


# 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.

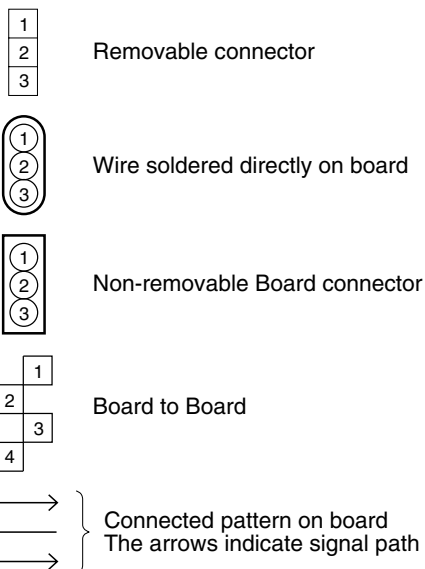
- 1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).  
Chip resistors are 1/16 W.  
K or k: kΩ (1000Ω), M: MΩ (1000kΩ)
- 2) All capacitance values are in μF, (P: PF).
- 3) All inductance values are in μH, (m: mH).
- 4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

### 2. Indications of control voltage

AUX : Active at high

AUX or AUX(L) : Active at low

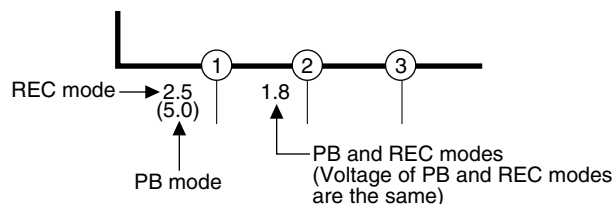
### 3. Interpreting Connector indications



### 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

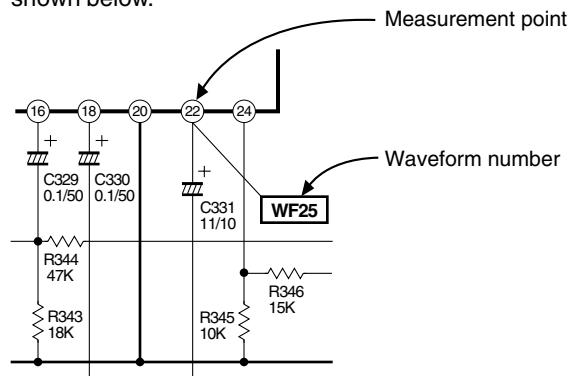
- 4) Indication on schematic diagram  
Voltage Indications for REC and PB mode on the schematic diagram are as shown below.



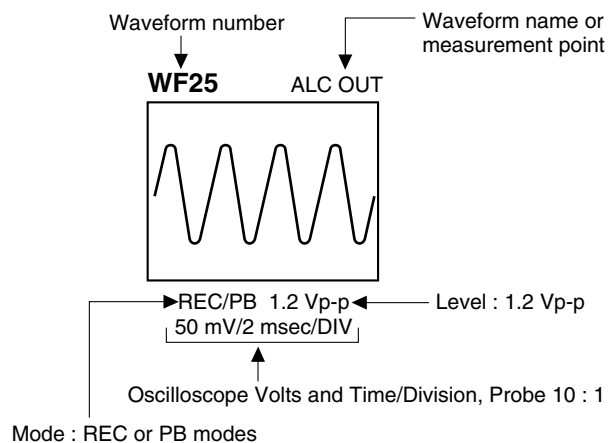
**Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.**

### 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 charts in the E-E mode
- 4) Indication on schematic diagram  
Waveform indications on the schematic diagram are as shown below.

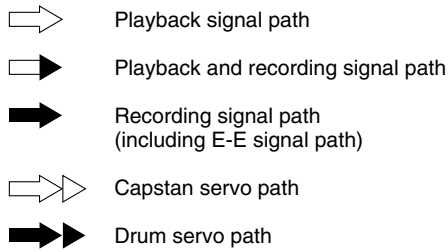


### 5) Waveform indications

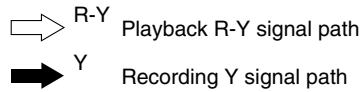


## 6. Signal path Symbols

The arrows indicate the signal path as follows.

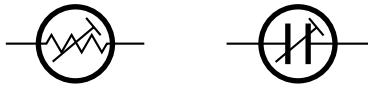


(Example)



## 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.



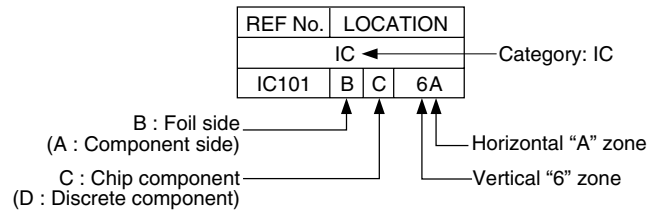
## CIRCUIT BOARD NOTES

### 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

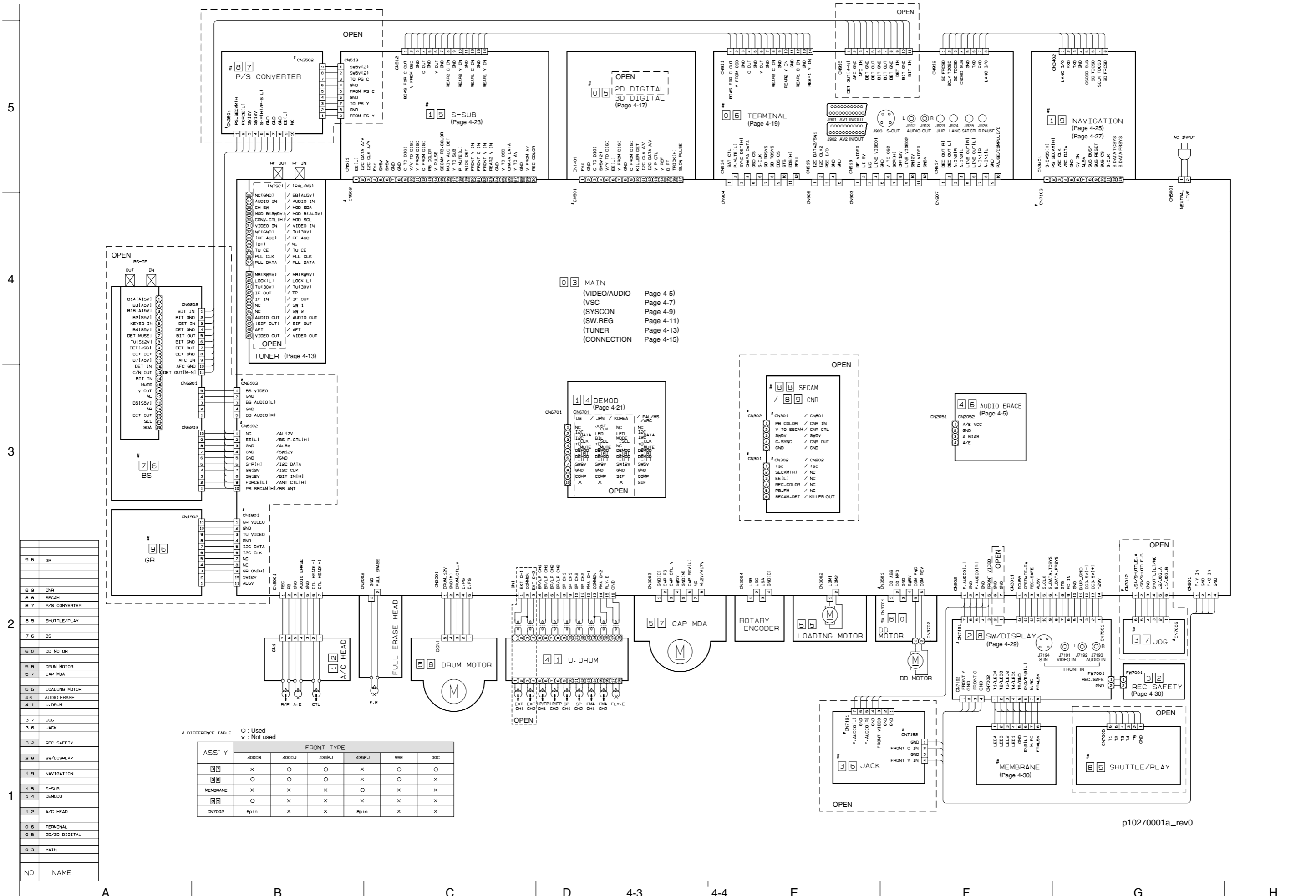
Parts location are indicated by guide scale on the circuit board.



### Note:

For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

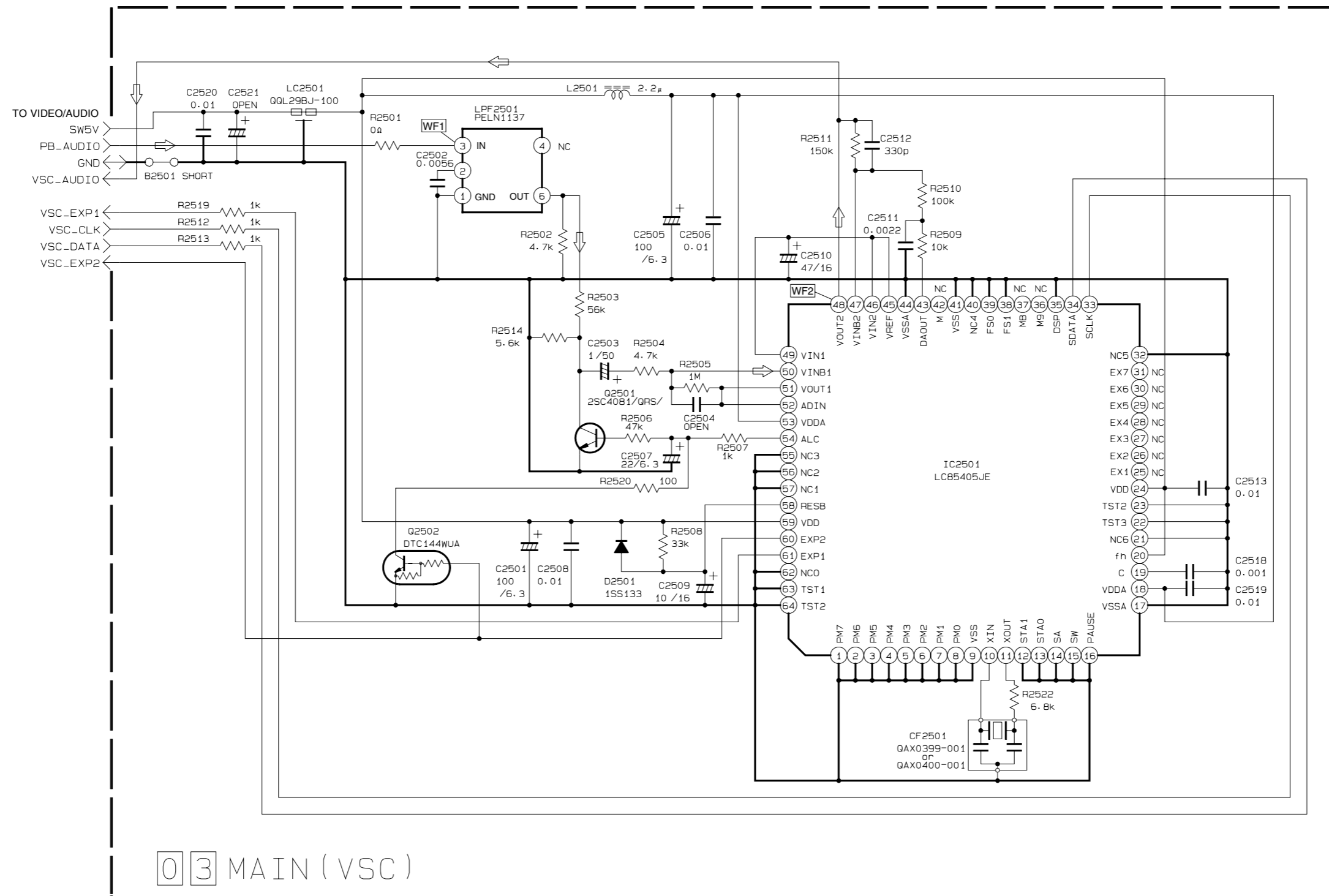
# 4.1 BOARD INTERCONNECTIONS





4.3 VSC SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



Note : For the waveforms in this schematic diagram, refer to page 4-41.

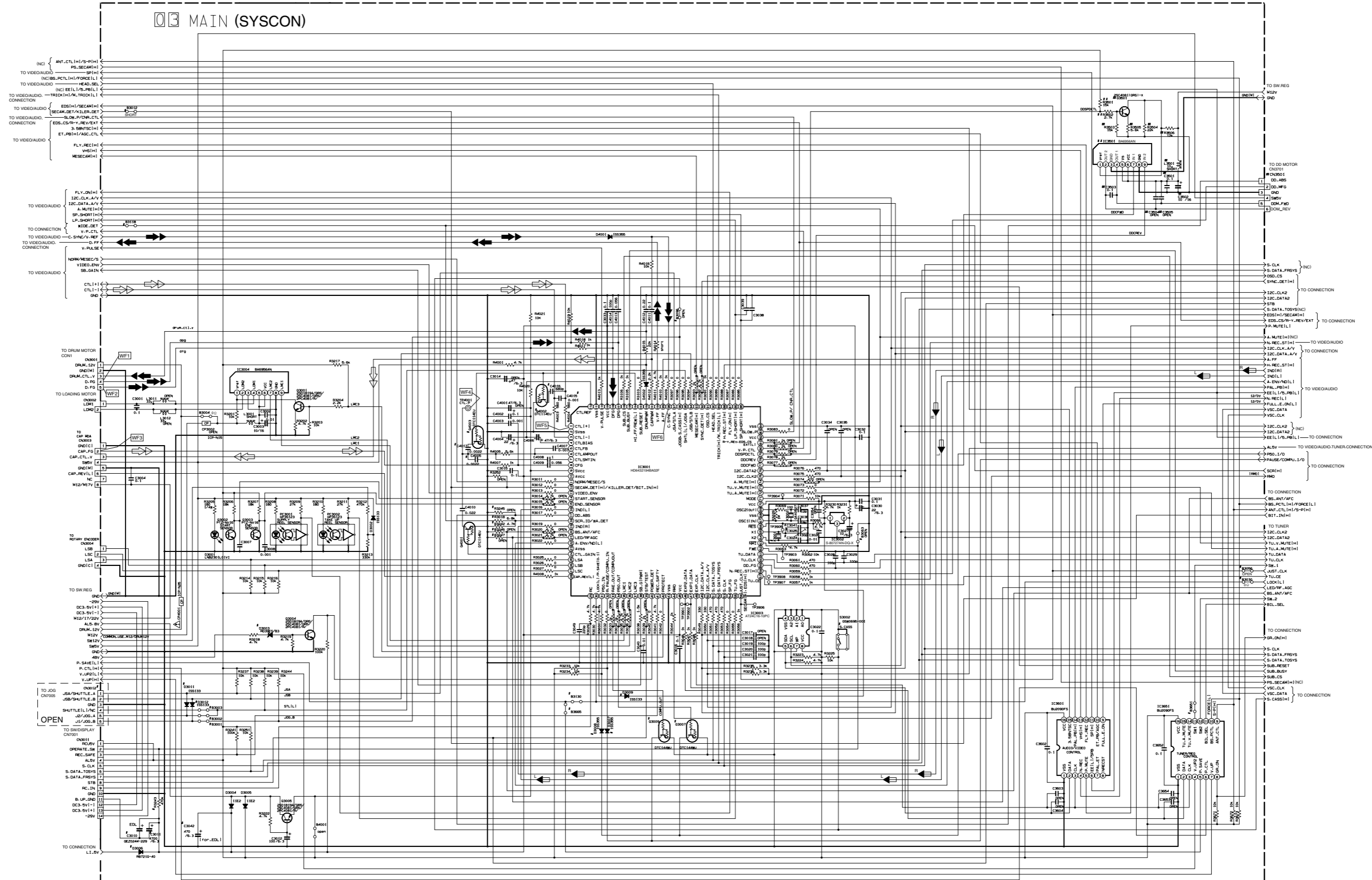
p30072001a\_rev0

NOTES: UNLESS OTHERWISE SPECIFIED.  
 ALL RESISTANCE VALUES ARE IN OHMS.  
 ALL INDUCTANCE VALUES ARE IN H.  
 ALL CAPACITANCE VALUES ARE IN μF.

- ELECTROLYTIC
- CERAMIC
- MYLER
- NON POLAR

# 4.4 SYSTEM CONTROL SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



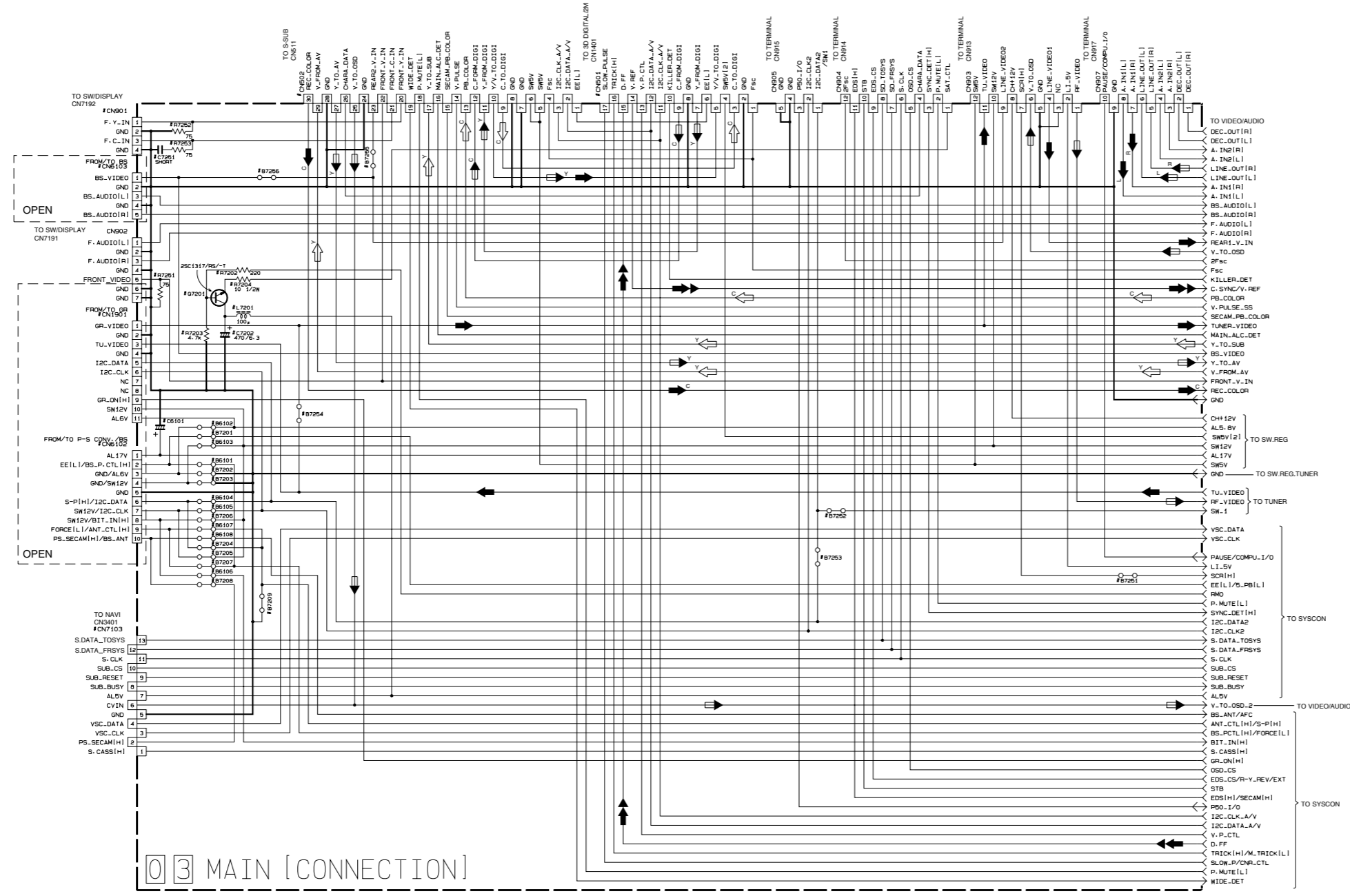






4.7 CONNECTION SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only.  
When replacing the parts, refer to the Parts List.



03 MAIN [CONNECTION]

p10278001a\_rev0

# DIFFERENCE TABLE

NAV1	CN7103	GP	CN1904	B7254	SVH5	CN901
YES	O	YES	O	X	YES	O
NO	X	NO	X	O	NO	X

	CN6102	B6101	B6109	B6103	B7201	B7205	B7206	B7209	B7202	B7203	B7204	B7205	B7255	B7256	CN901	B7201	B7202	B7251
NTSC MODELS WITH BS TUNER	O	X	X	X	X	X	X	X	X	O	O	X	O	X	O	X	X	
NTSC MODELS WITH CABLE MOUSE	X	X	X	X	X	X	X	X	X	O	X	X	O	X	O	X	X	
OTHER NTSC MODELS	X	X	X	X	X	X	X	X	X	O	X	X	O	X	O	X	X	
OTHER MS MODELS WITH SVHS	X	X	X	X	X	X	X	X	X	O	X	X	O	X	O	X	O	
OTHER PAL MODELS WITH SVHS	X	X	X	X	X	X	X	X	X	O	X	X	O	X	O	X	O	
OTHER PAL MODELS WITHOUT SVHS	X	X	X	X	X	X	X	X	X	O	X	X	O	X	O	X	O	
ARC MODELS WITH SVHS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
ARC MODELS WITHOUT SVHS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

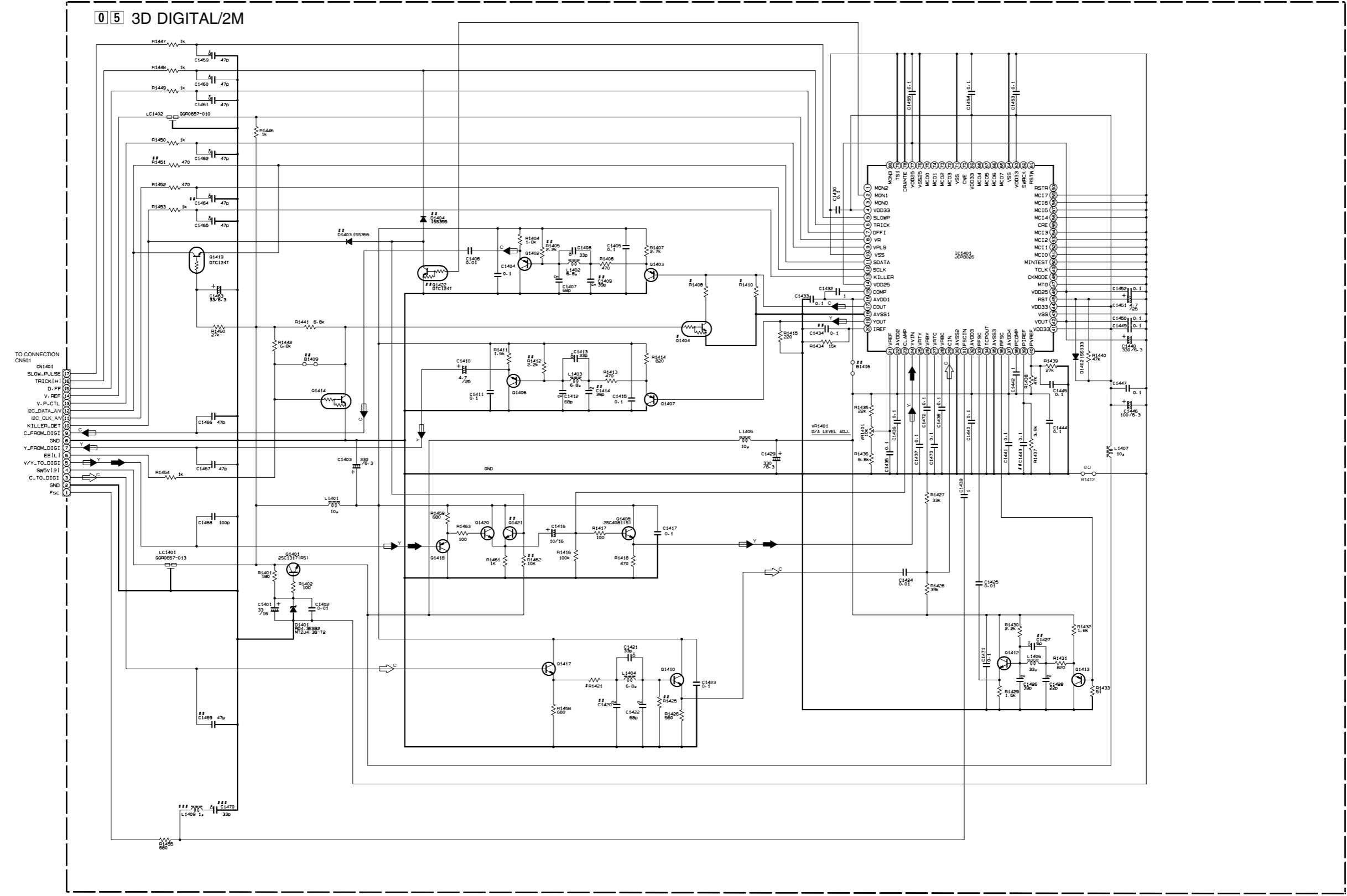
NOTES UNLESS OTHERWISE SPECIFIED:  
ALL RESISTANCE VALUES ARE IN OHMS.  
ALL INDUCTANCE VALUES ARE IN H.  
ALL CAPACITANCE VALUES ARE IN μF.

⊕ ELECTROLYTIC  
— CERAMIC  
— MYLER  
— NON POLAR

LAST NO		VACANT NO	
R	7253	7201-7205-7250	
C	6101	7251-7203-7250	
D	7201		
L	7201		
CN	502 907 1901 6103 7103	906-6101-7101-7102	
B	6108	7256 7210-7250	

4.8 3D DIGITAL/2M SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



p10276001a\_rev0.1

NOTES: UNLESS OTHERWISE SPECIFIED:  
 ALL RESISTANCE VALUES ARE IN OHMS.  
 ALL INDUCTANCE VALUES ARE IN H.  
 ALL CAPACITANCE VALUES ARE IN μF.  
 ELECTROLYTIC  
 CERAMIC  
 MYLER  
 NON POLAR

## MARK ELEMENTS ARE NOT MOUNTED.  
 ALL SINGLE DIODE: 1SS133 OR 1N4148.  
 ALL PNP TRANSISTOR: 2SD1576A1(QR) OR 2SB1218A(QR) OR 2PA1576(1R)  
 ALL NPN TRANSISTOR: 2SC4081(QRS) OR 2SD1619A(QRS) OR 2PC4081(1R)  
 ALL NPN DIGITAL TRANSISTOR: DTC144W(A) OR UN521E OR RN1309

### Marked elements may differ depending on the model.  
 Be sure to check the Parts List.

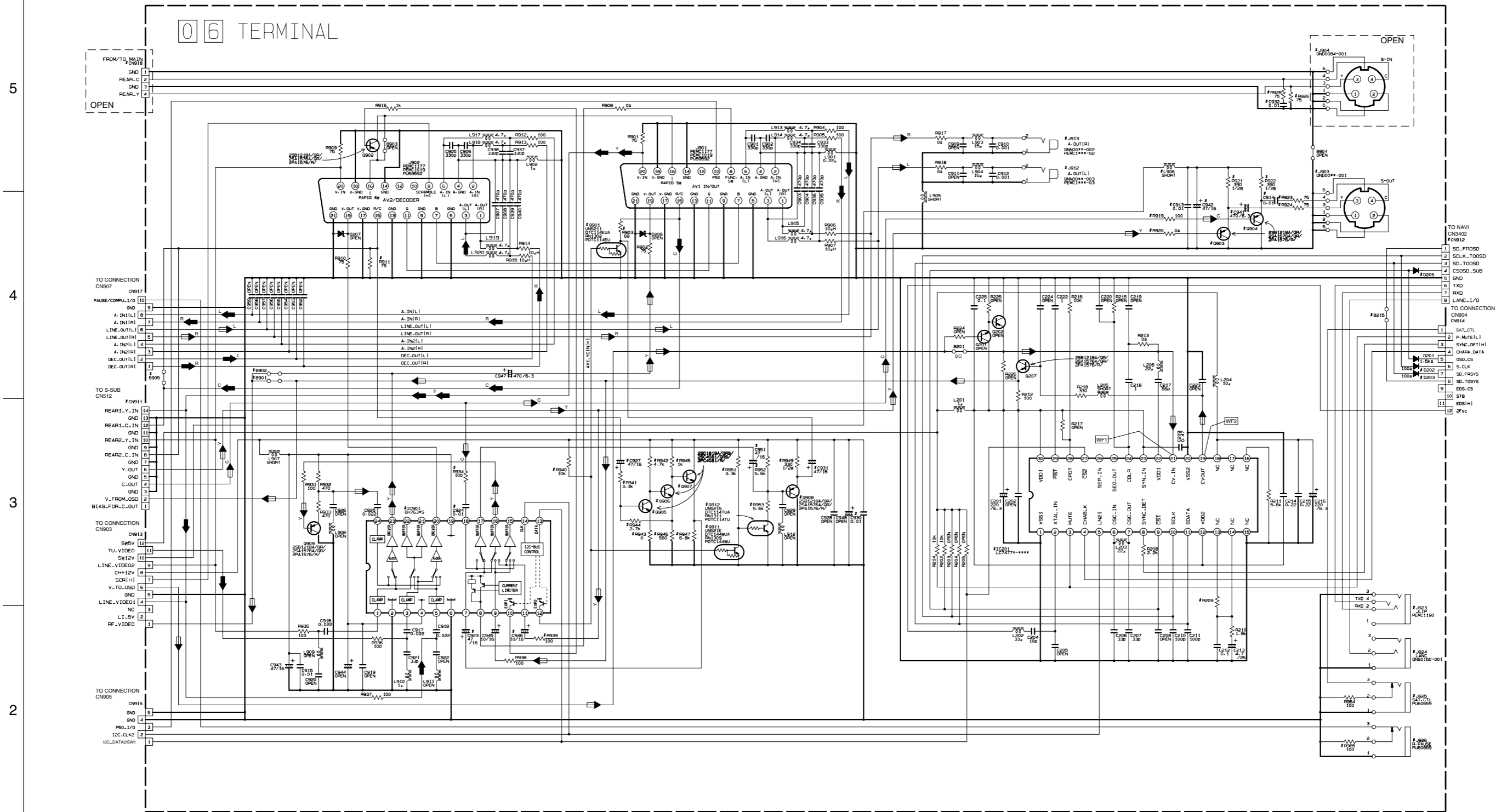
○ : Used  
 × : Not used

# DIFFERENCE TABLE

PAL/MS	01404	R1408	R1410	R1421
NTSC	×	OPEN	240	330

4.9 TERMINAL SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



- 1 SD\_FR0SD
- 2 SCL\_K\_T00SD
- 3 SD\_T00SD
- 4 CS0SD-SUB
- 5 GND
- 6 TXD
- 7 RXD
- 8 LANC\_I/O
- TO CONNECTION CN904 CN914
- 1 SAT\_CTL
- 2 P\_MUTE(I,I)
- 3 SYNC\_DET(H)
- 4 CHANL\_DATA
- 5 OSD\_CS
- 6 S\_CLK
- 7 SD\_FR0SV
- 8 SD\_T00SV
- 9 ED0\_CS
- 10 STB
- 11 ED0(H)
- 12 2Fsc

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# DIFFERENCE TABLE

SYMBOLS	0 : Used	X : Not used	S_IN	OSD LANGUAGE	NAVIGATION	PWB	S OUT	A. OUT	J.L.P	LANC	SAT.CL	R.PAGE	CH+IC
MODELS	8900B	8900C	8900D	8900E	8900F	8900G	8900H	8900I	8900J	8900K	8900L	8900M	8900N
V1336 EU/EK	O	X	X	6-9791	12k	X	O	X	B5	21/126	O	O	O
V1336 MS	O	X	X	5-9750	5.1k	X	O	X	B5	21/126	O	O	O
V1336 EU(PHILIPS)	O	X	X	6-9791	12k	X	O	X	B4	23/009	X	O	O
V1336 EU/EK	O	X	X	6-9791	12k	X	O	X	B4	23/009	O	O	O
V1336 MS	O	X	X	5-9750	5.1k	X	O	X	B4	23/009	O	O	O
V1332/S22 EU/EK-S21 EU	O	X	X	6-9791	12k	O	X	X	B4	23/009	X	X	O
V1332 EU/EK(PHILIPS)	O	X	X	5-9750	5.1k	O	X	X	B4	23/009	X	X	O
V1332 MS	O	X	X	5-9750	5.1k	O	X	X	B4	23/009	X	X	O
V1332 MS(PHILIPS)	O	X	X	5-9750	5.1k	O	X	X	B4	23/009	X	X	O
V1351 EU/EK-S1EU-S12EK	O	X	X	6-9791	12k	O	X	X	B4	23/009	X	X	O
V1351 MS	O	X	X	5-9750	5.1k	O	X	X	B4	23/009	X	X	O
V1302 EU/EK	X	O	X	6-9791	12k	X	O	X	B4	23/009	O	O	O
V1302 MS	X	O	X	5-9750	5.1k	X	O	X	B4	23/009	O	O	O

Note : For the waveforms in this schematic diagram, refer to page 4-41.

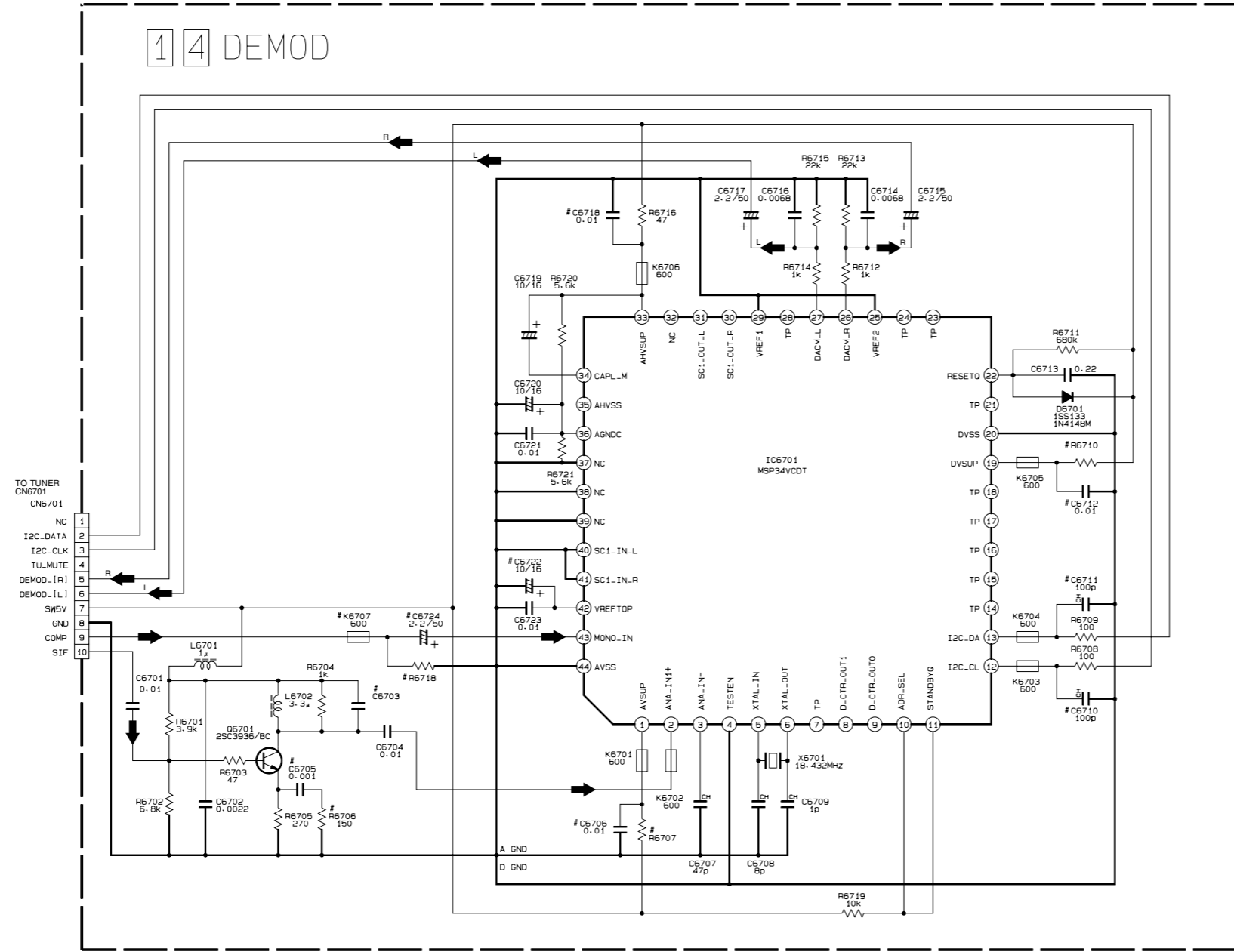
NOTES UNLESS OTHERWISE SPECIFIED:  
 ALL RESISTANCE VALUES ARE IN OHMS.  
 ALL INDUCTANCE VALUES ARE IN H.  
 ALL CAPACITANCE VALUES ARE IN pF.

LAST NO	205	206	207	219-223	VACANT NO	927-930	949	950	954-963
R	225	999	203-221						949-950
D	207		204						
G	207	912	203-206						910
L	206	920							
B	215	905	202-214						905-911-914-922
J		926							
IC	201	901							
CN		918							901-910-916

+ ELECTROLYTIC  
 CERAMIC  
 MYLER  
 NON POLAR

4.10 DEMODULATOR SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



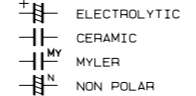
# DIFFERENCE TABLE

O : Used  
X : Not used

SYMBOL	FRANCE MS		BASIC	ARC	
	STEP	UP EU/EK		3SYSTEM	4SYSTEM
PRE AMP	R6706	O	O	X	X
	C6705	O	O	X	X
	C6703	X	X	180p	220p
MONO IN	C6724	O	X	X	X
	K6707	X	X	X	X
	R6718	X	X	X	X
ANALOG Vcc	R6707	22	47	47	47
	C6706	X	X	X	X
I2C.Bus	C6710	X	X	X	X
	C6711	X	X	X	X
DIGITAL Vcc	R6710	10	12	12	12
	C6712	X	X	X	X
DAC Vcc	C6718	X	X	X	X
	C6722	X	X	X	X

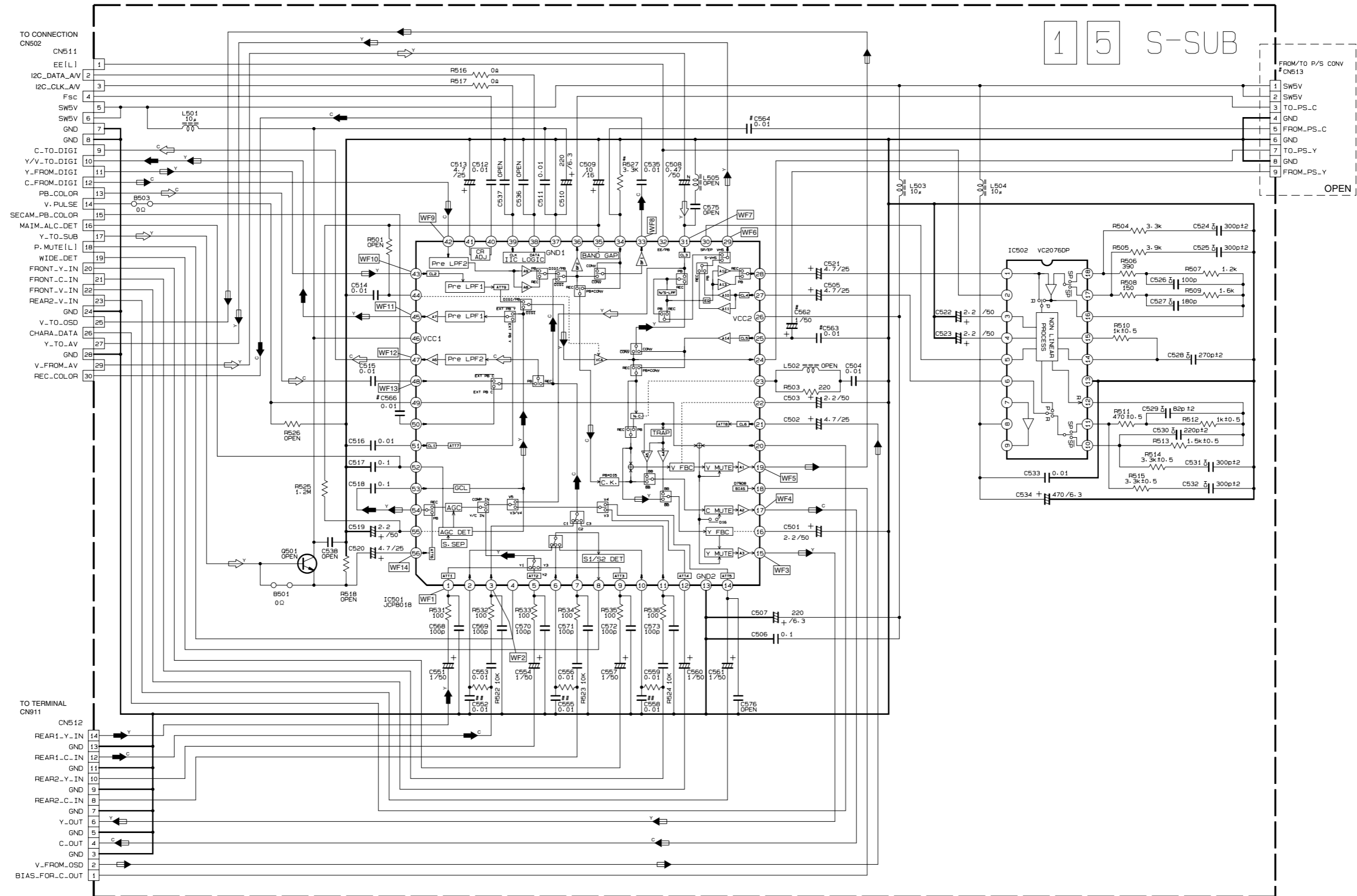
p20162001a\_rev2

NOTES: UNLESS OTHERWISE SPECIFIED.  
ALL RESISTANCE VALUES ARE IN OHMS.  
ALL INDUCTANCE VALUES ARE IN H.  
ALL CAPACITANCE VALUES ARE IN μF.



4.11 S-SUB SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



Note : For the waveforms in this schematic diagram, refer to page 4-41.

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# DIFFERENCE TABLE

	CN513 C562 C566	C563 R527
MS	○	×
OTHERS	×	○

○ : Used  
x : Not used

## Marked elements may differ depending on the model. Be sure to check the Parts List.

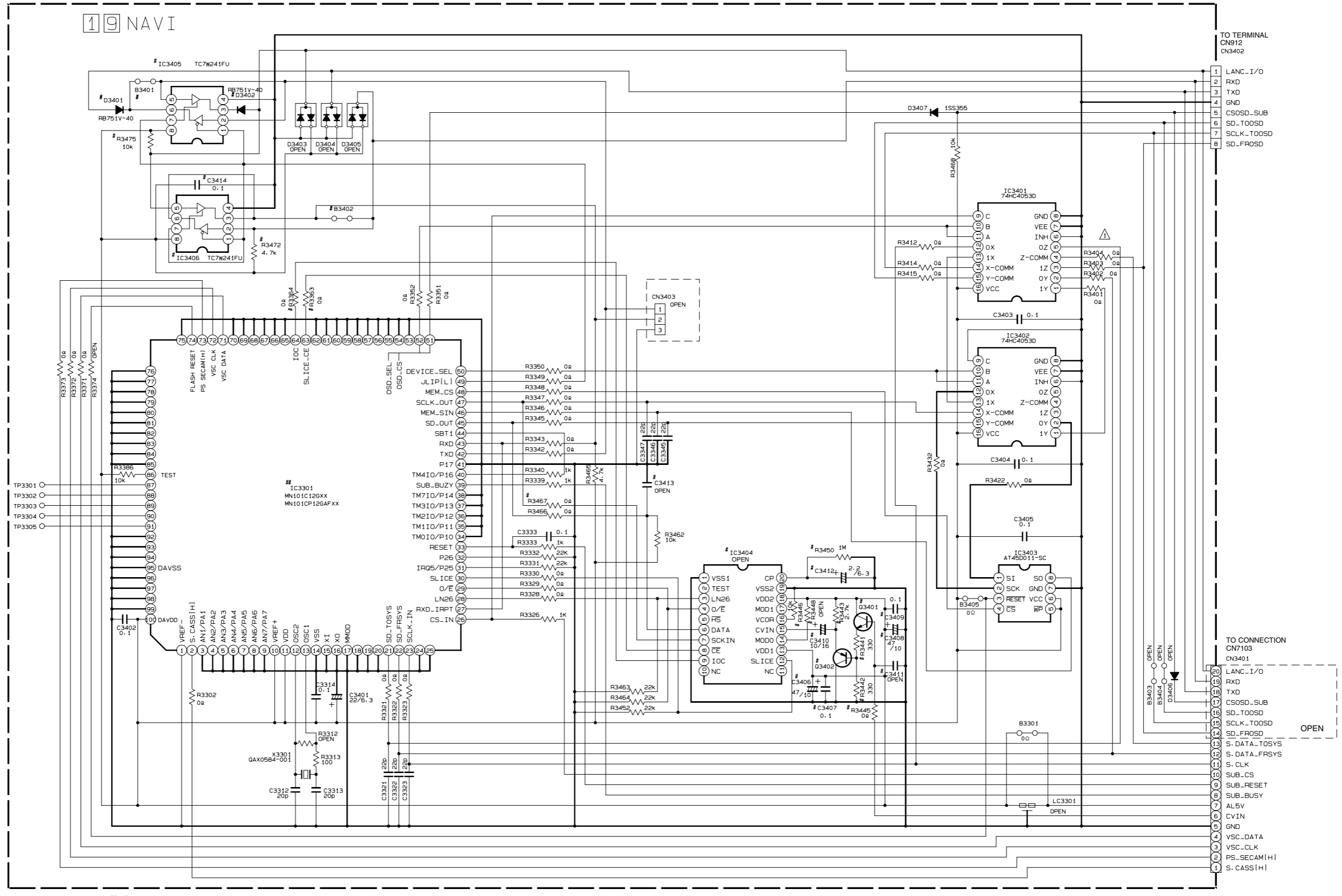
NOTES: UNLESS OTHERWISE SPECIFIED:  
ALL RESISTANCE VALUES ARE IN OHMS.  
ALL INDUCTANCE VALUES ARE IN H.  
ALL CAPACITANCE VALUES ARE IN μF.

- ⊞ ELECTROLYTIC
- ⊞ CERAMIC
- ⊞ MY MYLER
- ⊞ N NON POLAR

### 4.12 NAVIGATION SCHEMATIC DIAGRAM [LPB10108-001\*]

There are currently two types of Navigation boards in used, these are the LPB10108-001\* and the LPB10108-002\*. These two boards have different Schematic Diagrams and Parts Lists. Be sure to check the board number before selecting its corresponding Schematic Diagram and Parts List.

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



## DIFFERENCE TABLE

LANC	WITH LANC	WITHOUT LANC
IC3405, C3414 IC3406, D3402 R3472, R3475	○	×

## DIFFERENCE TABLE

ALL SET	WITH ALL SET	WITHOUT ALL SET
03401, 03402 C3406-C3413 R3363, R3364 R3441, R3450 R3467 IC3404	○	×

## DIFFERENCE TABLE

JLIP	WITH JLIP	WITHOUT LANC
D3401	○	○
B3401 B3402	×	○

## DIFFERENCE TABLE

IC3301	MODEL
CC	HR-S9800U
CD	PHILIPS US-UM.M.K
CE	PHILIPS /B5-/75-/77-HR-VXG300
CG	JVC EU-EK-MS-VR1600/5B

NOTES: UNLESS OTHERWISE SPECIFIED.  
ALL RESISTANCE VALUES ARE IN OHMS.  
ALL INDUCTANCE VALUES ARE IN H.  
ALL CAPACITANCE VALUES ARE IN μF.

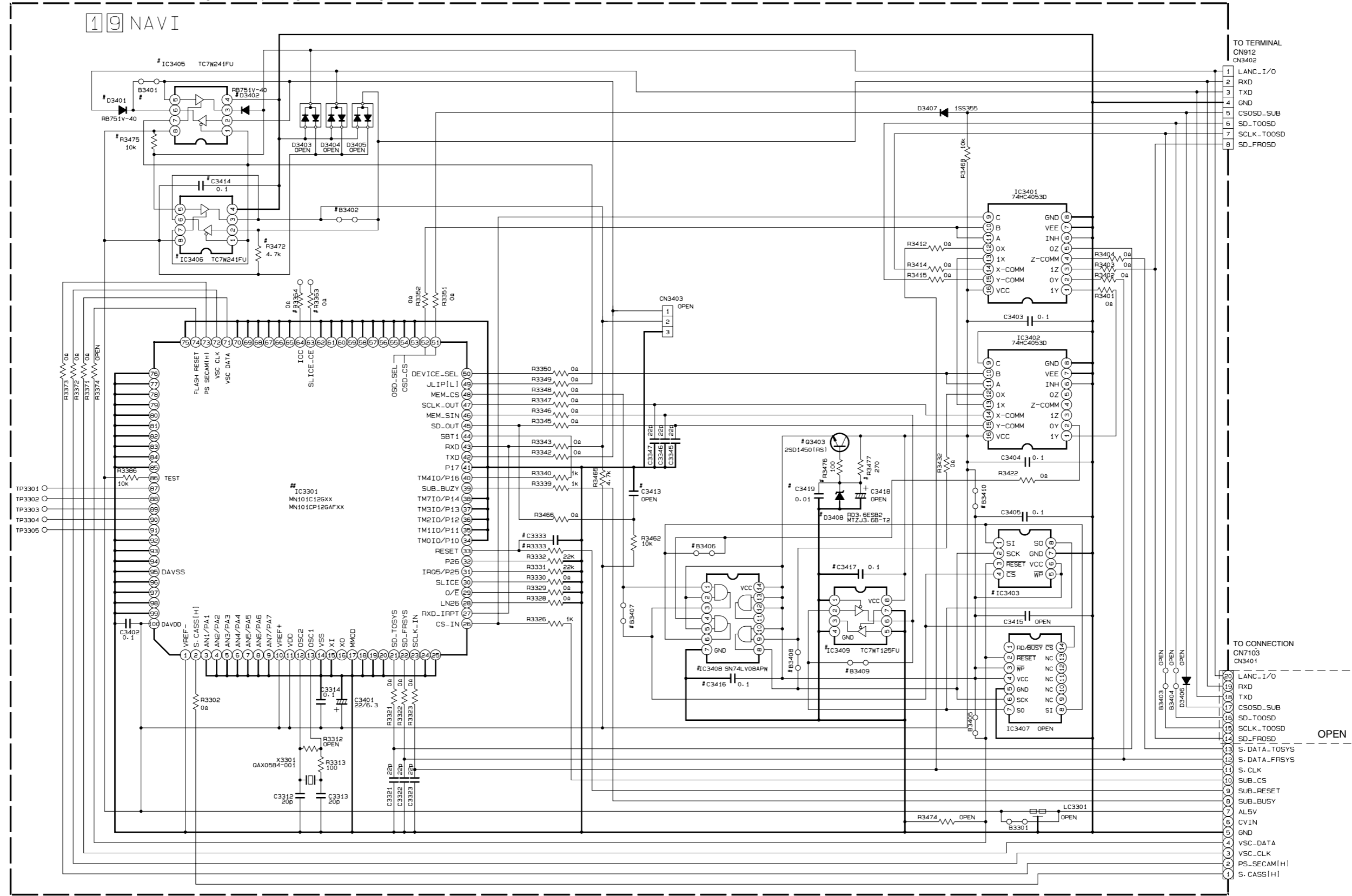
- ⊕ CERAMIC
- ⊖ MYLER
- ⊖ NON POLAR

p20167001a\_rev1

### 4.13 NAVIGATION SCHEMATIC DIAGRAM [LPB10108-002\*]

There are currently two types of Navigation boards in used, these are the LPB10108-001\* and the LPB10108-002\*. These two boards have different Schematic Diagrams and Parts Lists. Be sure to check the board number before selecting its corresponding Schematic Diagram and Parts List.

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



# DIFFERENCE TABLE  
 O : Used  
 X : Not used

IC3403			AT450011-SC	AT45DB011-SC
IC3408	IC3409	Q3403	X	O
D3408	R3475	R3477		
C3416	C3417	C3419		
B3406-B3410			O	X
R3333			1k	330
C3333			0.1µF	4.7k

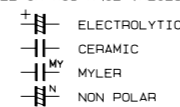
LANC	WITH LANC		WITHOUT LANC	
	WITH LANC	WITHOUT LANC	WITH LANC	WITHOUT LANC
IC3405, C3414	O			X
IC3406, D3402				
R3472, R3475				

JLIP	WITH JLIP		WITH JLIP WITHOUT LANC	
	WITH JLIP	WITHOUT LANC	WITH JLIP	WITHOUT LANC
D3401	O			O
B3401	X			O
B3402				

## DIFFERENCE TABLE

IC3301 ROM CODE	MODEL
CC	HR-S9800U
CD	PHILIPS US-UM, M, K
CE	PHILIPS /55- /75- /77- HR-VX6300
CG	JVC EU-EK-MS-VR1600/58

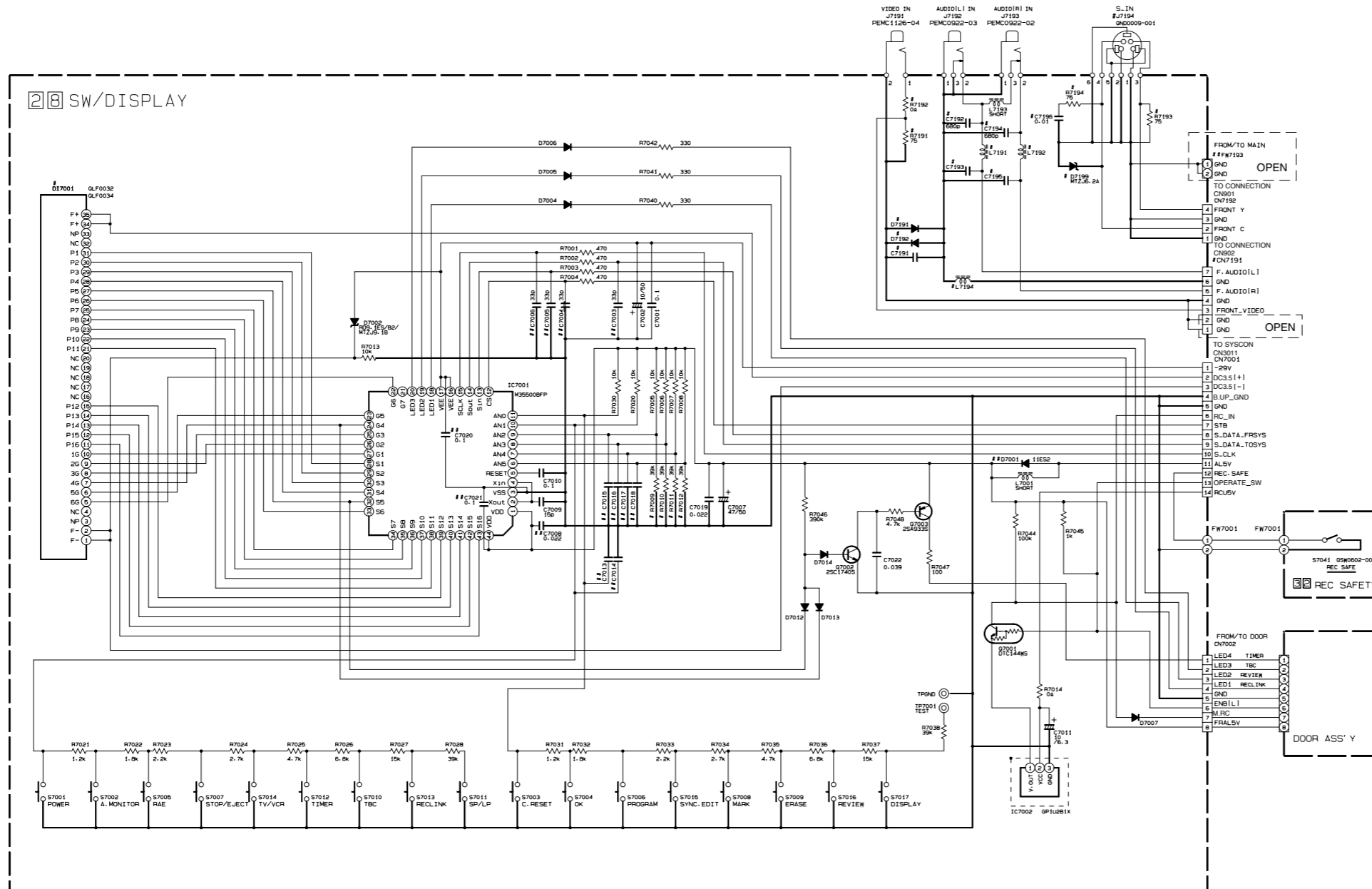
NOTES: UNLESS OTHERWISE SPECIFIED.  
 ALL RESISTANCE VALUES ARE IN OHMS.  
 ALL INDUCTANCE VALUES ARE IN H.  
 ALL CAPACITANCE VALUES ARE IN µF.



p20167002a\_rev0

4.14 SW/DISPLAY AND REC SAFETY SCHEMATIC DIAGRAMS

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



p10201001a\_rev0

# DIFFERENCE TABLE 1

OPTION	R7009	R7010	R7011	R7012
S36EU S36EK S36MS	NO	NO	NO	NO

# DIFFERENCE TABLE 2

AV IN	CN7191	R7191	R7192	L7191	L7192	L7193	L7194	C7192	C7194	C7196	D7191	D7192	C7191
S36EU S36EK S36MS	3-7	NO	YES	100u	SHORT	YES	NO	NO	NO	NO	NO	NO	

# DIFFERENCE TABLE 3

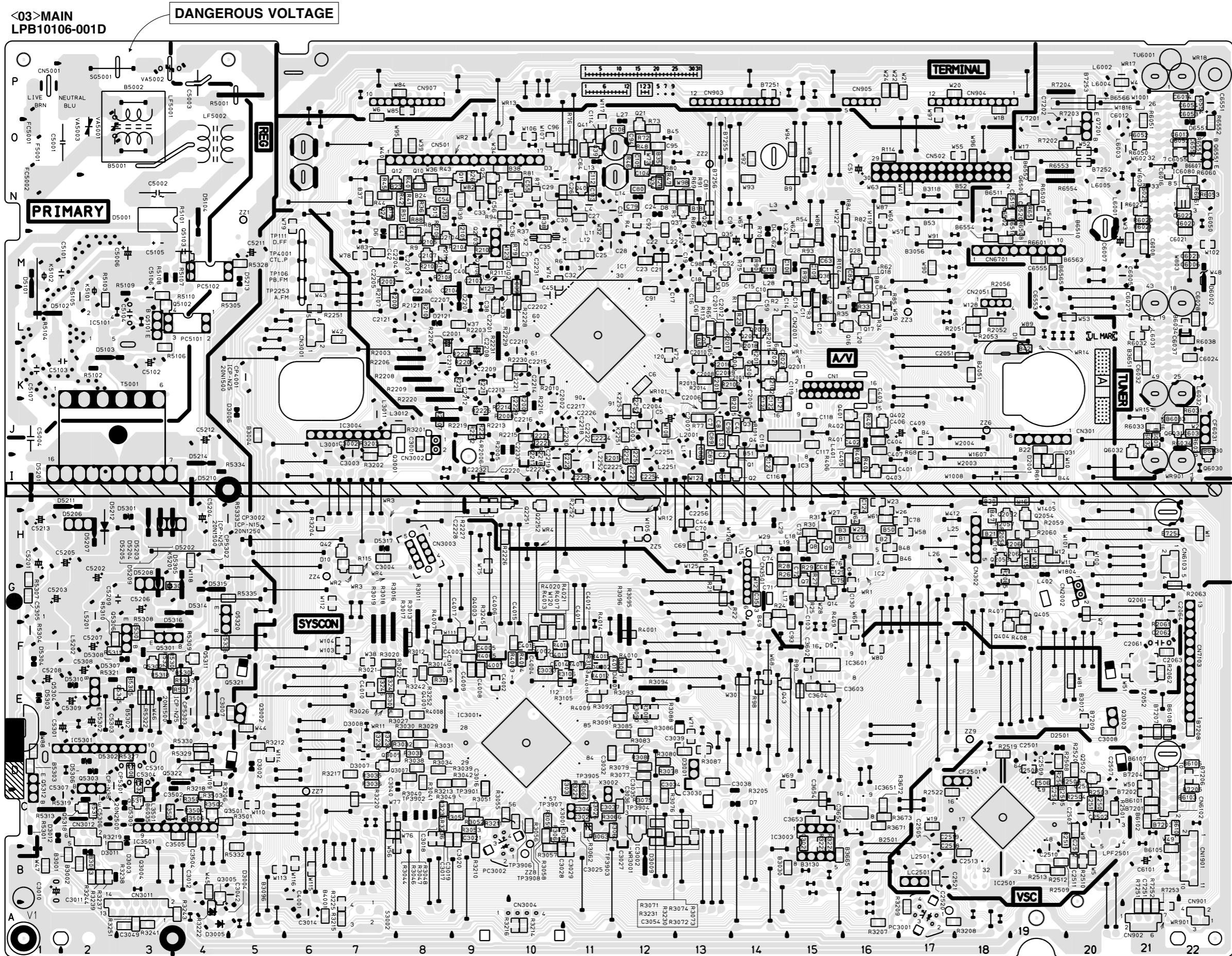
S-JACK	J7194	R7193	R7194	C7196	D7199
S36EU S36EK S36MS	YES	NO	NO	NO	NO

NOTES: UNLESS OTHERWISE SPECIFIED:  
 ALL RESISTANCE VALUES ARE IN OHMS.  
 ALL INDUCTANCE VALUES ARE IN H.  
 ALL CAPACITANCE VALUES ARE IN μF.  
 + - ELECTROLYTIC  
 - - CERAMIC  
 -M- MYLAR  
 -N- NON POLAR  
 ALL DIODES ARE 1SS133.  
 ## NOT USED

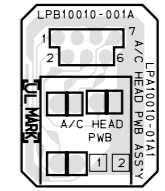




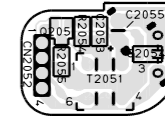
4.17 MAIN, A/C HEAD, AUDIO ERASE AND LOADING MOTOR CIRCUIT BOARDS



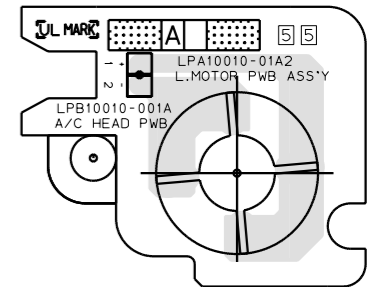
<12>A/C HEAD  
LPB10010-001A



<46>AUDIO ERASE  
LPB10106-001D



<55>LOADING MOTOR  
LPB10010-001A

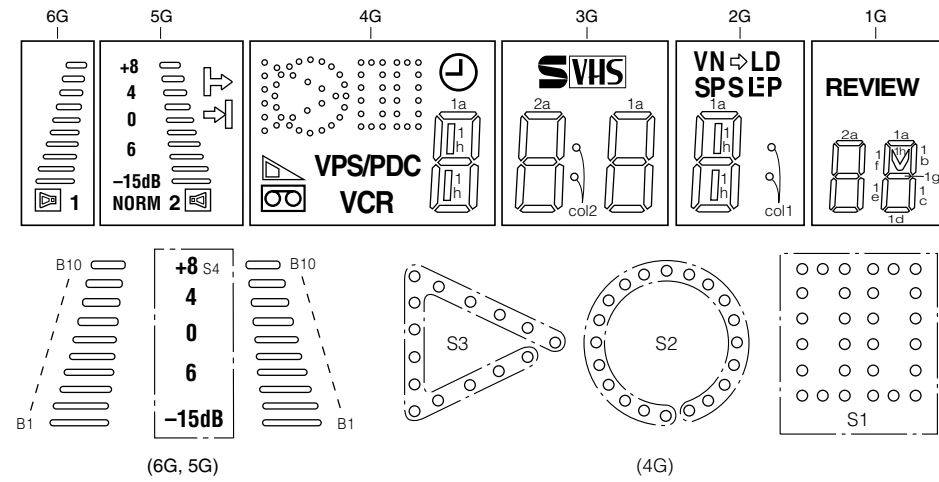




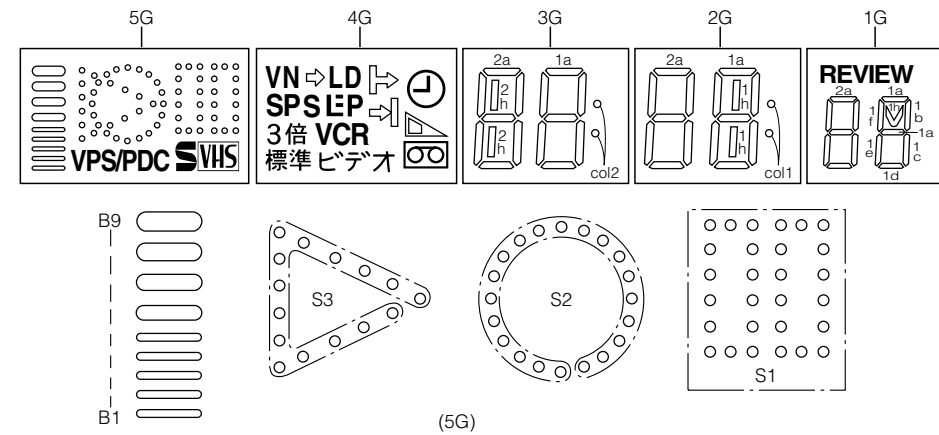


### 4.20 FDP GRID ASSIGNMENT AND ANODE CONNECTION

[A] (FDP with audio level indicator)



[B] (FDP without audio level indicator)



### ANODE CONNECTION

[A]

	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 <sup>(SEP)</sup>	2e
P15	B2	B2	1d	2d	⋮ <sup>(SEP)</sup>	2d
P16	B1	B1	1h	SVHS	LP <sup>(SEP)</sup>	REVIEW

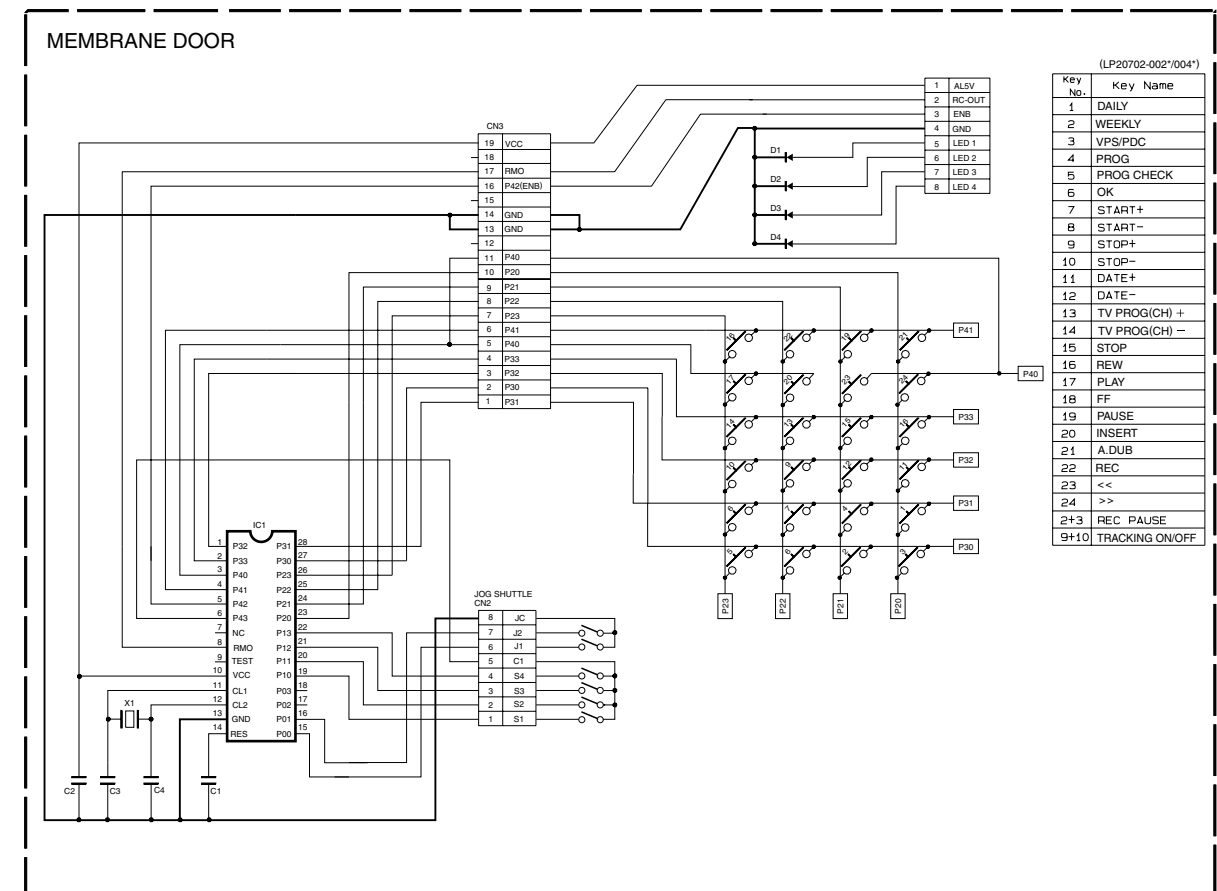
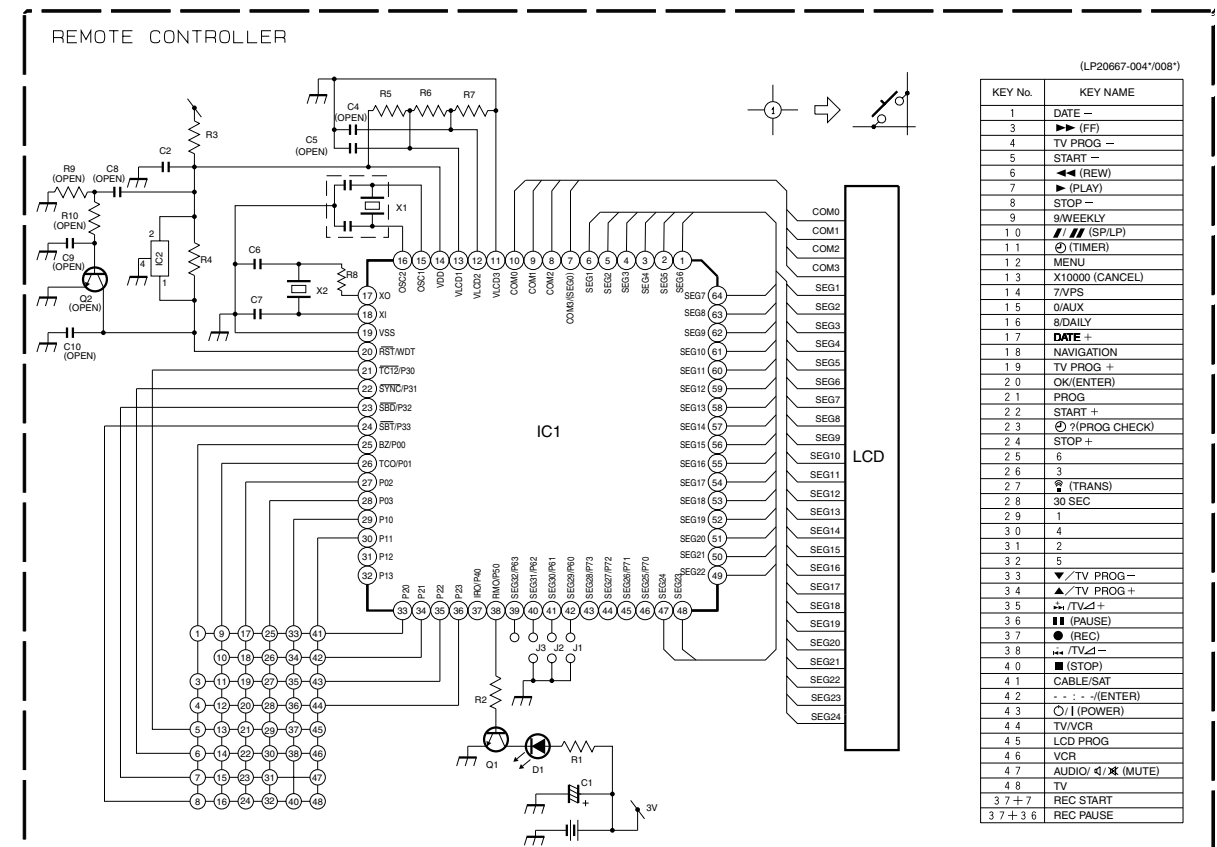
### ANODE CONNECTION

[B]

	5G	4G	3G	2G	1G
P 1	S2	→	1a	1a	1a
P 2	S1	→	1b	1b	1b
P 3	S3	3倍	1f	1f	1f
P 4	VPS/PDC	標準	1g	1g	1g
P 5	SVHS	Ⓞ	1c	1c	1c
P 6	—	▶	1e	1e	1e
P 7	—	Ⓞ	1d	1d	1d
P 8	B9	VCR	col2	1h	1h
P 9	B8	ビデオ	2a	2a	2a
P10	B7	↔	2b	2b	2b
P11	B6	VN	2f	2f	2f
P12	B5	LD	2g	2g	2g
P13	B4	SP	2c	2c	2c
P14	B3	S <sup>(SEP)</sup>	2e	2e	2e
P15	B2	⋮ <sup>(SEP)</sup>	2d	2d	2d
P16	B1	LP <sup>(SEP)</sup>	2h	col1	REVIEW

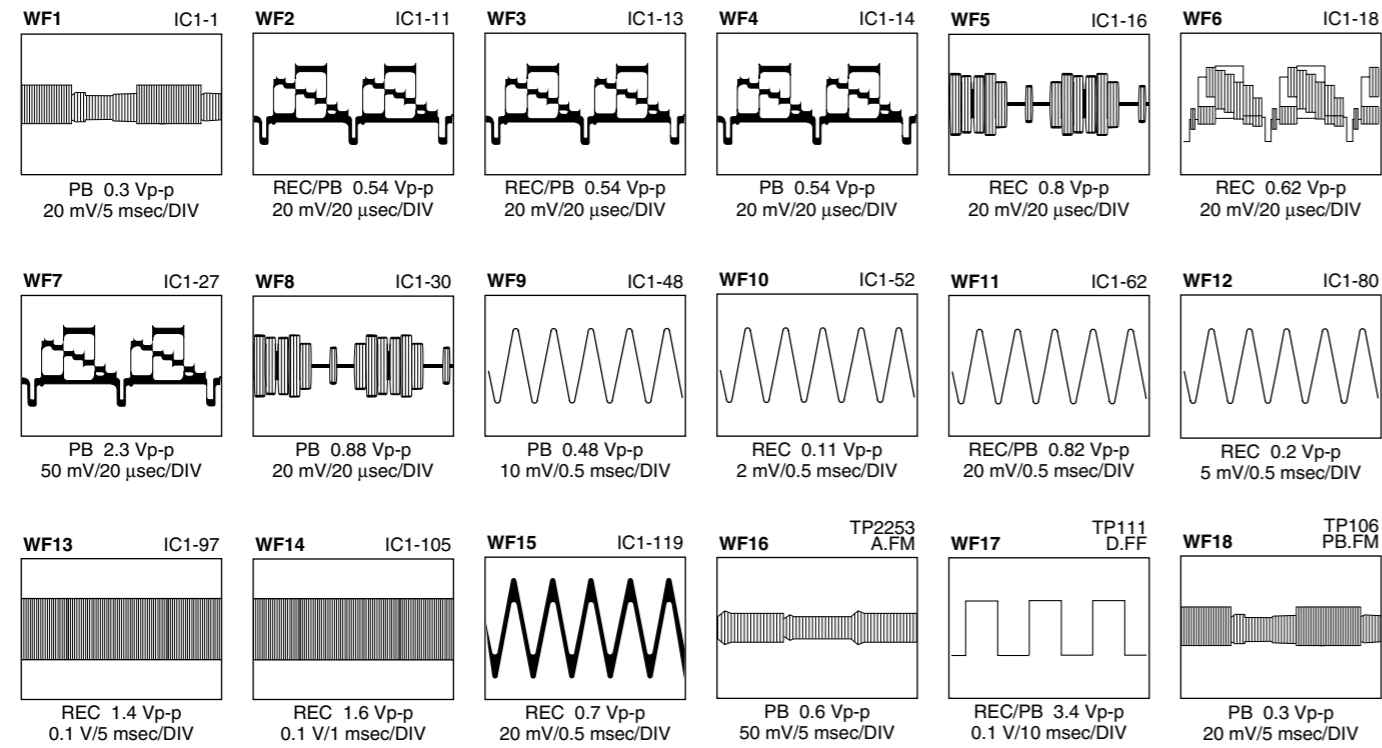
### 4.21 REMOTE CONTROL AND MEMBRANE DOOR SCHEMATIC DIAGRAMS

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

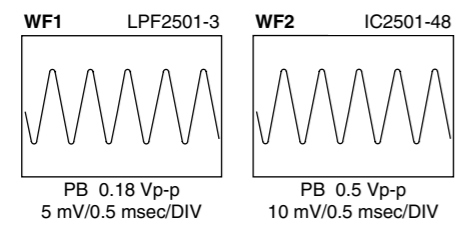


## 4.22 WAVEFORMS

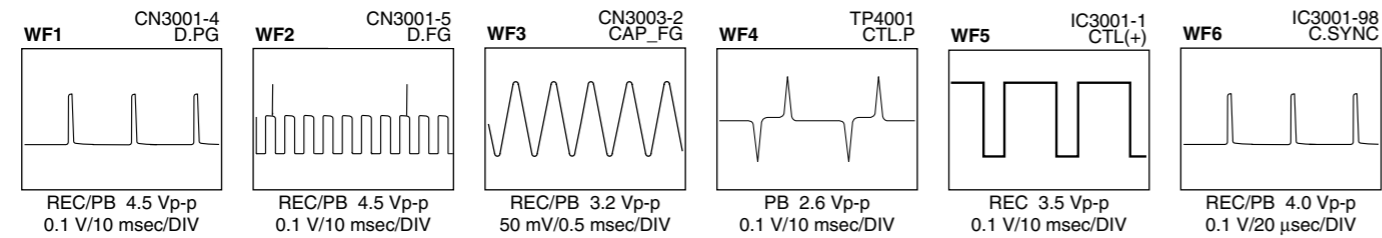
### < VIDEO/AUDIO >



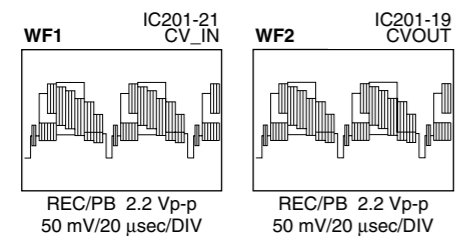
### < VSC >



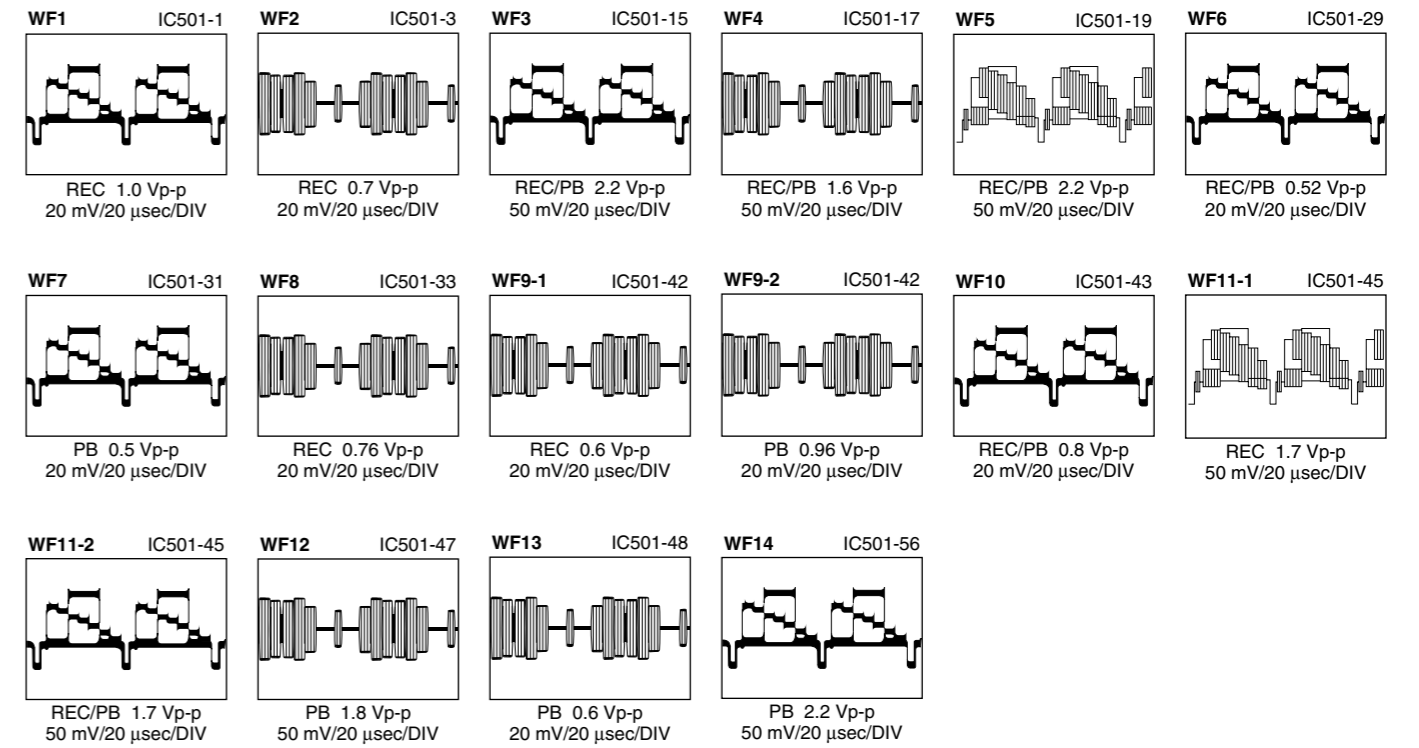
### < SYSCON >



### < TERMINAL >



### < S-SUB >



### 4.23 VOLTAGE CHARTS

#### <VIDEO/AUDIO>

MODE PIN NO.	REC	PLAY
IC1		
1	4.2	2.1
2	2.8	2.8
3	2.6	2.6
4	1.9	1.9
5	1.9	1.9
6	2.4	2.1
7	1.5	1.2
8	0	4.1
9	2.6	1.9
10	2.8	2.8
11	3.1	3.1
12	2.8	2.5
13	3.1	3.1
14	3.5	2.5
15	0	0
16	2.8	2.8
17	1.5	1.5
18	2.8	2.8
19	3.3	3.3
20	2.8	2.8
21	1.6	2.0
22	2.8	2.8
23	3.1	2.8
24	4.9	5.0
25	0.3	0.3
26	0	0
27	1.3	2.1
28	2.8	2.3
29	1.9	1.9
30	2.1	2.1
31	0	0
32	2.6	2.6
33	4.9	4.9
34	2.7	2.2
35	4.9	4.9
36	2.5	2.5
37	2.3	2.3
38	-	-
39	1.3	1.3
40	-	-
41	2.7	2.7
42	2.2	2.2
43	0	0
44	2.1	2.1
45	4.7	4.7
46	4.1	4.1
47	3.0	3.0
48	2.6	2.6
49	4.9	4.9
50	2.5	2.5
51	2.8	2.8
52	2.3	2.3
53	2.3	2.3
54	2.5	2.5
55	2.2	2.2
56	0.4	0.4
57	2.4	2.4
58	8.3	8.3
59	4.7	4.7
60	4.1	4.1
61	4.2	4.2
62	4.2	4.2
63	2.3	2.3
64	2.3	2.3
65	0.6	0.6
66	3.2	3.2
67	4.2	4.2
68	4.2	4.2
69	2.4	2.4
70	0	0
71	0.3	0.3
72	0.2	0.2
73	0.3	0.3
74	2.3	2.3
75	2.6	2.6
76	0	0
77	2.6	2.6
78	0.3	0.3
79	0.2	0.2
80	0.2	0.2
81	2.3	2.3
82	0.8	0.8
83	0	0
84	2.4	2.4
85	2.3	2.3
86	2.3	2.3
87	1.7	1.9
88	2.3	2.3
89	2.3	2.3
90	2.4	2.4
91	0	0
92	0	0
93	0	2.3
94	1.9	1.3
95	0	0
96	2.5	2.3
97	2.7	2.3
98	2.5	2.3
99	5.0	5.0
100	5.0	5.0

MODE PIN NO.	REC	PLAY
101	0	0
102	0	0
103	0	0
104	2.4	2.4
105	2.4	2.4
106	2.4	2.4
107	5.0	5.0
108	0	0
109	0	0
110	0	0
111	0	4.0
112	2.6	2.6
113	0.5	0.4
114	0	0
115	2.5	2.5
116	2.5	2.5
117	2.5	2.5
118	0	0
119	2.5	2.5
120	4.5	4.4

MODE PIN NO.	REC	PLAY
38	0	0
39	0	0
40	0	0
41	0	0
42	0	0
43	2.4	2.4
44	0	0
45	2.5	2.5
46	2.5	2.5
47	2.5	2.5
48	2.5	2.5
49	2.5	2.5
50	2.5	2.5
51	2.5	2.5
52	2.5	2.5
53	5.0	5.0
54	0	0
55	0	0
56	0	0
57	0	0
58	4.9	4.9
59	5.0	5.0
60	5.0	5.0
61	5.0	5.0
62	0	0
63	0	0
64	0	0

MODE PIN NO.	REC	PLAY
70	5.0	5.0
71	5.0	5.0
72	5.0	5.0
73	5.0	5.0
74	0	0
75	4.5	4.5
76	4.5	4.5
77	0	0
78	0	0
79	5.0	5.0
80	0	0
81	0	0
82	4.9	4.9
83	-	-
84	0	0
85	0	0
86	5.0	5.0
87	5.0	0
88	4.9	4.9
89	0	0
90	0	0
91	2.8	2.8
92	4.9	4.9
93	0	0
94	4.9	4.9
95	4.9	4.9
96	0	0
97	4.9	4.9
98	0.3	0.3
99	0	-
100	-	-
101	2.8	2.8
102	1.2	1.2
103	5.0	5.0
104	4.8	4.8
105	4.8	4.8
106	4.8	4.8
107	0	0
108	1.5	1.5
109	4.9	4.9
110	0	0
111	0	0
112	2.4	2.4

#### <SYSTEM CONTROL>

MODE PIN NO.	REC	PLAY
IC3001		
1	-	2.4
2	0	0
3	-	2.4
4	2.4	2.4
5	0	0.3
6	2.5	2.5
7	2.4	2.4
8	2.4	2.4
9	5.0	5.0
10	4.9	4.9
11	0	0
12	0	0
13	0	3.1
14	4.7	4.7
15	4.8	4.8
16	0.5	0.5
17	0	0
18	0	0
19	3.2	3.2
20	4.5	4.5
21	3.9	3.9
22	1.9	1.4
23	0	0
24	4.8	4.8
25	0	0
26	4.9	4.9
27	4.9	4.9
28	4.9	4.9
29	4.9	4.9
30	4.9	4.9
31	4.9	4.9
32	0.6	0.6
33	0	0
34	0	0
35	0	0
36	0	0
37	0	0
38	3.4	3.3
39	4.3	4.3
40	0	0
41	4.9	4.9
42	4.5	4.5
43	0	0
44	0	0
45	4.9	4.9
46	0	0
47	0	0
48	-	-
49	4.0	4.0
50	4.8	4.6
51	4.9	4.9
52	4.0	4.0
53	4.3	4.3
54	-	-
55	-	-
56	0	0
57	0	0
58	4.9	0
59	0	0
60	0	0
61	0	0
62	0	0
63	5.0	5.0
64	-	-
65	-	-
66	-	-
67	-	-
68	0	0
69	0	0
70	0	0

#### <AUDIO ERASE>

MODE PIN NO.	REC	PLAY
CN2052		
1	7.9	0.2
2	0	0
3	0	0
4	0	0

#### <VSC>

MODE PIN NO.	REC	PLAY
IC2501		
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	-	-
11	-	-
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
18	5.0	5.0
19	0	1.4
20	5.0	5.0
21	0	0
22	0	0
23	0	0
24	5.0	5.0
25	5.0	5.0
26	5.0	5.0
27	5.0	5.0
28	5.0	5.0
29	5.0	5.0
30	5.0	5.0
31	5.0	5.0
32	0	0
33	0	0
34	0	0
35	0	0
36	0	0
37	0	0
38	0	0
39	0	0
40	0	0
41	0	0
42	0	0
43	0	0
44	0	0
45	4.9	4.9
46	0	0
47	0	0
48	-	-
49	4.0	4.0
50	4.8	4.6
51	4.9	4.9
52	4.0	4.0
53	4.3	4.3
54	-	-
55	-	-
56	0	0
57	0	0
58	4.9	0
59	0	0
60	0	0
61	0	0
62	0	0
63	5.0	5.0
64	-	-
65	-	-
66	-	-
67	-	-
68	0	0
69	0	0
70	5.0	5.0

MODE PIN NO.	REC	PLAY
8	0	0
9	0	0
10	0	0
11	0	0
12	0	2.8
13	0	0
14	0	0
15	0	0
16	4.9	4.9

#### <CONNECTION>

MODE PIN NO.	REC	PLAY
CN501		
1	2.5	2.5
2	0	0
3	2.2	2.3
4	5.0	5.0
5	2.0	2.0
6	0.3	4.5
7	3.3	3.3
8	0	0
9	2.9	2.9
10	0	0
11	4.7	4.7
12	4.1	4.1
13	0	0
14	0.7	0.7
15	2.5	2.5
16	0	0
17	-	-

MODE PIN NO.	REC	PLAY
CN3001		
1	11.4	11.5
2	0	0
3	1.4	1.4
4	0	0
5	1.5	1.5

#### <3D DIGITAL/2M>

MODE PIN NO.	REC	PLAY
IC1401		
CN1401		
1	2.5	2.5
2	0	0
3	2.2	2.3
4	5.0	5.0
5	2.0	2.0
6	0.3	4.5
7	3.3	3.3
8	0	0
9	2.3	2.3
10	2.0	2.0
11	3.3	3.3
12	2.9	2.9
13	2.8	2.8
14	0	0
15	0	0
16	2.4	2.1
17	1.3	2.3
18	4.6	4.6
19	1.7	1.7
20	0	0
21	0	0
22	0	0
23	0	0
24	0	0
25	2.3	2.3
26	0	0
27	2.4	2.3
28	0	0
29	3.5	2.4
30	2.8	2.8

#### <TERMINAL>

MODE PIN NO.	REC	PLAY
IC201		
IC901		
CN911		
1	0	0
2	3.1	2.9
3	0	0
4	2.4	2.4
5	0	0
6	2.4	2.2
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	5.5	5.5
13	0	0
14	0.1	0.1

#### <SW/REG>

## 4.24 CPU PIN FUNCTION

### <SYSCON IC3001>

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	CTLAMP/OUT	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(H)/KILLER_DET/BIT_IN(H)	IN	NC/COLOR KILLER DETECT/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/WA_DET	IN	SCRAMBLE CONTROL INPUT (SCRAMBLE:H)/NC
19	IND(R)	IN	AUDIO INPUT (RCH) FOR THE FDP AUDIO INDICATOR
20	BS_ANT/AFC	IN	TUNING CLOCK
21	LED/RF AGC	IN	NO CHANGES IN ATTS-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 HI-FI 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	LOCK(L)/P.SAVE[0.1]	IN	TUNING PLL LOCK DETECT:L/NC
31	P50_IN	IN	CONTROL SIGNAL FOR TV LINK
32	R.PAUSE/COMP/IN	IN	REMOTE PAUSE CONTROL / A/V COMPULINK INPUT
33	RAE_OUT/COMP/OUT	OUT	NC / A/V COMPULINK OUTPUT
34	P50_OUT	OUT	CONTROL SIGNAL FOR TV LINK
35	LMC1	OUT	LOADING MOTOR DRIVE(1)
36	LMC2	OUT	LOADING MOTOR DRIVE(2)
37	LMC3	OUT	LOADING MOTOR DRIVE(3)
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	RMO	OUT	REMOTE CONTROL OUTPUT FOR SATELLITE RECEIVER
45	VCC	-	SYSTEM POWER
46	EXP2_DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR TUNER/REG CONTROL
47	EXP1_DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR AUDIO/VIDEO CONTROL
48	EXP_CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR AUDIO/VIDEO AND TUNER/REG CONTROL
49	I2C_DATA_A/V	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR THE VIDEO/AUDIO IC
50	I2C_CLK_A/V	OUT	SERIAL DATA TRANSFER CLOCK FOR THE VIDEO/AUDIO 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	JUST_CLK/EDS(H)	-	NC

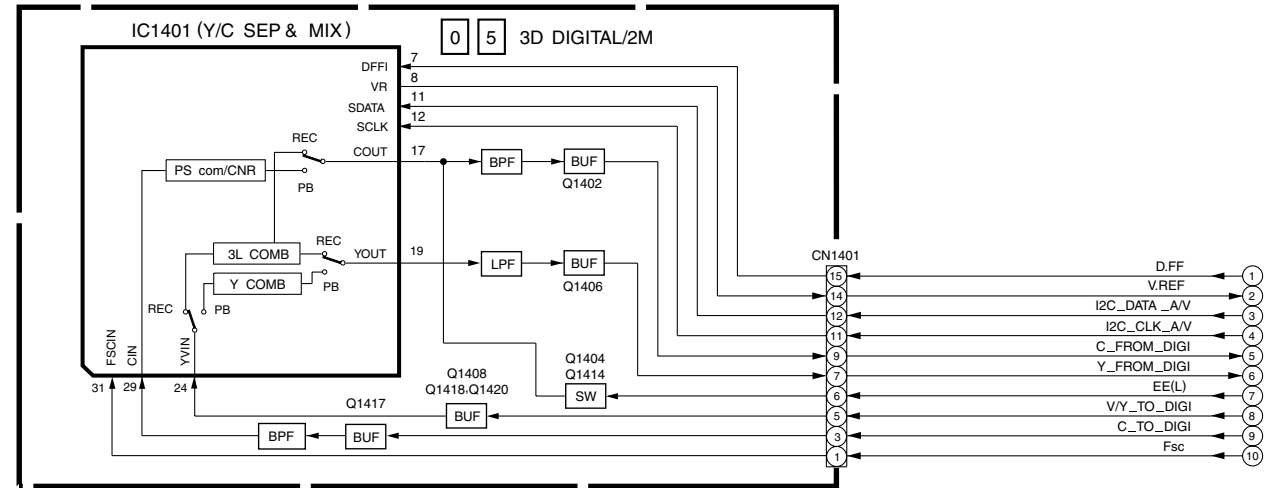
PIN NO.	LABEL	IN/OUT	FUNCTION
57	TU_CE	OUT	CHIP ENABLE OF THE TUNER UNIT
58	N.REC_ST(H)	OUT	NORMAL AUDIO SOUND RECORDING START
59	DD_FG	IN	DYNAMIC DRUM FG INPUT
60	TU_CLK	OUT	CLOCK FOR DATA TRANSFER TO THE TUNER UNIT
61	TU_DATA	OUT	TUNING DATA
62	FWE	-	NC
63	NMI(L)	-	NC
64	X2	-	TIMER CLOCK (32.768KHz)
65	X1	-	TIMER CLOCK (32.768KHz)
66	RES(L)	-	RESET TERMINAL (RESET ON: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	R-Y_REV/EDS_CS/EXT(L)	OUT	PAL EP MODE CONTROL/NC/NC
82	VCC	-	SYSTEM POWER
83	SLOW_P/CNR_CTL	OUT	MEMORY TIMING CONTROL IN THE SLOW MODE / NC
84	VSS	-	GND
85	SP_SHORT(H)	OUT	MODE SELECT
86	LP_SHORT(H)	OUT	MODE SELECT
87	FLY_ON(H)	OUT	FLYING ERASE ON:H
88	H.REC_ST(H)	OUT	HIFI AUDIO SOUND RECORDING START
89	TRICK(H)/M_TRICK(L)	OUT	SPECIAL PLAYBACK: H/REC AFC FILTER, PB APC FILTER, BURST ACC FILTER, COLOR KILLER DET FILTER
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	MESECAM(H)	OUT	MESECAM:H
94	JSB/STLB	-	NC
95	SHTL(L)/JOGA	-	NC
96	JOGB/S_CASS(H)	-	NC
97	JSA/STLA	-	NC
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	OUT	RESET SIGNAL FOR THE SUB CPU (NAVI)
104	HI_FF/REW(L)	OUT	HIGH FF/REW:L
105	SUB_BUSY	IN	SUB CPU (NAVI) BUSY
106	SUB_CS	OUT	CHIP SELECT FOR THE SUB CPU (NAVI)
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



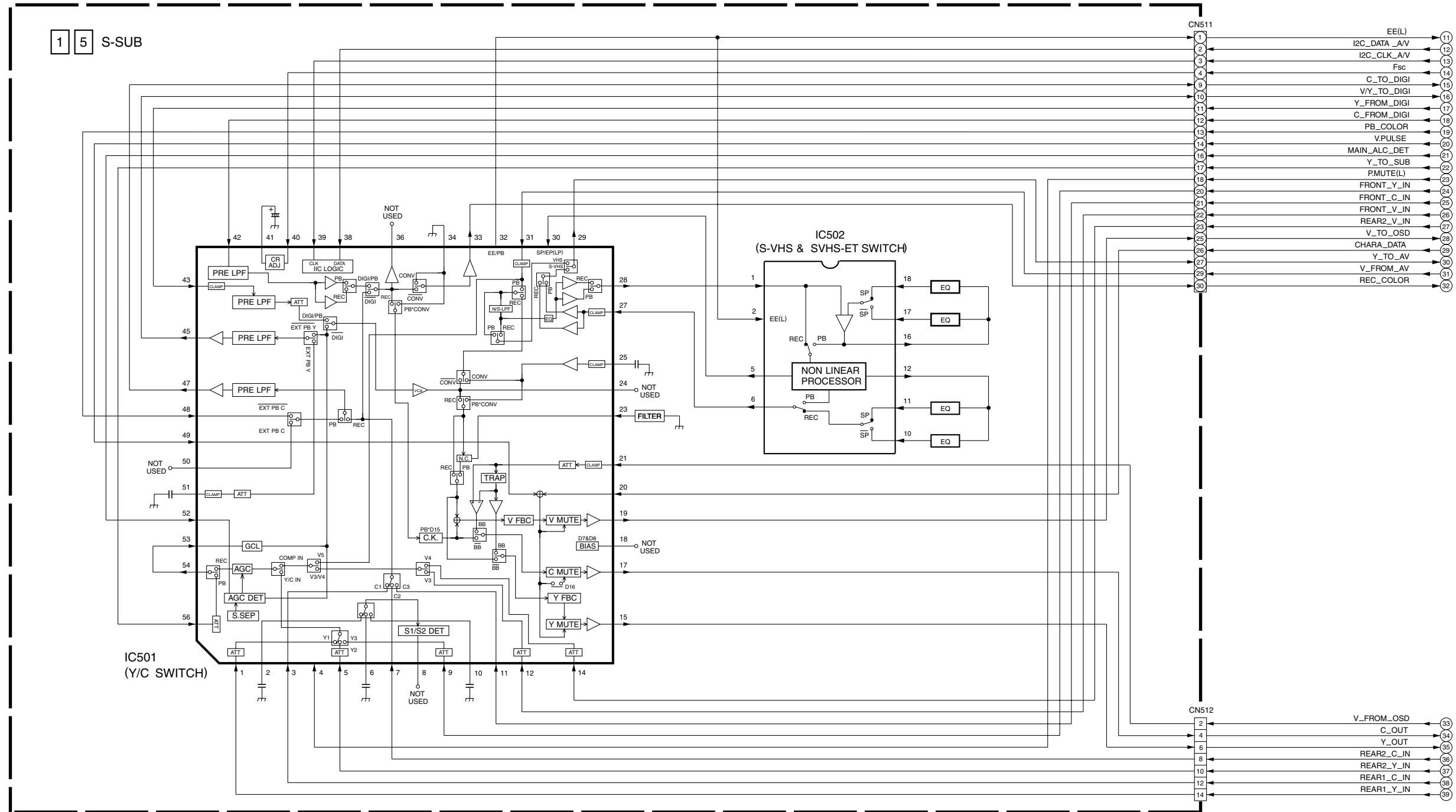


4.26 VIDEO BLOCK DIAGRAM

5



4



3

2

1

A

B

C

D 4-49

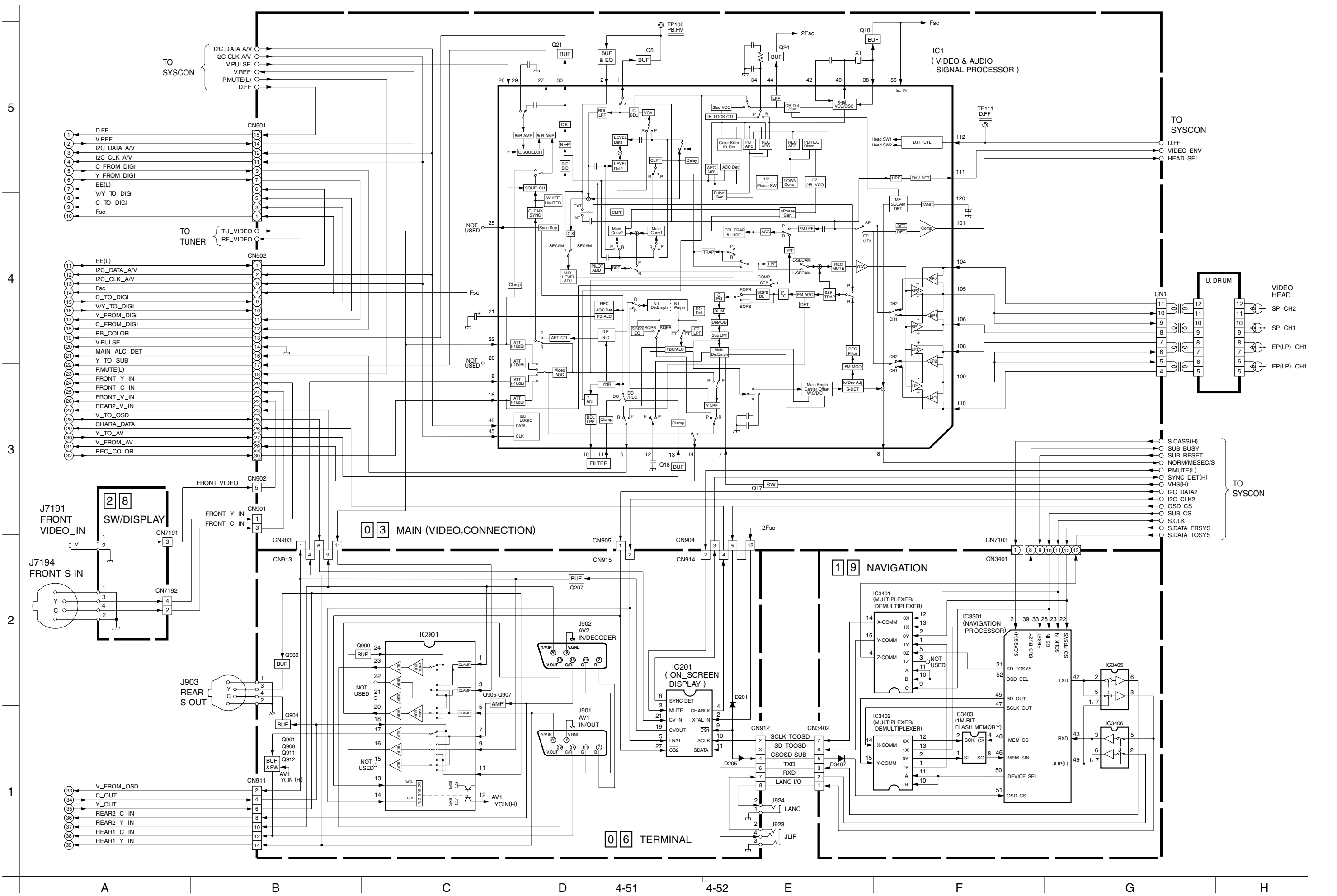
4-50

E

F

G

H



TO SYSCON

TO SYSCON

TO TUNER

U. DRUM  
VIDEO HEAD  
SP CH2  
SP CH1  
EP(LP) CH1  
EP(LP) CH1

TO SYSCON

03 MAIN (VIDEO CONNECTION)

19 NAVIGATION

06 TERMINAL

5

4

3

2

1

A

B

C

D

4-51

4-52

E

F

G

H

4.27 AUDIO BLOCK DIAGRAM

