

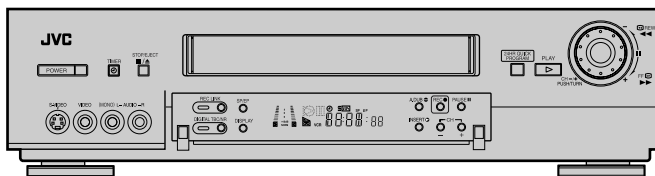
JVC

SCHEMATIC DIAGRAMS

VIDEO CASSETTE RECORDER

HR-S9911U

CD-ROM No.SML200208



Regarding service information other than these sections, refer to the service manual No. 82805 (HR-S9800U). Also, be sure to note important safety precautions provided in the service manual.

SPECIFICATIONS

GENERAL

Power requirement	: AC 120 V ~ , 60 Hz
Power consumption	
Power on	: 26 W
Power off	: 2.5 W
Temperature	
Operating	: 5°C to 40°C (41°F to 104°F)
Storage	: -20°C to 60°C (-4°F to 140°F)
Operating position	: Horizontal only
Dimensions (W x H x D)	: 435 mm x 105 mm x 343 mm (17-3/16" x 4-3/16" x 13-9/16")
Weight	: 4.9 kg (10.8 lbs)
Format	: S-VHS/VHS NTSC standard
Maximum recording time	
SP	: 210 min. with ST-210 video cassette
EP	: 630 min. with ST-210 video cassette

VIDEO/AUDIO

Signal system	: NTSC-type color signal and EIA monochrome signal, 525 lines/60 fields
Recording/Playback system	: DA-4 (Double Azimuth) head helical scan system
Signal-to-noise ratio	: 45 dB
Horizontal resolution	
VHS	: 230 lines
S-VHS	: 400 lines
Frequency range	
Normal audio	: 70 Hz to 10,000 Hz
Hi-Fi audio	: 20 Hz to 20,000 Hz
Input/Output	: RCA connectors (IN x 2, OUT x 1) S-video connectors (IN x 2, OUT x 1)

TUNER

Tuning system	: Frequency-synthesized tuner
Channel coverage	
VHF	: Channels 2-13
UHF	: Channels 14-69
CATV	: 113 Channels
RF output	: Channel 3 or 4 (switchable; preset to Channel 3 when shipped) 75 ohms, unbalanced

TIMER

Clock reference	: Quartz
Program capacity	: 1-year programmable timer/ 8 programs
Memory backup time	: Approx. 3 min.

ACCESSORIES

Provided accessories	: Infrared remote control unit, "AA" battery x 2, Audio/video cable, RF cable (F-type), S-video cable (4-pin), Controller
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*Specifications shown are for SP mode unless specified otherwise.
E. & O.E. Design and specifications subject to change without notice.*

SECTION 4

CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

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

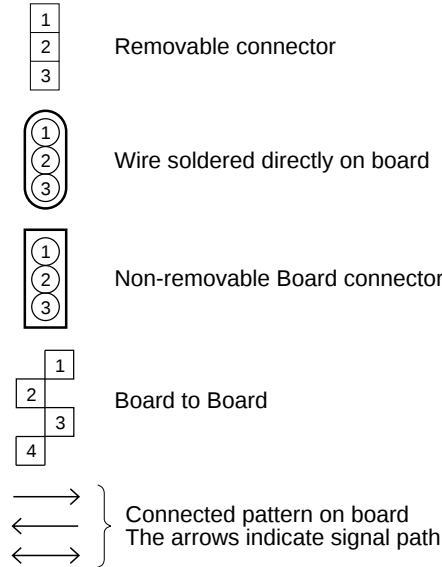
1. Units of components on the schematic diagram

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

2. Indications of control voltage

AUX : Active at high
AUX or AUX(L) : Active at low

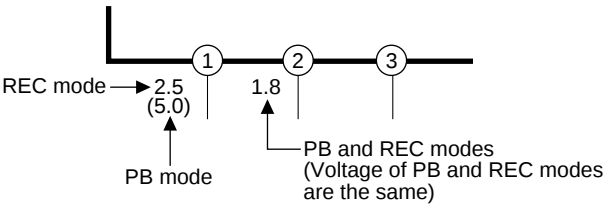
3. Interpreting Connector indications



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

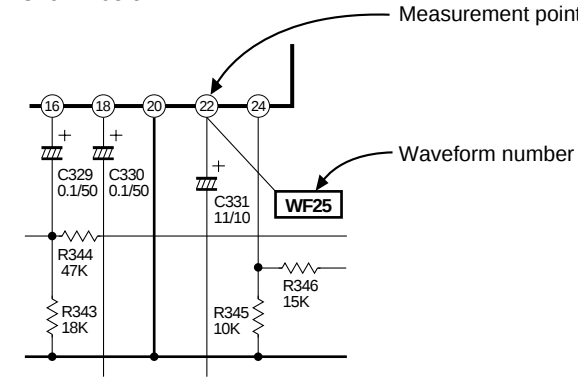
- 4) Indication on schematic diagram
Voltage Indications for REC and PB mode on the schematic diagram are as shown below.



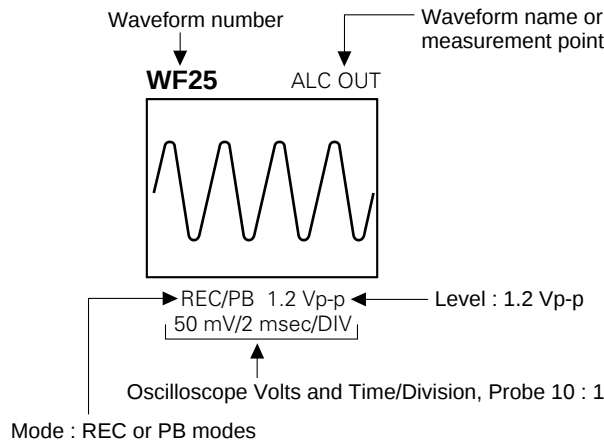
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

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.

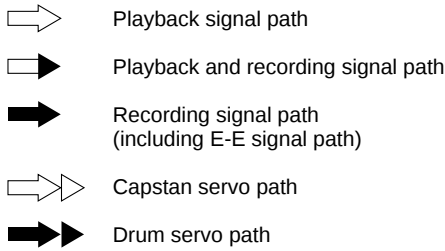


5) Waveform indications

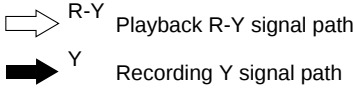


6. Signal path Symbols

The arrows indicate the signal path as follows.

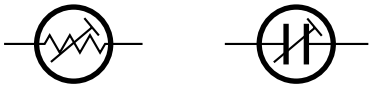


(Example)



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.



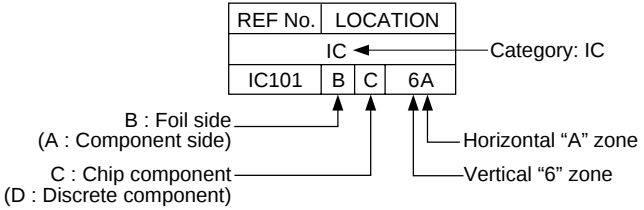
CIRCUIT BOARD NOTES

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

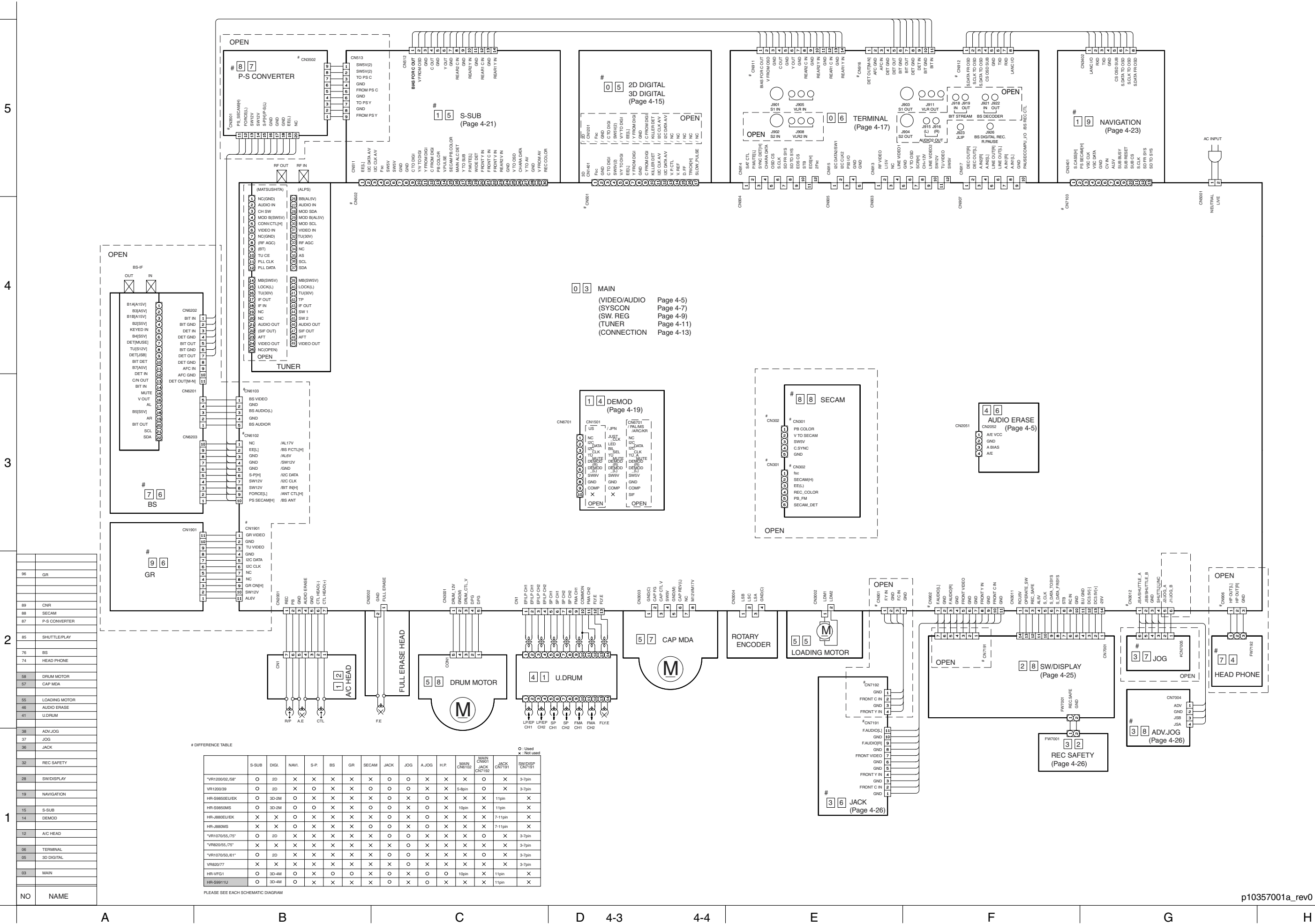
Parts location are indicated by guide scale on the circuit board.



Note:

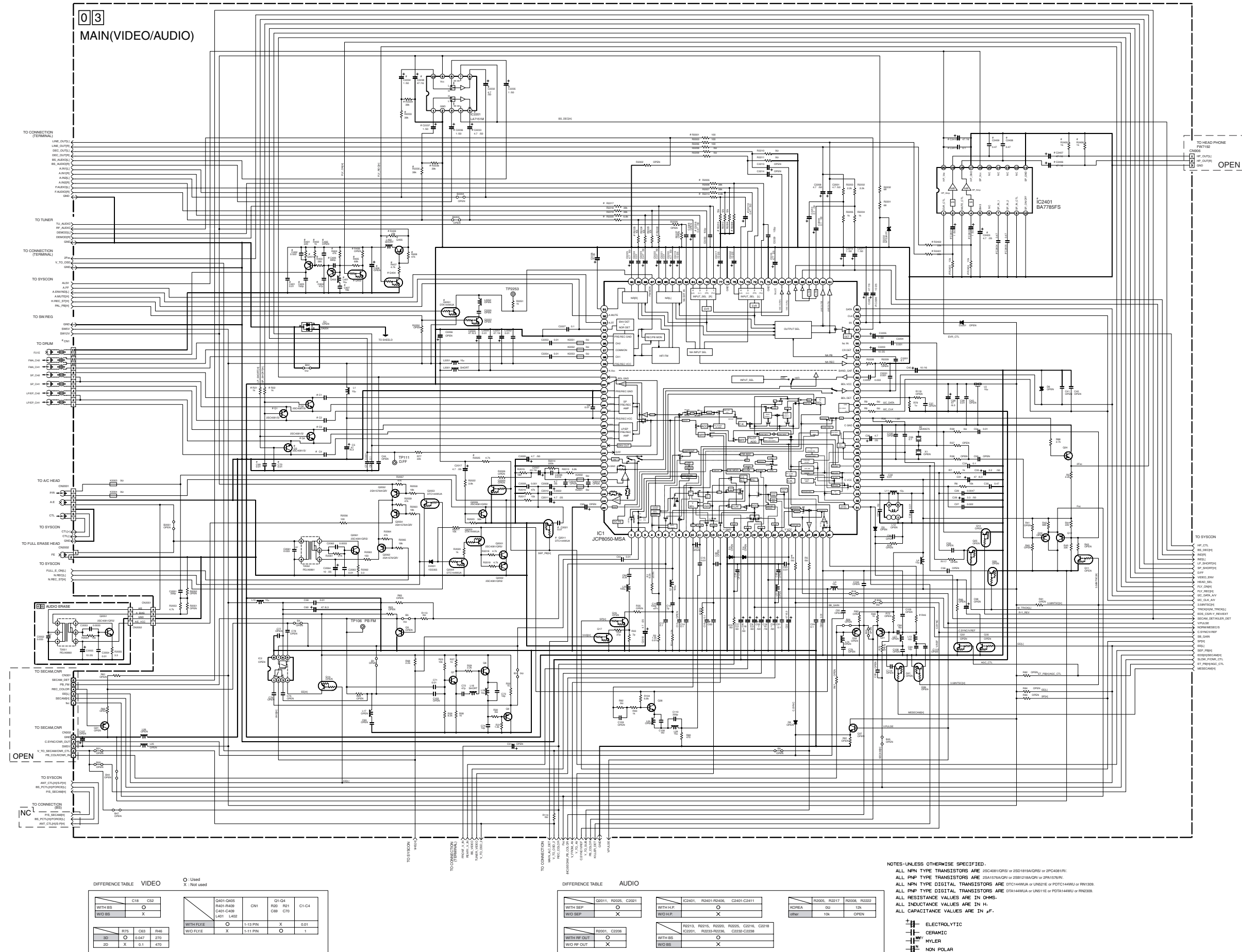
For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

4.1 BOARD INTERCONNECTION



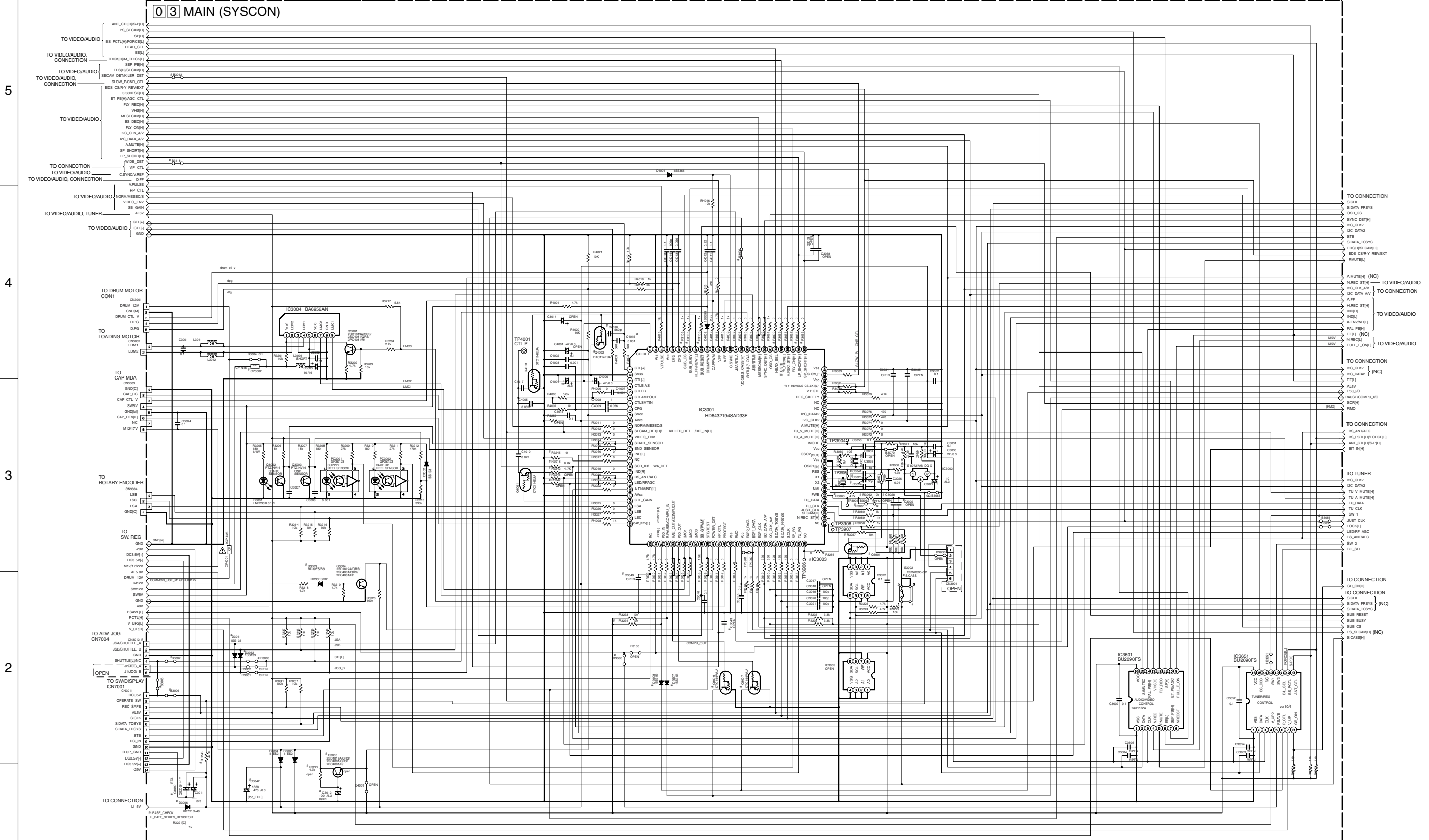
4.2 MAIN (VIDEO/AUDIO) AND AUDIO ERASE SCHEMATIC DIAGRAMS

*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.*



4.3 MAIN (SYSCON) SCHEMATIC DIAGRAM

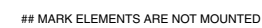
*Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only.
When replacing the parts, refer to the Parts List.*



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

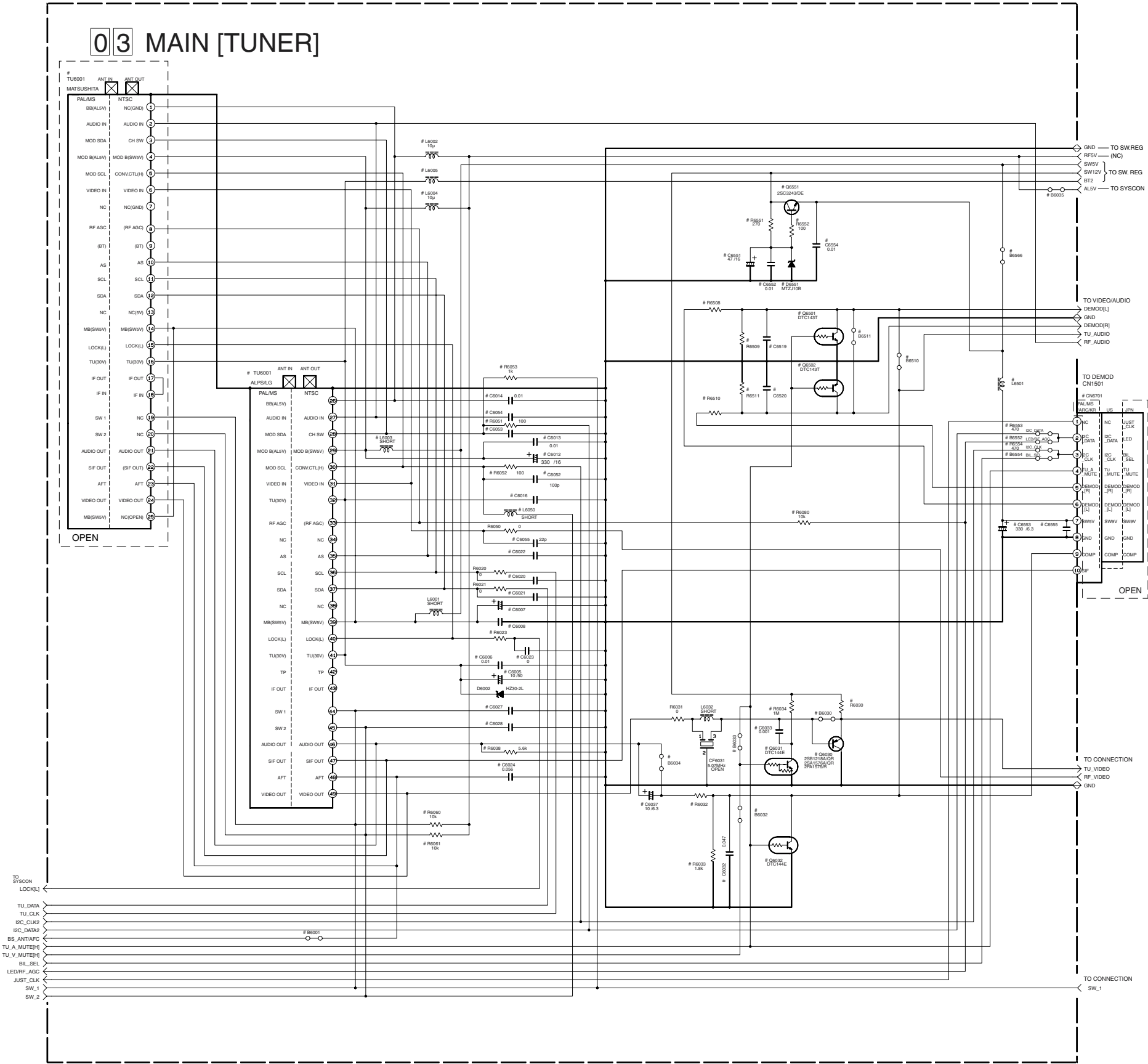
	ELECTROLYTIC
	CERAMIC
	MYLAR
	NON POLAR

5
—
4
—
3
—
2
—
1



4.5 MAIN (TUNER) 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

○ : Used
× : Not used

TUNER UNIT		"02"/58"	"EK/EU"	"MS/39"	"55/75"	"50/77"	/61	JAPAN	U
		ALPS QAU209	ALPS QAU208	LG QAU210	MATSUSHITA QAU236	ALPS QAU207	MATSUSHITA QAU238	MATSUSHITA QAU224	ALPS QAU235
RF CONVERTER									
BB (RF SV)	"L6002,C6014"	○	○	○	○	○	○	○	○
AUDIO IN	C6054	×	×	×	×	×	×	×	×
MOD SDA/CH SW	R6051	×	○	×	○	×	×	×	×
	R6053	×	×	×	×	○	○	×	○
	C6053	×	×	×	×	×	×	×	×
MOD B	L6003	×	×	×	×	○	○	×	○
	L6004	×	○	×	○	×	×	×	×
	C6012	×	×	×	×	×	×	×	×
	C6013	×	×	×	×	×	×	×	○
MOD SCL/CONV/CTL	R6052	×	○	×	○	×	×	×	×
	C6052	×	×	×	×	×	×	×	×
	L6050	×	×	×	×	○	○	×	○
VIDEO IN	R6050	×	○	×	○	○	○	×	○
	C6055	×	×	×	×	×	×	×	○
TU (30V)	C6016	×	○	×	○	×	×	×	×
FRONT END									
RF AGC	R6080	○	○	○	×	×	×	×	×
AS	C6022	×	×	×	×	×	×	×	×
SCL	R6020	1k	1k	1k	1k	1k	1k	1k	1k
	C6020	×	×	×	×	×	×	×	×
SDA	R6021	1k	1k	1k	1k	1k	1k	1k	1k
	C6021	×	×	×	×	×	×	×	×
MB (SWV)	L6001	10p	10p	10p	10p	SHORT	SHORT	SHORT	SHORT
	C6007	×	×	×	×	×	×	×	×
	C6008	×	×	×	×	×	×	×	×
LOCK	R6023	×	×	×	×	×	×	×	×
TU (30V)	C6005	×	×	×	×	×	×	×	×
	C6006	×	×	×	×	×	×	×	×
IF									
SW1	R6060	○	○	○	○	×	×	×	×
	C6027	×	×	×	×	×	×	×	×
SW2	R6051	○	○	○	○	○	○	×	○
	C6028	×	×	×	×	×	×	×	×
AUDIO OUT	R6038	×	×	×	×	×	×	×	×
	C6037	○	○	○	○	×	×	×	×
	B6034	×	×	×	×	○	×	○	○
	R6032	3.3k	3.3k	18k	0Ω	12k	×	0Ω	12k
	R6033	1.5k	1.5k	18k	×	×	×	×	×
	C6032	○	○	×	×	×	×	×	×
AFT	C6034	×	×	×	×	×	×	×	×
	B6001	○	○	○	○	○	○	×	○
VIDEO OUT	C6030	○	○	○	○	○	○	○	○
	R6030	1k	1k	1k	1k	3.3k	3.3k	3.3k	3.3k
	B6030	×	×	×	×	×	×	×	×
AUDIO MUTE	C6032	○	○	○	○	×	×	×	×
VIDEO MUTE	C6031	○	○	○	○	×	×	×	×
	R6034	×	×	×	×	×	×	×	×
	C6033	0Ω	0Ω	0Ω	0Ω	×	×	×	×
	B6032	○	○	○	○	×	×	×	×
	B6033	×	×	×	×	×	×	×	×
DEMOD REG	"R6051,R6052," "C6051,C6052"	×	×	×	×	○	×	○	○
	C6054	×	×	×	×	×	×	×	×
	B6055	○	○	○	○	×	○	×	×
	C6053	○	○	○	○	×	○	×	×
	C6055	×	×	×	×	×	×	×	×
	L6001	SHORT	SHORT	3.3p	SHORT	×	3.3p	×	SHORT
DEMOD OUT	"R6058,R60510"	0Ω	0Ω	0Ω	0Ω	0Ω	0Ω	0Ω	0Ω
	"R6059,R60511"	×	×	×	×	×	×	×	×
	"C6019,C6020"	×	×	×	×	×	×	×	×
	"C60501,C60502"	×	×	×	×	×	×	×	×
	"B6010,B6011"	×	×	×	×	×	×	×	×
DEMOD OPTION	R6053	○	○	○	○	0Ω	0Ω	×	○
	B6052	×	×	×	×	×	×	○	×
	R6054	○	○	○	○	0Ω	0Ω	×	○
	B6054	×	×	×	×	×	×	○	×
DEMOD UNIT	C60701	LPA10094 -04+	LPA10094 -04+	LPA10094 -05+	LPA10094 -07+	PB11076A -08	LPA10094 -06+	PB11087A -09	PB11076A
OPTION	B6035	×	×	×	×	○	○	×	○

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

*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.*



	CN6102	B6108 C6101 CN6103	B7201 B7202 B7203 B7207 B7208	B7204 B7205 B7206	B7209	R7202 R7203 R7204 R7209 Q7201 L7201 C7200	B7251 B7253	B7252	B7255	B7256	CN601	R7252 R7253 C7251	R7251
VR1200/02/58	X	X	X	X	X	O	O	X	O	X	O	O	O
HR-S9850U/EK	X	X	X	X	X	O	O	X	O	X	O	O	O
VR1200/39	5-8pin	X	X	O	O	O	O	X	O	X	O	O	O
HR-S9850MS	1-10pin	X	O	O	X	O	O	X	O	X	O	O	O
HR-J880U/EKMS	X	X	X	X	X	O	O	X	X	O	X	X	O
VR1070/55/75	X	X	X	X	X	X	X	X	X	X	O	X	X
VR820/55/75	X	X	X	X	X	X	X	X	X	X	X	X	X
VR1070/50/61	X	X	X	X	X	X	X	O	X	X	O	X	X
VR820/77	X	X	X	X	X	X	O	X	X	X	X	X	X
HR-VFG1	1-10pin	O	X	X	X	X	X	O	O	X	O	X	X
HR-S911U	X	X	X	X	X	O	X	X	O	X	X	X	X

NAVI	CN7103
YES	○
NO	×

GR \	CN1901	B7254
YES	○	×
NO	×	○

SVHS	CN501 CN502
YES	○
NO	×

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

	ELECTROLYTIC
	CERAMIC
	MYLER
	NON POLAR

5

4



2

1

○ : Used
× : Not used

SYSTEM	IC1402,L1408 C1456,C1457,C1458	B1401-B1408
4M	○	×
2M	×	○

A

B

C

D 4-15

4-16

E

F

G

H

5

4

3

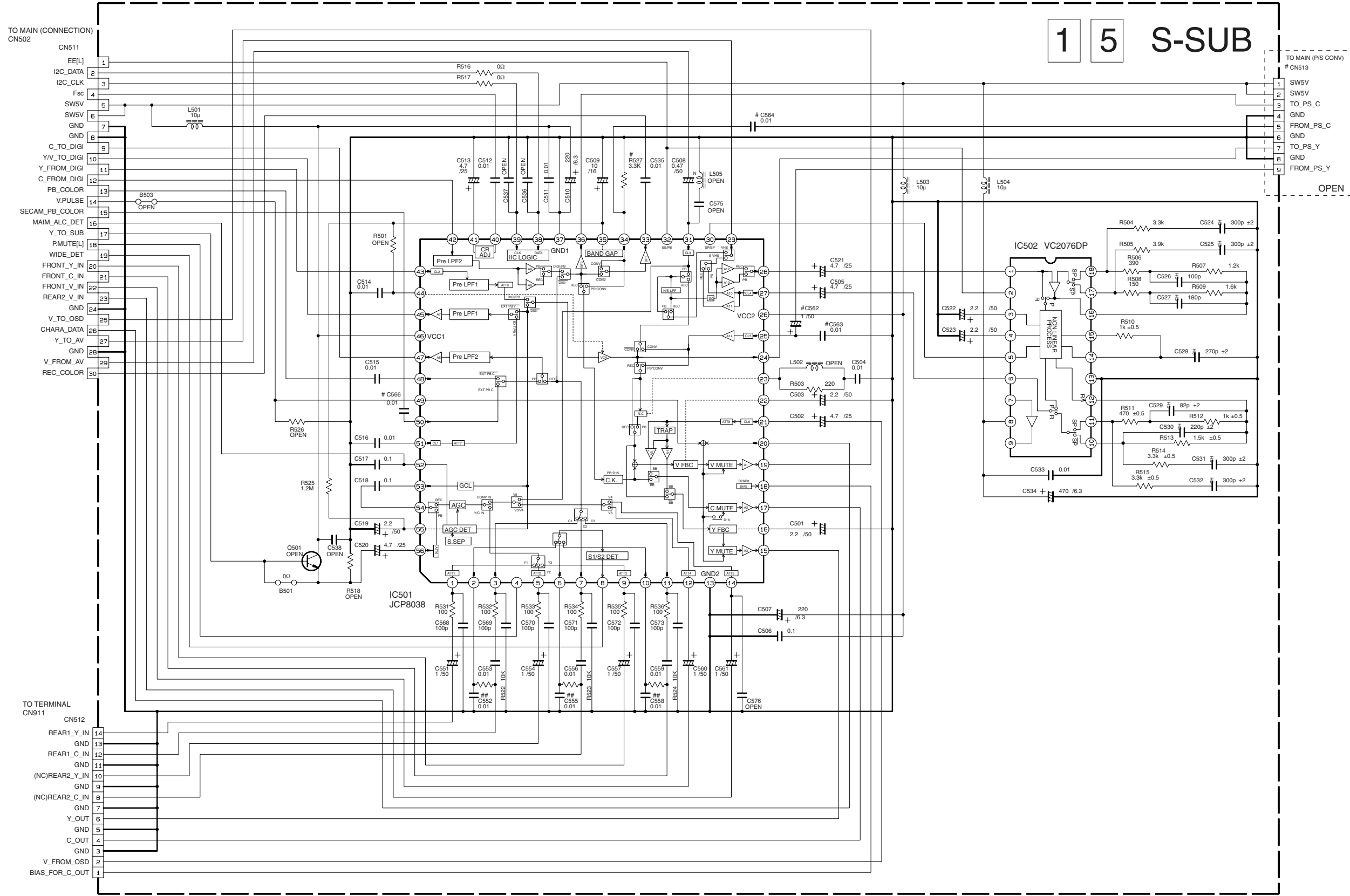
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1

BC4-174-18EFGH

4.10 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.



# DIFFERENCE TABLE		
	CN513 C562 C564 C566	C563 R527
MS	○	×
OTHERS	×	○

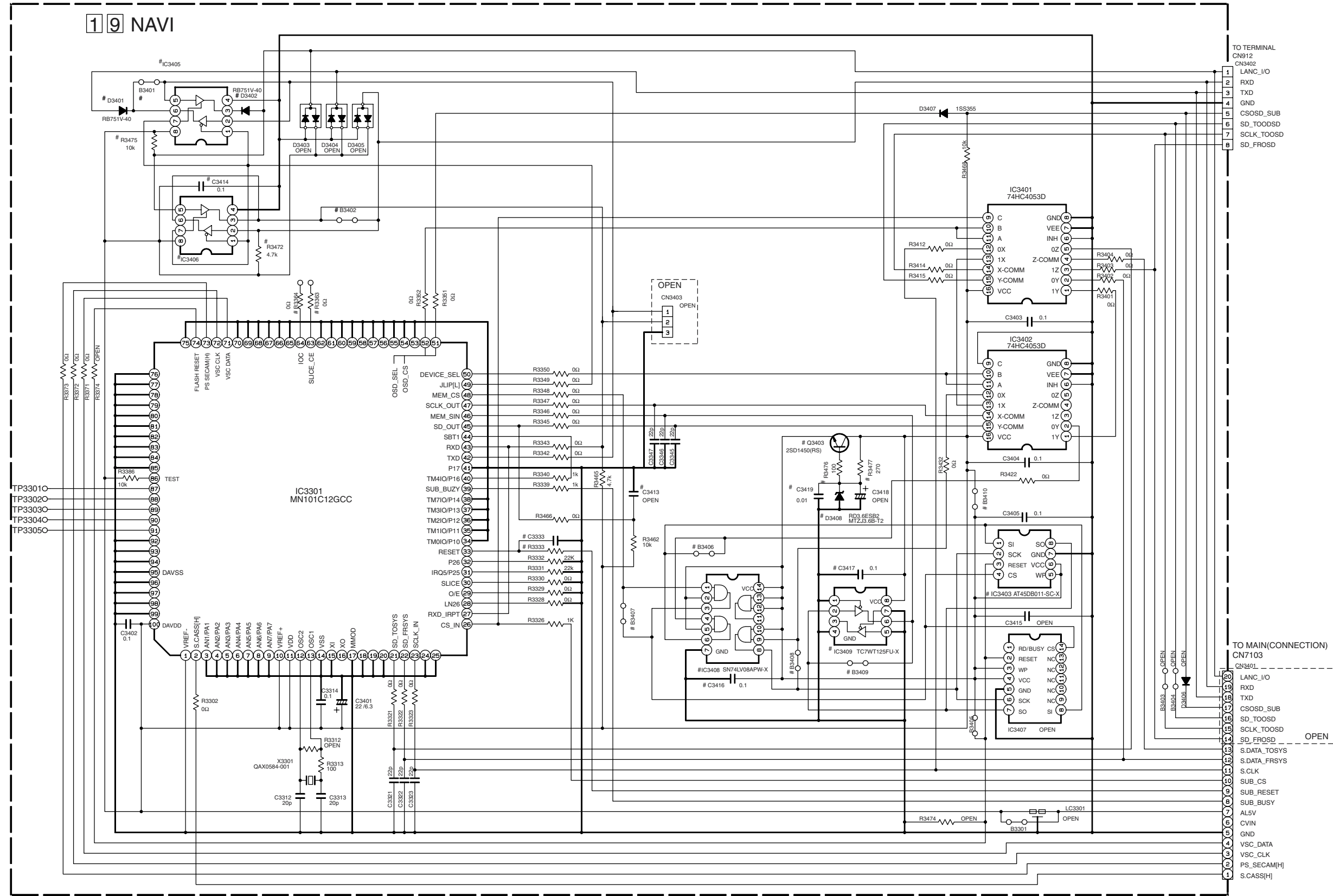
Marked elements may differ depending on the model.
Be sure to check the Parts List.

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

- ELECTROLYTIC
- CERAMIC
- MYLER
- NON POLAR

4.11 NAVIGATION 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

IC3403	AT45D011-SC	AT45DB011-SC
IC3408	IC3409	Q3403
D3408	R3476	R3477
C3416	C3417	C3419
B3406-B3410	O	X
R3333	1k	330
C3333	0.1µF	4.7kΩ

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

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

O : Used
x : Not used

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

5

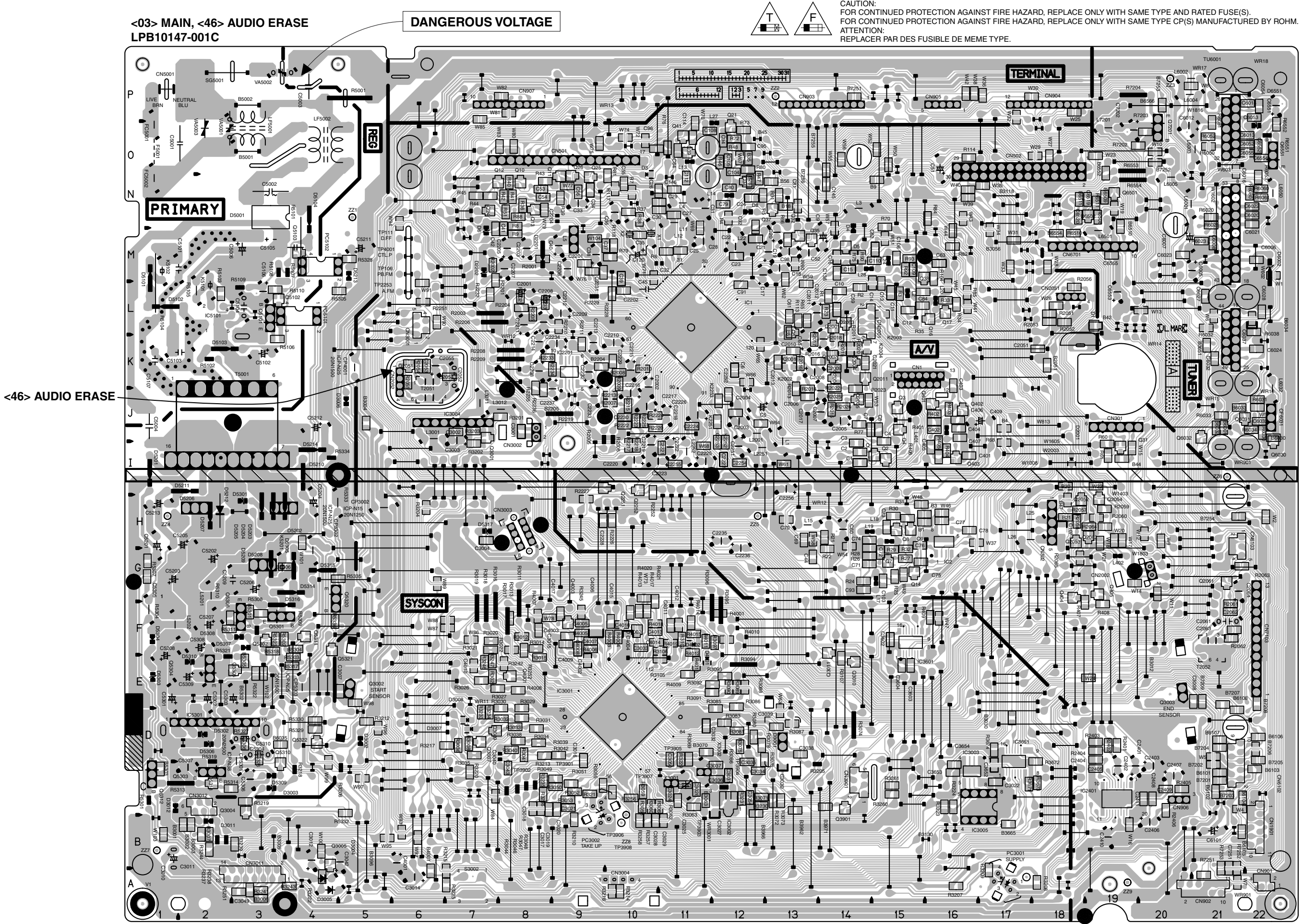
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4-254-26

E

E

4.13 MAIN AND AUDIO ERASE CIRCUIT BOARDS

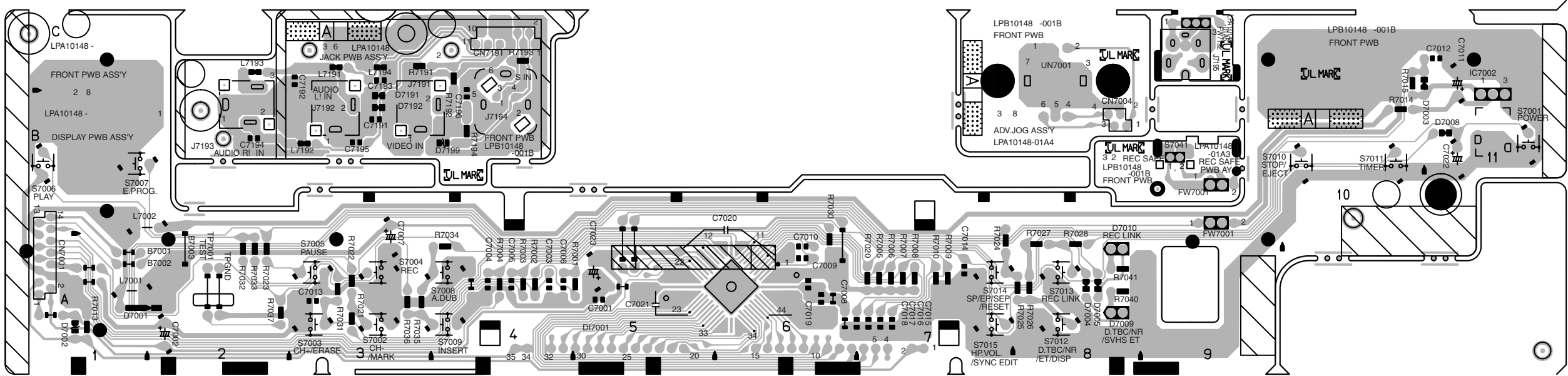


COMPONENT PARTS LOCATION GUIDE <MAIN>

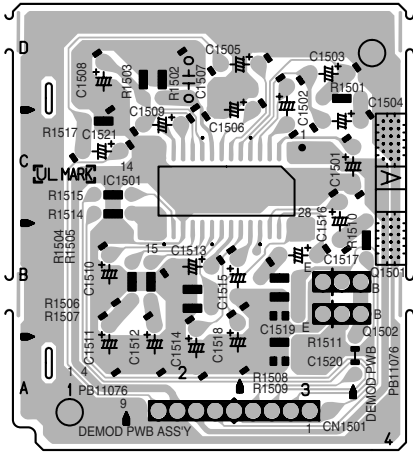
REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR		C2007	A D 14J	C3040	A D 8D	CN906	A D 20C	L24	A D 15M	Q7201	A D 20P	RESISTOR			
C1	B C 14I	C2008	A D 14K	C3041	B C 11C	CN907	A D 8P	L25	A D 18H	R2060	B C 19H	R3093	B C 12E	R5321	A D 3E
C2	B C 14I	C2009	B C 14K	C3042	A D 5B	CN1901	A D 22C	L26	A D 18H	R2061	B C 21F	R3094	A D 12E	R5322	A B C 3E
C3	B C 14I	C2010	B C 14K	C3043	B C 8C	CN2001	A D 14L	L27	A D 11O	R2062	B C 21F	R3095	A D 12G	R5323	B C 3F
C4	B C 15J	C2011	A D 14K	C3049	B C 3A	CN2002	A D 20G	L28	A D 15M	R2063	B C 21G	R3096	A D 12G	R5326	B C 3D
C5	A D 13J	C2012	A D 13L	C3050	B C 11D	CN2051	A D 18L	L401	A D 16J	R2064	B C 19H	R3097	B C 12F	R5327	B C 3D
C6	B C 12K	C2013	B C 13K	C3054	B C 12K	CN2052	A D 6K	L402	A D 19G	R2065	B C 18G	R3103	B C 11F	R5328	B C 5M
C7	B C 14J	C2016	B C 13K	C3602	B C 15F	CN3001	A D 6L	L2001	A D 13J	R2201	B C 7M	R3105	B C 11E	R5329	B C 4D
C8	B C 15J	C2017	A D 14J	C3603	B C 15E	CN3002	A D 8J	L2251	A D 13I	R2202	B C 8L	R3106	B C 11F	R5330	B C 4D
C9	A D 14M	C2021	A D 14K	C3604	B C 15E	CN3003	A D 8H	L2252	A D 11I	R2203	B C 11M	R3107	B C 14E	R5332	B C 5C
C10	B C 14L	C2051	A D 18K	C3652	B C 17C	CN3004	A D 10A	L3001	A D 6J	R2204	B C 8L	R3201	B C 7I	R5334	A D 4H
C11	B C 15L	C2052	A D 7K	C3653	B C 16C	CN3011	A D 3A	L3011	A D 7J	R2205	B C 8M	R3202	B C 7J	R5335	B C 5G
C12	B C 15L	C2053	B C 6K	C3654	A D 6B	CN3012	A D 2C	L3012	A D 2G	R2206	A D 7K	R3204	A D 6H	R5336	B C 4F
C13	B C 15L	C2054	B C 7K	C4001	A D 9E	CN3901	A D 14C	L5201	A D 2G	R2209	A D 7K	R3205	A D 14C	R6020	B C 21N
C14	B C 15L	C2055	A D 6K	C4002	B C 9E	CN5001	A D 1P	L5202	A D 1F	R2210	B C 9L	R3206	A D 5C	R6021	B C 21N
C15	B C 14M	C2061	A D 21F	C4003	B C 10F	CN6102	A D 21C	L6001	A D 20N	R2211	B C 9K	R3207	B C 16A	R6023	B C 21M
C16	B C 14M	C2062	B C 21F	C4004	B C 9F	CN6103	A D 21H	L6002	A D 21P	R2213	B C 10J	R3208	B C 18A	R6030	B C 22J
C17	A D 12M	C2063	B C 21F	C4005	B C 9F	CN6701	A D 18M	L6003	A D 21Q	R2215	B C 10J	R3209	B C 17A	R6031	B C 22J
C18	A D 13M	C2064	A D 21G	C4006	B C 9F	CN7103	A D 22E	L6004	A D 21P	R2217	B C 10I	R3210	B C 9B	R6032	B C 21L
C19	A D 13M	C2201	B C 9M	C4007	B C 9F	DIODE				R2218	B C 10I	R3211	B C 9C	R6033	B C 21J
C20	A D 13M	C2202	A D 10L	C4008	B C 9F	D1	B C 19L	L6032	A D 22J	R2219	A D 8J	R3212	B C 5D	R6034	B C 22J
C21	B C 12M	C2203	A D 8M	C4009	B C 9F	D3	B C 100	L6050	A D 22N	R2220	B C 10J	R3213	B C 8D	R6038	B C 22L
C22	A D 12M	C2204	A D 9N	C4010	B C 7E	D4	A D 14M	L6501	A D 19M	R2222	B C 10J	R3214	B C 10A	R6050	B C 21O
C23	B C 12M	C2205	A D 8M	C4011	B C 11F	D5	B C 14M	L7201	A D 19O	R2223	B C 10J	R3215	B C 7A	R6051	B C 21O
C24	B C 12M	C2206	A D 9M	C4012	B C 11F	D6	A D 7N	TRANSISTOR				R3216	B C 10A	R6052	B C 21O
C25	B C 11M	C2207	A D 8M	C4013	B C 10F	D8	A D 12N	Q1	B C 15I	R3217	B C 10J	R3217	B C 7D	R6053	B C 22N
C26	B C 11N	C2208	A D 9L	C4014	B C 10F	D2001	B C 18I	Q2	B C 15I	R3218	B C 10H	R3218	A D 4C	R6060	B C 22N
C27	B C 11N	C2209	A D 9L	C4015	B C 10F	D2201	B C 10F	Q3	B C 15I	R3219	B C 9H	R3219	B C 3C	R6061	B C 22N
C28	A D 11M	C2210	A D 10K	C4016	B C 10F	D2202	A D 7M	Q4	B C 15J	R3220	B C 10L	R3220	B C 7C	R6080	B C 22N
C29	B C 11N	C2211	A D 8L	C4017	B C 9F	D3001	A D 13D	Q5	B C 13L	R3221	A D 9L	R3222	B C 4A	R6508	B C 19N
C30	B C 11N	C2212	A D 8L	C5001	A D 2O	D3002	A D 5D	Q7	B C 15G	R3222	B C 7L	R3223	B C 16C	R6509	B C 19N
C31	A D 11N	C2213	A D 9K	C5002	A D 4N	D3003	A D 3C	Q8	B C 15H	R3223	B C 8K	R3224	B C 16C	R6510	B C 18M
C32	A D 11M	C2214	A D 8K	C5003	A D 4P	D3004	A D 4A	Q9	B C 15H	R3224	B C 9K	R3225	B C 7A	R6511	B C 19N
C33	A D 9N	C2215	A D 10K	C5004	A D 1J	D3005	A D 4A	Q10	B C 8N	R3225	B C 8K	R3229	B C 11D	R6551	A D 22O
C34	B C 9M	C2216	A D 10J	C5006	A D 3M	D3006	A D 5J	Q11	B C 9N	R3226	B C 8J	R3230	B C 12C	R6552	B C 22O
C35	B C 10M	C2217	A D 10J	C5101	A D 2M	D3007	B C 7D	Q12	B C 8N	R3227	B C 6L	R3231	B C 12C	R6553	A D 20O
C36	A D 10M	C2218	A D 11J	C5102	A D 3K	D3008	B C 7D	Q13	B C 9N	R3228	B C 10I	R3233	B C 7D	R6554	A D 20N
C37	B C 10M	C2219	A D 10J	C5103	A D 2K	D3011	A D 2B	Q14	B C 15G	R3229	B C 19D	R3234	B C 7D	R7202	B C 20O
C38	A D 9M	C2220	A D 10I	C5104	A D 3L	D3012	A D 1C	Q16	B C 16L	R3230	B C 19D	R3235	B C 8C	R7203	B C 20O
C39	B C 10M	C2221	B C 11I	C5105	A D 4M	D4001	B C 11E	Q17	B C 16L	R3231	B C 19D	R3236	B C 8C	R7204	A D 20P
C40	A D 9M	C2222	A D 11I	C5106	A D 3L	D4002	B C 11F	Q21	B C 12O	R3232	B C 19D	R3237	A D 2B	R7251	B C 21A
C41	B C 8M	C2223	A D 11I	C5107	A D 1K	D5001	B C 3N	Q24	B C 7N	R3233	B C 20C	R3238	A D 2B	R7252	B C 21B
C42	B C 7M	C2224	B C 11J	C5201	A D 1G	D5011	A D 1L	Q25	B C 9N	R3234	B C 20C	R3239	B C 3B	R7253	B C 21B
C43	B C 13G	C2225	A D 11J	C5202	A D 1L	D5101	A D 2L	Q26	B C 9N	R3011	A D 8G	R3241	B C 3A	SWITCH	
C44	B C 10L	C2226	A D 11J	C5203	A D 1G	D5102	A D 2K	Q26	B C 9N	R3012	B C 8F	R3242	B C 8F	TESTPOINT	
C45	A D 16N	C2227	B C 12I	C5204	A D 4H	D5103	A D 4N	Q32	B C 13M	R3013	B C 8F	R3243	B C 4A	S3002	A D 7A
C51	A D 13M	C2228	B C 9H	C5205	A D 2H	D5104	A D 1I	Q34	B C 12O	R3014	B C 8F	R3244	B C 2B	OTHER	
C52	A D 8M	C2229	B C 10K	C5206	A D 3G	D5201	A D 4I	Q35	B C 13M	R3015	B C 8E	R3245	B C 9F	TP106	A D 6M
C53	B C 9N	C2230	B C 10J	C5207	A D 2F	D5202	A D 4I	Q37	B C 13M	R3016	A D 7G	R3246	B C 7E	TP111	A D 6M
C54	B C 10N	C2231	B C 9M	C5208	A D 1E	D5203	A D 3I	Q38	B C 15M	R3017	A D 8F	R3247	B C 7E	TP2253	A D 6L
C55	B C 9N	C2232	A D 9K	C5209	A D 3G	D5204	A D 3I	Q39	B C 11O	R3018	A D 7G	R3251	B C 3A	TP3901	B C 9C
C56	B C 14L	C2233	A D 9J	C5211	A D 5M	D5205	A D 2H	Q41	B C 11O	R3019	A D 7G	R3252	B C 8F	TP3902	B C 8C
C60	A D 14H	C2234	A D 9K	C5212	A D 4J	D5206	A D 2H	Q41	B C 11O	R3020	B C 7F	R3256	B C 10C	TP3903	B C 11C
C61	B C 13L	C2235	A D 12H	C5213	A D 1E	D5207	A D 3G	Q42	B C 16J	R3021	B C 7F	R3257	B C 10B	TP3904	B C 12C
C62	B C 15M	C2236	A D 12H	C5301	A D 1E	D5208	A D 3H	Q43	B C 16J	R3022	B C 8E	R3258	B C 10B	TP3905	B C 11C
C63	B C 16M	C2237	A D 9K	C5302	A D 2E	D5209	A D 4I	Q44	B C 16M	R3023	B C 7E	R3260	B C 15C	TP3906	B C 10C
C64	B C 11O	C2238	A D 8K	C5303	A D 3E	D5210	A D 4I	Q44	B C 16M	R3024	B C 7E	R3261	B C 15C	TP3907	B C 10C
C65	A D 13K	C2239	A D 12I	C5304	A D 3D	D5211	A D 1I	Q45	B C 19G	R3025	B C 7E	R3262	B C 17C	TP3908	B C 10C
C69	B C 13K	C2240	B C 12J	C5305	B C 1C	D5212	A D 2I	Q2001	B C 14L	R3026	B C 8E	R3672	B C 18D	TP4001	A D 6M
C70	B C 14H	C2241	B C 12I	C5306	A D 3G	D5213	A D 5L	Q2002	B C 14K	R3027	B C 8E	R3673	B C 18C	OTHER	
C71	B C 13G	C2242	B C 12I	C5307	A D 2C	D5214	A D 4I	Q2003	B C 14L	R3028	B C 8D	R3674	B C 17D	CF6031	A D 22J
C72	B C 15G	C2243	B C 11I	C5308	A D 2F	D5215	A D 3H	Q2004	B C 14K	R3029	B C 8D	R4001	B C 12F	CP3002	A D 6H
C73	B C 15H	C2244	A D 13I	C5309	A D 2E	D5216	A D 3D	Q2005	B C 14J	R3030	B C 8D	R4002	B C 10F	CP4001	A D 5K
C74	B C 14H	C2402	A D 19C	C6005	A D 21M	D5217	A D 1F	Q2011	B C 14K	R3031	B C 8D	R4003	B C 9F	CP5301	A D 3D
C75	B C 15G	C2403	A D 20C	C6006	B C 22M	D5218	A D 4G	Q2051	B C 16K	R3032	B C 8D	R4004	B C 9F	CP5302	A D 4H
C76	B C 15H	C2404	B C 19D	C6007	A D 20M	D5219	A D 2D	Q2052	B C 18H	R3033	B C 8D	R4005	B C 8F	CP5303	A D 4E
C77	B C 16H	C2405	B C 19C	C6008	B C 21M	D5220	A D 3F	Q2053	B C 18H	R3034	B C 8D	R4006	B C 11E	F5001	A D 1P
C78	B C 16H	C2406	A D 20B	C6012	A D 21O	D5221	A D 2F	Q2054	B C 19H	R3035	B C 8D	R4007	B C 12F	FC5001	A D 1P
C79	B C 12N	C2407	A D 20C	C6013	B C 22P	D5222	A D 3C	Q2061	B C 21G	R3036	B C 8D	R4008	B C 10F	FC5002	A D 1N
C80	B C 12N	C2408	B C 20C	C6014	B C 21O	D5223	A D 2E	Q2062	B C 19H	R3037	B C 8D	R4009	B C 12F	K2001	B C 13K
C81	B C 13N	C2409	B C 20C	C6016	B C 21O	D5224	A D 3G	Q2251	B C 10I	R3038	A D 8C	R4012	B C 11F	K2002	B C 13K
C84	B C 15L	C2410	B C 20C	C6020	B C 21O	D5225	A D 5G	Q2252	B C 10I	R3039	A D 8C	R4013	B C 10F	K2003	B C 15L
C91	B C 12L	C2411	A D 19B	C6021	B C 22N	D5226	A D 3F	Q3001	B C 7J	R3040	A D 8C	R4014	B C 11F	K2004	B C 14K
C92	B C 12N	C2412	B C 20C	C6022	B C 22N	D5227	A D 7H	Q3002	A D 5E	R3041	B C 11F	R4015	B C 11F	K2251	B C 12J
C93	B C 14G	C3001	B C 8J	C6023	B C 20M	D5228	A D 22L	Q3003	A D 20E	R3042	B C 11E	K2252	B C 11E	K2253	B C 12J
C94	B C 12O	C3002	A D 7J	C6024	B C 22K	D5229	A D 7H	Q3004	B C 3C	R3043	B C 10F	K5101	B C 10F	K5102	A D 2M
C95	B C 12O	C3003	A D 7J	C6025	B C 21L	D5230	A D 7H	Q3005	B C 7D	R3044	B C 10F	K5103	B C 11F	K5201	A D 3G
C96	B C 10O	C3004	B C 7H	C6027	B C 22L	D5231	A D 7H	Q3006	B C 7D	R3045	B C 10G	LF5001	B C 10G	LF5002	A D 2P
C98	A D 13M	C3007	B C 5E	C6028	B C 22L	D5232	A D 7H	Q3007	B C 7D	R3046	B C 10G	LF5003	B C 10G	PC3001	A D 17A
C103	B C 15G	C3008	B C 21E	C6032	B C 21K	D5233	A D 7H	Q3008	B C 7D	R3047	B C 10G	PC3002	A D 4N	PC3003	A D 9C
C104	B C 12O	C3010	A D 1B	C6033	B C 22J	D5234	A D 7H	Q3009	B						

4.15 DEMODULATOR, S-SUB, SW/DISPLAY, REC SAFETY, JACK AND ADV.JOG CIRCUIT BOARDS

<28> SW/DISPLAY, <32> REC SAFETY, <36> JACK, <38> ADV. JOG
LPB10148-001B



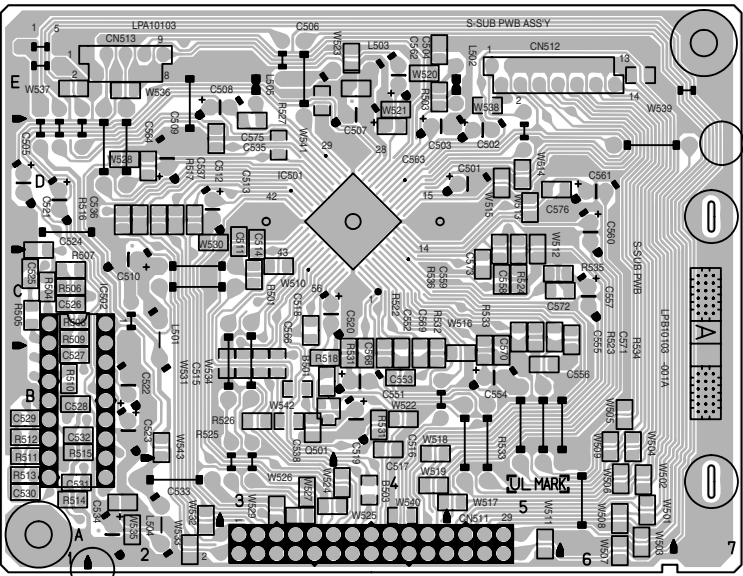
<14> DEMOD
PB11076



COMPONENT PARTS LOCATION GUIDE
<DEMOMULATOR>

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C1501	A D 4C	C1517	A D 3B	R1503	A D 2C
C1502	A D 3D	C1518	A D 3A	R1504	A D 2B
C1503	A D 4D	C1519	A D 3B	R1505	A D 2B
C1504	A D 4C	C1520	A D 3A	R1506	A D 2B
C1505	A D 3D	C1521	A D 2C	R1507	A D 2B
C1506	A D 3C	CONNECTOR			
C1507	A D 2C	CN1501	A D 3A	R1508	A D 3B
C1508	A D 1D	IC			
C1509	A D 2C	IC1501	B C 2C	R1511	A D 3A
C1510	A D 1B	TRANSISTOR			
C1511	A D 1A	Q1501	A D 3B	R1514	A D 2B
C1512	A D 2A	Q1502	A D 3B	R1515	A D 2C
C1513	A D 2B	RESISTOR			
C1514	A D 2A	R1501	A D 4C	R1517	A D 2C
C1515	A D 3B	R1502	A D 2C		
C1516	A D 3C				

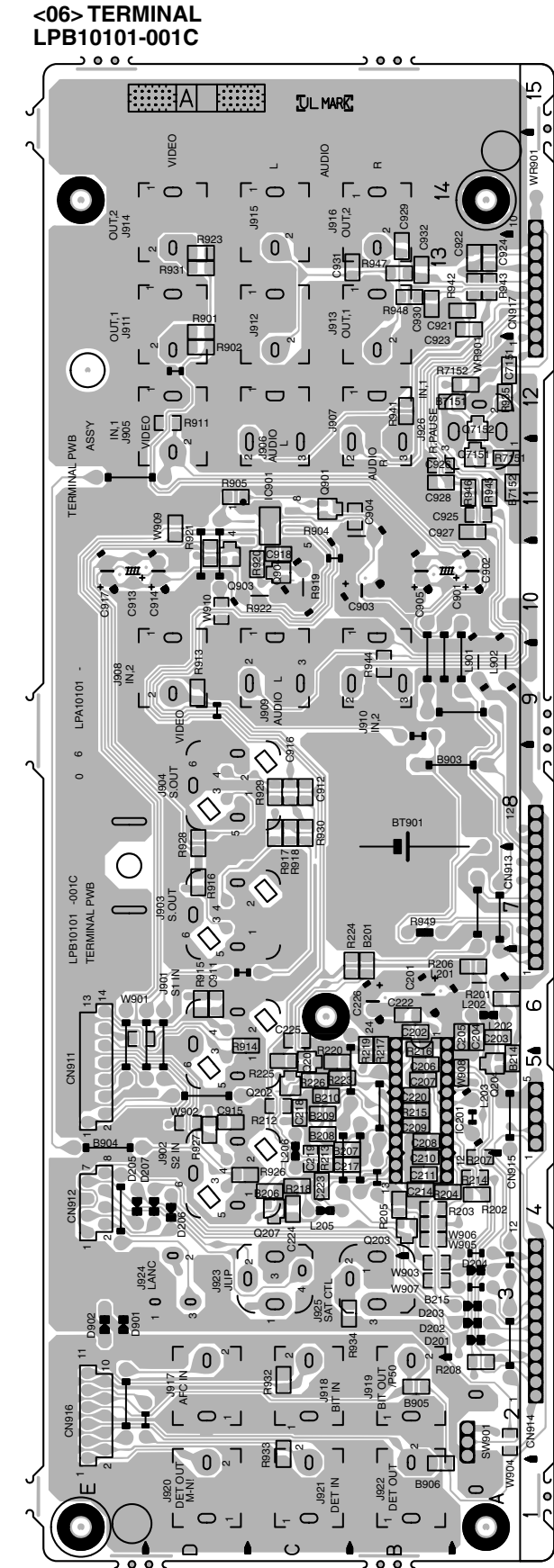
<15> S-SUB
LPB10103-001A



COMPONENT PARTS LOCATION GUIDE
<S-SUB>

REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR					
C501	A D 5D	C555	B C 5C	R508	B C 1C
C502	A D 5D	C556	B C 5B	R509	B C 1C
C503	A D 4D	C557	A D 6C	R510	B C 1B
C504	B C 4E	C558	B C 5C	R511	B C 1B
C505	A D 1D	C559	B C 5C	R512	B C 1B
C506	B C 4E	C560	A D 6D	R513	B C 1A
C507	A D 4E	C561	A D 6D	R514	B C 1A
C508	A D 2E	C562	A D 4E	R515	B C 1B
C509	A D 2D	C563	B C 4D	R516	B C 2D
C510	A D 2C	C564	B C 2D	R517	B C 2D
C511	B C 3C	C565	B C 3B	R518	B C 3B
C512	B C 2D	C566	B C 4B	R519	B C 4B
C513	A D 2D	C567	B C 5B	R520	B C 5C
C514	B C 3C	C568	B C 4B	R521	B C 5C
C515	B C 3B	C569	B C 4B	R522	B C 5C
C516	B C 4B	C570	B C 5B	R523	B C 5C
C517	B C 4B	C571	B C 6C	R524	B C 3B
C518	B C 3C	C572	B C 6C	R525	B C 3B
C519	A D 4B	C573	B C 5C	R526	B C 3B
C520	A D 3C	C574	B C 3D	R527	B C 3D
C521	A D 1D	C575	B C 3D	R528	B C 4B
C522	A D 2B	C576	B C 5D	R529	B C 4B
C523	A D 2B	CONNECTOR			
C524	B C 1C	CN511	A D 3A	R530	B C 5B
C525	B C 1C	CN512	A D 5E	R531	B C 6C
C526	B C 1C	CN513	A D 1E	R532	B C 5C
C527	B C 1B	IC			
C528	B C 1B	IC501	B C 4D		
C529	B C 1B	IC502	A D 1C		
C530	B C 1A	COIL			
C531	B C 1A	L501	A D 2B		
C532	B C 1B	L502	A D 5E		
C533	B C 2A	L503	A D 3E		
C534	A D 2A	L504	A D 2A		
C535	B C 2D	L505	A D 3E		
C536	B C 2D	TRANSISTOR			
C537	B C 2D	Q501	B C 3B		
C538	B C 3B	RESISTOR			
C539	B C 4B	R501	B C 3C		
C540	B C 4B	R503	B C 4E		
C541	B C 4B	R504	B C 1C		
C542	B C 4B	R505	B C 1C		
C543	B C 4B	R506	B C 1C		
C544	A D 5B	R507	B C 1C		

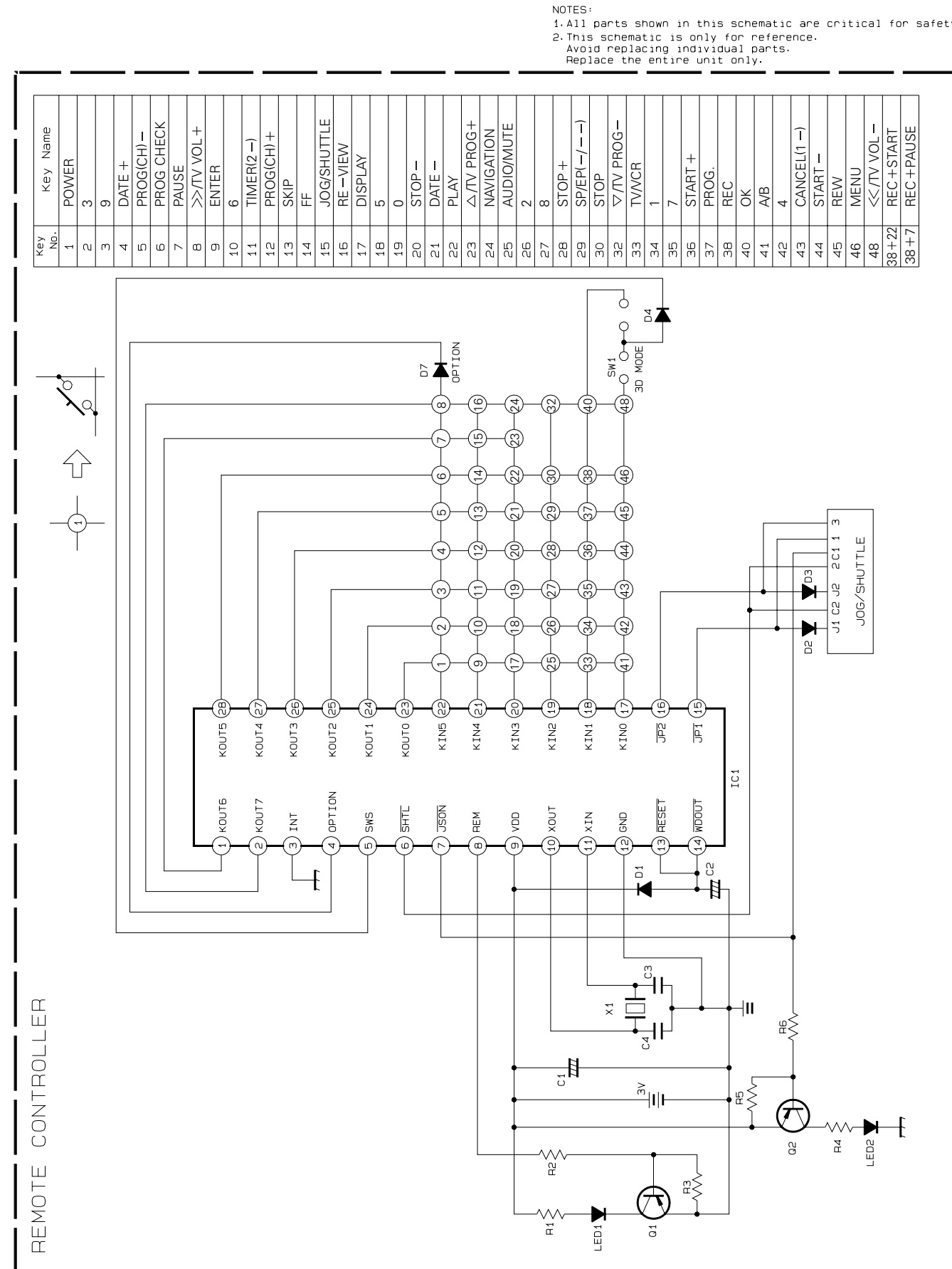
4.16 TERMINAL CIRCUIT BOARD



COMPONENT PARTS LOCATION GUIDE

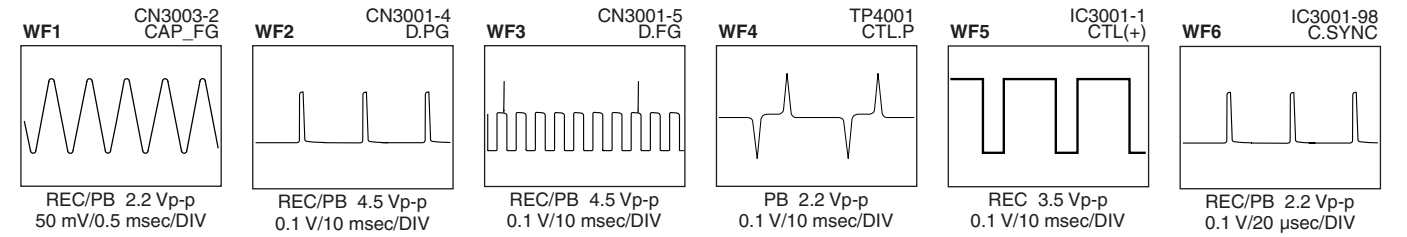
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C204	B C	J907	A D 12B
C205	B C	J908	A D 9D
C206	B C	J909	A D 9C
C207	B C	J910	A D 9B
C208	B C	J911	A D 13D
C209	B C	J912	A D 13C
C210	B C	J913	A D 13B
C211	B C	J914	A D 14D
C212	B C	J915	A D 14C
C213	B C	J916	A D 14B
C214	B C	J917	A D 2D
C215	B C	J918	A D 2C
C216	B C	J919	A D 2B
C217	B C	J920	A D 1D
C218	B C	J921	A D 1C
C219	B C	J922	A D 1B
C220	B C	J923	A D 3C
C221	B C	J924	A D 3D
C222	B C	J925	A D 3B
C223	B C	J926	A D 12A
C224	B C	J927	A D 12A
C225	B C	J928	A D 12A
C226	B C	J929	A D 12A
C227	B C	J930	A D 12A
C228	B C	J931	A D 12A
C229	B C	J932	A D 12A
C230	B C	J933	A D 12A
C231	B C	J934	A D 12A
C232	B C	J935	A D 12A
C233	B C	J936	A D 12A
C234	B C	J937	A D 12A
C235	B C	J938	A D 12A
C236	B C	J939	A D 12A
C237	B C	J940	A D 12A
C238	B C	J941	A D 12A
C239	B C	J942	A D 12A
C240	B C	J943	A D 12A
C241	B C	J944	A D 12A
C242	B C	J945	A D 12A
C243	B C	J946	A D 12A
C244	B C	J947	A D 12A
C245	B C	J948	A D 12A
C246	B C	J949	A D 12A
C247	B C	J950	A D 12A
C248	B C	J951	A D 12A
C249	B C	J952	A D 12A
C250	B C	J953	A D 12A
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C256	B C	J959	A D 12A
C257	B C	J960	A D 12A
C258	B C	J961	A D 12A
C259	B C	J962	A D 12A
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C261	B C	J964	A D 12A
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C263	B C	J966	A D 12A
C264	B C	J967	A D 12A
C265	B C	J968	A D 12A
C266	B C	J969	A D 12A
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C269	B C	J972	A D 12A
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C271	B C	J974	A D 12A
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C273	B C	J976	A D 12A
C274	B C	J977	A D 12A
C275	B C	J978	A D 12A
C276	B C	J979	A D 12A
C277	B C	J980	A D 12A
C278	B C	J981	A D 12A
C279	B C	J982	A D 12A
C280	B C	J983	A D 12A
C281	B C	J984	A D 12A
C282	B C	J985	A D 12A
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C299	B C	J1002	A D 12A
C300	B C	J1003	A D 12A
C301	B C	J1004	A D 12A
C302	B C	J1005	A D 12A
C303	B C	J1006	A D 12A
C304	B C	J1007	A D 12A
C305	B C	J1008	A D 12A
C306	B C	J1009	A D 12A
C307	B C	J1010	A D 12A
C308	B C	J1011	A D 12A
C309	B C	J1012	A D 12A
C310	B C	J1013	A D 12A
C311	B C	J1014	A D 12A
C312	B C	J1015	A D 12A
C313	B C	J1016	A D 12A
C314	B C	J1017	A D 12A
C315	B C	J1018	A D 12A
C316	B C	J1019	A D 12A
C317	B C	J1020	A D 12A
C318	B C	J1021	A D 12A
C319	B C	J1022	A D 12A
C320	B C	J1023	A D 12A
C321	B C	J1024	A D 12A
C322	B C	J1025	A D 12A
C323	B C	J1026	A D 12A
C324	B C	J1027	A D 12A
C325	B C	J1028	A D 12A
C326	B C	J1029	A D 12A
C327	B C	J1030	A D 12A
C328	B C	J1031	A D 12A
C329	B C	J1032	A D 12A
C330	B C	J1033	A D 12A
C331	B C	J1034	A D 12A
C332	B C	J1035	A D 12A
C333	B C	J1036	A D 12A
C334	B C	J1037	A D 12A
C335	B C	J1038	A D 12A
C336	B C	J1039	A D 12A
C337	B C	J1040	A D 12A
C338	B C	J1041	A D 12A
C339	B C	J1042	A D 12A
C340	B C	J1043	A D 12A
C341	B C	J1044	A D 12A
C342	B C	J1045	A D 12A
C343	B C	J1046	A D 12A
C344	B C	J1047	A D 12A
C345	B C	J1048	A D 12A
C346	B C	J1049	A D 12A
C347	B C	J1050	A D 12A
C348	B C	J1051	A D 12A
C349	B C	J1052	A D 12A
C350	B C	J1053	A D 12A
C351	B C	J1054	A D 12A
C352	B C	J1055	A D 12A
C353	B C	J1056	A D 12A
C354	B C	J1057	A D 12A
C355	B C	J1058	A D 12A
C356	B C	J1059	A D 12A
C357	B C	J1060	A D 12A
C358	B C	J1061	A D 12A
C359	B C	J1062	A D 12A
C360	B C	J1063	A D 12A
C361	B C	J1064	A D 12A
C362	B C	J1065	A D 12A
C363	B C	J1066	A D 12A
C364	B C	J1067	A D 12A
C365	B C	J1068	A D 12A
C366	B C	J1069	A D 12A
C367	B C	J1070	A D 12A
C368	B C	J1071	A D 12A
C369	B C	J1072	A D 12A
C370	B C	J1073	A D 12A
C371	B C	J1074	A D 12A
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C373	B C	J1076	A D 12A
C374	B C	J1077	A D 12A
C375	B C	J1078	A D 12A
C376	B C	J1079	A D 12A
C377	B C	J1080	A D 12A
C378	B C	J1081	A D 12A
C379	B C	J1082	A D 12A
C380	B C	J1083	A D 12A
C381	B C	J1084	A D 12A
C382	B C	J1085	A D 12A
C383	B C	J1086	A D 12A
C384	B C	J1087	A D 12A
C385	B C	J1088	A D 12A
C386	B C	J1089	A D 12A
C387	B C	J1090	A D 12A
C388	B C	J1091	A D 12A
C389	B C	J1092	A D 12A
C390	B C	J1093	A D 12A
C391	B C	J1094	A D 12A
C392	B C	J1095	A D 12A
C393	B C	J1096	A D 12A
C394	B C	J1097	A D 12A
C395	B C	J1098	A D 12A
C396	B C	J1099	A D 12A
C397	B C	J1100	A D 12A
C398	B C	J1101	A D 12A
C399	B C	J1102	A D 12A
C400	B C	J1103	A D 12A
C401	B C	J1104	A D 12A
C402	B C	J1105	A D 12A
C403	B C	J1106	A D 12A
C404	B C	J1107	A D 12A
C405	B C	J1108	A D 12A
C406	B C	J1109	A D 12A
C407	B C	J1110	A D 12A
C408	B C	J1111	A D 12A
C409	B C	J1112	A D 12A
C410	B C	J1113	A D 12A
C411	B C	J1114	A D 12A
C412	B C	J1115	A D 12A
C413	B C	J1116	A D 12A
C414	B C	J1117	A D 12A
C415	B C	J1118	A D 12A
C416	B C	J1119	A D 12A
C417	B C	J1120	A D 12A
C418	B C	J1121	A D 12A
C419	B C	J1122	A D 12A
C420	B C	J1123	A D 12A
C421	B C	J1124	A D 12A
C422	B C	J1125	A D 12A
C423	B C	J1126	A D 12A
C424	B C	J1127	A D 12A
C425	B C	J1128	A D 12A
C426	B C	J1129	A D 12A
C427	B C	J1130	A D 12A
C428	B C	J1131	A D 12A
C429	B C	J1132	A D 12A
C430	B C	J1133	A D 12A
C431	B C	J1134	A D 12A
C432	B C	J1135	A D 12A
C433	B C	J1136	A D 12A
C434	B C	J1137	A D 12A
C435	B C	J1138	A D 12A
C436	B C	J1139	A D 12A
C437	B C	J1140	A D 12A
C438	B C	J1141	A D 12A
C439	B C	J1142	A D 12A
C440	B C	J1143	A D 12A
C441	B C	J1144	A D 12A
C442	B C	J1145	A D 12A
C443	B C	J1146	A D 12A
C444	B C	J1147	A D 12A
C445	B C	J1148	A D 12A
C446	B C	J1149	A D 12A
C447	B C	J1150	A D 12A
C448	B C	J1151	A D 12A
C449	B C	J1152	A D 12A
C450	B C	J1153	A D 12A
C451	B C	J1154	A D 12A
C452	B C	J1155	A D 12A
C453	B C	J1156	A D 12A
C454	B C	J1157	A D 12A
C455	B C	J1158	A D 12A
C456	B C	J1159	A D 12A
C457	B C	J1160	A D 12A
C458	B C	J1161	A D 12A
C459	B C	J1162	A D 12A
C460	B C	J1163	A D 12A
C461	B C	J1164	A D 12A
C462	B C	J1165	A D 12A
C463	B C	J1166	A D 12A
C464	B C	J1167	A D 12A
C465	B C	J1168	A D 12A
C466	B C	J1169	A D 12A
C467	B C	J1170	A D 12A
C468	B C	J1171	A D 12A
C469	B C	J1172	A D 12A
C470	B C	J1173	A D 12A
C471	B C	J1174	A D 12A
C472	B C	J1175	A D 12A
C473	B C	J1176	A D 12A
C474	B C	J1177	A D 12A
C475	B C	J1178	A D 12A
C476	B C	J1179	A D 12A
C477	B C	J1180	A D 12A
C478	B C	J1181	A D 12A
C479	B C	J1182	A D 12A
C480	B C	J1183	A D 12A
C481	B C	J1184	A D 12A
C482	B C	J1185	A D 12A
C483	B C	J1186	A D 12A
C484	B C	J1187	A D 12A
C485	B C	J1188	A D 12A
C486	B C	J1189	A D 12A
C487	B C	J1190	A D 12A
C488	B C	J1191	A D 12A
C489	B C	J1192	A D 12A
C490	B C	J1193	A D 12A
C491	B C	J1194	A D 12A
C492	B C	J1195	A D 12A
C493	B C	J1196	A D 12A
C494	B C	J1197	A D 12A
C495	B C	J1198	A D 12A
C496	B C	J1199	A D 12A
C497	B C	J1200	A D 12A
C498	B C	J1201	A D 12A
C499	B C	J1202	A D 12A
C500	B C	J1203	A D 12A
C501	B C	J1204	A D 12A
C502	B C	J1205	A D 12A
C503	B C	J1206	A D 12A
C504	B C	J1207	A D 12A
C505	B C	J1208	A D 12A
C506	B C	J1209	A D 12A
C507	B C	J1210	A D 12A
C508	B C	J1211	A D 12A
C509	B C	J1212	A D 12A
C510	B C	J1213	A D 12A
C511	B C	J1214	A D 12A
C512	B C	J1215	A D 12A
C513	B C	J1216	A D 12A

4.18 REMOTE CONTROLLER SCHEMATIC DIAGRAM

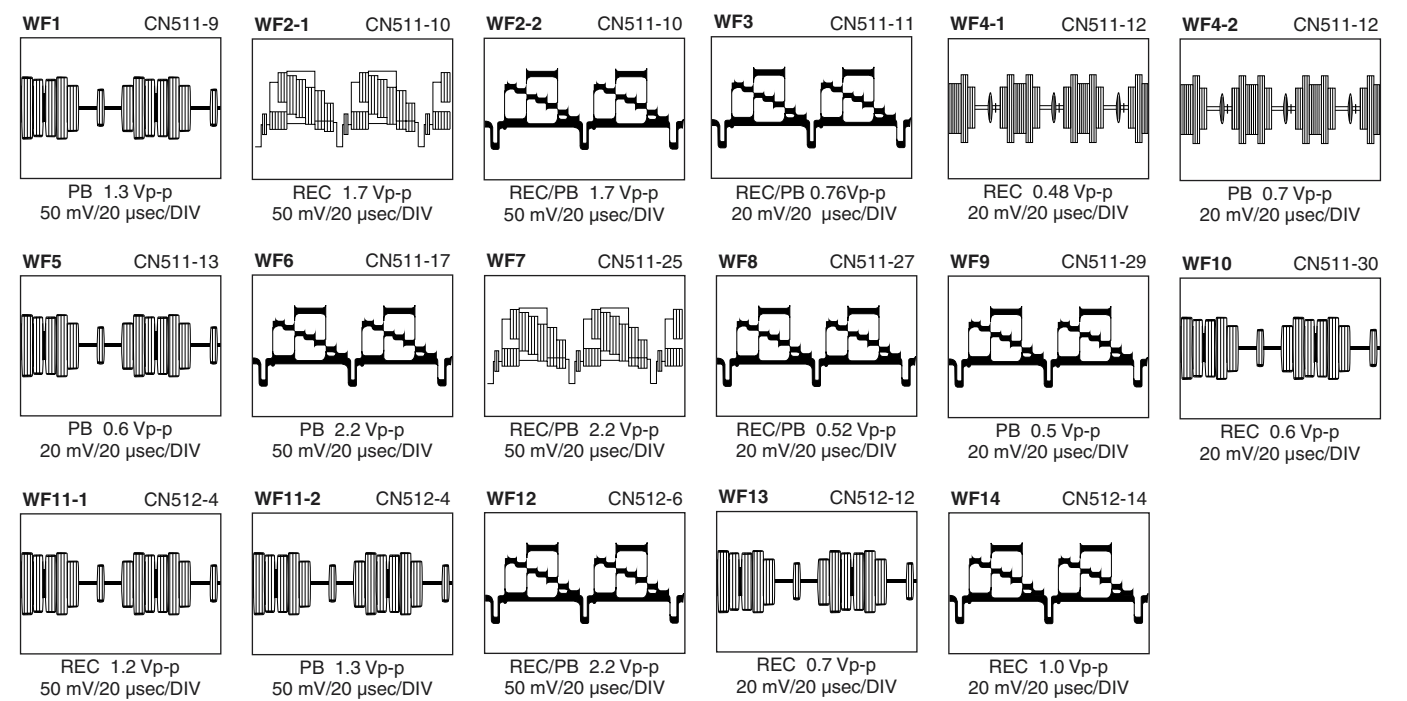


4.19 WAVEFORMS

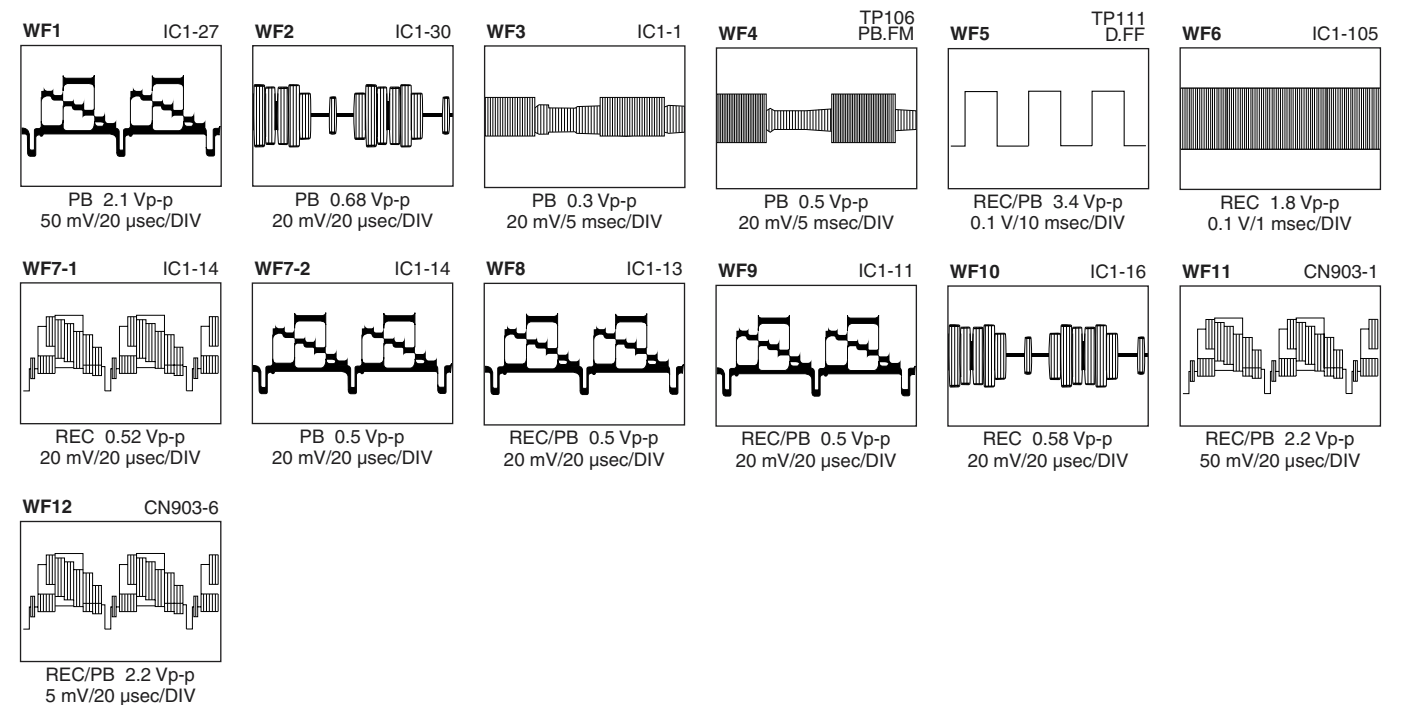
< SYSCON >



< S-SUB >



< VIDEO >



4.20 VOLTAGE CHARTS

<MAIN>

MODE PIN NO.	REC	PLAY
IC1		
1	1.7	2.1
2	2.9	2.9
3	2.6	2.6
4	1.9	1.4
5	1.9	1.4
6	2.4	2.1
7	1.5	0.7
8	0	0
9	2.6	2.9
10	2.4	2.4
11	3.1	3.1
12	2.8	2.6
13	3.1	3.1
14	2.3	2.3
15	0	0
16	2.8	2.8
17	1.5	1.5
18	2.8	2.8
19	0	2.6
20	2.8	2.8
21	2	1.4
22	2.8	2.8
23	2.8	2.8
24	5.1	5.1
25	0.4	2.8
26	0	0
27	2.3	2.3
28	2.3	2.3
29	1.9	1.9
30	2.1	2.1
31	0	0
32	2.5	2.5
33	5	5
34	2.7	2.3
35	5.4	5.4
36	2.6	2.6
37	2.3	2.3
38	-	-
39	1.2	1.2
40	-	-
41	2.6	2.6
42	-	-
43	0	0
44	2.2	2.2
45	4.8	4.8
46	4.7	4.7
47	2.9	2.9
48	2.6	2.6
49	5.1	5.1
50	2.5	2.5
51	2.8	2.8
52	2.4	2.4
53	2.3	2.3
54	2.4	2.4
55	2.2	2.2
56	0.4	0.4
57	2.4	2.4
58	8.2	8.2
59	4.8	4.8
60	4.7	4.7
61	4.2	4.2
62	4.2	4.2
63	2.4	2.4
64	2.3	2.3
65	1.8	1.8
66	3.1	3.1
67	4.2	4.2
68	4.2	4.2
69	2.4	2.4
70	0	0
71	3.4	3.4
72	3.4	3.4
73	0.2	0.2
74	2.4	2.4
75	2.8	2.8
76	0	0
77	2.8	2.8
78	3.4	3.4
79	3.4	3.4
80	0.2	0.2
81	2.4	2.4
82	0.8	0
83	0	0
84	2.4	2.4
85	2.4	0
86	2.3	2.3
87	1.7	1.9
88	2.3	2.3
89	2.4	2.4
90	2.4	2.4
91	0.1	0.1
92	0	0
93	0	2.2
94	0	1.8
95	0	0
96	2.5	2.5
97	2.8	2.5
98	2.5	2.5
99	5.4	5.4
100	5	0

MODE PIN NO.	REC	PLAY
101	0	0
102	0	0
103	0	0
104	2.5	2.5
105	2.4	2.4
106	2.4	2.4
107	5.4	5.4
108	0	0
109	0	0
110	5	0
111	0	3.4
112	2.5	2.5
113	0.5	0.5
114	0	0
115	2.6	2.6
116	2.5	2.5
117	2.5	2.5
118	0	0
119	2.5	2.5
120	4.7	4.9
IC3001		
1	2.5	2.5
2	0	0
3	2.5	2.5
4	2.4	2.4
5	0	1.5
6	2.4	2.4
7	2.4	2.4
8	2.4	2.4
9	4.8	4.8
10	4.8	4.8
11	0	0
12	0	0
13	0	2
14	4.4	4.4
15	4.9	4.9
16	0.6	0.6
17	4	4
18	0	0
19	3.1	3.1
20	4.5	4.5
21	3.8	3.8
22	0.2	1.9
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	0	0
31	4.9	4.9
32	4.9	4.9
33	0	0
34	4.9	4.9
35	0	0
36	0	0
37	0	0
38	0	4.9
39	4	4
40	0	0
41	4.8	4.8
42	4.8	4.8
43	0	0
44	4.8	4.8
45	0	0
46	0	0
47	0	0
48	0	0
49	4.1	4.1
50	4.6	4.6
51	1.3	1.3
52	1.3	1.3
53	4.2	4.2
54	5	5
55	5	5
56	4.9	4.9
57	0	0
58	4.9	4.9
59	0	0
60	4.9	4.9
61	4.9	4.9
62	0	0
63	0	0
64	1.3	1.3
65	1.1	1.1
66	4.9	4.9
67	2.5	2.5
68	0	0
69	2.4	2.4
70	3.3	3.3
71	4.9	4.9
72	4.9	4.9
73	4.9	4.9
74	0	0
75	4.4	4.4
76	4.4	4.4
77	4.9	0
78	0	0
79	0	0
80	0	0

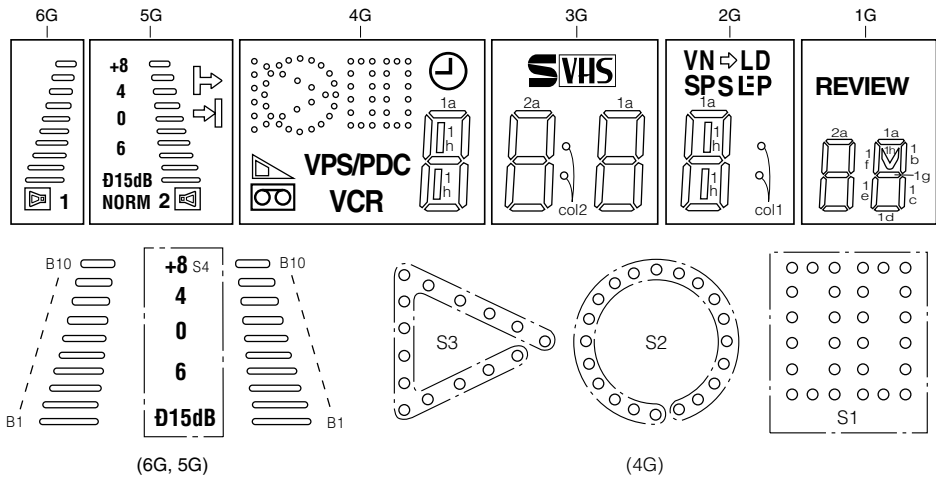
MODE PIN NO.	REC	PLAY
81	4.9	4.9
82	4.9	4.9
83	2.4	2.4
84	0	0
85	0	0
86	4.9	4.9
87	4.9	0
88	4.9	4.9
89	0	0
90	0	0
91	0	0
92	4.9	4.9
93	0	0
94	0	0
95	4.9	4.9
96	0	0
97	4.9	0
98	0.8	0.8
99	0	2.2
100	2.4	2.4
101	2.4	2.4
102	1.4	1.4
103	4.9	4.9
104	4.9	0
105	4.9	0
106	0	0
107	0	0
108	1.2	1.2
109	4.9	4.9
110	0	0
111	0	0
112	2.4	2.4
IC3002		
1	4.9	4.9
2	4.9	4.9
3	0	0
IC3003		
1	0	0
2	0	0
3	0	0
4	0	0
5	4.6	4.6
6	4.5	4.5
7	0	0
8	4.9	4.9
IC3004		
1	11.4	11.4
2	0.2	0.2
3	0	0
4	0.2	0.2
5	11.4	11.4
6	11.4	11.4
7	0	0
8	0	0
9	0	0
IC3601		
1	0	0
2	0	0
3	0	0
4	0	3.9
5	4.5	4.5
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	4.8	4.8
14	3.6	3.6
15	0	0
16	4.9	4.9
IC3651		
1	0	0
2	0	0
3	0	0
4	0	0
5	3.1	3.1
6	4.5	4.5
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	4.9	4.9
IC5101		
1	61.4	59.8
2	-	-
3	0	0
4	-	-
5	-	-
IC5301		
1	5.7	5.7
2	5.1	5.1
3	4.5	4.5
4	0	0
5	11.7	11.7

MODE PIN NO.	REC	PLAY
6	11.0	11.0
7	11.7	11.7
8	5.7	5.7
9	1.3	1.3
10	4.5	4.5
CN1		
1	0	0
2	0	0
3	0	0
4	0	0
5	2.4	2.2
6	2.4	2.2
7	2.4	2.2
8	2.4	2.2
9	2.7	2.2
10	2.7	2.2
11	2.7	2.2
12	0	0
13	0	0
CN501		
1	3.7	3.7
2	0	0
3	3.9	2.4
4	5.0	5.0
5	2.0	2.0
6	0.1	4.9
7	3.3	3.3
8	0	0
9	2.8	2.8
10	0	0
CN2001		
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	2.8	2.8
10	0	0
11	2.8	2.8
12	3.8	3.8
13	0	0
14	0.7	0.5
15	2.4	2.4
16	0	0
17	0	2.4
CN502		
1	0.1	4.7
2	0	4
3	4.6	4.6
4	2.4	2.4
5	4.8	4.8
6	4.8	4.8
7	0	0
8	0	0
9	0	0
10	0	0
11	3.2	3.3
12	2.8	2.8
13	2.7	2.7
14	0.1	0.1
15	0	0
16	2.4	2
17	1.2	2.3
18	4.5	4.5
19	0	0
20	0	0
21	0	0
22	0	0
23	0	0
24	0	0
25	2.3	2.3
26	4.8	4.8
27	0.3	0.3
28	0.3	0.3
29	2.1	2.3
30	2	2.1
31	0	0
32	2.4	2.4
33	2.5	2.5
34	4.9	4.9
35	0	0
36	4.8	4.8
37	0	0
38	4.8	4.8
39	0	0
40	0	0
41	0	0
42	0	0
43	0	0
44	0	0
45	0	0
46	0	0
47	0	0
48	0	0
49	0	0
50	0	0
51	0	0
52	0	0
53	0	0
54	0	0
55	0	0
56	0	0
57	0	0
58	0	0
59	0	0
60	0	0
61	0	0
62	0	0
63	0	0
64	0.1	0.1
65	0	0
66	2.3	2.3
67	0	0
68	10.6	10.6
69	0	0
70	10.6	10.6
71	0.7	0.5
72	4.8	4.8
CN904		
1	0	0
2	4.5	4.5
3	4.8	4.8
4	0	0
5	2.8	2.8
6	4.2	4.2
7	1.0	1.0

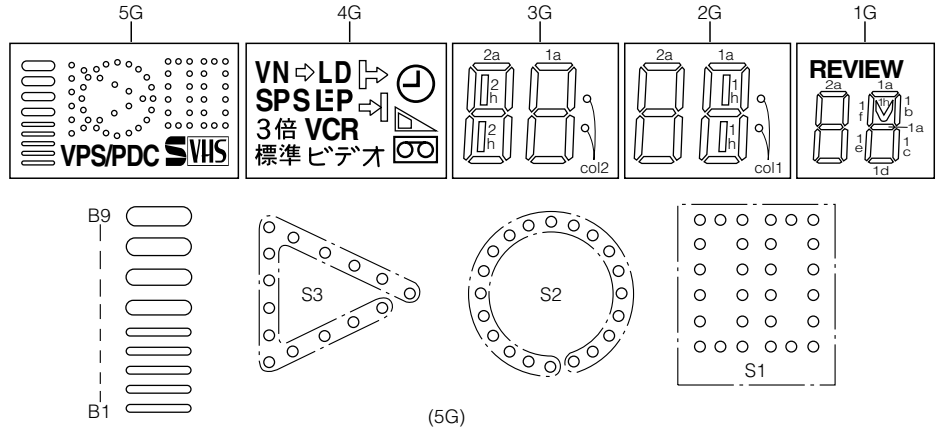
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9	0	0
10	4.1	4.1
11	0	0
12	2.7	2.7
CN905		
1	4.5	4.5
2	4.5	4.4
3	4.7	4.7
4	0	0
5	0	0
CN907		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
CN2001		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.1	2.4
7	2.1	2.4
CN2002		
1	0	0
2	0	0
CN2051		
1	7.2	0.2
2	0	0
3	0	0
4	0	0
CN3001		
1	11.9	12
2	0	0
3	1.3	1.3
4	0	0
5	1.2	1.2
CN3002		
1	0.3	0.3
2	0.3	0.3
CN3003		
1	0	0
2	2.4	2.4
3	2.5	2.5
4	4.9	4.9
5	0	0
6	4.8	4.8
7	0	0
8	11.1	11.2
CN3004		
1	4.8	4.8
2	4.8	4.8
3	0	0
4	0	0
CN3011		
1	4.8	4.8
2	0	0
3	4.7	4.8
4	4.8	4.8
5	4.2	4.2
6	4.8	4.8
7	1.1	1.1
8	4.1	4.1
9	4.8	4.8
10	0	0
11	0	0
12	-18	-18
13	-14.4	-14.4
14	-26.9	-26.9
CN3012		
1	0	0
2	0	0
3	0	0
4	4.8	4.8
CN5001	-	-
CN5671		
1	0	0
2	5.0	5.0
3	0	0
4	4.6	4.6
5	0	0
6	0	0
7	9.0	9.0
8	0	0
9	2.2	2.2
CN7103		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.3	2.3
7	5.0	5.0
8	4.8	4.4

4.21 FDP GRID ASSIGNMENT AND ANODE CONNECTION

[A] (FDP with audio level indicator)



[B] (FDP without audio level indicator)



ANODE CONNECTION

	6G	5G	4G	3G	2G	1G
P 1	N̄	⤵	S2	1a	1a	1a
P 2	N̄	⇨	S1	1b	1b	1b
P 3	N̄	S4	S3	1f	1f	1f
P 4	N̄	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

ANODE CONNECTION

	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	N̄	📺	1e	1e	1e
P 7	N̄	📺	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 (SEP)	2e	2e	2e
P15	B2	⋮ (SEP)	2d	2d	2d
P16	B1	LP (SEP)	2h	col1	REVIEW

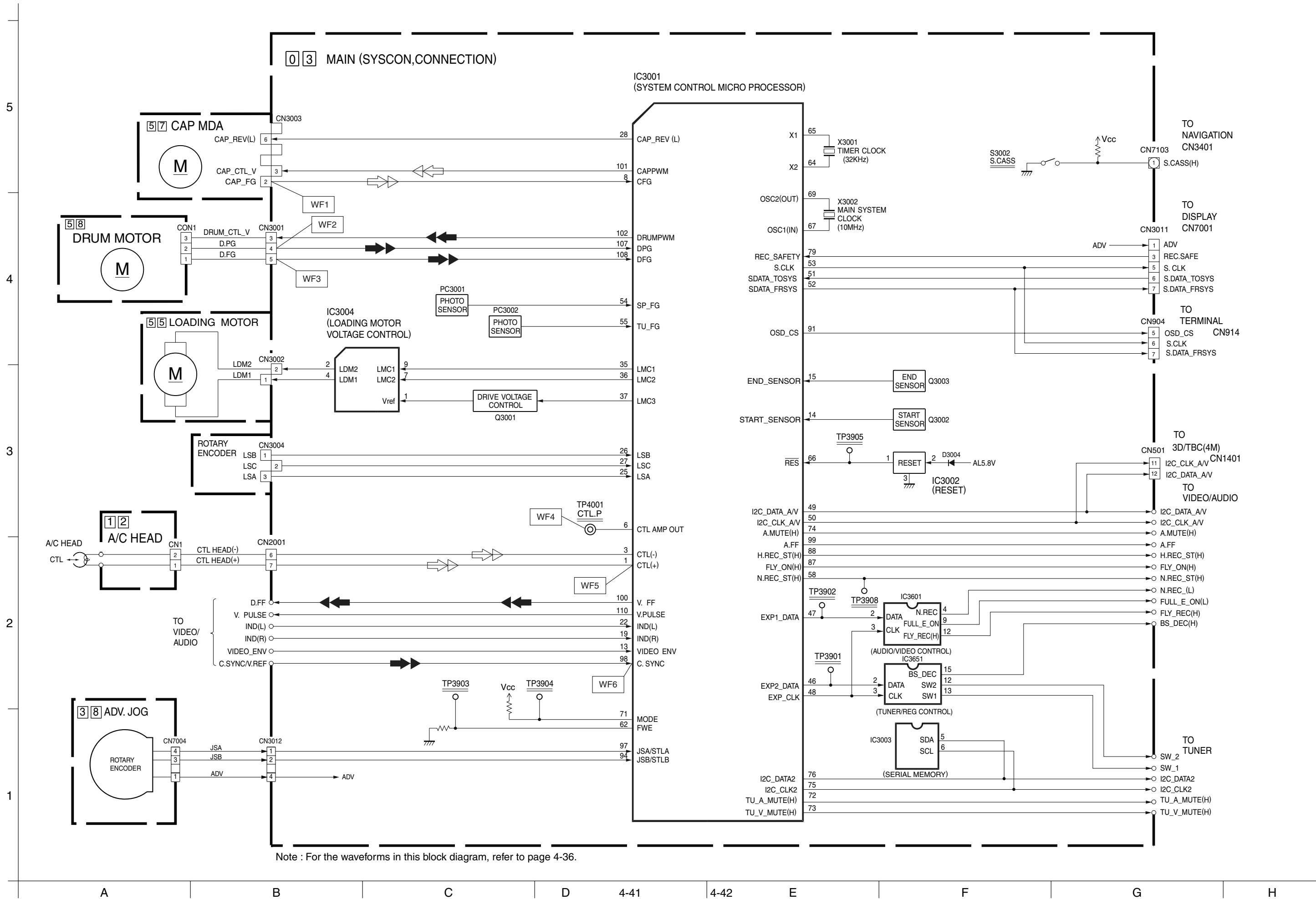
4.22 CPU PIN FUNCTION

<SYSCON IC3001>

PIN NO.	LABEL	IN/OUT	FUNCTION
1	CTL(+)	IN/OUT	CTL(+) SIGNAL
2	SVSS	-	GND
3	CTL(-)	IN/OUT	CTL(-) SIGNAL
4	CTLEBIAS	-	CTL BIAS VOLTAGE
5	CTLEFB	IN	CTL PULSE FEED BACK
6	CTLEAMPOUT	OUT	CTL PULSE OUTPUT
7	CTLEMTIN	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	DETECTION SIGNAL FOR SECAM ON PB MODE(SECAM: H) / COLOR KILLER DETECT / NC
13	VIDEO_ENV	IN	AUTO TRACKING DETECT/INPUT THE AVERAGE OF PLAYBACK VIDEO SIGNAL
14	START_SENSOR	IN	STATR SENSOR
15	END_SENSOR	IN	END SENSOR
16	IND(L)	IN	AUDIO INPUT (LCH) FOR THE FDP AUDIO INDICATOR
17	NC	-	NC
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	NC / TUNING CHECK
21	LED/RF_AGC	IN	NC / CHANGES IN AT&H 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 MODEL:L
23	AVSS	-	GND FOR ANALOG CIRCUIT
24	CTLE_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/COMPU_IN	IN	REMOTE PAUSE CONTROL / NC
33	RAE_OUT/COMPUOUT	-	NC
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	HP_CTL	-	NC
42	PROTECT	IN	DETECTION SIGNAL FOR SW POWER SUPPLY
43	VSS	-	GND
44	RMO	OUT	REMOTE CONTORL OUTPUT FOR SATELLITE RECEIVER
45	VCC	-	SYSTEM POWER
46	EXP2_DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR TUNER/REG CONTORL
47	EXP1_DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR AUDIO/VIDEO CONTORL
48	EXP_CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR AUDIO/VIDEO AND TUNER/REG CONTORL
49	I2C_DATA_AV	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR VIDEO/AUDIO IC
50	I2C_CLK_AV	OUT	SERIAL DATA TRANSFER CLOCK FOR 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	NC	-	NC

PIN NO.	LABEL	IN/OUT	FUNCTION
57	NC	-	NC
58	N.REC_ST(H)	OUT	NORMAL AUDIO SOUND RECORDING START
59	JUST_CLK/SECAM(H)	-	NC
60	TU_CLK	OUT	CLOCK FOR DATA TRANSFER TO THE TUNER UNIT
61	TU_DATA	OUT	TUNING DATA
62	FWE	-	FLASH WRITE ENABLEFLASH WRITE ENABLE
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(IIN)	-	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	NC	-	NC
78	NC	-	NC
79	REC_SAFETY	IN	REC SAFETY SWITCH DETECT (SW ON:L)
80	V.PCTL	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	OUT	MEMORY TIMING CONTROL IN THE SLOW MODE
84	VSS	-	GND
85	SP_SHORT(H)	OUT	MODE SELECT
86	LP_SHORT(H)	OUT	MODE SELECT
87	FLY_ON(H)	OUT	FLY REC START: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	IN	INPUT FOR THE ADV.JOG
95	SHTL(L)/JOGA	IN	INPUT FOR THE JOG SHUTTLE
96	JOGB/S_CASS(H)	IN	INPUT FOR THE JOG SHUTTLE/DETECTION SIGNAL FOR S VHS CASSETTE(S VHS:H)
97	JSA/STLA	IN	INPUT FOR THE ADV.JOG
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 SPEED 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

4.23 SYSTEM CONTROL BLOCK DIAGRAM



5



A

B

C

D 4-43

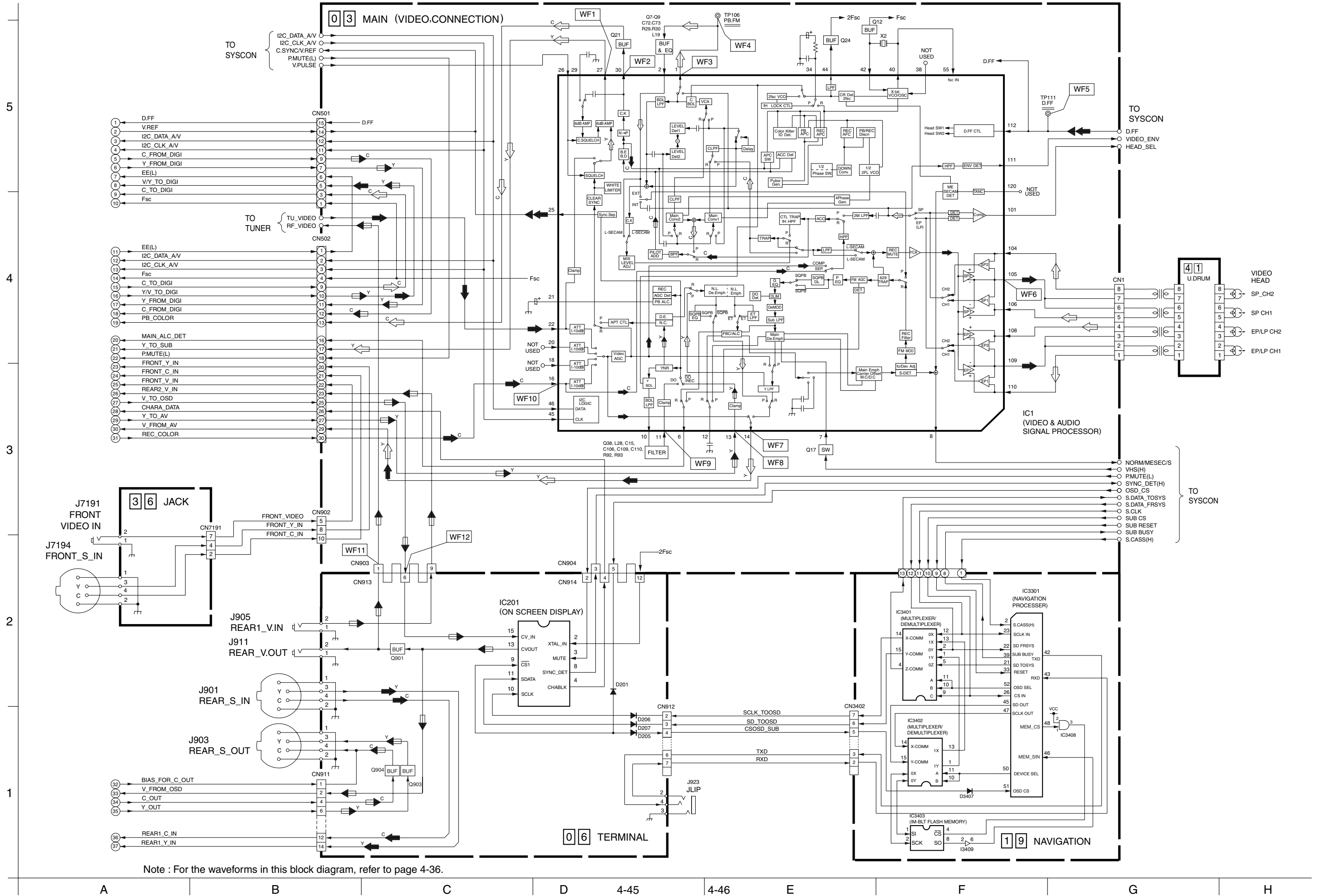
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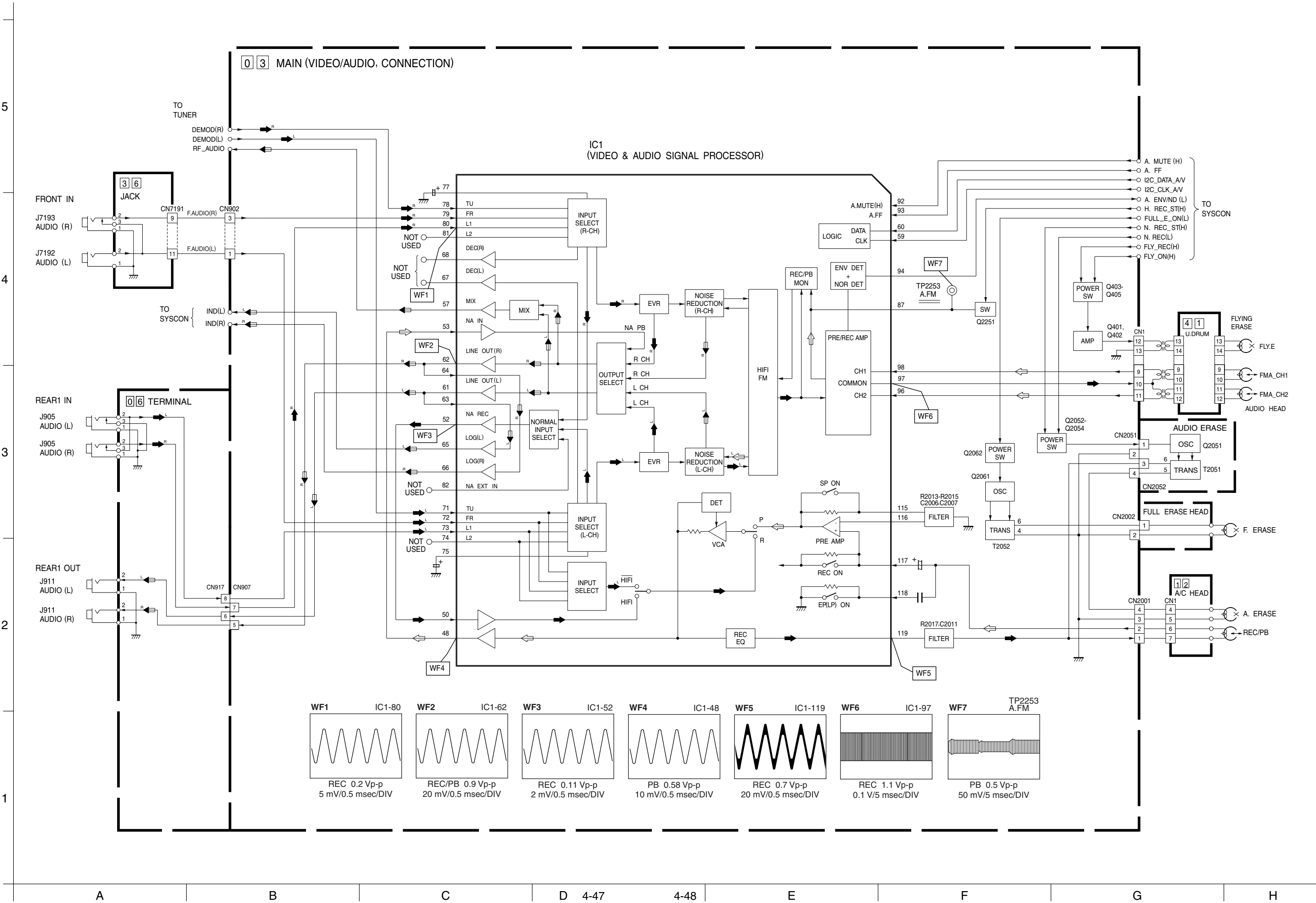
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G

H



4.25 AUDIO BLOCK DIAGRAM



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