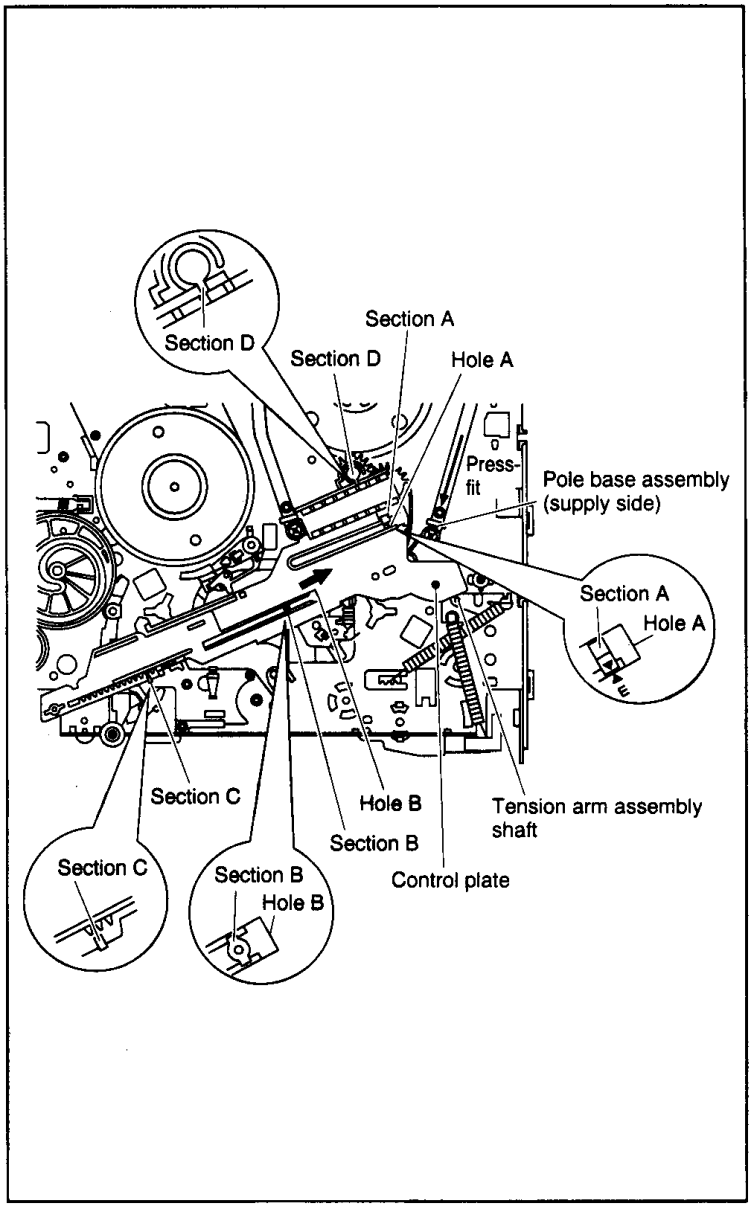


Fig. 2-2-31

2.2.16 Loading Arm Gear (supply or take-up side) and Loading Arm Gear Shaft

1. How to remove

(1) Remove the loading arm gear (supply side) by loosening the screw (A). (See Fig. 2-2-32.)

(2) Remove the screw (B) and remove the torsion arm from the pole base assembly (take-up side). (See Fig.2-2-32.)

(3) Turn the loading arm gear (take-up side) clockwise so that the notch of the loading arm gear (take-up side) is in alignment with the projection of the loading arm gear shaft and lift it.
Likewise, turn the loading arm counterclockwise so that the notch is in alignment with the projection and remove the loading arm gear (take-up side). (See Fig.2-2-32 and Fig. 2-2-33.)

(4) When removing the loading arm gear shaft, be sure of first removing the screw retaining the drum assembly (on the back side of the loading arm gear shaft). Then remove the screw (C) and remove the loading arm gear shaft by sliding it.

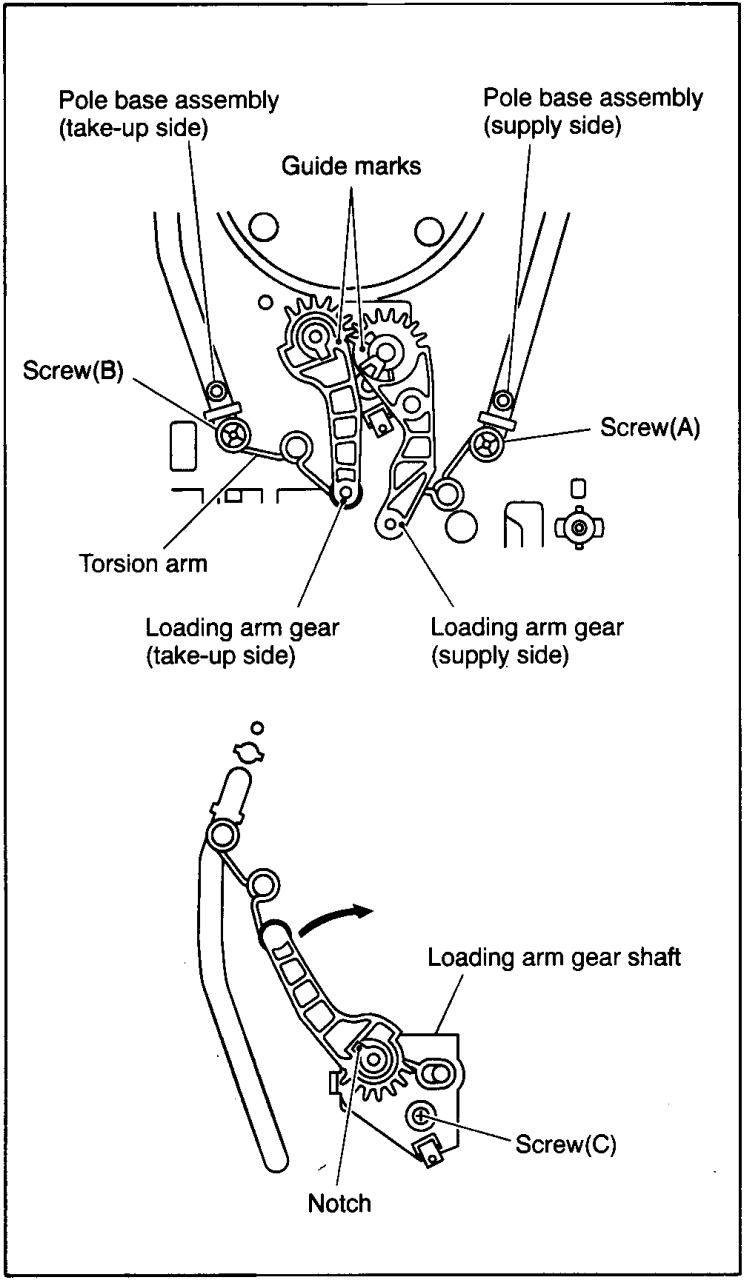


Fig. 2-2-32

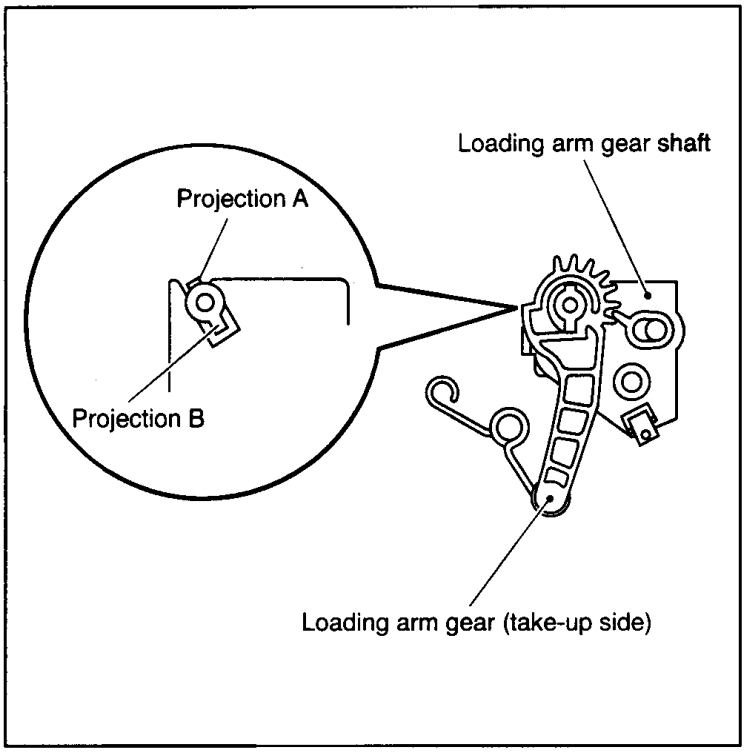


Fig. 2-2-33

2. How to install

(1) Align the notch of the loading arm gear (take-up side) to the projection B of the loading arm gear shaft and slip it over. Then rotate it clockwise for alignment with the projection A and slip it down to the bottom. (See Fig.2-2-33.)

(2) Then turn the loading arm gear (take-up side) counterclockwise. Hang the torsion arm on the pole base assembly (take-up side) and tighten the screw (B).

(3) Install the loading arm gear (supply side) so that the guide mark of the loading arm gear (take-up side) is in alignment with the guide mark of the loading arm gear (supply side). Then hang the torsion arm on the pole base assembly (supply side) and tighten the screw (A). (See Fig.2-2-32.)

2.2.17 Take-up Lever, Take-up Head and Control Plate Guide

(1) Remove the spring of the take-up lever from the main deck.

(2) Remove the lug (A) of the take-up lever from the main deck and pull out the take-up lever and the take-up head together.

(3) Remove the screw (A).

(4) Align the idler arm assembly pin in the center of the R section of the control plate guide, remove the control plate guide lugs (B) and (C) from the main deck, and remove the control plate guide.

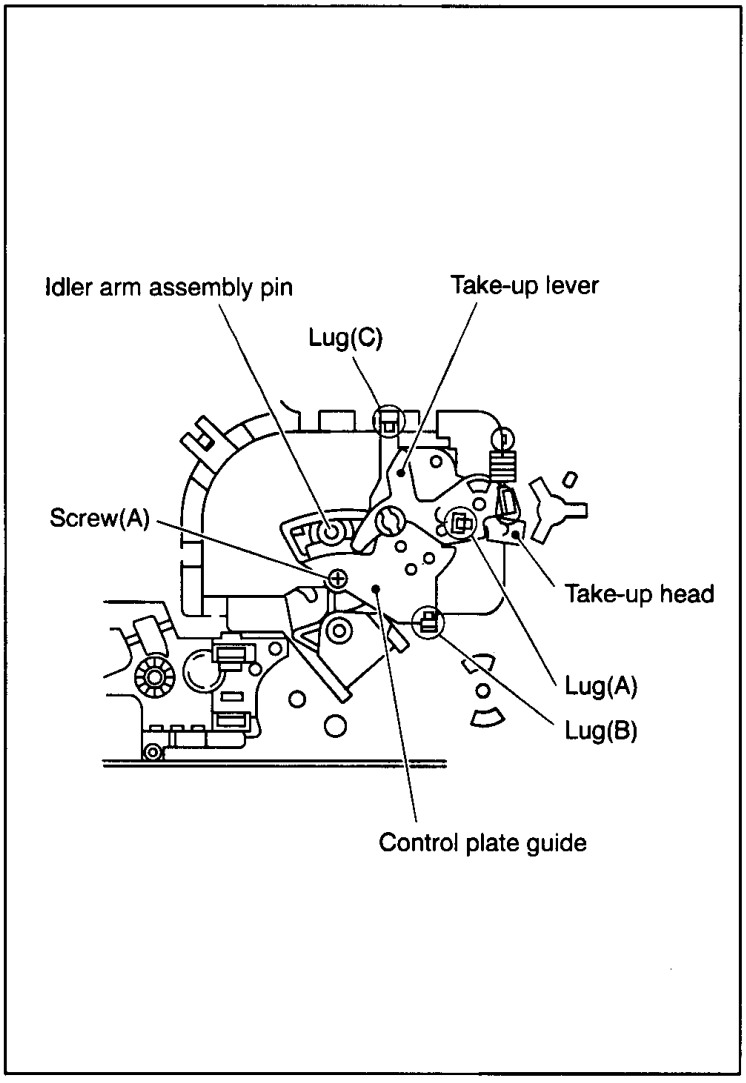


Fig. 2-2-34

2.2.18 Capstan Brake Assembly

1. How to remove

(1) Move the lug (A) of the capstan brake assembly in the arrow-indicated direction so that it comes into alignment with the notch of the main deck. (See Fig. 2-2-35.)
(2) Remove the lug (B) of the capstan brake assembly from the main deck and remove the capstan brake assembly.

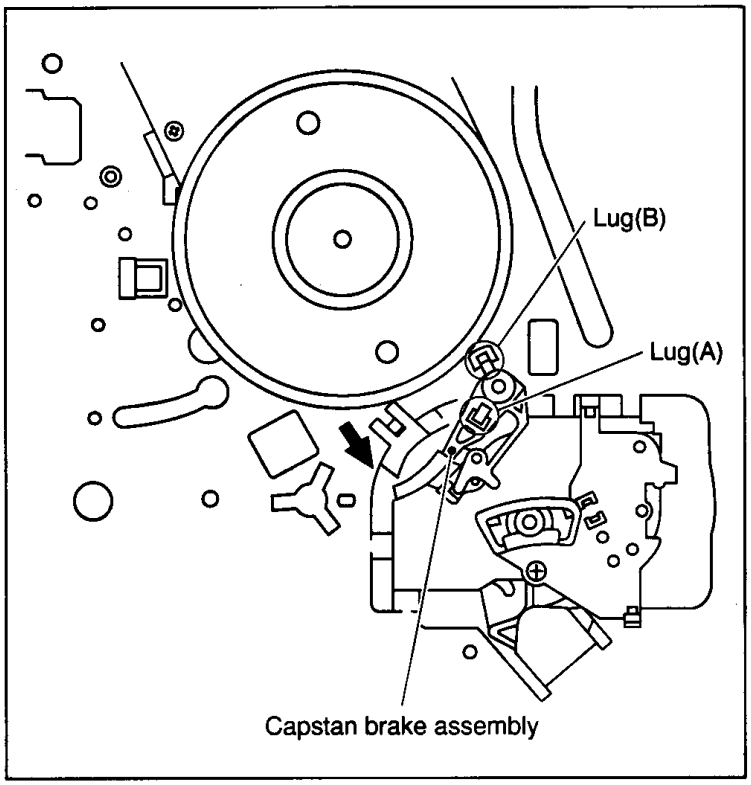


Fig. 2-2-35

2.2.19 Sub Brake Assembly (take-up side)

1. How to remove

(1) Remove the spring attached to the lid guide and sub brake assembly (take-up side).
(2) Bring the lug (A) of the sub brake assembly (take-up side) into alignment with the notch of the main deck.
(3) Remove the lugs (B) and (C) of the sub brake assembly (take-up side) from the main deck and remove the sub brake assembly (take-up side).

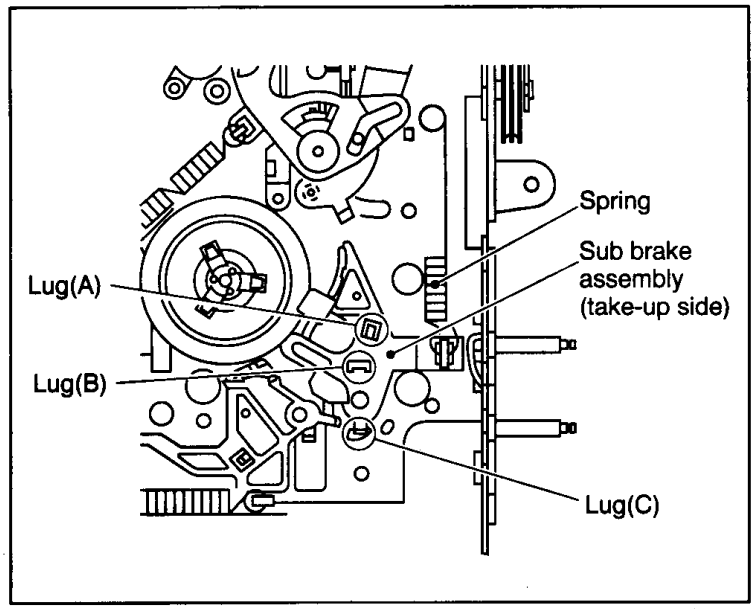


Fig. 2-2-36

2.2.20 Main Brake Assembly (take-up side), Reel Disk (take-up side) and Main Brake Assembly (supply side)

1. How to remove

(1) Move the main brake assembly (take-up side) in the arrow-indicated direction and remove the reel disk (take-up side).
(2) Remove the spring attached to the main brake assembly.
(3) Remove the lug (A) of the main brake assembly (take-up side) and pull out the lug (B) after bringing it into alignment with the main deck notch.
(4) Remove the lugs (C), (D) and (E) of the main brake assembly (supply side) from the main deck and pull them off. (See Fig.2-2-37.)

Note: *If the main brake assembly is difficult to remove, press it and hold the adjustment pin from the back side of the main deck when attempting to remove it.*
After the adjustment pin has been removed or the main brake assembly or the reel disk on the supply or take-up side have been replaced, it is required to adjust the main brake assembly torque. See page 2-23 for the detailed adjustment procedures.

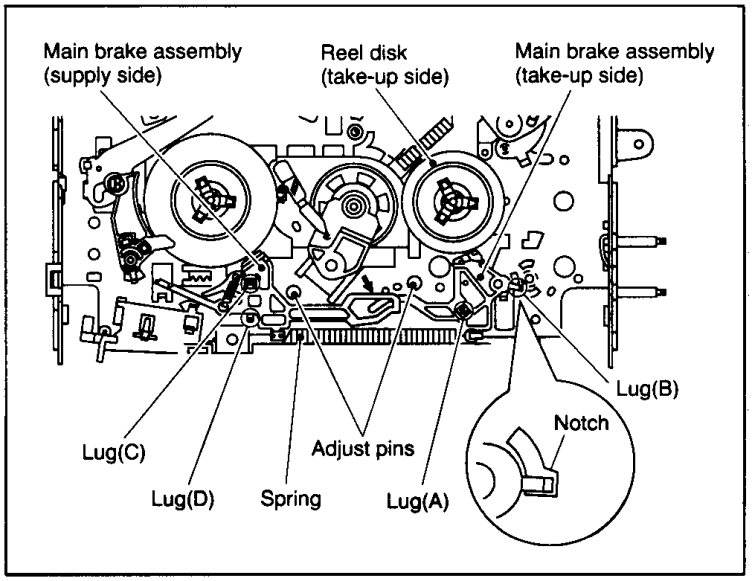


Fig. 2-2-37

(5) When installing the main brake assembly (take-up side), slide the brake lever in the direction as indicated by the arrow to prevent it from hitting the projection of the main brake assembly (take-up side). (See Fig.2-2-38.)

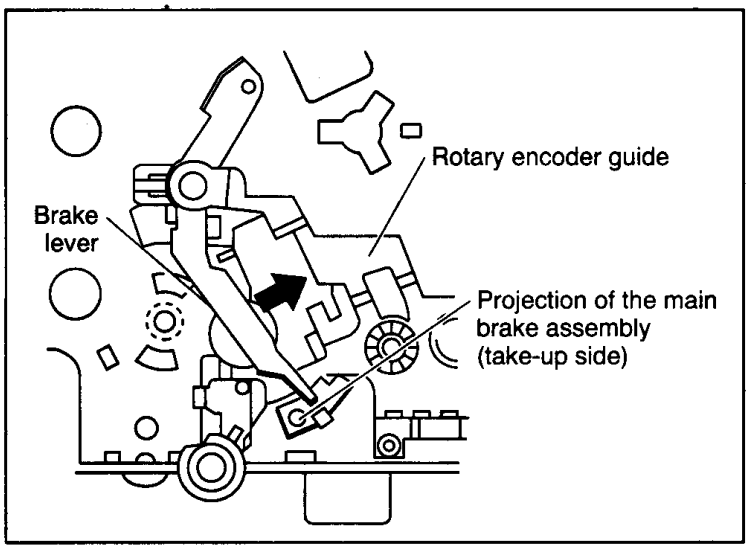


Fig. 2-2-38

2.2.21 Tension Brake Assembly, Reel Disk (supply side) and Tension Arm Assembly

1. How to remove

(1) Remove the three lugs of the tension brake assembly from the main deck and pull them off.
(2) Remove the reel disk (supply side) by loosening in the arrow-indicated direction the main brake assembly (supply side).
(3) Remove the tension spring on the back of the main deck. Then release the lug of the tension arm bearing in the arrow-indicated direction and draw out the tension arm assembly. (See Fig. 2-2-39.)

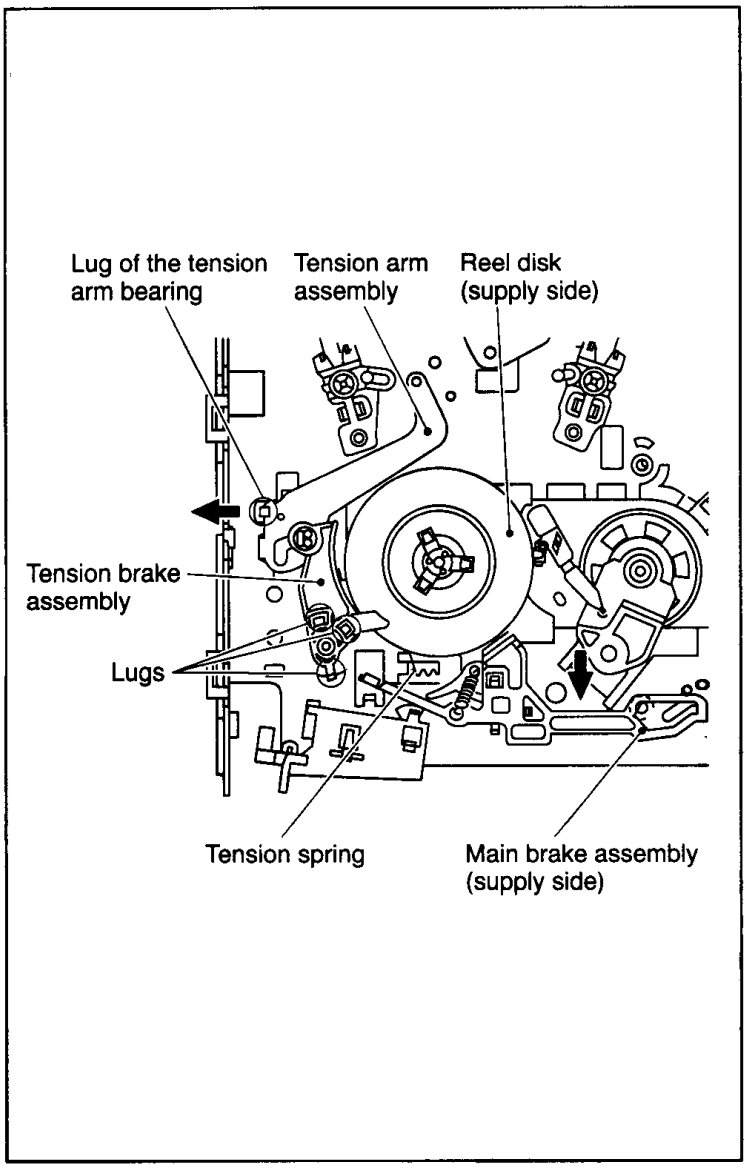


Fig. 2-2-39

2.2.22 Idler Lever, Idler Arm Assembly

1. How to remove

(1) Remove the lug of the idler lever from the main deck and remove the hook fitted in the idler arm assembly hole by lifting it.
(2) Remove the slit washer and pull out the idler arm assembly.

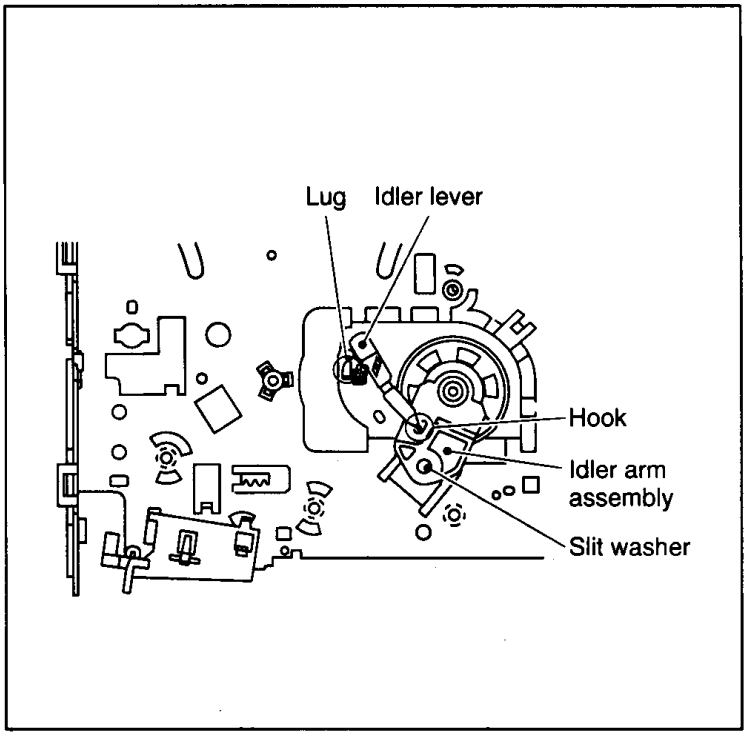


Fig. 2-2-40

2.2.23 Stator Assembly

(1) Remove the flat cable.
(2) Remove the two screws (A).
(3) Remove the stator assembly by lifting in the arrow-indicated direction. (Take care that the brush spring does not jump out.)
(4) After installation, be sure to perform the PB switching point adjustment according to the electrical adjustment procedure.

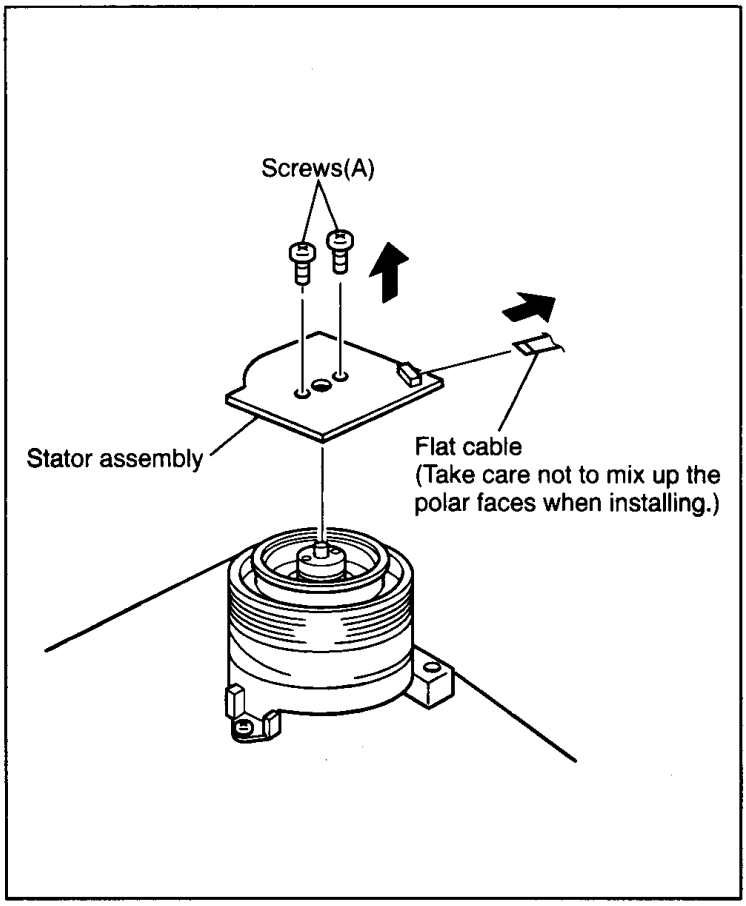


Fig. 2-2-41

(3) Install the cap to the upper drum assembly.
(4) Position the collar assembly as indicated in Fig.2-2-46 while controlling its up- down movement.

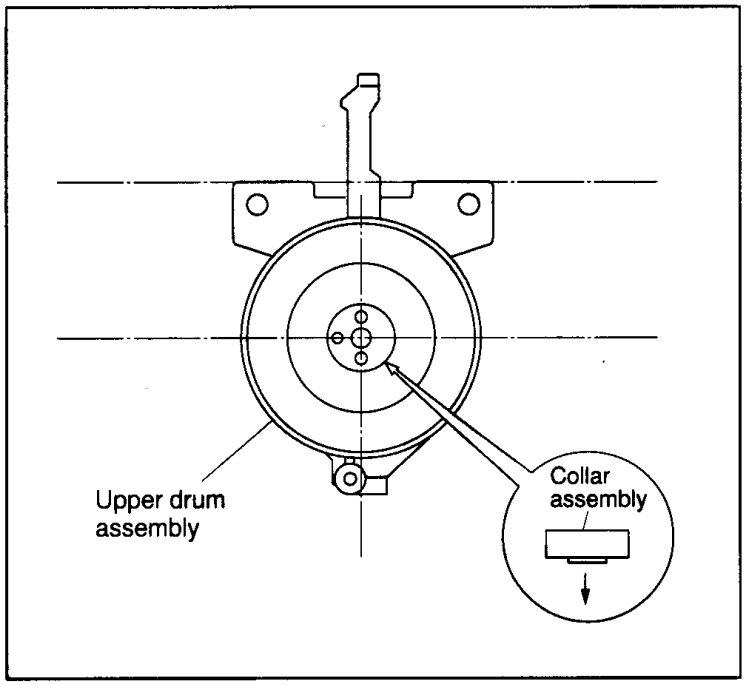


Fig. 2-2-46

(5) Secure the collar assembly in position with a hexagonal wrench while pressing its top with the fingers.

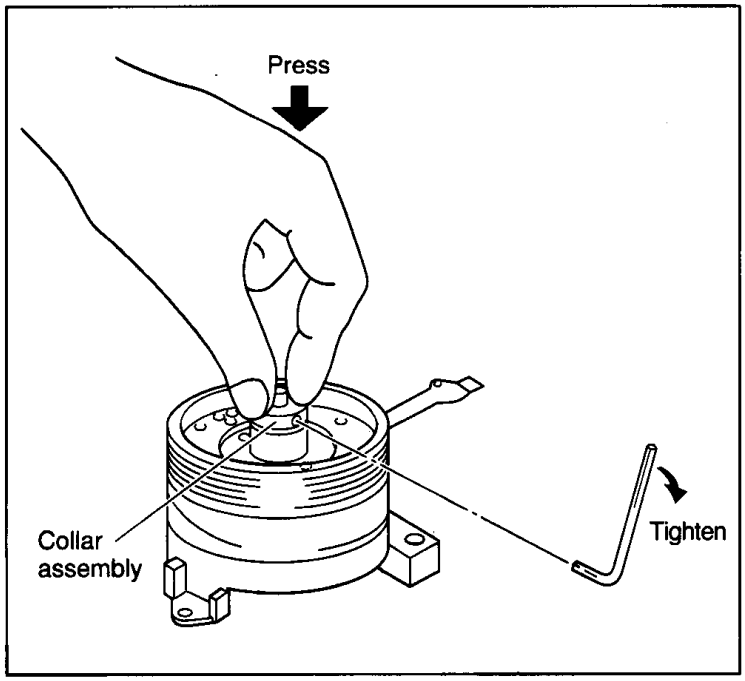


Fig. 2-2-47

(6) After installation, gently turn the upper drum assembly with your hand to make sure that it turns normally. Then install the brush and the spring.
(7) Install the rotor assembly and stator assembly according to Fig 2-2-41 and 2-2-42.
(8) When installation is complete, clean the upper drum assembly and lower drum assembly and carry out the following adjustments.
- PB switching point adjustment
- Slow tracking adjustment
- Compatibility adjustment (Be sure to check for compatibility for the LP mode.)

2.3 COMPATIBILITY ADJUSTMENT

Notes: • *Although compatibility adjustment is very important, it is not necessary to perform this as part of the normal servicing work. It will be required when you have replaced the audio control head, drum assembly or any part of the tape transport system.*
• *To avoid any damage to the alignment tape while performing the compatibility adjustment, get a separate cassette tape (for recording and play back) ready to be used for checking the initial tape running behavior.*

2.3.1 Checking/Adjustment of FM Waveform Linearity

(1) Connect the oscilloscope to TP106(V.PB FM) of the main board assembly and to TP111(D.FF) of the main board assembly for external sync connection.
(2) Playing the alignment tape (SP)., observe the FM waveform.
(3) Press the channel buttons (▲, ▼) simultaneously during playback to enter the manual tracking mode. (This also brings tracking to the centre.)
(4) Make sure that there is no significant level drop of the FM waveform caused by the tracking operation, with its generally parallel and linear variation ensured. Perform the following adjustments when required. (See Fig.2-3-1.)
(5) Reduce the FM waveform while pressing the channel buttons (▲, ▼) during playback. If a drop in level is found on the left side, turn the guide roller of the pole base assembly (supply side) with the roller driver to make the FM waveform linear.
If a drop in level is on the right side, likewise turn the guide roller of the pole base assembly (take-up side) with the guide roller to make it linear. (See Fig.2-3-3.)
(6) Then play tape (EP) and make sure that the FM waveform varies in parallel and linearly with the tracking operation. When required, perform fine-adjustment of the guide roller of the pole base assembly (supply or take-up side).
(7) Unload the cassette tape once, play the alignment tape (EP) again and confirm the FM waveform.

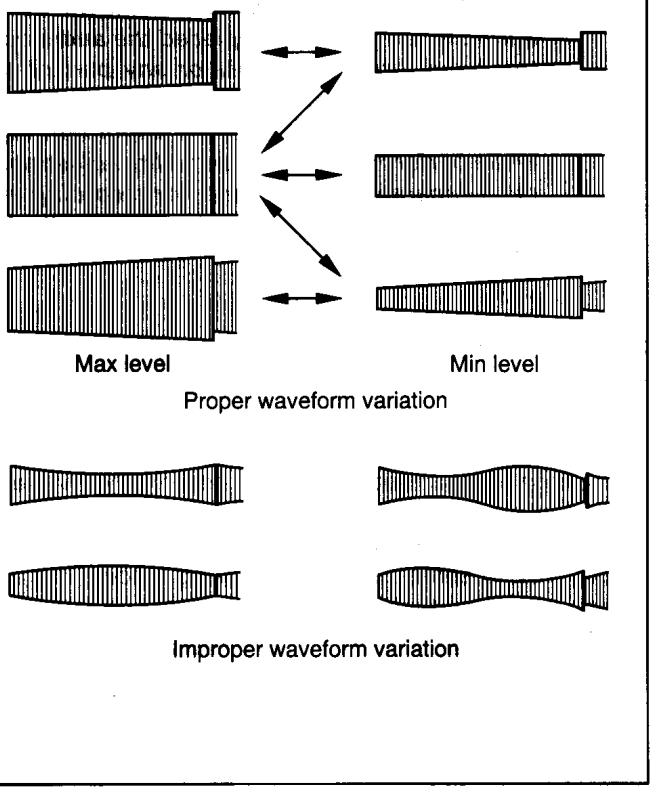


Fig. 2-3-1

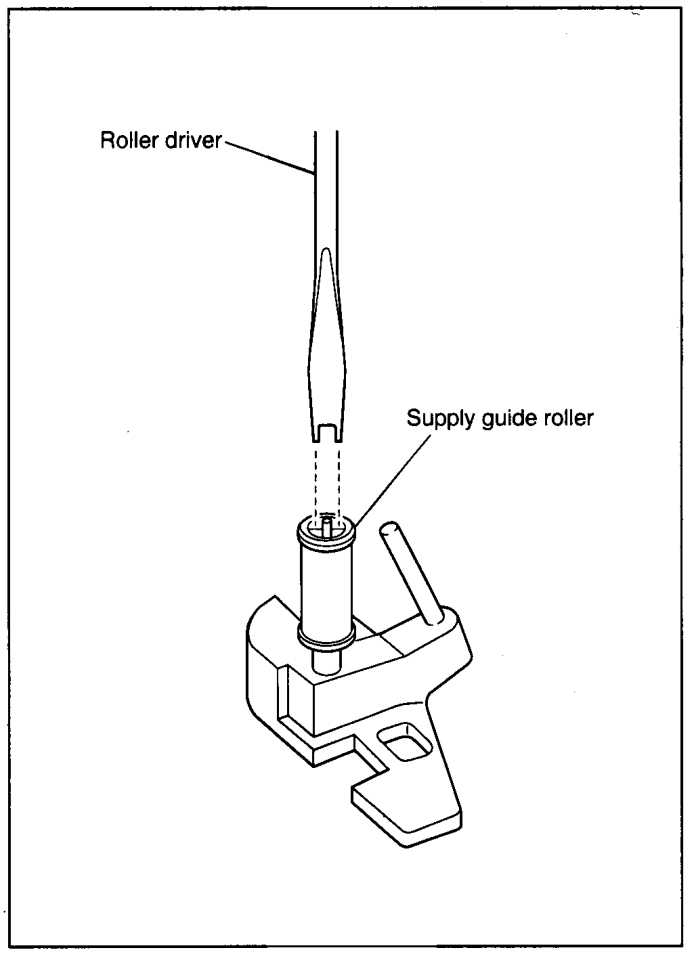


Fig. 2-3-2

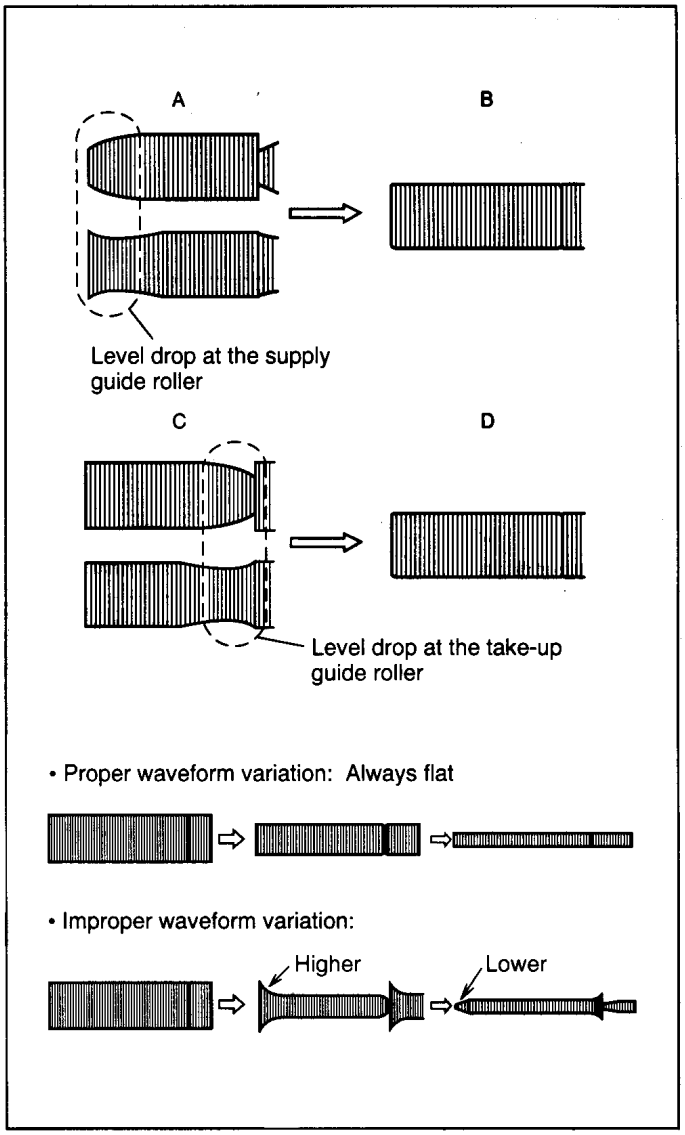


Fig. 2-3-3

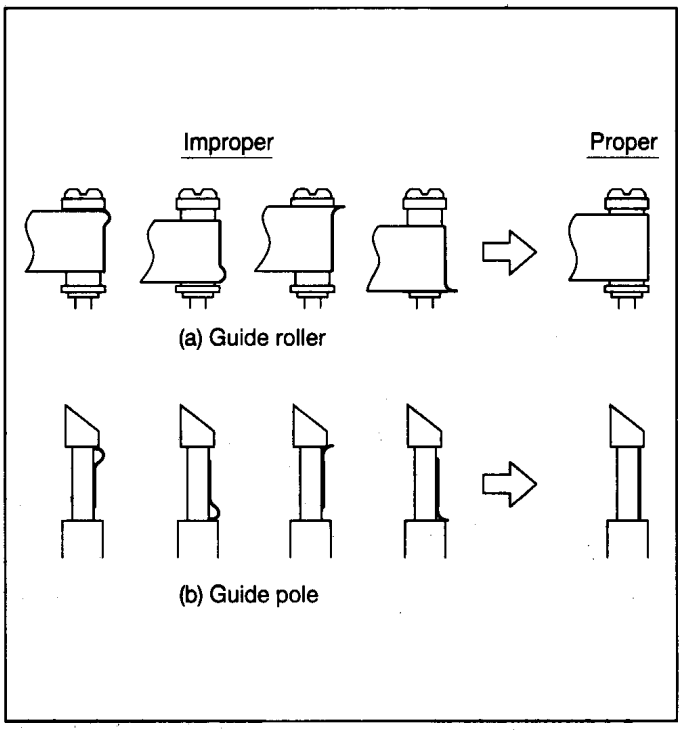


Fig. 2-3-4

2.3.2 Checking/Adjustment of the Height and Tilt of the Audio Control Head

Note: *Set a temporary level of the height of the A/C head in advance to make the adjustment easier after the A/C head has been replaced. (See Fig.2-2-15.)*

(1) Connect CH-1 of the oscilloscope to AUDIO OUT and CH-2 to TP4001 (CTL.P) of the main board assembly and observe the waveforms on both channels in the ALT mode.
(2) Play the alignment tape (SP) and adjust it by turning the screws (1), (2) and (3) little by little until the waveform of both the audio output signal and the control pulse reach maximum. The screw (1) and screw (3) are for adjustment of tilt and screw (2) for azimuth.

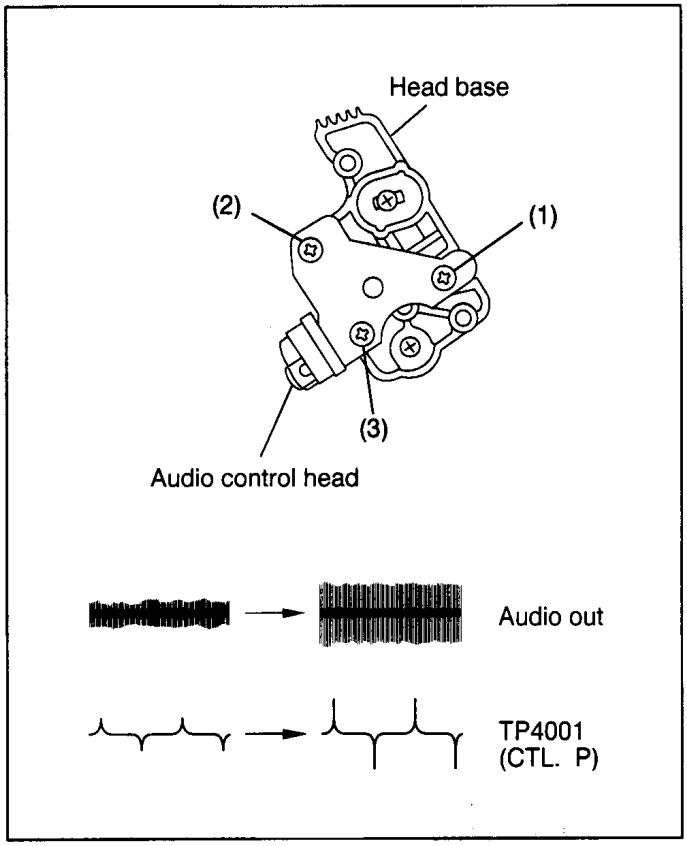


Fig. 2-3-5

2.3.3 Checking/Adjustment of the Audio Control Head Phase (X-Value)

(1) Connect the oscilloscope to TP106(V.PB FM) of the main board assembly and to TP111(D.FF) of the main board assembly for external sync connection.
(2) Play the alignment tape (SP) and observe the FM waveforms.
(3) Press the channel buttons (▲, ▼) simultaneously during playback to enter the manual tracking mode. (This also brings tracking to the centre.)
(4) Loosen screws (4) and (5) so that the A/C head position bit is set as indicated in Fig.2-3-6.
(5) Turn the A/C head position bit fully toward the capstan. Then turn it back gradually toward the drum and stop on the second peak point position of the FM waveform output level. Then tighten the screw (4) temporarily.
(6) Then play the alignment tape (EP).
(7) Press the channel buttons (▲, ▼) simultaneously during playback to enter the manual tracking mode. (This also brings the tracking to the centre.)
(8) Perform the tracking operation and make sure that the FM waveform is at its maximum.
(9) If it is not at maximum, loosen the temporarily tightened the screw (4) and turn the A/C head position bit to bring the audio control head to a position, around where the waveform reaches its maximum for the first time. Then tighten the screws (4) and (5).

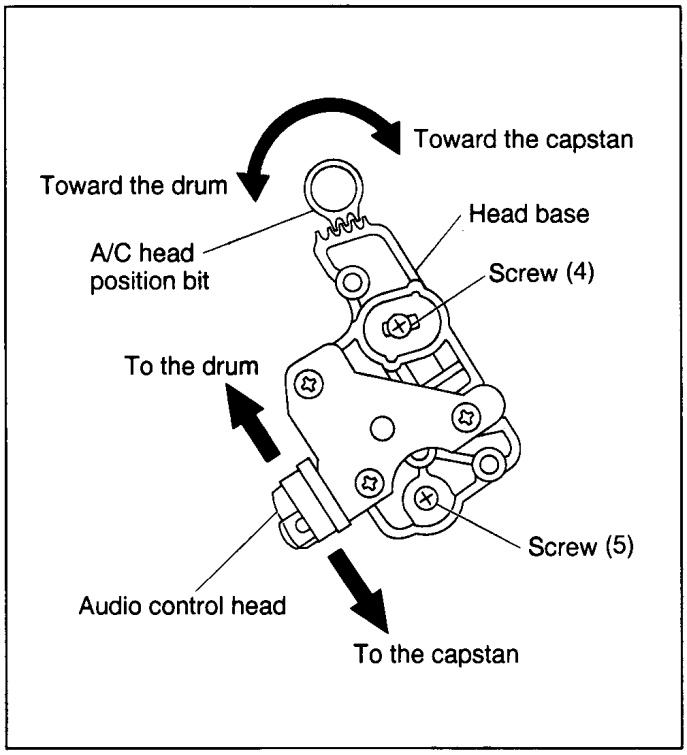


Fig. 2-3-6

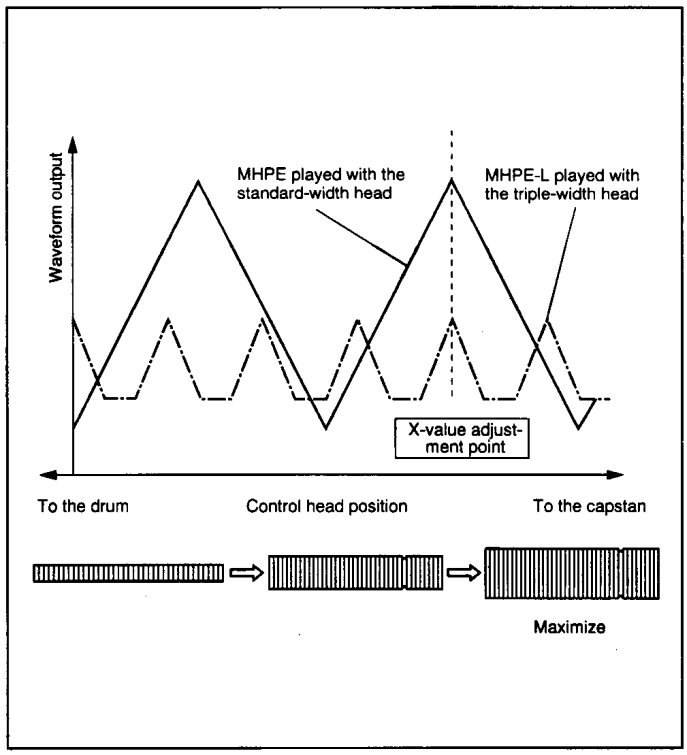


Fig. 2-3-7

2.3.4 Checking/Adjustment of the Standard Tracking Preset

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

(1) Connect the oscilloscope to TP106(V.PB FM) of the main board assembly and to TP111(D.FF) of the main board assembly for external sync connection.
(2) Playing the alignment tape (EP) and observing the FM waveform, make sure that the auto tracking operation is complete.
(3) Press the "D" button of the presetting unit twice.
(4) Make sure that the tape (EP) is not ejected
(5) If ejected, again perform the phase (X-value) adjustment of the audio control head.

2.3.5 Checking/Adjustment of the Tension Pole

(1) Check the back tension cassette gauge to make sure that the indicator points to 25 - 51 gf•cm.
(2) If the indicated value is outside this range, carry out the following adjustment steps.
   1) Select the mechanism servicing mode. (See 1.5 MECHANISM SERVICE MODE.)
   2) While in the Play mode, turn the adjustment pin with a straight-slot screwdriver while taking care not to touch the 2.5 mm dia. pole. (See Fig.2-3-8.)

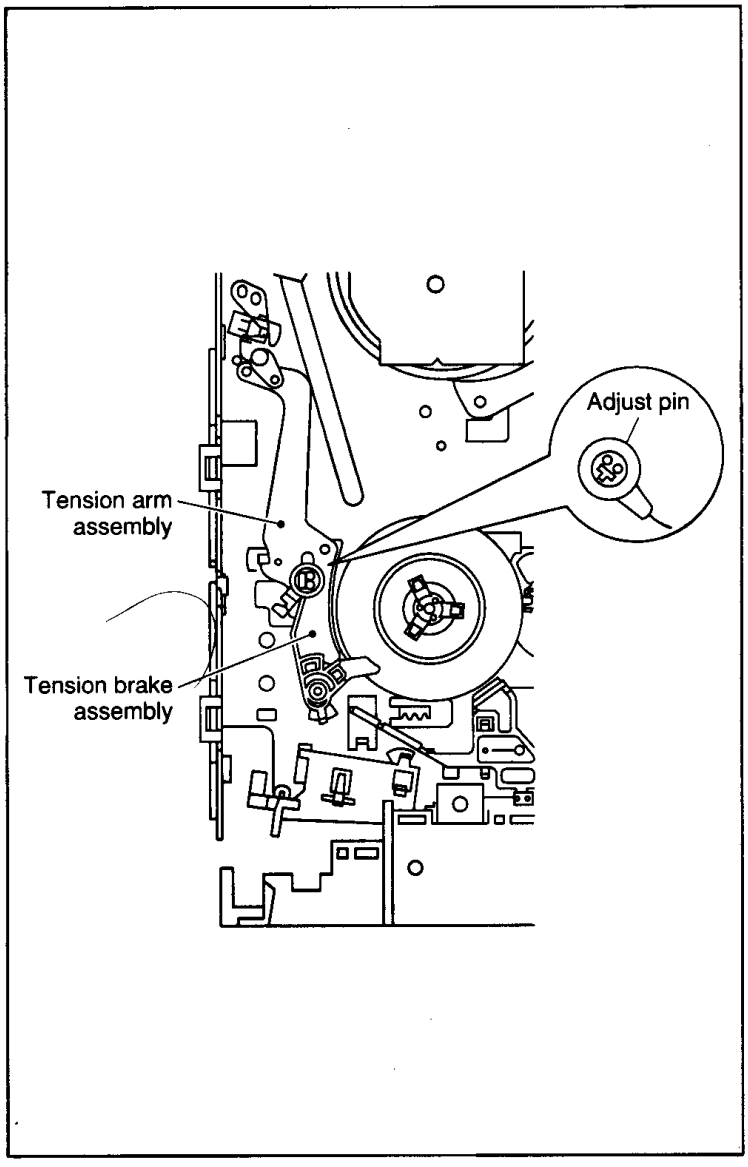


Fig. 2-3-8

2.3.6 Adjustment of the Tension Stud

(1) Adjust so that the left side of the tension stud is on the extension of the notch line of the main deck. (See Fig. 2-3-9.)

Note: *Adjustment is not usually necessary for the tension stud. Perform this adjustment only when it is out of position.*

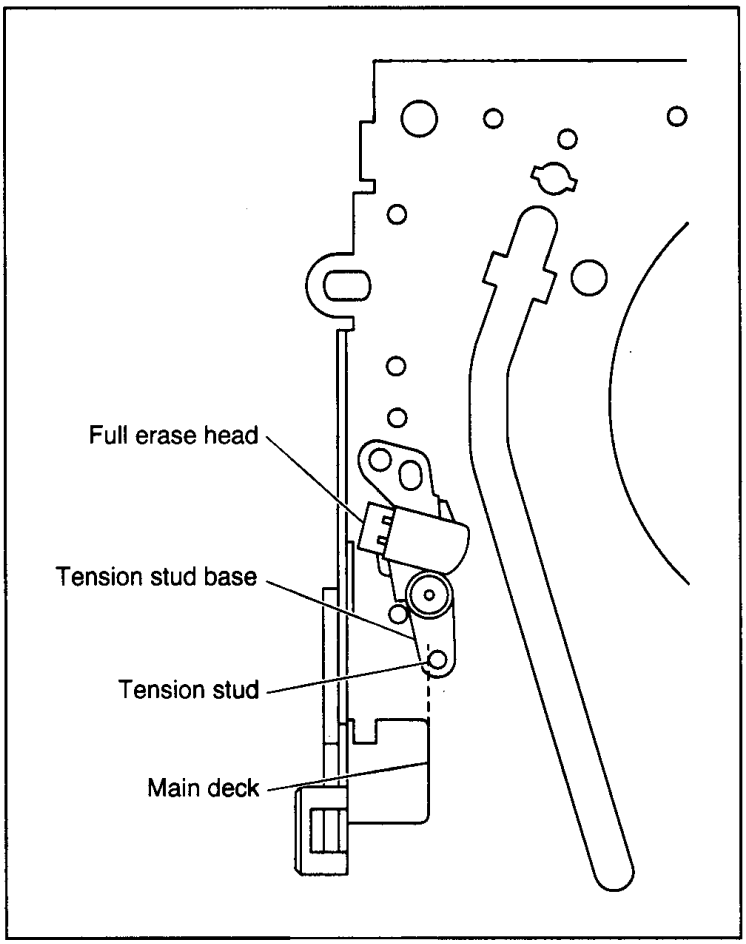


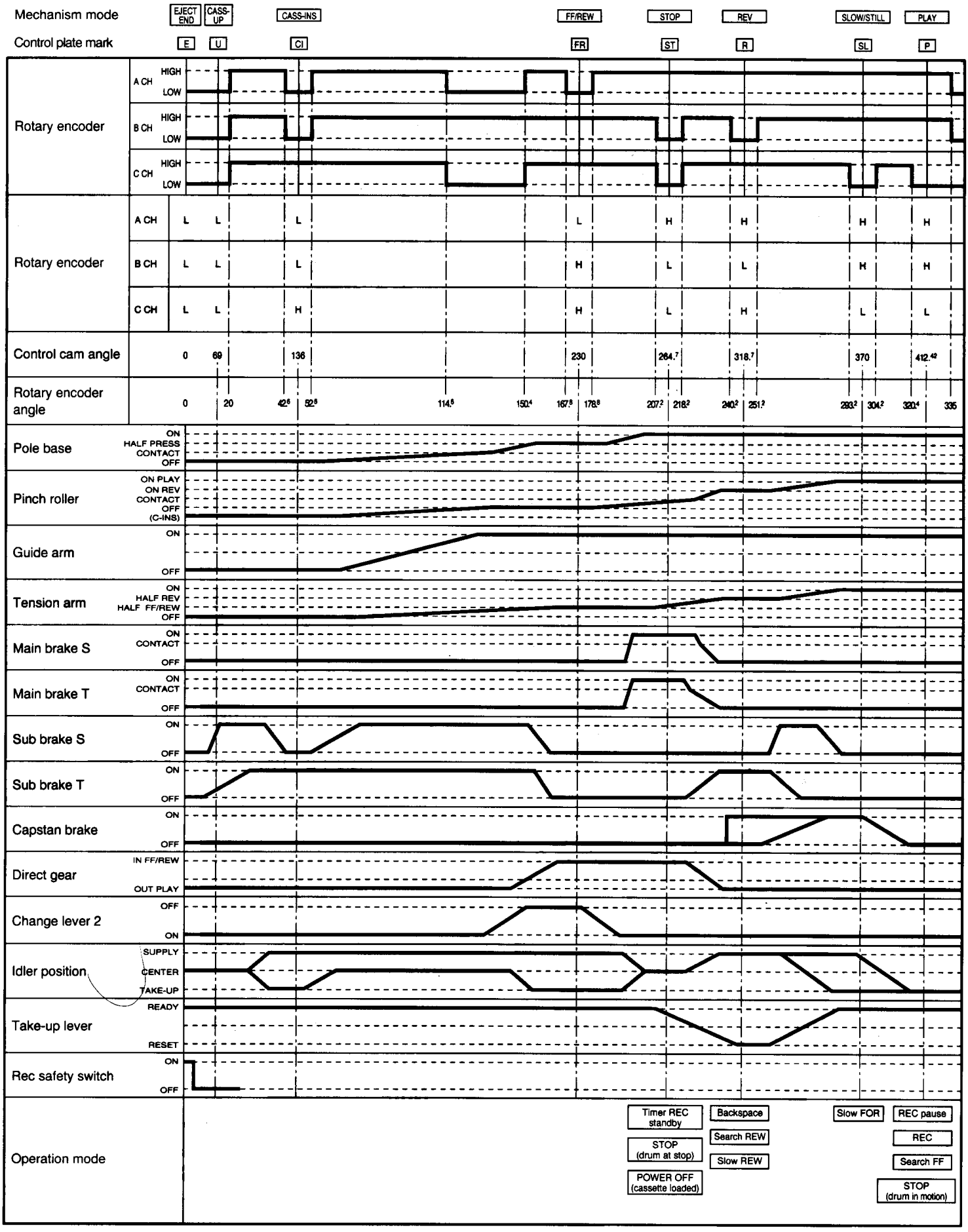
Fig. 2-3-9

2.3.7 Main Brake Torque Adjustment

Note: Adjustment of the main brake torque is required after the adjustment pin has been removed or the main brake assembly or the reel disk on the supply or take-up side have been replaced, removed or attached.

(1) Rotate the pulley of the loading motor by hand to align the mark ▼ on the loading arm gear shaft with the ST marking on the control plate (i.e. set to the STOP mode position).
(2) Insert a torque gauge into the reel disk on the side to be played, hold the torque gauge lightly, rotate it clockwise when measuring the supply side torque or counterclockwise when measuring the take-up side torque, and read the value indicated at the moment the reel disk starts to slip.
(3) Make sure that the main brake torque values on the supply and take-up sides are both between $23.^5$ — $78.^4$ x 10^{-3} N•m (240 — 800 gf•cm). If the value is outside the specified range, adjust to the specified value by rotating the adjustment pin.
If an adjustment by using the adjustment pin is not possible, replace the main brake assembly.

Mechanism Timing Chart



SECTION 3
ELECTRICAL ADJUSTMENT

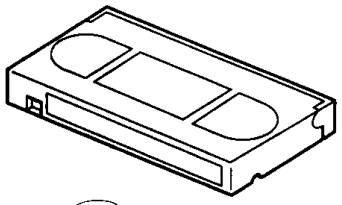
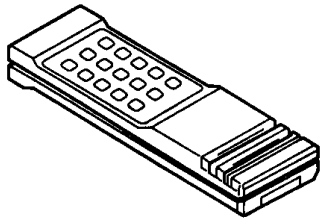
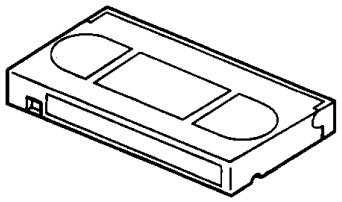
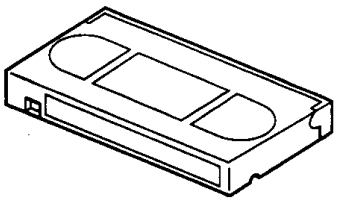
3.1 PRECAUTION

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 Colour television or monitor
② Oscilloscope: wide-band,dual-trace,triggered delayed sweep
③ Frequency counter
④ Signal generator: RF/IF sweep/marker
⑤ Signal generator: PAL colour bar, stairstep
⑥ Recording tape (VHS tape/S-VHS tape)
⑦ Digit-key remote controller(provided)

3.1.2 Required adjustment tools

Alignment tape (SP, stairstep) 4822 397 30262	Presetting unit 4822 395 90915
	
Alignment tape (S-VHS, SP/LP, colour bar)	Alignment tape (LP, stairstep) 4822 397 30261
	

3.1.3 Colour bar signal,colour bar pattern

● PAL colour bar signal

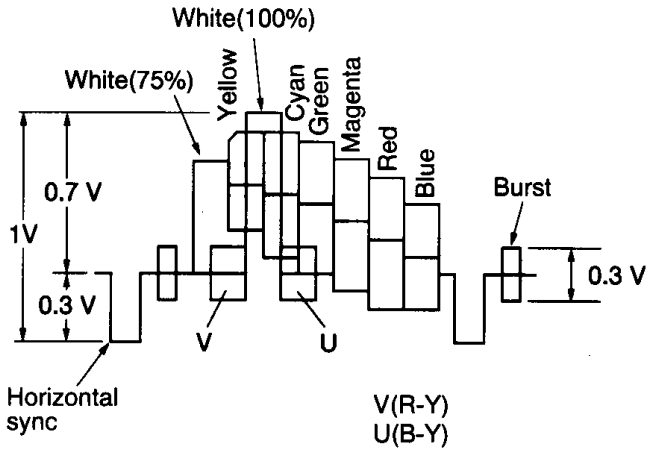


Fig.3-1-1 PAL colour bar signal waveform

● PAL colour bar pattern

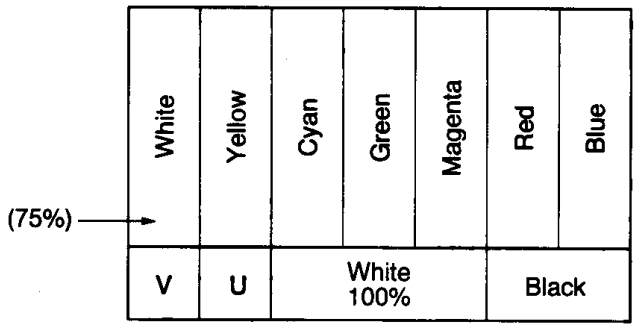


Fig.3-1-2 PAL colour bar pattern

Note:

*The system control circuit of this model has an automatic recognition about the ON-OFF control of the **DOCTOR SYSTEM.***

3.2 SERVO CIRCUIT

Notes: • *Unless otherwise specified,all measurement point and adjustment parts are located on the MAIN BOARD.*
• *Depress the "A" button on the presetting unit to the VCR to "code receive" mode.*

3.2.1 PB switching point

Signal - (SP) 4822 397 30262	• Alignment tape [MHPE], Stairstep • Alignment tape [MHP], Stairstep
Mode	• PB • TBC : OFF
Equipment	• Oscilloscope
Measurement point	• VIDEO OUT TERMINAL
Trigger slope (-)	• TP111(D.FF)
Adjustment tool	• Presetting unit
Specification	• 8.0 ± 0.5H [MHPE] • 7.5 ± 0.5H [MHP]

Note: • *Use only the "E" and "F" buttons, depressing other buttons during adjustment may cause adjustment errors.*

(1) Playback the stairstep signal of the alignment tape (SP).
(2) Connect an oscilloscope to VIDEO OUT TERMINAL and TP111 (negative slope), and then observe VIDEO OUT TERMINAL.
(3) Adjust by pressing the "E" or "F" buttons of the presetting unit so that the switching point becomes 8.0 ± 0.5H from V.sync.
(4) Depress the STOP button.
(5) Playback the stairstep signal of the alignment tape (SP).
(6) Adjust by pressing the "E" or "F" buttons of the presetting unit so that the switching point becomes 7.5 ± 0.5H from V.sync.
(7) Depress the STOP button.

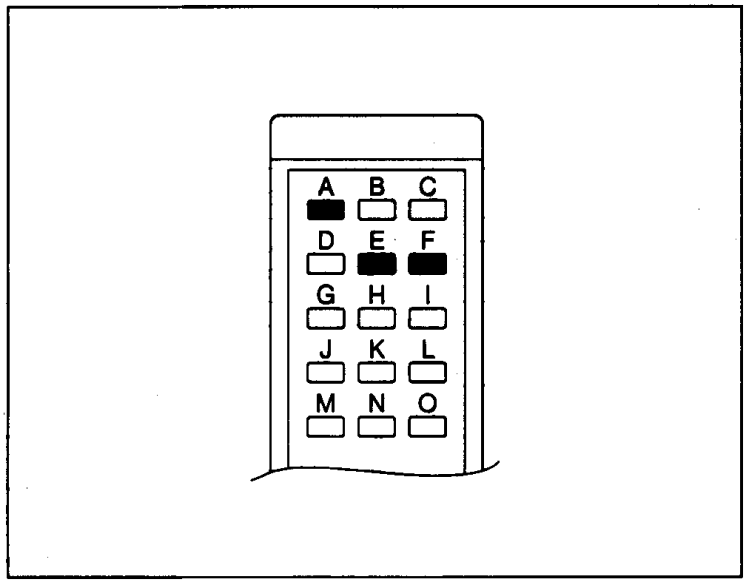


Fig. 3-2-1 Presetting unit

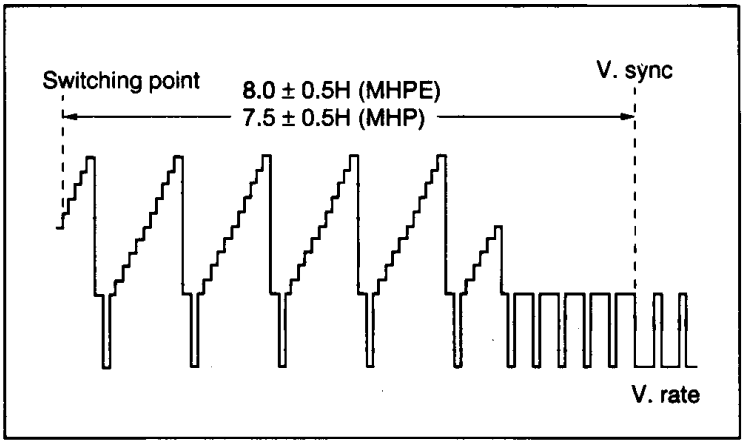


Fig. 3-2-2 PB switching point

3.2.2 Slow tracking preset

Signal	• Tuner or colour bar
Mode	• SP/LP : REC → PB(SLOW) • S-VHS
Equipment	• TV-Monitor
Adjustment tool	• Presetting unit
Specification	• Minimum noise

Note: • *Use only the "B" and "C" buttons, depressing other buttons during adjustment may cause adjustment errors.*

(1) Record a colour bar signal in the SP mode.
(2) Playback the recorded signal on the FWD slow mode.
(3) Set the tracking control to the centre position by simultaneously pressing the CH "▲" and "▼" buttons.
(4) Observe the display on the TV monitor and adjust for optimum noise condition (best tracking) by depressing the "B " or "C" buttons of the presetting unit.
(5) Depress the STOP button.
(6) Confirm that the bar noise is not visible on the TV monitor in the slow mode.
(7) Repeat steps (2) to (6) in the REV slow mode.
(8) Repeat steps (1) to (7) in the LP mode.

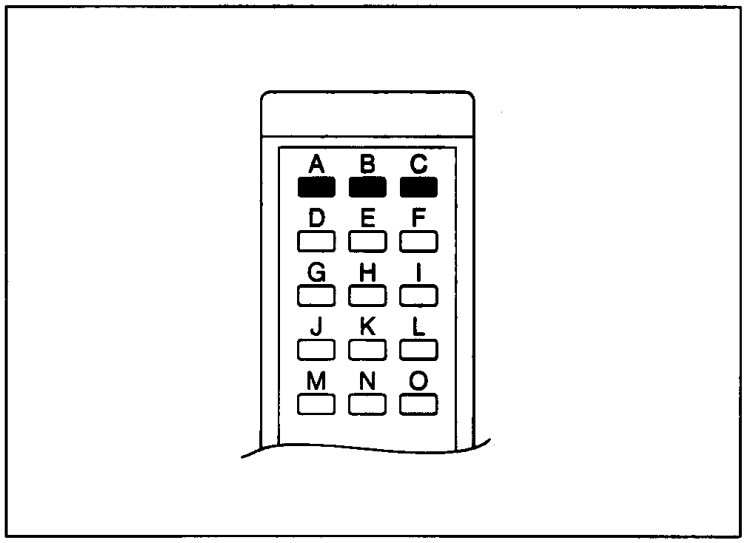


Fig. 3-2-3 Presetting unit

3.2.3 Dynamic drum preset

Signal	• Alignment tape (EP). Stairstep
Mode	• Automatic tracking OFF
Equipment	• Oscilloscope
Measurement point	• TP106 (V.PB FM)
Trigger slope (–)	• TP111 (D.FF)
Adjustment tool	• Presetting unit
Specification	• FM waveform flat

Note: • ***Use only the "D", "E" and "M" buttons, depressing other buttons during adjustment may cause adjustment errors.***

(1) Connect an oscilloscope to TP106 and external trigger from TP111 (negative slope).
(2) Playback the LP stairstep portion of the alignment tape.
(3) Set the automatic tracking control to the OFF by simultaneously pressing the CH " ▲ " and " ▼ " buttons.
(4) Adjust for maximum level of playback FM waveform by depressing the CH " ▲ " or " ▼ " buttons.
(5) Set the VCR to the LP 2x mode.
(6) Adjust for half level of playback FM waveform from maximum level by depressing the CH " ▲ " or " ▼ " buttons.
(7) Adjust by pressing the "M+D" or "M+E" buttons of the presetting unit for FM waveform is flat as shown in Fig. 3-2-5.
(8) Record the stairstep signal by the LP mode and play it back.
(9) Repeat steps (3) and (7) in the LP 1/6 FWD slow mode.

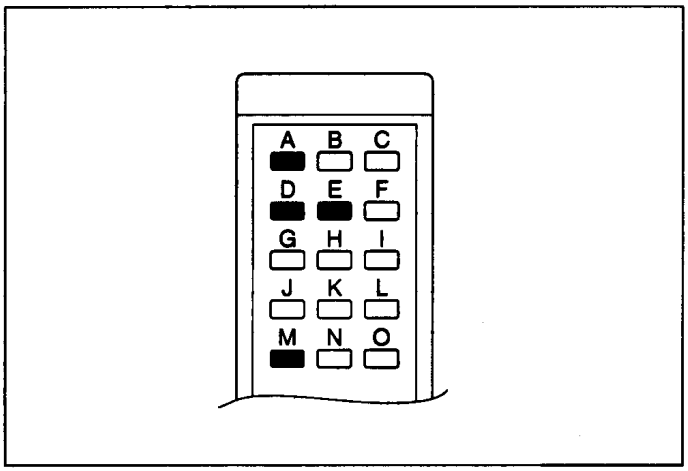


Fig. 3-2-4 Presetting unit

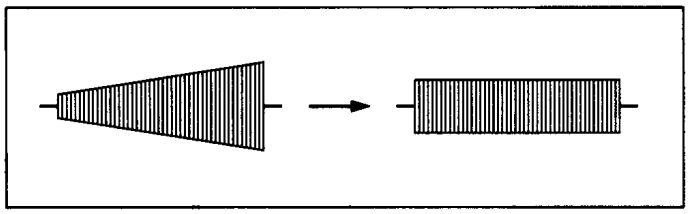


Fig. 3-2-5 PB FM

3.3 VIDEO CIRCUIT

Notes: • *Unless otherwise specified,all measurement point and adjustment parts are located on the MAIN BOARD.*
• *VIDEO circuit adjustments are performed by the EVR system by use of the presetting unit and digit-key remote controller.*
• *S-INPUT means Y/C separated video signal in the chart.*
• *Depress the "A" button on the presetting unit to the VCR to "code receive" mode.*
• *Unless otherwise specified, set the VCR to the following mode.*

PICTURE CONTROL	NATURAL
TBC	ON

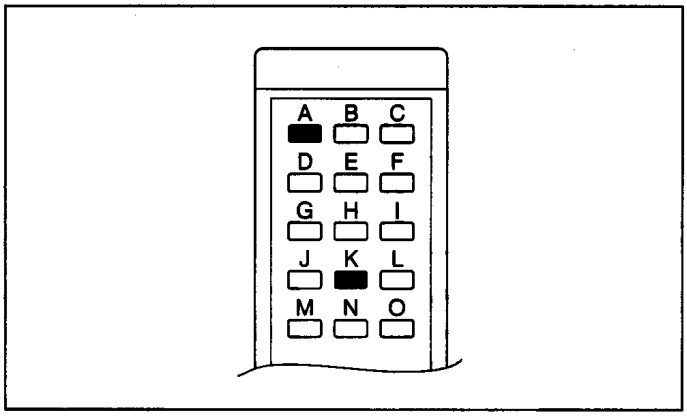


Fig. 3-3-1 Presetting unit

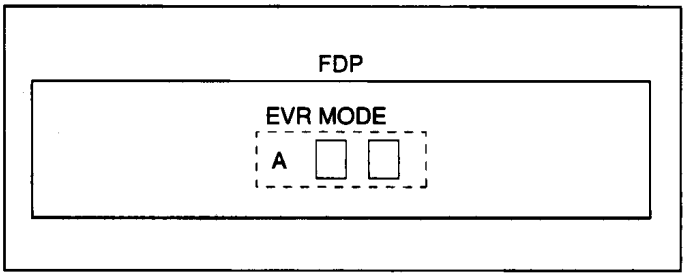


Fig. 3-3-2 EVR mode

3.3.1 EE Y level

Signal	• Colour bar
Mode	• EE
Equipment	• Oscilloscope
Measurement point	• Y OUT TERMINAL (75 ohm TERMINATION)
Adjustment tool	• Presetting unit • Digit-key remote controller
EVR mode	• A : 11
Specification	• 1.00 ± 0.03 Vp-p (terminated)

(1) Connect an oscilloscope to Y OUT TERMINAL.
(2) Set the EVR mode by pressing the "K" button of the presetting unit.
(3) Set "A : 11" by twice pressing 1 button of the remote controller.

(4) Adjust the CH "▲" or "▼" buttons for 1.00 ± 0.03 Vp-p. (See Fig. 3-3-3.)
(5) Set the normal VCR mode by pressing the "K" button of the presetting unit again so adjustment data is memorized.

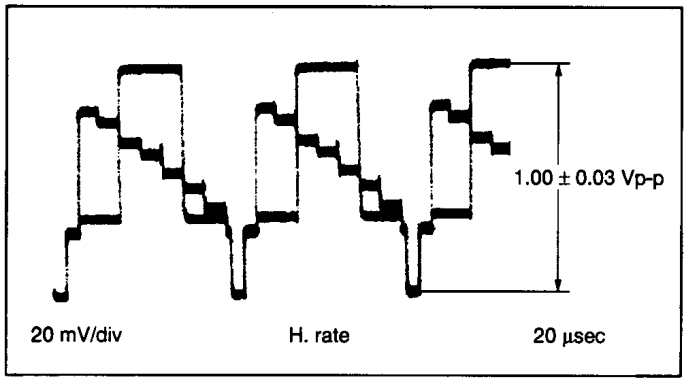


Fig. 3-3-3 EE Y level

3.3.2 SP/EP REC colour level

Signal	• Alignment tape (SVHS) • Colour bar
Mode	• PB • REC → PB : SP/LP • S-VHS
Equipment	• Oscilloscope
Measurement point	• PB COLOUR
Trigger slope (–)	• TP111 (D.FF)
Adjustment tool	• Presetting unit • Digit-key remote controller • LPF fixture
EVR mode	• A : 2
Specification	• "B" x 150 ± 5% : SP • "B" x 110 ± 5% : LP

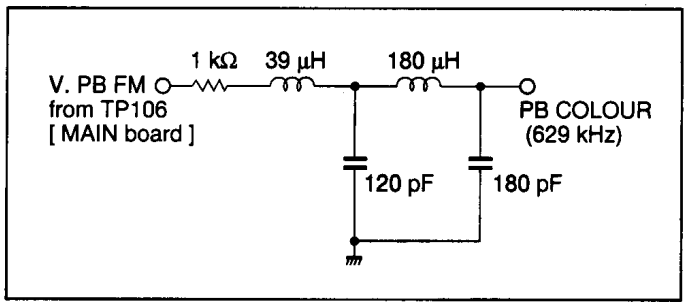


Fig. 3-3-4 LPF

(1) Connect an oscilloscope to PB COLOUR of a LPF (refer to Fig. 3-3-4) and TP111 (negative slope) on the MAIN board.
(2) Playback the SP colour bar signal of the (SVHS) alignment tape.
(3) Adjust by pressing the CH "▲" or "▼" buttons of the Front panel for maximum level of the color waveform and make a note of the higher colour level "B".
(4) Press the STOP/EJECT button and eject the (SVHS) alignment tape.
(5) Set the EVR mode by pressing the "K" button of the presetting unit.
(6) Set "A : 2" by pressing 2 button of the remote controller.
(7) Before recording, adjust the CH "▲" or "▼" buttons of the remote controller so that the higher level channel becomes 150 ± 5% : SP (110 ± 5% : LP) of the note "B" level during playback as shown in Fig. 3-3-5.
(8) Record a colour bar signal in the SP (LP) mode, and playback the recorded colour bar signal.
(9) Set the normal VCR mode by pressing the "K" button again so adjustment data is memorized.

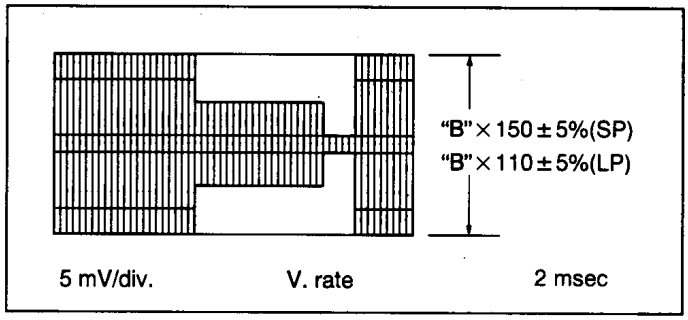


Fig. 3-3-5 REC colour level

3.3.3 PB Y level (S-VHS/VHS)

Signal	• Colour bar
Mode	• REC → PB : SP • S-VHS/VHS
Equipment	• Oscilloscope
Measurement point	• Y OUT TERMINAL (75 ohm TERMINATION)
Adjustment tool	• Presetting unit • Digit-key remote controller
EVR mode	• A : 11
Specification	• 1.00 ± 0.03 Vp-p (terminated)

(1) Connect an oscilloscope to Y OUT TERMINAL.
(2) Set the EVR mode by pressing the "K" button of the presetting unit.
(3) Set "A : 11" by twice pressing 1 button of the remote controller.
(4) Record a colour bar signal in the S-VHS mode, and playback the recorded colour bar signal.
(5) Adjust the CH "▲" or "▼" buttons for 1.00 ± 0.03 Vp-p as shown in Fig. 3-3-6.
(6) Set the normal VCR mode by pressing the "K" button of the presetting unit again so adjustment data is memorized.
(7) Repeat steps (1) to (6) in the VHS mode.

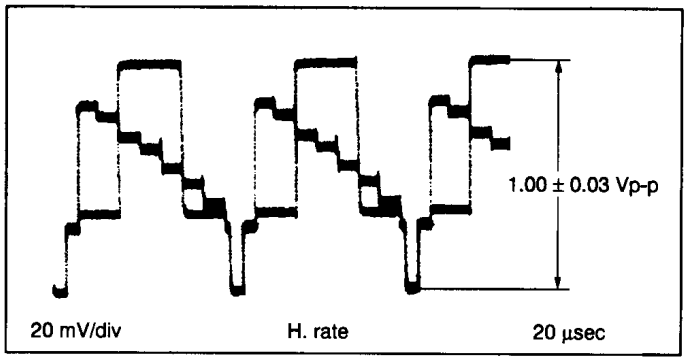


Fig. 3-3-6 PB Y level

3.3.4 S-VHS VIDEO EQ

Signal	• S INPUT • Video sweep
Mode	• REC → PB : SP/LP • S-VHS
Equipment	• Oscilloscope
Measurement point	• Y OUT TERMINAL (75 ohm TERMINATION)
Trigger slope (–)	• TP111 (D.FF)
Adjustment tool	• Presetting unit • Digit-key remote controller
EVR mode	• A : 3
Specification	• 3.6 ± 0.4 scale : SP • 3.2 ± 0.4 scale : LP

(1) Connect an oscilloscope to Y OUT TERMINAL and TP111 (negative slope).
(2) Record a video sweep signal in the S-VHS SP mode, then play it back.
(3) Set the EVR mode by pressing the "K" button of the presetting unit.
(4) Set "A : 3" by pressing 3 button of the remote controller.
(5) When assuming the 100 KHz sweep signal marker on the bigger channel is four scales on the oscilloscope, adjust the CH "▲" or "▼" buttons on the front panel or the Digit-key remote controller so that the 3 MHz is set at 3.6 ± 0.4 scale (–1 ± 1.0 dB) while observing Y OUT of the S output. (See Fig. 3-3-7.)
(6) Set the normal VCR mode by pressing the "K" button of the presetting unit again so adjustment data is memorized.
(7) Carry out the step (3) and (4) in the S-VHS LP mode.
(8) When assuming the 100 kHz sweep signal marker on the bigger channel is four scales on the oscilloscope, adjust the CH "▲" or "▼" buttons on the front panel or the Digit-key remote controller so that the 3 MHz is set at 3.2 ± 0.4 scale (–2 ± 1.0 dB) while observing Y OUT of the S output. (See Fig. 3-3-7.)

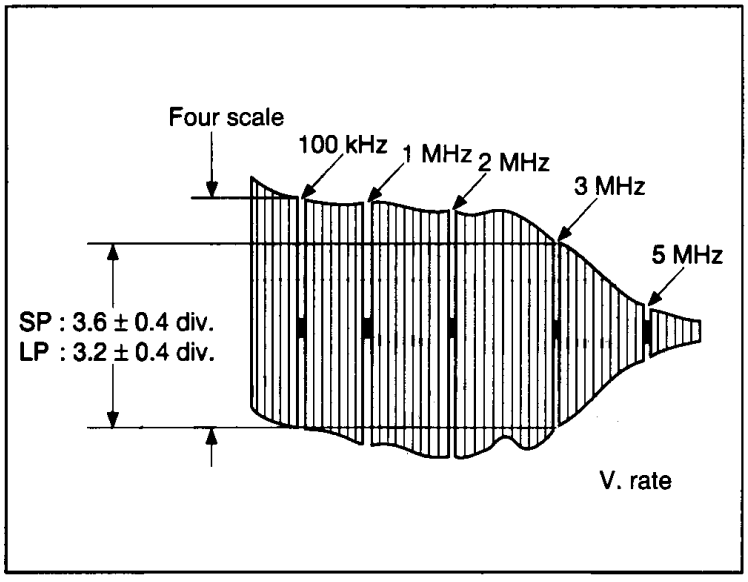


Fig. 3-3-7 S-VHS VIDEO EQ

3.3.5 D/A level

Signal	• Colour bar
Mode	• EE • S-VHS
Equipment	• Oscilloscope
Measurement point	• CN1003-3 pin (Y OUT) [3D SVHS board]
Adjustment part	• VR1401 (D/A LEVEL) [3D SVHS board]
Specification (NOTE)	• 2.05 Vp-p (REFERENCE VALUE)

(1) Connect the oscilloscope to the CN1003-3 pin(Y OUT) on the 3D SVHS board.
(2) Confirm the Y level value during external S input.
(3) Switch the input signal to the external input, then adjust the VR1401 on the 3D SVHS board so that the Y level value becomes the same level value which was confirmed at the step (2).

Note: • *The adjusted value of 2.05 Vp-p is a reference value which should be obtained during external S input. The value should be adjusted to the one which was confirmed at step (2).*

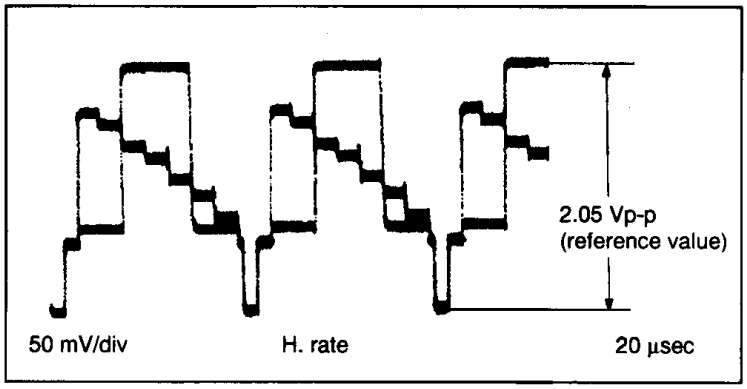


Fig. 3-3-8 D/A LEVEL

3.3.6 Pilot burst level

Signal	• Colour bar
Mode	• EE • S-VHS
Equipment	• Oscilloscope
Measurement point	• TP1001 (FSC PHASE) [3D SVHS board]
Adjustment part	• VR1002 (P. BURST LEVEL) [3D SVHS board]
Specification	• "B" x 110 ± 10%

(1) Connect the oscilloscope to the TP1001 (FSC PHASE) on the 3D SVHS board.
(2) Load an S-VHS tape then set the unit to the S-VHS EE mode.
(3) Adjust the VR1002 of the 3D SVHS so that the pilot burst level becomes "B" x 110 ±10% against the value of the burst level "B".

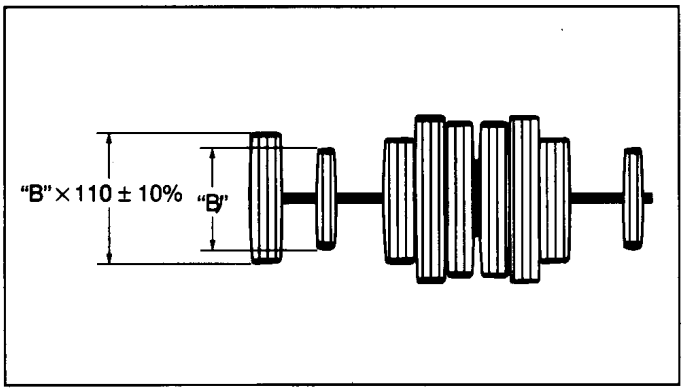


Fig. 3-3-9 PILOT BURST LEVEL

3.4 AUDIO CIRCUIT

Notes: • *Unless otherwise specified, all measurement point and adjustment parts are located on the MAIN BOARD.*
• *This adjustment should be done after the video circuit SP and LP REC colour level are adjusted.*
• *GND(Ground) should be taken from the tuner board shield.*

3.4.1 REC FM level

Signal	• AUX • VIDEO : Colour bar • AUDIO : No signal
Mode	• REC → PB : LP • S-VHS
Equipment	• Oscilloscope
Measurement point	• TP2253 (A. PB FM)
Trigger slope (–)	• TP111 (D. FF)
Adjustment part	• VR2251 (A. REC. FM)
Specification	• 600 ± 100 mVp-p

(1) Connect an oscilloscope to TP2253.
(2) Record a colour bar signal without an audio signal in the S-VHS LP mode then playback.
(3) Adjust VR2251 for 600mVp-p playback level of higher channel level before recording.
(4) Confirm that the lower channel level is more than 450 mVp-p.

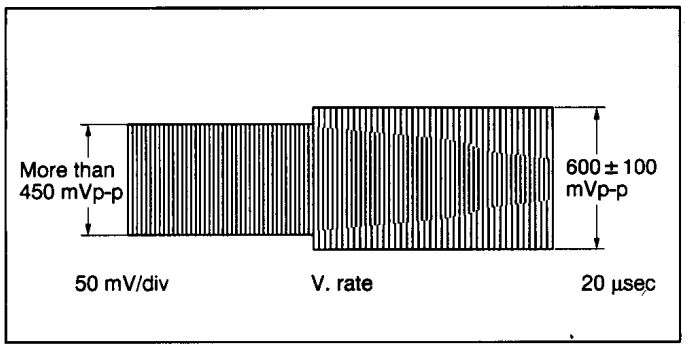


Fig. 3-4-1 Audio REC FM level

3.5 SYSCON CIRCUIT

Notes: • ***Unless otherwise specified,all measurement point and adjustment parts are located on the MAIN BOARD.***
• ***When perform this adjustment,remove the MECHANISM assembly.***

3.5.1 Timer clock

Signal	• No signal
Mode	• EE
Equipment	• Frequency counter
Measurement point	• IC3001-PIN61
Adjustment part	• C3025 (TIMER CLOCK)
Specification	• 1024.008 ± 0.001 Hz [976.5549 ± 0.0010 µsec.]

(1) Connect the frequency counter to IC3001-PIN61.
(2) Connect the short wire between IC3001-PIN24 and Vcc(5V).
(3) Short the leads of capacitor C3026 once in order to reset IC3001.
(4) Disconnect the short wire between IC3001-PIN24 and Vcc then connect it again.
(5) Adjust C3025 trimmer capacitor so that the output from IC3001-PIN61 falls within 1024.008 ± 0.001 Hz (976.5549 ± 0.0010 µsec.) range.

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.

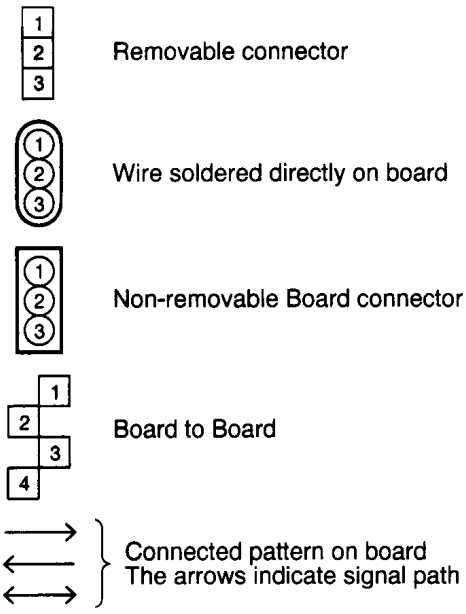
1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: K (1000), M: M (1000K)
2) All capacitance values are in μF, (P: PF).
3) All inductance values are in μH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

2. Indications of control voltage

AUX : Active at high

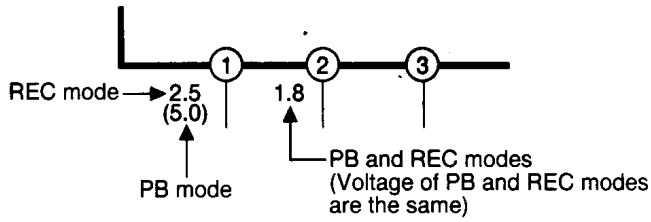
$\overline{AUX}$ or AUX(L) : Active at low

3. Interpreting Connector indications



4. Voltage measurement

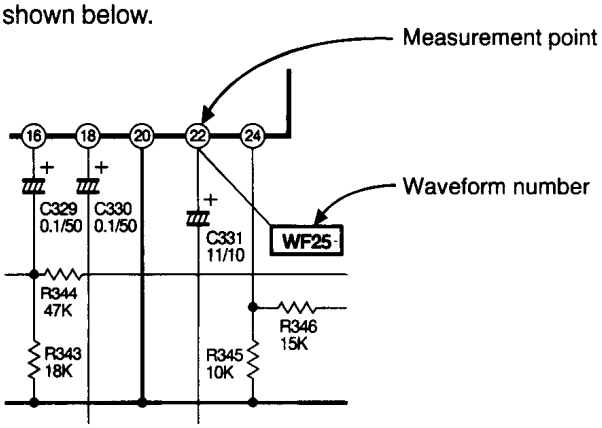
1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
   — : Unmeasurable or unnecessary to measure
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, Normal VHS mode
   PB : REC then playback it
3) Movie 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.



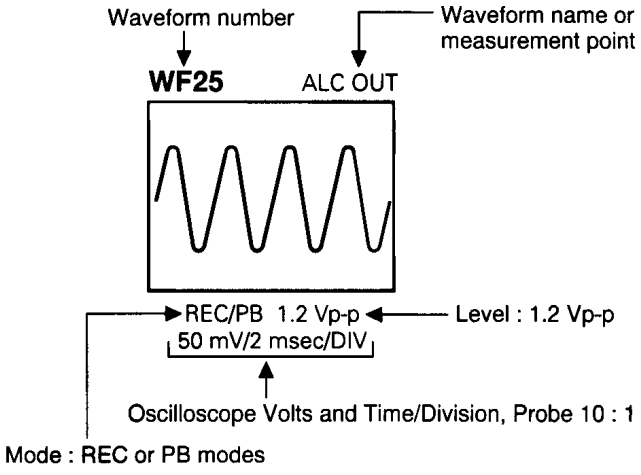
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

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 chatrs 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

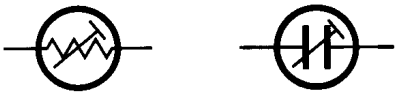
(Example)

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.

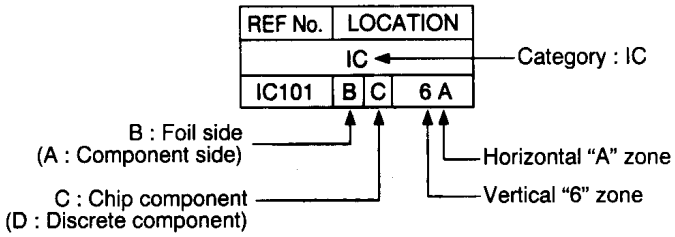
CIRCUIT BOARD NOTES

1. Foil and Component sides

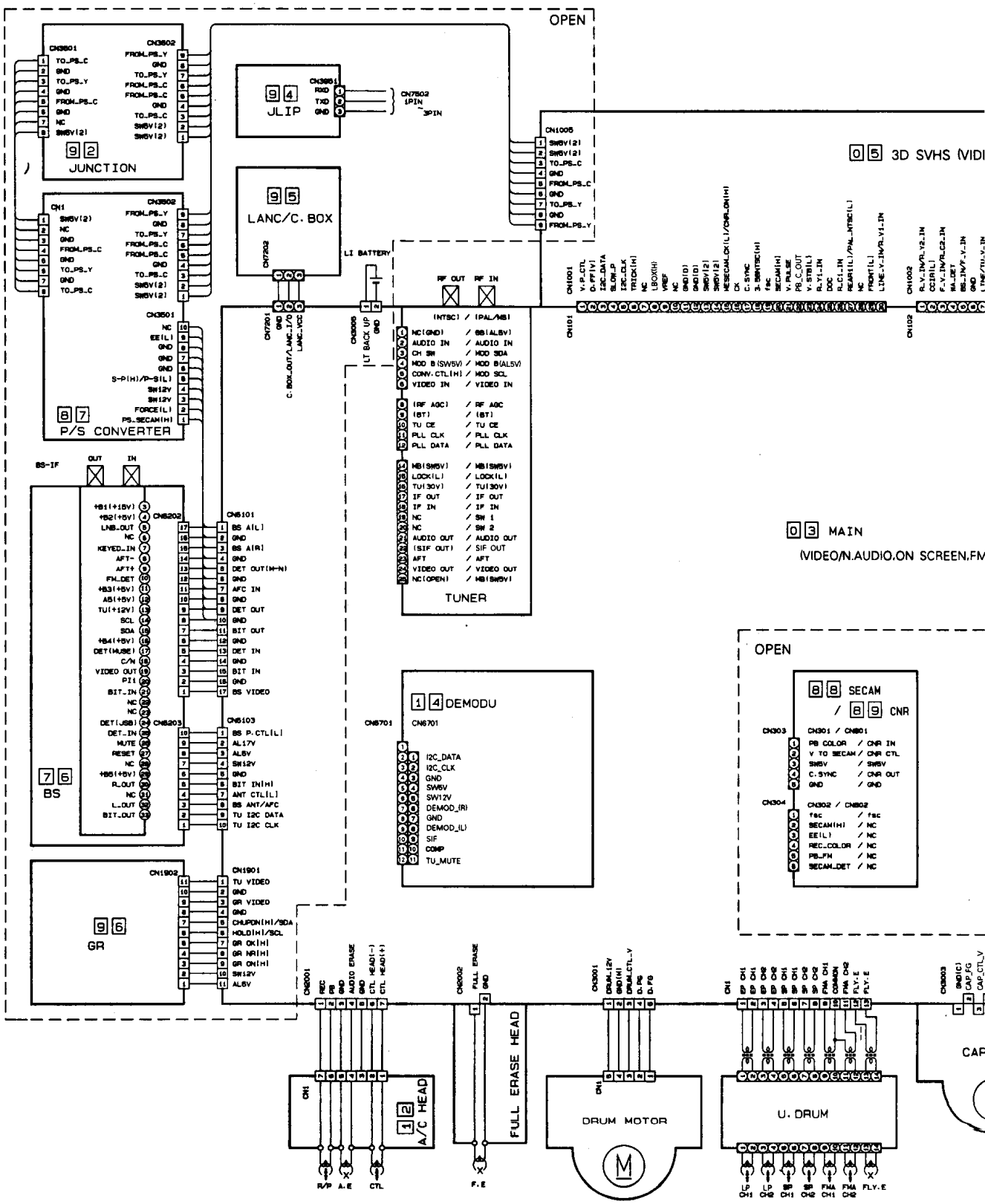
1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.
2) Component side (A side) :
Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

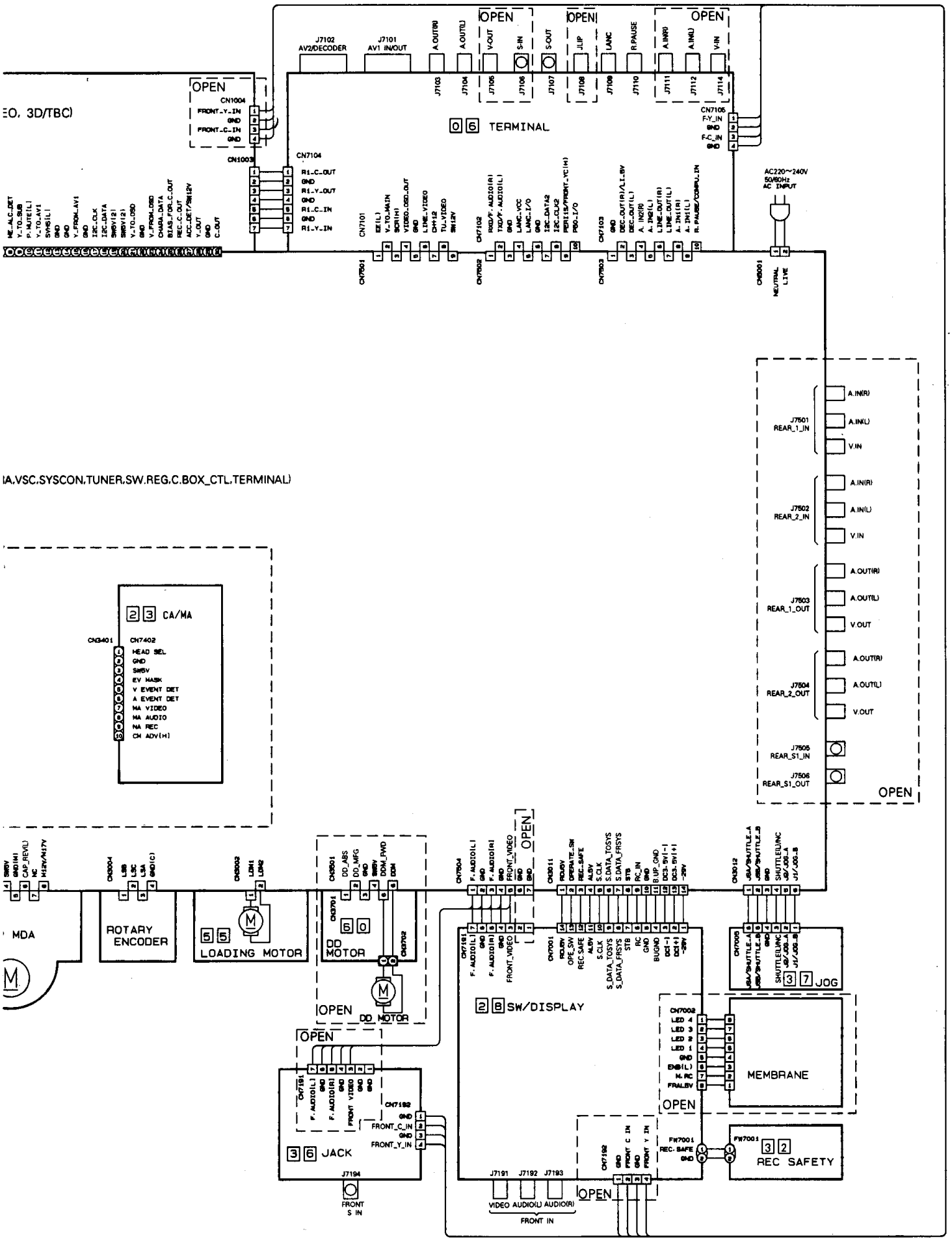
Parts location are indicated by guide scale on the circuit board.



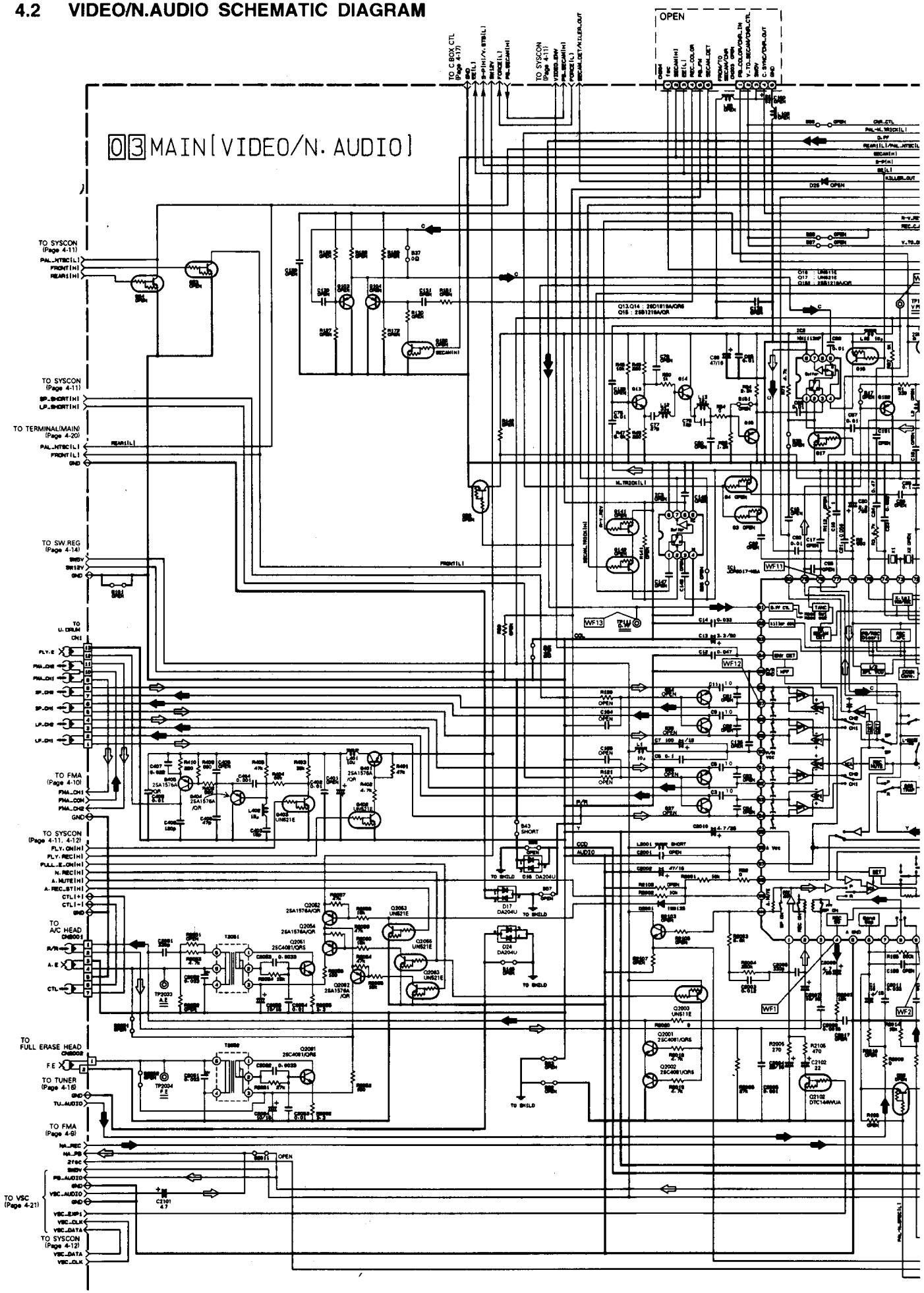
4.1 BOARD INTERCONNECTIONS



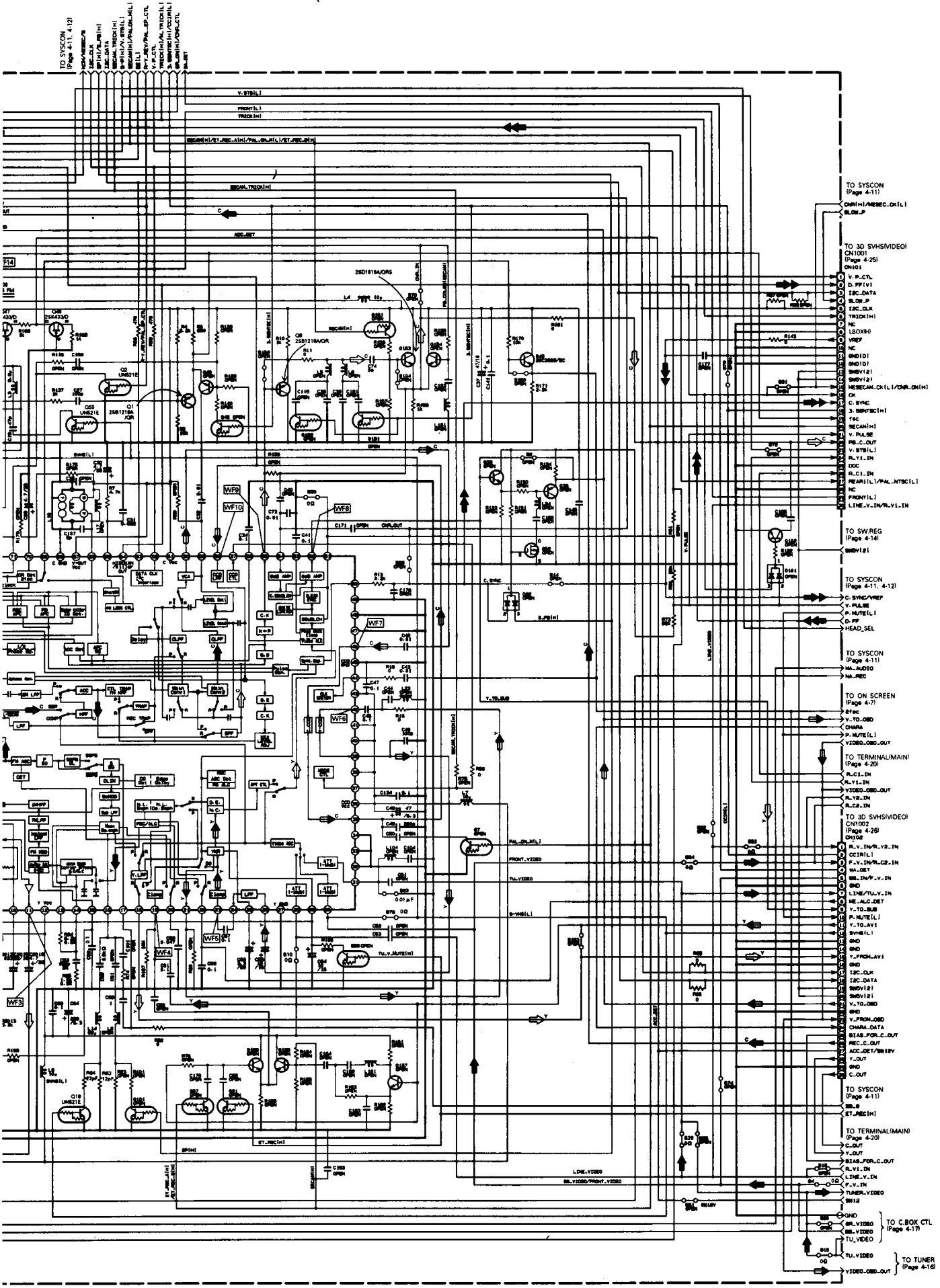
NO	NAME
05	LOADING MOTOR
37	JOG
36	JACK
32	REC SAFETY
28	SW/DISPLAY
14	DEMODU
12	A/C HEAD
06	TERMINAL
05	3D SVHS
03	MAIN

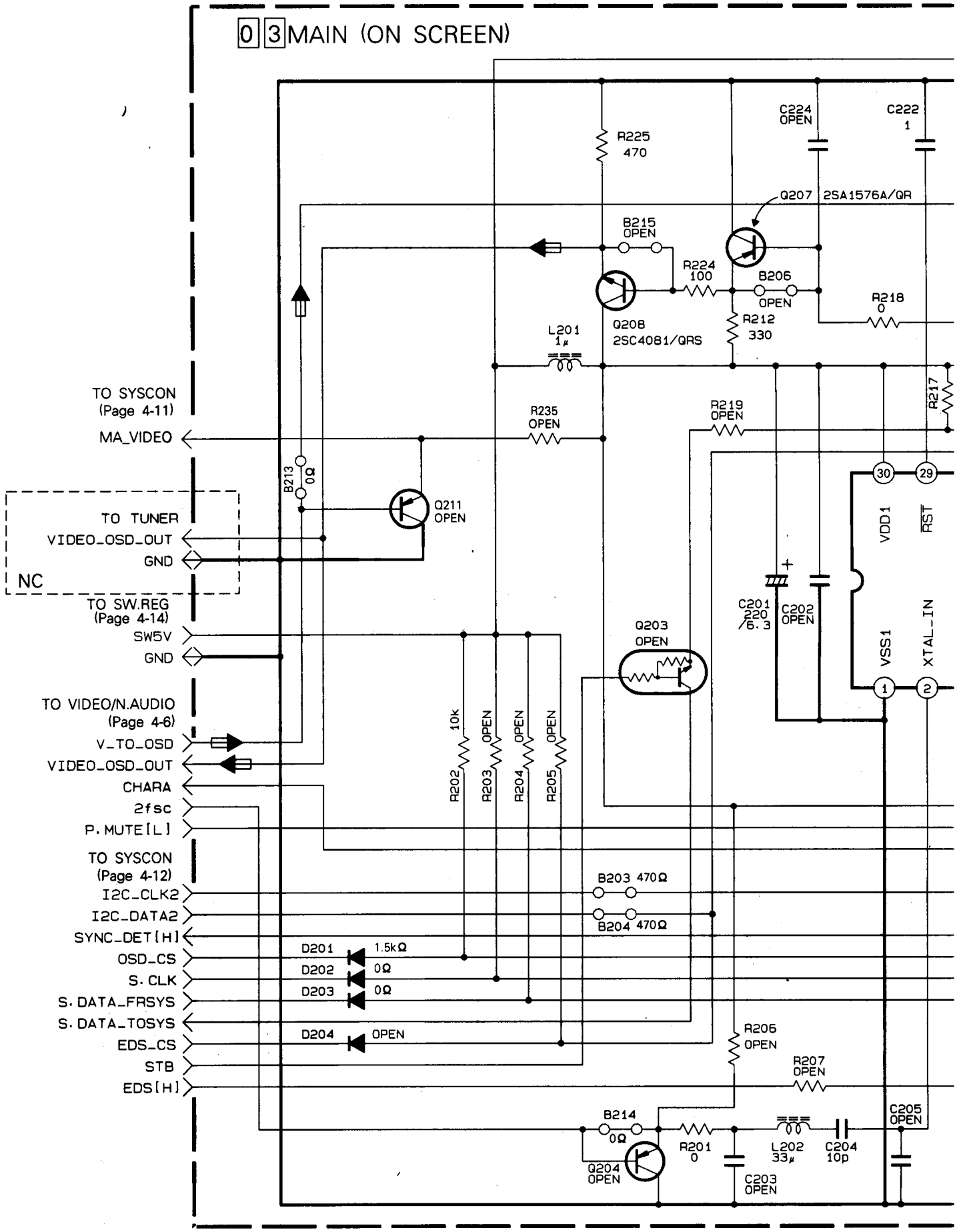

J7102 AV2/DECODER
J7101 AV1 IN/OUT
A.OUT(R)
A.OUT(L)
OPEN
V-OUT
S-IN
S-OUT
OPEN
J.IP
LANC
R.PAUSE
OPEN
A.IN(R)
A.IN(L)
V-IN
J7103
J7104
J7105
J7106
J7107
J7108
J7109
J7110
J7111
J7112
J7114
06 TERMINAL
CN7106
F-Y_IN
GND
F-C_IN
GND
OPEN
CN1004
FRONT_Y_IN
GND
FRONT_C_IN
GND
CN1003
CN7104
R1_C_OUT
GND
R1_Y_OUT
GND
R1_C_IN
GND
R1_Y_IN
AC220~240V
50/60Hz
AC INPUT
CN8001
NEUTRAL
LIVE
CN7501
CN7502
CN7503
J7501
REAR_1_IN
A.IN(R)
A.IN(L)
V.IN
J7502
REAR_2_IN
A.IN(R)
A.IN(L)
V.IN
J7503
REAR_1_OUT
A.OUT(R)
A.OUT(L)
V.OUT
J7504
REAR_2_OUT
A.OUT(R)
A.OUT(L)
V.OUT
J7505
REAR_S1_IN
J7506
REAR_S1_OUT
OPEN
23 CA/MA
CN3401
CN7402
HEAD SEL
GND
5V8V
EV MASK
V EVENT DET
A EVENT DET
MA VIDEO
MA AUDIO
NA REC
CH ADV(H)
CN3004
ROTARY ENCODER
CN3002
55 LOADING MOTOR
CN3501
CN3701
60 DD MOTOR
CN3702
OPEN
DD MOTOR
CN7504
CN7191
OPEN
CN3011
CN7001
CN3012
CN7005
37 JOG
28 SW/DISPLAY
CN7002
MEMBRANE
OPEN
CN7192
FRONT_C_IN
FRONT_Y_IN
36 JACK
J7194
FRONT S IN
J7191
J7192
J7193
VIDEO
AUDIO(L)
AUDIO(R)
FRONT IN
OPEN
FW7001
32 REC SAFETY

4.2 VIDEO/N.AUDIO SCHEMATIC DIAGRAM

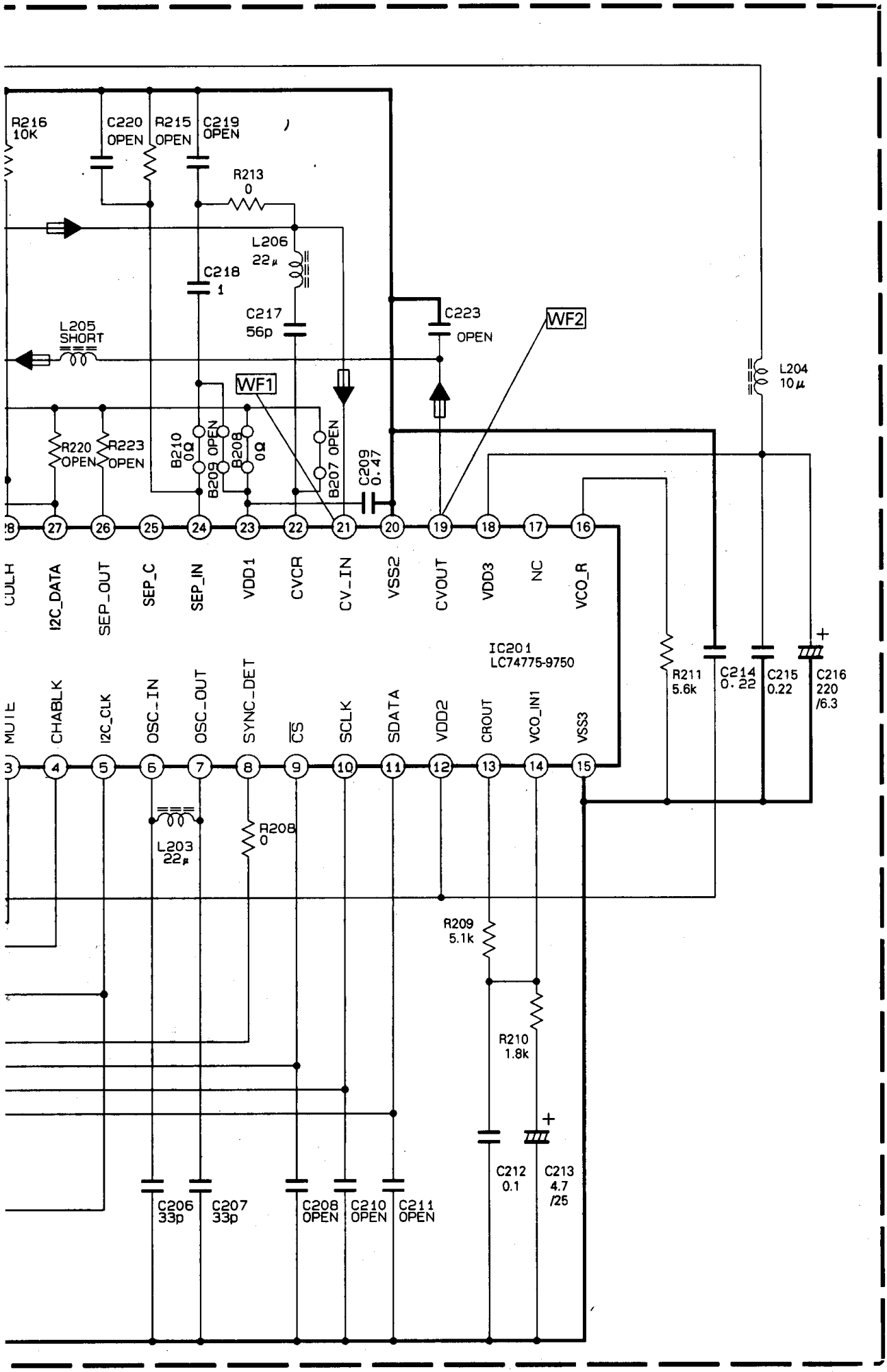


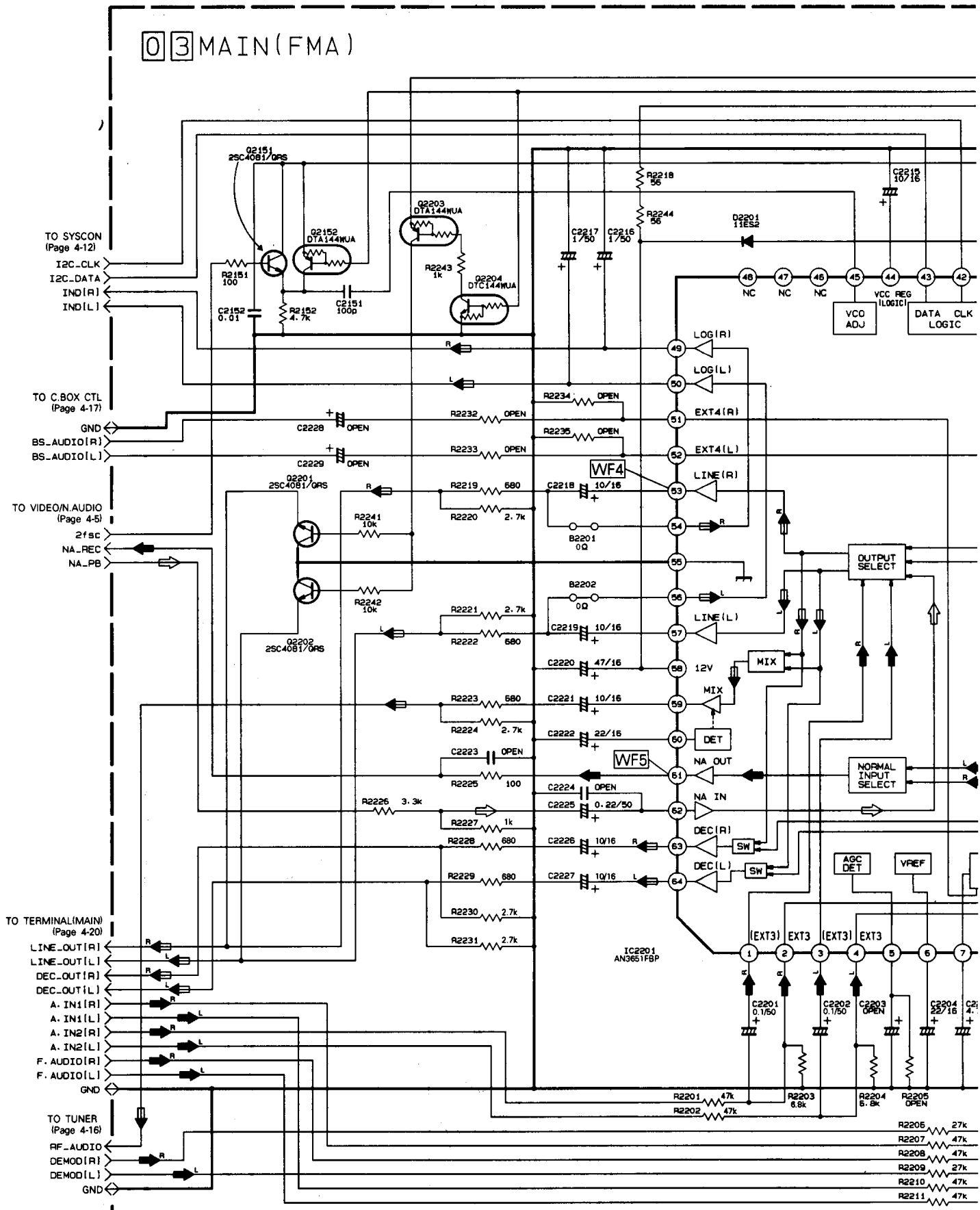
NOTE : For VIDEO/N.AUDIO waveforms, please refer to page 4-23.


TO SYSCON (Page 4-11, 4-12)
TO SYSCON (Page 4-11)
TO 3D SVHS/VIDEO CN1001 (Page 4-25)
TO SW.REG (Page 4-14)
TO SYSCON (Page 4-11, 4-12)
TO SYSCON (Page 4-11)
TO ON SCREEN (Page 4-7)
TO TERMINAL(MAIN) (Page 4-20)
TO 3D SVHS/VIDEO CN1002 (Page 4-26)
TO SYSCON (Page 4-11)
TO TERMINAL(MAIN) (Page 4-20)
TO C.BOX CTL (Page 4-17)
TO TUNER (Page 4-16)

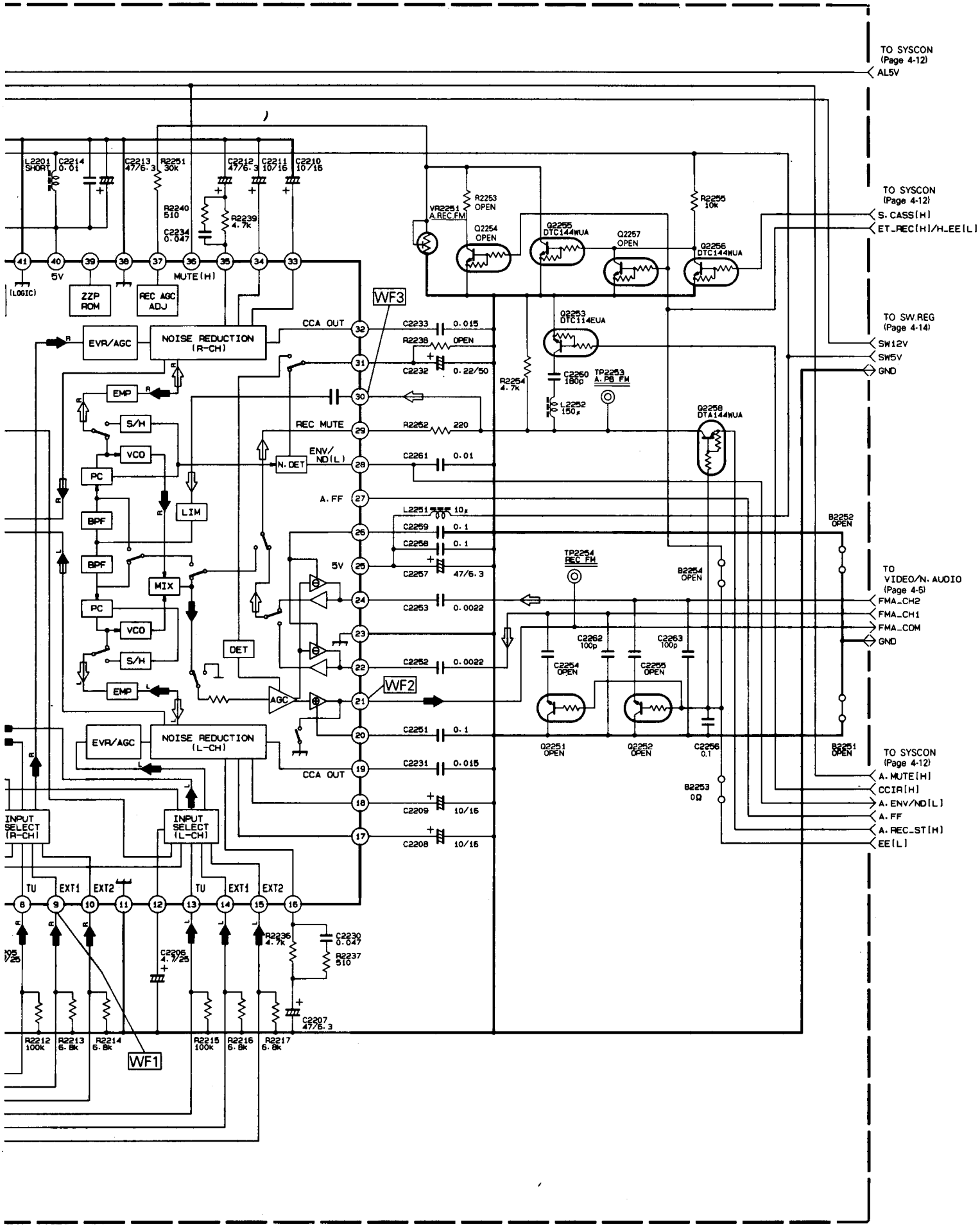


NOTE: For ON SCREEN waveforms, please refer to page 4-23.

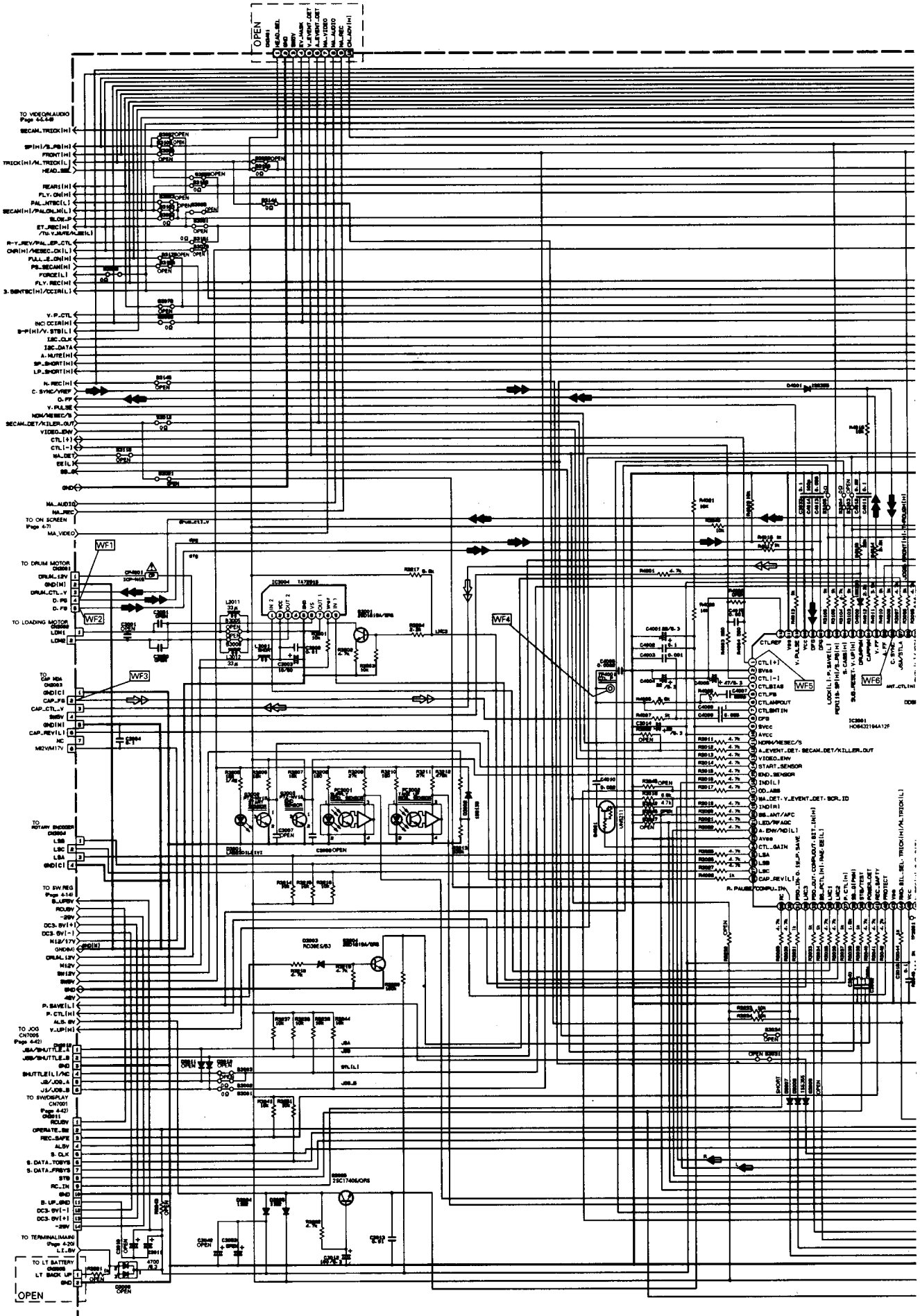

R216
10K
C220
OPEN
R215
OPEN
C219
OPEN
R213
0
L206
22µ
C218
1
C217
56p
L205
SHORT
C223
OPEN
WF2
WF1
L204
10µ
R220
OPEN
R223
OPEN
B210
0Ω
B209
OPEN
B208
0Ω
B207
OPEN
C209
0.47
27
26
25
24
23
22
21
20
19
18
17
16
I2C_DATA
SEP_OUT
SEP_C
SEP_IN
VDD1
CVCR
CV_IN
VSS2
CVOUT
VDD3
NC
VCO_R
IC201
LC74775-9750
R211
5.6k
C214
0.22
C215
0.22
C216
220
/6.3
CHABLK
I2C_CLK
OSC_IN
OSC_OUT
SYNC_DET
CS
SCLK
SDATA
VDD2
CROUT
VCO_IN1
VSS3
4
5
6
7
8
9
10
11
12
13
14
15
L203
22µ
R208
0
R209
5.1k
R210
1.8k
C212
0.1
C213
4.7
/25
C206
33p
C207
33p
C208
OPEN
C210
OPEN
C211
OPEN



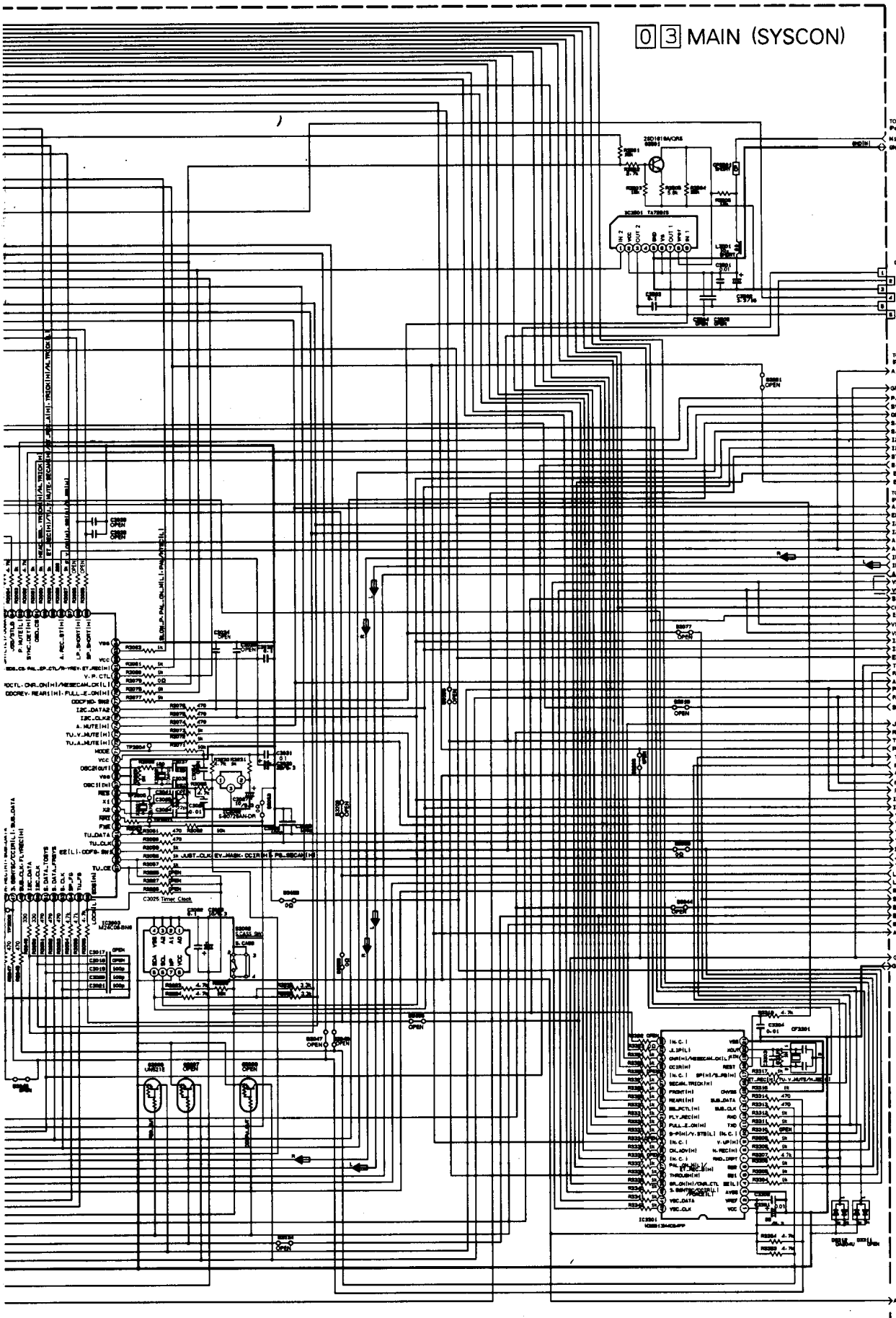
NOTE: For FMA waveforms, please refer to page 4-23.


TO SYSCON
(Page 4-12)
AL5V
TO SYSCON
(Page 4-12)
S. CASS[H]
ET_REC[H]/H_EE[L]
TO SW.REG
(Page 4-14)
SW12V
SW5V
GND
TO
VIDEO/N. AUDIO
(Page 4-5)
FMA_CH2
FMA_CH1
FMA_COM
GND
TO SYSCON
(Page 4-12)
A. MUTE[H]
CCIR[H]
A. ENV/ND[L]
A. FF
A. REC_ST[H]
EE[L]
L2201 SHORT
C2214 0.01
C2213 47/6.3
R2251 30k
C2212 47/6.3
C2211 10/16
C2210 10/16
R2240 510
R2239 4.7k
C2234 0.047
41
40
39
38
37
36
35
34
33
5V
MUTE[H]
[LOGIC]
ZZP ROM
REC AGC ADJ
WF3
EVR/AGC
NOISE REDUCTION (R-CH)
CCA OUT
32
C2233 0.015
R2238 OPEN
31
C2232 0.22/50
EMP
S/H
VCO
PC
LIM
BPF
BPF
MIX
PC
VCO
S/H
EMP
DET
AGC
WF2
EVR/AGC
NOISE REDUCTION (L-CH)
CCA OUT
INPUT SELECT (R-CH)
INPUT SELECT (L-CH)
TU
EXT1
EXT2
TU
EXT1
EXT2
8
9
10
11
12
13
14
15
16
WF1
R2212 100k
R2213 6.8k
R2214 6.8k
R2215 100k
R2216 6.8k
R2217 6.8k
C2205 4.7/25
C2207 47/6.3
R2236 4.7k
C2230 0.047
R2237 510
VR2251 A.REC.FM
R2253 OPEN
Q2254 OPEN
Q2255 DTC144WUA
Q2257 OPEN
R2255 10K
Q2256 DTC144WUA
Q2253 DTC114EUA
C2260 180p
TP2253 A.PB FM
L2252 150μ
R2254 4.7k
Q2258 DTA144WUA
REC MUTE
R2252 220
ENV/ ND(L)
N. DET
C2261 0.01
A. FF
27
L2251 10μ
26
C2259 0.1
C2258 0.1
5V
25
C2257 47/6.3
24
C2253 0.0022
23
22
C2252 0.0022
21
20
C2251 0.1
19
C2231 0.015
18
C2209 10/16
17
C2208 10/16
TP2254 REC FM
B2254 OPEN
B2252 OPEN
C2262 100p
C2263 100p
C2254 OPEN
C2255 OPEN
Q2251 OPEN
Q2252 OPEN
C2256 0.1
B2251 OPEN
B2253 0Ω

4.5 SYSTEM CONTROL SCHEMATIC DIAGRAM

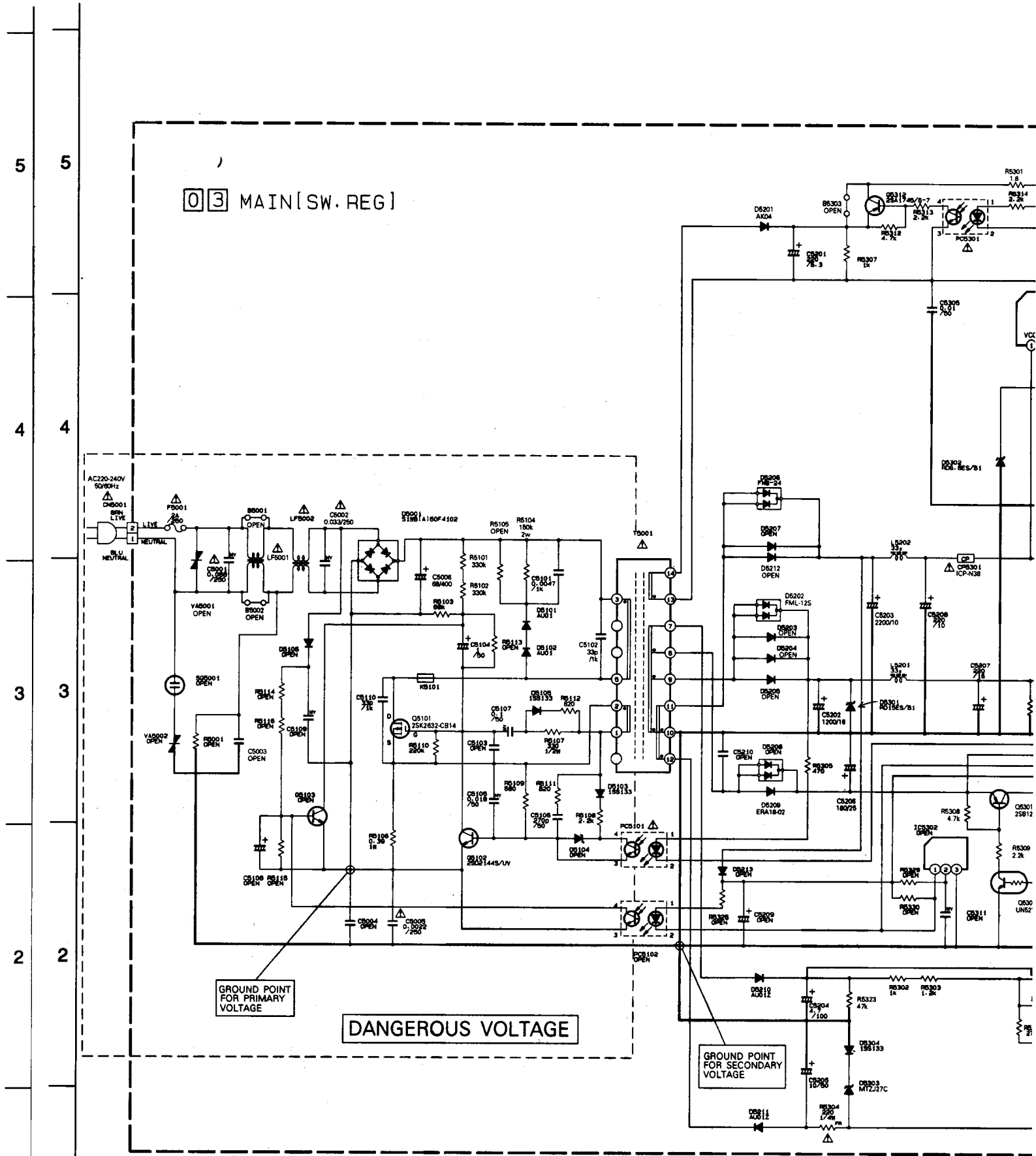


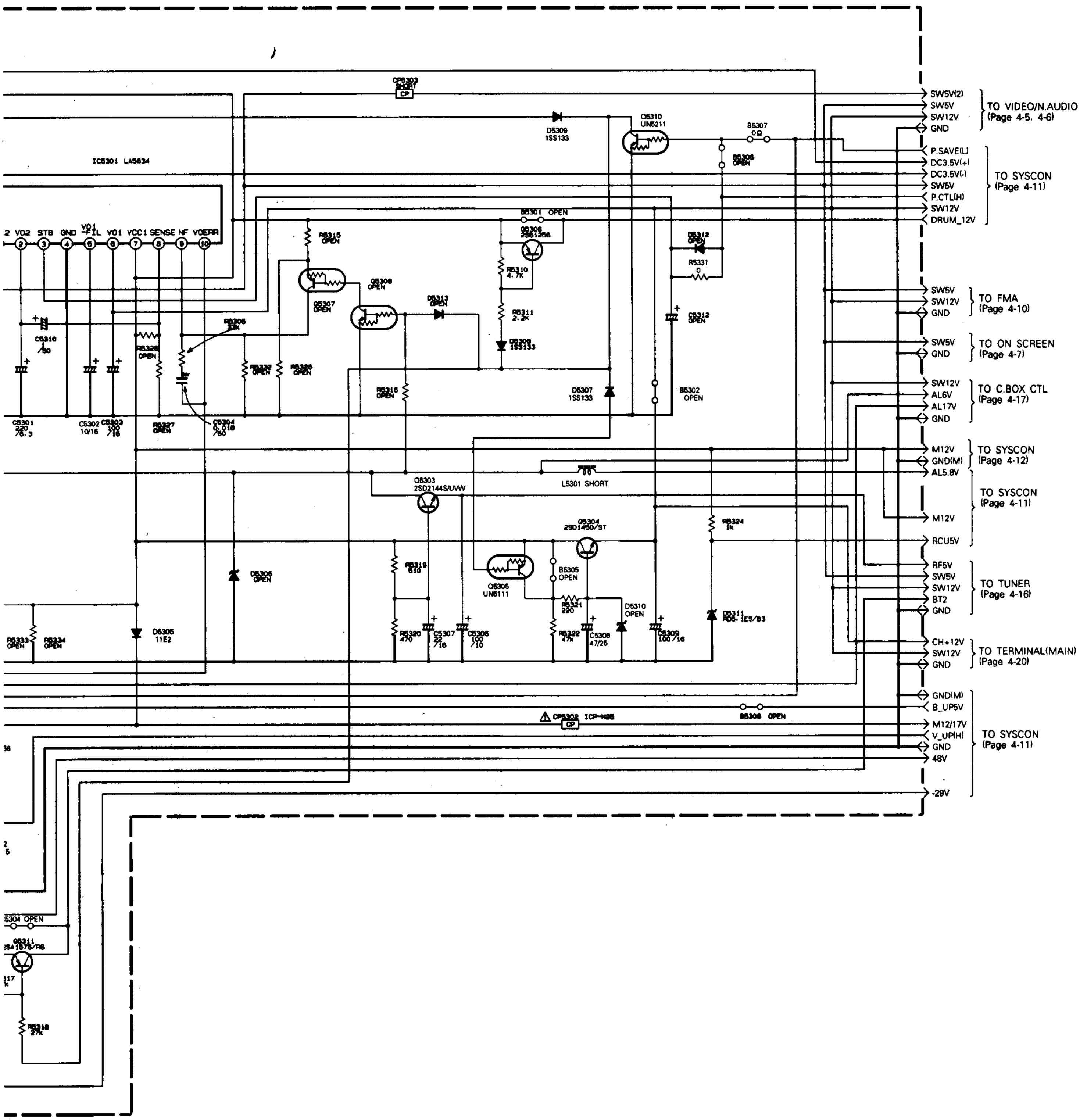
NOTES: 1. For SYSCON waveforms, please refer to page 4-23.
2. The SYSTEM CONTROL circuit of this model has an automatic recognition about the ON/OFF contro



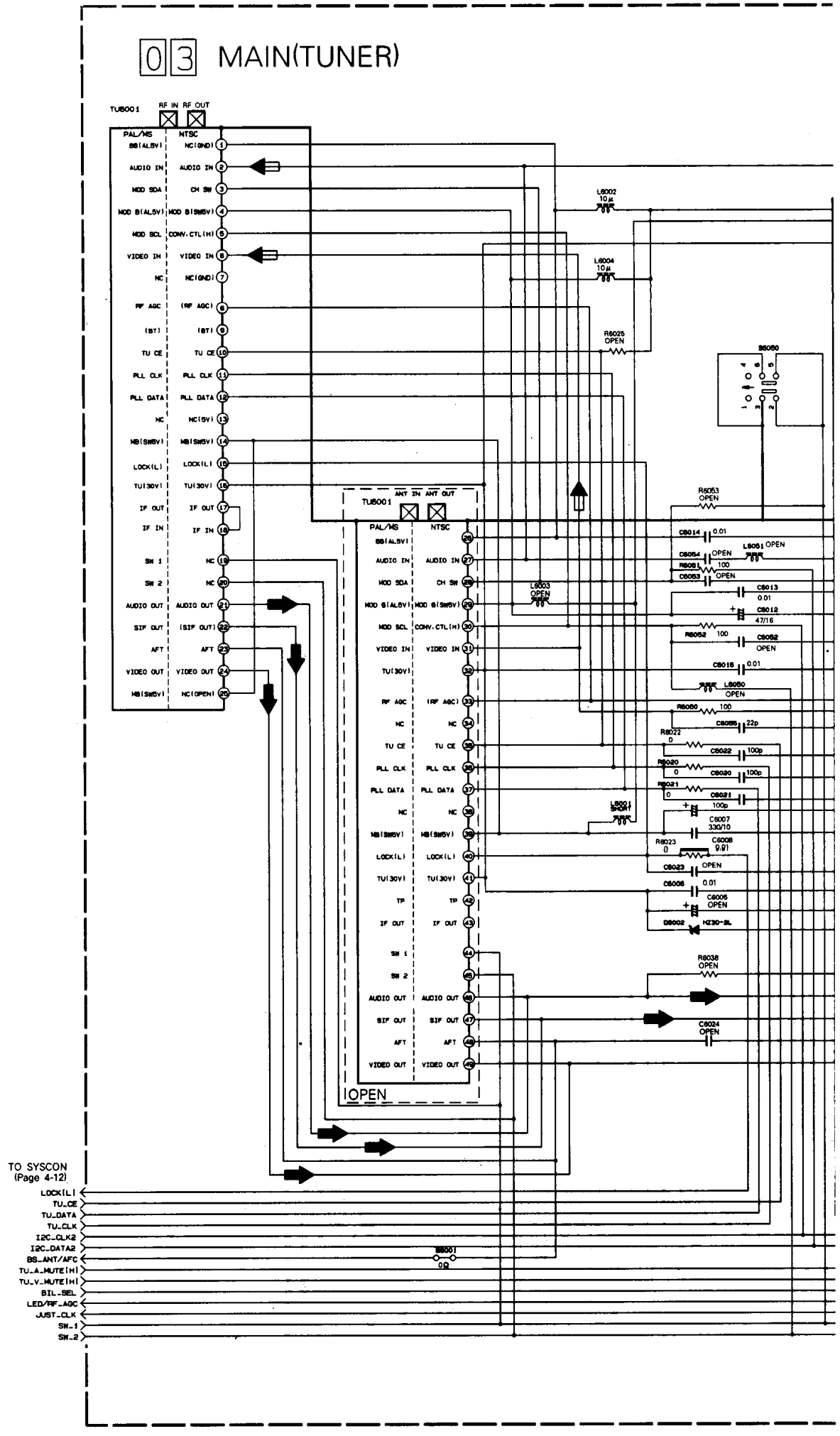
ol of the DOCTOR SYSTEM.

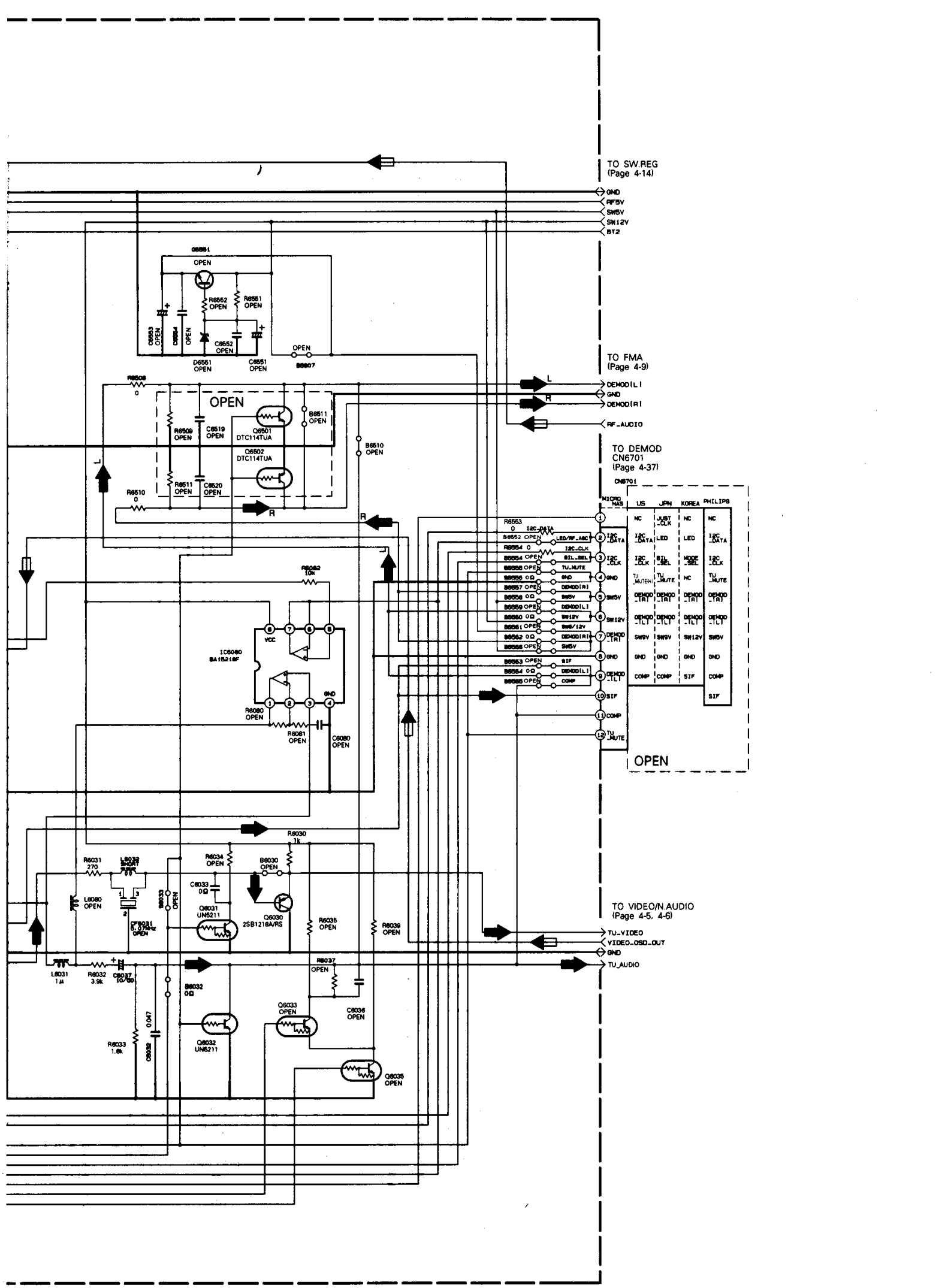
4.6 SWITCHING REGULATOR SCHEMATIC DIAGRAM



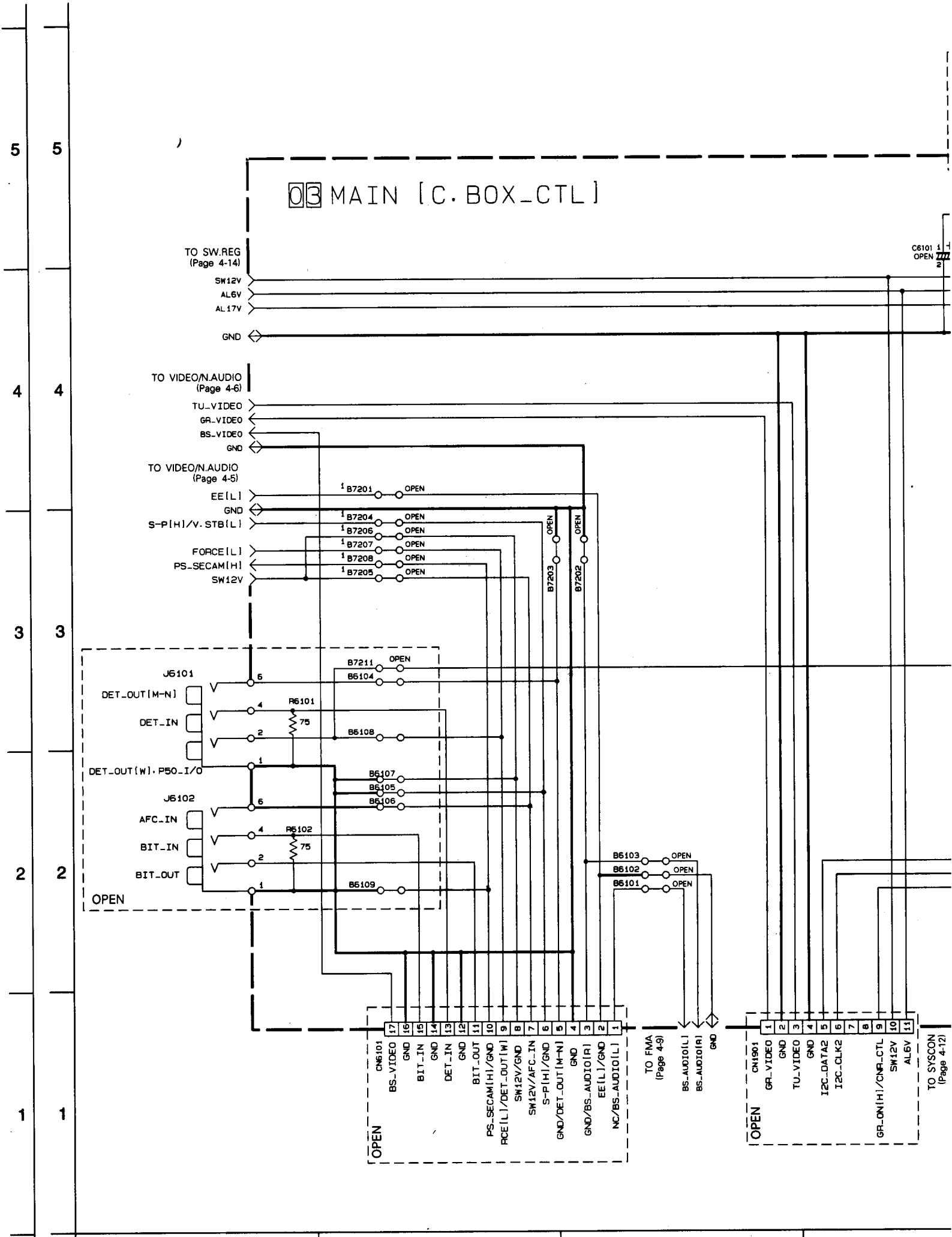

IC5301 LA5634
VO2 STB GND VO1 FIL VO1 VCC1 SENSE NF VOERR
CP5303 SHORT
D5309 1SS133
Q5310 UN5211
B5307 0Ω
B5306 OPEN
B5301 OPEN
Q5306 2SB1256
R5315 OPEN
Q5308 OPEN
Q5307 OPEN
D5313 OPEN
R5310 4.7K
R5311 2.2K
D5308 1SS133
D5312 OPEN
R5331 0
C5312 OPEN
C5310
R5328 OPEN
R5332 OPEN
R5325 OPEN
R5316 OPEN
D5307 1SS133
B5302 OPEN
C5301 220 /6.3
C5302 10/16
C5303 100 /16
R5327 OPEN
C5304 0.018 /50
Q5303 2SD2144S/UVW
L5301 SHORT
Q5304 2SD1450/ST
R5324 1k
D5306 OPEN
R5319 510
Q5305 UN5111
B5305 OPEN
R5321 220
D5310 OPEN
D5311 RD6.1ES/B3
R5333 OPEN
R5334 OPEN
D5305 11E2
R5320 470
C5307 22 /16
C5306 100 /10
R5322 47k
C5308 47/25
C5309 100/16
CP5302 ICP-N25
B5308 OPEN
B5304 OPEN
Q5311 2SA1576/R6
R5318 27K
SW5V(2)
SW5V
SW12V
GND
TO VIDEO/N.AUDIO (Page 4-5, 4-6)
P.SAVE(L)
DC3.5V(+)
DC3.5V(-)
SW5V
P.CTL(H)
SW12V
DRUM_12V
TO SYSCON (Page 4-11)
SW5V
SW12V
GND
TO FMA (Page 4-10)
SW5V
GND
TO ON SCREEN (Page 4-7)
SW12V
AL6V
AL17V
GND
TO C.BOX CTL (Page 4-17)
M12V
GND(M)
AL5.8V
TO SYSCON (Page 4-12)
TO SYSCON (Page 4-11)
M12V
RCU5V
RF5V
SW5V
SW12V
BT2
GND
TO TUNER (Page 4-16)
CH+12V
SW12V
GND
TO TERMINAL(MAIN) (Page 4-20)
GND(M)
B_UP5V
M12/17V
V_UP(H)
GND
48V
-29V
TO SYSCON (Page 4-11)

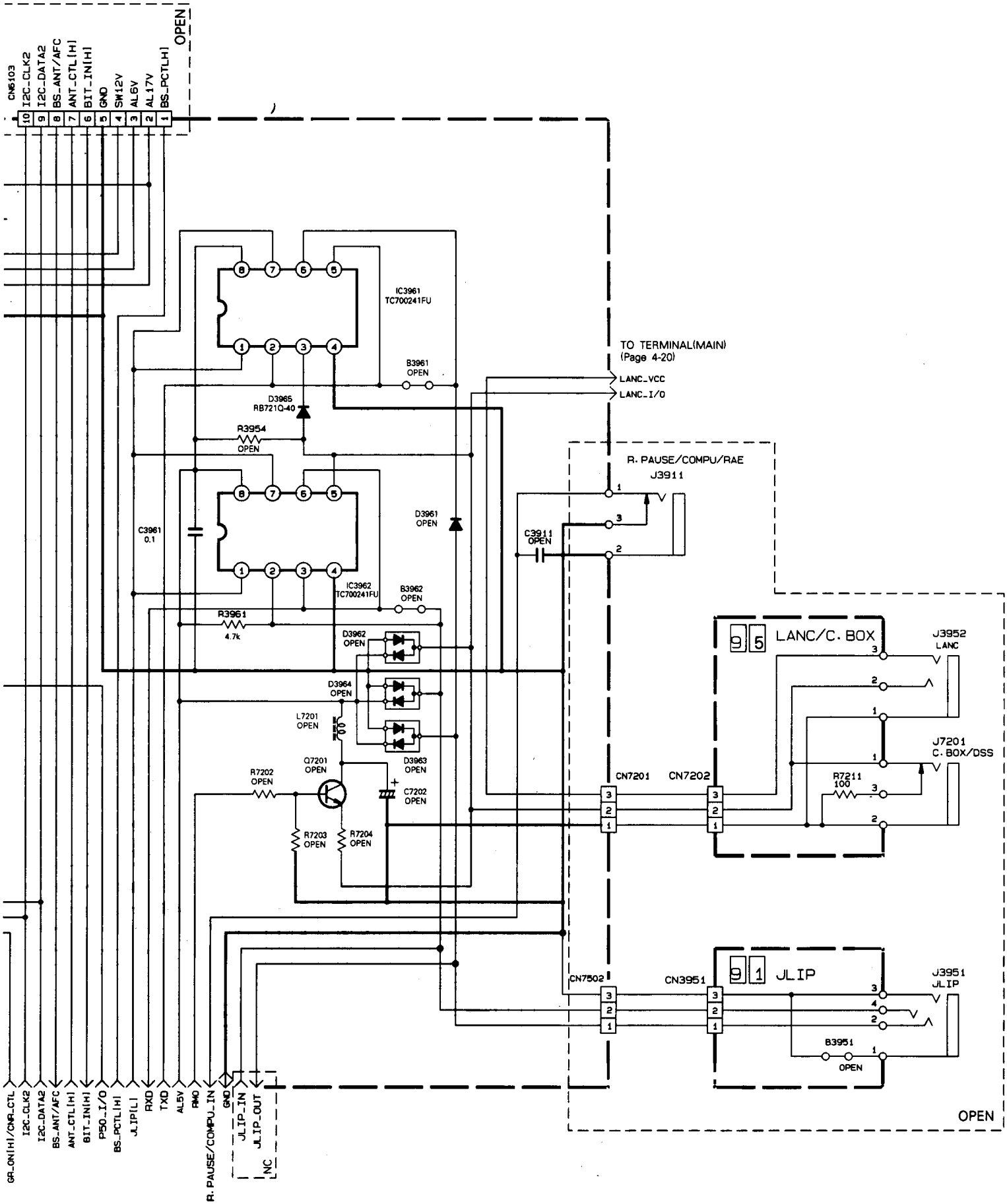
4.7 TUNER SCHEMATIC DIAGRAM



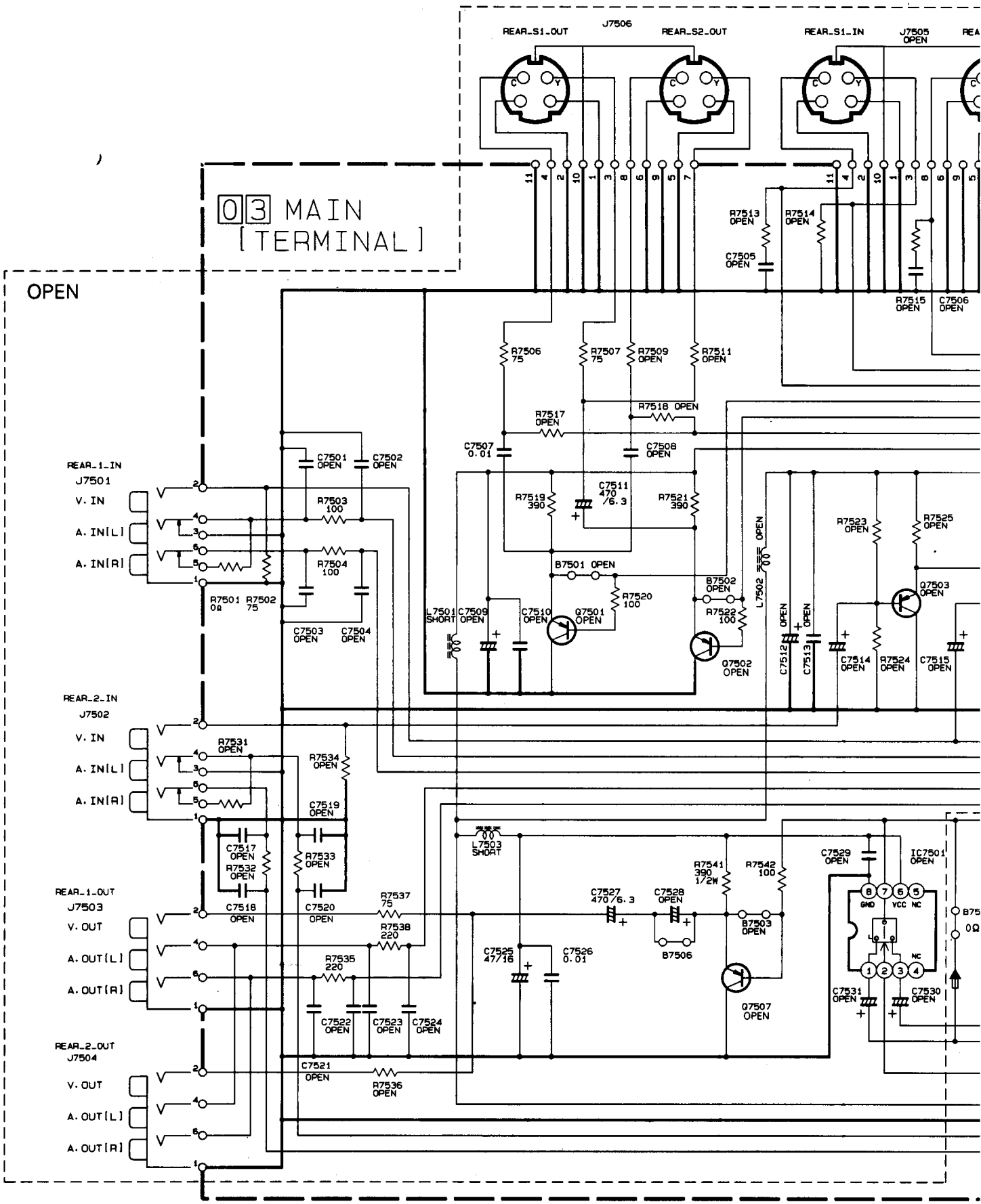

TO SW.REG
(Page 4-14)
GND
RF5V
SW5V
SW12V
BT2
TO FMA
(Page 4-9)
DEMOD(L)
GND
DEMOD(R)
RF_AUDIO
TO DEMOD
CN6701
(Page 4-37)
CN6701
MICRO COMPUTER
US
JPN
KOREA
PHILIPS
OPEN
TO VIDEO/N.AUDIO
(Page 4-5, 4-6)
TU_VIDEO
VIDEO_OSD_OUT
GND
TU_AUDIO

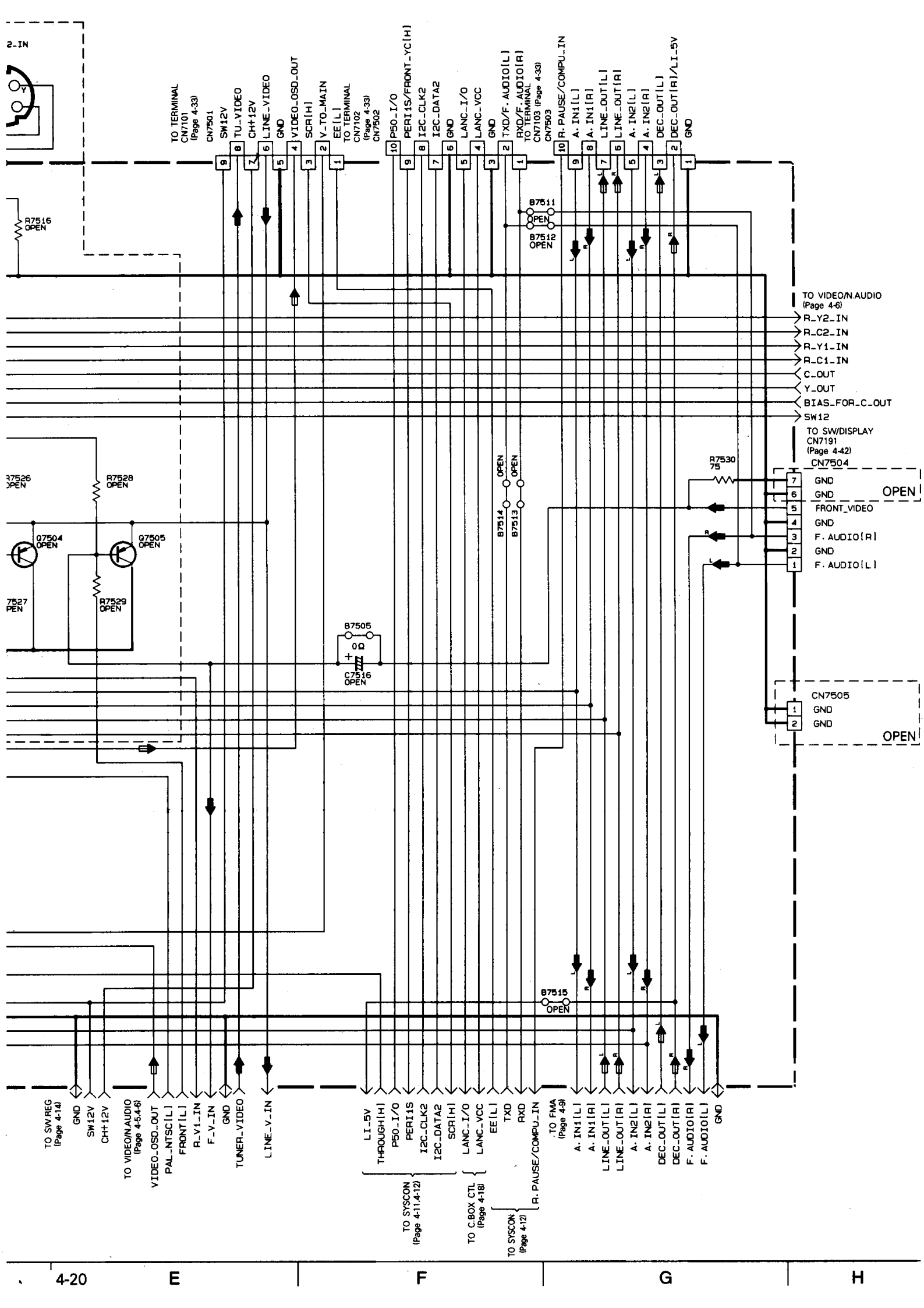
4.8 C.BOX CTL SCHEMATIC DIAGRAM

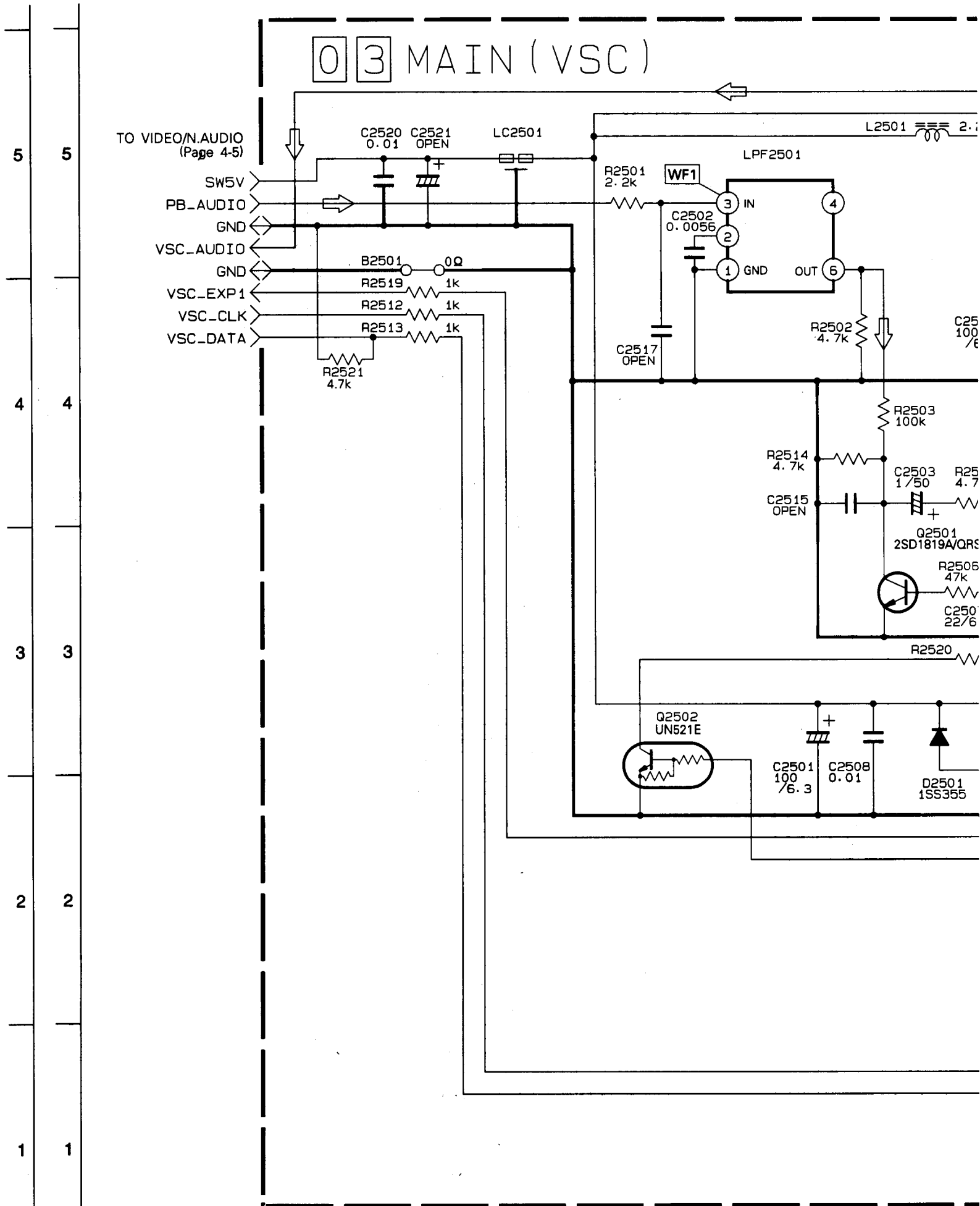



CN6103
10 I2C_CLK2
9 I2C_DATA2
8 BS_ANT/AFC
7 ANT_CTL[H]
6 BIT_IN[H]
5 GND
4 SW12V
3 AL6V
2 AL17V
1 BS_PCTL[H]
OPEN
IC3961
TC700241FU
B3961
OPEN
D3965
RB721Q-40
R3954
OPEN
C3961
0.1
IC3962
TC700241FU
B3962
OPEN
R3961
4.7k
D3961
OPEN
C3911
OPEN
D3962
OPEN
D3964
OPEN
L7201
OPEN
Q7201
OPEN
D3963
OPEN
R7202
OPEN
C7202
OPEN
R7203
OPEN
R7204
OPEN
TO TERMINAL(MAIN)
(Page 4-20)
LANC_VCC
LANC_I/O
R. PAUSE/COMPU/RAE
J3911
95 LANC/C. BOX
J3952
LANC
J7201
C. BOX/DSS
CN7201
CN7202
R7211
100
91 JLIP
J3951
JLIP
CN7502
CN3951
B3951
OPEN
OPEN
GR_ON[H]/CNR_CTL
I2C_CLK2
I2C_DATA2
BS_ANT/AFC
ANT_CTL[H]
BIT_IN[H]
P50_I/O
BS_PCTL[H]
JLIP[L]
RXD
TXD
AL5V
RMO
R. PAUSE/COMPU_IN
GND
JLIP_IN
JLIP_OUT
NC

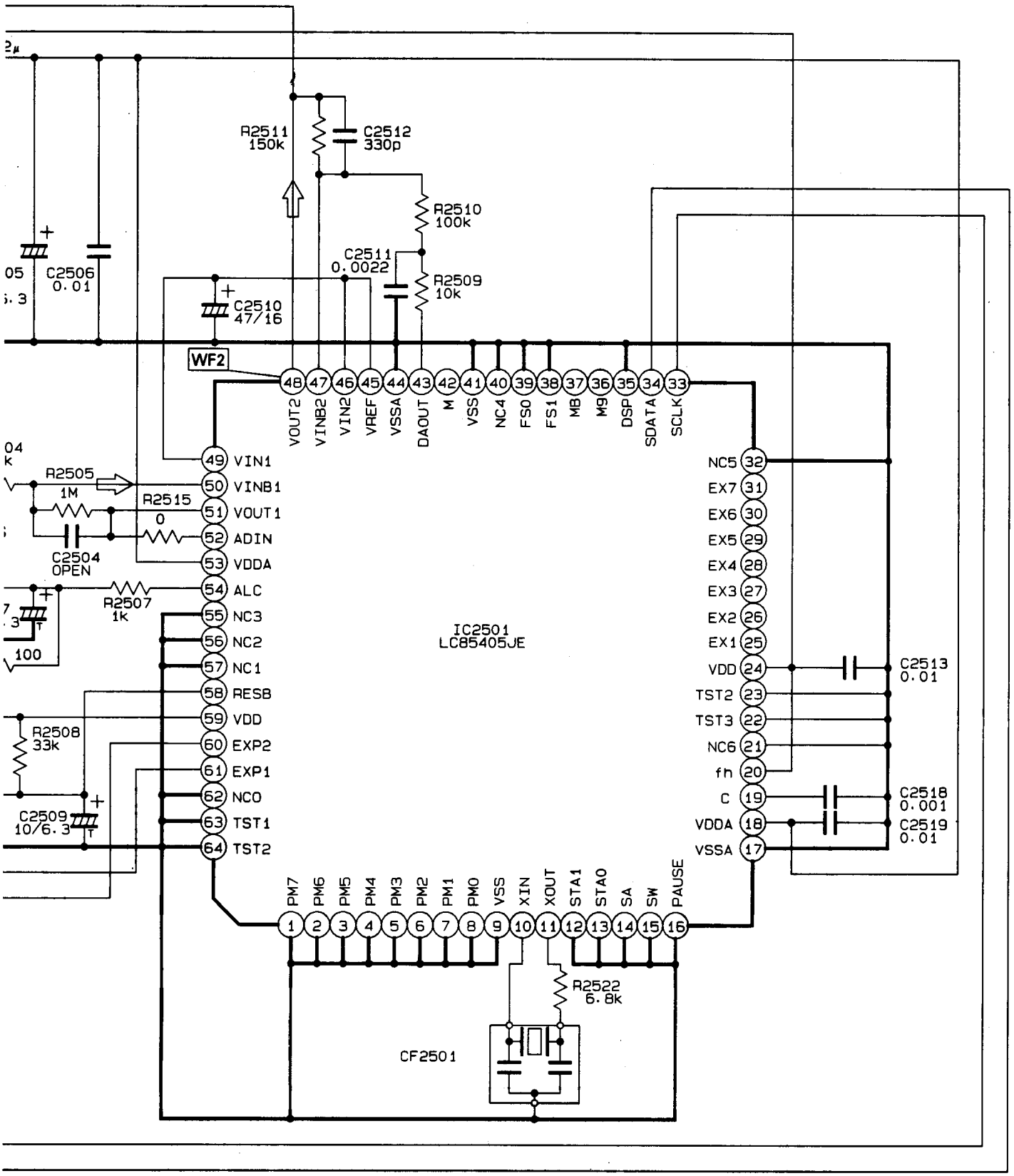
4.9 TERMINAL(MAIN) SCHEMATIC DIAGRAM




TO TERMINAL CN7101 (Page 4-33)
CN7501
SW12V
TU_VIDEO
CH+12V
LINE_VIDEO
GND
VIDEO_OSD_OUT
SCR[H]
V_TO_MAIN
EE[L]
TO TERMINAL CN7102 (Page 4-33)
CN7502
P50_I/O
PERI1S/FRONT_YC[H]
I2C_CLK2
I2C_DATA2
GND
LANC_I/O
LANC_VCC
GND
TXD/F.AUDIO[L]
RXD/F.AUDIO[R]
TO TERMINAL CN7103 (Page 4-33)
CN7503
R.PAUSE/COMPU_IN
A.IN1[L]
A.IN1[R]
LINE_OUT[L]
LINE_OUT[R]
A.IN2[L]
A.IN2[R]
DEC_OUT[L]
DEC_OUT[R]/LI_5V
GND
R7516 OPEN
B7511 OPEN
B7512 OPEN
TO VIDEO/N.AUDIO (Page 4-6)
R_Y2_IN
R_C2_IN
R_Y1_IN
R_C1_IN
C_OUT
Y_OUT
BIAS_FOR_C_OUT
SW12
TO SW/DISPLAY CN7191 (Page 4-42)
CN7504
R7530 75
GND
GND
FRONT_VIDEO
GND
F.AUDIO[R]
GND
F.AUDIO[L]
OPEN
B7514 OPEN
B7513 OPEN
R7526 OPEN
R7528 OPEN
Q7504 OPEN
Q7505 OPEN
R7527 OPEN
R7529 OPEN
B7505 0Ω
C7516 OPEN
CN7505
GND
GND
OPEN
B7515 OPEN
TO SW.REG (Page 4-14)
GND
SW12V
CH+12V
TO VIDEO/N.AUDIO (Page 4-5,4-6)
VIDEO_OSD_OUT
PAL_NTSC[L]
FRONT[L]
R_V1_IN
F_V_IN
GND
TUNER_VIDEO
LINE_V_IN
LI_5V
THROUGH[H]
P50_I/O
PERI1S
I2C_CLK2
I2C_DATA2
SCR[H]
TO SYSCON (Page 4-11,4-12)
LANC_I/O
LANC_VCC
TO C.BOX CTL (Page 4-18)
EE[L]
TXD
RXD
TO SYSCON (Page 4-12)
R.PAUSE/COMPU_IN
TO FMA (Page 4-9)
A.IN1[L]
A.IN1[R]
LINE_OUT[L]
LINE_OUT[R]
A.IN2[L]
A.IN2[R]
DEC_OUT[L]
DEC_OUT[R]
F.AUDIO[R]
F.AUDIO[L]
GND



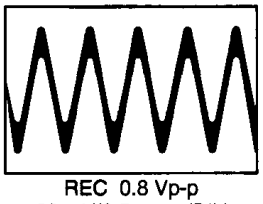
NOTE : For VSC waveforms, please refer to page 4-23.


R2511
150k
C2512
330p
R2510
100k
C2511
0.0022
R2509
10k
C2510
47/16
C2506
0.01
WF2
IC2501
LC85405JE
VOUT2
VINB2
VIN2
VREF
VSSA
DAOUT
M
VSS
NC4
FS0
FS1
MB
MG
DSP
SDATA
SCLK
VIN1
VINB1
VOUT1
ADIN
VDDA
ALC
NC3
NC2
NC1
RESB
VDD
EXP2
EXP1
NCO
TST1
TST2
NC5
EX7
EX6
EX5
EX4
EX3
EX2
EX1
VDD
TST2
TST3
NC6
fh
C
VDDA
VSSA
R2505
1M
R2515
0
C2504
OPEN
R2507
1k
100
R2508
33k
C2509
10/6.3
C2513
0.01
C2518
0.001
C2519
0.01
PM7
PM6
PM5
PM4
PM3
PM2
PM1
PM0
VSS
XIN
XOUT
STA1
STA0
SA
SW
PAUSE
R2522
6.8k
CF2501

WAVEFORMS

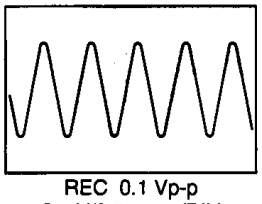
— VIDEO/N.AUDIO —

WF1 IC1-4



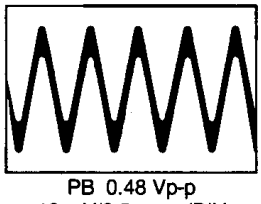
REC 0.8 Vp-p
20 mV/0.5 msec/DIV

WF2 IC1-9



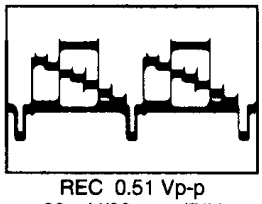
REC 0.1 Vp-p
2 mV/0.5 msec/DIV

WF3 IC1-11



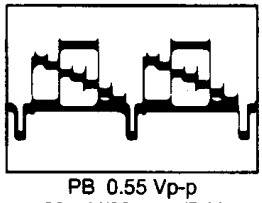
PB 0.48 Vp-p
10 mV/0.5 msec/DIV

WF4-1 IC1-19



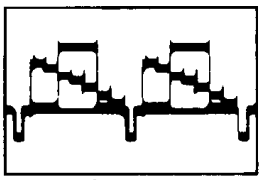
REC 0.51 Vp-p
20 mV/20 µsec/DIV

WF4-2 IC1-19



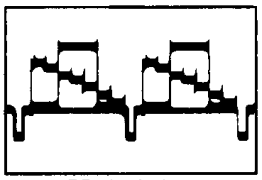
PB 0.55 Vp-p
20 mV/20 µsec/DIV

WF5-1 IC1-23



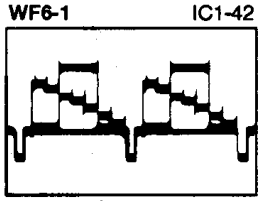
REC 0.48 Vp-p
20 mV/20 µsec/DIV

WF5-2 IC1-23



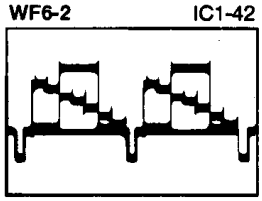
PB 0.52 Vp-p
20 mV/20 µsec/DIV

WF6-1 IC1-42



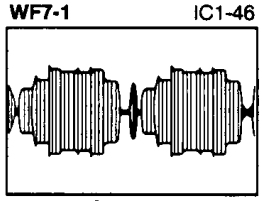
REC 0.4 Vp-p
10 mV/20 µsec/DIV

WF6-2 IC1-42



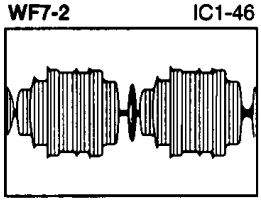
PB 0.43 Vp-p
10 mV/20 µsec/DIV

WF7-1 IC1-46



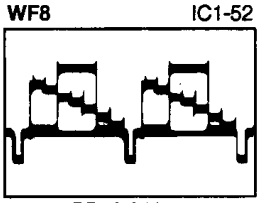
REC 0.24 Vp-p
10 mV/20 µsec/DIV

WF7-2 IC1-46



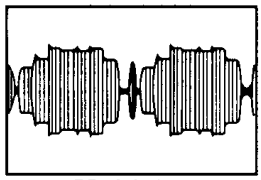
PB 0.3 Vp-p
10 mV/20 µsec/DIV

WF8 IC1-52



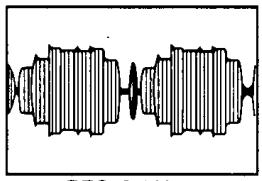
PB 2.2 Vp-p
50 mVV/20 µsec/DIV

WF9 IC1-55



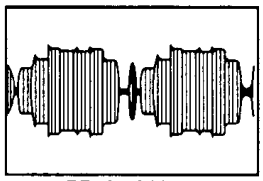
PB 0.6 Vp-p
20 mV/20 µsec/DIV

WF10-1 IC1-58



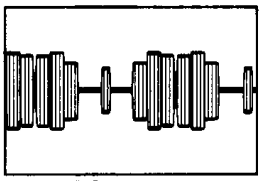
REC 0.4 Vp-p
10 mV/20 µsec/DIV

WF10-2 IC1-58



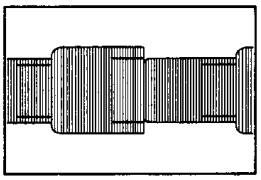
PB 0.48 Vp-p
10 mV/20 µsec/DIV

WF11-1 IC1-78



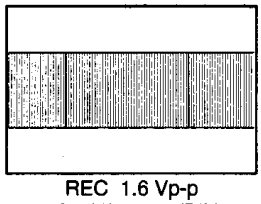
REC 0.62 Vp-p
20 mV/20 µsec/DIV

WF11-2 IC1-78



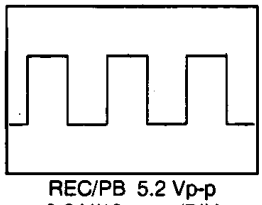
PB 0.22 Vp-p
10 mV/5 msec/DIV

WF12 IC1-87



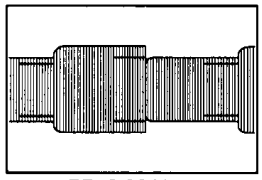
REC 1.6 Vp-p
50 mV/1 msec/DIV

WF13 TP111 D.FF



REC/PB 5.2 Vp-p
0.2 V/10 msec/DIV

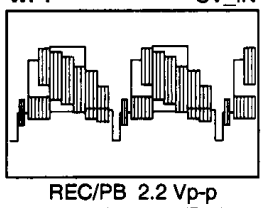
WF14 TP106 V.PB FM



PB 0.32 Vp-p
10 mV/5 msec/DIV

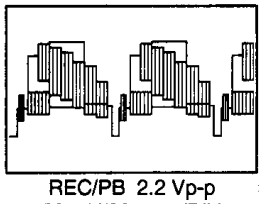
— ON SCREEN —

WF1 IC201-21 CV_IN



REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

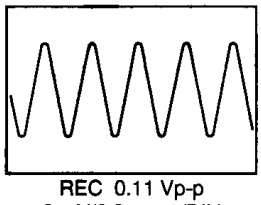
WF2 IC201-19 CVOUT



REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

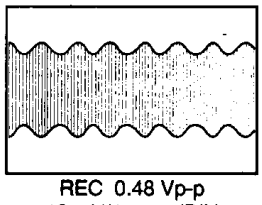
— FMA —

WF1 IC2201-9



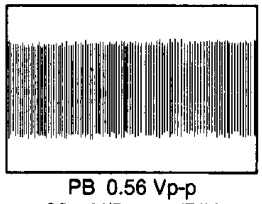
REC 0.11 Vp-p
2 mV/0.5 msec/DIV

WF2 IC2201-21



REC 0.48 Vp-p
10 mV/1 msec/DIV

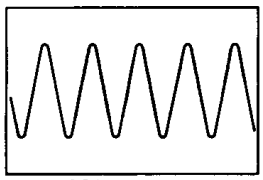
WF3 IC2201-30



PB 0.56 Vp-p
20 mV/5 msec/DIV

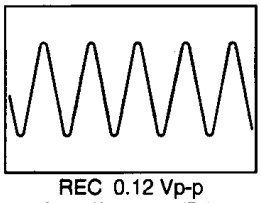
— SYSCON —

WF4 IC2201-53



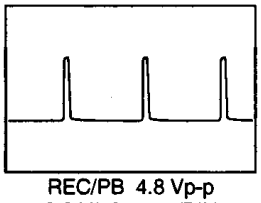
REC/PB 1.2 Vp-p
20 mV/0.5 msec/DIV

WF5 IC2201-61



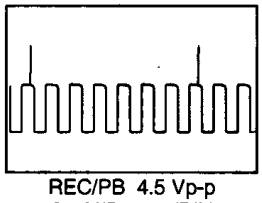
REC 0.12 Vp-p
2 mV/0.5 msec/DIV

WF1 CN3001-4 D.PG



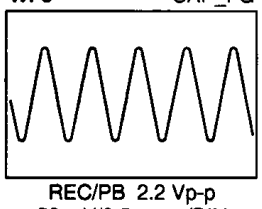
REC/PB 4.8 Vp-p
0.2 V/10 msec/DIV

WF2 CN3001-5 D.FG



REC/PB 4.5 Vp-p
0.1 V/5 msec/DIV

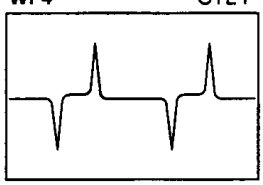
WF3 CN3003-2 CAP_FG



REC/PB 2.2 Vp-p
50 mV/0.5 msec/DIV

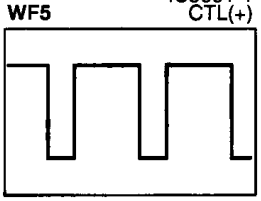
— VSC —

WF4 TP4001 CTL P



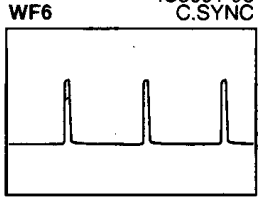
PB 2.5 Vp-p
50 mV/10 msec/DIV

WF5 IC3001-1 CTL(+)



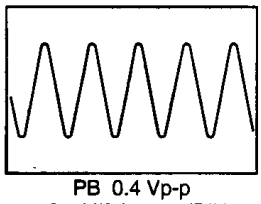
REC 4.0 Vp-p
0.1 V/10 msec/DIV

WF6 IC3001-98 C.SYNC



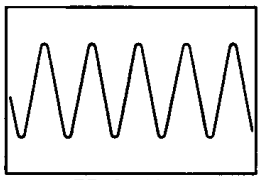
REC/PB 4.1 Vp-p
0.1 V/20 µsec/DIV

WF1 LPF2501-3



PB 0.4 Vp-p
10 mV/0.5 msec/DIV

WF2 IC2501-48



PB 0.7 Vp-p
20 mV/0.5 msec/DIV

COMPONENT PARTS LOCATION GUIDE <MAIN>

REF.NO.	LOCATION		
CAPACITOR			
C1	A	D	11L
C3	B	C	13L
C5	B	C	14L
C6	B	C	14K
C7	A	D	13L
C9	B	C	14L
C11	B	C	14L
C12	B	C	13K
C13	A	D	13K
C14	B	C	13K
C15	B	C	13K
C16	B	C	14K
C17	B	C	17G
C18	B	C	17G
C19	B	C	16H
C20	A	D	14J
C21	B	C	14J
C22	B	C	15J
C23	B	C	13J
C24	B	C	14J
C25	B	C	14J
C26	B	C	14J
C27	B	C	15J
C29	A	D	14I
C30	A	D	13I
C31	B	C	13I
C32	B	C	12H
C34	A	D	12I
C36	B	C	13J
C37	A	D	13I
C38	B	C	11H
C39	B	C	12G
C40	B	C	12H
C41	B	C	12I
C42	B	C	10H
C43	B	C	11H
C44	B	C	10H
C45	B	C	10H
C46	B	C	10H
C47	B	C	11J
C48	A	D	11I
C49	B	C	9H
C50	B	C	9H
C51	B	C	10M
C52	B	C	10N
C53	B	C	11N
C54	A	D	11J
C55	A	D	10J
C56	A	D	10K
C57	B	C	10K
C58	B	C	10J
C59	B	C	10J
C60	B	C	9K
C61	B	C	8J
C62	B	C	9K
C63	B	C	10K
C64	A	D	8K
C65	B	C	10K
C73	B	C	12H
C74	B	C	12G
C76	B	C	17G
C77	B	C	17G
C78	B	C	18G
C79	B	C	17G
C80	B	C	16G
C81	B	C	13K
C82	B	C	13L
C83	B	C	13L
C84	B	C	13L
C85	B	C	16G
C86	A	D	17H
C87	B	C	16G
C88	B	C	15G
C89	B	C	16G
C90	B	C	16G
C91	B	C	10I
C92	B	C	9K
C95	B	C	14K
C98	B	C	9K
C99	B	C	9J
C101	B	C	9K
C102	B	C	19I
C104	B	C	11I
C105	B	C	12N
C107	B	C	13I
C115	B	C	12H
C120	B	C	17H
C129	B	C	16J
C130	B	C	16I
C131	B	C	15J
C134	B	C	11J
C136	B	C	13K
C141	B	C	12I
C145	B	C	10G
C146	B	C	15G
C147	B	C	15H
C148	B	C	15H
C150	A	D	18G
C153	B	C	13G
C154	B	C	9J
C158	B	C	14J
C164	B	C	14K
C165	B	C	14K
C168	B	C	11L
C169	B	C	9H
C171	B	C	11H
C175	B	C	9J
C176	B	C	18H
C177	B	C	13N
C178	B	C	11H
C181	B	C	12H
C182	B	C	9I
C183	B	C	9I
C191	B	C	15G
C193	B	C	9J
C201	A	D	7N
C202	B	C	8M
C203	B	C	8L
C204	B	C	8L
C205	B	C	8L
C206	B	C	7M
C207	B	C	7M
C208	B	C	6L
C209	B	C	7M
C210	B	C	6M
C211	B	C	6M
C212	B	C	6L
C213	A	D	6L
C214	B	C	6M
C215	B	C	6M
C216	A	D	6M
C217	B	C	7N
C218	B	C	7N
C219	B	C	7N
C220	B	C	7M
C222	B	C	8M
C223	B	C	6N
C224	B	C	6N
C401	B	C	18I
C402	B	C	18I
C403	B	C	17I
C404	B	C	17I
C405	B	C	17I
C406	B	C	17I
C407	B	C	16J
C408	B	C	16J
C409	B	C	16J
C2001	B	C	14M
C2002	A	D	14L
C2003	B	C	12L
C2004	A	D	12L
C2005	B	C	11L
C2006	B	C	12L
C2007	A	D	12L
C2008	B	C	11L
C2009	A	D	11L
C2010	A	D	15M
C2011	B	C	12M
C2013	B	C	13M
C2015	A	D	15M
C2016	A	D	15N
C2017	B	C	11L
C2051	B	C	7I
C2052	A	D	7I
C2053	B	C	6J
C2054	B	C	6J
C2055	A	D	6J
C2061	A	D	20G
C2062	B	C	20F
C2063	B	C	20F
C2064	A	D	20F
C2101	A	D	18N
C2102	A	D	13L
C2151	B	C	17J
C2152	B	C	18J
C2201	A	D	17M
C2202	A	D	17N
C2203	A	D	17N
C2204	A	D	17N
C2205	A	D	16M
C2206	A	D	16M
C2207	A	D	16N
C2208	A	D	16L
C2209	A	D	16L
C2210	A	D	17J
C2211	A	D	18K
C2212	A	D	18J
C2213	A	D	18K
C2214	B	C	18L
C2215	A	D	18L
C2216	A	D	18L
C2217	A	D	19L
C2218	A	D	19M
C2219	A	D	18M
C2220	A	D	18M
C2221	A	D	19N
C2222	A	D	18N
C2223	B	C	18N
C2224	B	C	17M
C2225	A	D	18N
C2226	A	D	18N
C2227	A	D	18N
C2228	A	D	19M
C2229	A	D	19M
C2230	B	C	16M
C2231	B	C	16L
C2232	A	D	17K
C2233	B	C	17K
C2234	B	C	17K
C2251	B	C	16L
C2252	B	C	16K
C2253	B	C	16K
C2254	B	C	16K
C2255	B	C	16K
C2256	B	C	19L
C2257	A	D	16K
C2258	B	C	16K
C2259	B	C	16K
C2260	B	C	17J
C2261	B	C	16K
C2262	B	C	15K
C2263	B	C	16K
C2501	A	D	20B
C2502	B	C	21C
C2503	A	D	20C
C2504	B	C	20C
C2505	A	D	20B
C2506	B	C	19D
C2507	B	C	20D
C2508	B	C	19D
C2509	B	C	19D
C2510	A	D	20C
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C2512	B	C	20B
C2513	B	C	18B
C2515	B	C	20D
C2517	B	C	21C
C2518	B	C	18B
C2519	B	C	18C
C2520	B	C	20B
C2521	A	D	20B
C3001	B	C	8J
C3002	B	C	8H
C3003	A	D	7H
C3004	B	C	7H
C3007	B	C	5E
C3008	B	C	21E
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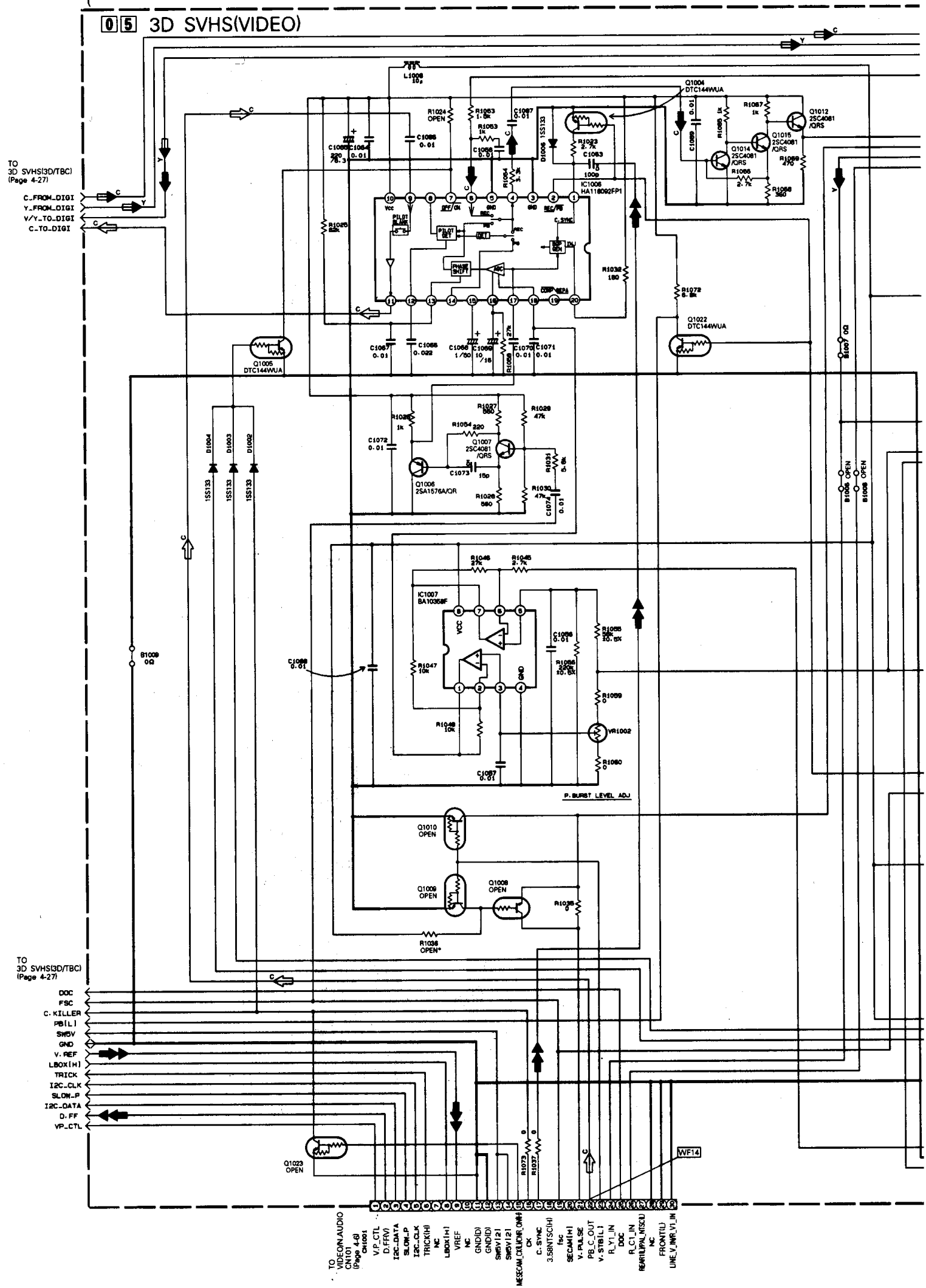
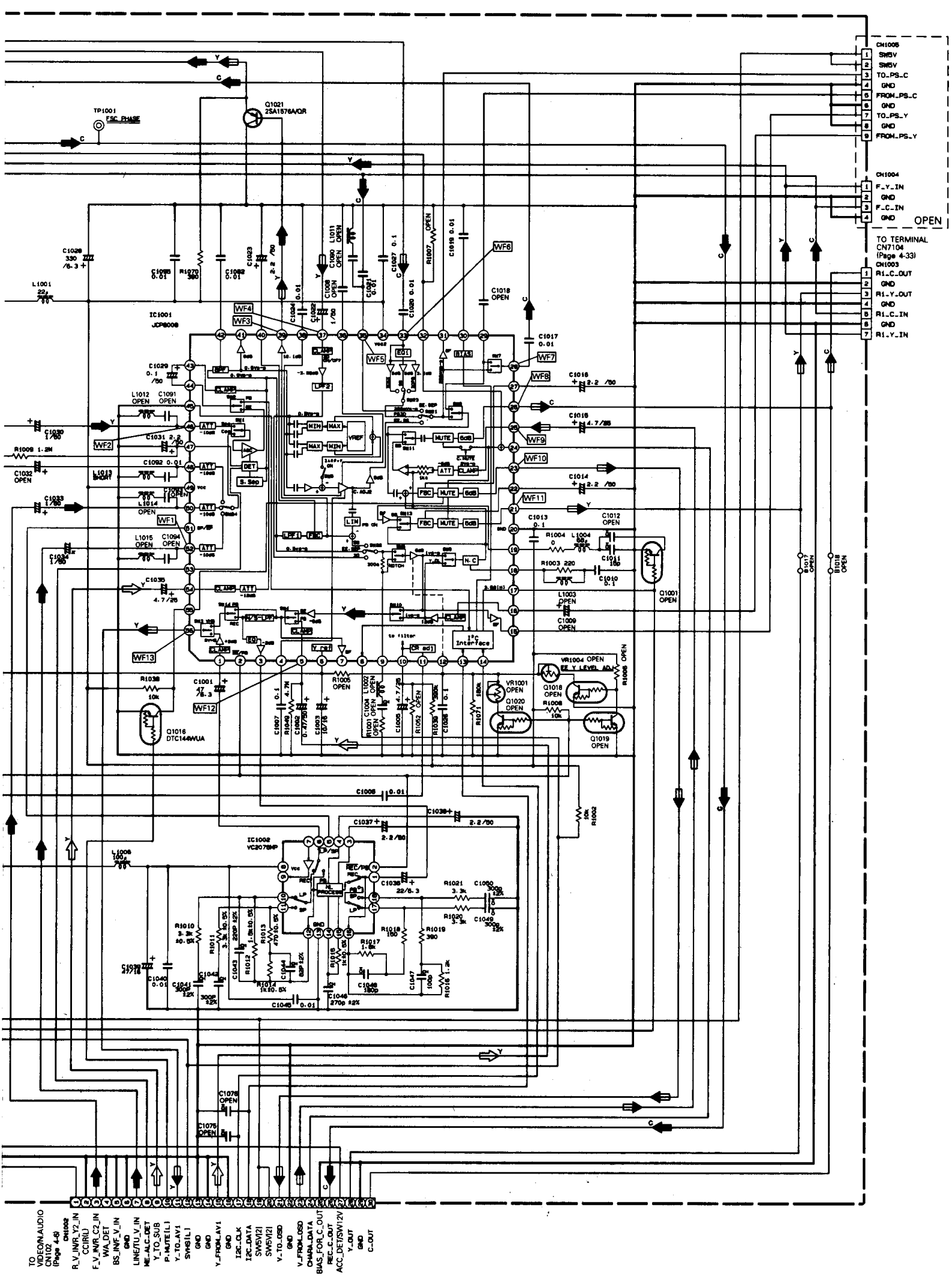
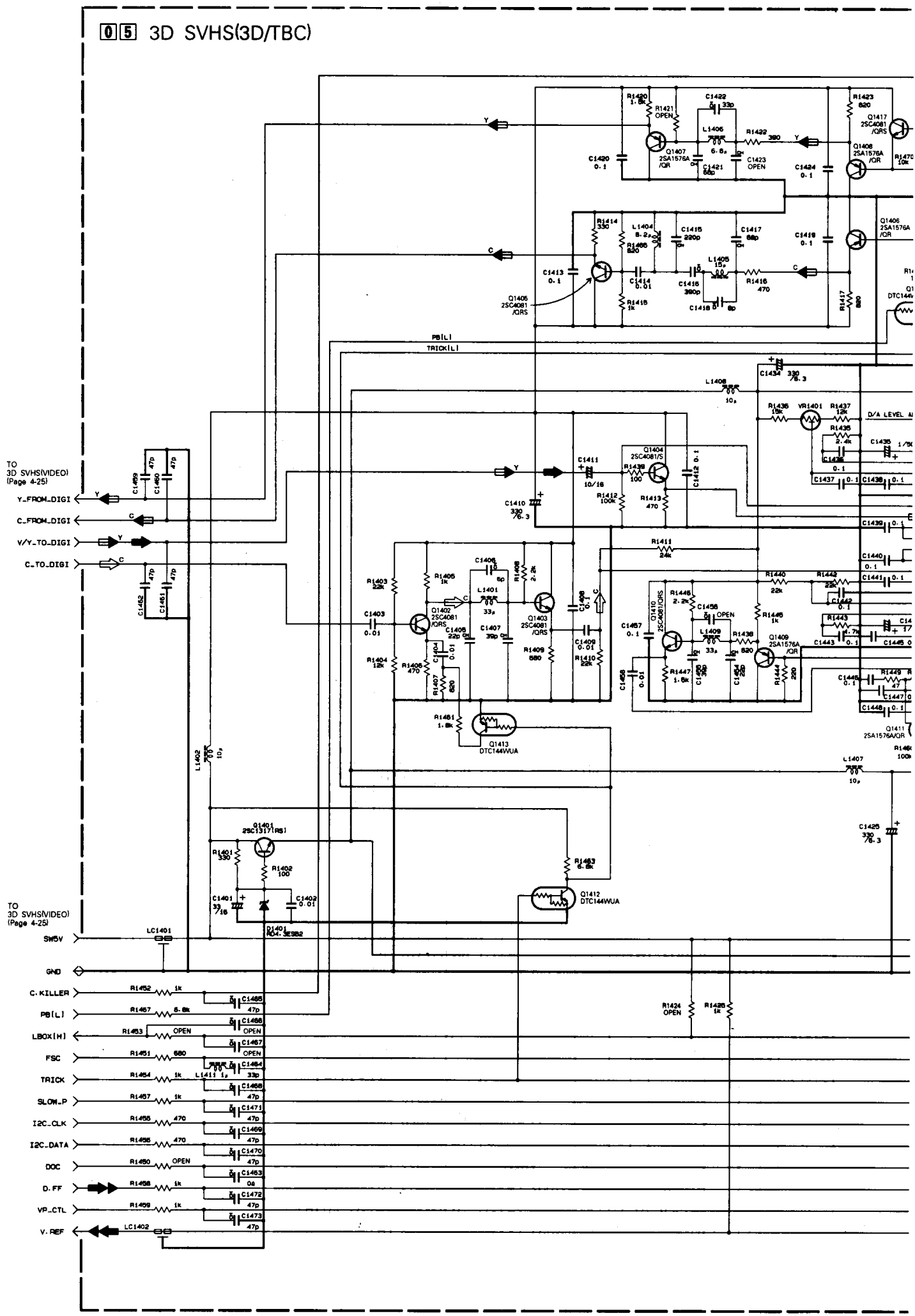
C3011	A	D	1B
C3012	A	D	4B
C3013	B	C	5B
C3014	B	C	9E
C3016	B	C	9C
C3017	B	C	8B
C3018	B	C	8B
C3019	B	C	9B
C3020	B	C	9B
C3021	B	C	9B
C3022	B	C	6D
C3023	B	C	6C
C3024	B	C	11C
C3025	A	D	12B
C3026	B	C	11B
C3027	B	C	12B
C3028	B	C	11B
C3029	B	C	11B
C3030	B	C	11C
C3031	B	C	11C
C3032	B	C	11D
C3033	B	C	10E
C3034	B	C	12C
C3035	B	C	12C
C3036	B	C	12C
C3037	B	C	12C
C3038	B	C	12D
C3039	B	C	12D
C3040	B	C	8C
C3041	B	C	11C
C3042	A	D	4A
C3052	B	C	8C
C3053	A	D	6B
C3054	B	C	12C
C3301	B	C	14C
C3302	B	C	15C
C3303	B	C	16C
C3304	B	C	16B
C3501	B	C	15A
C3502	A	D	15A
C3503	B	C	14F
C3504	B	C	14F
C3505	B	C	14F
C3911	B	C	17P
C3961	B	C	16A
C4001	B	C	9E
C4002	B	C	10E
C4003	B	C	9F
C4004	B	C	10F
C4005	B	C	9F
C4006	B	C	9F
C4007	B	C	10F
C4008	B	C	9E
C4009	B	C	9E
C4010	B	C	7E
C4011	B	C	11F
C4012	B	C	11G
C4013	B	C	11F
C4014	B	C	11F
C4015	B	C	10F
C5001	A	D	2O
C5002	A	D	3N
C5003	A	D	4P
C5004	A	D	1M
C5005	A	D	1L
C5006	A	D	3M
C5101	A	D	3K
C5102	A	D	3J
C5103	B	C	2K
C5104	A	D	3L
C5105	A	D	1K
C5106	A	D	4L
C5107	A	D	2K
C5108	A	D	3N
C5109	A	D	2N
C5110	A	D	2K
C5201	A	D	1F
C5202	A	D	2G
C5203	A	D	1G
C5204	A	D	4H
C5205	A	D	1F
C5206	A	D	3G
C5207	A	D	3F
C5208	A	D	1E
C5209	A	D	6P
C5210	A	D	3H
C5301	A	D	2D
C5302	A	D	2D
C5303	A	D	3E
C5304	A	D	4D
C5305	B	C	1F
C5306	A	D	3C
C5307	A	D	2D
C5308	A	D	4F
C5309	A	D	4F
C5310	A	D	2C
C5311	A	D	5M
C5312	A	D	3C
C6005	A	D	20M
C6006	B	C	21M
C6007	A	D	21M
C6008	B	C	21M
C6012	A	D	21O
C6013	B	C	21O
C6014	B	C	21P
C6016	B	C	21O
C6020	B	C	22M
C6021	B	C	22M
C6022	B	C	21N
C6023	B	C	22M
C6024	B	C	22K
C6032	B	C	21G
C6033	B	C	22J
C6036	B	C	22H
C6037	A	D	21G
C6052	B	C	21O
C6053	B	C	21P
C6054	B	C	21P
C6055	B	C	21O
C6080	B	C	21G
C6101	A	D	21D
C6519	B	C	21G
C6520	B	C	21G
C6551	A	D	21H
C6552	B	C	21H
C6553	A	D	22H
C6554	B	C	22G
C7202	A	D	16P
C7501	B	C	12O
C7502	B	C	12O
C7503	B	C	13O
C7504	B	C	13O
C7505	B	C	7P
C7506	B	C	7O
C7507	B	C	9P
C7508	B	C	9O
C7509	A	D	7O
C7510	B	C	8O
C7511	A	D	8O
C7512	A	D	10P
C7513	B	C	10P
C7514	A	D	11P
C7515	A	D	11P
C7516	A	D	21B
C7517	B	C	12O
C7518	B	C	12O
C7519	B	C	12O
C7520	B	C	12O
C7521	B	C	14O
C7522	B	C	14O
C7523	B	C	13O
C7524	B	C	13O
C7525	A	D	11O
C7526	B	C	11O
C7527	A	D	14O
C7528	A	D	11O
C7529	B	C	10O
C7530	A	D	11O
C7531	A	D	10O
CONNECTOR			
CN1	A	D	15K
CN101	A	D	14O
CN102	A	D	10O
CN303	A	D	18H
CN304	A	D	20J
CN1901	A	D	22C
CN2001	A	D	9L
CN2002	A	D	20G
CN3001	A	D	7L
CN3002	A	D	8J
CN3003	A	D	8H
CN3004	A	D	10A
CN3005	A	D	18P
CN3011	A	D	3A
CN3012	A	D	2C
CN3401	A	D	6O
CN3501	A	D	14H
CN5001	A	D	1P
CN6101	A	D	20L
CN6103	A	D	22D
CN6701	A	D	22E
CN7201	A	D	15O
CN7501	A	D	11P
CN7502	A	D	16P
CN7503	A	D	18P
CN7504	A	D	22A
CN7505	A	D	21B
DIODE			
D16	B	C	15K
D17	B	C	16N
D22	B	C	10H
D24	B	C	19K
D25	B	C	16I
D101	B	C	12N
D201	B	C	6L
D202	B	C	5L
D203	B	C	5L
D204	B	C	6L
D2001	A	D	15M
D2201	A	D	18K
D2501	B	C	19D
D3001	A	D	13D
D3002	A	D	9B
D3003	A	D	5B
D3004	A	D	4C
D3005	A	D	4C
D3006	B	C	18P
D3007	A	D	8D
D3008	B	C	7D
D3009	A	D	8D
D3011	A	D	2B
D3012	A	D	1C
D3961	A	D	17C
D3962	B	C	17F
D3963	B	C	17F
D3964	B	C	17F
D3965	A	D	17B
D4001	B	C	12F
D4002	B	C	11F
D5001	B	C	3N
D5101	A	D	4J
D5102	A	D	3K
D5103	A	D	3L
D5104	A	D	3L
D5105	A	D	2K
D5106	A	D	3N
D5201	A	D	1G
D5202	A	D	4H
D5203	A	D	3H
D5204	A	D	3H
D5205	A	D	3H
D5206	A	D	2H
D5207	A	D	2H
D5208	A	D	4G
D5209	A	D	4G
D5210	A	D	3H
D5211	A	D	1H
D5212	A	D	2H
D5213	A	D	1H
D5301	A	D	2H
D5302	A	D	2C
D5303	A	D	1E
D5304	A	D	1F
D5305	A	D	4F
D5306	A	D	2E
D5307	A	D	3E
D5308	A	D	3E
D5309	A	D	2D
D5310	A	D	4E
D5311	A	D	4C
D5312	B	C	3C
D5313	A	D	4D
D6002	A	D	21M
D6551	A	D	21G
IC			
IC1	B	C	12K
IC2	B	C	16G
IC3	B	C	15G
IC201	A	D	8L
IC2201	B	C	17L
IC2501	B	C	19C
IC3001	B	C	10D
IC3002	B	C	12B
IC3003	A	D	6C
IC3004	A	D	8I
IC3301	B	C	15D
IC3501	A	D	15A
IC3961	B	C	16B
IC3962	B	C	16B
IC5301	A	D	2D
IC5302	A	D	5N
IC6080	B	C	21F
IC7501	B	C	10O
JACK			
J3911	A	D	17P
J6101	A	D	19P
J6102	A	D	20P
J7501	A	D	12P
J7502	A	D	11P
J7503	A	D	13P
J7504	A	D	14P
J7505	A	D	8P
J7506	A	D	9P
COIL			
L1	A	D	14L
L2	A	D	17G
L3	A	D	16H
L4	A	D	13I
L5	A	D	12H
L6	A	D	12G
L7	A	D	11I
L8	A	D	9J
L9	A	D	8K
L12	A	D	17G
L13	A	D	17G
L14	A	D	9J
L16	A	D	18G
L17	A	D	13J
L18	A	D	13J
L23	A	D	10H
L24	A	D	9H
L25	A	D	18H
L104	A	D	11I
L108	A	D	18G
L151	A	D	13G
L181	A	D	10I
L201	A	D	6L
L202	A	D	8L
L203	A	D	7L
L204	A	D	6M
L205	A	D	6N
L206	A	D	7N
L401	A	D	18I
L402	A	D	17I
L2001	A	D	15L
L2201	A	D	18K
L2251	A	D	16K
L2252	A	D	17J
L2501	A	D	20C
L3001	A	D	7H
L3011	B	C	8I
L3012	B	C	8H
L3501	A	D	14A
L5201	A	D	3F
L5202	A	D	2F
L5301	A	D	4C
L6001	A	D	21N
L6002	A	D	22P
L6003	A	D	21O
L6004	A	D	22O
L6031	A	D	20G
L6032	A	D	21J
L6050	A	D	22O
L6051	A	D	21P
L6080	A	D	20G
L7201	A	D	16O
L7501	A	D	7P
L7502	A	D	10P
L7503	A	D	10O
TRANSISTOR			
Q1	B	C	15J
Q2	B	C	14I
Q3	B	C	15J
Q4	B	C	15J
Q6	B	C	12H
Q7	B	C	9H
Q13	B	C	17G
Q14	B	C	17G
Q15	B	C	17G
Q16	B	C	15G
Q17	B	C	16G
Q18	B	C	8K
Q21	B	C	9J
Q34	B	C	14L
Q35	B	C	14L
Q36	B	C	14L
Q37	B	C	15L
Q38	B	C	10G
Q39	B	C	9G
Q45	B	C	14J
Q46	B	C	15I
Q47	B	C	14J
Q48	B	C	14I
Q49	B	C	13I
Q52	B	C	9H
Q53	A	D	8G
Q54	B	C	13F
Q55	B	C	16H
Q56	B	C	10I
Q57	B	C	9J
Q58	B	C	9K
Q59	B	C	14H
Q101	B	C	8J
Q102	B	C	12M
Q103	B	C	16I
Q104	B	C	16I
Q141	B	C	16H
Q142	B	C	15H
Q152	B	C	14K
Q153	B	C	12H
Q154	B	C	13H
Q157	B	C	10I
Q158	B	C	9J
Q159	B	C	9J
Q160	B	C	16I
Q161	B	C	12H
Q181	B	C	12G
Q182	B	C	12G
Q203	B	C	8N
Q204	B	C	7L
Q207	B	C	6N
Q208	B	C	6O
Q211	B	C	7N
Q401	B	C	18I
Q402	B	C	19I
Q403	B	C	18J
Q404	B	C	17I
Q405	B	C	16J
Q2001	B	C	11L
Q2002	B	C	12M
Q2003	B	C	14M
Q2051	B	C	6I
Q2052	B	C	6E
Q2053	B	C	6F
Q2054	B	C	6E
Q2055	B	C	6D
Q2061	B	C	20F
Q2062	B	C	6D
Q2063	B	C	6E
Q2102	B	C	13M
Q2103	B	C	14M
Q2151	B	C	18J
Q2152	B	C	17J
Q2201	B	C	18O
Q2202	B	C	18O
Q2203	B	C	18O
Q2204	B	C	18O
Q2251	B	C	15K
Q2252	B	C	16L
Q2253	B	C	17J
Q2254	B	C	19L
Q2255	B	C	19L
Q2256	B	C	20K
Q2257	B	C	20L
Q2258	B	C	19L
Q2501	B	C	20D
Q2502	B	C	20D
Q3001	B	C	7H
Q3002	A	D	5E
Q3003	A	D	20E
Q3004	B	C	5B
Q3005	A	D	5C
Q3007	B	C	7D
Q3008	B	C	7C
Q3009	B	C	7D
Q3501	B	C	14A
Q4001	B	C	7E
Q5101	A	D	2K
Q5102	A	D	2L
Q5103	A	D	3M
Q5301	A	D	3G
Q5302	B	C	4F
Q5303	A	D	3C
Q5304	A	D	3F
Q5305	B	C	3F
Q5306	A	D	3F
Q5307	B	C	4D
Q5308	B	C	3C
Q5310	B	C	4C
Q5311	B	C	3B
Q5312	B	C	1D
Q6030	B	C	22J
Q6031	B	C	22J
Q6032	B	C	21G
Q6033	B	C	22I
Q6035	B	C	22I
Q6501	B	C	21H
Q6502	B	C	21H
Q6551	A	D	21H
Q7201	A	D	16P
Q7501	B	C	8P
Q7502	B	C	8O
Q7503	B	C	11P
Q7504	B	C	11P
Q7505	B	C	10P
Q7507	B	C	11O
RESISTOR			
R1	B	C	16H
R2	B	C	14K
R3	B	C	13J
R4	B	C	15J
R5	B	C	15I
R6	B	C	15J
R7	B	C	13I
R10	B	C	12H
R11	B	C	12H
R13	B	C	10H
R15	B	C	11H
R16	B	C	10H
R20	B	C	10J
R23	B	C	8J
R24	B	C	10K
R25	B	C	9K
R46	B	C	17G
R47	B	C	17G
R48	B	C	18G
R49	B	C	17H
R50	B	C	17G
R52	B	C	14M
R54	B	C	17G
R55	B	C	17G
R56	B	C	10H
R57	B	C	15J
R59	B	C	12H
R60	B	C	9H
R61	B	C	10H
R62	B	C	9K
R63	B	C	8K
R64	B	C	8K
R68	B	C	13F
R69	B	C	13F
R71	B	C	15H
R73	B	C	10G
R74	B	C	9K
R75	B	C	9J
R76	B	C	10I
R94	B	C	16G
R95	B	C	9N
R96	B	C	9N
R97	B	C	14N
R98	B	C	14M
R99	B	C	9F
R101	B	C	8J
R112	B	C	14K
R116	B	C	14J
R120	B	C	14K
R121	B	C	14K
R123	B	C	10H
R124	B	C	10G
R126	B	C	16J
R127	B	C	16I
R128	B	C	16J
R129	B	C	16J
R130	B	C	16J
R137	B	C	14J
R139	B	C	15J
R140	B	C	15I
R141	B	C	15G
R142	B	C	14H
R143	B	C	13N
R150	B	C	12H
R151	B	C	15I
R156	B	C	13H
R157	B	C	13G
R158	B	C	13H
R159	B	C	13H
R161	B	C	10I
R162	B	C	10I
R163	B	C	9I
R164	B	C	9J
R165	B	C	9K
R166	B	C	9K
R168	B	C	14J
R169	B	C	14I
R170	B	C	13J
R171	B	C	13I
R172	B	C	16I
R178	B	C	13J
R179	B	C	14I
R181	B	C	12M
R182	B	C	12M
R189	B	C	15I
R190	B	C	10G
R191	B	C	10H
R194	B	C	10G
R195	B	C	11J
R196	B	C	10J
R197	B	C	10K
R198	B	C	9K
R199	B	C	9L
R201	B	C	7L
R202	B	C	5L
R203	B	C	5L
R204	B	C	5L
R205	B	C	6L
R206	B	C	7L
R207	B	C	6G
R208	B	C	7L
R209	B	C	6L
R210	B	C	6L
R211	B	C	6M
R212	B	C	6N
R213	B	C	7N
R215	B	C	7M
R216	B	C	7M
R217	B	C	8M
R218	B	C	6N
R219	B	C	8N
R220	B	C	7N
R223	B	C	7N
R224	B	C	6O
R225	B	C	6O
R235	B	C	7N
R401	B	C	18I
R402	B	C	18I
R403	B	C	18I
R404	B	C	18I
R405	B	C	17I
R408	B	C	17J
R409	B	C	17J
R410	B	C	16J
R2001	B	C	14M
R2002	B	C	14M
R2003	B	C	12L
R2004	B	C	12L
R2005	B	C	12L
R2006	B	C	11L
R2007	B	C	11L
R2009	B	C	13M
R2010	B	C	13M
R2013	B	C	13M
R2014	B	C	13M
R2018	B	C	13L
R2019	B	C	13M
R2020	B	C	11L
R2051	B	C	7I
R2052	B	C	7I
R2053	B	C	7J
R2054	B	C	6J
R2055	B	C	6I
R2056	B	C	6J
R2057	B	C	6E
R2058	B	C	6F
R2059	B	C	6E
R2060	B	C	6E
R2061	B	C	20F
R2062	B	C	20F
R2063	A	D	20E
R2064	B	C	6E
R2065	B	C	6E
R2105	B	C	12L
R2106	B	C	14L
R2107	B	C	14M
R2108	B	C	15M
R2151	B	C	18J
R2152	B	C	18J
R2201	B	C	17N
R2202	B	C	17N
R2203	B	C	17M
R2204	B	C	17N
R2205	B	C	17N
R2206	B	C	17N
R2207	B	C	16N
R2208	B	C	16N
R2209	B	C	16N
R2210	B	C	16N
R2211	B	C	16N
R2212	B	C	17N
R2213	B	C	16N
R2214	B	C	16N
R2215	B	C	16M
R2216	B	C	16N
R2217	B	C	16N
R2218	B	C	18K
R2219	B	C	19N
R2220	B	C	18M
R2221	B	C	18N
R2222	B	C	19M
R2223	B	C	19N
R2224	B	C	19N
R2225	B	C	18N
R2226	B	C	18N
R2227	B	C	17M
R2228	B	C	18N
R2229	B	C	18O
R2230	B	C	18N
R2231	B	C	17N
R2232	B	C	19M
R2233	B	C	19M
R2234	B	C	18M
R2235	B	C	18M
R2236	B	C	16M
R2237	B	C	16M
R2238	B	C	17K
R2239	B	C	18K
R2240	B	C	17K
R2241	B	C	18O
R2242	B	C	18O
R2243	B	C	18O
R2244	B	C	18K
R2251	B	C	18K
R2252	B	C	17K
R2253	B	C	19L
R2254	B	C	17K
R2255	B	C	19L
R2501	B	C	21D
R2502	B	C	21B
R2503	B	C	20C
R2504	B	C	20C
R2505	B	C	20C
R2506	B	C	20C
R2507	B	C	20D
R2508	B	C	19D
R2509	B	C	19B
R2510	B	C	20B
R2511	B	C	20B
R2512	B	C	19B
R2513	B	C	19B
R2514	B	C	20D
R2515	B	C	20C
R2519	B	C	19D
R2520	B	C	20D
R2521	B	C	19B
R2522	B	C	18D
R3011	B	C	9F
R3012	B	C	8E
R3013	B	C	8E
R3014	B	C	8E
R3015	B	C	8E
R3016	B	C	8E
R3017	B	C	8E
R3018	B	C	8E
R3019	B	C	8E
R3020	B	C	8E
R3021	B	C	8E
R3022	B	C	8E
R3025	B	C	7E
R3026	B	C	7E
R3027	B	C	7E
R3029	B	C	9D
R3030	B	C	8D
R3031	B	C	8D
R3033	B	C	8C
R3034	B	C	8C
R3035	B	C	7B
R3036	B	C	8B
R3037	B	C	8C
R3038	B	C	9D
R3039	B	C	9C
R3040	B	C	8C
R3041	B	C	8C
R3042	B	C	8C
R3044	B	C	9C
R3046	B	C	8B
R3047	B	C	8B
R3048	B	C	8B
R3049	B	C	8B
R3050	B	C	8B
R3051	B	C	9C
R3052	B	C	9C
R3053	B	C	9C
R3054	B	C	10B
R3055	B	C	10B
R3056	B	C	10C
R3057	B	C	11B
R3058	B	C	11B
R3059	B	C	11B
R3060	B	C	11B
R3061	B	C	11B
R3062	B	C	11B
R3063	B	C	11B
R3066	B	C	12B
R3069	B	C	11C
R3071	B	C	11C
R3072	B	C	13B
R3073	B	C	13B
R3074	B	C	13B
R3075	B	C	12C
R3076	B	C	12C
R3077	B	C	13C
R3078	B	C	12C
R3079	B	C	13C
R3080	B	C	12D
R3081	B	C	12D
R3083	B	C	12D
R3085	B	C	12D
R3086	B	C	12D
R3087	B	C	12E
R3088	B	C	12E
R3089	B	C	13E
R3090	B	C	12F
R3091	B	C	12E
R3092	B	C	12E
R3093	B	C	12E
R3094	B	C	12E
R3095	B	C	12E
R3096	B	C	12E
R3097	B	C	11E
R3103	B	C	11E
R3104	B	C	11E
R3105	B	C	11E
R3106	B	C	11E
R3201	B	C	7H
R3202	B	C	7H
R3203	B	C	7H
R3204	B	C	7H
R3205	A	D	13C
R3206	B	C	5D
R3207	B	C	21E
R3208	A	D	18A
R3209	A	D	18B
R3210	B	C	9B
R3211	B	C	9B
R3212	A	D	5B
R3213	B	C	9B
R3214	B	C	8A
R3215	B	C	8A
R3216	B	C	8A
R3217	B	C	7B
R3218	B	C	5C
R3219	B	C	5B
R3220	B	C	5C
R3221	B	C	18P
R3222	B	C	4C
R3223	B	C	6D
R3224	B	C	6C
R3225	B	C	7A
R3226	B	C	10B
R3227	B	C	10B
R3228	B	C	11B
R3229	B	C	11C
R3230	B	C	12B
R3231	B	C	12B
R3232	B	C	8F
R3233	B	C	8D
R3234	B	C	8D
R3235	B	C	14B
R3236	B	C	14B
R3237	B	C	2B
R3238	B	C	2C
R3239	B	C	2B
R3240	B	C	14F
R3241	B	C	3B
R3242	B	C	8E
R3243	B	C	3B
R3244	B	C	7B
R3245	B	C	8F
R3246	B	C	8E
R3247	B	C	8E
R3251	B	C	3B
R3252	B	C	9E
R3304	B	C	14C
R3305	B	C	15C
R3306	B	C	15C
R3307	B	C	15B
R3308	B	C	15C
R3309	B	C	15B
R3310	B	C	15C
R3311	B	C	15B
R3312	B	C	15C
R3313	B	C	15B
R3314	B	C	16B
R3316	B	C	16B
R3317	B	C	16C
R3318	B	C	16B
R3319	B	C	16C
R3322	B	C	16D
R3323	B	C	16D
R3324	B	C	16D
R3325	B	C	16D
R3326	B	C	16E
R3327	B	C	16E
R3328	B	C	16E
R3329	B	C	16D
R3330	B	C	15D
R3331	B	C	16E
R3332	B	C	15D
R3333	B	C	15E
R3334	B	C	15D
R3335	B	C	15D
R3336	B	C	15E
R3337	B	C	15E
R3338	B	C	15D
R3339	B	C	15D
R3340	B	C	14D
R3341	B	C	14D
R3342	B	C	14D
R3345	B	C	20N
R3346	B	C	22N
R3353	B	C	15B
R3354	B	C	16B
R3501	B	C	14B
R3502	B	C	14B
R3503	B	C	13A
R3504	B	C	14A
R3505	B	C	13A
R3506	B	C	14A
R3961	B	C	16B
R3962	B	C	17C
R4001	B	C	11F
R4002	B	C	10F
R4003	B	C	10F
R4004	B	C	10F
R4005	B	C	9F
R4006	B	C	9F
R4007	B	C	9F
R4008	B	C	7E
R4009	B	C	12F
R4010	B	C	11F
R4011	B	C	11F
R4012	B	C	11F
R4013	B	C	10G
R4014	B	C	11G
R4015	B	C	11F
R4016	B	C	11F
R4017	B	C	11F
R4018	B	C	11F
R4019	B	C	10G
R4020	B	C	7F
R4021	B	C	10F
R5001	A	D	5P
R5101	A	D	3M
R5102	A	D	3L
R5103	A	D	2M
R5104	A	D	4J
R5105	A	D	3K
R5106	A	D	2K
R5107	A	D	2J
R5108	A	D	4M
R5109	B	C	2K
R5110	B	C	2K
R5111	B	C	4L
R5112	B	C	1J
R5113	A	D	2L
R5114	A	D	2N
R5115	A	D	2M
R5116	A	D	2M
R5301	A	D	1C
R5302	B	C	3C
R5303	B	C	3C
R5304	A	D	1E
R5305	A	D	4I
R5306	B	C	3D
R5307	B	C	1F
R5308	B	C	4G
R5309	B	C	4G
R5310	B	C	3F
R5311	B	C	3E
R5312	B	C	1D
R5313	A	D	1D
R5314	B	C	3D
R5315	B	C	4D
R5316	B	C	4C
R5317	B	C	3B
R5318	B	C	3B
R5319	A	D	3D
R5320	B	C	2D
R5321	B	C	4E
R5322	B	C	4F
R5323	A	D	4H
R5324	A	D	5C
R5325	B	C	3D
R5326	B	C	3D
R5327	B	C	3D
R5328	B	C	5M
R5329	A	D	5N
R5330	A	D	5M
R5331	B	C	3C
R5332	B	C	3C
R5333	A	D	2E
R5334	A	D	2E
R6020	B	C	22N
R6021	B	C	22M
R6022	B	C	22N
R6023	B	C	22M
R6025	B	C	22N
R6030	B	C	22I
R6031	B	C	21K
R6032	B	C	20G
R6033	B	C	21G
R6034	B	C	22I
R6035	B	C	22H
R6037	B	C	22H
R6038	B	C	22L
R6039	B	C	22H
R6050	B	C	21O
R6051	B	C	22O
R6052	B	C	22O
R6053	B	C	22P
R6080	B	C	21G
R6081	B	C	21G
R6082	B	C	22N
R6101	B	C	19P
R6102	B	C	20P
R6508	B	C	21F
R6509	B	C	21G
R6510	B	C	21F
R6511	B	C	21G
R6551	B	C	21I
R6552	B	C	21I
R6553	A	D	21D
R6554	B	C	22E
R7202	B	C	16P
R7203	B	C	16P
R7204	A	D	15P
R7501	B	C	12P
R7502	B	C	13P
R7503	B	C	12O
R7504	B	C	13O
R7506	B	C	9P
R7507	B	C	9P
R7509	B	C	9P
R7511	B	C	9P
R7513	B	C	7P
R7514	B	C	8P
R7515	B	C	7O
R7516	B	C	8P
R7517	B	C	9P
R7518	B	C	9O
R7519	A	D	9O
R7520	B	C	8O
R7521	A	D	8O
R7522	B	C	8O
R7523	B	C	11P
R7524	B	C	11P
R7525	B	C	11Q
R7526	B	C	11P
R7527	B	C	11P
R7528	B	C	10P
R7529	B	C	10P
R7530	B	C	21A
R7531	B	C	11P
R7532	B	C	12O
R7533	B	C	12O
R7534	B	C	12P
R7535	B	C	13O
R7536	B	C	15P
R7537	B	C	14P
R7538	B	C	13O
R7541	A	D	11O
R7542	B	C	11O
TEST POINT			
TP106	A	D	21H
TP111	A	D	15M
TP2033	A	D	8M
TP2034	A	D	21H
TP2253	A	D	16L
TP2254	A	D	16L
TP3901	B	C	8C
TP3902	B	C	8B
TP3903	B	C	11C
TP3904	B	C	11C
TP3905	B	C	12B
TP4001	A	D	9M
OTHER			
CF2501	A	D	18D
CF3301	A	D	16C
CF6031	A	D	21J
CP3501	A	D	14A
CP4001	A	D	5J
CP5301	A	D	1E
CP5302	A	D	4G
CP5303	A	D	4E
F5001	A	D	1P
GND1	A	D	19K
GND2	A	D	21P
K5101	A	D	3K
LC2501	A	D	20B
LF5001	A	D	2P
LF5002	A	D	4O
LPF2501	A	D	21C
PC3001	A	D	17A
PC3002	A	D	9C
PC5101	A	D	4L
PC5102	A	D	4M
PC5301	A	D	2D
S3002	A	D	7A
S6050	A	D	17P
SG5001	A	D	3P
T2051	A	D	6J
T2052	A	D	20F
T5001	A	D	1J
TU6001	A	D	21P
VA5001	A	D	2O
VA5002	A	D	4P
VR2251	A	D	19L
WR1	A	D	16I
WR2	A	D	14O
WR3	A	D	11I
WR4	A	D	21I
X1	A	D	14J
X2	A	D	14J
X3001	A	D	11C
X3002	A	D	12C

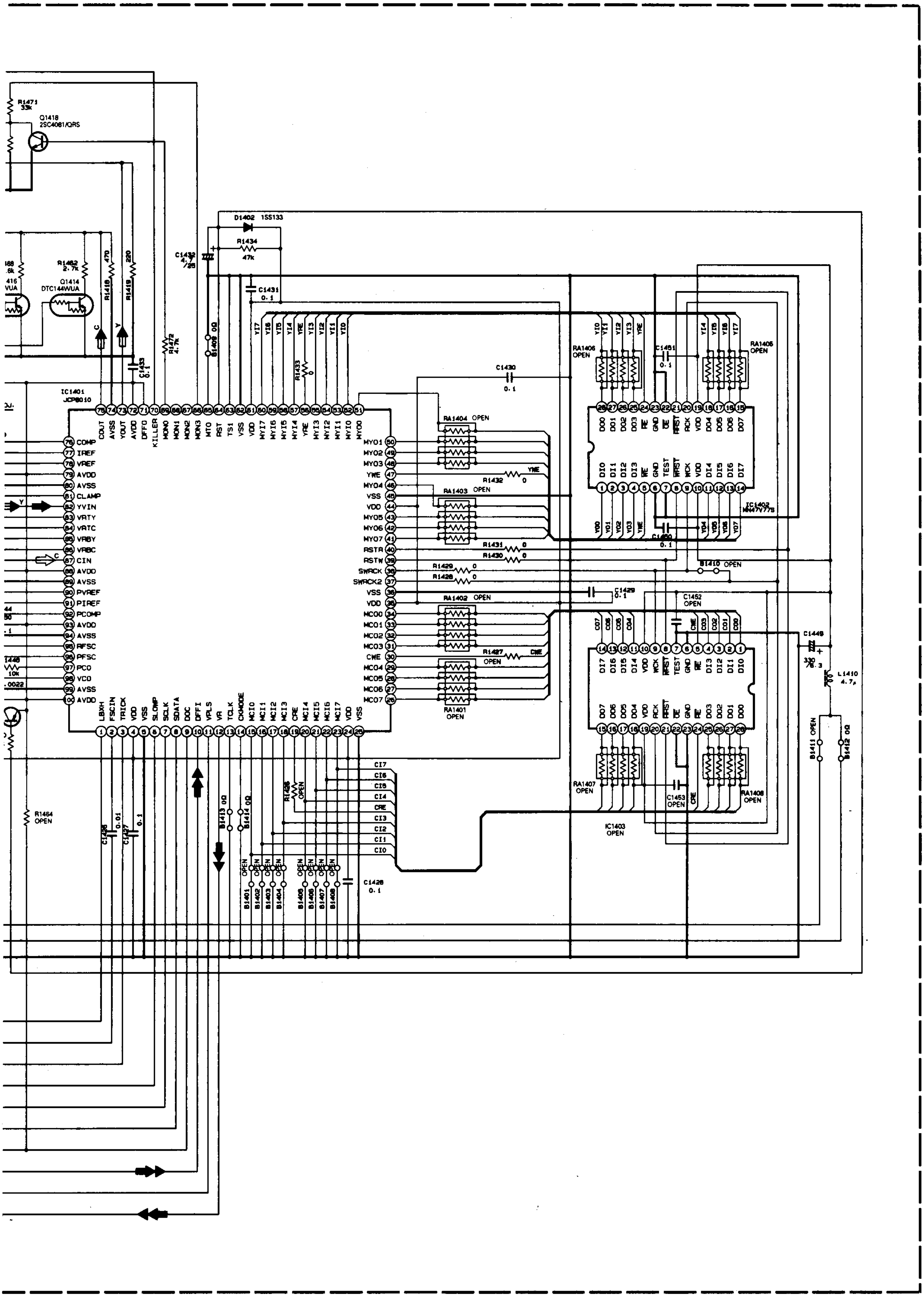


NOTE : For 3D SVHS(VIDEO) waveforms, please refer to page 4-31.


CN1005
SW5V
SW5V
TO_PS_C
GND
FROM_PS_C
GND
TO_PS_Y
GND
FROM_PS_Y
CN1004
F_Y_IN
GND
F_C_IN
GND
OPEN
TO TERMINAL CN7104 (Page 4-33)
CN1003
R1_C_OUT
GND
R1_Y_OUT
GND
R1_C_IN
GND
R1_Y_IN
IC1001 JCP8008
IC1002 VC2078MP
Q1021 2SA1576A/QR
Q1016 DTC144WUA
TP1001 FSC PHASE
I²C Interface
VR1001 OPEN
VR1004 OPEN
Q1001 OPEN
Q1018 OPEN
Q1019 OPEN
Q1020 OPEN
WF1
WF2
WF3
WF4
WF5
WF6
WF7
WF8
WF9
WF10
WF11
WF12
WF13
TO VIDEO/AUDIO CN102 (Page 4-5)
CN1002
R_V_IN/R_Y2_IN
C(R/L)
F_V_IN/R_C2_IN
WA_DET
BS_INF_V_IN
GND
LINE/TU_V_IN
ME_ALC_DET
Y_TO_SUB
P_MUTE(L)
Y_TO_AV1
SW6(L)
GND
GND
GND
Y_FROM_AV1
GND
I2C_CLK
I2C_DATA
SW5V(2)
SW5V(2)
Y_TO_OSD
GND
V_FROM_OSD
CHARA_DATA
BIAS_FOR_C_OUT
REC_C_OUT
ACC_DET/SW12V
Y_OUT
GND
C_OUT

4.13 3D SVHS(3D/TBC) SCHEMATIC DIAGRAM

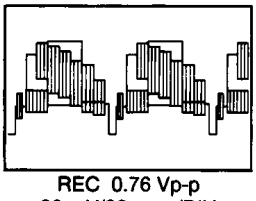



R1471 33k
Q1418 2SC4081/QRS
D1402 1SS133
R1434 47k
C1431 0.1
R1452 2.7k
Q1414 DTC144WUA
R1418 470
R1419 220
R1472 4.7k
C1433 0.1
IC1401 JCP8010
COMP
IREF
VREF
AVDD
AVSS
CLAMP
YVIN
VRTY
VRTC
VRBY
VRBC
CIN
PVREF
PIREF
PCOMP
RFSC
PFSC
PCO
VCO
COUT
AVSS
YOUT
AVDD
DFFO
KILLER
MON0
MON1
MON2
MON3
MTO
RST
TS1
VSS
VDD
MYI7
MYI6
MYI5
MYI4
YRE
MYI3
MYI2
MYI1
MYI0
MYO0
MYO1
MYO2
MYO3
YWE
MYO4
MYO5
MYO6
MYO7
RSTR
RSTW
SWRCK
SWRCK2
MCO0
MCO1
MCO2
MCO3
CWE
MCO4
MCO5
MCO6
MCO7
LBXH
FSCIN
TRICK
SLOWP
SCLK
SDATA
DOC
DFFI
VPLS
VR
TCLK
CKMODE
MCI0
MCI1
MCI2
MCI3
CRE
MCI4
MCI5
MCI6
MCI7
RA1404 OPEN
RA1403 OPEN
RA1402 OPEN
RA1401 OPEN
R1432 0
R1431 0
R1430 0
R1429 0
R1428 0
R1427 OPEN
C1430 0.1
C1429 0.1
C1426 0.1
B1410 OPEN
B1409 0Ω
B1413 0Ω
B1414 0Ω
B1401 OPEN
B1402 OPEN
B1403 OPEN
B1404 OPEN
B1405 OPEN
B1406 OPEN
B1407 OPEN
B1408 OPEN
R1464 OPEN
RA1406 OPEN
RA1405 OPEN
C1451 0.1
C1450 0.1
IC1402 MN47V779
RA1407 OPEN
RA1408 OPEN
C1452 OPEN
C1453 OPEN
IC1403 OPEN
C1449 330 6.3
L1410 4.7μ
B1411 OPEN
B1412 0Ω

WAVEFORMS

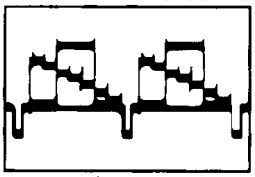
— 3D SVHS(VIDEO) —

WF1 IC1001-52



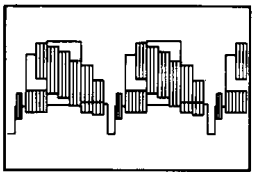
REC 0.76 Vp-p
20 mV/20 µsec/DIV

WF2 IC1001-46



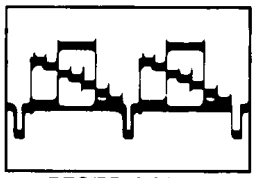
REC 1.0 Vp-p
20 mV/20 µsec/DIV

WF3 IC1001-39



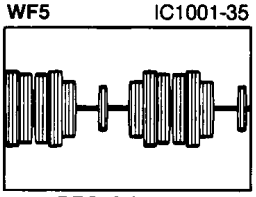
REC 1.8 Vp-p
50 mV/20 µsec/DIV

WF4 IC1001-37



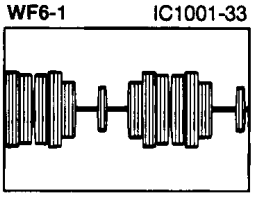
REC/PB 0.8 Vp-p
20 mV/20 µsec/DIV

WF5 IC1001-35



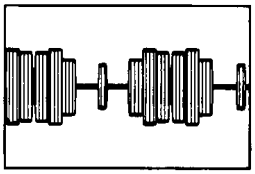
REC 0.65 Vp-p
20 mV/20 µsec/DIV

WF6-1 IC1001-33



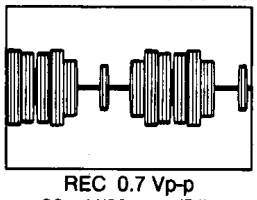
REC 0.35 Vp-p
10 mV/20 µsec/DIV

WF6-2 IC1001-33



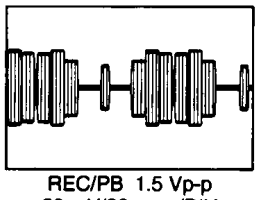
PB 0.5 Vp-p
10 mV/20 µsec/DIV

WF7 IC1001-28



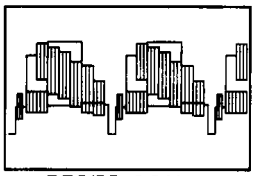
REC 0.7 Vp-p
20 mV/20 µsec/DIV

WF8 IC1001-26



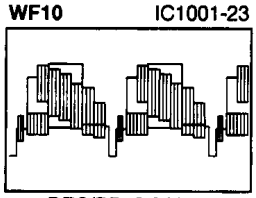
REC/PB 1.5 Vp-p
50 mV/20 µsec/DIV

WF9 IC1001-25



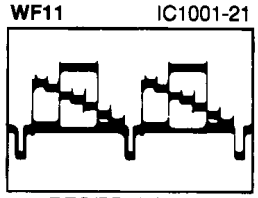
REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF10 IC1001-23



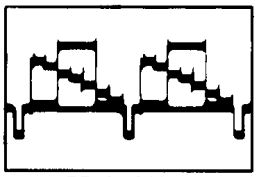
REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF11 IC1001-21



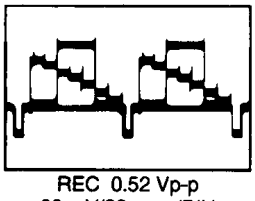
REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF12 IC1001-5



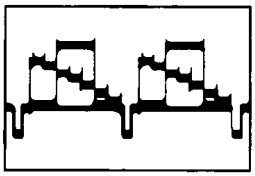
PB 0.56 Vp-p
20 mV/20 µsec/DIV

WF13-1 IC1001-56



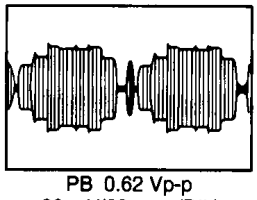
REC 0.52 Vp-p
20 mV/20 µsec/DIV

WF13-2 IC1001-56



PB 0.56 Vp-p
20 mV/20 µsec/DIV

WF14 CN1001-22



PB 0.62 Vp-p
20 mV/20 µsec/DIV

COMPONENT PARTS LOCATION GUIDE <3D SVHS>

CAPACITOR

REF.NO.	LOCATION
C1001	A D 10B
C1002	A D 10B
C1003	A D 10C
C1004	B C 11C
C1005	A D 11C
C1006	B C 11C
C1007	A C 10C
C1008	A C 9D
C1009	A D 11C
C1010	A C 10D
C1011	B C 11D
C1012	A C 11D
C1013	A C 9C
C1014	A D 11D
C1015	A D 12A
C1016	A D 10D
C1017	B C 10E
C1018	B C 10E
C1019	B C 10E
C1020	B C 9E
C1021	B C 9E
C1022	A D 9D
C1023	A D 9D
C1024	A C 9C
C1026	B C 10B
C1027	A C 10D
C1028	A D 9C
C1029	A D 9D
C1030	A D 8C
C1031	A D 9C
C1032	A D 9B
C1033	A D 9B
C1034	A D 9B
C1035	A D 9B
C1036	A D 12B
C1037	A D 12B
C1038	A D 12C
C1039	A D 12D
C1040	B C 12D
C1041	B C 12D
C1042	B C 13C
C1043	A C 12C
C1044	A C 13C
C1045	B C 12C
C1046	A C 13C
C1047	A C 12B
C1048	A C 13B
C1049	B C 13B
C1050	B C 12B
C1056	B C 8D
C1057	B C 8D
C1058	B C 7C
C1063	B C 7C
C1064	B C 7C
C1065	A D 7B
C1066	B C 7C
C1067	B C 7C
C1068	A D 8D
C1069	A D 8D
C1070	B C 7D
C1071	A C 8D
C1072	B C 7D
C1073	A C 7D
C1074	B C 7D
C1075	A C 10A
C1076	A C 10A
C1082	B C 9D
C1086	B C 7C
C1087	B C 7C
C1088	B C 8D
C1089	A C 7E
C1090	B C 9D
C1091	B C 8C
C1092	B C 8B
C1093	B C 8B
C1094	B C 9B
C1095	A C 10D
C1401	A D 6B
C1402	B C 6B
C1403	B C 6D
C1404	B C 6D
C1405	A C 6D
C1406	B C 6D
C1407	A C 5D
C1408	A C 5D
C1409	A C 6D
C1410	A D 6D
C1411	A D 5D
C1412	A C 5D
C1413	A C 6E
C1414	B C 6E
C1415	B C 5E
C1416	B C 5E
C1417	B C 5E
C1418	B C 5E
C1419	B C 4E
C1420	A C 5D
C1421	A C 5E
C1422	A C 4E
C1423	A C 4E
C1424	A C 5D
C1425	A D 3B
C1426	B C 4C
C1427	B C 4C
C1428	B C 3C
C1429	B C 3C
C1430	B C 3D
C1431	B C 3D
C1432	A D 3E
C1433	B C 4D
C1434	A D 4B
C1435	A D 5E
C1436	B C 4D
C1437	B C 5D
C1438	B C 4D
C1439	B C 4D
C1440	B C 4D
C1441	B C 4D
C1442	A C 5D
C1443	B C 5C
C1444	A D 5C
C1445	B C 4C
C1446	A C 4C
C1447	A C 4C
C1448	A C 4C
C1449	A D 2B
C1450	B C 2D
C1451	B C 1E
C1452	B C 2C
C1453	B C 2B
C1454	A C 6B
C1455	B C 5B
C1456	B C 5B
C1457	B C 5B
C1458	A C 5C
C1459	A C 6E
C1460	A C 6E
C1461	A C 6D
C1462	A C 6C
C1463	A C 6C
C1464	A C 6C
C1465	A C 6C
C1466	B C 6A
C1467	A C 5B
C1468	A C 5B
C1469	A C 5B
C1470	A C 5B
C1471	A C 5B
C1472	A C 5B
C1473	A C 4B

CONNECTOR

REF.NO.	LOCATION
CN1001	A D 6A
CN1002	A D 9A
CN1003	A D 12E
CN1004	A D 7E
CN1005	A D 11E

DIODE

REF.NO.	LOCATION
D1002	A D 7B
D1003	A D 7B
D1004	A D 8B
D1006	A D 8C
D1401	A D 6B
D1402	A D 3E

IC

REF.NO.	LOCATION
IC1001	B C 10D
IC1002	A C 12C
IC1006	A C 7C
IC1007	A C 8D
IC1401	A C 4D
IC1402	A C 2D
IC1403	A C 2C

COIL

REF.NO.	LOCATION
L1001	A D 9B
L1002	A D 11B
L1003	A D 11D
L1004	A D 11D
L1006	A D 12D
L1008	A D 7B
L1011	A D 9E
L1012	A D 8C
L1013	A D 8B
L1014	A D 8A
L1015	A D 9A
L1401	A D 6D
L1402	A D 6C
L1404	A D 5E
L1405	A D 5E
L1406	A D 4E
L1407	A D 4B
L1408	A D 5B
L1409	A D 5B
L1410	A D 3B
L1411	A D 6C

TRANSISTOR

REF.NO.	LOCATION
Q1001	A C 11D
Q1004	A C 8B
Q1005	B C 7B
Q1006	B C 7D
Q1007	A C 7D
Q1008	A C 8E
Q1009	A C 8E
Q1010	B C 8E
Q1012	B C 7E
Q1014	B C 7D
Q1015	A C 7E
Q1016	A C 10C
Q1018	B C 11B
Q1019	B C 11B
Q1020	B C 10B
Q1021	A C 9D
Q1022	A C 7E
Q1023	B C 7B
Q1401	A D 6B
Q1402	B C 6D
Q1403	A C 6D
Q1404	A C 5D
Q1405	B C 6E
Q1406	B C 4D
Q1407	A C 5E
Q1408	A C 4D
Q1409	A C 6B
Q1410	A C 5B
Q1411	A C 5C
Q1412	B C 5B
Q1413	A C 6D
Q1414	B C 4D
Q1416	B C 5D
Q1417	A C 4D
Q1418	A C 4E

RESISTOR

REF.NO.	LOCATION
R1001	B C 11C
R1002	A C 10C
R1003	A C 10D
R1004	B C 11D
R1005	B C 10C
R1006	A C 10B
R1007	B C 10E
R1008	A C 10B
R1009	A C 9C
R1010	B C 12C
R1011	B C 12C
R1012	A C 12C
R1013	A C 13C
R1014	A C 13C
R1015	A C 13C
R1016	A C 12B
R1017	A C 13B
R1018	A C 13B
R1019	A C 12B
R1020	B C 13B
R1021	B C 12B
R1023	A C 8C
R1024	B C 7C
R1025	A C 7D
R1026	B C 7D
R1027	A C 7D
R1028	A C 7D
R1029	A C 7D
R1030	A C 7D
R1031	B C 7D
R1032	B C 8C
R1035	B C 8E
R1036	A C 9E
R1037	A C 7A
R1038	A C 9C
R1039	A C 9C
R1045	A C 8D
R1046	A C 8D
R1047	B C 8D
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R1052	B C 10C
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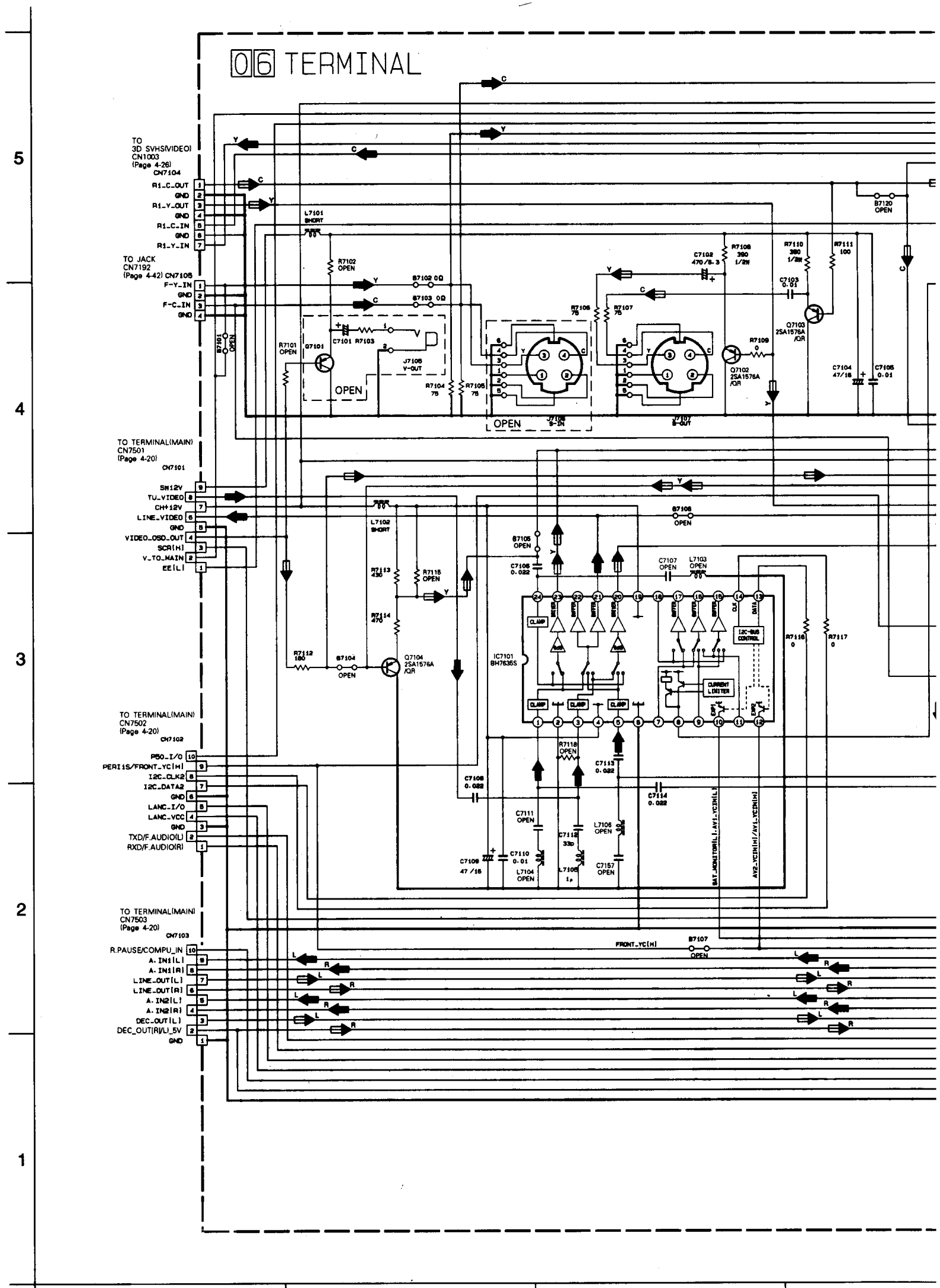
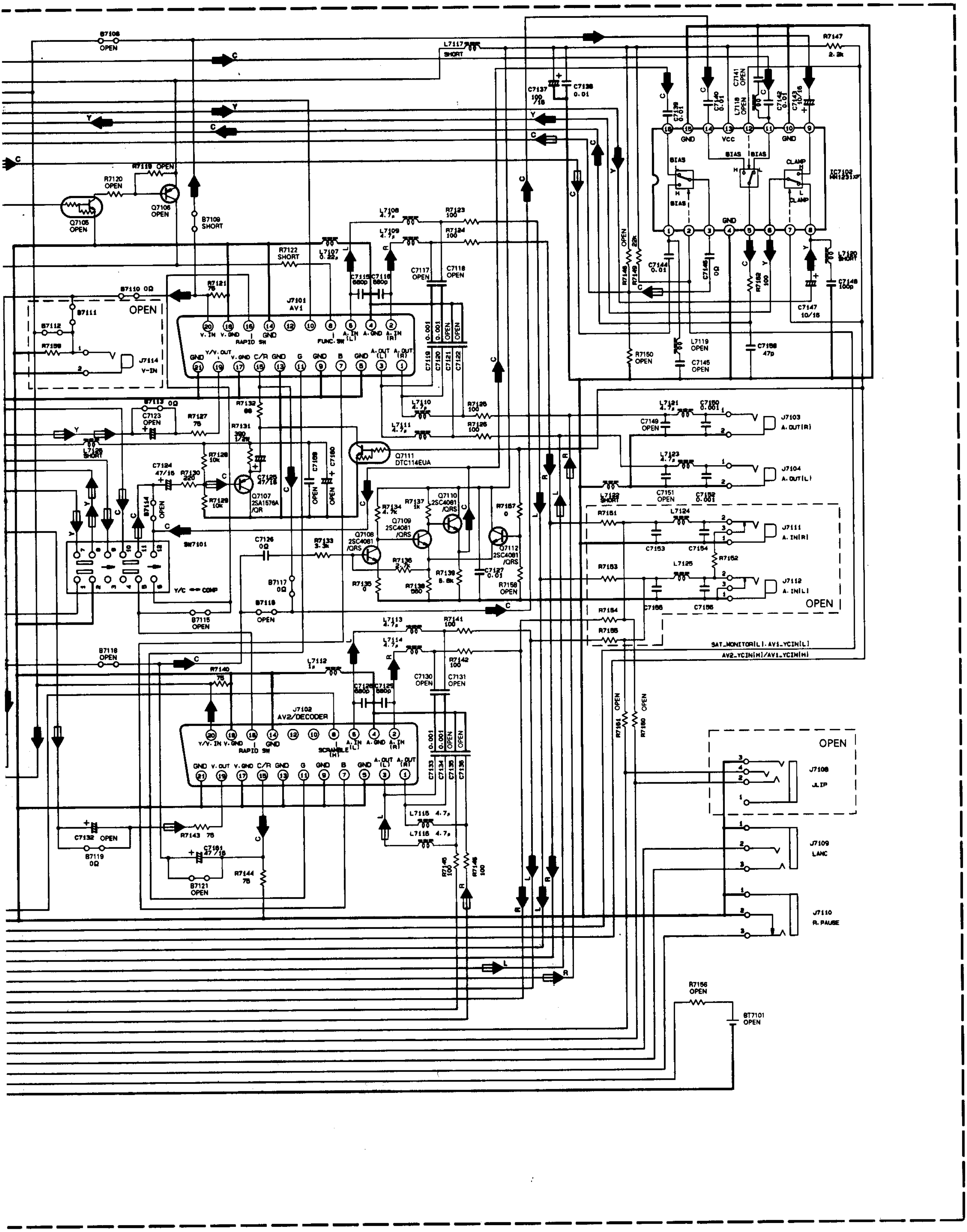
R1056	B C 8D
R1058	B C 8D
R1059	B C 8E
R1060	B C 8E
R1063	A C 7B
R1064	B C 7C
R1065	A C 7E
R1066	A C 7D
R1067	A C 7E
R1068	B C 7D
R1069	B C 7D
R1070	A C 10D
R1071	B C 11B
R1072	A C 7D
R1073	B C 7A
R1401	B C 6B
R1402	B C 6B
R1403	B C 6D
R1404	A C 6D
R1405	B C 6D
R1406	A C 6D
R1407	A C 6D
R1408	B C 5D
R1409	A C 6D
R1410	A C 5D
R1411	A C 5D
R1412	B C 5D
R1413	A C 5D
R1414	B C 6E
R1415	B C 6E
R1416	B C 5D
R1417	B C 4D
R1418	B C 4D
R1419	A C 4D
R1420	A C 5E
R1421	A C 4E
R1422	A C 4E
R1423	A C 4D
R1424	A C 5B
R1425	B C 6B
R1426	A C 3B
R1427	B C 3C
R1428	B C 3C
R1429	B C 3C
R1430	B C 3E
R1431	B C 3D
R1432	B C 3D
R1433	B C 3D
R1434	B C 3D
R1435	B C 4D
R1436	B C 5C
R1437	B C 5D
R1438	B C 5B
R1439	B C 5D
R1440	B C 5D
R1442	A C 5D
R1443	A C 5C
R1444	A C 6B
R1445	A C 5B
R1446	A C 5B
R1447	A C 5C
R1448	A C 4C
R1449	A C 5C
R1450	B C 6C
R1451	B C 6C
R1452	B C 6C
R1453	B C 5B
R1454	B C 5B
R1455	B C 5B
R1456	B C 5B
R1457	B C 5B
R1458	B C 4B
R1459	B C 4B
R1460	A C 5B
R1461	A C 6D
R1462	B C 4D
R1463	B C 6B
R1464	B C 5C
R1465	A C 6E
R1467	A C 6E
R1468	B C 4D
R1470	A C 4E
R1471	A C 4E
R1472	A C 4E

OTHER

REF.NO.	LOCATION
LC1401	A D 6B
LC1402	A D 6C
RA1401	A C 3C
RA1402	A C 3C
RA1403	A C 3D
RA1404	A C 3D
RA1405	A C 1E
RA1406	A C 2E
RA1407	A C 2B
RA1408	A C 1B
TP1001	A D 7E
VR1001	A D 10B
VR1002	A D 8E
VR1004	A D 11B
VR1401	A D 5C

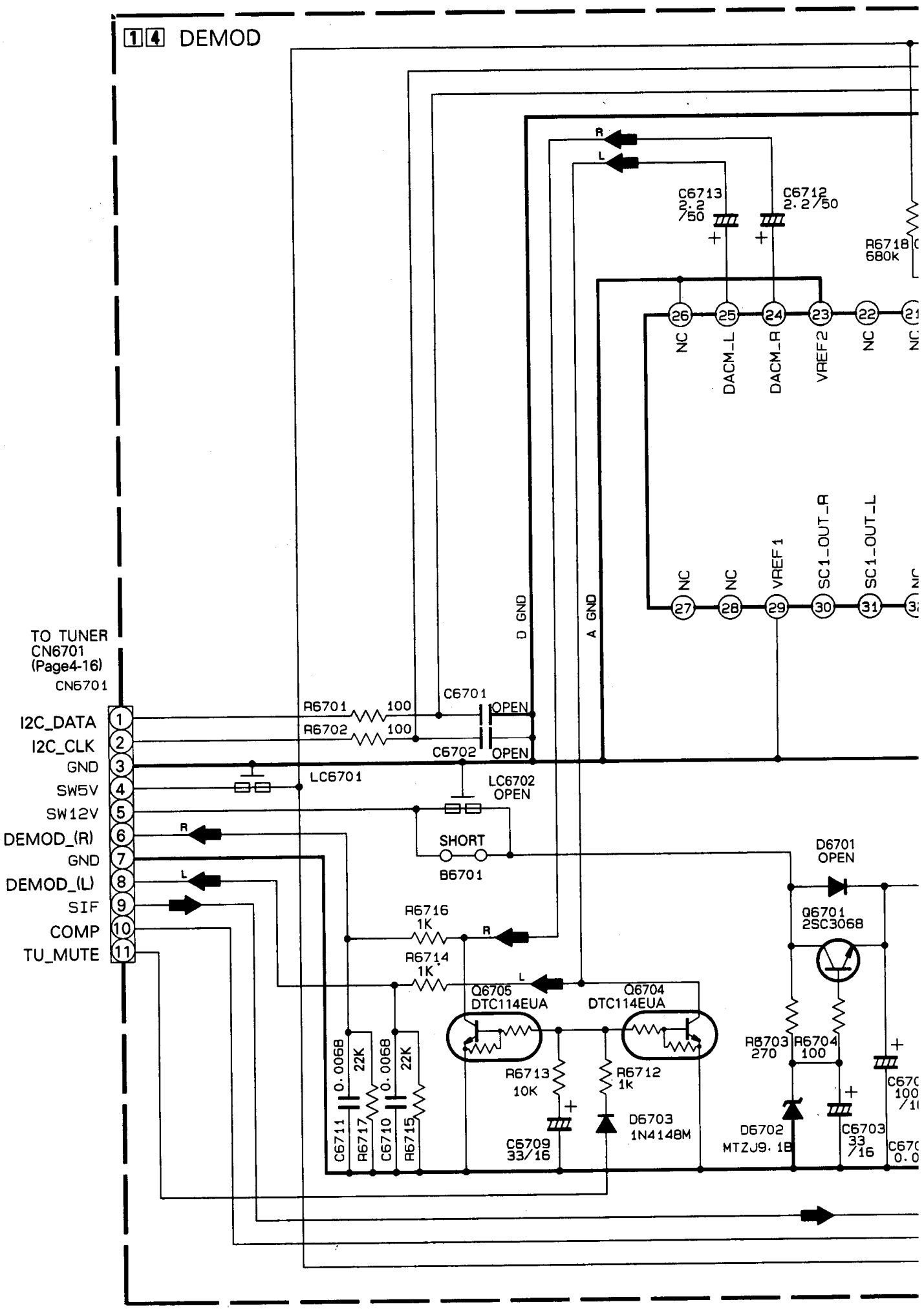

06 TERMINAL
TO 3D SVHS(VIDEO) CN1003 (Page 4-26) CN7104
R1_C_OUT
GND
R1_Y_OUT
GND
R1_C_IN
GND
R1_Y_IN
TO JACK CN7192 (Page 4-42) CN7105
F-Y_IN
GND
F-C_IN
GND
TO TERMINAL(MAIN) CN7501 (Page 4-20) CN7101
5V12V
TU_VIDEO
CH+12V
LINE_VIDEO
GND
VIDEO_OSD_OUT
SCR(H)
V_TO_MAIN
EE(L)
TO TERMINAL(MAIN) CN7502 (Page 4-20) CN7102
P50_I/O
PERI1S/FRONT_YC(H)
I2C_CLK2
I2C_DATA2
GND
LANC_I/O
LANC_VCC
GND
TXD/F.AUDIO(L)
RXD/F.AUDIO(R)
TO TERMINAL(MAIN) CN7503 (Page 4-20) CN7103
R.PAUSE/COMPU_IN
A.IN1(L)
A.IN1(R)
LINE_OUT(L)
LINE_OUT(R)
A.IN2(L)
A.IN2(R)
DEC_OUT(L)
DEC_OUT(R)/U_5V
GND
OPEN
IC7101 BH7635S
Q7101
Q7102 2SA1576A /QR
Q7103 2SA1576A /QR
Q7104 2SA1576A /QR
J7106 V-OUT
J7107 S-OUT
FRONT_YC(H)
BAT_MONITOR(L)/AV1_YC(H)(L)
AV2_YC(H)(H)/AV1_YC(H)(H)

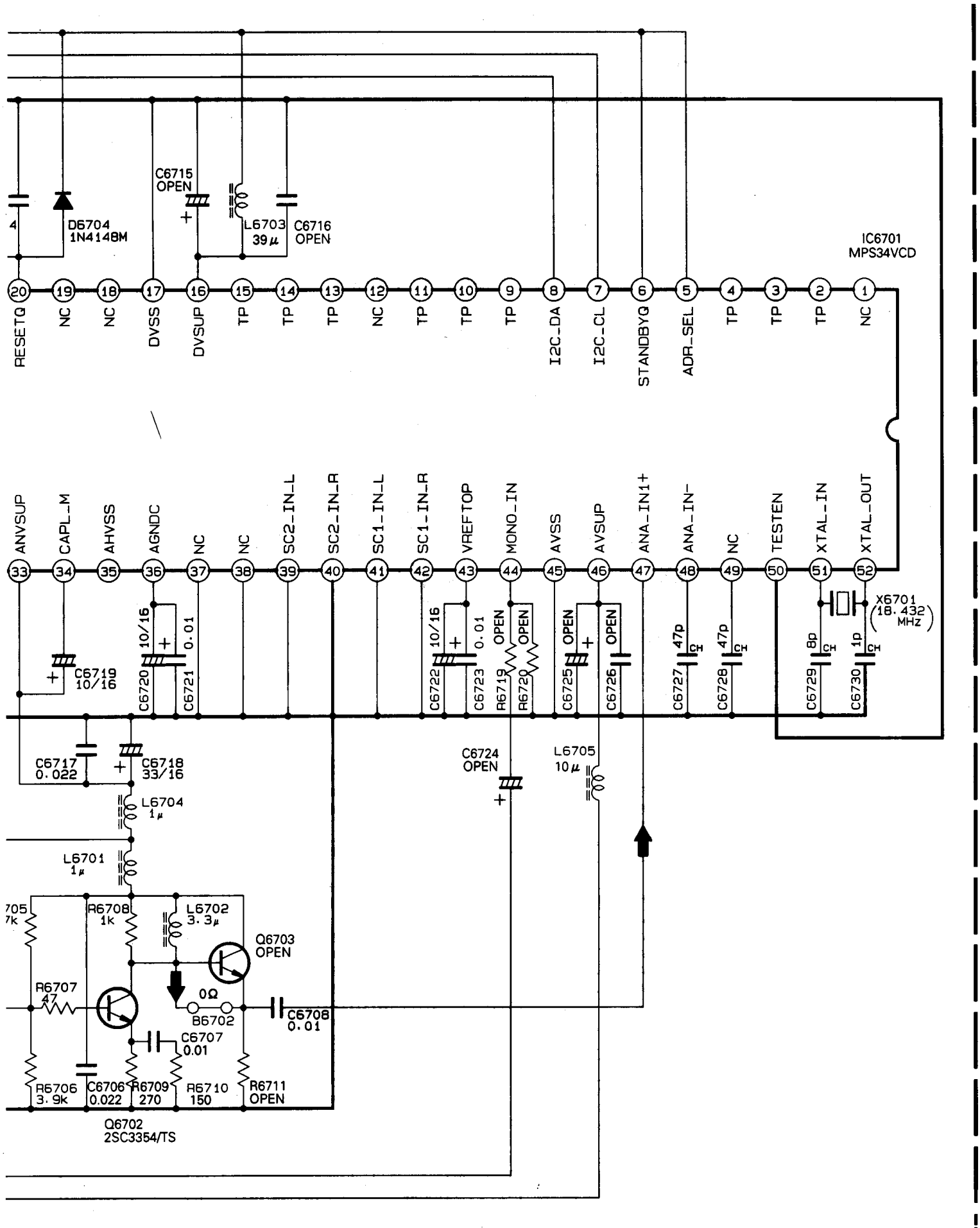


IC7102 MM1231XF
J7101 AV1
J7102 AV2/DECODER
J7103 A.OUT(R)
J7104 A.OUT(L)
J7111 A.IN(R)
J7112 A.IN(L)
J7114 V-IN
J7108 JLIP
J7109 LANC
J7110 R.PAUSE
SW7101
Q7107 2SA1576A /QR
Q7108 2SC4081 /QRS
Q7109 2SC4081 /QRS
Q7110 2SC4081 /QRS
Q7111 DTC114EUA
Q7112 2SC4081 /QRS
SAT_MONITOR(L)/AV1_YCIN(L)
AV2_YCIN(H)/AV1_YCIN(H)

COMPONENT PARTS LOCATION GUIDE <TERMINAL>

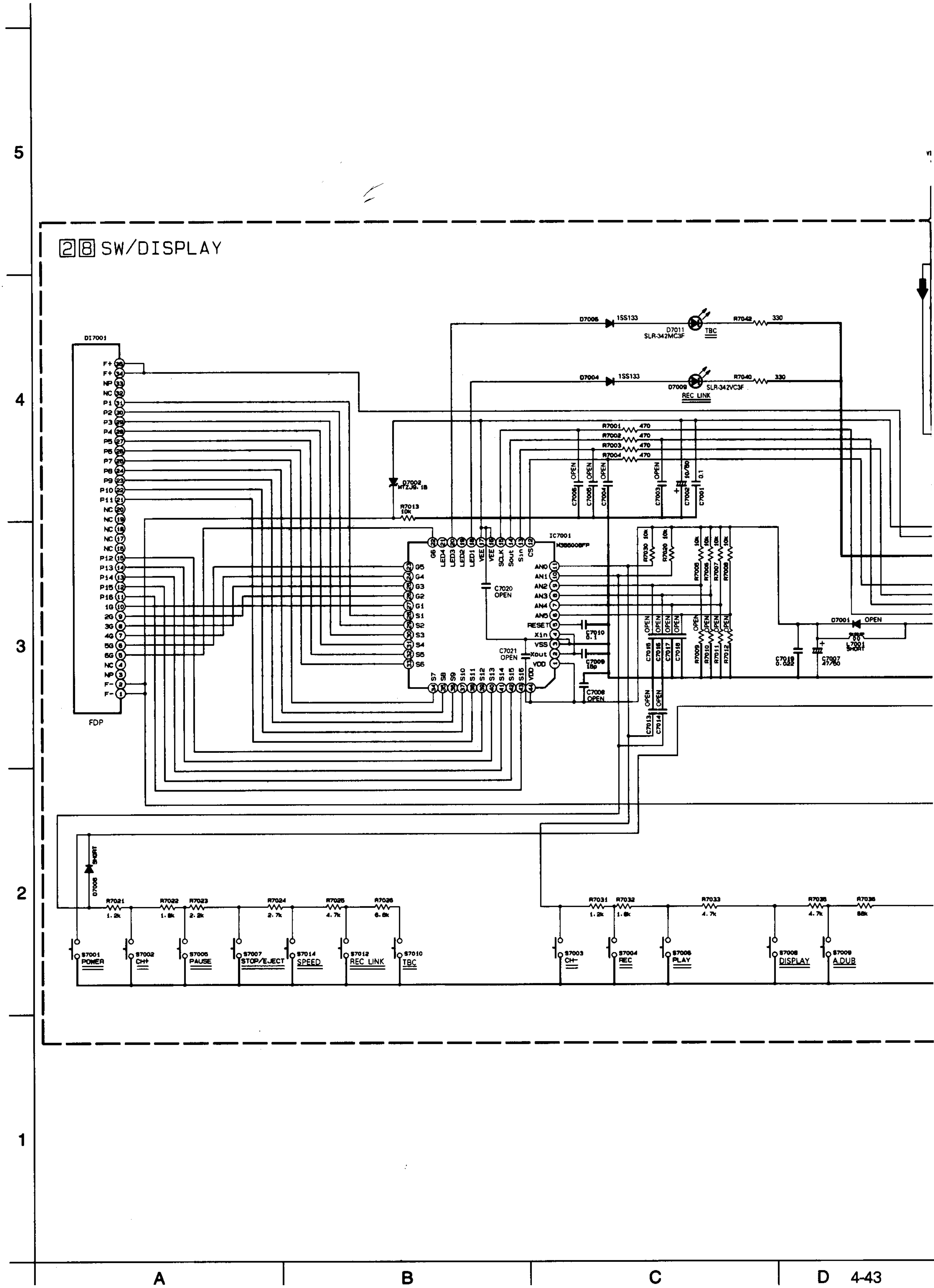
REF.NO.	LOCATION
CAPACITOR	
C7101	A D 3E
C7102	A D 11E
C7103	B C 12D
C7104	A D 11E
C7105	B C 11E
C7106	B C 9A
C7107	B C 9A
C7108	B C 9B
C7109	A D 10B
C7110	B C 9B
C7111	B C 9B
C7112	B C 8B
C7113	B C 9B
C7114	B C 9B
C7115	B C 5D
C7116	B C 5D
C7117	B C 5E
C7118	B C 5E
C7119	B C 5C
C7120	B C 5D
C7121	B C 5C
C7122	B C 5C
C7123	A D 9B
C7124	A D 9D
C7125	A D 9D
C7126	B C 12C
C7127	B C 12B
C7128	B C 5C
C7129	B C 5C
C7130	B C 5C
C7131	B C 5C
C7132	A D 7A
C7133	B C 5B
C7134	B C 5B
C7135	B C 5B
C7136	B C 5B
C7137	A D 14B
C7138	B C 14B
C7139	B C 14B
C7140	B C 14B
C7141	B C 13C
C7142	B C 13C
C7143	A D 13B
C7144	B C 15C
C7145	B C 14B
C7146	B C 14C
C7147	A D 13C
C7148	B C 13B
C7149	B C 3B
C7150	B C 3B
C7151	B C 3C
C7152	B C 3C
C7153	B C 2B
C7154	B C 2B
C7155	B C 2C
C7156	B C 2C
C7157	B C 10B
C7158	B C 13D
C7159	B C 14D
C7160	A D 14D
C7161	A D 6C
CONNECTOR	
CN7101	A D 10A
CN7102	A D 5A
CN7103	A D 2A
CN7104	A D 13E
CN7105	A D 2E
IC	
IC7101	A D 9B
IC7102	B C 14B
JACK	
J7101	A D 6D
J7102	A D 6B
J7103	A D 3B
J7104	A D 3C
J7105	A D 3D
J7106	A D 13D
J7107	A D 12D
J7108	A D 1C
J7109	A D 1D
J7110	A D 1B
J7111	A D 2B
J7112	A D 2C
J7114	A D 2D
COIL	
L7101	A D 11E
L7102	A D 12B
L7103	A D 8A
L7104	A D 9B
L7105	A D 8A
L7106	A D 10B
L7107	A D 5E
L7108	A D 5D
L7109	A D 5D
L7110	A D 5C
L7111	A D 5C
L7112	A D 5C
L7113	A D 6C
L7114	A D 5C
L7115	A D 5B
L7116	A D 5B
L7117	A D 13A
L7118	A D 13C
L7119	A D 15B
L7120	A D 13C
L7121	A D 3B
L7122	A D 3D
L7123	A D 4C
L7124	A D 2A
L7125	A D 3C
L7126	A D 14D
TRANSISTOR	
Q7101	B C 4E
Q7102	B C 12E
Q7103	B C 12E
Q7104	B C 10D
Q7105	B C 12B
Q7106	B C 12B
Q7107	B C 9D
Q7108	B C 13A
Q7109	B C 13B
Q7110	B C 12B
Q7111	B C 9D
Q7112	B C 12B
RESISTOR	
R7101	B C 4E
R7102	A D 3E
R7103	A D 3E
R7104	B C 12D
R7105	B C 14D
R7106	B C 12D
R7107	B C 12D
R7108	A D 12E
R7109	B C 12E
R7110	A D 12E
R7111	B C 13D
R7112	B C 10D
R7113	B C 10C
R7114	B C 10D
R7115	A D 10C
R7116	B C 9A
R7117	B C 9A
R7118	B C 9B
R7119	B C 12A
R7120	B C 12B
R7121	B C 7D
R7122	A D 6E
R7123	B C 5E
R7124	B C 5E
R7125	B C 4C
R7126	B C 4C
R7127	A D 7C
R7128	A D 9E
R7129	B C 9D
R7130	B C 9D
R7131	A D 9D
R7132	B C 8D
R7133	B C 13B
R7134	B C 12A
R7135	B C 12A
R7136	B C 13B
R7137	B C 12B
R7138	B C 12A
R7139	B C 12B
R7140	B C 7C
R7141	B C 4C
R7142	B C 4C
R7143	B C 7B
R7144	B C 6C
R7145	B C 5A
R7146	B C 5A
R7147	B C 14B
R7148	B C 14C
R7149	B C 14C
R7150	B C 14C
R7151	B C 3B
R7152	B C 2C
R7153	B C 3B
R7154	B C 3A
R7155	B C 3A
R7156	B C 5A
R7157	B C 12B
R7158	B C 12B
R7159	B C 2D
R7160	A D 2A
R7161	A D 2A
R7162	B C 15C
OTHER	
BT7101	A D 6B
SW7101	A D 9C


14 DEMOD
TO TUNER
CN6701
(Page4-16)
CN6701
I2C_DATA
I2C_CLK
GND
SW5V
SW12V
DEMOD_(R)
GND
DEMOD_(L)
SIF
COMP
TU_MUTE
R6701 100
R6702 100
C6701 OPEN
C6702 OPEN
LC6701
LC6702 OPEN
SHORT
B6701
D GND
A GND
C6713 2.2/50
C6712 2.2/50
R6718 680k
NC
DACM_L
DACM_R
VREF2
NC
SC1_OUT_R
SC1_OUT_L
VREF1
R6716 1K
R6714 1K
Q6705 DTC114EUA
Q6704 DTC114EUA
R6713 10K
R6712 1k
C6709 33/16
D6703 1N4148M
C6711 0.0068
R6717 22K
C6710 0.0068
R6715 22K
D6701 OPEN
Q6701 2SC3068
R6703 270
R6704 100
D6702 MTZJ9.1B
C6703 33/16


IC6701
MPS34VCD
RESETQ
NC
NC
DVSS
DVSUP
TP
TP
TP
NC
TP
TP
TP
I2C_DA
I2C_CL
STANDBYQ
ADR_SEL
TP
TP
TP
NC
ANVSUP
CAPL_M
AHVSS
AGNDC
NC
NC
SC2_IN_L
SC2_IN_R
SC1_IN_L
SC1_IN_R
VREFTOP
MONO_IN
AVSS
AVSUP
ANA_IN1+
ANA_IN-
NC
TESTEN
XTAL_IN
XTAL_OUT
D6704
1N4148M
C6715
OPEN
L6703
39μ
C6716
OPEN
X6701
(18.432
MHz)
C6719
10/16
C6720
10/16
C6721
0.01
C6722
10/16
C6723
0.01
R6719
OPEN
R6720
OPEN
C6725
OPEN
C6726
OPEN
C6727
47p
CH
C6728
47p
CH
C6729
8p
CH
C6730
1p
CH
C6717
0.022
C6718
33/16
L6704
1μ
L6701
1μ
C6724
OPEN
L6705
10μ
R6708
1k
L6702
3.3μ
Q6703
OPEN
R6707
47
0Ω
B6702
C6708
0.01
C6707
0.01
R6706
3.9k
C6706
0.022
R6709
270
R6710
150
R6711
OPEN
Q6702
2SC3354/TS

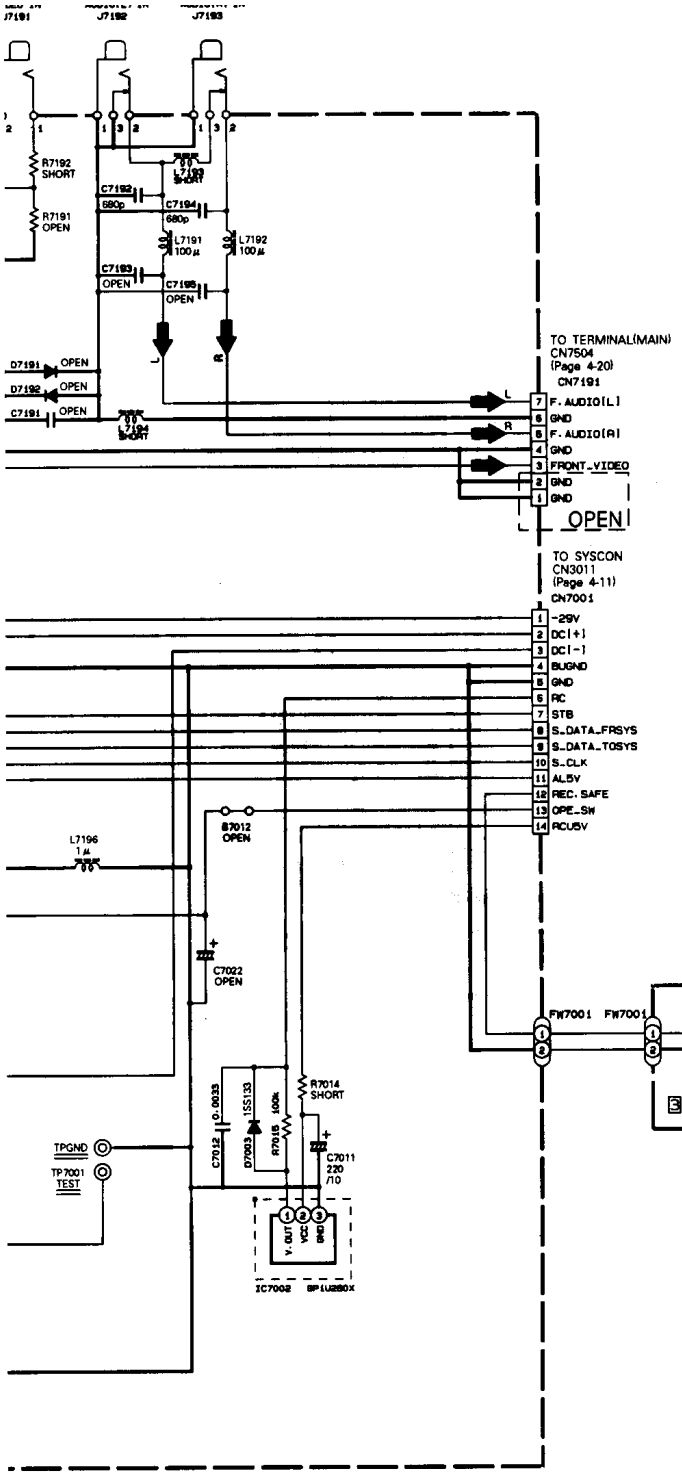
COMPONENT PARTS LOCATION GUIDE <DEMODULATOR>

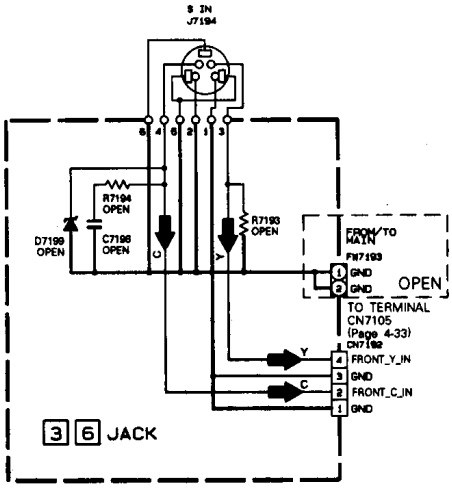
REF.NO.	LOCATION		
CAPACITOR			
C6701	B	C	4B
C6702	B	C	4B
C6703	A	D	5A
C6704	A	D	5C
C6705	B	C	1C
C6706	B	C	1D
C6707	B	C	1D
C6708	B	C	4D
C6709	A	D	1A
C6710	B	C	2A
C6711	B	C	3A
C6712	A	D	2B
C6713	A	D	1B
C6714	B	C	3C
C6715	A	D	4B
C6716	B	C	3B
C6717	B	C	3C
C6718	A	D	3D
C6719	A	D	2D
C6720	A	D	4C
C6721	B	C	3C
C6722	A	D	4D
C6723	B	C	4C
C6724	A	D	1B
C6725	A	D	4D
C6726	B	C	4C
C6727	B	C	4C
C6728	B	C	5C
C6729	B	C	5D
C6730	B	C	5D
CONNECTOR			
CN6701	A	D	3A
DIODE			
D6701	A	D	5B
D6702	A	D	5A
D6703	A	D	2A
D6704	A	D	3B
IC			
IC6701	A	D	5B
COIL			
L6701	A	D	3D
L6702	A	D	2D
L6703	A	D	4A
L6704	A	D	3D
L6705	A	D	4D
TRANSISTOR			
Q6701	A	D	5B
Q6702	A	D	2D
Q6703	B	C	2D
Q6704	B	C	2A
Q6705	B	C	2B
RESISTOR			
R6701	B	C	4B
R6702	B	C	4B
R6703	B	C	5A
R6704	B	C	5A
R6705	B	C	2C
R6706	B	C	1C
R6707	B	C	1D
R6708	B	C	2D
R6709	B	C	1D
R6710	B	C	1D
R6711	B	C	3D
R6712	B	C	2A
R6713	B	C	2A
R6714	B	C	2B
R6715	B	C	2A
R6716	B	C	2B
R6717	B	C	3A
R6718	B	C	3B
R6719	B	C	2C
R6720	B	C	2C
OTHER			
LC6701	A	D	3B
LC6702	A	D	3A

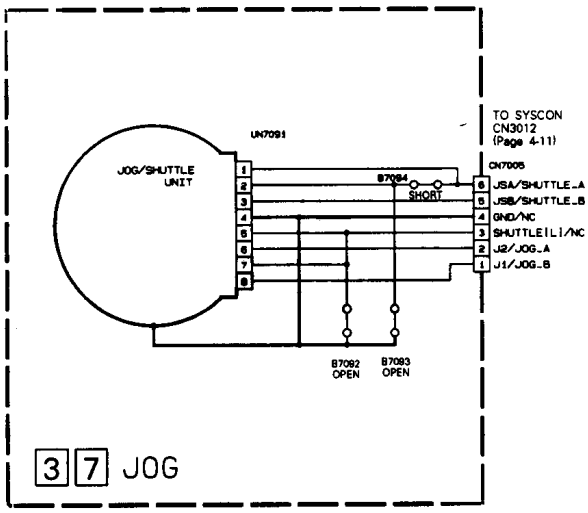


28 SW/DISPLAY
DI7001
FDP
IC7001
D7006 1SS133
D7011 SLR-342MC3F
TBC
R7042 330
D7004 1SS133
D7009 SLR-342VC3F
REC LINK
R7040 330
R7001 470
R7002 470
R7003 470
R7004 470
D7002 MTZJ5.1B
R7013 10k
C7020 OPEN
C7021 OPEN
C7010 0.1
C7009 18p
C7008 OPEN
D7001 OPEN
C7019 0.022
C7007 47/50
D7008 SHORT
R7021 1.2k
R7022 1.8k
R7023 2.2k
R7024 2.7k
R7025 4.7k
R7026 6.8k
S7001 POWER
S7002 CH+
S7005 PAUSE
S7007 STOP/EJECT
S7014 SPEED
S7012 REC LINK
S7010 TBC
R7031 1.2k
R7032 1.8k
R7033 4.7k
R7035 4.7k
R7036 68k
S7003 CH-
S7004 REC
S7006 PLAY
S7008 DISPLAY
S7009 A.DUB

A B C D


J7191
J7192
J7193
R7192 SHORT
R7191 OPEN
C7192 680p
C7194 680p
L7191 100μ
L7192 100μ
C7193 OPEN
C7195 OPEN
D7191 OPEN
D7192 OPEN
C7191 OPEN
L7193 SHORT
L7194 SHORT
TO TERMINAL(MAIN)
CN7504
(Page 4-20)
CN7191
7 F. AUDIO(L)
6 GND
5 F. AUDIO(R)
4 GND
3 FRONT_VIDEO
2 GND
1 GND
OPEN
TO SYSCON
CN3011
(Page 4-11)
CN7001
1 -29V
2 DC(+)
3 DC(-)
4 BUGND
5 GND
6 RC
7 STB
8 S_DATA_FRSYS
9 S_DATA_TOSYS
10 S_CLK
11 AL5V
12 REC. SAFE
13 OPE_SW
14 RCU5V
L7196 1μ
B7012 OPEN
C7022 OPEN
FW7001
FW7001
S7041
REC SAFE
32 REC SAFETY
R7014 SHORT
C7012 0.0033
D7003 1SS133
R7015 100k
C7011 220 /10
TPGND
TP7001 TEST
V. OUT
VCC
GND
IC7002 BP(U280X


S IN
J7194
R7194 OPEN
D7196 OPEN
C7196 OPEN
R7193 OPEN
FROM/TO MAIN
FW7193
1 GND
2 GND
OPEN
TO TERMINAL
CN7105
(Page 4-33)
CN7192
4 FRONT_Y_IN
3 GND
2 FRONT_C_IN
1 GND
36 JACK

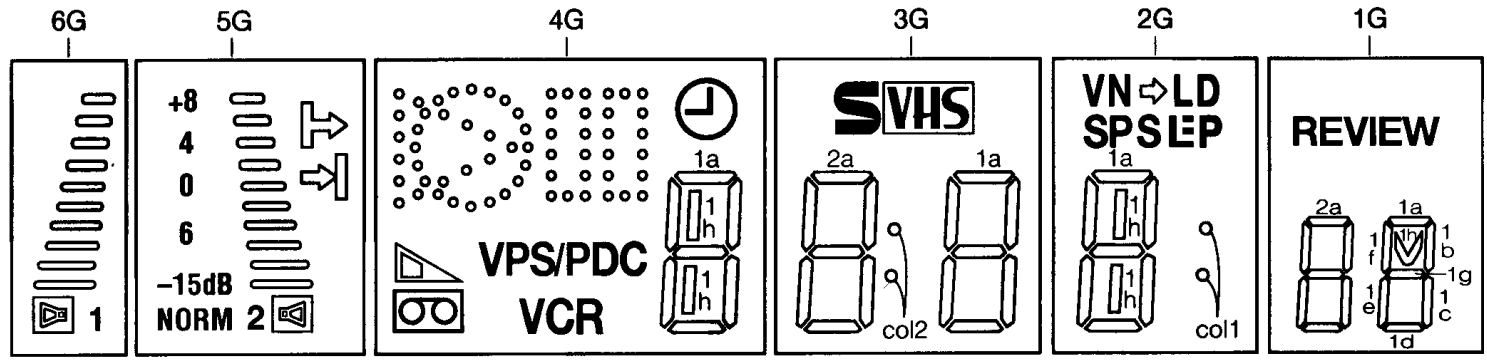

UN7091
JOG/SHUTTLE UNIT
B7094 SHORT
B7092 OPEN
B7093 OPEN
TO SYSCON
CN3012
(Page 4-11)
CN7005
6 JSA/SHUTTLE_A
5 JSB/SHUTTLE_B
4 GND/NC
3 SHUTTLE(L)/NC
2 J2/JOG_A
1 J1/JOG_B
37 JOG

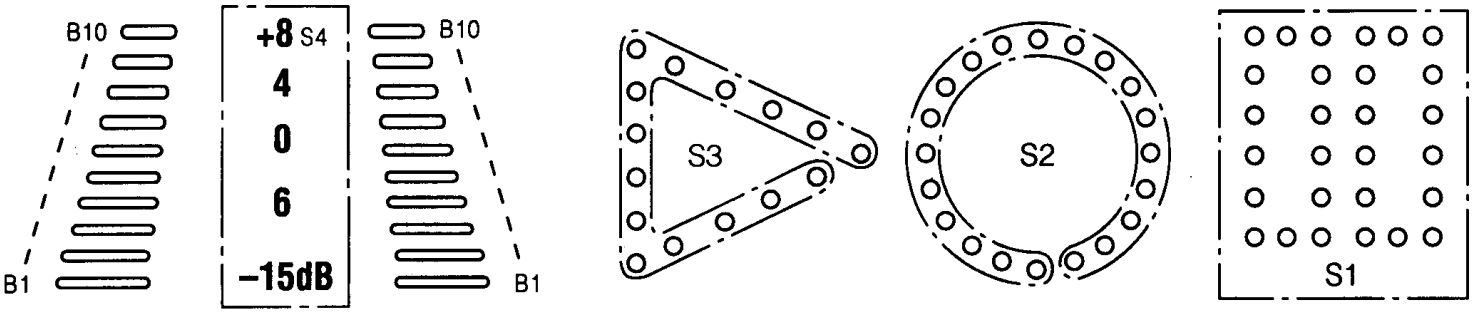
COMPONENT PARTS LOCATION GUIDE <SW/DISPLAY>

REF.NO.	LOCATION
CAPACITOR	
C7001	A D 5A
C7002	A D 3A
C7003	A D 4A
C7004	A D 4A
C7005	A D 4A
C7006	A D 4A
C7007	A D 2A
C7008	A D 6A
C7009	A D 6A
C7010	A D 6A
C7011	A D 2A
C7012	A D 4A
C7013	A D 7A
C7014	A D 6A
C7015	A D 6A
C7016	A D 6A
C7017	A D 6A
C7018	A D 6A
C7019	A D 2A
C7020	A D 5A
C7021	A D 6A
C7022	A D 9B
C7191	A D 10A
C7192	A D 11A
C7193	A D 10A
C7194	A D 10A
C7195	A D 10A
CONNECTOR	
CN7001	A D 1B
CN7191	A D 11B
DIODE	
D7001	A D 2A
D7002	A D 7A
D7003	A D 3A
D7004	A D 10B
D7006	A D 10B
D7008	A D 7A
D7009	A D 10B
D7011	A D 9B
D7191	A D 11A
D7192	A D 10A
IC	
IC7001	B C 5A
IC7002	A D 3A
JACK	
J7191	A D 11A
J7192	A D 10A
J7193	A D 10A
COIL	
L7001	A D 2A
L7191	A D 11A
L7192	A D 10A
L7193	A D 10A
L7194	A D 11A
L7196	A D 8A
RESISTOR	
R7001	A D 4A
R7002	A D 4A
R7003	A D 4A
R7004	A D 4A
R7005	A D 6A
R7006	A D 6A
R7007	A D 6A
R7008	A D 6A
R7009	A D 7A
R7010	A D 7A
R7011	A D 7A
R7012	A D 7A
R7013	A D 7A
R7014	A D 1A
R7015	A D 3A
R7020	A D 7A
R7021	A D 2A
R7022	A D 2A
R7023	A D 2A
R7024	A D 8A
R7025	A D 10B
R7026	A D 10B
R7030	A D 6A
R7031	A D 2A
R7032	A D 2A
R7033	A D 2A
R7035	A D 8A
R7036	A D 8A
R7040	A D 10B
R7042	A D 10B
R7191	A D 11A
R7192	A D 11A
SWITCH	
S7001	A D 11B
S7002	A D 3A
S7003	A D 3A
S7004	A D 2A
S7005	A D 1A
S7006	A D 1A
S7007	A D 1B
S7008	A D 8A
S7009	A D 8A
S7010	A D 9B
S7012	A D 10B
S7014	A D 8A
OTHER	
DI7001	A D 5A
FW7001	A D 9B
TP7001	A D 9A
TPGND	A D 9A

4.21 FDP GRID ASSIGNMENT AND ANODE CONNECTION

GRID ASSIGNMENT





(6G, 5G) (4G)

ANODE CONNECTION

	6G	5G	4G	3G	2G	1G
P 1	—	⇨	S2	1a	1a	1a
P 2	—	⇨|	S1	1b	1b	1b
P 3	—	S4	S3	1f	1f	1f
P 4	—	NORM	VPS/PDC	1g	1g	1g
P 5	1	2	🕘	1c	1c	1c
P 6	▷	◁	◺	1e	1e	1e
P 7	B10	B10	📼	1d	1d	1d
P 8	B9	B9	VCR	col2	1h	1h
P 9	B8	B8	1a	2a	col1	2a
P10	B7	B7	1b	2b	⇨	2b
P11	B6	B6	1f	2f	VN	2f
P12	B5	B5	1g	2g	LD	2g
P13	B4	B4	1c	2c	SP	2c
P14	B3	B3	1e	2e	S (SEP)	2e
P15	B2	B2	1d	2d	= (SEP)	2d
P16	B1	B1	1h	SVHS	LP (SEP)	REVIEW

4.22 VOLTAGE CHARTS

<VIDEO/N.AUDIO>

MODE PIN NO.	REC	PLAY
IC1		
1	2.5	2.5
2	2.5	2.5
3	0	0
4	2.5	2.5
5	0	0
6	2.8	2.8
7	2.5	2.5
8	2.5	2.5
9	2.5	2.5
10	2.5	2.5
11	2.5	2.5
12	5.0	5.0
13	1.9	1.4
14	1.9	1.4
15	2.6	3.0
16	1.5	0.7
17	1.8	1.8
18	2.3	2.3
19	3.1	3.1
20	2.7	2.7
21	2.3	2.3
22	1.9	1.9
23	3.0	3.0
24	2.2	2.2
25	1.4	1.4
26	2.1	2.1
27	0	0
28	4.9	4.9
29	1.6	1.9
30	3.0	3.0
31	2.8	2.8
32	0	0
33	0	0
34	0	0
35	3.0	3.0
36	5.0	5.0
37	0	0
38	5.0	5.0
39	3.3	3.3
40	5.0	5.0
41	5.0	5.0
42	1.9	1.9
43	5.0	5.0
44	2.5	2.5
45	0	0
46	2.0	2.0
47	0	0
48	0	0
49	0	0
50	0.4	0.4
51	0	0
52	1.3	2.4
53	3.0	2.8
54	1.9	1.9
55	2.1	2.1
56	2.8	2.3
57	0	0

MODE PIN NO.	REC	PLAY
58	3.0	3.0
59	3.3	3.3
60	2.1	2.1
61	4.9	4.9
62	4.9	4.9
63	4.9	4.9
64	0	0
65	0.9	2.6
66	4.9	4.9
67	4.9	4.9
68	0	0
69	2.8	2.8
70	2.7	2.7
71	2.1	2.1
72	2.3	2.1
73	-	-
74	2.7	1.1
75	-	-
76	2.3	2.3
77	4.5	4.5
78	2.7	2.7
79	4.3	2.1
80	0	0
81	-	-
82	1.2	1.2
83	2.3	2.3
84	0	1.3
85	0	0
86	2.3	2.3
87	2.2	2.2
88	2.3	2.3
89	2.3	2.3
90	4.9	4.9
91	0	0
92	0	0
93	0	0
94	0	0
95	0.5	0.5
96	5.0	5.0
97	0.3	0
98	5.0	5.0
99	0.5	2.5
100	2.5	2.5
IC2		
1	2.7	2.7
2	0	0
3	2.7	2.7
4	4.9	0
5	2.7	2.7
6	5.0	5.0
7	2.0	2.0
8	0	0
Q1		
E	3.4	3.4
C	0	0
B	2.7	2.7
Q6		
E	2.7	2.7

MODE PIN NO.	REC	PLAY
C	0	0
B	2.1	2.1
Q13		
E	1.1	1.1
C	3.9	3.9
B	1.7	1.7
Q2		
E	0	-
C	2.1	-
B	0	-
Q14		
E	3.2	3.2
C	4.9	4.9
B	3.9	3.9
Q15		
E	3.8	3.8
C	0	0
B	3.2	3.2
Q16		
E	4.9	4.9
C	4.9	0
B	0.2	5.0
Q17		
E	0	0
C	0	0
B	3.0	3.0
Q18		
E	0	0
C	0	0
B	3.0	3.0
Q47		
E	4.9	4.9
C	2.3	2.3
B	2.8	2.8
Q48		
E	1.9	1.9
C	0	0
B	1.0	1.0
Q49		
E	2.1	2.1
C	4.9	4.9
B	2.8	2.8
Q55		
E	0	0
C	0	0
B	3.0	3.0
Q152		
E	5.0	2.7
C	0	0
B	4.5	2.1
Q153		
E	2.1	2.1
C	4.9	4.9
B	2.7	2.7
Q401		
E	11.5	-
C	11.5	-
B	10.8	11.5

MODE PIN NO.	REC	PLAY
Q402		
E	0	-
C	0	11.5
B	4.9	0
Q403		
E	0	-
C	0	-
B	4.9	-
Q404		
E	7.7	0
C	0	-
B	7.1	0
Q405		
E	10.0	0
C	0	-
B	9.5	0
Q2001		
E	-19.0	0
C	0	0
B	-25.3	0.7
Q2002		
E	-19.0	0
C	0	0
B	-24.9	0.7
Q2003		
E	5.0	5.0
C	-25.1	4.9
B	5.0	0
Q2051		
E	0	0
C	8.1	0.2
B	0	0.2
Q2052		
E	11.5	11.5
C	11.3	1.1
B	10.7	11.5
Q2053		
E	0	0
C	0	11.4
B	4.5	0
Q2054		
E	11.3	1.1
C	11.2	0
B	10.5	1.1
Q2055		
E	0	0
C	0	1.1
B	5.0	0
Q2061		
E	0	0
C	7.9	0.2
B	0	0.2
Q2062		
E	11.2	0
C	11.1	0.2
B	10.4	0
Q2063		
E	0	0

MODE PIN NO.	REC	PLAY
C	0	0
B	5.0	0
Q2102		
E	0	-
C	0	-
B	4.9	-
CN1		
1	0	-
2	0	-
3	0	-
4	0	-
5	2.3	-
6	2.3	-
7	2.4	-
8	2.4	-
9	2.5	-
10	2.5	0
11	2.5	0
12	0	0
13	0	0
CN101		
1	0	0
2	-	-
3	4.8	4.8
4	-	-
5	4.9	4.9
6	0	0
7	0	0
8	0	0
9	0.5	0
10	0	0
11	0	0
12	0	0
13	5.0	5.0
14	4.9	4.9
15	0	0
16	0	0
17	0.4	0.4
18	0	0
19	3.4	3.4
20	0	0
21	0	0
22	2.1	2.1
23	0	0
24	0	0
25	0	0
26	0	0
27	0	0
28	0	0
29	0	0
30	0	0
CN102		
1	1.4	1.1
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0

MODE PIN NO.	REC	PLAY
7	1.4	1.1
8	1.9	1.9
9	1.3	2.3
10	5.0	5.0
11	2.4	2.4
12	2.9	2.9
13	0	0
14	0	0
15	2.3	2.3
16	0	0
17	4.9	4.9
18	4.9	4.9
19	4.9	4.9
20	5.0	5.0
21	2.3	2.3
22	0	0
23	2.3	2.3
24	0	0
25	0	0
26	2.4	2.4
27	1.8	1.8
28	0	0
29	0	0
30	0	0
CN2001		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.2	2.5
7	2.5	2.5
CN2002		
1	0	0
2	0	0

<ON SCREEN>

MODE PIN NO.	REC	PLAY
IC201		
1	0	0
2	2.7	2.7
3	5.0	5.0
4	0	0
5	4.7	4.7
6	2.5	2.5
7	2.5	2.5
8	5.0	5.0
9	3.0	3.0
10	4.5	4.5
11	1.2	1.2
12	5.0	5.0
13	2.9	2.9
14	2.9	2.9
15	0	0
16	1.2	1.2

MODE PIN NO.	REC	PLAY
17	0	0
18	5.0	5.0
19	2.3	2.3
20	0	0
21	2.3	2.3
22	0.5	0.5
23	5.0	5.0
24	2.9	2.9
25	2.5	2.5
26	5.0	5.0
27	4.7	4.7
28	3.7	3.7
29	5.0	5.0
30	5.0	5.0
Q207		
E	3.0	3.0
C	0	0
B	2.3	2.3
Q208		
E	2.3	2.3
C	5.0	5.0
B	3.0	3.0

<FMA>

MODE PIN NO.	REC	PLAY
IC2201		
1	2.4	2.4
2	0	0
3	2.4	2.4
4	0	0
5	0	0
6	2.5	2.5
7	2.0	2.0
8	0	0
9	0	0
10	0	0
11	0	0
12	2.0	2.0
13	0	0
14	0	0
15	0	0
16	2.5	2.5
17	0.6	0.3
18	2.5	2.5
19	2.5	2.5
20	2.5	0.1
21	2.5	0
22	2.6	0.6
23	0	0
24	2.5	0.7
25	4.9	4.9
26	2.6	0
27	0	-
28	4.2	0
29	4.4	1.8

MODE PIN NO.	REC	PLAY
30	4.4	1.7
31	1.0	3.0
32	2.5	2.5
33	2.5	2.5
34	0.7	0.3
35	2.5	2.5
36	0	0.2
37	1.7	1.7
38	0	0
39	0	0
40	5.0	5.0
41	0	0
42	5.0	5.0
43	4.9	4.9
44	3.2	3.2
45	0	0
46	4.8	4.8
47	2.5	2.5
48	2.5	2.5
49	3.4	2.8
50	1.3	2.9
51	0	0
52	0	0
53	4.4	4.4
54	0	0
55	0	0
56	0	0
57	4.4	4.4
58	10.0	10.0
59	4.5	4.5
60	0	0.8
61	2.5	2.5
62	2.4	2.4
63	4.4	4.4
64	4.5	4.5
Q2151		
E	4.9	4.9
C	5.0	5.0
B	2.1	2.1
Q2152		
E	5.0	5.0
C	4.9	4.9
B	0	0.2
Q2201		
E	0	0
C	0	0
B	0	0
Q2202		
E	0	0
C	0	0
B	0	0
Q2203		
E	5.2	5.2
C	0	0
B	5.1	5.1
Q2204		
E	0	0
C	5.1	5.1

MODE PIN NO.	REC	PLAY
B	0	0.2
Q2253		
E	0	0
C	0	0
B	4.6	4.6
Q2255		
E	0	0
C	0	0
B	4.2	4.2
Q2256		
E	0	0
C	4.2	4.2
B	0	0
Q2258		
E	4.5	0
C	4.4	1.7
B	0.2	5.0

<SYSTEM CONTROL>

MODE PIN NO.	REC	PLAY
IC3001		
1	2.8	2.5
2	0	0
3	1.9	2.5
4	2.5	2.5
5	2.5	2.5
6	2.6	2.6
7	2.5	2.5
8	2.5	2.5
9	5.1	5.1
10	5.1	5.1
11	0	0
12	0	0.2
13	0	1.1
14	4.6	4.6
15	5.1	5.1
16	1.3	2.9
17	0	0.7
18	0	0
19	3.4	2.8
20	0.2	0.2
21	4.1	4.1
22	4.2	0
23	0	0
24	5.0	5.0
25	0	0
26	5.1	5.1
27	5.1	5.1
28	5.1	5.1
29	5.1	5.1
30	0	0
31	5.1	5.1
32	0	0
33	0	0
34	0	5.1

MODE PIN NO.	REC	PLAY
35	0	0
36	0	0
37	5.0	5.0
38	1.8	1.8
39	4.5	4.5
40	0	0
41	5.1	5.1
42	4.6	4.6
43	0	0
44	0	0
45	5.1	5.1
46	5.1	0
47	0	0
48	5.1	0
49	4.9	4.9
50	4.9	4.9
51	5.1	5.1
52	1.0	1.0
53	4.5	4.5
54	-	-
55	-	-
56	0	0
57	0	0
58	5.0	5.0
59	3.0	3.0
60	0	0
61	0	0
62	0	0
63	0	0
64	-	-
65	-	-
66	5.1	5.1
67	-	-
68	0	0
69	-	-
70	5.1	5.1
71	5.1	5.1
72	5.0	5.0
73	5.1	5.1
74	0	0
75	4.7	4.7
76	4.7	4.7
77	3.1	3.1
78	5.1	0
79	0	5.1
80	0	0
81	0	0
82	5.1	5.1
83	-	-
84	0	0
85	0	0
86	4.7	4.7
87	5.1	5.1
88	4.8	0
89	0	0
90	0	0
91	3.0	3.0
92	5.0	5.0

MODE PIN NO.	REC	PLAY
93	5.1	5.1
94	5.1	5.1
95	5.1	5.1
96	0	0
97	5.1	5.1
98	0.2	0.2
99	0	-
100	-	-
101	2.5	2.5
102	1.2	1.2
103	0	0
104	0	0
105	5.1	5.1
106	5.0	5.0
107	0	0
108	1.6	1.6
109	5.1	5.1
110	0	0
111	0	0
112	2.5	2.5
IC3002		
1	5.1	5.1
2	5.0	5.0
3	0	0
IC3003		
1	0	0
2	0	0
3	0	0
4	0	0
5	4.7	4.7
6	4.7	4.7
7	0	0
8	5.1	5.1
IC3004		
1	0	0
2	12.2	12.2
3	-	0
4	0	0
5	0	0
6	12.2	12.2
7	0	0.3
8	12.2	12.2
9	0	0
IC3301		
1	5.0	-
2	5.0	-
3	0	-
4	0	5.0
5	3.0	-
6	3.0	-
7	5.0	-
8	5.0	0
9	0	-
10	0	-
11	5.0	-
12	5.0	-
13	4.7	-
14	4.7	-

MODE PIN NO.	REC	PLAY
15	0	-
16	0	-
17	5.0	-
18	5.0	-
19	2.2	-
20	2.3	-
21	0	-
22	0	-
23	0	-
24	0	-
25	5.0	-
26	0	-
27	0	-
28	0	-
29	0	-
30	0	-
31	5.0	0
32	5.0	0
33	0	-
34	0	-
35	0	-
36	0	-
37	0	-
38	0	-
39	0	-
40	0	-
41	0.5	0.7
42	2.2	-
IC3501		
1	0	-
2	12.3	-
3	3.0	0.3
4	0.8	-
5	0	-
6	12.3	-
7	3.0	0.3
8	3.5	-
9	0	-
Q3501		
E	3.4	-
C	3.5	-
B	4.1	-
Q3001		
E	0	0
C	12.2	12.2
B	0	0
Q3002		
E	0	0
C	4.8	4.7
Q3003		
E	0	0
C	5.0	5.0
Q3004		
E	0	0
C	0	0
B	0.7	0.7
Q3005		
E	5.1	5.1

MODE PIN NO.	REC	PLAY
C	5.8	5.8
B	5.7	5.7
Q3008		
E	0	0
C	4.9	4.9
B	0	0
Q4001		
E	0	0
C	0	0
B	5.0	5.0
CN3001		
1	11.5	11.5
2	0	0
3	1.3	1.3
4	0	0
5	1.6	1.6
CN3002		
1	0	0.4
2	0	0.4
CN3003		
1	0	0
2	2.5	2.5
3	2.5	2.5
4	5.0	5.0
5	0	0
6	5.1	5.1
7	0	0
8	11.5	11.5
CN3004		
1	5.1	5.1
2	5.1	5.1
3	0	0
4	0	0
CN3011		
1	5.1	5.1
2	0	0
3	5.1	5.1
4	5.1	5.1
5	4.5	4.5
6	5.1	5.1
7	1.1	1.1
8	4.3	4.5
9	5.1	5.1
10	0	0
11	0	0
12	-19.5	-19.5
13	-15.7	-15.7
14	-28.4	-28.4
CN3012		
1	0.5	0.5
2	0.5	0.5
3	0	0
4	0	0
5	0	0
6	0	0
CN3501		
1	0	-
2	0	-

MODE PIN NO.	REC	PLAY
3	0	-
4	5.0	-
5	0.5	-
6	0.4	-

<SW. REG>

MODE PIN NO.	REC	PLAY
IC5301		
1	5.8	5.8
2	5.0	5.0
3	4.9	4.9
4	0	0
5	12.2	12.2
6	11.5	11.5
7	12.2	12.2
8	1.2	1.2
9	1.2	1.2
10	10.8	10.8
Q5101		
S	0	0
D	160.7	157.0
G	-	-
Q5102		
E	0	0
C	-	-
B	-	-
Q5301		
E	21.0	21.0
C	11.5	11.5
B	21.0	21.0
Q5302		
E	0	0
C	20.9	21.1
B	0	0
Q5303		
E	5.2	5.2
C	5.8	5.8
B	5.8	5.8
Q5304		
E	11.5	11.5
C	12.3	12.3
B	12.2	12.2
Q5305		
E	12.2	12.2
C	12.2	12.2
B	0.6	0.6
Q5306		
E	12.2	12.2
C	11.5	11.5
B	10.9	10.9
Q5310		
E	0	0
C	0	0
B	4.6	4.6

MODE PIN NO.	REC	PLAY
Q5311		
E	32.1	32.1
C	32.1	32.1
B	31.5	31.5
Q5312		
E	-15.4	-15.4
C	-15.6	-15.6
B	-16.1	-16.1

<TUNER>

MODE PIN NO.	REC	PLAY
IC6080		
1	1.2	1.2
2	1.7	1.7
3	2.9	2.9
4	0	0
5	4.1	4.1
6	4.1	4.1
7	4.1	4.1
8	11.5	11.5
Q6030		
E	0.7	0.7
C	0	0
B	0	0
Q6031		
E	0	0
C	0	0
B	5.0	5.0
Q6032		
E	0	0
C	0	0
B	4.3	4.3
CN6701		
1	-	-
2	4.7	4.7
3	4.7	4.7
4	0	0
5	4.9	4.9
6	11.5	11.5
7	0	0
8	0	0
9	0	0
10	2.4	2.4
11	0	0
12	4.4	4.4

<C.BOX CTL>

MODE PIN NO.	REC	PLAY
IC3961		
1	0	-
2	5.0	-

MODE PIN NO.	REC	PLAY
3	5.0	-
4	0	-
5	5.0	-
6	5.0	-
7	5.0	0
8	5.0	-
IC3962		
1	0	-
2	5.0	-
3	5.0	-
4	0	-
5	5.0	-
6	5.0	-
7	0	-
8	5.0	-

<TERMINAL(MAIN)>

MODE PIN NO.	REC	PLAY
CN7501		
1	0.2	5.0
2	0	0
3	0	0
4	2.3	2.3
5	0	0
6	1.2	1.2
7	11.5	11.5
8	0.7	0.7
9	11.5	11.5
CN7502		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	4.8	4.8
8	4.7	4.7
9	5.1	5.1
10	5.1	5.1
CN7503		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
CN7504		
1	0	0
2	0	0
3	0	0

MODE PIN NO.	REC	PLAY
4	0	0
5	0	0

<VSC>

MODE PIN NO.	REC	PLAY
IC2501		
1	0	-
2	0	-
3	0	-
4	0	-
5	0	-
6	0	-
7	0	-
8	0	-
9	0	-
10	4.5	2.1
11	5.0	2.6
12	0	-
13	0	-
14	0	-
15	0	-
16	0	-
17	0	-
18	5.0	-
19	0	1.6
20	5.0	-
21	0	-
22	0	-
23	0	-
24	5.0	-
25	5.0	-
26	5.0	-
27	5.0	-
28	5.0	-
29	5.0	-
30	5.0	-
31	5.0	-
32	0	-
33	2.2	-
34	0.4	0.6
35	0	-
36	0	-
37	5.0	-
38	0	-
39	0	-
40	0	-
41	0	-
42	0	-
43	2.5	-
44	0	-
45	2.5	-
46	2.5	-
47	2.5	-
48	2.5	-

MODE PIN NO.	REC	PLAY
49	2.5	-
50	2.5	-
51	2.5	-
52	2.5	-
53	5.0	-
54	0	0.5
55	1.0	0
56	0	-
57	0	-
58	5.0	-
59	5.0	-
60	5.0	0
61	5.0	-
62	0	-
63	0	-
64	0	-
Q2501		
E	0	-
C	0	-
B	0	0.5
Q2502		
E	0	-
C	0	0.4
B	5.0	0

<3D SVHS (VIDEO)>

MODE PIN NO.	REC	PLAY
IC1001		
1	3.0	3.0
2	0	3.9
3	2.2	2.2
4	1.8	1.8
5	2.9	2.9
6	2.8	2.8
7	2.3	2.3
8	3.0	3.0
9	2.3	2.3
10	2.8	2.8
11	2.8	2.8
12	2.2	2.2
13	4.9	4.9
14	4.9	4.9
15	2.5	2.5
16	3.0	2.8
17	0	0
18	2.9	2.1
19	0.5	1.1
20	0	0.4
21	2.3	2.3
22	2.8	2.8
23	2.3	2.3
24	0	0
25	3.4	3.4
26	2.1	2.1

MODE PIN NO.	REC	PLAY
27	2.8	2.8
28	2.8	2.8
29	2.8	2.8
30	0	0
31	2.8	2.8
32	0	0
33	2.8	2.8
34	4.9	4.9
35	2.8	2.8
36	1.9	1.9
37	3.1	3.1
38	2.9	2.9
39	2.4	2.4
40	2.7	2.7
41	2.9	2.9
42	2.8	2.8
43	3.1	3.1
44	2.2	2.2
45	0	0
46	2.8	2.8
47	1.9	1.1
48	2.8	2.8
49	4.9	4.9
50	2.8	2.8
51	4.9	4.9
52	2.8	2.8
53	1.9	1.9
54	2.6	3.6
55	0	0
56	2.3	2.3
IC1002		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
IC1006		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-

MODE PIN NO.	REC	PLAY
9	-	-
10	-	-
11	2.7	2.7
12	1.5	1.5
13	0.8	0.8
14	3.3	3.3
15	3.4	3.2
16	1.3	1.3
17	4.0	4.0
18	1.1	1.1
19	4.8	4.8
20	0.7	0.7
IC1007		
1	-	-
2	-	-
3	-	-
4	-	-
5	2.2	2.2
6	2.0	2.0
7	3.7	3.7
8	4.9	4.9
Q1004		
E	-	-
C	-	-
B	-	-
Q1005		
E	0	0
C	0	0
B	2.6	2.6
Q1006		
E	3.9	3.9
C	0	0
B	3.3	3.3
Q1007		
E	1.4	1.4
C	3.5	3.5
B	2.1	2.1
Q1012		
E	2.5	2.5
C	4.9	4.9
B	3.2	3.2
Q1014		
E	0	0
C	1.2	1.2
B	0.6	0.6
Q1015		
E	0.6	0.6
C	3.2	3.2
B	1.3	1.3
Q1016		
E	-	-
C	-	-
B	-	-
Q1021		
E	3.0	3.0
C	0	0
B	2.4	2.4
Q1022		

MODE PIN NO.	REC	PLAY
E	0	0
C	4.4	0
B	0.3	3.9
CN1001		
1	0	0
2	-	-
3	4.8	4.8
4	-	-
5	4.9	4.9
6	0	0
7	0	0
8	0	0
9	0.5	0
10	0	0
11	0	0
12	0	0
13	5.0	5.0
14	4.9	4.9
15	0	0
16	0	0
17	0.4	0.4
18	0	0
19	3.4	3.4
20	0	0
21	0	0
22	2.1	2.1
23	0	0
24	0	0
25	0	0
26	0	0
27	0	0
28	0	0
29	0	0
30	0	0
CN1002		
1	1.4	1.1
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	1.4	1.1
8	1.9	1.9
9	1.3	2.3
10	5.0	5.0
11	2.4	2.4
12	2.9	2.9
13	0	0
14	0	0
15	2.3	2.3
16	0	0
17	4.9	4.9
18	4.9	4.9
19	4.9	4.9
20	5.0	5.0
21	2.3	2.3
22	0	0
23	2.3	2.3

MODE PIN NO.	REC	PLAY
24	0	0
25	0	0
26	2.4	2.4
27	1.8	1.8
28	0	0
29	0	0
30	0	0
CN1003		
1	2.1	2.1
2	0	0
3	2.3	2.3
4	0	0
5	5.7	5.7
6	0	0
7	5.6	5.6

<3D SVHS (3D/TBC)>

MODE PIN NO.	REC	PLAY
IC1401		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-

MODE PIN NO.	REC	PLAY
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-
46	-	-
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	-	-
55	-	-
56	-	-
57	-	-
58	-	-
59	-	-
60	-	-
61	-	-
62	-	-
63	-	-
64	-	-
65	-	-
66	-	-
67	-	-
68	-	-
69	-	-
70	-	-
71	-	-
72	-	-
73	-	-
74	-	-
75	-	-
76	-	-
77	-	-
78	-	-
79	-	-
80	-	-
81	-	-
82	-	-
83	-	-
84	-	-
85	-	-
86	-	-
87	-	-
88	-	-
89	-	-
90	-	-
91	-	-
92	-	-
93	-	-

MODE PIN NO.	REC	PLAY
94	-	-
95	-	-
96	-	-
97	-	-
98	-	-
99	-	-
100	-	-
Q1401		
E	-	-
C	-	-
B	-	-
Q1402		
E	-	-
C	-	-
B	-	-
Q1403		
E	-	-
C	-	-
B	-	-
Q1404		
E	-	-
C	-	-
B	-	-
Q1405		
E	-	-
C	-	-
B	-	-
Q1406		
E	-	-
C	-	-
B	-	-
Q1407		
E	-	-
C	-	-
B	-	-
Q1408		
E	-	-
C	-	-
B	-	-
Q1409		
E	-	-
C	-	-
B	-	-
Q1410		
E	-	-
C	-	-
B	-	-
Q1411		
E	-	-
C	-	-
B	-	-
Q1412		
E	-	-
C	-	-
B	-	-
Q1413		
E	-	-
C	-	-

MODE PIN NO.	REC	PLAY
B	-	-
Q1414		
E	-	-
C	-	-
B	-	-
Q1416		
E	-	-
C	-	-
B	-	-
Q1417		
E	-	-
C	-	-
B	-	-
Q1418		
E	-	-
C	-	-
B	-	-

<TERMINAL>

MODE PIN NO.	REC	PLAY
IC7101		
1	1.6	1.6
2	0	0
3	1.6	1.6
4	11.5	11.5
5	2.0	2.0
6	0	0
7	5.1	5.1
8	11.5	11.5
9	5.1	5.1
10	5.2	5.2
11	5.1	5.1
12	0	0
13	4.8	4.8
14	4.8	4.8
15	5.8	5.8
16	5.1	5.1
17	5.8	5.8
18	5.1	5.1
19	11.5	11.5
20	2.5	2.5
21	1.4	1.1
22	1.4	1.1
23	2.5	2.5
24	2.0	2.0
IC7102		
1	6.4	6.4
2	5.2	5.2
3	5.7	5.7
4	0	0
5	5.7	5.7
6	5.7	5.7
7	0	0
8	6.4	6.4
9	-	-

MODE PIN NO.	REC	PLAY
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	6.4	6.4
Q7102		
E	3.0	3.0
C	0	0
B	2.3	2.3
Q7103		
E	2.8	2.8
C	0	0
B	2.1	2.1
Q7104		
E	3.0	3.0
C	0	0
B	2.3	2.3
Q7107		
E	-	-
C	-	-
B	-	-
Q7108		
E	-	-
C	-	-
B	-	-
Q7109		
E	-	-
C	-	-
B	-	-
Q7110		
E	-	-
C	-	-
B	-	-
Q7111		
E	0	0
C	6.2	6.2
B	0	0
Q7112		
E	0.6	0.6
C	11.5	11.5
B	0	0
CN7101		
1	0.2	5.0
2	0	0
3	0	0
4	2.3	2.3
5	0	0
6	1.2	1.2
7	11.5	11.5
8	0.7	0.7
9	11.5	11.5
CN7102		
1	0	0
2	0	0
3	0	0
4	0	0

MODE PIN NO.	REC	PLAY
5	0	0
6	0	0
7	4.8	4.8
8	4.7	4.7
9	5.1	5.1
10	5.1	5.1
CN7103		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
CN7104		
1	2.1	2.1
2	0	0
3	2.3	2.3
4	0	0
5	5.7	5.7
6	0	0
7	5.6	5.6
CN7105		
1	0	0
2	0	0
3	0	0
4	0	0

<DEMODULATOR>

MODE PIN NO.	REC	PLAY
IC6701		
1	1.6	1.6
2	2.5	2.5
3	0	0
4	0	0
5	4.9	4.9
6	4.9	4.9
7	4.7	4.7
8	4.8	4.8
9	2.2	2.2
10	2.3	2.3
11	0	4.5
12	1.8	0.7
13	1.6	0.7
14	1.6	0.7
15	1.7	0.7
16	4.5	4.5
17	0	0
18	1.8	0.6
19	0.5	0
20	4.6	4.6

MODE PIN NO.	REC	PLAY
21	0.5	0
22	0.5	0
23	0	0
24	0	0
25	0	0
26	0	0
27	0.5	0
28	0.5	0
29	0	0
30	3.7	3.7
31	3.7	3.7
32	0.6	0
33	8.3	8.3
34	7.4	7.4
35	0	0
36	3.6	3.6
37	0	0
38	0	0
39	0	0
40	0	0
41	0	0
42	0	0
43	2.5	2.5
44	3.7	3.7
45	0	0
46	4.9	4.9
47	1.5	1.5
48	1.5	1.5
49	0.6	0
50	0	0
51	-	-
52	-	-
Q6701		
E	8.4	8.4
C	11.5	11.5
B	9.0	9.0
Q6702		
E	2.9	2.9
C	8.4	8.4
B	3.6	3.6
Q6704		
E	0	0
C	0	0
B	3.3	3.3
Q6705		
E	0	0
C	0	0
B	3.3	3.3
CN6701		
1	4.7	4.7
2	4.7	4.7
3	0	0
4	4.9	4.9
5	11.5	11.5
6	0	0
7	0	0
8	0	0
9	2.4	2.4

MODE PIN NO.	REC	PLAY
10	0	0
11	4.4	4.4

<SWITCH/DISPLAY>

MODE PIN NO.	REC	PLAY
IC7001		
1	5.1	5.1
2	2.2	2.2
3	0	0
4	2.2	2.2
5	5.1	5.1
6	5.1	5.1
7	4.0	4.0
8	3.0	3.0
9	3.0	3.0
10	5.1	5.1
11	5.1	5.1
12	4.4	4.4
13	1.1	1.1
14	5.1	5.1
15	4.5	4.5
16	-28.4	-28.4
17	-28.4	-28.4
18	-28.3	-28.3
19	-28.3	-28.3
20	4.9	4.9
21	-24.0	-24.0
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	5.1	5.1
IC7002		
1	5.1	5.1
2	5.1	5.1
3	0	0
CN7001		

MODE PIN NO.	REC	PLAY
1	-28.4	-28.4
2	-15.7	-15.7
3	-19.5	-19.5
4	0	0
5	0	0
6	5.1	5.1
7	4.3	4.5
8	1.1	1.1
9	5.1	5.1
10	4.5	4.5
11	5.1	5.1
12	5.1	5.1
13	0	0
14	5.1	5.1
CN7191		
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
FW7001		
1	5.1	5.1
2	0	0

<JOG>

MODE PIN NO.	REC	PLAY
CN7005		
1	0	0
2	0	0
3	0	0
4	0	0
5	0.5	0.5
6	0.5	0.5

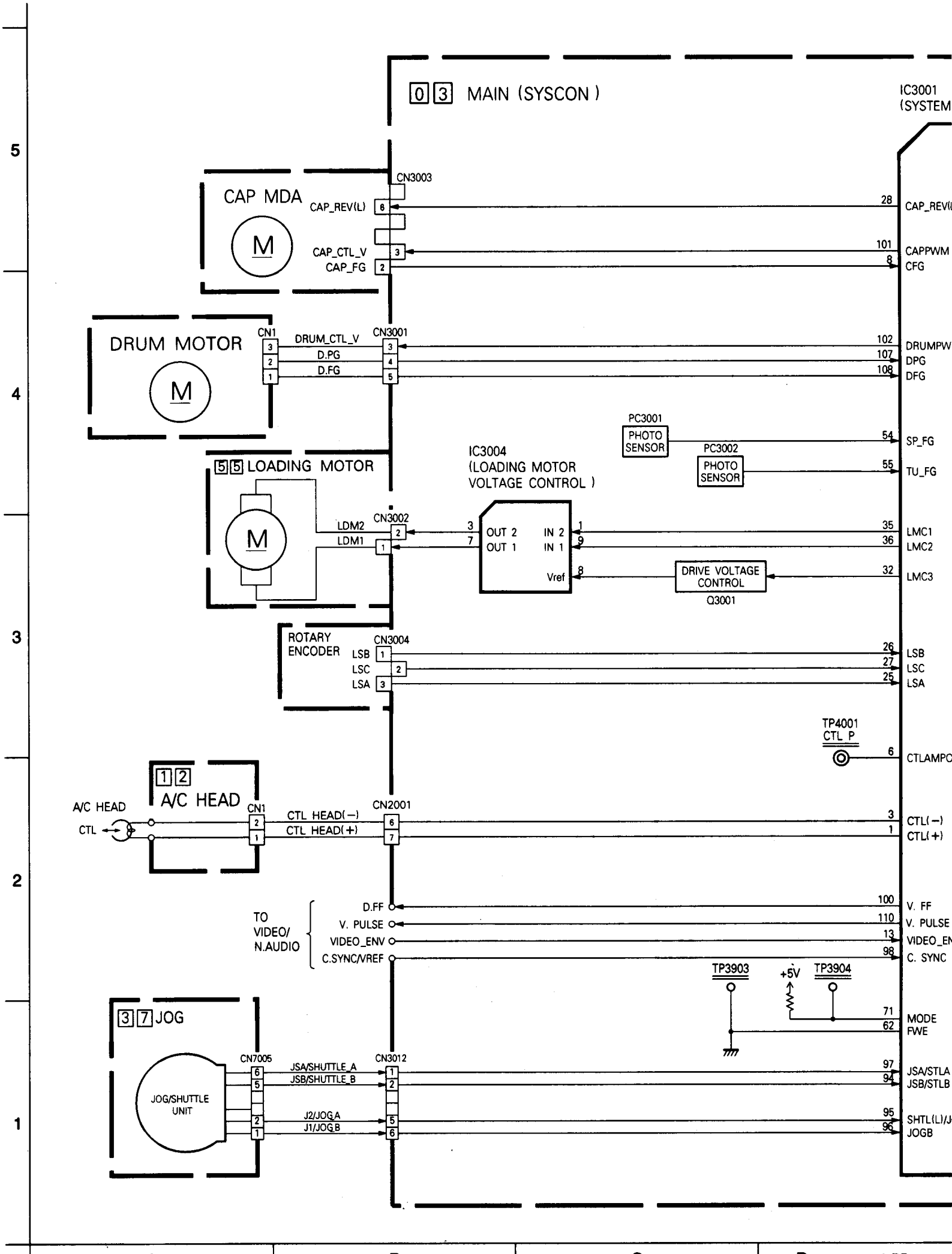
<JACK>

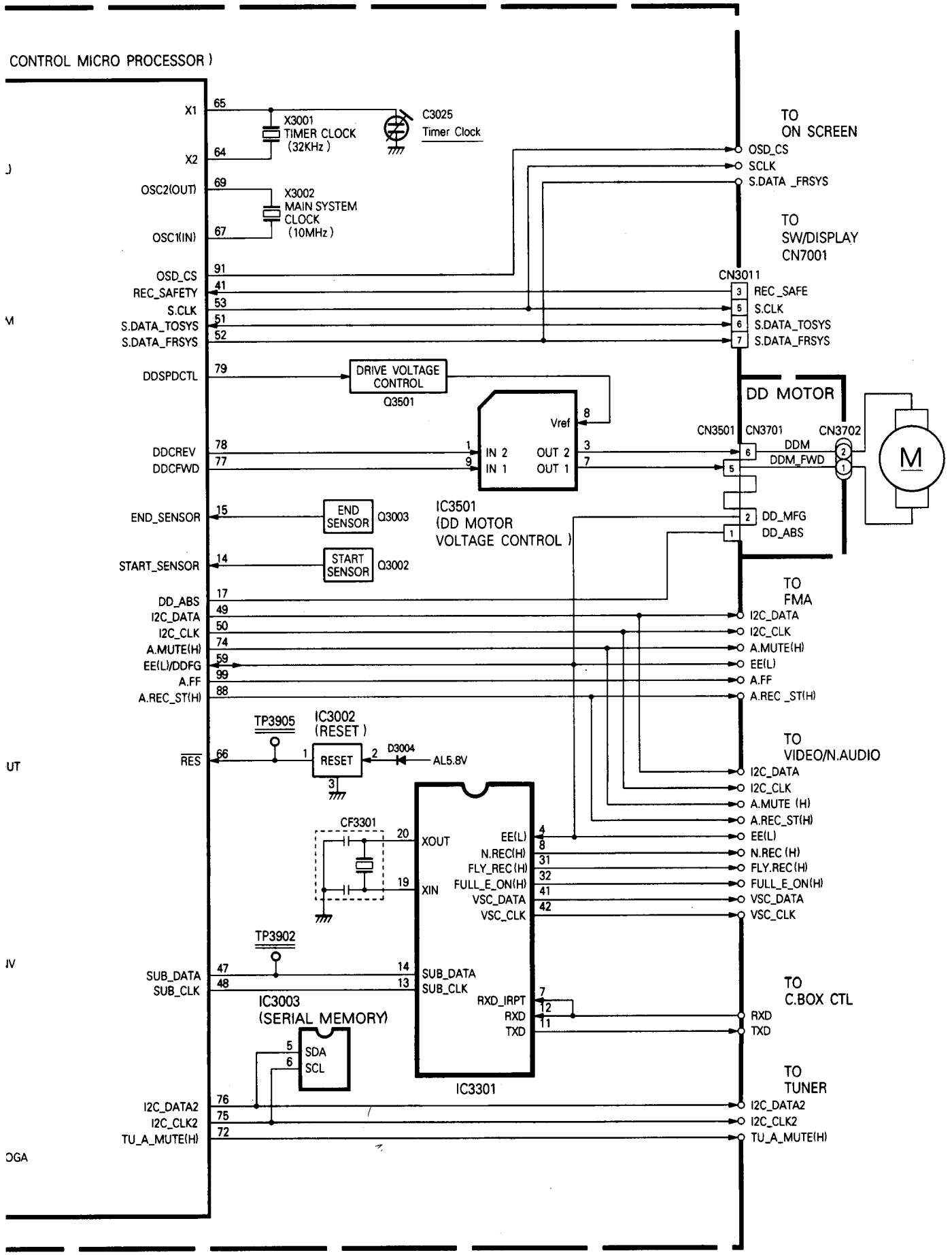
MODE PIN NO.	REC	PLAY
CN7192		
1	0	0
2	0	0
3	0	0
4	0	0

<REC SAFETY>

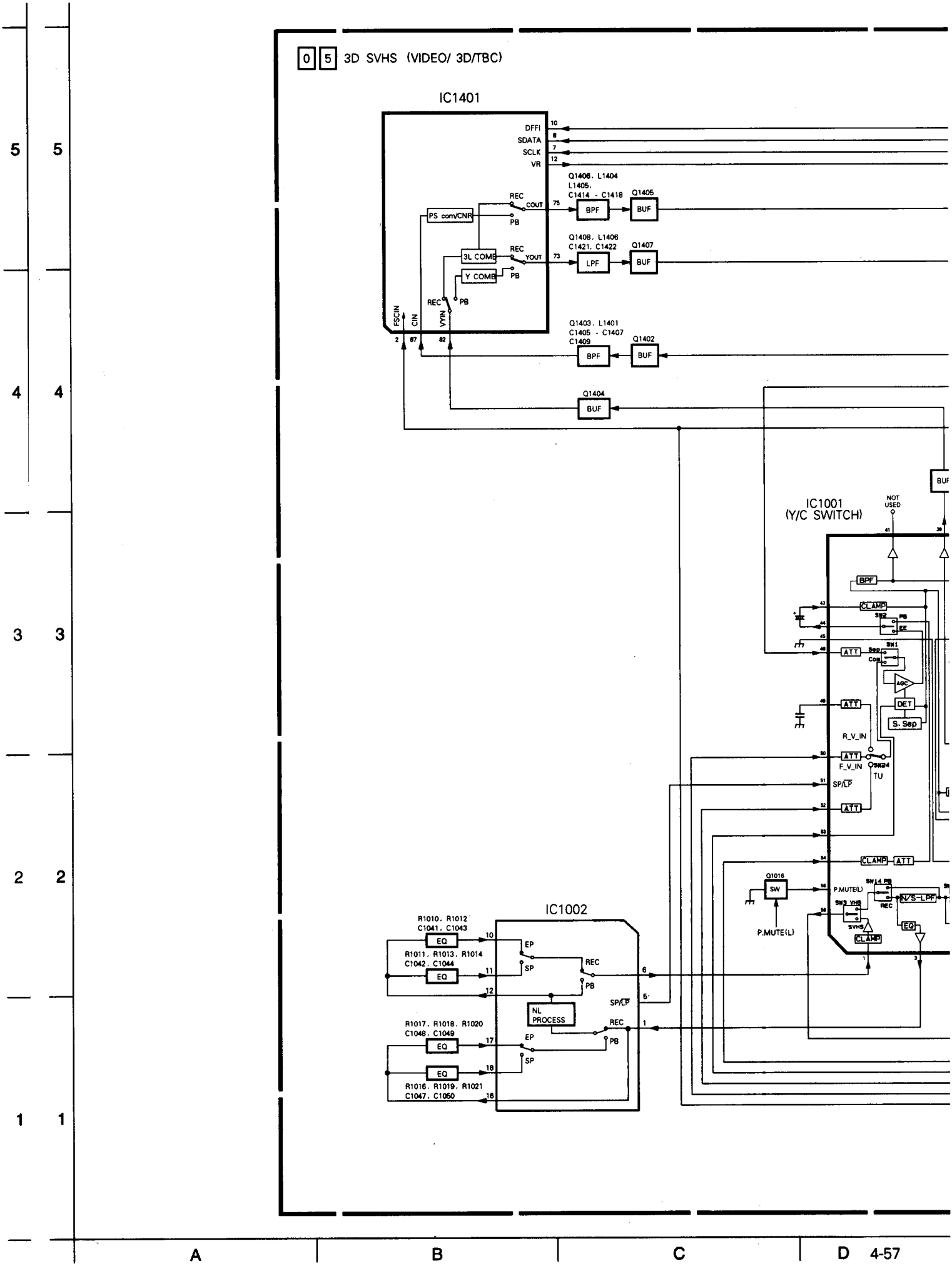
MODE PIN NO.	REC	PLAY
FW7001		
1	5.1	5.1
2	0	0

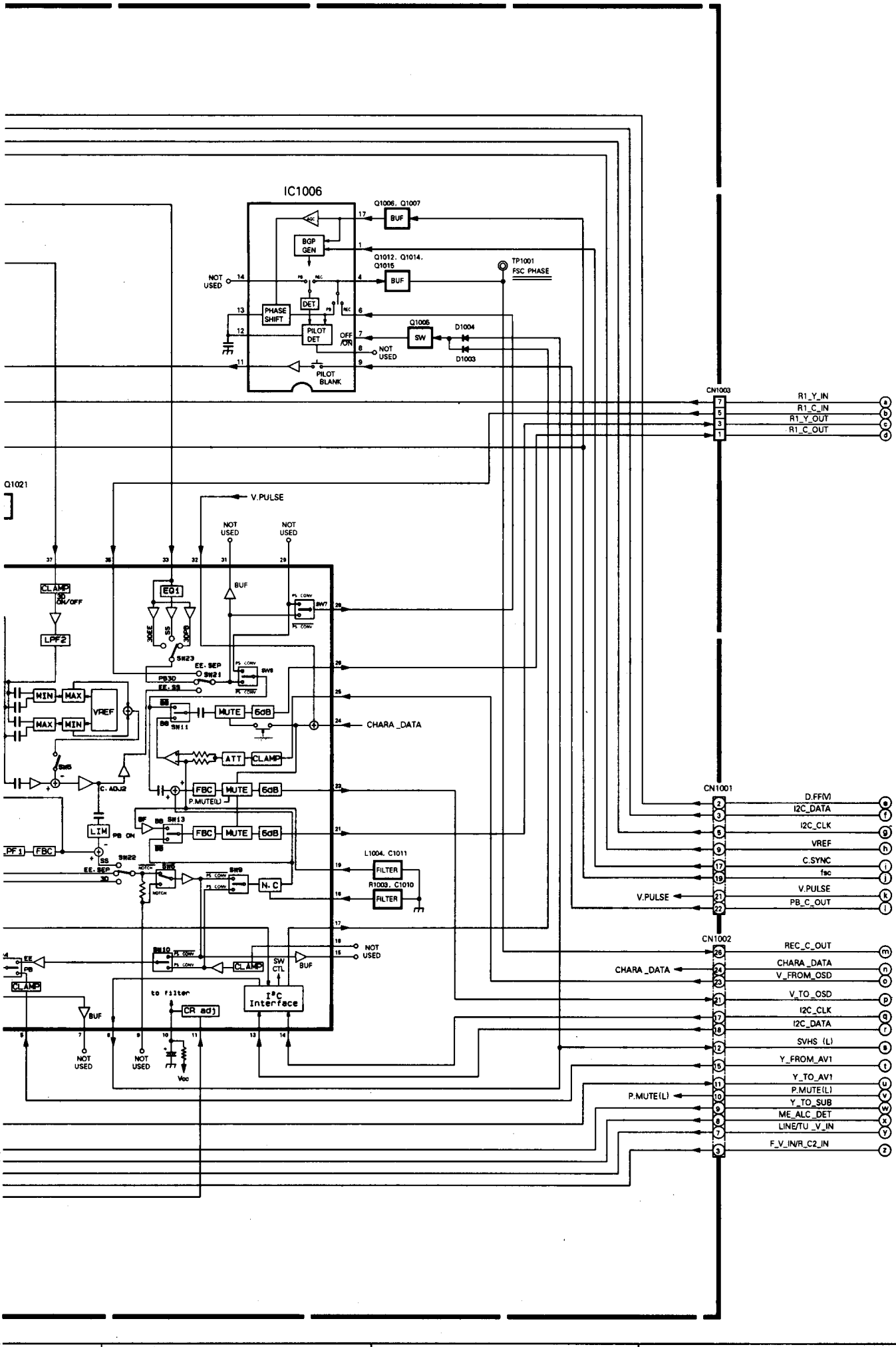
4.23 SYSTEM CONTROL BLOCK DIAGRAM

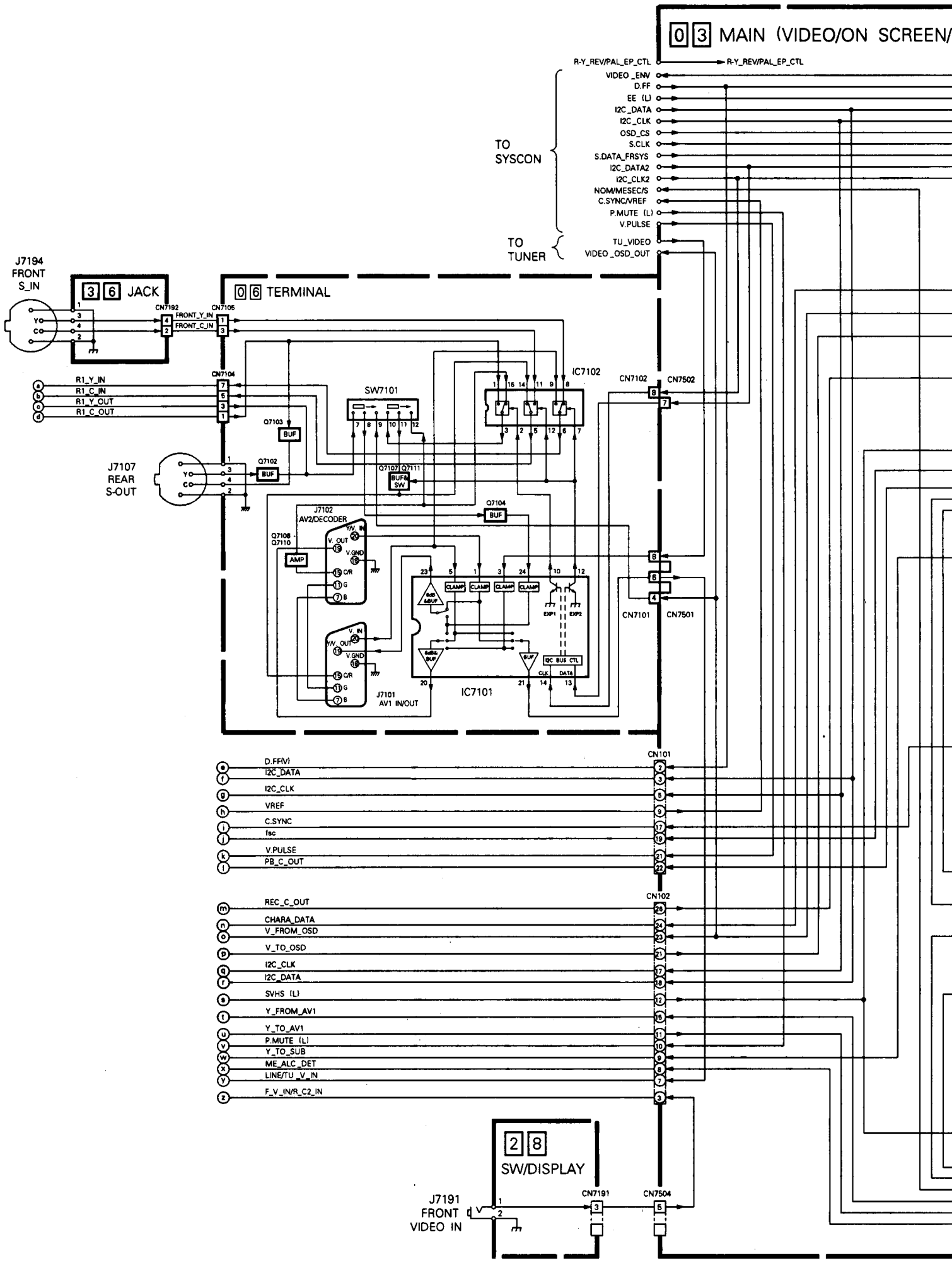



CONTROL MICRO PROCESSOR)
X1
65
X3001
TIMER CLOCK
(32KHz)
C3025
Timer Clock
X2
64
OSC2(OUT)
69
X3002
MAIN SYSTEM
CLOCK
(10MHz)
OSC1(IN)
67
OSD_CS
91
REC_SAFETY
41
S.CLK
53
S.DATA_TOSYS
51
S.DATA_FRSYS
52
TO
ON SCREEN
OSD_CS
SCLK
S.DATA _FRSYS
TO
SW/DISPLAY
CN7001
CN3011
3 REC _SAFE
5 S.CLK
6 S.DATA_TOSYS
7 S.DATA_FRSYS
DDSPDCTL
79
DRIVE VOLTAGE
CONTROL
Q3501
DD MOTOR
CN3501
CN3701
CN3702
DDM
DDM_FWD
M
Vref
8
DDCREV
78
DDCFWD
77
1
9
IN 2
IN 1
OUT 2
OUT 1
3
7
END_SENSOR
15
END
SENSOR
Q3003
IC3501
(DD MOTOR
VOLTAGE CONTROL)
START_SENSOR
14
START
SENSOR
Q3002
2 DD_MFG
1 DD_ABS
TO
FMA
DD_ABS
17
I2C_DATA
49
I2C_CLK
50
A.MUTE(H)
74
EE(L)/DDFG
59
A.FF
99
A.REC_ST(H)
88
I2C_DATA
I2C_CLK
A.MUTE(H)
EE(L)
A.FF
A.REC _ST(H)
TP3905
IC3002
(RESET)
RES
66
1
RESET
2
D3004
AL5.8V
3
TO
VIDEO/N.AUDIO
I2C_DATA
I2C_CLK
A.MUTE (H)
A.REC_ST(H)
EE(L)
N.REC (H)
FLY.REC(H)
FULL_E_ON(H)
VSC_DATA
VSC_CLK
CF3301
20
19
XOUT
XIN
EE(L)
4
N.REC(H)
8
FLY_REC(H)
31
FULL_E_ON(H)
32
VSC_DATA
41
VSC_CLK
42
TP3902
SUB_DATA
47
SUB_CLK
48
14
13
SUB_DATA
SUB_CLK
IC3003
(SERIAL MEMORY)
5
SDA
6
SCL
RXD_IRPT
7
RXD
12
TXD
11
IC3301
TO
C.BOX CTL
RXD
TXD
TO
TUNER
I2C_DATA2
76
I2C_CLK2
75
TU_A_MUTE(H)
72
I2C_DATA2
I2C_CLK2
TU_A_MUTE(H)

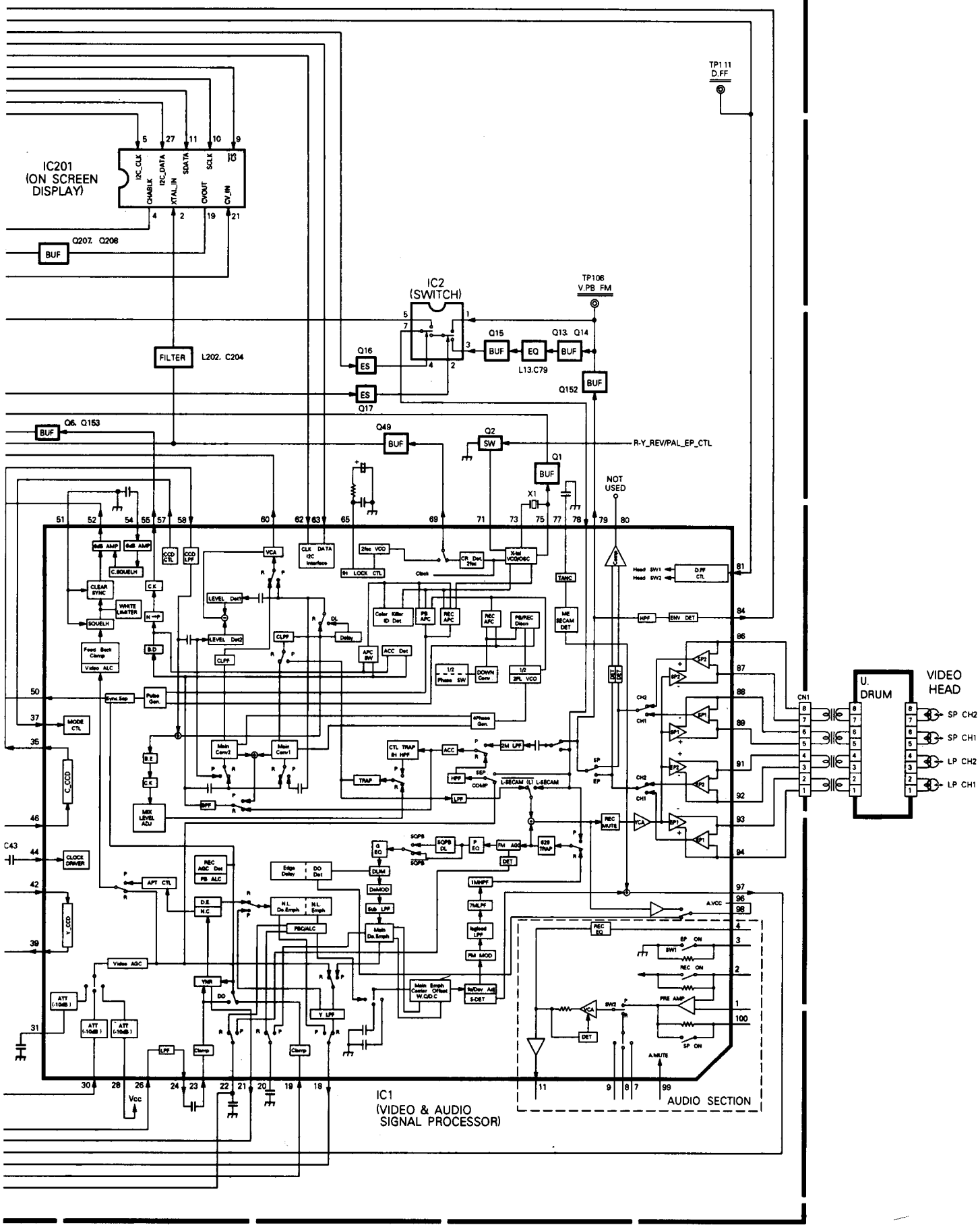
4.24 VIDEO BLOCK DIAGRAM



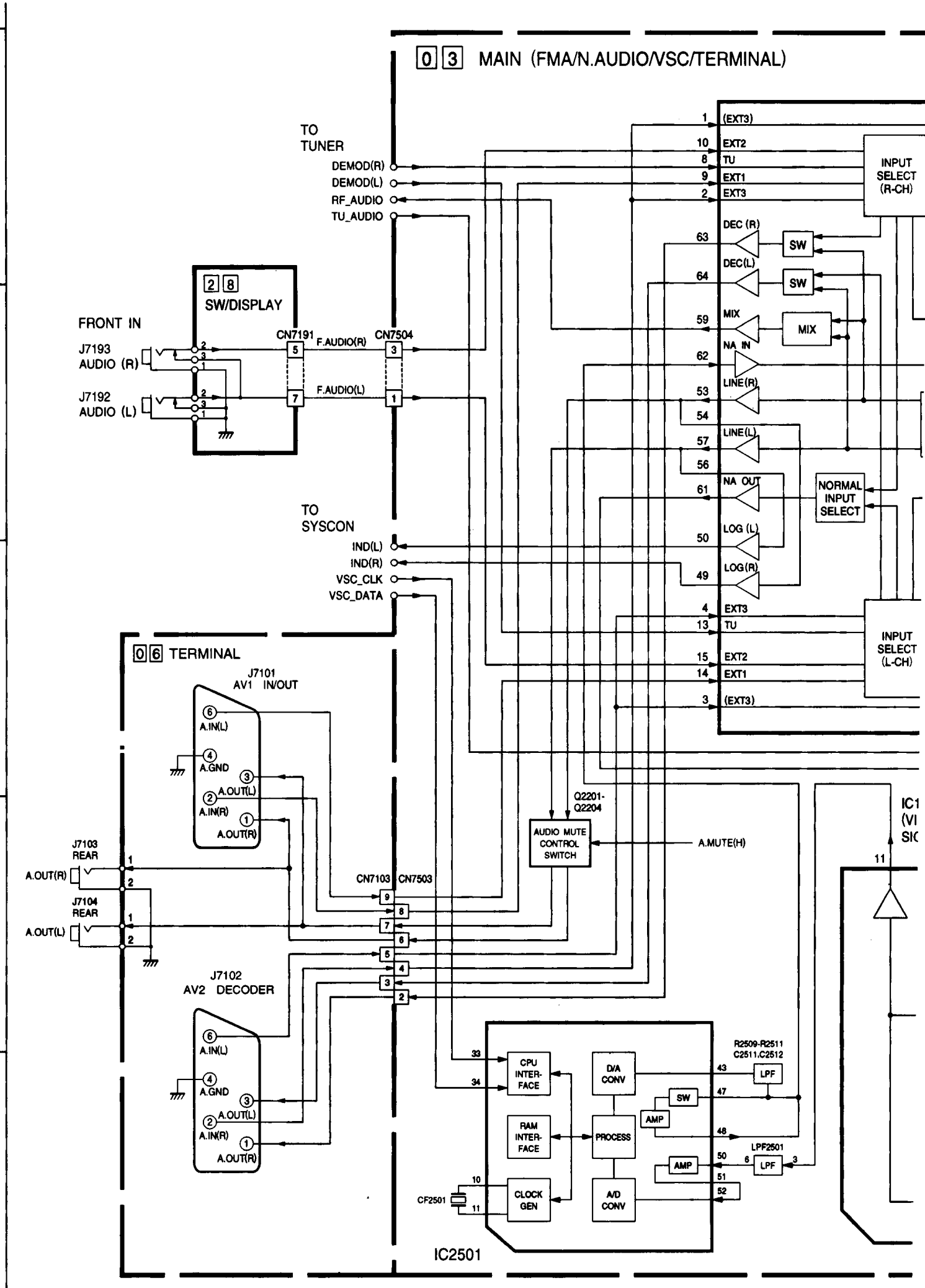

IC1006
Q1006, Q1007
BUF
BGP GEN
Q1012, Q1014, Q1015
BUF
TP1001 FSC PHASE
NOT USED
PHASE SHIFT
DET
PILOT DET
OFF /ON
Q1005
SW
D1004
D1003
NOT USED
PILOT BLANK
CN1003
R1_Y_IN
R1_C_IN
R1_Y_OUT
R1_C_OUT
Q1021
V.PULSE
NOT USED
NOT USED
CLAMP
3D ON/OFF
LPF2
EQ1
BUF
SW7
SW23
EE. SEP
SW21
PB3D
EE. SS
SW8
MIN
MAX
MAX
MIN
VREF
SW11
MUTE
6dB
CHARA _DATA
ATT
CLAMP
SW6
C. ADJ2
FBC
MUTE
6dB
P.MUTE(L)
LIM
PB ON
SW13
FBC
MUTE
6dB
PF1
FBC
SW22
EE. SEP
3D
SW9
N. C
L1004, C1011
FILTER
R1003, C1010
FILTER
CN1001
D.FF(V)
I2C_DATA
I2C_CLK
VREF
C.SYNC
fsc
V.PULSE
PB_C_OUT
V.PULSE
SW10
NOT USED
EE
PB
CLAMP
CLAMP
SW CTL
BUF
to filter
CR adj
I²C Interface
BUF
NOT USED
NOT USED
22K
Vcc
CN1002
REC_C_OUT
CHARA _DATA
V_FROM_OSD
V_TO_OSD
I2C_CLK
I2C_DATA
SVHS (L)
Y_FROM_AV1
Y_TO_AV1
P.MUTE(L)
Y_TO_SUB
ME_ALC_DET
LINE/TU _V_IN
F_V_IN/R_C2_IN

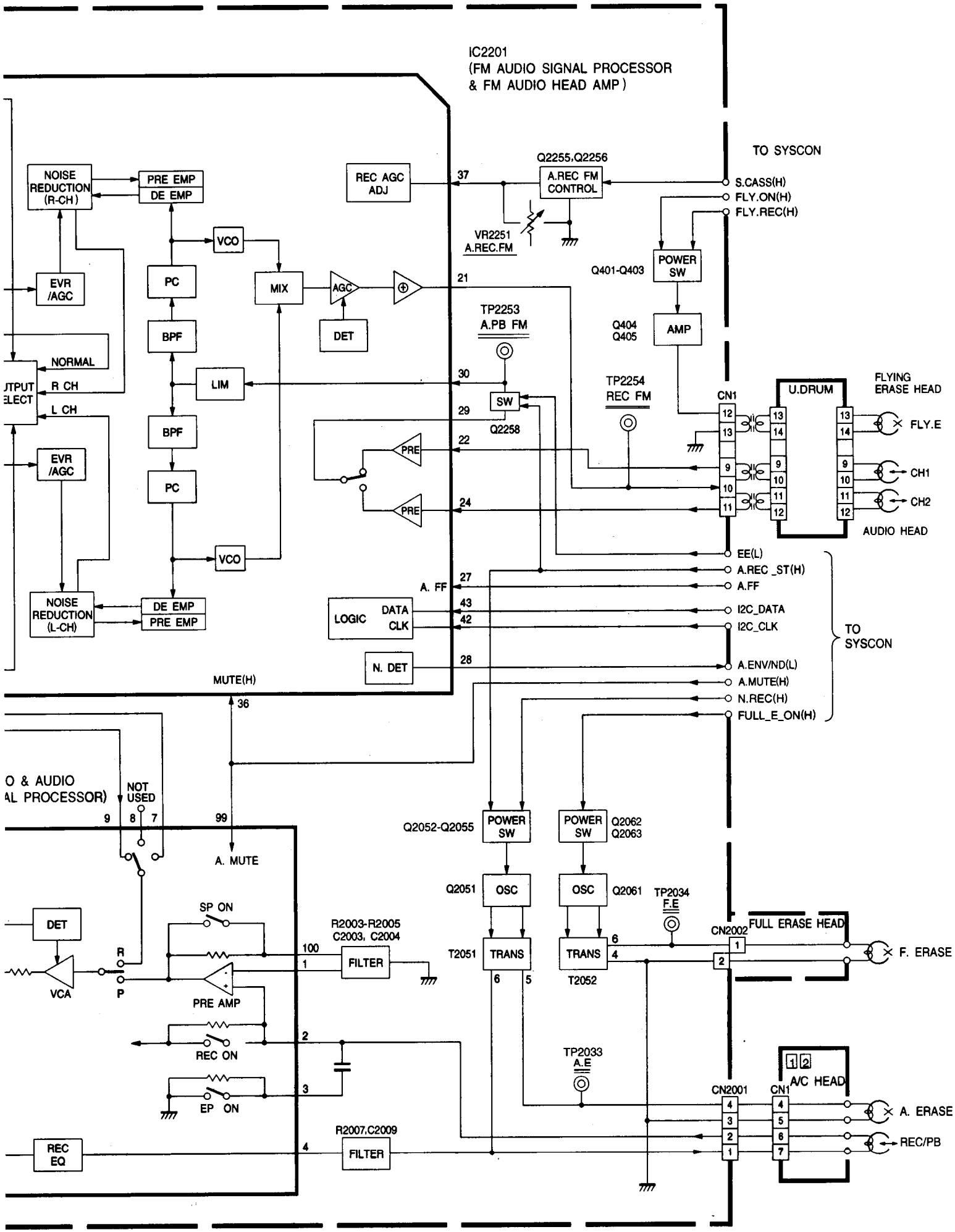

03 MAIN (VIDEO/ON SCREEN/
R-Y_REV/PAL_EP_CTL
VIDEO _ENV
D.FF
EE (L)
I2C_DATA
I2C_CLK
OSD_CS
S.CLK
S.DATA_FRSYS
I2C_DATA2
I2C_CLK2
NOM/MESEC/S
C.SYNC/VREF
P.MUTE (L)
V.PULSE
TO SYSCON
TO TUNER
TU_VIDEO
VIDEO _OSD_OUT
J7194 FRONT S_IN
36 JACK
06 TERMINAL
CN7192
CN7105
FRONT_Y_IN
FRONT_C_IN
CN7104
R1_Y_IN
R1_C_IN
R1_Y_OUT
R1_C_OUT
SW7101
IC7102
CN7102
CN7502
Q7103
Q7102
Q7107
Q7111
Q7104
J7107 REAR S-OUT
J7102 AV2/DECODER
Q7108
Q7110
AMP
CLAMP
EXP1
EXP2
I2C BUS CTL
IC7101
J7101 AV1 IN/OUT
CN7101
CN7501
CN101
D.FF(V)
I2C_DATA
I2C_CLK
VREF
C.SYNC
fsc
V.PULSE
PB_C_OUT
CN102
REC_C_OUT
CHARA_DATA
V_FROM_OSD
V_TO_OSD
I2C_CLK
I2C_DATA
SVHS (L)
Y_FROM_AV1
Y_TO_AV1
P.MUTE (L)
Y_TO_SUB
ME_ALC_DET
LINE/TU_V_IN
F_V_IN/R_C2_IN
28 SW/DISPLAY
J7191 FRONT VIDEO IN
CN7191
CN7504

TERMINAL)


IC201
(ON SCREEN
DISPLAY)
I2C_CLK
I2C_DATA
SDATA
SCLK
CHABLK
XTAL_IN
CVOUT
CV_IN
Q207. Q208
BUF
FILTER
L202. C204
IC2
(SWITCH)
TP106
V.PB FM
Q15
Q13. Q14
BUF
EQ
L13.C79
Q152
Q16
ES
Q17
TP111
D.FF
Q6. Q153
Q49
Q2
SW
R-Y_REV/PAL_EP_CTL
Q1
X1
NOT
USED
VIDEO
HEAD
U.
DRUM
SP CH2
SP CH1
LP CH2
LP CH1
IC1
(VIDEO & AUDIO
SIGNAL PROCESSOR)
AUDIO SECTION

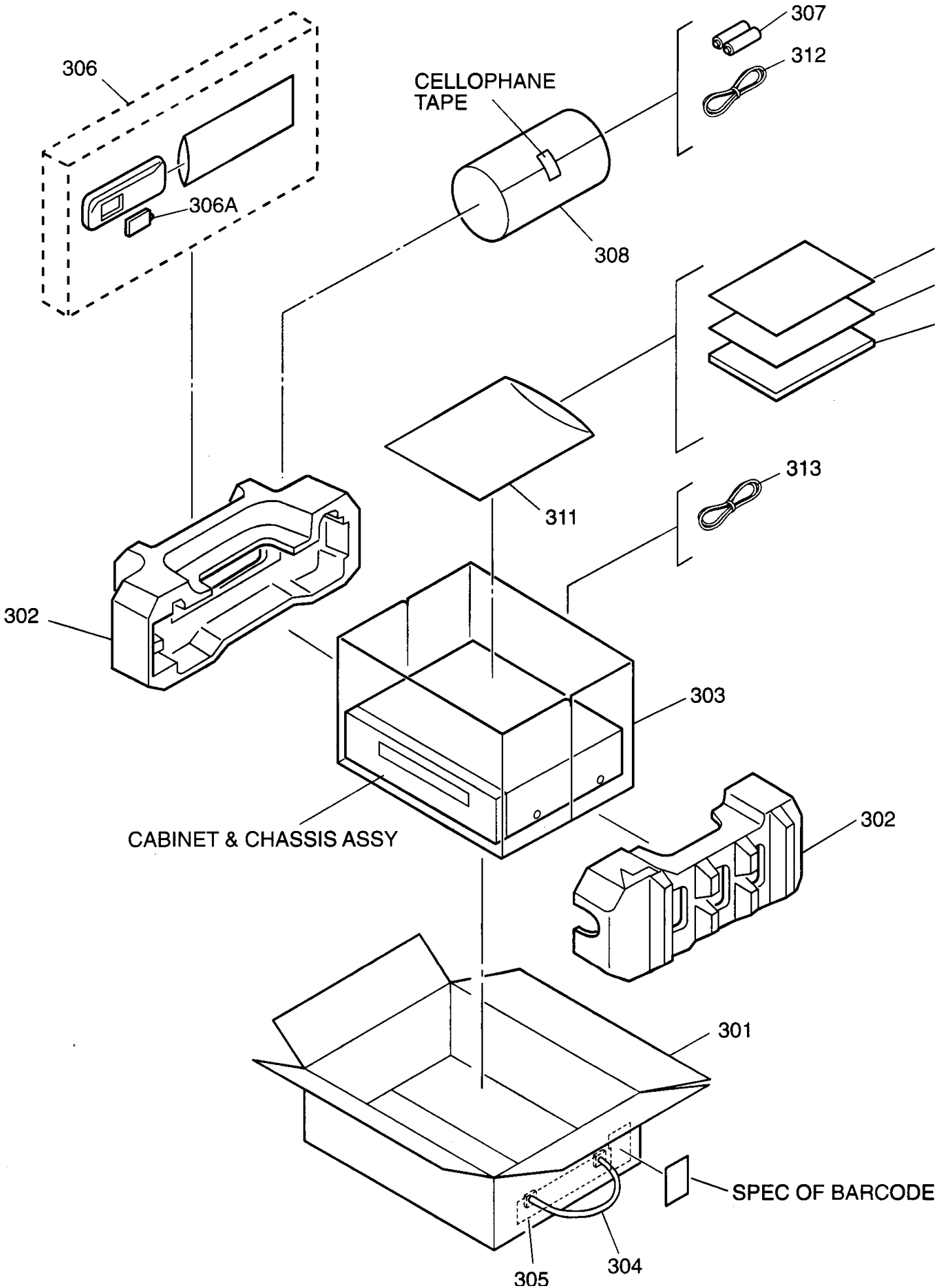
4.25 AUDIO BLOCK DIAGRAM



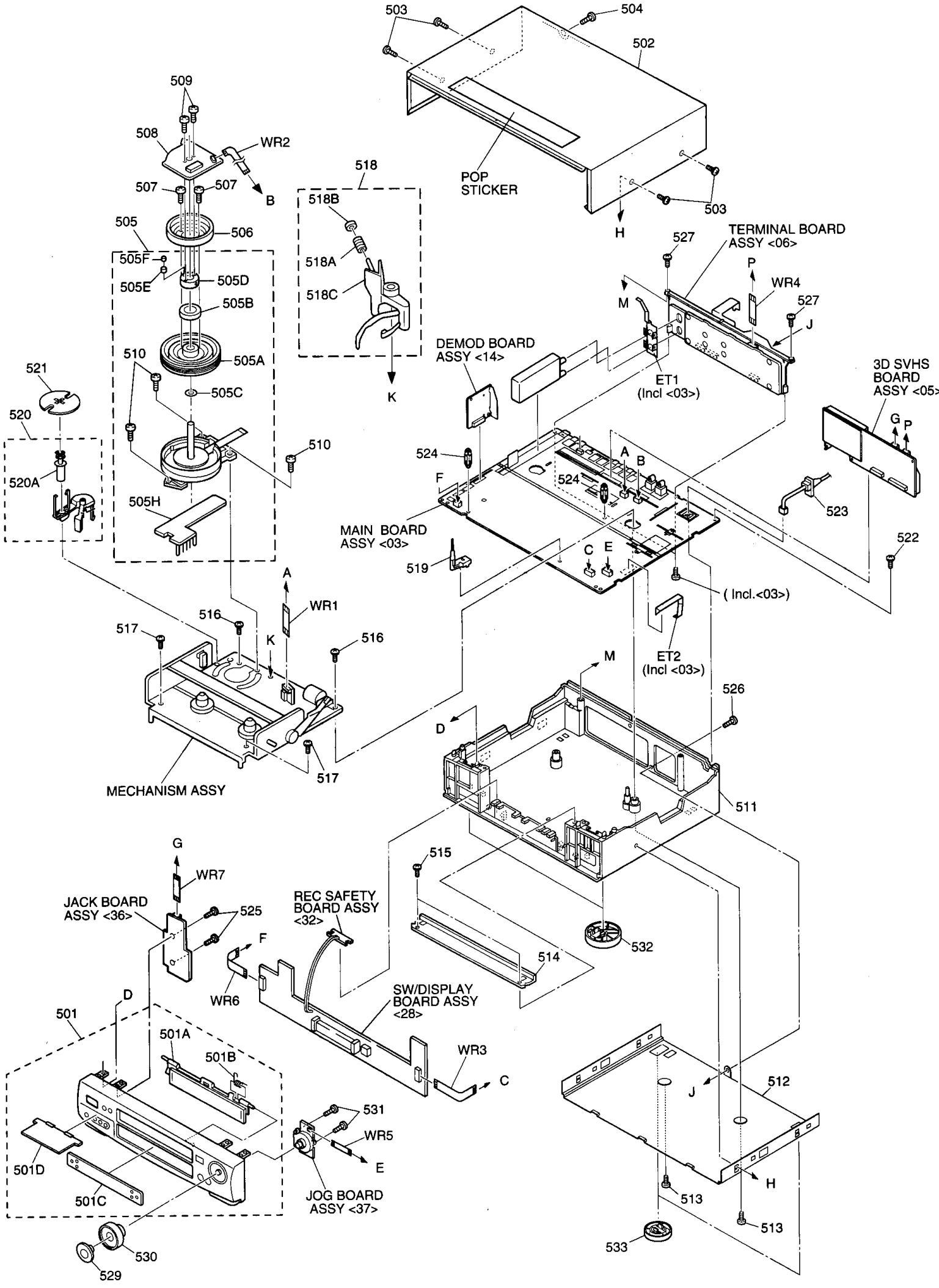

IC2201
(FM AUDIO SIGNAL PROCESSOR
& FM AUDIO HEAD AMP)
NOISE REDUCTION (R-CH)
PRE EMP
DE EMP
VCO
PC
MIX
AGC
DET
BPF
LIM
EVR /AGC
NORMAL
R CH
L CH
NOISE REDUCTION (L-CH)
REC AGC ADJ
37
Q2255,Q2256
A.REC FM CONTROL
VR2251
A.REC.FM
TO SYSCON
S.CASS(H)
FLY.ON(H)
FLY.REC(H)
POWER SW
Q401-Q403
AMP
Q404
Q405
21
TP2253
A.PB FM
30
SW
29
Q2258
22
24
PRE
TP2254
REC FM
CN1
U.DRUM
FLYING ERASE HEAD
FLY.E
CH1
CH2
AUDIO HEAD
EE(L)
A.REC _ST(H)
A.FF
27
A. FF
43
I2C_DATA
42
I2C_CLK
LOGIC
DATA
CLK
TO SYSCON
N. DET
28
A.ENV/ND(L)
A.MUTE(H)
N.REC(H)
FULL_E_ON(H)
MUTE(H)
36
O & AUDIO
AL PROCESSOR)
NOT USED
9
8
7
99
A. MUTE
Q2052-Q2055
POWER SW
Q2062
Q2063
Q2051
OSC
Q2061
TP2034
F.E
CN2002
FULL ERASE HEAD
F. ERASE
T2051
TRANS
T2052
6
4
5
DET
SP ON
R2003-R2005
C2003, C2004
100
1
FILTER
R
P
VCA
PRE AMP
REC ON
EP ON
2
3
TP2033
A.E
CN2001
CN1
A/C HEAD
A. ERASE
REC/PB
R2007,C2009
4
REC EQ

SECTION 5
PARTS LIST

PACKING AND ACCESSORY ASSEMBLY



5.2 CABINET AND CHASSIS ASSEMBLY



1. ACCESSORIES

306	996500000870	REMOTE CONTROLLER
306A	996500000970	COVER(BATTERY)
310	996500000971	INST BOOK(GE.FR)
	996500000972	INST BOOK(DU.GR)
	996500000973	INST BOOK(RU.CZ)
	996500000974	INST BOOK(PO.HU)

2. CABINET AND CHASSIS ASSEMBLY

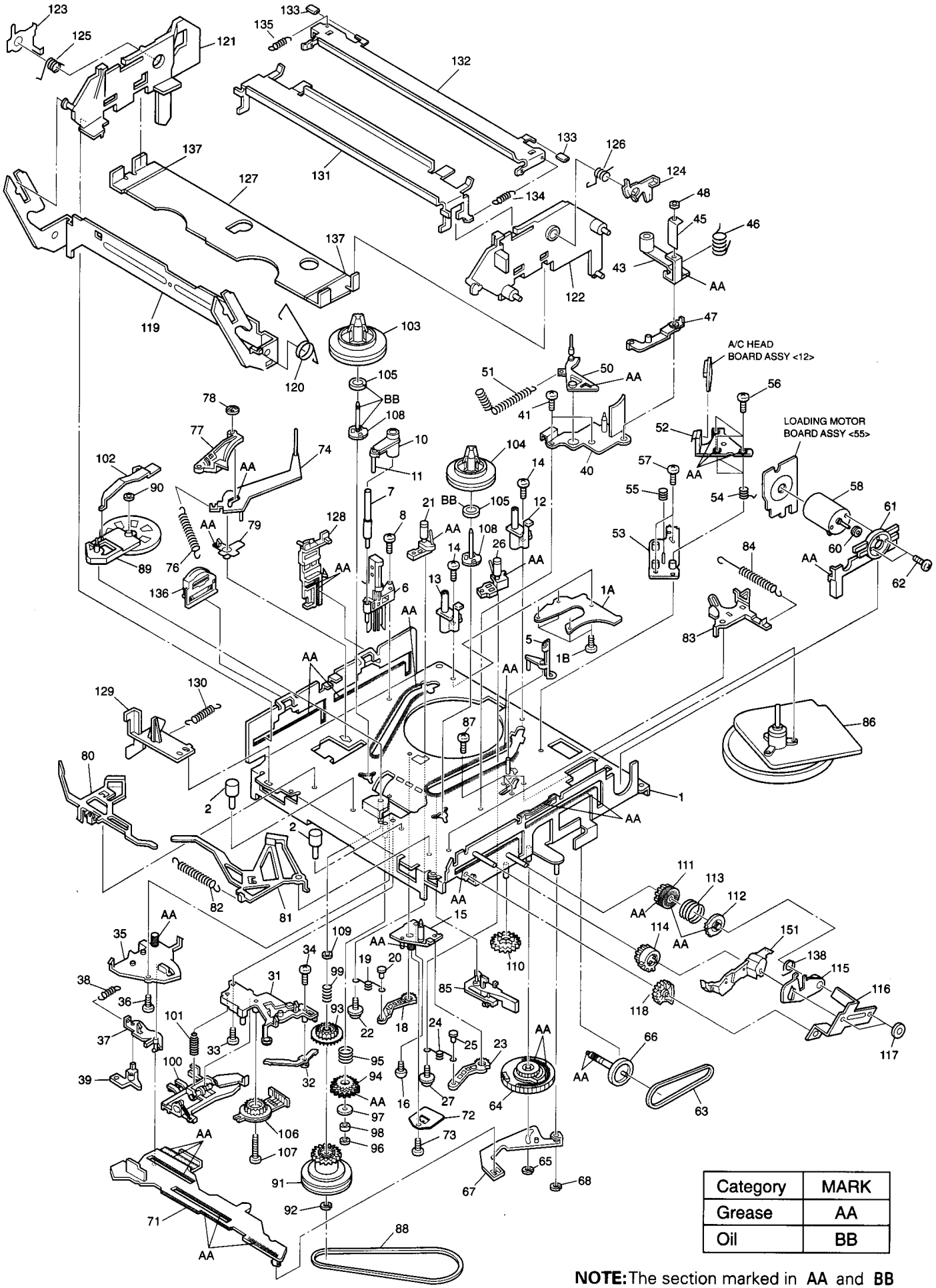
501	!	996500000975	FRONT PANEL ASSY
501A		996500000976	CASSETTE DOOR
501B		482249242781	TORSION SPRING
501C		996500000977	DISPLAY WINDOW
501D		996500000978	DOOR
505		996500000979	DRUM SUB ASSY
505A		996500000980	UPPER DRUM ASSY
505B		482246210924	CAP
505C		482253212804	WASHER
505D		482253212803	COLLAR ASSY
505E		482226511367	CONTACT
505F		482249211671	COMPRESSION SPRING
505H		996500000981	SENSOR BOARD ASSY
506		996500000982	ROTOR ASSY
508		482236210294	STATOR ASSY
518		482252811247	CLEANER ASSY
519		482241011804	KNOB ASSY
520		996500000479	ROLLER ARM ASSY
520A		482252890873	ROLLER ASSY
529		996500000480	KNOB(JOG)
530		996500000481	KNOB(SHUTTLE)

WIRE

WR1	996500000471	FFC WIRE,A/C HEAD CN
WR2	482232310443	FFC WIRE,DRUM CN3001
WR3	996500000483	FFC WIRE,DISPLSY CN3
WR4	996500000885	FFC WIRE,TERMINAL CN
WR5	996500000484	FFC WIRE,JOG CN3012
WR6	996500000503	FFC WIRE,JACK CN7504
WR7	996500000886	FFC WIRE,S JACK CN71

! ... Safety component, use only this type.

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

2	482253510317	ADJUST PIN
5	482240211363	GIDE POLE GUARD
6	482224910558	FULL ERASE HEAD
7	482246311208	GUIDE POLE(SUPPLY)
10	482246410486	TENSION STUD BASE
11	482253510649	TENSION STUD
12	482240211359	UV CATCHER(SUPPLY)
13	482240211361	UV CATCHER ASSY(TAKE UP)
15	482253510568	LOADING ARM GEAR SHAFT)
18	482240211063	LOADING ARM GEAR(SUPPLY)
19	482249211636	TORSION ARM
20	482253510566	PIN
21	996500000983	POLE BASE ASSY(SUPPLY)
23	996500000840	LOADING ARM GEAR(TAKE UP)
24	482249211636	TORSION ARM(TAKE UP)
25	482253510566	PIN
26	996500000984	POLE BASE ASSY(TAKE UP)
31	996500000985	ROTARY ENCODER GUIDE
32	996500000843	BRAKE LEVER
35	482246611931	CONTROL PLATE GUIDE
37	482240211046	TAKE UP LEVER
38	482249211631	TENSION SPRING
39	482240211047	T.UP HEAD
40	482246311196	LID GUIDE
43	996500000986	PINCH ROLLER ARM ASSY
45	482252811348	P.R.SHEET2
46	482249211634	TORSION SPRING
47	482240211057	P.LEVER ASSY
48	482253213042	SLIT WASHER
50	996500000844	GUIDE ARM ASSY
51	996500000845	TENSION SPRING
52	482224910557	AC HEAD
53	482246410456	HEAD BASE
54	482249211671	COMPRESSION SPRING
55	482249211672	COMPRESSION SPRING
58	482236111095	LOADING MOTOR
60	482252881557	MOTOR PULLEY
61	482246311198	MOTOR GUIDE
63	482235810204	BELT,LOADING MOTOR
64	996500000847	CONTROL CAM
65	482253211784	SLIT WASHER
66	482252210697	WORM GEAR
67	482240211049	LINK LEVER ASSY
68	482253211784	SLIT WASHER
71	996500000848	CONTROL PLATE
72	482240211052	CTL BRACKET(1)
74	482240211043	TENSION ARM ASSY
76	482249211629	TENSION SPRING
77	996500000849	TENSION BRAKE ASSY
78	482253510317	ADJUST PIN
79	482253213037	T.ARM BEARING
80	996500000850	MAIN BRAKE ASSY (SUPPLY)
81	996500000851	MAIN BRAKE AY (TAKE-UP)
82	482249211691	TENSION SPRING
83	996500000852	SUB BRAKE ASSY(TAKE UP)
84	482249211633	TENSION SPRING
85	482253510644	CAPSTAN BRAKE ASSY
86	996500000337	CAPSTAN MOTOR
88	482235810274	BELT,CAPSTAN MOTOR
89	996500000854	IDLER ARM ASSY
90	482253213041	SLIT WASHER
91	482252210764	CLUTCH UNIT
92	482253212326	SLIT WASHER
93	996500000987	CLUTCH GEAR 1
94	482252210766	DIRECT GEAR
95	482249211764	COMPRESSION SPRING
96	482253213041	SLIT WASHER
97	482253213043	SPACER,D.GEAR
99	482249211765	COMPRESSION SPRING
100	996500000857	CHANGE LEVER ASSY
101	996500000858	COMPRESSION SPRING
102	482240211054	IDLER LEVER
103	482252811338	REEL DISK ASSY(SUPPLY)
104	482252811339	REEL DISK ASSY(TAKE UP)
105	482253213043	SPACER,X2 REEL DISK
106	482227310349	ROTARY ENCODER
108	482253510565	REEL SHAFT,X2
109	482253213043	SPACER,C.GEAR1
110	482252210698	CASSETTE GEAR
111	482252210704	LIMIT GEAR(1)
112	996500000859	LIMIT GEAR(2)
113	482249211674	TORSION SPRING
114	482252210703	RELAY GEAR
115	482240211061	OPENER GUIDE
116	996500000887	C.H.BRACKET
117	482253212326	SLIT WASHER,X2
118	996500000860	DRIVE GEAR
119	482240211064	DRIVE ARM
120	482249211673	TORSION SPRING
121	996500000861	SIDE HOLDER(L)
122	996500000862	SIDE HOLDER(R)
123	996500000863	LOCK LEVER(L)
124	996500000864	LOCK LEVER(R)
125	482249211664	TORSION SPRING(L)
126	482249211665	TORSION SPRING(R)
127	482225610469	CASSETTE HOLDER
128	996500000865	GUIDE RAIL
129	996500000866	REC SAFETY LEVER
130	482249211668	TENSION SPRING
133	482246211192	PAD,X2 HOLD PLATE
134	482249211785	TENSION SPRING(TAKE UP)
135	482249211786	TENSION SPRING(SUPPLY)
136	482252811349	ROLLER CAM ASSY
137	996500000356	PAD,X2 CASSETE HOLDE
138	482249211787	TORSION SPRING,OPENER
151	996500000888	DOOR OPENER

! ... Safety component, use only this type

4. MAIN BOARD ASSEMBLY

INTEGRATED CIRCUITS

IC1	996500000345	JCP8017-MSA
IC2	482220916447	MM1113XF
IC201	996500000889	LC74775-9750
IC2201	482220917534	AN3651FBP
IC2501	996500000988	LC85405JE
IC3001	996500000890	HD6432194A12F
IC3002	482220932732	S-80728AN-DR-X
IC3003	482220933113	M24C08-BN6
IC3004	482220930619	TA7291S
IC3301	996500000989	M38513M4C56FP
IC3501	482220930619	TA7291S
IC3961	482220917015	TC7W241FU
IC3962	482220917015	TC7W241FU
IC5301	996500000548	LA5634-N
IC6080	996500000891	BA15218F-XE

TRANSISTORS

Q1	482213061075	2SB1218A/QR/-X
Q2	482213061286	UN521E
Q6	482213061075	2SB1218A/QR/-X
Q13	482213060873	2SD1819A/QRS/-X
Q14	482213060873	2SD1819A/QRS/-X
Q15	482213061075	2SB1218A/QR/-X
Q16	482213010897	UN511E
Q17	482213061286	UN521E
Q18	482213061286	UN521E
Q47	996500000892	2SK433/D/-W
Q48	996500000892	2SK433/D/-W
Q49	482213060668	2SC3936/BC/-X
Q55	482213061286	UN521E
Q152	482213061075	2SB1218A/QR/-X
Q153	482213060873	2SD1819A/QRS/-X
Q207	482213061075	2SB1218A/QR/-X
Q208	482213060873	2SD1819A/QRS/-X
Q401	482213060862	2SA1576A/QR/-X
Q402	482213061286	UN521E
Q403	482213061286	UN521E
Q404	482213060862	2SA1576A/QR/-X
Q405	482213060862	2SA1576A/QR/-X
Q2001	482213060669	2SC4081/QRS/-X
Q2002	482213060669	2SC4081/QRS/-X
Q2003	482213061524	DTA144WU
Q2051	482213060669	2SC4081/QRS/-X
Q2052	482213060862	2SA1576A/QR/-X
Q2053	482213060997	DTC144WU
Q2054	482213060862	2SA1576A/QR/-X
Q2055	482213060997	DTC144WU
Q2061	482213060669	2SC4081/QRS/-X
Q2062	482213060862	2SA1576A/QR/-X
Q2063	482213060997	DTC144WU
Q2102	482213060997	DTC144WU
Q2151	482213060669	2SC4081/QRS/-X
Q2152	482213061524	DTA144WU
Q2201	482213060669	2SC4081/QRS/-X
Q2202	482213060669	2SC4081/QRS/-X
Q2203	482213061524	DTA144WU
Q2204	482213060997	DTC144WU
Q2253	482213061906	DTC114EU
Q2255	482213060997	DTC144WU
Q2256	482213060997	DTC144WU
Q2258	482213061524	DTA144WU
Q2501	482213060873	2SD1819A/QRS/-X
Q2502	482213061286	UN521E
Q3001	482213060873	2SD1819A/QRS/-X
Q3002	482213011169	PTZ-NV16
Q3003	482213011169	PTZ-NV16
Q3004	482213060873	2SD1819A/QRS/-X
Q3005	482213042431	2SC1740S/QRS/-T
Q3008	482213061286	UN521E
Q3501	482213060873	2SD1819A/QRS/-X
Q4001	482213061287	UN5211
Q5101	482213010437	2SK2632-CB14
Q5102	482213061892	2SD2144S/UV/-T
Q5301	482213063596	2SB1256
Q5302	482213063496	DTC114TU
Q5303	482213061892	2SD2144S/UVW/-T
Q5304	996500000893	2SD1450/ST/-T
Q5305	482213062555	UN5111
Q5306	482213063596	2SB1256
Q5310	482213061287	UN5211
Q5311	482213060862	2SA1576A/RS/-X
Q5312	996500000894	2SA1745/6-7/-X
Q6030	482213063469	2SB1218A/RS/-X
Q6031	482213061287	UN5211
Q6032	482213061287	UN5211

DIODES

D16	482213080523	DA204U
D17	482213080523	DA204U
D24	482213080523	DA204U
D201	482205120008	NRSA02J-152X
D202	482205120008	NRSA02J-0R0X
D203	482205120008	NRSA02J-0R0X
D2001	482213032778	1SS133
D2201	482213081748	11ES2
D2501	482213083649	1SS355
D3001	482213011345	LNB2301L01VI
D3002	482213032778	1SS133
D3003	482213083944	RD39ES/B3/-T2
D3004	482213011384	11E2-T5
D3005	482213011384	11E2-T5
D3008	482213083649	1SS355
D3961	482213083426	RB721Q-40-T2
D3965	482213083426	RB721Q-40-T2
D4001	482213083649	1SS355
D4002	482213083649	1SS355
D5001	482213083946	S1WB(A)60F4102
D5101	482213082686	AU01
D5102	482213082686	AU01
D5103	482213032778	1SS133
D5105	482213032778	1SS133
D5201	482213081377	AK04
D5202	482213080703	FML-12S
D5206	482213081607	FMB-24
D5209	482213011318	ERA18-02-T2
D5210	482213082768	AU01Z
D5211	482213082768	AU01Z
D5301	482213083751	MTZJ15A
D5302	482213080318	MTZJ6.8A
D5303	996500000549	MTZJ27C
D5304	482213032778	1SS133
D5305	482213011384	11E2-T5
D5307	482213032778	1SS133
D5308	482213032778	1SS133
D5309	482213032778	1SS133
D5311	482213011643	RD5.1ES/B3/-T2
D6002	482213083157	HZ30-2L-T2

RESISTORS

R1		MG RESISTOR 330Ω,1/10W
R2		MG RESISTOR 560Ω,1/
R3		MG RESISTOR 4.7kΩ,1
R4		MG RESISTOR 8.2kΩ,1
R5		MG RESISTOR 10kΩ,1/
R6		MG RESISTOR 680Ω,1/
R7		MG RESISTOR 4.7kΩ,1
R10		MG RESISTOR 1kΩ,1/1
R11		MG RESISTOR 0Ω,1/10
R13		MG RESISTOR 2.2kΩ,1
R15		MG RESISTOR 0Ω,1/10
R16		MG RESISTOR 0Ω,1/10
R24	996500000508	CMF RESISTOR 6.2kΩ,
R25	996500000509	CMF RESISTOR 1.5kΩ,
R46		MG RESISTOR 10kΩ,1/
R47		MG RESISTOR 5.6kΩ,1
R48		MG RESISTOR 220Ω,1/
R49		MG RESISTOR 220Ω,1/
R50		MG RESISTOR 1kΩ,1/1
R52		MG RESISTOR 0Ω,1/10
R54		MG RESISTOR 0Ω,1/10
R55		MG RESISTOR 1.2kΩ,1
R56		MG RESISTOR 0Ω,1/10W

! ... Safety component, use only this type

R57	MG RESISTOR 1kΩ,1/10W
R60	MG RESISTOR 56kΩ,1/
R62	MG RESISTOR 0Ω,1/10
R63	CAPACITOR 12pF,50V
R64	CAPACITOR 22pF,50V
R68	MG RESISTOR 470Ω,1/
R69	MG RESISTOR 470Ω,1/
R71	MG RESISTOR 4.7kΩ,1
R73	MG RESISTOR 68kΩ,1/
R94	MG RESISTOR 2.2kΩ,1
R95	MG RESISTOR 0Ω,1/10
R96	MG RESISTOR 0Ω,1/10
R137	MG RESISTOR 1kΩ,1/1
R143	MG RESISTOR 0Ω,1/10W
R158	MG RESISTOR 1kΩ,1/1
R168	MG RESISTOR 1kΩ,1/1
R169	MG RESISTOR 1kΩ,1/1
R170	MG RESISTOR 10kΩ,1/
R171	MG RESISTOR 2.2kΩ,1
R181	MG RESISTOR 0Ω,1/10
R195	MG RESISTOR 680kΩ,1
R197	MG RESISTOR 10MΩ,1/
R201	MG RESISTOR 0Ω,1/10
R202	MG RESISTOR 10kΩ,1/
R208	MG RESISTOR 0Ω,1/10
R209	MG RESISTOR 5.1kΩ,1
R210	MG RESISTOR 1.8kΩ,1
R211	MG RESISTOR 5.6kΩ,1
R212	MG RESISTOR 330Ω,1/
R213	MG RESISTOR 0Ω,1/10
R216	MG RESISTOR 10kΩ,1/
R218	MG RESISTOR 0Ω,1/10
R224	MG RESISTOR 100Ω,1/
R225	MG RESISTOR 470Ω,1/
R401	MG RESISTOR 47kΩ,1/
R402	MG RESISTOR 4.7kΩ,1
R403	MG RESISTOR 39kΩ,1/
R404	MG RESISTOR 68kΩ,1/
R405	MG RESISTOR 47kΩ,1/
R408	MG RESISTOR 560Ω,1/
R409	MG RESISTOR 680Ω,1/
R410	MG RESISTOR 220Ω,1/
R2001	MG RESISTOR 10kΩ,1/
R2002	MG RESISTOR 10kΩ,1/
R2003	MG RESISTOR 6.8kΩ,1
R2004	MG RESISTOR 220kΩ,1
R2005	MG RESISTOR 270Ω,1/
R2006	MG RESISTOR 27kΩ,1/
R2007	MG RESISTOR 18kΩ,1/
R2009	MG RESISTOR 0Ω,1/10
R2013	MG RESISTOR 3.3kΩ,1
R2014	MG RESISTOR 15kΩ,1/
R2018	MG RESISTOR 4.7kΩ,1
R2019	MG RESISTOR 4.7kΩ,1
R2020	MG RESISTOR 0Ω,1/10
R2053	MG RESISTOR 4.7kΩ,1
R2054	MG RESISTOR 15kΩ,1/
R2055	MG RESISTOR 3.3Ω,1/
R2056	MG RESISTOR 100Ω,1/
R2057	MG RESISTOR 47kΩ,1/
R2058	MG RESISTOR 18kΩ,1/
R2059	MG RESISTOR 47kΩ,1/
R2060	MG RESISTOR 18kΩ,1/
R2061	MG RESISTOR 27kΩ,1/
R2062	MG RESISTOR 3.3Ω,1/
R2063	RESISTOR 150Ω,1/4W
R2064	MG RESISTOR 47kΩ,1/
R2065	MG RESISTOR 18kΩ,1/
R2105	MG RESISTOR 470Ω,1/
R2151	MG RESISTOR 100Ω,1/
R2152	MG RESISTOR 4.7kΩ,1
R2201	MG RESISTOR 47kΩ,1/
R2202	MG RESISTOR 47kΩ,1/
R2203	MG RESISTOR 6.8kΩ,1
R2204	MG RESISTOR 6.8kΩ,1
R2206	MG RESISTOR 27kΩ,1/
R2207	MG RESISTOR 47kΩ,1/
R2208	MG RESISTOR 47kΩ,1/
R2209	MG RESISTOR 27kΩ,1/
R2210	MG RESISTOR 47kΩ,1/
R2211	MG RESISTOR 47kΩ,1/
R2212	MG RESISTOR 100kΩ,1/10W
R2213	MG RESISTOR 6.8kΩ,1/10W
R2214	MG RESISTOR 6.8kΩ,1
R2215	MG RESISTOR 100kΩ,1
R2216	MG RESISTOR 6.8kΩ,1
R2217	MG RESISTOR 6.8kΩ,1
R2218	MG RESISTOR 56Ω,1/1
R2219	MG RESISTOR 680Ω,1/
R2220	MG RESISTOR 2.7kΩ,1
R2221	MG RESISTOR 2.7kΩ,1
R2222	MG RESISTOR 680Ω,1/
R2223	MG RESISTOR 680Ω,1/
R2224	MG RESISTOR 2.7kΩ,1
R2225	MG RESISTOR 100Ω,1/
R2226	MG RESISTOR 3.3kΩ,1
R2227	MG RESISTOR 1kΩ,1/1
R2228	MG RESISTOR 680Ω,1/
R2229	MG RESISTOR 680Ω,1/
R2230	MG RESISTOR 2.7kΩ,1
R2231	MG RESISTOR 2.7kΩ,1
R2236	MG RESISTOR 4.7kΩ,1
R2237	MG RESISTOR 510Ω,1/
R2239	MG RESISTOR 4.7kΩ,1
R2240	MG RESISTOR 510Ω,1/
R2241	MG RESISTOR 10kΩ,1/
R2242	MG RESISTOR 10kΩ,1/
R2243	MG RESISTOR 1kΩ,1/1
R2244	MG RESISTOR 56Ω,1/1
R2251	MG RESISTOR 30kΩ,1/
R2252	MG RESISTOR 220Ω,1/
R2254	MG RESISTOR 4.7kΩ,1
R2255	MG RESISTOR 10kΩ,1/
R2501	MG RESISTOR 2.2kΩ,1
R2502	MG RESISTOR 4.7kΩ,1
R2503	MG RESISTOR 100kΩ,1
R2504	MG RESISTOR 4.7kΩ,1
R2505	MG RESISTOR 1MΩ,1/1
R2506	MG RESISTOR 47kΩ,1/
R2507	MG RESISTOR 1kΩ,1/1
R2508	MG RESISTOR 33kΩ,1/
R2509	MG RESISTOR 10kΩ,1/
R2510	MG RESISTOR 100kΩ,1
R2511	MG RESISTOR 150kΩ,1
R2512	MG RESISTOR 1kΩ,1/1
R2513	MG RESISTOR 1kΩ,1/1
R2514	MG RESISTOR 4.7kΩ,1
R2515	MG RESISTOR 0Ω,1/10
R2519	MG RESISTOR 1kΩ,1/1
R2520	MG RESISTOR 100Ω,1/
R2521	MG RESISTOR 4.7kΩ,1
R2522	MG RESISTOR 6.8kΩ,1
R3011	MG RESISTOR 4.7kΩ,1
R3012	MG RESISTOR 4.7kΩ,1
R3013	MG RESISTOR 4.7kΩ,1
R3014	MG RESISTOR 4.7kΩ,1
R3015	MG RESISTOR 4.7kΩ,1
R3016	MG RESISTOR 4.7kΩ,1
R3017	MG RESISTOR 4.7kΩ,1
R3018	MG RESISTOR 6.8kΩ,1
R3019	MG RESISTOR 4.7kΩ,1
R3020	MG RESISTOR 4.7kΩ,1
R3021	MG RESISTOR 4.7kΩ,1
R3022	MG RESISTOR 4.7kΩ,1
R3025	MG RESISTOR 4.7kΩ,1
R3026	MG RESISTOR 4.7kΩ,1
R3027	MG RESISTOR 4.7kΩ,1
R3029	MG RESISTOR 4.7kΩ,1
R3030	MG RESISTOR 4.7kΩ,1
R3031	MG RESISTOR 1kΩ,1/1
R3033	MG RESISTOR 1kΩ,1/1
R3034	MG RESISTOR 1kΩ,1/1
R3035	MG RESISTOR 4.7kΩ,1
R3036	MG RESISTOR 4.7kΩ,1
R3037	MG RESISTOR 1kΩ,1/1
R3038	MG RESISTOR 1.5kΩ,1
R3039	MG RESISTOR 1kΩ,1/1
R3040	MG RESISTOR 4.7kΩ,1
R3041	MG RESISTOR 4.7kΩ,1
R3042	MG RESISTOR 4.7kΩ,1
R3044	MG RESISTOR 1kΩ,1/1
R3046	MG RESISTOR 1kΩ,1/1
R3047	MG RESISTOR 470Ω,1/
R3048	MG RESISTOR 470Ω,1/10W

! ... Safety component, use only this type

R3049		MG RESISTOR 330Ω,1/10W
R3050		MG RESISTOR 330Ω,1/
R3051		MG RESISTOR 470Ω,1/
R3052		MG RESISTOR 470Ω,1/
R3053		MG RESISTOR 470Ω,1/
R3054		MG RESISTOR 4.7kΩ,1
R3055		MG RESISTOR 4.7kΩ,1
R3056		MG RESISTOR 4.7kΩ,1
R3057		MG RESISTOR 1kΩ,1/1
R3058		MG RESISTOR 1kΩ,1/1
R3059		MG RESISTOR 1kΩ,1/1
R3060		MG RESISTOR 470Ω,1/
R3061		MG RESISTOR 470Ω,1/
R3062		MG RESISTOR 10kΩ,1/
R3063		MG RESISTOR 4.7kΩ,1
R3066		MG RESISTOR 4.7kΩ,1
R3069		MG RESISTOR 100Ω,1/
R3071		MG RESISTOR 10kΩ,1/
R3072		MG RESISTOR 1kΩ,1/1
R3073		MG RESISTOR 1kΩ,1/1
R3074		MG RESISTOR 470Ω,1/
R3075		MG RESISTOR 470Ω,1/
R3076		MG RESISTOR 470Ω,1/
R3077		MG RESISTOR 1kΩ,1/1
R3078		MG RESISTOR 1kΩ,1/1
R3079		MG RESISTOR 0Ω,1/10
R3080		MG RESISTOR 1kΩ,1/1
R3081		MG RESISTOR 1kΩ,1/1
R3083		MG RESISTOR 1kΩ,1/1
R3087		MG RESISTOR 1kΩ,1/1
R3088		MG RESISTOR 220Ω,1/
R3089		MG RESISTOR 1kΩ,1/1
R3090		MG RESISTOR 1kΩ,1/1
R3091		MG RESISTOR 1kΩ,1/1
R3092		MG RESISTOR 4.7kΩ,1
R3093		MG RESISTOR 1kΩ,1/1
R3094		MG RESISTOR 4.7kΩ,1
R3095		MG RESISTOR 4.7kΩ,1
R3096		MG RESISTOR 1kΩ,1/1
R3097		MG RESISTOR 4.7kΩ,1
R3103		MG RESISTOR 1kΩ,1/1
R3104		MG RESISTOR 4.7kΩ,1
R3105		MG RESISTOR 1kΩ,1/1
R3106		MG RESISTOR 1kΩ,1/1
R3201		MG RESISTOR 10kΩ,1/
R3202		MG RESISTOR 4.7kΩ,1
R3203		MG RESISTOR 10kΩ,1/
R3204		MG RESISTOR 2.2kΩ,1
R3205		RESISTOR 180Ω,1/4W
R3206		MG RESISTOR 18kΩ,1/
R3207		MG RESISTOR 18kΩ,1/
R3208		RESISTOR 180Ω,1/4W
R3209		RESISTOR 27kΩ,1/4W
R3210		MG RESISTOR 180Ω,1/
R3211		MG RESISTOR 27kΩ,1/
R3212		RESISTOR 470kΩ,1/4W
R3213		MG RESISTOR 330kΩ,1
R3214		MG RESISTOR 10kΩ,1/
R3215		MG RESISTOR 10kΩ,1/
R3216		MG RESISTOR 10kΩ,1/
R3217		MG RESISTOR 5.6kΩ,1
R3218		MG RESISTOR 4.7kΩ,1
R3219		MG RESISTOR 4.7kΩ,1
R3220		MG RESISTOR 100kΩ,1
R3222		MG RESISTOR 4.7kΩ,1
R3223		MG RESISTOR 4.7kΩ,1
R3224		MG RESISTOR 4.7kΩ,1
R3225		MG RESISTOR 10kΩ,1/
R3229		MG RESISTOR 1MΩ,1/1
R3230		MG RESISTOR 4.7kΩ,1
R3231		MG RESISTOR 1kΩ,1/1
R3233		MG RESISTOR 10kΩ,1/
R3234		MG RESISTOR 10kΩ,1/
R3235		MG RESISTOR 3.3kΩ,1
R3236		MG RESISTOR 3.3kΩ,1
R3237		MG RESISTOR 10kΩ,1/
R3238		MG RESISTOR 10kΩ,1/
R3239		MG RESISTOR 10kΩ,1/
R3240		MG RESISTOR 10kΩ,1/
R3241		MG RESISTOR 10kΩ,1/
R3242		MG RESISTOR 4.7kΩ,1
R3244		MG RESISTOR 10kΩ,1/10W
R3251		MG RESISTOR 10kΩ,1/10W
R3304		MG RESISTOR 1kΩ,1/1
R3305		MG RESISTOR 1kΩ,1/1
R3306		MG RESISTOR 1kΩ,1/1
R3307		MG RESISTOR 4.7kΩ,1
R3308		MG RESISTOR 1kΩ,1/1
R3309		MG RESISTOR 1kΩ,1/1
R3311		MG RESISTOR 1kΩ,1/1
R3312		MG RESISTOR 1kΩ,1/1
R3313		MG RESISTOR 470Ω,1/
R3314		MG RESISTOR 470Ω,1/
R3316		MG RESISTOR 1kΩ,1/1
R3317		MG RESISTOR 1kΩ,1/1
R3318		MG RESISTOR 4.7kΩ,1
R3319		MG RESISTOR 1MΩ,1/1
R3323		MG RESISTOR 0Ω,1/10
R3324		MG RESISTOR 1kΩ,1/1
R3325		MG RESISTOR 1kΩ,1/1
R3327		MG RESISTOR 1kΩ,1/1
R3328		MG RESISTOR 1kΩ,1/1
R3329		MG RESISTOR 1kΩ,1/1
R3330		MG RESISTOR 1kΩ,1/1
R3331		MG RESISTOR 1kΩ,1/1
R3332		MG RESISTOR 1kΩ,1/1
R3333		MG RESISTOR 1kΩ,1/1
R3335		MG RESISTOR 1kΩ,1/1
R3337		MG RESISTOR 1kΩ,1/1
R3338		MG RESISTOR 1kΩ,1/1
R3339		MG RESISTOR 1kΩ,1/1
R3340		MG RESISTOR 1kΩ,1/1
R3341		MG RESISTOR 1kΩ,1/1
R3342		MG RESISTOR 1kΩ,1/1
R3353		MG RESISTOR 4.7kΩ,1
R3354		MG RESISTOR 4.7kΩ,1
R3501		MG RESISTOR 15kΩ,1/
R3502		MG RESISTOR 2.7kΩ,1
R3503		MG RESISTOR 15kΩ,1/
R3504		MG RESISTOR 22kΩ,1/
R3505		MG RESISTOR 5.6kΩ,1
R3506		MG RESISTOR 12kΩ,1/
R3961		MG RESISTOR 4.7kΩ,1
R3962		MG RESISTOR 10kΩ,1/
R4001		MG RESISTOR 4.7kΩ,1
R4003		MG RESISTOR 560Ω,1/
R4004		MG RESISTOR 560Ω,1/
R4005		MG RESISTOR 5.6kΩ,1
R4006		MG RESISTOR 0Ω,1/10
R4007		MG RESISTOR 1kΩ,1/1
R4008		MG RESISTOR 1kΩ,1/1
R4009		MG RESISTOR 1kΩ,1/1
R4010		MG RESISTOR 1kΩ,1/1
R4011		MG RESISTOR 3.9kΩ,1
R4012		MG RESISTOR 2.2kΩ,1
R4013		MG RESISTOR 1kΩ,1/1
R4014		MG RESISTOR 2.2kΩ,1
R4015		MG RESISTOR 22kΩ,1/
R4016		MG RESISTOR 10kΩ,1/
R4017		MG RESISTOR 1kΩ,1/1
R4018		MG RESISTOR 1kΩ,1/1
R4019		MG RESISTOR 10kΩ,1/
R4020		MG RESISTOR 10kΩ,1/
R4021		MG RESISTOR 10kΩ,1/
R5101		RESISTOR 330kΩ,1/4W
R5102		RESISTOR 330kΩ,1/4W
R5103		RESISTOR 68kΩ,1/4W
R5104	482205311154	OMF RESISTOR 150kΩ,
R5106		MF RESISTOR 0.39Ω,1
R5107		RESISTOR 330Ω,1/2W
R5108		RESISTOR 2.2kΩ,1/4W
R5109		MG RESISTOR 680Ω,1/
R5110		MG RESISTOR 220kΩ,1
R5111		MG RESISTOR 820Ω,1/
R5112		MG RESISTOR 820Ω,1/
R5301		RESISTOR 1.8Ω,1/4W
R5302		MG RESISTOR 1kΩ,1/1
R5303		MG RESISTOR 1.2kΩ,1
R5304	! 482211713479	FUSI RESISTOR 220Ω,
R5305		RESISTOR 470Ω,1/4W
R5306		MG RESISTOR 33kΩ,1/
R5307		MG RESISTOR 1kΩ,1/1
R5308		MG RESISTOR 4.7kΩ,1
R5309		MG RESISTOR 2.2kΩ,1/10W

! ... Safety component, use only this type

R5310		MG RESISTOR 4.7kΩ,1/10W
R5311		MG RESISTOR 2.2kΩ,1
R5312		MG RESISTOR 4.7kΩ,1
R5313		RESISTOR 2.2kΩ,1/4W
R5314		MG RESISTOR 2.2kΩ,1
R5317		MG RESISTOR 27kΩ,1/
R5318		MG RESISTOR 27kΩ,1/
R5319		RESISTOR 510Ω,1/4W
R5320		MG RESISTOR 470Ω,1/
R5321		MG RESISTOR 220Ω,1/
R5322		MG RESISTOR 47kΩ,1/
R5323		RESISTOR 47kΩ,1/4W
R5324		RESISTOR 1kΩ,1/4W
R5331		MG RESISTOR 0Ω,1/10
R6020		MG RESISTOR 0Ω,1/10
R6021		MG RESISTOR 0Ω,1/10
R6022		MG RESISTOR 0Ω,1/10
R6023		MG RESISTOR 0Ω,1/10
R6030		MG RESISTOR 1kΩ,1/1
R6031		MG RESISTOR 270Ω,1/
R6032		MG RESISTOR 3.9kΩ,1
R6033		MG RESISTOR 1.8kΩ,1
R6050		MG RESISTOR 100Ω,1/
R6051		MG RESISTOR 100Ω,1/
R6052		MG RESISTOR 100Ω,1/
R6082		MG RESISTOR 10kΩ,1/
R6508		MG RESISTOR 0Ω,1/10
R6510		MG RESISTOR 0Ω,1/10
R6553		RESISTOR 0Ω,1/4W
R6554		MG RESISTOR 0Ω,1/10
R7530		MG RESISTOR 75Ω,1/1W0W
VR2251	996500000895	TRIM RESISTOR 47K

CAPACITORS

C1		E CAPACITOR 10µF,16V
C3		CAPACITOR 1µF,16V
C5		CAPACITOR 1µF,16V
C6		CAPACITOR 0.1µF,25V
C7		E CAPACITOR 100µF,1
C9		CAPACITOR 1µF,16V
C11		CAPACITOR 1µF,16V
C12		CAPACITOR 0.047µF,2
C13		E CAPACITOR 3.3µF,5
C14		CAPACITOR 0.033µF,2
C16		CAPACITOR 1µF,16V
C19		CAPACITOR 47pF,50V
C20		E CAPACITOR 2.2µF,5
C21		CAPACITOR 0.056µF,1
C23		CAPACITOR 0.022µF,5
C24		CAPACITOR 0.47µF,16
C25		CAPACITOR 0.1µF,25V
C27		CAPACITOR 100pF,50V
C29		E CAPACITOR 4.7µF,2
C30		E CAPACITOR 4.7µF,2
C31		CAPACITOR 0.022µF,5
C32		CAPACITOR 0.01µF,50
C34	996500000512	F CAPACITOR 0.1µF,5
C37		E CAPACITOR 47µF,16
C41		CAPACITOR 0.1µF,25V
C42		CAPACITOR 0.01µF,50
C43		CAPACITOR 0.01µF,50
C45		CAPACITOR 0.1µF,25V
C46		CAPACITOR 100pF,50V
C47		CAPACITOR 0.1µF,25V
C48		E CAPACITOR 47µF,6.
C49		CAPACITOR 220pF,50V
C54		E CAPACITOR 10µF,16
C55		E CAPACITOR 10µF,16
C56		E CAPACITOR 3.3µF,5
C57		CAPACITOR 0.1µF,25V
C58		CAPACITOR 0.1µF,25V
C59		CAPACITOR 0.047µF,2
C62		CAPACITOR 0.1µF,25V
C63		CAPACITOR 150pF,50V
C64		E CAPACITOR 220µF,6
C65		CAPACITOR 0.1µF,25V
C73		CAPACITOR 0.01µF,50
C74		MG RESISTOR 0Ω,1/10W
C76		CAPACITOR 0.01µF,50V
C77		CAPACITOR 27pF,50V
C79		CAPACITOR 12pF,50V
C85		CAPACITOR 0.01µF,50
C86		E CAPACITOR 47µF,16
C87		CAPACITOR 0.01µF,50
C88		CAPACITOR 0.01µF,50
C89		CAPACITOR 0.01µF,50
C90		CAPACITOR 0.01µF,50
C91		CAPACITOR 0.1µF,25V
C92		MG RESISTOR 6.8kΩ,1
C98		CAPACITOR 1µF,16V
C107		CAPACITOR 5pF,50V
C134		CAPACITOR 0.1µF,25V
C141		CAPACITOR 0.1µF,25V
C201		E CAPACITOR 220µF,6
C204		CAPACITOR 10pF,50V
C206		CAPACITOR 33pF,50V
C207		CAPACITOR 33pF,50V
C209		CAPACITOR 0.47µF,16
C212		CAPACITOR 0.1µF,25V
C213		E CAPACITOR 4.7µF,2
C214		CAPACITOR 0.22µF,16
C215		CAPACITOR 0.22µF,16
C216		E CAPACITOR 220µF,6
C217		CAPACITOR 56pF,50V
C218		CAPACITOR 1µF,10V
C222		CAPACITOR 1µF,10V
C402		CAPACITOR 0.01µF,50
C403		CAPACITOR 15pF,50V
C404		CAPACITOR 0.001µF,5
C406		CAPACITOR 47pF,50V
C407		CAPACITOR 0.022µF,5
C408		CAPACITOR 120pF,50V
C409		CAPACITOR 0.01µF,50
C2002		E CAPACITOR 47µF,16
C2003		CAPACITOR 0.012µF,5
C2004		E CAPACITOR 22µF,16
C2005		CAPACITOR 0.001µF,5
C2006		CAPACITOR 330pF,50V
C2007		E CAPACITOR 10µF,16
C2008		CAPACITOR 0.0015µF,
C2009		E CAPACITOR 4.7µF,2
C2010		E CAPACITOR 4.7µF,2
C2011		CAPACITOR 0.033µF,2
C2013		CAPACITOR 0.033µF,2
C2015		E CAPACITOR 22µF,16
C2016		E CAPACITOR 4.7µF,2
C2051		CAPACITOR 330pF,50V
C2052	996500000896	F CAPACITOR 0.033µF
C2053		CAPACITOR 0.0033µF,
C2054		CAPACITOR 0.01µF,50
C2055		E CAPACITOR 10µF,16
C2061	996500000896	F CAPACITOR 0.033µF
C2062		CAPACITOR 0.0033µF,
C2063		CAPACITOR 0.01µF,50
C2064		E CAPACITOR 10µF,16
C2101		E CAPACITOR 4.7µF,2
C2102		E CAPACITOR 22µF,16
C2151		CAPACITOR 100pF,50V
C2152		CAPACITOR 0.01µF,50
C2201		E CAPACITOR 0.1µF,5
C2202		E CAPACITOR 0.1µF,5
C2204		E CAPACITOR 22µF,16
C2205		E CAPACITOR 4.7µF,2
C2206		E CAPACITOR 4.7µF,2
C2207		E CAPACITOR 47µF,6.
C2208		E CAPACITOR 10µF,16
C2209		E CAPACITOR 10µF,16
C2210		E CAPACITOR 10µF,16
C2211		E CAPACITOR 10µF,16
C2212		E CAPACITOR 47µF,6.
C2213		E CAPACITOR 47µF,6.
C2214		CAPACITOR 0.01µF,50
C2215		E CAPACITOR 10µF,16
C2216		E CAPACITOR 1µF,50V
C2217		E CAPACITOR 1µF,50V
C2218		E CAPACITOR 10µF,16
C2219		E CAPACITOR 10µF,16
C2220		E CAPACITOR 47µF,16
C2221		E CAPACITOR 10µF,16
C2222		E CAPACITOR 22µF,16V

! ... Safety component, use only this type

C2225		E CAPACITOR 0.22µF,
C2226		E CAPACITOR 10µF,16
C2227		E CAPACITOR 10µF,16
C2230		CAPACITOR 0.047µF,1
C2231		CAPACITOR 0.015µF,50V
C2232		E CAPACITOR 0.22µF,
C2233		CAPACITOR 0.015µF,5
C2234		CAPACITOR 0.047µF,1
C2251		CAPACITOR 0.1µF,25V
C2252		CAPACITOR 0.0022µF,
C2253		CAPACITOR 0.0022µF,
C2256		CAPACITOR 0.1µF,25V
C2257		E CAPACITOR 47µF,6.
C2258		CAPACITOR 0.1µF,25V
C2259		CAPACITOR 0.1µF,25V
C2260		CAPACITOR 180pF,50V
C2261		CAPACITOR 0.01µF,50
C2262		CAPACITOR 100pF,50V
C2263		CAPACITOR 100pF,50V
C2501		E CAPACITOR 100µF,6
C2502		CAPACITOR 0.0056µF,
C2503		E CAPACITOR 1µF,50V
C2505		E CAPACITOR 100µF,6
C2506		CAPACITOR 0.01µF,50
C2507	996500000473	TA E CAPACITOR 22µF
C2508		CAPACITOR 0.01µF,50
C2509	482212411662	TA E CAPACITOR 10µF
C2510		E CAPACITOR 47µF,16
C2511		CAPACITOR 0.0022µF,
C2512		CAPACITOR 330pF,50V
C2513		CAPACITOR 0.01µF,50
C2518		CAPACITOR 0.001µF,5
C2519		CAPACITOR 0.01µF,50
C2520		CAPACITOR 0.01µF,50
C3002		CAPACITOR 0.01µF,50
C3003		E CAPACITOR 10µF,50
C3004		CAPACITOR 0.1µF,25V
C3011		E CAPACITOR 4700µF,
C3012		E CAPACITOR 100µF,6
C3013		CAPACITOR 0.01µF,50
C3014	996500000473	TA E CAPACITOR 22µF
C3016		CAPACITOR 0.1µF,25V
C3019		CAPACITOR 100pF,50V
C3020		CAPACITOR 100pF,50V
C3021		CAPACITOR 100pF,50V
C3022		CAPACITOR 0.1µF,25V
C3023	482212411662	TA E CAPACITOR 10µF
C3024		CAPACITOR 22pF,50V
C3025	482212511112	TRIM CAPACITOR
C3026		CAPACITOR 0.01µF,50
C3027	482212411662	TA E CAPACITOR 10µF
C3028		CAPACITOR 100pF,50V
C3029		CAPACITOR 100pF,50V
C3030	996500000473	TA E CAPACITOR 22µF
C3031		CAPACITOR 0.1µF,25V
C3032		CAPACITOR 0.1µF,25V
C3033		CAPACITOR 0.1µF,25V
C3036		CAPACITOR 18pF,50V
C3037		CAPACITOR 12pF,50V
C3040		CAPACITOR 1µF,16V
C3301	996500000473	TA E CAPACITOR 22µF
C3302		CAPACITOR 0.01µF,50
C3304		CAPACITOR 0.01µF,50
C3501		CAPACITOR 0.01µF,50
C3502		E CAPACITOR 3.3µF,2
C3503		CAPACITOR 0.1µF,25V
C3961		CAPACITOR 0.1µF,25V
C4001	996500000473	TA E CAPACITOR 22µF
C4002		CAPACITOR 0.1µF,25V
C4003		CAPACITOR 0.001µF,5
C4004	996500000473	TA E CAPACITOR 22µF
C4005		CAPACITOR 0.0022µF,
C4006	996500000474	TA E CAPACITOR 47µF
C4007		CAPACITOR 560pF,50V
C4008		CAPACITOR 1µF,10V
C4009		CAPACITOR 0.056µF,5
C4010		CAPACITOR 0.022µF,2
C4011		CAPACITOR 0.1µF,25V
C4012		CAPACITOR 0.22µF,25
C4013		CAPACITOR 0.056µF,5
C4014		CAPACITOR 100pF,50V
C4015		CAPACITOR 0.001µF,50V
C5001	! 482212110675	F CAPACITOR 0.068µF
C5002	! 996500000897	F CAPACITOR 0.033µF
C5005	! 482212614039	CAPACITOR 0.0022µF,
C5006		E CAPACITOR 68µF,40
C5101		CAPACITOR 0.0047µF,
C5102		CAPACITOR 33pF,1kV
C5104		E CAPACITOR 1µF,50V
C5105	482212170419	F CAPACITOR 0.018µF
C5106		CAPACITOR 270pF,50V
C5107	532212142386	F CAPACITOR 0.1µF,5
C5110		CAPACITOR 33pF,1kV
C5201		E CAPACITOR 220µF,6
C5202		E CAPACITOR 1200µF,
C5203		E CAPACITOR 2200µF,
C5204		E CAPACITOR 4.7µF,1
C5205		E CAPACITOR 10µF,50
C5206		E CAPACITOR 180µF,2
C5207		E CAPACITOR 220µF,1
C5208		E CAPACITOR 220µF,1
C5301		E CAPACITOR 220µF,6
C5302		E CAPACITOR 10µF,16
C5303		E CAPACITOR 100µF,1
C5304	482212110554	F CAPACITOR 0.018µF
C5305		CAPACITOR 0.01µF,50
C5306		E CAPACITOR 100µF,1
C5307		E CAPACITOR 22µF,16
C5308		E CAPACITOR 47µF,25
C5309		E CAPACITOR 100µF,1
C5310		E CAPACITOR 1µF,50V
C6006		CAPACITOR 0.01µF,50
C6007		E CAPACITOR 330µF,1
C6008		CAPACITOR 0.01µF,50
C6012		E CAPACITOR 47µF,16
C6013		CAPACITOR 0.01µF,50
C6014		CAPACITOR 0.01µF,50
C6016		CAPACITOR 0.01µF,50
C6020		CAPACITOR 100pF,50V
C6021		CAPACITOR 100pF,50V
C6022		CAPACITOR 100pF,50V
C6032		CAPACITOR 0.047µF,5
C6033		MG RESISTOR 0Ω,1/10
C6037		E CAPACITOR 10µF,50
C6055		CAPACITOR 22pF,50V

COILS

L1	482215711354	COIL 10µH
L3	996500000898	COIL 6.8µH
L4	482215711354	COIL 10µH
L7	482215711354	COIL 10µH
L9	482215711354	COIL 10µH
L12	482215220678	COIL 33µH
L13	996500000899	COIL 12µH
L14	482215711752	COIL 82µH
L16	482215711354	COIL 10µH
L18	996500000900	COIL
L201	482215753302	COIL 1µH
L202	482215220678	COIL 33µH
L203	996500000475	COIL 22µH
L204	482215711354	COIL 10µH
L206	996500000475	COIL 22µH
L401	482215711706	COIL 10µH
L402	482215711457	COIL 15µH
L2251	482215711354	COIL 10µH
L2252	482215711356	COIL 150µH
L2501	482215711281	COIL 2.2µH
L3011	996500000901	COIL 33µH
L3012	996500000901	COIL 33µH
L5201	482215711287	COIL 33µH
L5202	996500000902	COIL 33µH
L6002	482215711354	COIL 10µH
L6004	482215711354	COIL 10µH
L6031	482215753302	COIL 1µH
LPF250	996500000990	LOW PASS FILTER

RESONATORS

CF2501	996500000991	RESONATOR
CF3301	482224280342	RESONATOR

! ... Safety component, use only this type

COIL

LC2501	482215711354	COIL 10µH

CRYSTALS

X1	996500000273	CRYSTAL RESONATOR
X3001	482224210938	CRYSTAL RESONATOR
X3002	996500000274	CRYSTAL RESONATOR

SWITCH

S3002	482227614013	PUSH SWITCH

PHOTO COUPLERS

PC3001		482213011171	GP3S123
PC3002		482213011171	GP3S123
PC5101	!	482213010431	PC123F2
PC5301	!	482213010421	PS2501-1

TRANSFORMERS & TUNER

T2051	482214611074	OSC TRANSFORMER
T2052	482214611075	OSC TRANSFORMER
T5001 !	996500000903	SW TRANSFORMER
TU6001	996500000275	TUNER

CONNECTORS

CN1	996500000992	FPC CONNECTOR,(1-13)
CN2001	482226511355	FPC CONNECTOR,(1-7)AC HEAD
CN2002	482226511356	CONNECTOR,(1-2)FE HEAD
CN3001	482226511171	FPC CONNECTOR,(1-5)DRUM
CN3002	482226511356	CONNECTOR,(1-2)L.MOTOR
CN3003	482226511621	CONNECTOR,(1-8)CAP
CN3004	482226511358	CONNECTOR,(1-4)R.ENC
CN3011	482226511187	FPC CONNECTOR,(1-14)
CN3012	482226511189	FPC CONNECTOR,(1-6)J
CN3501	996500000993	CONNECTOR,(1-6)DD MOTOR
CN5001 !	482226511371	CONNECTOR,(1-2)AC IN
CN7501	996500000922	CONNECTOR,(1-9)TERMI
CN7502	996500000923	CONNECTOR,(1-10)TERM
CN7503	996500000923	CONNECTOR,(1-10)TERM
CN7504	482226511171	CONNECTOR,(1-5)
CP4001 !	532215753342	ICP-N15
CP5301 !	482220961685	ICP-N38
CP5302 !	482220963612	ICP-N25

FUSE

F5001 !	482207032002	FUSE T2.0A

5. 3D SVHS BOARD

PRINTED CIRCUIT BOARD

PW1	996500000924	3D SVHS BOARD ASSY

INTEGRATED CIRCUITS

IC1001	482220916458	JCP8008
IC1002	996500000925	VC2076MP-XE
IC1006	996500000926	HA118092FP1
IC1007	996500000927	BA10358F-XE
IC1401	996500000928	JCP8010-2
IC1402	996500000929	MN47V77S-XE

TRANSISTORS

Q1004	482213060997	DTC144WU
Q1005	482213060997	DTC144WU
Q1006	482213060862	2SA1576A/QR/-X
Q1007	482213060669	2SC4081/QRS/-X
Q1012	482213060669	2SC4081/QRS/-X
Q1014	482213060669	2SC4081/QRS/-X
Q1015	482213060669	2SC4081/QRS/-X
Q1016	482213060997	DTC144WU
Q1021	482213060862	2SA1576A/QR/-X
Q1022	482213060997	DTC144WU
Q1401	996500000930	2SC1317/RS/-T
Q1402	482213060669	2SC4081/QRS/-X
Q1403	482213060669	2SC4081/QRS/-X
Q1404	996500000463	2SC4081/S/-X
Q1405	482213060669	2SC4081/QRS/-X
Q1406	482213060862	2SA1576A/QR/-X
Q1407	482213060862	2SA1576A/QR/-X
Q1408	482213060862	2SA1576A/QR/-X
Q1409	482213060862	2SA1576A/QR/-X
Q1410	482213060669	2SC4081/QRS/-X
Q1411	482213060862	2SA1576A/QR/-X
Q1412	482213060997	DTC144WU
Q1413	482213060997	DTC144WU
Q1414	482213060997	DTC144WU
Q1416	482213060997	DTC144WU
Q1417	482213060669	2SC4081/QRS/-X
Q1418	482213060669	2SC4081/QRS/-X

DIODES

D1002	482213032778	1SS133
D1003	482213032778	1SS133
D1004	482213032778	1SS133
D1006	482213032778	1SS133
D1401	996500000931	RD4.3ES/B2/-T2
D1402	482213032778	1SS133

RESISTORS

R1002		MG RESISTOR 10kΩ,1/10W
R1003		MG RESISTOR 220Ω,1/
R1004		MG RESISTOR 0Ω,1/10
R1008		MG RESISTOR 10kΩ,1/
R1009		MG RESISTOR 1.2MΩ,1
R1010	996500000519	CMF RESISTOR 3.3kΩ,
R1011	996500000519	CMF RESISTOR 3.3kΩ,
R1012	996500000509	CMF RESISTOR 1.5kΩ,
R1013	996500000520	CMF RESISTOR 470Ω,1
R1014	996500000521	CMF RESISTOR 1kΩ,1/
R1015	996500000521	CMF RESISTOR 1kΩ,1/
R1016		MG RESISTOR 1.2kΩ,1
R1017		MG RESISTOR 1.6kΩ,1
R1018		MG RESISTOR 150Ω,1/
R1019		MG RESISTOR 390Ω,1/
R1020		MG RESISTOR 3.3kΩ,1
R1021		MG RESISTOR 3.3kΩ,1
R1023		MG RESISTOR 2.7kΩ,1
R1025		MG RESISTOR 82kΩ,1/
R1026		MG RESISTOR 1kΩ,1/1
R1027		MG RESISTOR 560Ω,1/
R1028		MG RESISTOR 560Ω,1/
R1029		MG RESISTOR 47kΩ,1/
R1030		MG RESISTOR 47kΩ,1/
R1031		MG RESISTOR 5.6kΩ,1
R1032		MG RESISTOR 180Ω,1/
R1035		MG RESISTOR 0Ω,1/10
R1037		MG RESISTOR 0Ω,1/10
R1038		MG RESISTOR 10kΩ,1/
R1039		MG RESISTOR 390kΩ,1
R1045		MG RESISTOR 2.7kΩ,1
R1046		MG RESISTOR 27kΩ,1/
R1047		MG RESISTOR 10kΩ,1/
R1048		MG RESISTOR 10kΩ,1/
R1049		MG RESISTOR 4.7MΩ,1
R1053		MG RESISTOR 1kΩ,1/1
R1054		MG RESISTOR 220Ω,1/
R1055	996500000932	CMF RESISTOR 56kΩ,1/10W

! ... Safety component, use only this type

R1056	996500000933	CMF RESISTOR 220kΩ,
R1058		MG RESISTOR 27kΩ,1/
R1059		MG RESISTOR 0Ω,1/10
R1060		MG RESISTOR 0Ω,1/10
R1063		MG RESISTOR 1.5kΩ,1
R1064		MG RESISTOR 3.3kΩ,1
R1065		MG RESISTOR 1kΩ,1/1
R1066		MG RESISTOR 2.7kΩ,1
R1067		MG RESISTOR 1kΩ,1/1
R1068		MG RESISTOR 360Ω,1/
R1069		MG RESISTOR 470Ω,1/
R1070		MG RESISTOR 390Ω,1/
R1071		MG RESISTOR 180kΩ,1
R1072		MG RESISTOR 6.8kΩ,1
R1073		MG RESISTOR 0Ω,1/10
R1401		MG RESISTOR 330Ω,1/
R1402		MG RESISTOR 100Ω,1/
R1403		MG RESISTOR 22kΩ,1/
R1404		MG RESISTOR 12kΩ,1/
R1405		MG RESISTOR 1kΩ,1/1
R1406		MG RESISTOR 470Ω,1/
R1407		MG RESISTOR 820Ω,1/
R1408		MG RESISTOR 2.2kΩ,1
R1409		MG RESISTOR 680Ω,1/
R1410		MG RESISTOR 22kΩ,1/
R1411		MG RESISTOR 24kΩ,1/
R1412		MG RESISTOR 100kΩ,1
R1413		MG RESISTOR 470Ω,1/
R1414		MG RESISTOR 330Ω,1/
R1415		MG RESISTOR 1kΩ,1/1
R1416		MG RESISTOR 470Ω,1/
R1417		MG RESISTOR 820Ω,1/
R1418		MG RESISTOR 470Ω,1/
R1419		MG RESISTOR 220Ω,1/
R1420		MG RESISTOR 1.5kΩ,1
R1422		MG RESISTOR 390Ω,1/
R1423		MG RESISTOR 820Ω,1/
R1425		MG RESISTOR 1kΩ,1/1
R1428		MG RESISTOR 0Ω,1/10
R1429		MG RESISTOR 0Ω,1/10
R1430		MG RESISTOR 0Ω,1/10
R1431		MG RESISTOR 0Ω,1/10
R1432		MG RESISTOR 0Ω,1/10
R1433		MG RESISTOR 0Ω,1/10
R1434		MG RESISTOR 47kΩ,1/
R1435		MG RESISTOR 2.4kΩ,1
R1436		MG RESISTOR 15kΩ,1/
R1437		MG RESISTOR 12kΩ,1/
R1438		MG RESISTOR 820Ω,1/
R1439		MG RESISTOR 100Ω,1/
R1440		MG RESISTOR 22kΩ,1/
R1442		MG RESISTOR 22kΩ,1/
R1443		MG RESISTOR 4.7kΩ,1
R1444		MG RESISTOR 220Ω,1/
R1445		MG RESISTOR 1kΩ,1/1
R1446		MG RESISTOR 2.2kΩ,1
R1447		MG RESISTOR 1.5kΩ,1
R1448		MG RESISTOR 10kΩ,1/
R1449		MG RESISTOR 47Ω,1/1
R1451		MG RESISTOR 680Ω,1/
R1452		MG RESISTOR 1kΩ,1/1
R1454		MG RESISTOR 1kΩ,1/1
R1455		MG RESISTOR 470Ω,1/
R1456		MG RESISTOR 470Ω,1/
R1457		MG RESISTOR 1kΩ,1/1
R1458		MG RESISTOR 1kΩ,1/1
R1459		MG RESISTOR 1kΩ,1/1
R1460		MG RESISTOR 100kΩ,1
R1461		MG RESISTOR 1.8kΩ,1
R1462		MG RESISTOR 2.7kΩ,1
R1463		MG RESISTOR 6.8kΩ,1
R1465		MG RESISTOR 820Ω,1/
R1467		MG RESISTOR 6.8kΩ,1
R1468		MG RESISTOR 1.6kΩ,1
R1470		MG RESISTOR 10kΩ,1/
R1471		MG RESISTOR 33kΩ,1/
R1472		MG RESISTOR 4.7kΩ,1/10W
VR1002	996500000994	V RESISTOR 100K
VR1401	996500000995	TRIM RESISTOR 10K

CAPACITORS

C1001		E CAPACITOR 47µF,6.3V
C1002		E CAPACITOR 0.47µF,
C1003		E CAPACITOR 10µF,16
C1005		E CAPACITOR 4.7µF,2
C1006		CAPACITOR 0.01µF,50
C1007		CAPACITOR 0.1µF,25V
C1010		CAPACITOR 0.1µF,25V
C1011		CAPACITOR 15pF,50V
C1013		CAPACITOR 0.1µF,25V
C1014		E CAPACITOR 2.2µF,5
C1015		E CAPACITOR 4.7µF,2
C1016		E CAPACITOR 2.2µF,5
C1017		CAPACITOR 0.01µF,50
C1019		CAPACITOR 0.01µF,50
C1020		CAPACITOR 0.01µF,50
C1021		CAPACITOR 0.01µF,50
C1022		E CAPACITOR 1µF,50V
C1023		E CAPACITOR 2.2µF,5
C1024		CAPACITOR 0.01µF,50
C1026		CAPACITOR 0.1µF,25V
C1027		CAPACITOR 0.1µF,25V
C1028		E CAPACITOR 330µF,6
C1029		E CAPACITOR 0.1µF,5
C1030		E CAPACITOR 1µF,50V
C1031		E CAPACITOR 2.2µF,5
C1033		E CAPACITOR 1µF,50V
C1034	482212411744	NP E CAPACITOR 1µF,
C1035		E CAPACITOR 4.7µF,2
C1036		E CAPACITOR 22µF,6.
C1037		E CAPACITOR 2.2µF,5
C1038		E CAPACITOR 2.2µF,5
C1039		E CAPACITOR 47µF,16
C1040		CAPACITOR 0.01µF,50
C1041		CAPACITOR 300pF,50V
C1042		CAPACITOR 300pF,50V
C1043		CAPACITOR 220pF,50V
C1044		CAPACITOR 82pF,50V
C1045		CAPACITOR 0.01µF,50
C1046		CAPACITOR 270pF,50V
C1047		CAPACITOR 100pF,50V
C1048		CAPACITOR 180pF,50V
C1049		CAPACITOR 300pF,50V
C1050		CAPACITOR 300pF,50V
C1056		CAPACITOR 0.01µF,50
C1057		CAPACITOR 0.01µF,50
C1058		CAPACITOR 0.01µF,50
C1063		CAPACITOR 100pF,50V
C1064		CAPACITOR 0.01µF,50
C1065		E CAPACITOR 220µF,6
C1066		CAPACITOR 0.022µF,2
C1067		CAPACITOR 0.01µF,50
C1068		E CAPACITOR 1µF,50V
C1069		E CAPACITOR 10µF,16
C1070		CAPACITOR 0.01µF,50
C1071		CAPACITOR 0.01µF,50
C1072		CAPACITOR 0.01µF,50
C1073		CAPACITOR 15pF,50V
C1074		CAPACITOR 0.01µF,50
C1082		CAPACITOR 0.01µF,50
C1086		CAPACITOR 0.01µF,50
C1087		CAPACITOR 0.01µF,50
C1088		CAPACITOR 0.01µF,50
C1089		CAPACITOR 0.01µF,50
C1092		CAPACITOR 0.01µF,50
C1095		CAPACITOR 0.01µF,50
C1401		E CAPACITOR 33µF,16
C1402		CAPACITOR 0.01µF,50
C1403		CAPACITOR 0.01µF,50
C1404		CAPACITOR 0.01µF,50
C1405		CAPACITOR 22pF,50V
C1406		CAPACITOR 6pF,50V
C1407		CAPACITOR 39pF,50V
C1408		CAPACITOR 0.1µF,25V
C1409		CAPACITOR 0.01µF,50
C1410		E CAPACITOR 330µF,6
C1411		E CAPACITOR 10µF,16
C1412		CAPACITOR 0.1µF,25V
C1413		CAPACITOR 0.1µF,25V
C1414		CAPACITOR 0.01µF,50

! ... Safety component, use only this type

C1415	CAPACITOR 220pF,50V
C1416	CAPACITOR 390pF,50V
C1417	CAPACITOR 68pF,50V
C1418	CAPACITOR 8pF,50V
C1419	CAPACITOR 0.1µF,25V
C1420	CAPACITOR 0.1µF,25V
C1421	CAPACITOR 68pF,50V
C1422	CAPACITOR 33pF,50V
C1424	CAPACITOR 0.1µF,25V
C1425	E CAPACITOR 330µF,6
C1426	CAPACITOR 0.01µF,50
C1427	CAPACITOR 0.1µF,25V
C1428	CAPACITOR 0.1µF,25V
C1429	CAPACITOR 0.1µF,25V
C1430	CAPACITOR 0.1µF,25V
C1431	CAPACITOR 0.1µF,25V
C1432	E CAPACITOR 4.7µF,2
C1433	CAPACITOR 0.1µF,25V
C1434	E CAPACITOR 330µF,6
C1435	E CAPACITOR 1µF,50V
C1436	CAPACITOR 0.1µF,25V
C1437	CAPACITOR 0.1µF,25V
C1438	CAPACITOR 0.1µF,25V
C1439	CAPACITOR 0.1µF,25V
C1440	CAPACITOR 0.1µF,25V
C1441	CAPACITOR 0.1µF,25V
C1442	CAPACITOR 0.1µF,25V
C1443	CAPACITOR 0.1µF,25V
C1444	E CAPACITOR 1µF,50V
C1445	CAPACITOR 0.1µF,25V
C1446	CAPACITOR 0.1µF,25V
C1447	CAPACITOR 0.0022µF,
C1448	CAPACITOR 0.1µF,25V
C1449	E CAPACITOR 330µF,6
C1450	CAPACITOR 0.1µF,25V
C1451	CAPACITOR 0.1µF,25V
C1454	CAPACITOR 22pF,50V
C1455	CAPACITOR 39pF,50V
C1457	CAPACITOR 0.1µF,25V
C1458	CAPACITOR 0.01µF,50
C1459	CAPACITOR 47pF,50V
C1460	CAPACITOR 47pF,50V
C1461	CAPACITOR 47pF,50V
C1462	CAPACITOR 47pF,50V
C1463	MG RESISTOR 0Ω,1/10
C1464	CAPACITOR 33pF,50V
C1465	CAPACITOR 47pF,50V
C1468	CAPACITOR 47pF,50V
C1469	CAPACITOR 47pF,50V
C1470	CAPACITOR 47pF,50V
C1471	CAPACITOR 47pF,50V
C1472	CAPACITOR 47pF,50V
C1473	CAPACITOR 47pF,50V

COILS

L1001	482215711288	COIL 22µH
L1004	482215711746	COIL 68µH
L1006	482215711284	COIL 100µH
L1008	482215711354	COIL 10µH
L1401	482215220678	COIL 33µH
L1402	482215711354	COIL 10µH
L1404	482215762767	COIL 8.2µH
L1405	482215711747	COIL 15µH
L1406	996500000898	COIL 6.8µH
L1407	482215711354	COIL 10µH
L1408	482215711354	COIL 10µH
L1409	482215220678	COIL 33µH
L1410	482215770503	COIL 4.7µH
L1411	996500000904	COIL 1µH
LC1401	482215711732	NOISE FILTER
LC1402	996500000905	NOISE FILTER

CONNECTORS

CN1001	482226511417	HEADER PIN
CN1002	482226511417	HEADER PIN
CN1003	996500000906	FPC CONNECTOR,(1-7)

6. TERMINAL BOARD

INTEGRATED CIRCUITS

IC7101	996500000908	BH7635S
IC7102	996500000909	MM1231XF

TRANSISTORS

Q7102	482213061075	2SB1218A/QR/-X
Q7103	482213061075	2SB1218A/QR/-X
Q7104	482213061075	2SB1218A/QR/-X
Q7107	482213061075	2SB1218A/QR/-X
Q7108	482213060873	2SD1819A/QRS/-X
Q7109	482213060873	2SD1819A/QRS/-X
Q7110	482213060873	2SD1819A/QRS/-X
Q7111	482213061287	UN5211
Q7112	482213060873	2SD1819A/QRS/-X

RESISTORS

R7104	MG RESISTOR 75Ω,1/10W
R7105	MG RESISTOR 75Ω,1/1
R7106	MG RESISTOR 75Ω,1/1
R7107	MG RESISTOR 75Ω,1/1
R7108	RESISTOR 390Ω,1/2W
R7109	MG RESISTOR 0Ω,1/10
R7110	RESISTOR 390Ω,1/2W
R7111	MG RESISTOR 100Ω,1/
R7112	MG RESISTOR 180Ω,1/
R7113	MG RESISTOR 430Ω,1/
R7114	MG RESISTOR 470Ω,1/
R7116	MG RESISTOR 0Ω,1/10
R7117	MG RESISTOR 0Ω,1/10
R7121	MG RESISTOR 75Ω,1/1
R7123	MG RESISTOR 100Ω,1/
R7124	MG RESISTOR 100Ω,1/
R7125	MG RESISTOR 100Ω,1/
R7126	MG RESISTOR 100Ω,1/
R7127	RESISTOR 75Ω,1/4W
R7128	RESISTOR 10kΩ,1/4W
R7129	MG RESISTOR 10kΩ,1/
R7130	MG RESISTOR 220Ω,1/
R7131	RESISTOR 390Ω,1/2W
R7132	MG RESISTOR 68Ω,1/1
R7133	MG RESISTOR 3.3kΩ,1
R7134	MG RESISTOR 4.7kΩ,1
R7135	MG RESISTOR 0Ω,1/10
R7136	MG RESISTOR 2.7kΩ,1
R7137	MG RESISTOR 1kΩ,1/1
R7138	MG RESISTOR 560Ω,1/
R7139	MG RESISTOR 6.8kΩ,1
R7140	MG RESISTOR 75Ω,1/1
R7141	MG RESISTOR 100Ω,1/
R7142	MG RESISTOR 100Ω,1/
R7143	MG RESISTOR 75Ω,1/1
R7144	MG RESISTOR 75Ω,1/1
R7145	MG RESISTOR 100Ω,1/
R7146	MG RESISTOR 100Ω,1/
R7147	MG RESISTOR 2.2kΩ,1
R7149	MG RESISTOR 22kΩ,1/
R7157	MG RESISTOR 0Ω,1/10
R7162	MG RESISTOR 100Ω,1/10W

CAPACITORS

C7102	E CAPACITOR 470µF,6.3V
C7103	CAPACITOR 0.01µF,50V
C7104	E CAPACITOR 47µF,16
C7105	CAPACITOR 0.01µF,50
C7106	CAPACITOR 0.022µF,5
C7108	CAPACITOR 0.022µF,5
C7109	E CAPACITOR 47µF,16
C7110	CAPACITOR 0.01µF,50
C7112	CAPACITOR 33pF,50V

! ... Safety component, use only this type

C7113		CAPACITOR 0.022µF,50V
C7114		CAPACITOR 0.022µF,5
C7115		CAPACITOR 680pF,50V
C7116		CAPACITOR 680pF,50V
C7119		CAPACITOR 0.001µF,5
C7120		CAPACITOR 0.001µF,5
C7124		E CAPACITOR 47µF,16
C7125		E CAPACITOR 47µF,16
C7126		MG RESISTOR 0Ω,1/10
C7127		CAPACITOR 0.01µF,50
C7128		CAPACITOR 680pF,50V
C7129		CAPACITOR 680pF,50V
C7133		CAPACITOR 0.001µF,5
C7134		CAPACITOR 0.001µF,5
C7137		E CAPACITOR 100µF,1
C7138		CAPACITOR 0.01µF,50
C7139		CAPACITOR 0.01µF,50
C7140		CAPACITOR 0.01µF,50
C7142		CAPACITOR 0.01µF,50
C7143		E CAPACITOR 10µF,16
C7144		CAPACITOR 0.01µF,50
C7146		MG RESISTOR 0Ω,1/10
C7147		E CAPACITOR 10µF,16
C7148		CAPACITOR 100pF,50V
C7150		CAPACITOR 0.001µF,5
C7152		CAPACITOR 0.001µF,5
C7158		CAPACITOR 47pF,50V
C7161		E CAPACITOR 47µF,16V

COILS

L7105	996500000910	COIL 1µH
L7107	996500000911	COIL 0.22µH
L7108	482215771249	COIL 4.7µH
L7109	482215771249	COIL 4.7µH
L7110	482215771249	COIL 4.7µH
L7111	482215771249	COIL 4.7µH
L7112	996500000910	COIL 1µH
L7113	482215771249	COIL 4.7µH
L7114	482215771249	COIL 4.7µH
L7115	482215771249	COIL 4.7µH
L7116	482215771249	COIL 4.7µH
L7121	482215771249	COIL 4.7µH
L7123	482215771249	COIL 4.7µH

SWITCHES

SW7101	996500000912	SLIDE SWITCH
J7101	482226511443	RGB21PIN SOCKET,AV1
J7102	482226511443	RGB21PIN SOCKET,AV2
J7103	996500000913	PIN JACK,A.OUT(R)
J7104	996500000914	PIN JACK,A.OUT(L)
J7107	482226511418	S JACK,S OUT
J7109	996500000996	2.5 JACK
J7110	482226732001	MINI JACK,R.PAUSE

CONNECTORS

CN7101	996500000915	CONNECTOR,(1-9)MAIN
CN7102	996500000916	CONNECTOR,(1-10)MAIN
CN7103	996500000916	CONNECTOR,(1-10)MAIN
CN7104	482226511361	FPC CONNECTOR,(1-7)
CN7105	482226710949	FPC CONNECTOR,(1-4)

7. AUDIO CONTROL

CONNECTOR

CN1	482226511361	FPC CONNECTOR

8. DEMOD BOARD ASSEMBLY

PRINTED CIRCUIT BOARD

PW1	996500000516	DEMOD BOARD ASSY

INTEGRATED CIRCUIT

IC6701	996500000517	MSP34VCD

TRANSISTORS

Q6701	482213062793	2SC3068
Q6702	482213011393	2SC3354/TS/-T
Q6704	482213061906	DTC114EU
Q6705	482213061906	DTC114EU

DIODES

D6702	482213030862	MTZJ9.1B
D6703	482213030621	1N4148M
D6704	482213030621	1N4148M

RESISTORS

R6701	MG RESISTOR 100Ω,1/10W
R6702	MG RESISTOR 100Ω,1/
R6703	MG RESISTOR 270Ω,1/
R6704	MG RESISTOR 100Ω,1/
R6705	MG RESISTOR 4.7kΩ,1
R6706	MG RESISTOR 3.9kΩ,1
R6707	MG RESISTOR 47Ω,1/1
R6708	MG RESISTOR 1kΩ,1/1
R6709	MG RESISTOR 270Ω,1/
R6710	MG RESISTOR 150Ω,1/
R6712	MG RESISTOR 1kΩ,1/1
R6713	MG RESISTOR 10kΩ,1/
R6714	MG RESISTOR 1kΩ,1/1
R6715	MG RESISTOR 22kΩ,1/
R6716	MG RESISTOR 1kΩ,1/1
R6717	MG RESISTOR 22kΩ,1/
R6718	MG RESISTOR 680kΩ,1/10W

! ... Safety component, use only this type

CAPACITORS

C6703	E CAPACITOR 33µF,16V
C6704	E CAPACITOR 100µF,1
C6705	CAPACITOR 0.01µF,50
C6706	CAPACITOR 0.022µF,5
C6707	CAPACITOR 0.01µF,50
C6708	CAPACITOR 0.01µF,50
C6709	E CAPACITOR 33µF,16
C6710	CAPACITOR 0.0068µF,
C6711	CAPACITOR 0.0068µF,
C6712	E CAPACITOR 2.2µF,5
C6713	E CAPACITOR 2.2µF,5
C6714	CAPACITOR 0.22µF,16
C6717	CAPACITOR 0.022µF,5
C6718	E CAPACITOR 33µF,16
C6719	E CAPACITOR 10µF,16
C6720	E CAPACITOR 10µF,16
C6721	CAPACITOR 0.01µF,50
C6722	E CAPACITOR 10µF,16
C6723	CAPACITOR 0.01µF,50
C6727	CAPACITOR 47pF,50V
C6728	CAPACITOR 47pF,50V
C6729	CAPACITOR 8pF,50V
C6730	CAPACITOR 1pF,50V

COILS

L6701	482215753302	COIL 1µH
L6702	482215711755	COIL 3.3µH
L6703	482215711467	COIL 39µH
L6704	482215753302	COIL 1µH
L6705	482215711478	COIL 10µH
LC6701	482215711749	NOISE FILTER

CRYSTAL

X6701	482224210963	CRYSTAL RESONATOR

9. SW/DISPLAY BOARD

PRINTED CIRCUIT BOARD

PW1	996500000997	DISPLAY BOARD ASSY

INTEGRATED CIRCUITS

IC7001	482220916658	M35500BGP
IC7002	482220916157	PNA4655M00XB

DIODES

D7002	482213080793	RD9.1ES/B2/-T2
D7003	482213032778	1SS133
D7004	482213032778	1SS133
D7006	482213032778	1SS133
D7009	482213010433	SLR-342VC3F
D7011	482213010432	SLR-342MC3F

RESISTORS

R7001	RESISTOR 470Ω,1/4W
R7002	RESISTOR 470Ω,1/4W
R7003	RESISTOR 470Ω,1/4W
R7004	RESISTOR 470Ω,1/4W
R7005	RESISTOR 10kΩ,1/4W
R7006	RESISTOR 10kΩ,1/4W
R7007	RESISTOR 10kΩ,1/4W
R7008	RESISTOR 10kΩ,1/4W
R7009	RESISTOR 39kΩ,1/4W
R7013	RESISTOR 10kΩ,1/4W
R7015	RESISTOR 100kΩ,1/4W
R7020	RESISTOR 10kΩ,1/4W
R7021	RESISTOR 1.2kΩ,1/4W
R7022	RESISTOR 1.8kΩ,1/4W
R7023	RESISTOR 2.2kΩ,1/4W
R7024	RESISTOR 2.7kΩ,1/4W
R7025	RESISTOR 4.7kΩ,1/4W
R7026	RESISTOR 6.8kΩ,1/4W
R7030	RESISTOR 10kΩ,1/4W
R7031	RESISTOR 1.2kΩ,1/4W
R7032	RESISTOR 1.8kΩ,1/4W
R7033	RESISTOR 4.7kΩ,1/4W
R7035	RESISTOR 4.7kΩ,1/4W
R7036	RESISTOR 68kΩ,1/4W
R7040	RESISTOR 330Ω,1/4W
R7042	RESISTOR 330Ω,1/4W

CAPACITORS

C7001	CAPACITOR 0.1µF,50V
C7002	E CAPACITOR 10µF,50
C7007	E CAPACITOR 47µF,50
C7009	CAPACITOR 15pF,50V
C7010	CAPACITOR 0.1µF,50V
C7011	E CAPACITOR 220µF,1
C7012	CAPACITOR 0.0033µF,
C7019	CAPACITOR 0.022µF,2
C7192	CAPACITOR 680pF,50V
C7194	CAPACITOR 680pF,50V

COILS

L7191	996500000918	RESISTOR 100Ω,1/4W
L7192	996500000918	RESISTOR 100Ω,1/4W
L7196	996500000910	COIL 1µH

SWITCHES

S7001	482227614029	TACT SWITCH,POWER
S7002	482227614029	TACT SWITCH,CH+
S7003	482227614029	TACT SWITCH,CH-
S7004	482227614029	TACT SWITCH,REC
S7005	482227614029	TACT SWITCH,PLAY
S7006	482227614029	TACT SWITCH,PAUSE
S7007	482227614029	TACT SWITCH,STOP/EJE
S7008	482227614029	TACT SWITCH,INSERT
S7009	482227614029	TACT SWITCH,A.DUB
S7010	482227614029	TACT SWITCH,TBC
S7012	482227614029	TACT SWITCH,REC LINK
S7014	482227614029	TACT SWITCH,SYNCRO E

OTHERS

DI7001	482213500247	QLF0032-002
J7191	482226511419	PIN JACK,VIDEO IN
J7192	482226741246	PIN JACK(SW),AUDIO(L
J7193	482226511421	PIN JACK(SW),AUDIO(R

CONNECTORS

CN7001	482226511187	FPC CONNECTOR,(1-14)
CN7191	482226511171	FPC CONNECTOR,(3-7)M

! ... Safety component, use only this type

10. REC SAFETY BOARD

SWITCH

S7041	482227613989	PUSH SWITCH

FUSE

FW7001	482232012494	PARA RIBON WIRE

11. JACK BOARD ASSEMBLY

PRINTED CIRCUIT BOARD

PW4	996500000998	JACK BOARD ASSY
J7194	482226511418	S JACK,S IN

CONNECTOR

CN7192	482226710949	FPC CONNECTOR,(1-4)M

12. JOG BOARD ASSEMBLY

PRINTED CIRCUIT BOARD

PW3	996500000999	JOG BOARD ASSY
UN7091	996500001000	JOG ASSY

CONNECTOR

CN7005	482226511195	FPC CONNECTOR,(1-6)M

13. LOADING MOTOR

CAPACITOR

C1	996500001001	F CAPACITOR 0.1µF,50V

OTHERS

OT1	996500000921	#500SPACER0.01,C1

CONNECTOR

CN1	482226511363	CONNECTOR

! ... Safety component, use only this type

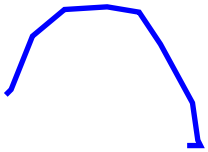
SI PJVM ISSUE 48

10th August 1999

Video Cassette Recorder

V12 Chassis

Service
Service
Service



S-VHS Alignment Tapes

The Super VHS VCR was launched in 1999 for V12 chassis on the high end models, the part number of the SVHS Alignment Tape was not available in the Service Manuals, this issue of Service Information is to inform you of the part numbers for the NTSC and PAL models.

SVHS Alignment Tape	12NC	Factory code
NTSC	9965 000 01192	MH-1H
PAL	9965 000 01193	MH-2H

SVHS models, which use these alignment tapes, are;

VR999/50, VR999/55, VR999/61, VR999/75, VR999/77, VR999/78, VR1000/02, VR1000/07, VR1000/39, VR1500/58.

Please amend section 3 under the SVHS Alignment Tape of the above Service Manuals accordingly.

Published by Consumer Electronics Printed in Malaysia