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.

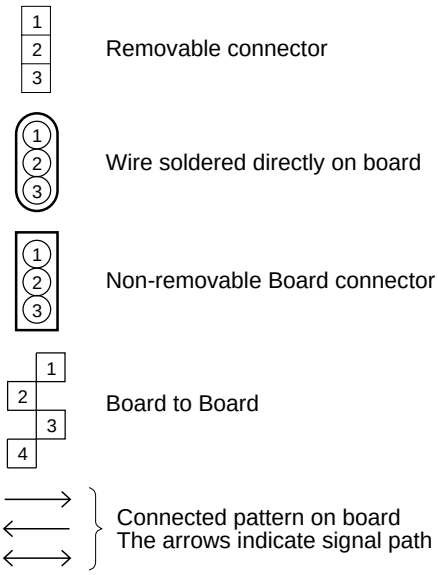
1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K or k: kΩ (1000Ω), M: MΩ (1000kΩ)
2) All capacitance values are in μF, (P: PF).
3) All inductance values are in μH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

2. Indications of control voltage

AUX : Active at high

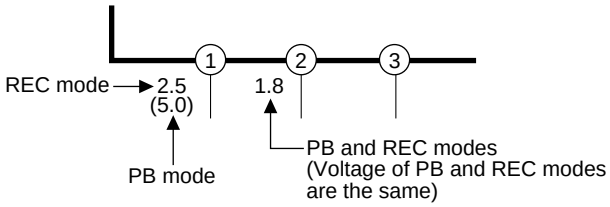
$\overline{\text{AUX}}$ or AUX(L) : Active at low

3. Interpreting Connector indications



4. Voltage measurement

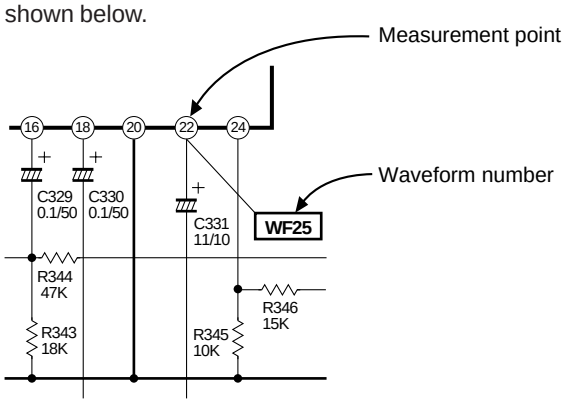
1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
   — : Unmeasurable or unnecessary to measure
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, Normal VHS mode
   PB : REC then playback it
3) Movie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



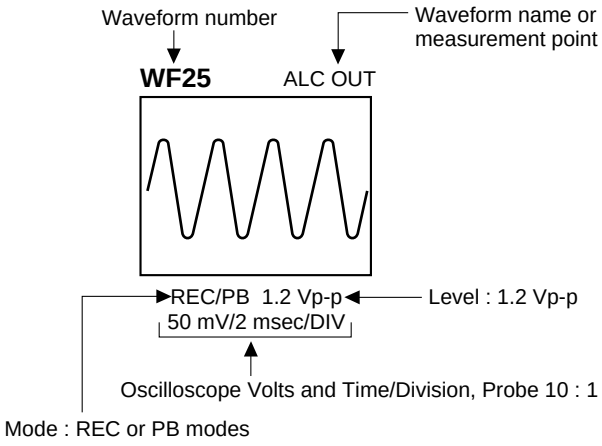
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

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.

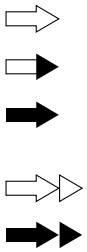


5) Waveform indications



6. Signal path Symbols

The arrows indicate the signal path as follows.



Playback signal path

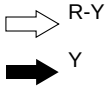
Playback and recording signal path

Recording signal path
(including E-E signal path)

Capstan servo path

Drum servo path

(Example)

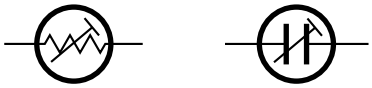


Playback R-Y signal path

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.

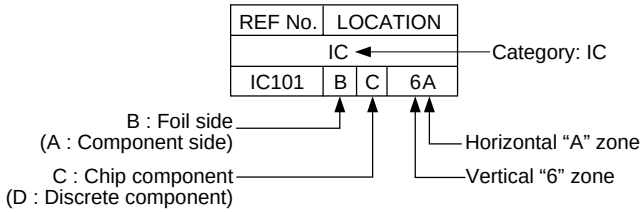
CIRCUIT BOARD NOTES

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

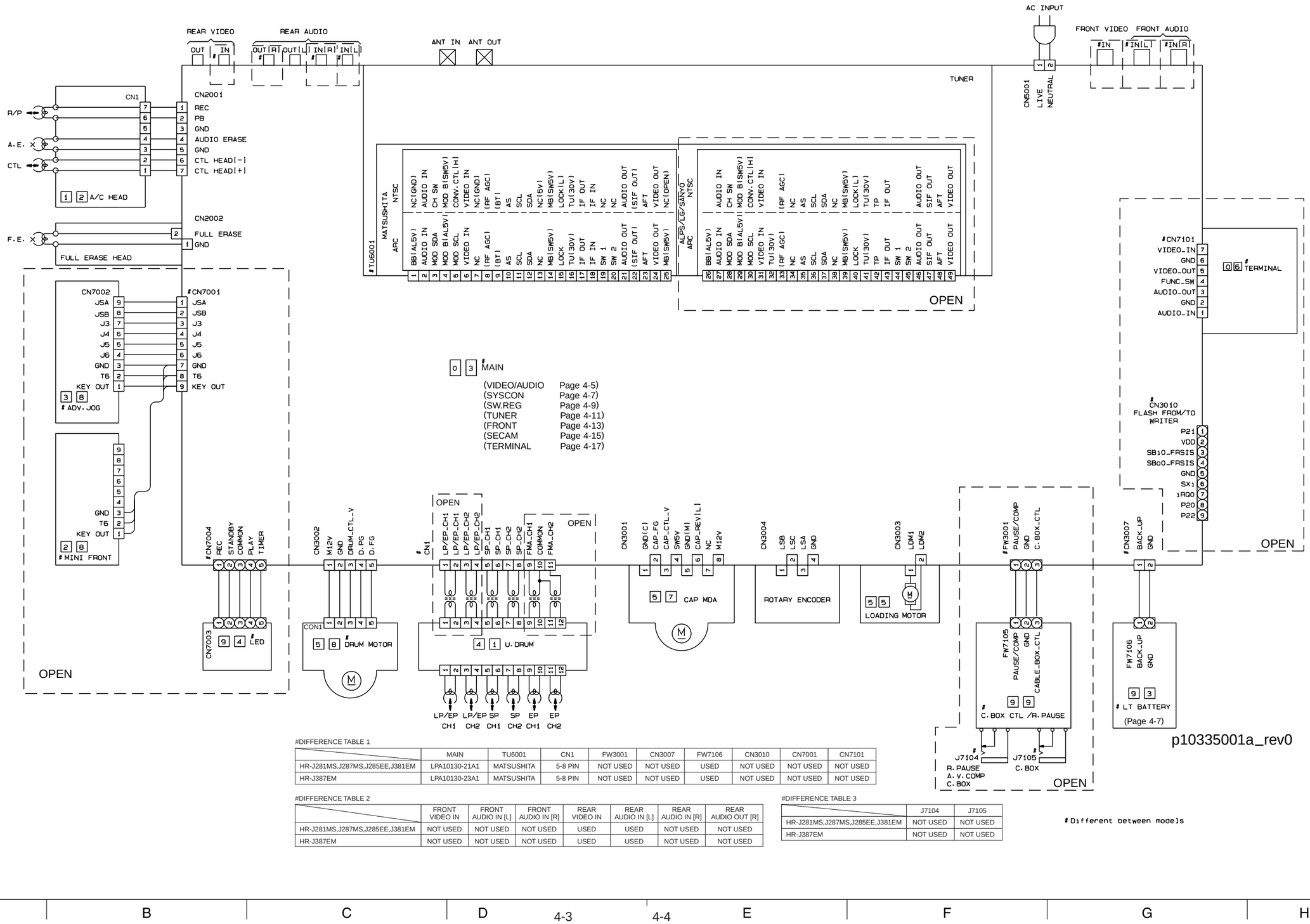
Parts location are indicated by guide scale on the circuit board.



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



NO	NAME
99	C.BOX CTL/R.PAUSE
94	LED
93	LT BATTERY
58	DRUM MOTOR
57	CAP MDA
55	LOADING MOTOR
41	U.DRUM
38	ADV. JOG
28	MINI FRONT
12	A/C HEAD
06	TERMINAL
03	MAIN

#DIFFERENCE TABLE 1

	MAIN	TU6001	CN1	FW3001	CN3007	FW7106	CN3010	CN7001	CN7101
HR-J281MS,J287MS,J285EE,J381EM	LPA10130-21A1	MATSUSHITA	5-8 PIN	NOT USED	NOT USED	USED	NOT USED	NOT USED	NOT USED
HR-J387EM	LPA10130-23A1	MATSUSHITA	5-8 PIN	NOT USED	NOT USED	USED	NOT USED	NOT USED	NOT USED

#DIFFERENCE TABLE 2

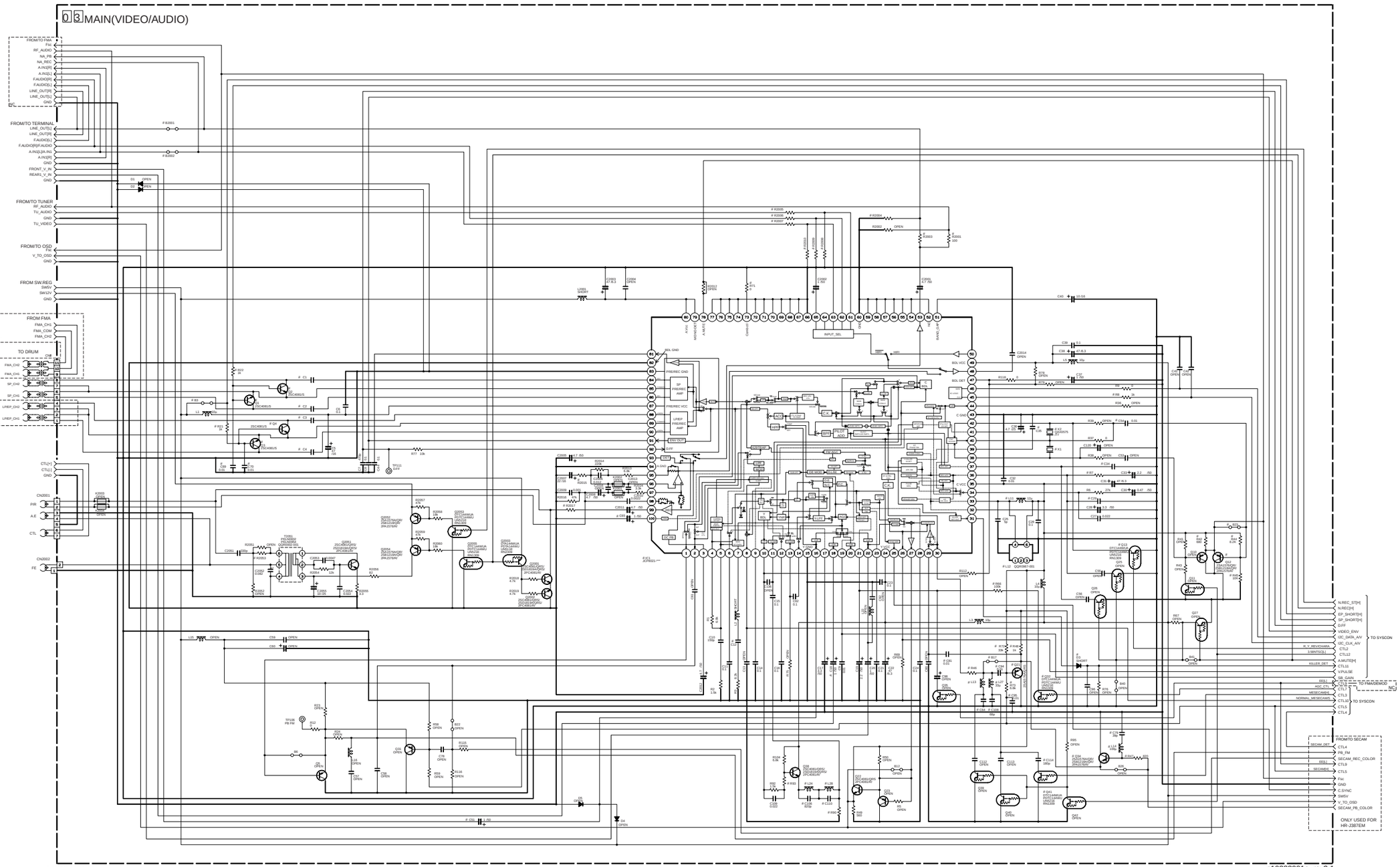
	FRONT VIDEO IN	FRONT AUDIO IN [L]	FRONT AUDIO IN [R]	REAR VIDEO IN	REAR AUDIO IN [L]	REAR AUDIO IN [R]	REAR AUDIO OUT [R]
HR-J281MS,J287MS,J285EE,J381EM	NOT USED	NOT USED	NOT USED	USED	USED	NOT USED	NOT USED
HR-J387EM	NOT USED	NOT USED	NOT USED	USED	USED	NOT USED	NOT USED

#DIFFERENCE TABLE 3

	J7104	J7105
HR-J281MS,J287MS,J285EE,J381EM	NOT USED	NOT USED
HR-J387EM	NOT USED	NOT USED

4.2 MAIN (VIDEO/AUDIO) 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.



p10333001a_rev2.1

#DIFFERENCE TABLE 1

		IC1	X1	D3	Q12	Q13	Q32	Q41	R7	R8	R42,R44,R45	R46	R66	R90	R93	C12	C29	C34	C35	C54	C64	C65	C69,C70	C81	C106	C108	C110	C114	L13	L24	L27	L28	B17	B23	Q21,Q34,R47,R48,R72,R73,C79,C94,C95,L14
NTSC	PCE(/50)	NVD-2	X	X	X	X	O	X	820	SHORT	X	120	O	470	1k	33p	4700p	0.1	0.033	SHORT	20p	X	X	X	X	X	330p	X	X	68μ	SHORT	15μ	O	O	X
	OTHERS	NVD-2	X	X	X	X	O	X	820	**SHORT**	X	X	O	470	1k	33p	4700p	0.1	0.033	SHORT	X	X	X	X	X	X	330p	X	X	68μ	SHORT	15μ	X	O	X
PAL M		MVD-2	QAX0578	O	O	O	O	X	820	**SHORT**	O	X	O	470	1k	33p	0.068	0.1	0.01	O	X	X	X	X	X	X	330p	X	X	68μ	SHORT	15μ	X	O	X
PAL N	HiFi	MVD-2	QAX0580	X	O	X	O	X	680	**SHORT**	O	X	O	390	2.2k	47p	0.033	0.22	0.033	O	X	X	X	X	X	X	82p	X	X	27μ	X	68μ	X	X	X
	MONO	MVD-2	QAX0580	X	O	X	O	X	680	**SHORT**	O	X	O	390	2.2k	47p	0.033	0.22	0.01	O	X	X	X	X	X	X	82p	X	X	27μ	X	68μ	X	X	X
PAL/ARC	HiFi	MVD-2	QAX0576/79	X	O	X	X	O	680	O	O	330	X	390	2.2k	47p	0.033	0.22	0.01	O	22p	O	X	O	O	O	82p	O	33μ	27μ	O	68μ	X	X	X
	HR-J381EM	MVD-2	QAX0576/79	X	O	X	X	O	680	O	O	330	X	390	2.2k	47p	0.033	0.22	0.01	O	22p	O	X	O	O	O	82p	O	33μ	27μ	O	68μ	X	X	X
with	HiFi	MVD-2	QAX0576/79	X	O	X	X	O	680	SHORT	O	330	X	390	2.2k	47p	0.033	0.22	0.01	O	22p	O	X	O	O	O	82p	O	33μ	27μ	O	68μ	X	X	O
SECAM	HR-J387EM	MVD-2	QAX0576/79	X	O	X	X	O	680	SHORT	O	330	X	390	2.2k	47p	0.033	0.22	0.01	O	22p	O	X	O	O	O	82p	O	33μ	27μ	O	68μ	X	X	O

#DIFFERENCE TABLE 2

3.58NTSC	X2
YES	O
NO	X

#DIFFERENCE TABLE 3

INPUT	C18	C51
FRONT	X	O
REAR	O	X
FRONT/REAR	O	O

#DIFFERENCE TABLE 4

HEAD TYPE		Q1,Q2	Q3,Q4	C1,C2	C3,C4	R71	R21	R22	B3	CN1
6HEAD HiFi	NTSC/PAL-M	X	X	1	1	X	X	X	X	11 PIN(1-11)
	PAL/ARC/PAL-N	O	O	0.01	0.01	X	O	O	X	11 PIN(1-11)
4HEAD MONO	NTSC/PAL-M	X	X	1	1	X	X	X	X	8 PIN(1-8)
	PAL/ARC/PAL-N	X	X	0.1	0.1	X	X	X	X	8 PIN(1-8)
2HEAD	J278EU	X	O	0.1	SHORT	O	O	X	O	4 PIN(5-8)
	OTHER	X	X	0.1	X	O	X	X	X	4 PIN(5-8)

#DIFFERENCE TABLE 8

CE	L11	L12
YES	X	O
NO	O	X

#DIFFERENCE TABLE 6

	DESTINATION	INPUT	FRONT IN R2006	FRONT IN R2009	FMA -> AV1(HiFi) REAR IN(PER IN/MONO) B2002	AV1->FMA(HiFi) REAR IN(PER IN/MONO) R2007	AV1->FMA(HiFi) REAR IN(PER IN/MONO) R2010
HiFi	NTSC/PAL M/PAL N		X	X	X	12k	12k
	ARC		X	X	X	18k	12k
MONO	NTSC/PAL M/PAL N	FRONT/REAR	47k	6.8k	O	47k	6.8k
		FRONT	47k	6.8k	X	X	X
	PAL/ARC	REAR	X	X	O	47k	6.8k
		FRONT/REAR	47k	5.6k	O	47k	5.6k
		FRONT	47k	5.6k	X	X	X
		REAR	X	X	O	47k	5.6k

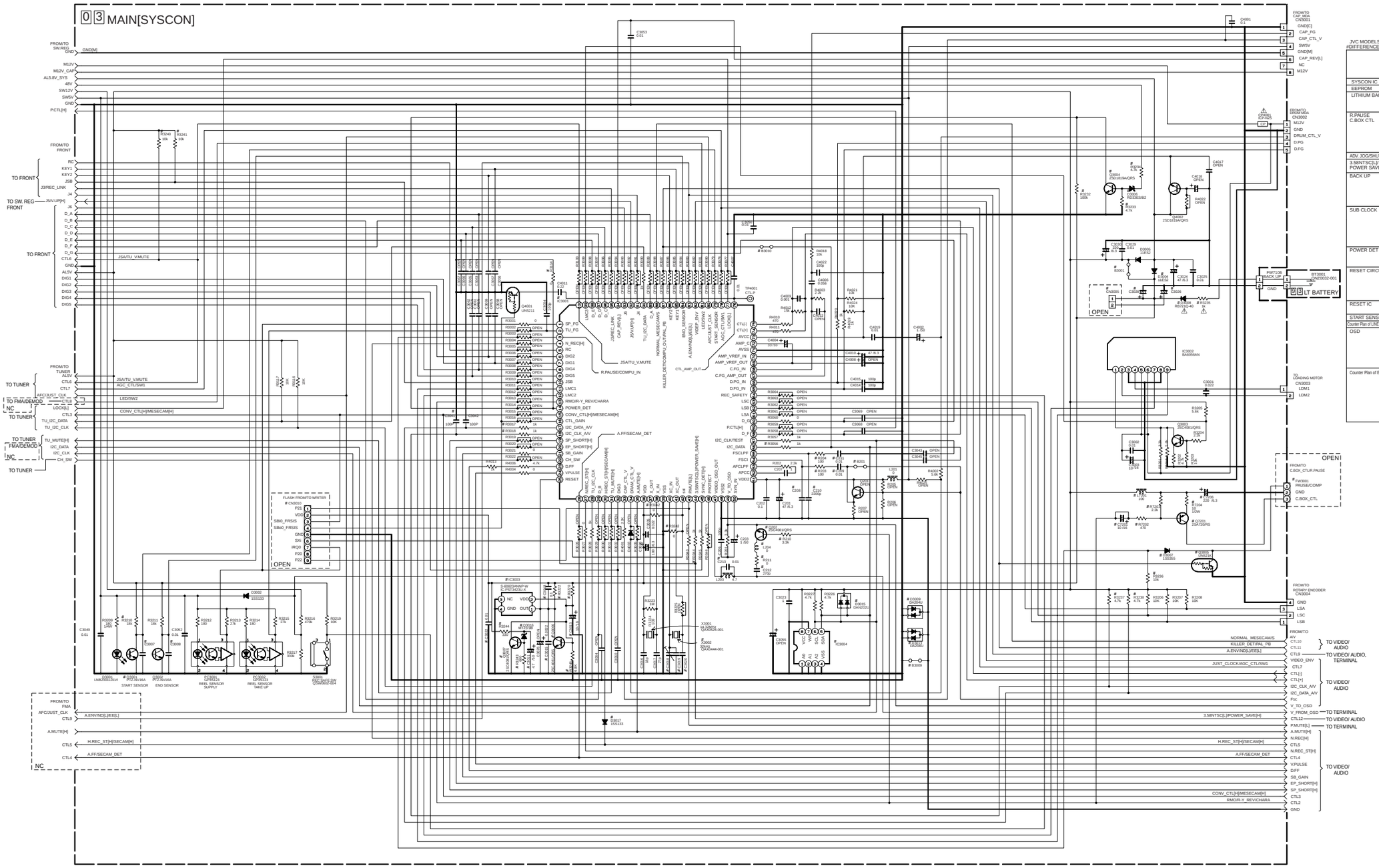
#DIFFERENCE TABLE 5

		RF-OUT R2001	AV1->FMA(HiFi) LINE OUT(MONO) B2001	AV1->FMA(HiFi) LINE OUT(MONO) R2003	AV1->FMA(HiFi) LINE OUT(MONO) R2004	TU-IN R2005	TU-IN R2008	FB GAIN R2015	REC LEVEL R2017	BIAS LEVEL R2053
HiFi	NTSC/PAL M	X	X	100	X	X	X	180	12k	2.7k
	PAL N	X	X	100	X	X	X	120	18k	5.6k
	PAL/ARC	X	X	100	X	X	X	180	15k	3.9k
MONO	NTSC/PAL M	O	O	680	2.7k	33k	47k	180	12k	2.7k
	PAL N	O	O	680	2.7k	33k	47k	120	18k	5.6k
	PAL/ARC	O	O	100	4.7k	15k	10k	180	15k	3.9k

O Used
X Not used

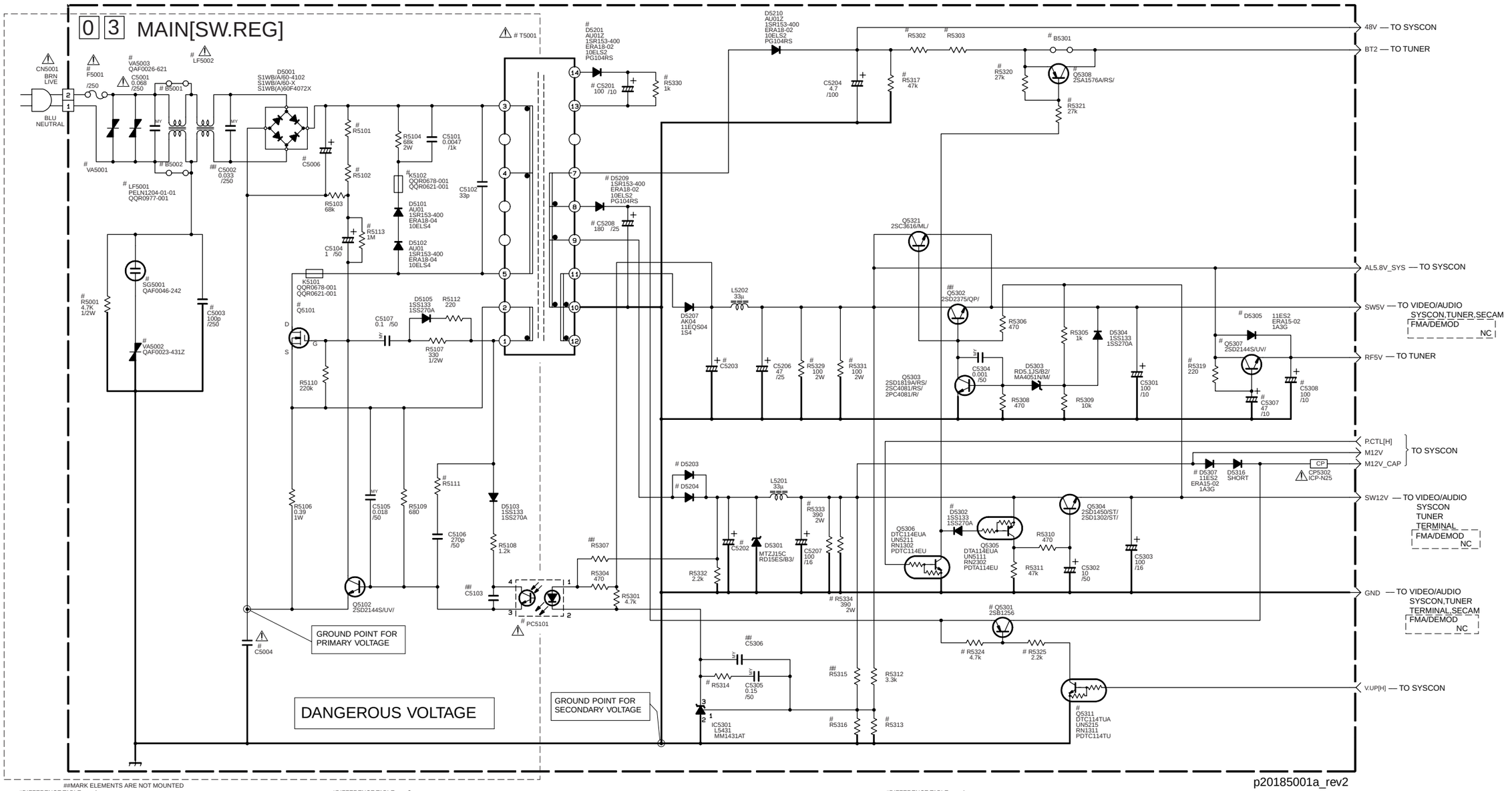
4.3 MAIN (SYSCON) AND LT BATTERY SCHEMATIC DIAGRAMS

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.


03 MAIN[SYSCON]
FROM/TO SW.REG
GND[M]
M12V
M12V_CAP
ALS:8V_SYS
48V
SW12V
SW5V
GND
P.CTL[H]
FROM/TO FRONT
RC
KEY1
KEY2
JSB
JSIREC_LINK
J4
JSVU/P[H]
J6
D_A
D_B
D_C
D_D
D_E
D_F
D_G
CTL6
GND
ALSV
DIG1
DIG2
DIG3
DIG4
DIG5
TO FRONT
TO SW. REG FRONT
JSA/TU_V.MUTE
FROM/TO TUNER
ALSV
CTL6
CTL7
AFC/JUST_CLK
CTL9
LOCK[L]
CTL3
TU_I2C_DATA
TU_I2C_CLK
TU_MUTE[H]
I2C_DATA
I2C_CLK
CH_SW
TO TUNER
TO FM/AM DEMOD
NC
AGC_CTL/SW1
LED/SW2
CONV_CTL[H]/MESECAM[H]
FLASH FROM/TO WRITER
P21
VDD
SBI0_FRSIS
SBI0
GND
SIO
IRQ0
P20
P22
OPEN
FROM/TO FMA
A.ENV/IND[L]/EE[L]
H.REC_ST[H]/SECAM[H]
A.FF/SECAM_DET
SP_FG
TU_FG
N_REC[H]
RC
DIG2
DIG1
DIG4
DIG5
JSB
LMC1
LMC2
RMO/R-Y_REV/CHARA
POWER_DET
CONV_CTL[H]/MESECAM[H]
CTL_GAIN
I2C_DATA_A/V
I2C_CLK_A/V
SP_SHORT[H]
EP_SHORT[H]
SB_GAIN
CH_SW
DJT
VPULSE
RESET
R.PAUSE/COMPU_IN
CTL_AMP_OUT
NORMAL_MESECAM/S
KILLER_DET/CRMP/LOCK/PAL_PB
KEY2
KEY1
PHD_SW/MOTOR
A.ENV/IND[L]/EE[L]
VDEP_3V
VDEP_5V
AFC/JUST_CLK
START_SENSOR
AGC_CTL/SW1
CTL[+]
CTL[-]
AVCC
AMP_OUT
AVSS
AMP_VREF_IN
AMP_VREF_OUT
C.FG_IN
C.FG_AMP_OUT
D.PG_IN
D.FG_IN
REC_SAFETY
LSC
LSB
LSA
D_G
P.CTL[H]
D_F
I2C_CLK/TEST
I2C_DATA
FSCLPF
FSCI
AFCLPF
AFCO
VDD2
X_OUT
X_IN
VSS
XC_OUT
XC_IN
RMU7[EL]
3.58NTSC[L]/POWER_SAVE[H]
SYNC_DET
PROTECT
VIDEO_OSD_OUT
VSS2
OSD_OSD
SYN_IN
VDD2
FROM/TO CAP MDK CN3001
GND[DC]
CAP_FG
CAP_CTL_V
SW5V
GND[M]
CAP_REV[L]
NC
M12V
FROM/TO LOADING MOTOR CN3002
M12V
GND
DRUM_CTL_V
D.PG
D.FG
TO LOADING MOTOR CN3003
LDM1
LDM2
FROM/TO C.BOX_CTL/R.PAUSE
FW3001 PAUSE/COMP
GND
C.BOX_CTL
OPEN
FROM/TO ROTARY ENCODER CN3004
GND
LSA
LSC
LSB
FW7106 BACK UP
GND
BT3001 CN07003-001
LT BATTERY
TO VIDEO/ AUDIO
TO VIDEO/ AUDIO, TERMINAL
TO VIDEO/ AUDIO
TO TERMINAL
TO VIDEO/ AUDIO
TO TERMINAL
TO VIDEO/ AUDIO
NORMAL_MESECAM/S
KILLER_DET/PAL_PB
A.ENV/IND[L]/EE[L]
JUST_CLOCK/AGC_CTL/SW1
VIDEO_ENV
CTL[+]
CTL[-]
I2C_CLK_A/V
I2C_DATA_A/V
Fsc
V_TO_OSD
V_FROM_OSD
3.58NTSC[L]/POWER_SAVE[H]
P.MUTE[L]
A.MUTE[H]
N.REC[H]
N.REC_ST[H]
A.FF/SECAM_DET
V.PULSE
D.FF
SB_GAIN
EP_SHORT[H]
SP_SHORT[H]
H.REC_ST[H]/SECAM[H]
CONV_CTL[H]/MESECAM[H]
RMO/R-Y_REV/CHARA
GND
IC3001
IC3002
IC3003
IC3004
IC3005
IC3006
IC3007
IC3008
IC3009
IC3010
IC3011
IC3012
IC3013
IC3014
IC3015
IC3016
IC3017
IC3018
IC3019
IC3020
IC3021
IC3022
IC3023
IC3024
IC3025
IC3026
IC3027
IC3028
IC3029
IC3030
IC3031
IC3032
IC3033
IC3034
IC3035
IC3036
IC3037
IC3038
IC3039
IC3040

4.4 MAIN (SW.REG) 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.



##MARK ELEMENTS ARE NOT MOUNTED

#DIFFERENCE TABLE 1

	Q5101	R5001	C5004	C5006	PC5101	F5001
US	2SK2043 2SK2324	YES	0.0047 /250	47 /200	PS2501-1 PC817 ON3131/RS/ PC817X	1.25A
PH/78	2SK3255	NO	0.0022 /250	68 /400	PS2561L1-1/WL/ PC123F2 ON3171/R/	2A
OTHER	2SK2632 2SK2129	NO	0.0022 /250	68 /400	PS2561L1-1/WL/ PC123F2 ON3171/R/	2A

#DIFFERENCE TABLE 2

CE	Q5308 R5317	R5320 R5321	B5301	D5302	R5101 R5102	R5111	LF5001	LF5002	B5002 B5001	R5302	R5303	R5313	R5314	R5316
-YES-	YES		NO	YES	330k	680	YES	QQR0608-001 QQR0609-001 QQR0610-001 QQR0978-001	NO	1.0k	1.2k	3.3k	1.0k	10k
-NO-	NO		YES	SHORT	220k	820	NO	QQR0533-001 QQR0532-001 QQR0516-001 QQR0932-001 QQR0816-001	YES	1.5k	1.5k	3.6k	3.3k	8.2k

#DIFFERENCE TABLE 4

RF5V	MODEL	D5305	Q5307 R5319 C5307 C5308
-NO-		NO	NO
-YES-	PH /55 PH /75	NO	YES
	OTHER	YES	NO

#DIFFERENCE TABLE 3

SURGE	SG5001	VA5001	VA5002	R5113	VA5003
US	SHORT	QAF0023-431Z QAF0024-431Z QAF0039-431Z	NO	NO	NO
OTHER	NO	NO	NO	NO	NO
US(PHILIPS)	YES	QAF0023-431Z	YES	YES	NO
PH AUTO VOLTAGE	NO	NO	NO	NO	YES

#DIFFERENCE TABLE 5

ROOM ANT	C5003	K5102
PHILIPS/78	YES	YES
PHILIPS/75	YES	SHORT
OTHER	NO	SHORT

#DIFFERENCE TABLE 6

		R5329	R5331	R5333	R5334
AUTO VOLTAGE	RF5V - YES -	NO	NO	YES	YES
	RF5V - NO -	NO	YES	YES	YES
OTHER		NO	NO	NO	NO
CE		NO	YES	YES	NO

#DIFFERENCE TABLE 7

	T5001	Q5301 Q5311	R5324 R5325	C5208 D5209	D5201 R5330 C5201	D5307	D5203 D5204
HIGH SPEED FF/REW	QQS0030-002 QQS0031-002	YES		YES	YES	YES	AU01Z 10ELS2
NORMAL SPEED FF/REW	QQS0083-001 QQS0084-001 QQS0093-001	NO		NO	NO	SHORT	AU01Z 1SR153-400 ERA18-02 10EL52 PG104RS
CE	QQS0034-001 QQS0033-001	NO		NO	YES	SHORT	

#DIFFERENCE TABLE 8

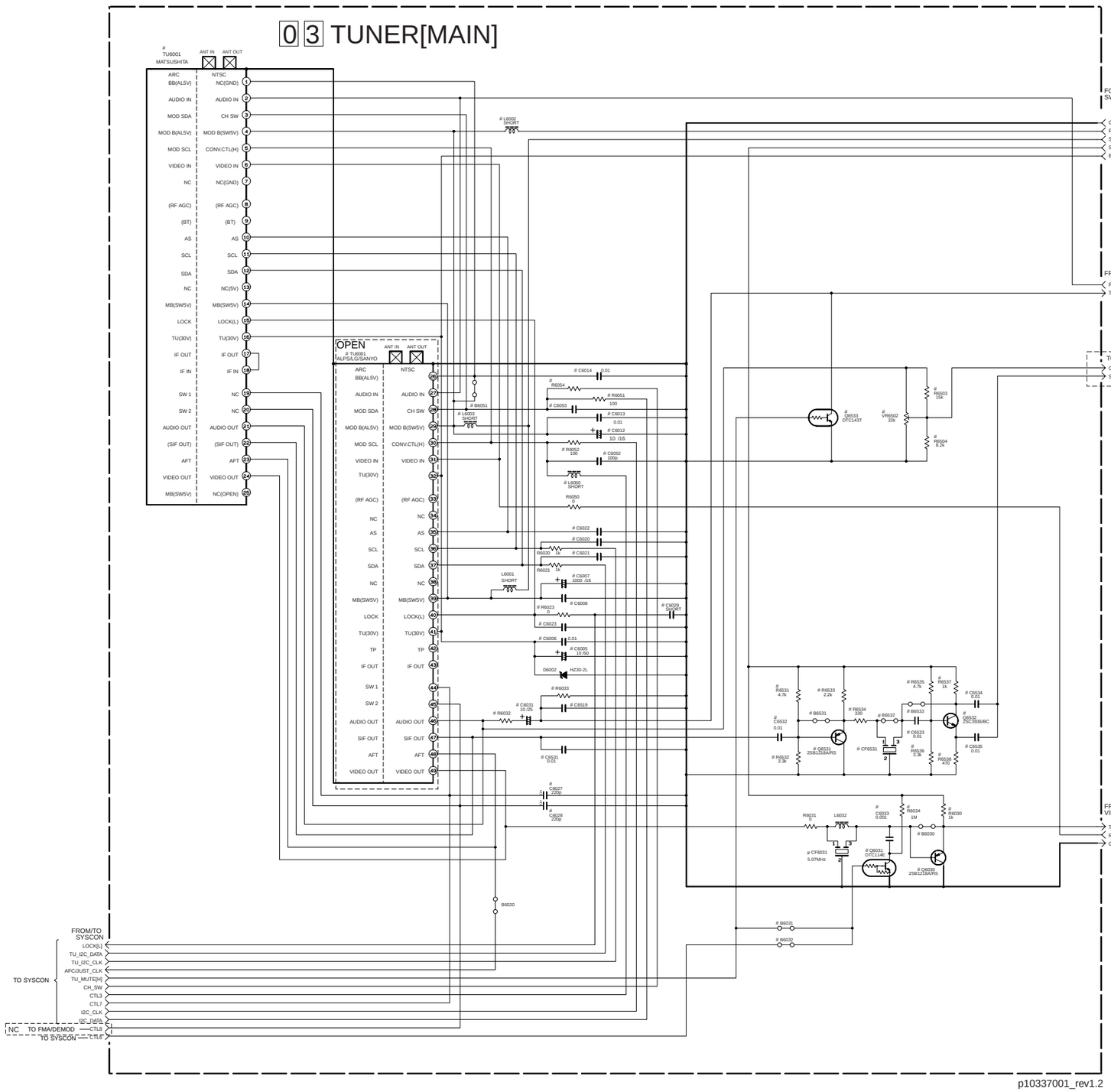
	C5202	C5203
US	1000 /16	1000 /10
OTHER	680 /16	680 /10

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

4.5 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.



CTL3	CONV_CTL(H)/MESECAM(H)
CTL6	J1(JSAY/TU_V_MUTE(H)
CTL7	AGC_CTL/SW1
CTL8	LED/SW2

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

DIFFERENCE TABLE (US,PAL-M/N)

		HiFi	MONO
TU6001	LG	QAU0235	QAU0235
VIDEO BUFFER	Q6030,R6030,	○	○
	B6030	×	×
VIDEO MUTE	Q6031,R6034, C6033,B6031	×	×
LOCK	R6023,C6023	×	×
	C6029	○	○
MONO	R6032	×	15k
	R6033	×	10k
	C6519	×	0.012
	C6031	×	○
HiFi	VR6502	×	×
	R6503,R6504	○	×
MOD B(SW5V)	L6003	○	○
CONV CTL	L6050	○	○
CONV SW	R6054	○	○
	C6008,C6021,C6053	○	○
	C6005-C6007, C6012-C6014, C6020,C6022, C6052 Q6501,Q6502, Q6531-Q6533, CF6031,CF6531, B6531-B6533, R6531-R6538, C6531-C6535	×	×
PAL	B6032,B6051, L6002, R6051,R6052, C6027,C6028	×	×

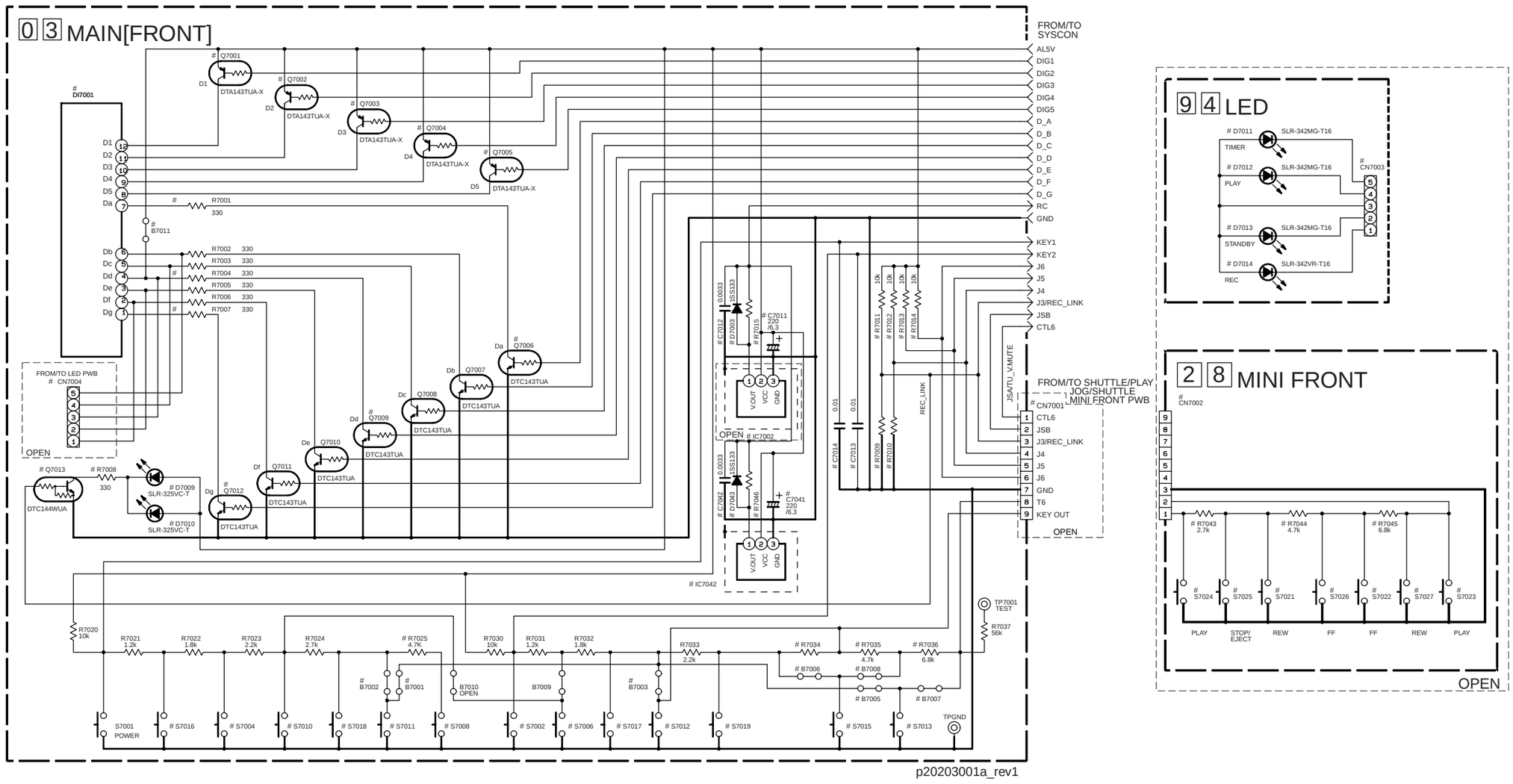
DIFFERENCE TABLE (EUPORE,ASIA - PAL/MS)

○:Used ×:Not used

		EU/EK		FRANCE MS		ASIA 3SYSTEM		ASIA 4SYSTEM
TUNER UNIT	TU6001	ALPS		ALPS	LG	MATSUSHITA	ALPS	MATSUSHITA
		QAU0208	QAU0209	QAU0210	QAU0211	QAU0208	QAU0209	QAU0212
VIDEO BUFFER	Q6030,R6030	○	○	○	○	○	○	○
	B6030	×	×	×	×	×	×	×
VIDEO MUTE	Q6031,R6034	○	○	○	○	×	×	×
	C6033	0Ω	0Ω	0Ω	0Ω	×	×	×
	B6031	×	×	×	×	×	×	×
	B6032	○	○	○	○	×	×	×
AUDIO MUTE	Q6533	○	○	○	○	×	×	×
TU I2C	C6020	×	×	×	×	×	×	×
	C6021	×	×	×	×	×	×	×
	C6022	×	×	×	×	×	×	×
LOCK	R6023,C6023	×	×	×	×	×	×	○
	C6029	○	○	○	○	○	○	×
MONO	R6032	3.3k	3.3k	3.9k	3.9k	3.3k	3.3k	8.2kΩ
	R6033	1.8k	1.8k	1.8k	1.8k	1.8k	1.8k	×
	C6031	○	○	○	○	○	○	○
	C6519	0.047	0.047	0.047	0.047	0.047	0.047	0.0015
US MPX	VR6502	×	×	×	×	×	×	×
ALSV	L6002,B6051	○	○	○	○	○	○	○
	C6012	×	×	×	×	×	×	○
	C6013	×	×	×	×	×	×	×
	C6014	○	○	○	○	○	○	○
MOD SDA/SCL	R6051,R6052	○	○	×	×	○	○	○
	R6054,L6050	×	×	×	×	×	×	×
	C6052,C6053	×	×	×	×	×	×	×
SW5V	L6003	×	×	×	×	×	×	×
	C6007	×	×	×	×	×	×	○
	C6008	×	×	×	×	×	×	×
TU(30V)	C6005	×	×	×	×	×	×	×
	C6006	×	×	×	×	×	×	×
SIF OUT	C6531-C6535, R6531-R6538, Q6531,Q6532, B6531-B6533, CF6531	×	×	×	×	×	×	×
CENELEC S2	C6027	×	×	○	×	×	×	×
	C6028	×	×	×	×	×	×	×

4.6 MAIN (FRONT) 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 1

O:Used
X:Not used

BRAND	TOOL	WORKING NUMBER	S7001	S7002	S7004	S7006	S7008	S7010	S7011	S7012	S7013	S7014	S7015	S7016	S7017	S7018	S7019	S7021 S7022 S7023	S7024- S7027	SW on UNIT	J/S	DISP	R7025	R7034	R7035 R7036	R7043 R7045	B7001	B7002	B7003	B7004	B7005 B7006	B7007	B7008
JVC	400EA	D15 U/UC, D15P U/UC, D1 EN	POWER	REC LINK	CH -	CH +	PLAY	E.PROG.	REC	——	PAUSE	——	STOP/ EJECT	DISPLAY	——	——	——	——	——	Adv	Adv	7seg	O	2.7kΩ	O	X	X	O	X	O	X	X
	400E	D13 UM/M	POWER	C.RESET	CH -	CH +	REVIEW	SP/EP	REC	——	PAUSE	——	STOP/ EJECT	DISPLAY	——	——	——	O	——	——	X	7seg	O	0Ω	X	O	X	O	X	X	O	X	X
	360H	C0 U/UC, C0P UM, C1 U/UM/M/EN D0 U/UC, D1 M/UM, D1M U/UC A1 A/EM/EA/EE/(A/EA) A11 A, A2 EM C1 A/S/EA/EE/(A/S)	——	——	REW/ CH -	FF/ CH +	——	PLAY	——	——	——	——	——	POWER	STOP/ EJECT	REC	PAUSE /CH	——	——	——	X	7seg	X	2.7kΩ	O	X	X	X	X	X	X	X	X
		A0 EU	——	——	REW/ CH -	FF/ CH +	——	PLAY	——	——	——	——	——	STAND-BY	STOP/ EJECT	REC	PAUSE /CH	——	——	——	X	7seg	X	2.7kΩ	O	X	X	X	X	X	X	X	X
PHILIPS	01A	D1 /78/50, C1 /50/78	——	POWER	FF/ CH +	CH	STOP/ EJECT	——	——	——	——	——	——	——	REC	REW/ CH -	PLAY	——	——	——	X	7seg	O	2.7kΩ	O	X	X	X	X	X	X	X	X
		A1(VR120/55),D1(VR602/55)	——	POWER	FF/ CH +	CH	STOP/ EJECT	——	——	——	——	——	——	——	REC	REW/ CH -	PLAY	——	——	——	X	4dig	O	2.7kΩ	O	X	X	X	X	X	X	X	X
	01B	A1 /55,C1 /50/55/61,D1 /55	POWER	PAUSE	MENU	OK	REC	CH -	CH +	——	——	——	——	VCR/TV	——	——	——	——	O	——	X	7seg	O	0Ω	X	X	O	O	X	X	X	X	X	X
	00A		POWER	PAUSE	MENU	OK	REC	CH -	CH +	——	——	——	——	VCR/TV	——	——	——	——	O	——	X		O	0Ω	X	O	O	X	X	X	X	X	X	X
SEARS	360H		——	——	REW/ CH -	FF/ CH +	——	PLAY	——	——	——	——	——	POWER	STOP/ EJECT	REC	PAUSE /CH	——	O	——	X	7seg	X	2.7kΩ	O	X	X	X	X	X	X	X	X
AUDINAC	360H		——	——	REW/ CH -	FF/ CH +	——	PLAY	——	——	——	——	——	POWER	STOP/ EJECT	REC	PAUSE /CH	——	O	——	X	7seg	X	2.7kΩ	O	X	X	X	X	X	X	X	X

##DIFFERENCE TABLE 2

BRAND	TOOL	IC7002	C7011	D7003 C7012	R7015	C7041	D7043 C7042	IC7042	R7046
JVC	400EA, 400E	GP1U291Q PNA4652M00YC PIC-26143LJ	O	X	0Ω	X	X	X	X
	360H	X	X	X	X	O	X	GP1U291Q PNA4652M00YC PIC-28143LJ	0Ω
PHILIPS	01A	X	X	X	X	O	O	GP1U290Q PNA4655M00YC PIC-28142LJ	100k
	01B,00A	GP1U290Q PNA4655M00YC PIC-26142LJ	O	O	100k	X	X	X	X

##DIFFERENCE TABLE 3

DISPLAY TYPE	DI7001	Q7001-Q7006 Q7009,Q7012 R7001,R7004 R7007	CN7003 D7011-D7014 CN7004	B7011
12H,7 SEG AMBER	LTG-Y2K12M-01J	O	X	X
12/24H,7 SEG GREEN	LTG-Y2K16M-J	O	X	X
4-DIG	X	X	O	O

##DIFFERENCE TABLE 4

JOG/SHUTTLE	R7009-R7014
WITH J/S	O
WITH ADV J/S	X
OTHERS	X

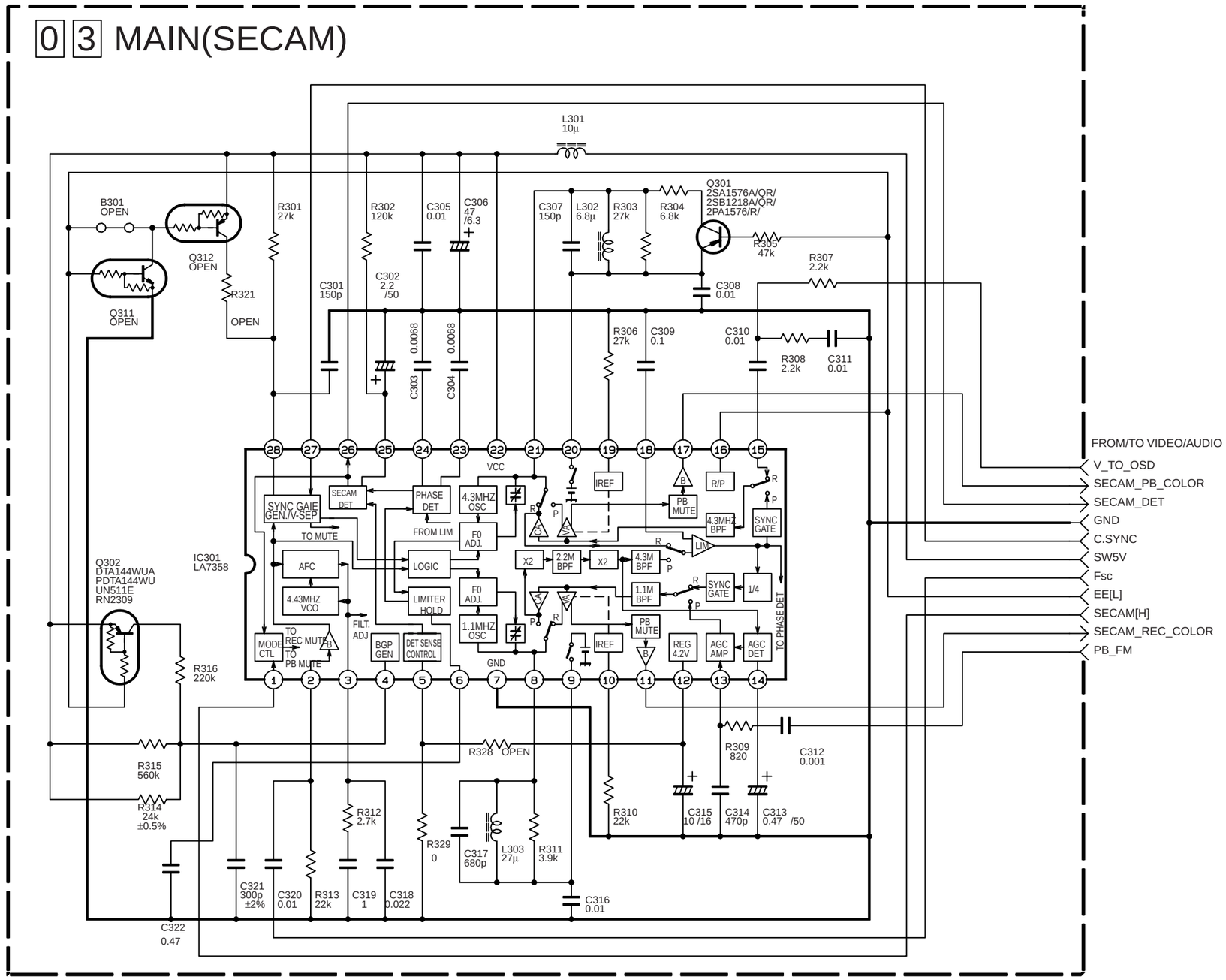
##DIFFERENCE TABLE 5

REC LINK	Q7013 R7008	D7009	D7010
YES	O	RED	X
NO	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

4.7 MAIN (SECAM) SCHEMATIC DIAGRAM [HR-J387EM]



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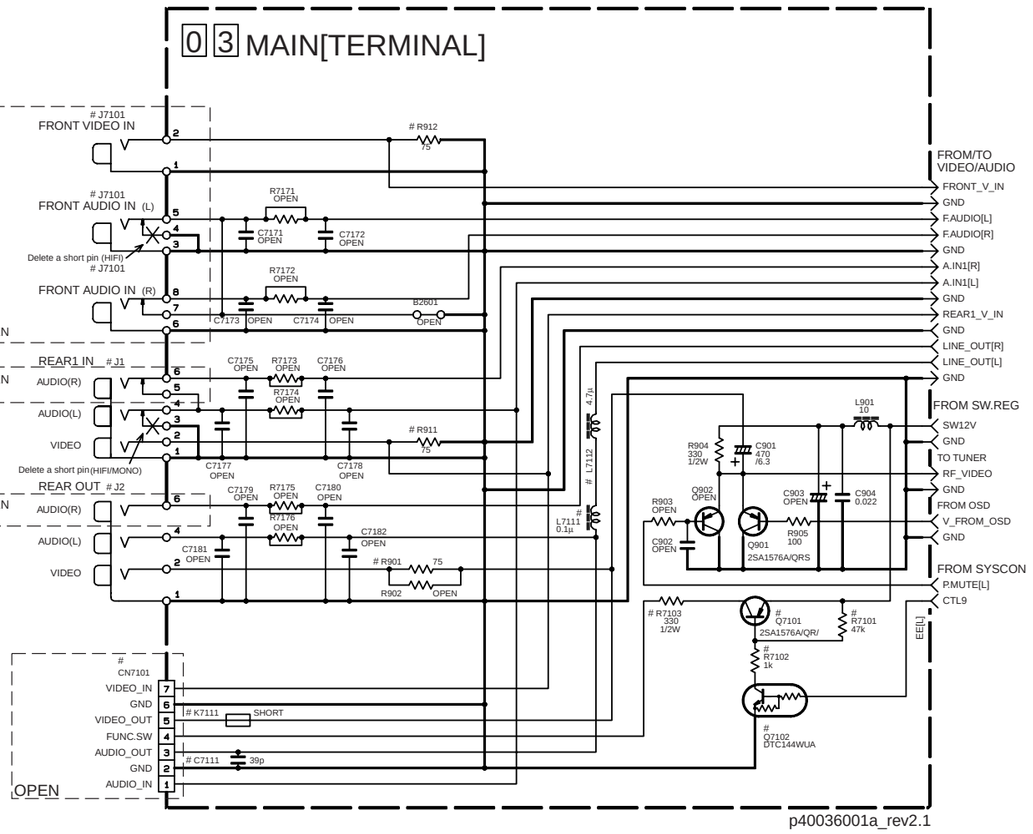
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN µF.

ELECTROLYTIC
CERAMIC

4.8 MAIN (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.



p40036001a_rev2.1

NOTES : UNLESS OTHERWISE SPECIFIED.

ALL RESISTANCE VALUES ARE IN OHMS.

ALL INDUCTANCE VALUES ARE IN H.

ALL CAPACITANCE VALUES ARE IN µF.

O:Used
X:Not used

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

#DIFFERENCE TABLE 1

OUTPUT	J2
HiFi	3P
MONO	2P

#DIFFERENCE TABLE 3

	K7111 C7111	L7111 L7112
HR-J278EU	O	O
OTHER	OPEN	SHORT

#DIFFERENCE TABLE 2

	INPUT	J1	J7101	R911	R912	R901	CN7101,Q7101,Q7102,R7101-R7103
HiFi	FRONT	X	3P	X	O	O	X
	REAR	3P	X	O	X	O	X
	FRONT/REAR	3P	3P	O	O	O	X
MONO	FRONT	X	2P	X	O	O	X
	REAR	2P	X	O	X	O	X
	FRONT/REAR	2P	2P	O	O	O	X
	PERI CONNECTOR	X	X	X	X	X	O

COMPONENT PARTS LOCATION GUIDE <MAIN >

CAPACITOR

REF.NO.	LOCATION		
C1	B	C	14N
C2	B	C	13O
C3	B	C	13O
C4	B	C	13O
C5	A	D	13N
C6	B	C	13N
C7	B	C	15O
C8	B	C	13O
C9	B	C	10N
C10	B	C	11O
C11	B	C	11N
C12	B	C	10N
C13	A	D	10N
C14	B	C	10N
C15	B	C	10N
C16	B	C	11N
C17	A	D	11N
C18	A	D	9N
C19	A	D	9M
C20	A	D	10M
C21	B	C	11N
C22	A	D	11M
C23	B	C	11M
C24	A	D	10M
C25	B	C	11M
C26	B	C	10L
C27	B	C	11L
C28	A	D	10M
C29	B	C	11L
C30	A	D	10L
C31	A	D	10L
C32	A	D	11L
C33	A	D	10L
C34	B	C	11K
C35	B	C	11L
C36	A	D	12K
C37	A	D	12K
C38	A	D	12L
C39	B	C	12L
C40	A	D	13L
C41	B	C	12J
C42	B	C	12J
C44	B	C	14M
C51	A	D	17G
C53	B	C	11K
C54	B	C	11K
C55	B	C	10K
C56	B	C	11K
C57	B	C	10O
C58	B	C	10O
C59	B	C	9O
C60	A	D	9O
C61	B	C	12N
C62	B	C	11N
C64	B	C	10L
C65	A	D	12N
C69	B	C	14N
C70	B	C	14N
C78	B	C	9O
C79	B	C	9K
C80	B	C	9K
C81	B	C	9K
C92	B	C	9M
C94	B	C	9K
C95	B	C	9K
C96	B	C	10L
C98	A	D	9M
C106	B	C	9N
C108	B	C	9K
C109	B	C	10N
C110	B	C	9N
C112	B	C	10K
C113	B	C	10K
C114	B	C	10K
C120	A	D	11L
C136	B	C	11N
C201	A	D	11G
C202	B	C	11F
C203	A	D	11G
C205	B	C	11G
C207	B	C	11F
C208	B	C	10G
C209	B	C	10G
C210	B	C	10F
C211	B	C	10G
C212	B	C	13G
C213	B	C	13G
C301	B	C	6J
C302	A	D	6J
C303	B	C	6J
C304	B	C	7J
C305	B	C	7J
C306	A	D	7J
C307	B	C	7J
C308	B	C	7J
C309	B	C	7J
C310	B	C	7J
C311	B	C	8J
C312	B	C	8K
C313	A	D	7K
C314	B	C	7K
C315	A	D	6K
C316	B	C	7K
C317	B	C	7K
C318	B	C	6K
C319	B	C	6K
C320	B	C	6J
C321	B	C	6K
C322	B	C	7K
C901	A	D	21N
C902	B	C	21M
C903	A	D	20M
C904	B	C	20M
C2001	A	D	12L
C2002	A	D	14L
C2003	A	D	13M
C2004	B	C	13M
C2005	A	D	13O
C2006	B	C	13O
C2007	A	D	13O
C2008	A	D	12O
C2009	B	C	12O
C2010	B	C	12O
C2011	A	D	12O
C2012	A	D	12O
C2013	B	C	12N
C2014	B	C	12K
C2016	B	C	13O
C2051	A	D	8N
C2052	A	D	19K
C2053	B	C	8M
C2054	B	C	7M
C2055	A	D	7M
C2201	A	D	18N
C2202	A	D	18N
C2203	A	D	16N
C2204	A	D	16O
C2205	A	D	16O
C2206	A	D	15O
C2207	B	C	15N
C2208	B	C	15M
C2209	A	D	15M
C2210	A	D	15L
C2211	A	D	14L
C2212	A	D	15M
C2213	B	C	15M
C2214	A	D	17L
C2215	A	D	17M
C2216	A	D	17M
C2217	B	C	17M
C2218	A	D	18M
C2219	A	D	18M
C2220	A	D	17M
C2221	B	C	17M
C2222	B	C	15L
C2223	B	C	16O
C2224	B	C	15L
C2251	B	C	15O
C2252	B	C	15O
C2253	B	C	14O
C2254	A	D	15N
C2255	B	C	15N
C2256	B	C	15N
C2257	B	C	14M
C2258	B	C	14M
C2259	A	D	15M
C2260	B	C	15M
C2261	B	C	15N
C2262	B	C	15N
C3001	B	C	7N
C3002	B	C	6M
C3003	A	D	6M
C3004	B	C	11C
C3007	B	C	4I
C3008	B	C	12H
C3009	B	C	19J
C3011	A	D	14D
C3013	A	D	14E
C3015	B	C	13E
C3016	B	C	13F
C3017	B	C	13F
C3018	A	D	13F
C3019	B	C	12F
C3020	B	C	12F
C3022	B	C	14E
C3023	B	C	20E
C3024	A	D	4D
C3025	B	C	5C
C3026	A	D	21E
C3028	A	D	21F
C3029	B	C	6C
C3030	A	D	6B
C3035	B	C	12F
C3036	A	D	13E
C3041	B	C	14D
C3042	B	C	14D
C3043	B	C	10G
C3045	B	C	10G
C3048	B	C	13D
C3049	B	C	11H
C3050	B	C	8E
C3052	B	C	16E
C3053	A	D	10C
C3055	A	D	20E
C3056	B	C	9C
C3057	B	C	12D
C3058	B	C	12C
C3059	B	C	14F
C3060	B	C	12D
C3061	B	C	12C
C3062	B	C	9C
C3063	B	C	14F
C3064	B	C	11C
C3065	B	C	11C
C3066	B	C	11C
C3067	B	C	9G
C3068	B	C	9G
C3069	B	C	13E
C3070	A	D	7M
C4001	B	C	7H
C4002	A	D	7F
C4004	A	D	8F
C4006	B	C	10E
C4007	B	C	7F
C4008	A	D	8F
C4009	B	C	9E
C4010	A	D	8F
C4011	B	C	16D
C4012	B	C	9F
C4014	B	C	10F
C4015	B	C	10F
C4016	A	D	8C
C4017	B	C	7D
C4019	B	C	10E
C4022	B	C	8F
C5001	A	D	1M
C5002	A	D	2M
C5003	A	D	4M
C5004	A	D	1J
C5006	A	D	2K
C5101	A	D	1L
C5102	A	D	1J
C5103	B	C	3K
C5104	A	D	4L
C5105	A	D	3K
C5106	A	D	3K
C5107	A	D	3J
C5201	A	D	1G
C5202	A	D	3F
C5203	A	D	1F
C5204	A	D	3G
C5206	A	D	2F
C5207	A	D	2E
C5208	A	D	3G
C5301	A	D	2D
C5302	A	D	4E
C5303	A	D	4E
C5304	A	D	1E
C5305	A	D	4G
C5306	A	D	4F
C5307	A	D	22D
C5308	A	D	22E
C6005	A	D	21K
C6006	B	C	22L
C6007	A	D	21J
C6008	B	C	22L
C6012	A	D	21M
C6013	B	C	22N
C6014	B	C	22O
C6020	B	C	22M
C6021	B	C	22L
C6022	B	C	22M
C6023	B	C	22L
C6027	B	C	22K
C6028	B	C	22K
C6029	B	C	21K
C6031	A	D	21J
C6033	B	C	21G
C6052	B	C	22N
C6053	B	C	21O
C6501	B	C	17N
C6502	A	D	18N
C6503	A	D	17N
C6504	A	D	16L
C6505	A	D	16L
C6506	A	D	20K
C6508	B	C	16L
C6509	B	C	16L
C6510	A	D	17L
C6511	B	C	16L
C6512	B	C	16L
C6513	A	D	17L
C6514	B	C	17M
C6515	A	D	18M
C6516	A	D	16L
C6517	B	C	16L
C6519	B	C	21J
C6531	B	C	22J
C6532	B	C	22I
C6533	B	C	21H
C6534	B	C	21G
C6535	B	C	21H
C6601	A	D	16L
C6602	A	D	16L
C6604	A	D	17L
C6605	A	D	17M
C7011	A	D	9A
C7012	A	D	9A
C7013	B	C	18A
C7014	B	C	17A
C7041	A	D	14L
C7042	A	D	15A
C7111	B	C	20N
C7171	B	C	20A
C7172	B	C	19A
C7173	B	C	18B
C7174	B	C	18B
C7175	B	C	19N
C7176	B	C	19N
C7177	B	C	19N
C7178	B	C	19N
C7179	B	C	21N
C7180	B	C	21O
C7181	B	C	21O
C7182	B	C	20N
C7201	A	D	16D
C7206	A	D	16D

CONECTOR

REF.NO.	LOCATION		
CN1	A	D	14P
CN1	A	D	7P
CN1	A	D	14O
CN2	A	D	14P
CN2	A	D	18O
CN2	A	D	7P
CN3	A	D	15P
CN3	A	D	8P
CN4	A	D	14P
CN4	A	D	7P
CN2001	A	D	9O
CN2002	A	D	18L
CN3001	A	D	7L
CN3002	A	D	7O
CN3003	A	D	7N
CN3004	A	D	9F
CN3005	A	D	20G
CN3007	A	D	20J
CN3010	A	D	20F
CN5001	A	D	3O
CN7001	A	D	2D
CN7002	A	D	4P
CN7003	A	D	12P
CN7004	A	D	13A
CN7101	A	D	20M

DIODE

REF.NO.	LOCATION		
D1	A	D	16O
D2	A	D	16O
D3	A	D	10M
D4	A	D	8K
D5	A	D	8K
D2201	A	D	18L
D3001	A	D	12H
D3002	A	D	6H
D3004	A	D	6C
D3005	A	D	6C
D3006	A	D	5C
D3007	B	C	15C
D3008	A	D	20G
D3009	B	C	12H
D3013	B	C	9O
D3015	B	C	19E
D3016	A	D	14E
D3017	A	D	14I
D4003	B	C	13F
D5001	B	C	2L
D5101	A	D	1K
D5102	A	D	2J
D5103	A	D	3K
D5105	A	D	3K
D5201	A	D	1G
D5203	A	D	2G
D5204	A	D	3G
D5207	A	D	3G
D5209	A	D	3G
D5210	A	D	3H
D5301	A	D	2G
D5302	A	D	4F
D5303	A	D	1D
D5304	A	D	1E
D5305	A	D	22D
D5307	A	D	3E
D5316	A	D	2E
D6002	A	D	21M
D7003	A	D	10A
D7009	A	D	15A
D7010	A	D	16A
D7011	A	D	9P
D7012	A	D	10P
D7013	A	D	11P
D7014	A	D	12P
D7043	A	D	15A

FUSE

REF.NO.	LOCATION		
F5001	A	D	1N

IC

REF.NO.	LOCATION		
IC1	B	C	12M
IC301	A	D	6K
IC2201	B	C	16M
IC3001	B	C	11E
IC3002	A	D	5M
IC3003	B	C	13E
IC3004	B	C	20F
IC5301	A	D	4F
IC7002	A	D	8A
IC7042	A	D	14A

COIL

REF.NO.	LOCATION		
L1	A	D	13N
L2	A	D	10N
L3	A	D	9N
L4	A	D	9L
L5	A	D	13K
L11	A	D	11M
L12	A	D	10L
L13	A	D	10L
L14	A	D	10K
L15	A	D	8N
L16	A	D	10O
L22	A	D	9M
L24	A	D	9N
L27	A	D	9K
L28	A	D	9N
L201	A	D	11G
L203	A	D	12G
L204	A	D	12G
L301	A	D	6I
L302	A	D	7J
L303	A	D	7K
L901	A	D	20M
L2001	A	D	14L
L2201	A	D	15L
L2251	A	D	14N
L2252	A	D	14N
L5201	A	D	3F
L5202	A	D	1F
L6001	A	D	21J
L6002	A	D	21L
L6003	A	D	21L
L6032	A	D	22G
L6050	A	D	20J
L6501	A	D	17L
L7111	B	C	19M
L7112	A	D	19L
L7201	A	D	16C

TRANSISTOR

REF.NO.	LOCATION		
Q1	B	C	14O
Q2	B	C	14N
Q3	B	C	14O
Q4	B	C	14O
Q5	B	C	11O
Q10	B	C	11K
Q11	B	C	11K
Q12	B	C	11J
Q13	B	C	9K
Q21	B	C	9K
Q22	B	C	10J
Q23	B	C	11K
Q25	B	C	11K
Q26	B	C	11K
Q27	B	C	11K
Q31	B	C	10O
Q32	B	C	9M
Q34	B	C	9K
Q35	B	C	9M
Q38	B	C	9N
Q39	B	C	10K
Q40	B	C	10K
Q41	B	C	10K
Q42	B	C	10K
Q201	B	C	12G
Q202	B	C	12G
Q301	B	C	7J
Q302	B	C	7I
Q311	B	C	8I
Q312	B	C	8I
Q901	B	C	21M
Q902	B	C	21M
Q2001	B	C	12O
Q2002	B	C	11O
Q2003	B	C	11O
Q2051	B	C	8M
Q2052	B	C	7L
Q2053	B	C	7L
Q2054	B	C	7M
Q2055	B	C	7L
Q2201	B	C	18L
Q2202	B	C	18K
Q2203	B	C	18L
Q2204	B	C	18L
Q2251	B	C	14N
Q2253	B	C	15M
Q2253	B	C	7I
Q3001	A	D	4I
Q3002	A	D	19I
Q3003	B	C	6M
Q3004	B	C	5C
Q3005	B	C	16C
Q3006	B	C	13E
Q3007	B	C	14E
Q4001	B	C	16D
Q4002	B	C	7D
Q5101	A	D	2J
Q5102	A	D	3K
Q5103	A	D	2G
Q5301	A	D	3G
Q5303	B	C	2E
Q5304	A	D	2E
Q5305	B	C	5E
Q5306	A	D	21E
Q5307	B	C	4G
Q5308	B	C	4E
Q5311	B	C	4E
Q5321	A	D	1E
Q6030	B	C	21G
Q6031	B	C	21G
Q6501	B	C	16L
Q6502	B	C	16L
Q6531	B	C	22H
Q6532	B	C	21H
Q6533	B	C	21I
Q7001	B	C	10A
Q7002	B	C	11A
Q7003	B	C	11A
Q7004	B	C	11A
Q7005	B	C	11A
Q7006	B	C	9B
Q7007	B	C	13B
Q7008	B	C	12A
Q7009	B	C	12A
Q7010	B	C	10A
Q7011	B	C	13A
Q7012	B	C	14A
Q7013	B	C	16B
Q7101	B	C	19M
Q7102	B	C	19L
Q7201	A	D	17C

RESISTOR

REF.NO.	LOCATION		
R1	B	C	11O
R2	B	C	11O
R3	B	C	10N
R5	B	C	9J
R6	B	C	11M
R7	B	C	10K
R8	B	C	12K
R9	B	C	12K
R12	A	D	8N
R21	B	C	14N
R22	B	C	14N
R23	B	C	9O
R24	B	C	11O
R36	B	C	12K
R37	B	C	11L
R38	B	C	11K
R39	B	C	11K
R41	B	C	12J
R42	B	C	11J
R43	B	C	11K
R44	B	C	11K
R45	B	C	11K
R46	B	C	9L
R47	B	C	10K
R48	B	C	9K
R49	B	C	10J
R50	B	C	9J
R58	B	C	9O
R59	B	C	9N
R66	B	C	9M
R67	B	C	11J
R69	B	C	10M
R71	B	C	13M
R72	B	C	9K
R73	B	C	9K
R75	B	C	11N
R76	B	C	10L
R77	B	C	15O
R78	B	C	12K
R79	B	C	12K
R90	B	C	10N
R92	B	C	10N
R93	B	C	10N
R95	B	C	10J
R104	B	C	10K
R112	B	C	12K
R115	B	C	9O
R116	B	C	10O
R118	B	C	12K
R201	B	C	11G
R202	B	C	11F
R203	B	C	10G
R204	B	C	10F
R205	B	C	10G
R206	B	C	10G
R207	B	C	10G
R210	A	D	12G
R211	B	C	12G
R301	B	C	6J
R302	B	C	6J
R303	B	C	7J
R304	B	C	7J
R305	B	C	8J
R306	B	C	7J
R307	B	C	8J
R308	B	C	8J
R309	B	C	7K
R310	B	C	7K
R311	B	C	6K
R312	B	C	6K
R313	B	C	6J
R314	B	C	7I
R315	B	C	7I
R316	B	C	7I
R321	B	C	8I
R328	B	C	7K
R329	B	C	6K
R901	B	C	21O
R902	B	C	21O
R903	B	C	21M
R904	A	D	20N
R905	B	C	21M
R911	B	C	20O
R912	B	C	21B
R2001	B	C	13L
R2002	B	C	13L
R2003	B	C	13L
R2004	B	C	13L
R2005	B	C	13L
R2006	B	C	13L
R2007	B	C	13L
R2008	B	C	13L
R2009	B	C	13L
R2010	B	C	13L
R2012	B	C	14L
R2013	B	C	13N
R2014	B	C	13O
R2015	B	C	13O
R2016	B	C	12O
R2017	B	C	12O
R2018	B	C	12O
R2019	B	C	12O
R2024	B	C	12N
R2051	B	C	8N
R2052	B	C	8N
R2053	B	C	8N
R2054	B	C	7M
R2055	B	C	7M
R2056	B	C	7M
R2057	B	C	7L
R2058	B	C	7L
R2059	B	C	7L
R2060	B	C	7L
R2201	B	C	17N
R2202	B	C	17N
R2203	B	C	18N
R2204	B	C	17N
R2205	B	C	17O
R2206	B	C	16N
R2207	B	C	16O
R2208	B	C	16O
R2209	B	C	18M
R2210	B	C	17L
R2211	B	C	18L
R2212	B	C	18M
R2213	B	C	17L
R2214	B	C	17M
R2215	A	D	18M
R2216	B	C	18M
R2217	B	C	18M
R2218	B	C	19M
R2219	B	C	18M
R2220	B	C	18L
R2221	A	D	15K
R2222	B	C	16O
R2223	B	C	16N
R2224	B	C	15L
R2225	B	C	15L
R2226	B	C	18N
R2227	B	C	18N
R2228	B	C	17N
R2229	B	C	17N
R2251	B	C	15N
R2252	B	C	15N
R2253	A	D	15M
R2254	B	C	15M
R2255	B	C	15M
R2256	B	C	15M
R2257	B	C	14M
R2258	B	C	14M
R2259	B	C	14M
R2260	B	C	15M
R2261	B	C	15N
R2262	B	C	15N
R3001	B	C	11C
R3002	B	C	12C
R3003	B	C	12C
R3004	B	C	12C
R3005	B	C	12D
R3006	B	C	12D
R3007	B	C	12D
R3008	B	C	12D
R3009	B	C	12D
R3010	B	C	13C
R3011	B	C	13C
R3012	B	C	13C
R3013	B	C	13C
R3014	B	C	13C
R3015	B	C	14C
R3016	B	C	14D
R3017	B	C	14D
R3018	B	C	14D
R3019	B	C	14D
R3020	B	C	14D
R3021	A	D	15D
R3022	B	C	15E
R3026	B	C	14E
R3027	A	D	14E
R3028	B	C	13E
R3029	B	C	13E
R3030	B	C	13F
R3031	B	C	13F
R3032	B	C	13F
R3035	B	C	13F
R3042	B	C	13G
R3043	B	C	12F
R3044	B	C	12F
R3045	B	C	12G
R3046	B	C	12G
R3056	B	C	10G
R3057	B	C	10G
R3058	B	C	10F
R3059	B	C	9G
R3060	B	C	10F
R3061	B	C	9F
R3062	B	C	9F
R3063	B	C	9F
R3064	B	C	9F
R3077	B	C	9D
R3078	B	C	8D
R3079	B	C	8D
R3080	B	C	8D
R3081	B	C	8D
R3082	B	C	9D
R3083	B	C	9D
R3084	B	C	9D
R3085	B	C	9D
R3086	B	C	9D
R3087	B	C	9D
R3088	B	C	9D
R3089	B	C	9D
R3090	B	C	10D
R3091	B	C	10D
R3092	B	C	10D
R3093	B	C	10D
R3094	B	C	10D
R3095	B	C	10C
R3096	B	C	10D
R3097	B	C	11D
R3098	B	C	11D
R3099	B	C	11D
R3100	B	C	11D
R3114	A	D	13D
R3116	B	C	16F
R3117	B	C	9D
R3201	B	C	5M
R3202	B	C	6M
R3203	B	C	6M
R3204	B	C	5M
R3205	B	C	14C
R3206	B	C	9F
R3207	B	C	8F
R3208	B	C	9F
R3209	A	D	11H
R3210	A	D	7F
R3211	B	C	17B
R3212	B	C	16E
R3213	A	D	16E
R3214	B	C	9G
R3215	B	C	9G
R3216	B	C	6G
R3217	B	C	6G
R3218	B	C	6M
R3219	A	D	17C
R3220	B	C	13D
R3222	B	C	13D
R3223	B	C	12F
R3224	B	C	13F
R3225	B	C	12F
R3226	B	C	19E
R3227	B	C	20E
R3232	A	D	7B
R3233	B	C	5C
R3234	B	C	5C
R3235	B	C	20J
R3236	B	C	15C
R3237	B	C	15D
R3238	B	C	15C
R3240	A	D	5B
R3241	A	D	5B
R3242	B	C	13G
R3243	B	C	14E
R3244	B	C	14D
R3245	B	C	13E
R4001	A	D	14G
R4002	A	D	14G
R4003	B	C	9F
R4004	A	D	15E
R4006	B	C	13E
R4010	B	C	9E
R4011	B	C	9E
R4012	B	C	9E
R4013	B	C	13D
R4018	B	C	8F
R4019	B	C	9F
R4020	B	C	10F
R4021	B	C	8F
R4022	B	C	7D
R4024	A	D	7F
R4025	A	D	14H
R5001	A	D	4M
R5101	A	D	3L
R5102	A	D	3L
R5103	A	D	3L
R5104	A	D	1L
R5106	A	D	3K
R5107	A	D	3J
R5108	B	C	4K
R5109	A	D	3K
R5110	B	C	3K
R5111	B	C	3K
R5112	B	C	3J
R5113	B	C	3L
R5301	B	C	3F
R5302	B	C	4G
R5303	B	C	4G
R5304	B	C	3F
R5305	B	C	2E
R5306	B	C	1E
R5307	B	C	3G
R5308	B	C	2D
R5309	B	C	2E
R5310	B	C	3E
R5311	B	C	4E
R5312	B	C	3F
R5313	B	C	4F
R5314	B	C	4F
R5315	B	C	3F
R5316	B	C	4F
R5317	A	D	4H
R5319	B	C	22D
R5320	B	C	4G
R5321	B	C	3G
R5324	B	C	3G
R5325	B	C	4E
R5329	A	D	3G
R5330	B	C	1G
R5331	A	D	3D
R5332	A	D	2G
R5333	A	D	2D
R5334	A	D	2D
R6020	B	C	21L
R6021	B	C	21L
R6023	B	C	21K
R6030	B	C	21G
R6031	A	D	22G
R6032	B	C	21J
R6033	B	C	21J
R6034	B	C	21G
R6050	A	D	21N
R6051	B	C	21N
R6052	B	C	21N
R6054	B	C	21N
R6501	B	C	15L
R6502	B	C	16L
R6503	B	C	20L
R6504	B	C	20L
R6531	B	C	22H
R6532	B	C	21H
R7001	A	D	11A
R7002	B	C	12A
R7003	B	C	12A
R7004	B	C	12A
R7005	B	C	12A
R7006	B	C	13A
R7007	B	C	13A
R7008	B	C	16A
R7009	B	C	2D
R7010	B	C	1D
R7011	B	C	9B
R7012	A	D	5B
R7013	B	C	9B
R7014	A	D	5B
R7015	A	D	9A
R7020	B	C	16B
R7021	B	C	17B
R7022	B	C	16A
R7023	B	C	5A
R7024	B	C	5B
R7025	B	C	5B
R7030	B	C	14A
R7031	B	C	7B
R7032	B	C	7B
R7033	B	C	8B
R7034	B	C	4B
R7035	B	C	3B
R7036	B	C	3B
R7037	B	C	2B
R7043	B	C	3P
R7044	B	C	4P
R7045	B	C	4P
R7046	A	D	15B
R7101	B	C	19M
R7102	B	C	19M
R7103	A	D	19M
R7155	B	C	16P
R7156	B	C	17P
R7171	B	C	19A
R7172	B	C	19B
R7173	B	C	19N
R7174	B	C	19N
R7175	B	C	21N
R7176	B	C	20N
R7202	A	D	16D
R7203	B	C	16D
R7204	A	D	16C

SWITCH

REF.NO.	LOCATION		
S3001	A	D	18C
S7001	A	D	22B
S7002	A	D	17B
S7004	A	D	7B
S7006	A	D	6B
S7008	A	D	5B
S7010	A	D	4B
S7011	A	D	3B
S7012	A	D	3B
S7013	A	D	2B
S7015	A	D	1B
S7016	A	D	17B
S7017	A	D	16B
S7018	A	D	8B
S7019	A	D	8B
S7021	A	D	5P
S7022	A	D	5P
S7023	A	D	5P
S7024	A	D	5P
S7025	A	D	5P
S7026	A	D	4P
S7027	A	D	5P

TEST POINT

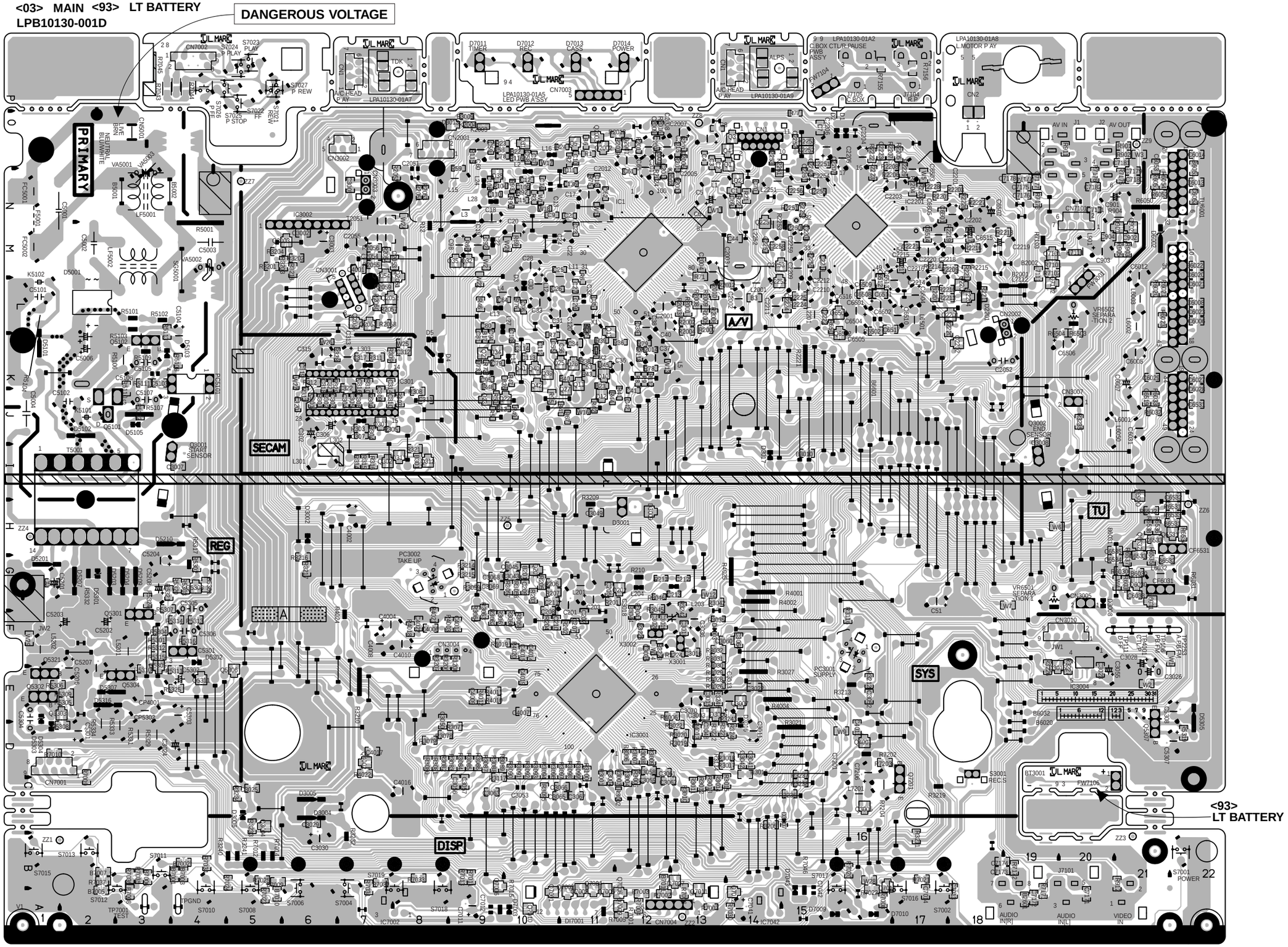
REF.NO.	LOCATION		
TP106	A	D	21F
TP111	A	D	20F
TP2253	A	D	21F
TP4001	A	D	21F
TP7001	A	D	3A
TPGND	A	D	4A

OTHER

REF.NO.	LOCATION		
CF6031	A	D	22G
CF6531

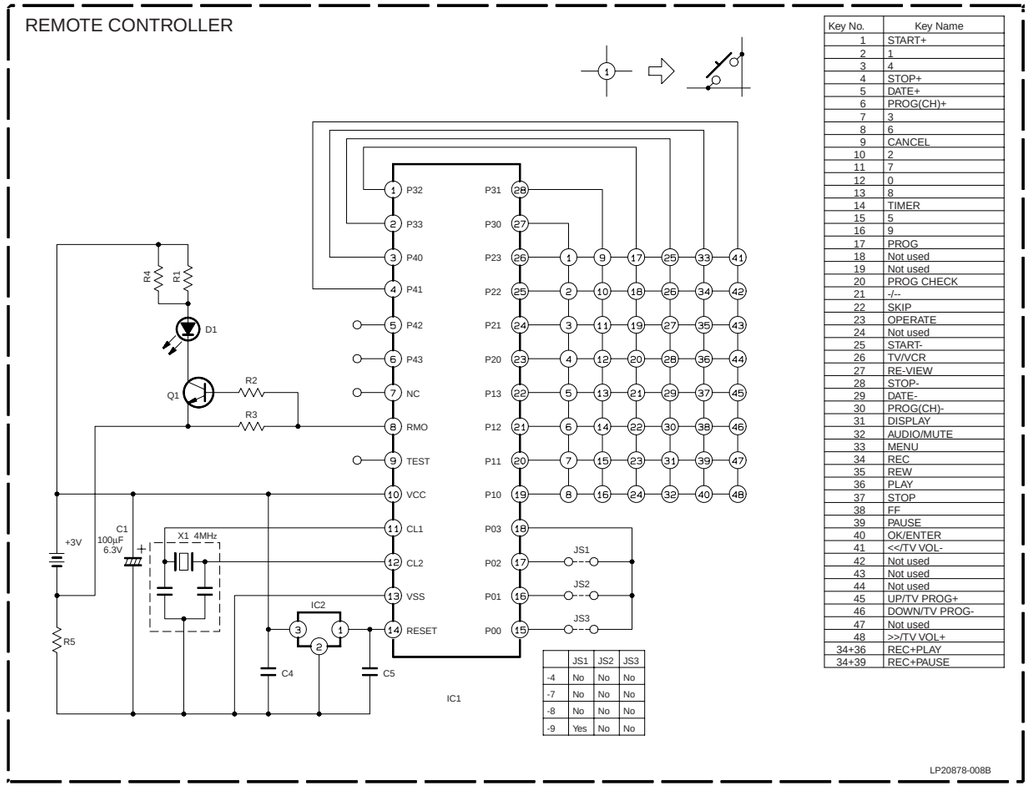
4.9 MAIN AND LT BATTERY CIRCUIT BOARDS

<03> MAIN <93> LT BATTERY
LPB10130-001D



4.10 REMOTE CONTROLLER SCHEMATIC DIAGRAM

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.

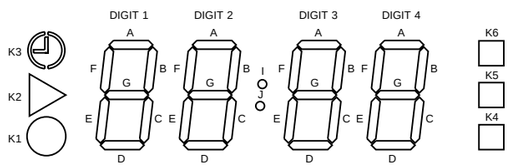


Key No.	Key Name
1	START+
2	1
3	4
4	STOP+
5	DATE+
6	PROG(CH)+
7	3
8	6
9	CANCEL
10	2
11	7
12	0
13	8
14	TIMER
15	5
16	9
17	PROG
18	Not used
19	Not used
20	PROG CHECK
21	-/--
22	SKIP
23	OPERATE
24	Not used
25	START-
26	TV/VCR
27	RE-VIEW
28	STOP-
29	DATE-
30	PROG(CH)-
31	DISPLAY
32	AUDIO/MUTE
33	MENU
34	REC
35	REW
36	PLAY
37	STOP
38	FF
39	PAUSE
40	OK/ENTER
41	<</TV VOL-
42	Not used
43	Not used
44	Not used
45	UP/TV PROG+
46	DOWN/TV PROG-
47	Not used
48	>>/TV VOL+
34+36	REC+PLAY
34+39	REC+PAUSE

	JS1	JS2	JS3
-4	No	No	No
-7	No	No	No
-8	No	No	No
-9	Yes	No	No

4.11 FDP GRID ASSIGNMENT AND ANODE CONNECTION

GRID ASSIGNMENT



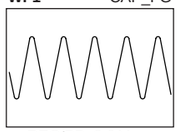
ANODE CONNECTION

No.	CONNECTION
1	CATHODE 1G, 2G, 3G, 4G, I, J
2	CATHODE 1F, 2F, 3F, 4F, K6
3	CATHODE 1E, 2E, 3E,4E, K1
4	CATHODE 1D, 2D, 3D, 4D, K4
5	CATHODE 1C, 2C, 3C, 4C, K5
6	CATHODE 1B, 2B, 3B, 4B, K2
7	CATHODE 1A, 2A, 3A, 4A, K3
8	COMMON ANODE K3, K2, K5, K4, K1, K6, I, J
9	COMMON ANODE DIGIT4
10	COMMON ANODE DIGIT3
11	COMMON ANODE DIGIT2
12	COMMON ANODE DIGIT1

4.12 WAVEFORMS

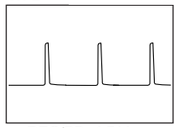
< SYSCON >

WF1 CN3001-2 CAP_FG



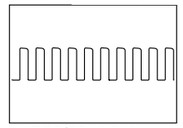
REC/PB 3.0 Vp-p
50 mV/0.5 msec/DIV

WF2 CN3002-4 D.PG



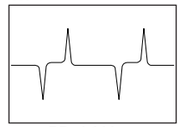
REC/PB 4.5 Vp-p
0.2 V/10 msec/DIV

WF3 CN3002-5 D.FG



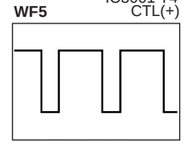
REC/PB 4.6 Vp-p
0.1 V/10 msec/DIV

WF4 TP4001 CTL.P



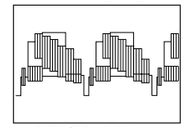
PB 4.1 Vp-p
50 mV/10 msec/DIV

WF5 IC3001-74 CTL(+)



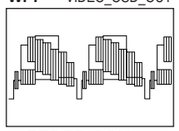
REC 4.0 Vp-p
0.1 V/10 msec/DIV

WF6 IC3001-49 V_TO_OSD



REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

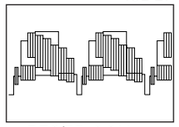
WF7 IC3001-47 VIDEO_OSD_OUT



REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

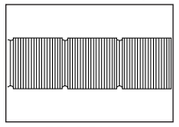
< VIDEO >

WF1 IC1-27



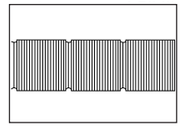
REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF2 IC1-1



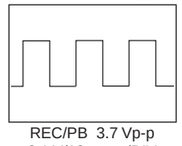
PB 0.5 Vp-p
20 mV/5 msec/DIV

WF3 TP106 PB.FM



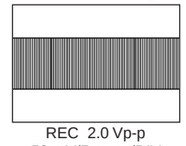
PB 0.5 Vp-p
20 mV/5 msec/DIV

WF4 TP111 D.FF



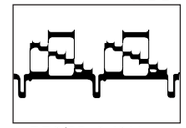
REC/PB 3.7 Vp-p
0.1 V/10 msec/DIV

WF5 IC1-85



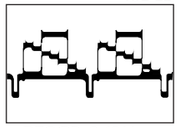
REC 2.0 Vp-p
50 mV/5 msec/DIV

WF6 IC1-13



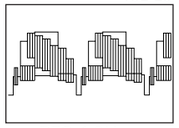
REC/PB 0.48 Vp-p
20 mV/20 µsec/DIV

WF7 IC1-11



REC/PB 0.48 Vp-p
20 mV/20 µsec/DIV

WF8 IC1-18

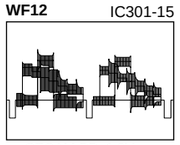


REC 1.0 Vp-p
20 mV/20 µsec/DIV

WF11 IC301-13

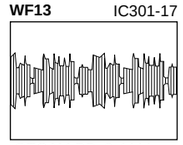
SECAM PB 0.24 Vp-p
20 mV/2 msec/DIV

WF12 IC301-15



SECAM PB 1.3Vp-p
50 mV/20 µsec/DIV

WF13 IC301-17

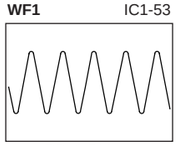


SECAM PB 0.44 Vp-p
10 mV/20 µsec/DIV

***WF11 - WF13 is used only for HR-J387EM.**

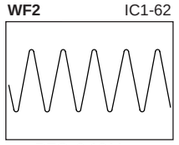
< AUDIO >

WF1 IC1-53



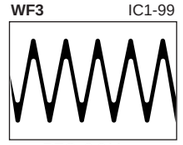
PB 1.5 Vp-p
0.5 V/0.5 msec/DIV

WF2 IC1-62



REC 0.12 Vp-p
0.1 V/0.5 msec/DIV

WF3 IC1-99



REC 2.0 Vp-p
0.5 V/0.5 msec/DIV

4.13 VOLTAGE CHARTS

<MAIN>

MODE PIN NO.	REC	PLAY
IC1		
1	1.5	2.3
2	2.8	2.8
3	2.6	2.6
4	1.9	1.5
5	1.9	1.5
6	2.4	2.1
7	1.4	0.8
8	0	0
9	2.6	3.1
10	2.3	2.3
11	3.1	3.1
12	2.8	2.8
13	3.1	3.1
14	2.3	2.3
15	0	0
16	2.8	2.8
17	1.4	1.4
18	2.8	2.8
19	2.8	2.8
20	2.8	2.8
21	2.0	2.0
22	2.8	2.8
23	2.8	2.8
24	5.0	5.0
25	0.4	0.4
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	5.0	5.0
34	2.7	2.3
35	5.0	5.0
36	2.5	0
37	2.3	2.3
38	-	-
39	1.2	1.2
40	-	-
41	2.5	2.5
42	-	-
43	0	0
44	2.2	2.2
45	4.6	4.6
46	4.9	4.6
47	2.9	2.9
48	2.6	2.6
49	5.0	5.0
50	2.5	2.5
51	2.8	2.8
52	0	0
53	2.6	2.6
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	0
65	2.0	2.0
66	0	0
67	0	0
68	0	0
69	0	0
70	0	0
71	0	0
72	0	0
73	3.1	3.1
74	0	0
75	0	0
76	0	0
77	0	0
78	0	0
79	5.0	5.0
80	5.0	5.0
81	0	0
82	0	0
83	0	0
84	2.2	2.2
85	2.4	2.4
86	2.2	2.2
87	5.0	5.0
88	0	0
89	0	0
90	0	0
91	0	4.0
92	2.6	2.6
93	0.8	0.5
94	0	0
95	2.5	2.5
96	2.5	2.5
97	2.5	2.5
98	0	0
99	2.5	2.5
100	0	0

MODE PIN NO.	REC	PLAY
IC301 [HR-J387EM]		
1	0	0
2	1.9	1.9
3	3.4	3.4
4	0.4	0.4
5	0	0
6	2.9	2.9
7	0	0
8	2.5	2.5
9	2.5	2.5
10	2.3	2.3
11	2.6	0
12	4.3	4.3
13	2.5	2.5
14	3.1	2.0
15	2.7	2.7
16	0.2	5.0
17	0	2.7
18	2.1	2.1
19	2.4	2.4
20	2.5	2.5
21	2.5	2.5
22	5.0	5.0
23	2.9	2.9
24	2.9	2.9
25	2.8	2.8
26	0	0
27	0.4	0.4
28	0.2	0.2
IC3001		
1	-	-
2	-	-
3	0	0
4	5.0	0
5	5.1	5.0
6	4.0	4.0
7	4.0	4.0
8	4.1	4.1
9	4.0	4.0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	5.0	5.0
16	4.9	4.9
17	4.9	4.9
18	4.5	4.5
19	0	0
20	0	0
21	2.8	2.8
22	4.3	4.3
23	2.5	2.5
24	0	0
25	-	-
26	0	2.5
27	5.0	0
28	5.1	5.0
29	1.0	1.0
30	4.9	0
31	5.0	5.0
32	4.1	4.1
33	2.5	2.5
34	1.5	1.5
35	0	0
36	5.0	5.0
37	-	-
38	-	-
39	0	0
40	-	-
41	-	-
42	0	0
43	5.0	5.0
44	0	0
45	5.0	5.0
46	4.6	4.6
47	1.6	1.6
48	0	0
49	1.6	1.6
50	2.4	2.4
51	5.0	5.0
52	2.5	2.5
53	2.5	2.5
54	0	0
55	0	0
56	4.5	4.9
57	4.8	4.8
58	2.0	0
59	5.0	0
60	1.9	3.9
61	0	0
62	5.1	5.1
63	5.1	5.1
64	5.1	5.1
65	2.8	2.8
66	0	0.4
67	2.5	2.5
68	2.5	2.5
69	2.5	2.5
70	2.5	2.5
71	0	0

MODE PIN NO.	REC	PLAY
72	2.4	2.4
73	5.0	5.0
74	3.0	2.5
75	0	2.5
76	2.5	2.5
77	0	0
78	0	0
79	0	0
80	1.1	1.1
81	0	0
82	0	3.6
83	0	1.9
84	4.9	4.9
85	5.1	5.1
86	0	5.1
87	0	0
88	0	0
89	1.0	0
90	5.1	5.1
91	0	0
92	0	0
93	0	0
94	5.0	5.0
95	0	0
96	1.0	0
97	0	0
98	1.9	0
99	0	0
100	0	0
IC3002		
1	7.5	7.5
2	0.5	0.5
3	0	0
4	0.5	0.5
5	11.9	11.9
6	11.9	11.9
7	0	0
8	0	0
9	0	0
IC3003	-	-
IC3004		
1	0	0
2	0	0
3	0	0
4	0	0
5	4.8	4.8
6	4.9	4.9
7	0	0
8	5.1	5.1
IC5301		
1	2.5	2.5
2	0	0
3	4.5	4.5
IC7042		
1	0	5.1
2	0	5.0
3	0	0
CN1		
1	0	0
2	0	0
3	0	0
4	0	0
5	2.3	2.3
6	2.4	2.2
7	2.4	2.4
8	2.4	2.4
CN2001		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.4	2.4
7	2.7	2.7
CN2002		
1	0	0
2	0	0
CN3001		
1	0	5.0
2	2.5	2.5
3	2.5	2.5
4	5.0	0
5	0	0
6	5.0	5.0
7	0	0
8	11.9	11.9
CN3002		
1	11.9	11.9
2	0	0
3	1.3	1.3
4	0.4	0.4
5	2.8	2.8
CN3003		
1	1.0	1.0
2	1.0	1.0
CN3004		
1	5.1	5.1
2	5.1	5.1
3	0	0
4	0	0

<LT.BATTERY>

MODE PIN NO.	REC	PLAY
CN3007	-	-

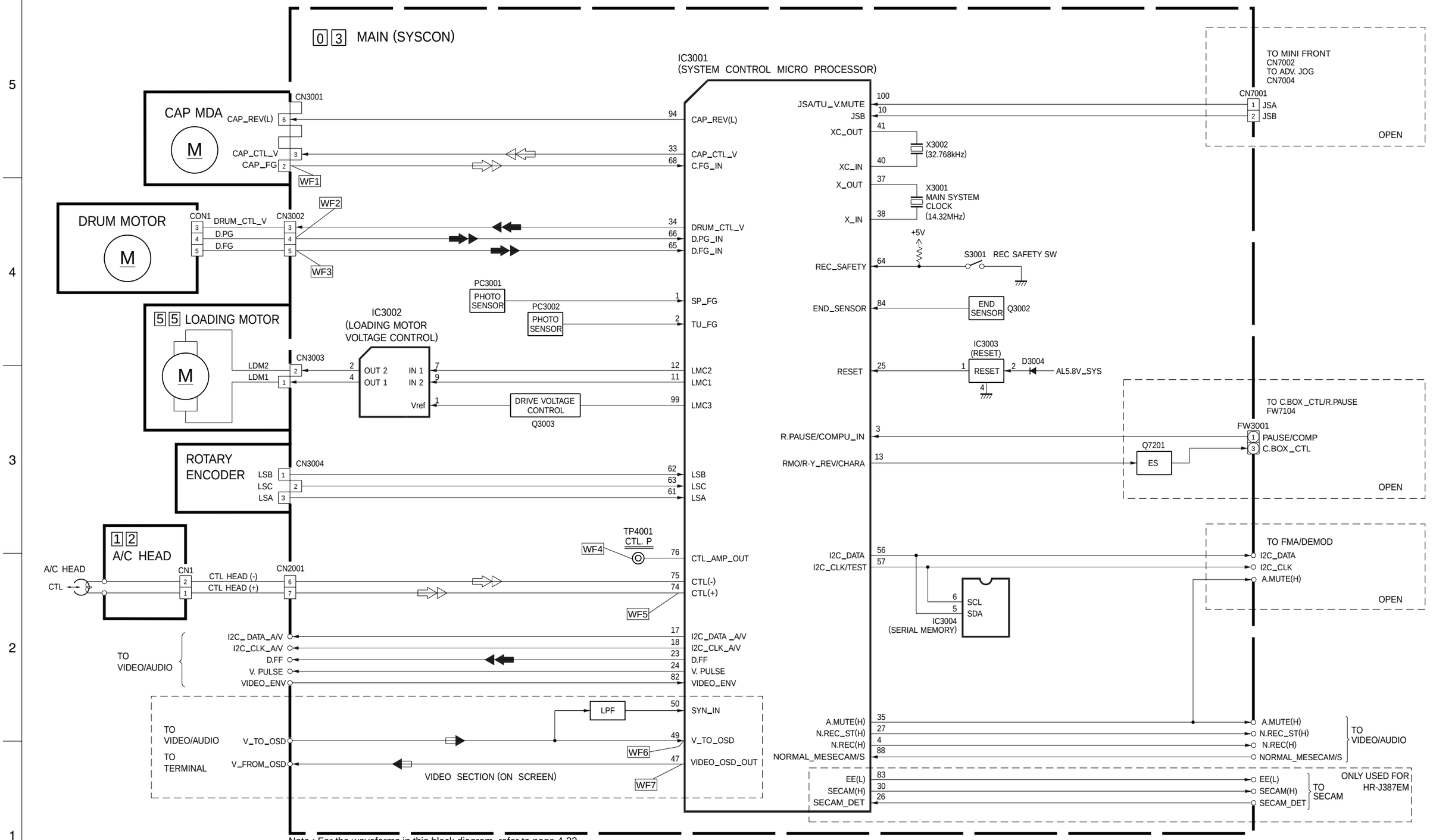
4.14 CPU PIN FUNCTION

<SYSCON IC3001>

PIN NO.	LABEL	IN/OUT	FUNCTION
1	SP_FG	IN	DETECTION SIGNAL FOR SUPPLY REEL ROTATION/TAPE REMAIN
2	TU_FG	IN	DETECTION SIGNAL FOR TAKE-UP REEL ROTATION/TAPE REMAIN
3	R.PAUSE/COMPU_IN	IN	REMOTE PAUSE CONTROL[NC]/A/V COMPULINK INPUT[NC]
4	N.REC(H)	OUT	NORMAL AUDIO REC MODE CONTROL (REC:H)
5	RC	IN	REMOTE CONTROL DATA INPUT
6	DIG2	OUT	LED DRIVE
7	DIG1	OUT	LED DRIVE
8	DIG4	OUT	LED DRIVE
9	DIG5	OUT	LED DRIVE
10	JSB	IN	INPUT FOR THE JOG SHUTTLE[NC]
11	LMC1	OUT	LOADING MOTOR DRIVE(1)
12	LMC2	OUT	LOADING MOTOR DRIVE(2)
13	RMO/R-Y_REV/CHARA	OUT	REMOTE CONTROL OUTPUT FOR CABLE BOX[NC]/NC/NC
14	POWER_DET	OUT	DETECTION SIGNAL FOR POWER DOWN OF AC POWER SUPPLY
15	CONV_CTL(H)/MESECAM(H)	OUT	R/F CONVERTER ON/OFF (ON:H, OFF:L)/MESECAM:H
16	CTL_GAIN	OUT	CONTROL AMP OUT FREQUENCY RESPONSE SWITCHING
17	I2C_DATA_A/V	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR THE VIDEO/AUDIO IC
18	I2C_CLK_A/V	OUT	SERIAL DATA TRANSFER CLOCK FOR THE VIDEO/AUDIO IC
19	SP_SHORT(H)	OUT	MODE SELECT:SP
20	EP_SHORT(H)	OUT	MODE SELECT:EP
21	SB_GAIN	OUT	VOLTAGE CONTROL SIGNAL FOR VIDEO FREQUENCY RESPONSE
22	CH_SW	IN	RF CHANNEL SWITCHING
23	D.FF	OUT	ROTATION DETECTION SIGNAL FOR DRUM MOTOR/TIMING CONTROL SIGNAL FOR REC
24	V.PULSE	OUT	V.PULSE ADDITION TIMING CONTROL
25	RESET	-	RESET TERMINAL
26	A.FF/SECAM_DET	IN/OUT	AUDIO FF OUTPUT/SECAM DETECT[HR-J387EM]
27	N.REC_ST(H)	OUT	NORMAL AUDIO SOUND RECORDING START
28	TU_I2C_CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR THE TUNER UNIT
29	D_B	OUT	LED DRIVE
30	H.REC_ST(H)/SECAM(H)	OUT	Hi-Fi AUDIO SOUND RECORDING START/SECAM(H)[HR-J387EM]
31	TU_MUTE(H)	-	NC
32	DIG3	OUT	LED DRIVE
33	CAP_CTL_V	OUT	CAPSTAN MOTOR CONTROL
34	DRUM_CTL_V	OUT	DRUM MOTOR CONTROL
35	A.MUTE(H)	OUT	AUDIO MUTE CONTROL (MUTE ON:H)
36	VDD	-	SYSTEM POWER
37	X_OUT	-	MAIN SYSTEM CLOCK (14.32MHz)
38	X_IN	-	MAIN SYSTEM CLOCK (14.32MHz)
39	VSS	-	GND
40	XC_IN	-	TIMER CLOCK (32.768kHz)
41	XC_OUT	-	TIMER CLOCK (32.768kHz)
42	Sxi	-	NC
43	P.MUTE(L)	-	NC
44	3.58NTSC(L)/POWER_SAVE(H)	-	NC/NC
45	SYNC_DET	-	NC
46	PROTECT	IN	DETECTION SIGNAL FOR SWITCHING POWER SUPPLY
47	VIDEO_OSD_OUT	OUT	COMPOSITE VIDEO SIGNAL OUTPUT
48	VSS2	-	GND
49	V_TO_OSD	IN	COMPOSITE VIDEO SIGNAL INPUT
50	SYN_IN	IN	COMPOSITE SYNCHRONIZING SIGNAL FOR SERVO, VERTICAL SYNCHRONIZING SIGNAL FOR OSD

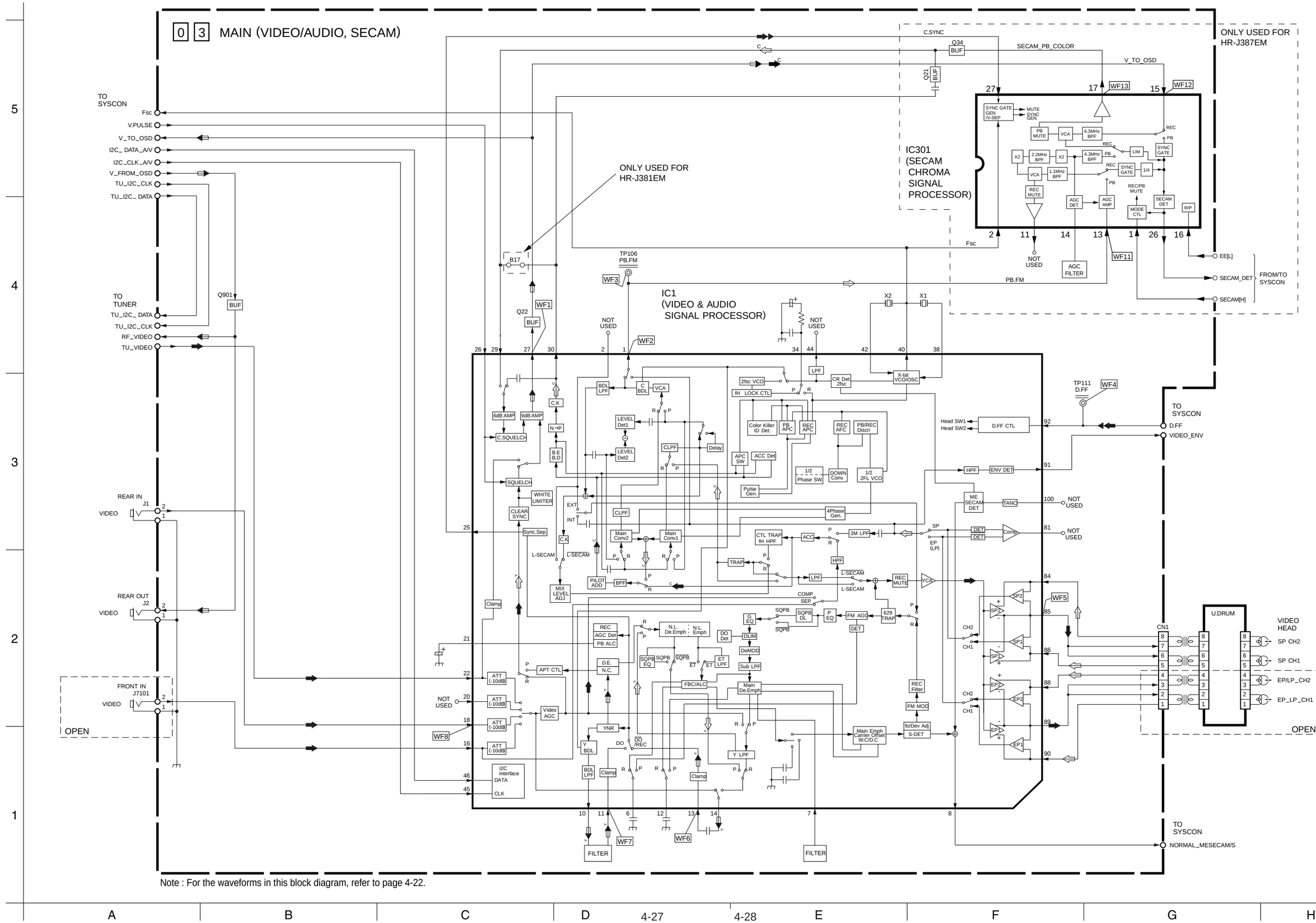
PIN NO.	LABEL	IN/OUT	FUNCTION
51	VDD2	-	SYSTEM POWER
52	AFCC	IN	FILTER INPUT FOR HORIZONTAL SYNCHRONIZING OF OSD CHARACTER
53	AFCLPF	OUT	FILTER OUTPUT FOR HORIZONTAL SYNCHRONIZING OF OSD CHARACTER
54	FSCI	IN	FSC INPUT FOR OSD
55	FSCLPF	OUT	FSC OUTPUT FOR OSD
56	I2C_DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR MEMORY IC
57	I2C_CLK/TEST	OUT	SERIAL DATA TRANSFER CLOCK FOR MEMORY IC/MECHANISM TEST SIGNAL
58	D_F	OUT	LED DRIVE
59	P.CTL(H)	OUT	CONTROL SIGNAL FOR SWITCHING POWER SUPPLY
60	D_G	OUT	LED DRIVE
61	LSA	IN	MECHANISM MODE DETECT(A)
62	LSB	IN	MECHANISM MODE DETECT(B)
63	LSC	IN	MECHANISM MODE DETECT(C)
64	REC_SAFETY	IN	REC SAFETY SWITCH DETECT (SW ON:L)
65	D.FG_IN	IN	DRUM FG PULSE INPUT
66	D.PG_IN	IN	DRUM PICKUP PULSE INPUT (SWITCHING PULSE)
67	C.FG_AMP_OUT	OUT	SET-UP OUTPUT FOR CAPSTAN FG AMPLIFICATION FACTOR
68	C.FG_IN	IN	CAPSTAN FG PULSE INPUT
69	AMP_VREF_OUT	OUT	AMP CIRCUIT REFERENCE VOLTAGE OUTPUT
70	AMP_VREF_IN	IN	AMP CIRCUIT REFERENCE VOLTAGE INPUT
71	AVSS	-	GND FOR ANALOG CIRCUIT
72	AMP_C	IN	CAPACITOR CONNECT TERMINAL FOR CTL AMP CIRCUIT
73	AVCC	-	SYSTEM POWER FOR ANALOG CIRCUIT
74	CTL(+)	IN/OUT	CTL(+) SIGNAL
75	CTL(-)	IN/OUT	CTL(-) SIGNAL
76	CTL_AMP_OUT	OUT	CTL PULSE OUTPUT
77	LOCK(L)	-	NC
78	AGC_CTL/SW1	OUT	DETECTION SIGNAL FOR AGC/NC
79	START_SENSOR	-	NC
80	AFC/JUST_CLK	IN	TUNING CHECK/NC
81	LED/SW2	IN	SAP DETECT/NC
82	VIDEO_ENV	IN	AUTO TRACKING DETECT/INPUT THE AVERAGE OF PLAYBACK VIDEO SIGNAL
83	A.ENV/ND(L)/EE(L)	IN	AUDIO PB FM ENV. INPUT/NON HiFi MODEL:L/EE(L)[HR-J387EM]
84	END_SENSOR	IN	END SENSOR
85	KEY1	IN	OPERATION CONTROL SIGNAL[NC]
86	KEY2	IN	OPERATION CONTROL SIGNAL[NC]
87	KILLER_DET/COMPU_OUT/PAL_PB	-	NC/NC/NC
88	NORMAL_MESECAM/S	IN	NC/SQPB DETECT
89	D_A	OUT	LED DRIVE
90	TU_I2C_DATA	IN/OUT	I/O DATA FOR THE TUNER UNIT
91	J4	-	NC
92	J5/V.UP(H)	OUT	HIGH SPEED FF/REW AND TURBO SERCH MODE:H[NC]
93	J6	-	NC
94	CAP_REV(L)	OUT	CAPSTAN MOTOR REVERSE CONTROL (FWD:H/REV:L)
95	J3/REC_LINK	IN	NC/REC LINK[NC]
96	D_C	OUT	LED DRIVE
97	D_D	OUT	LED DRIVE
98	D_E	OUT	LED DRIVE
99	LMC3	OUT	LOADING MOTOR DRIVE(3)
100	JSA/TU_V.MUTE	IN	INPUT FOR THE JOG SHUTTLE[NC]/NC

4.15 SYSTEM CONTROL BLOCK DIAGRAM



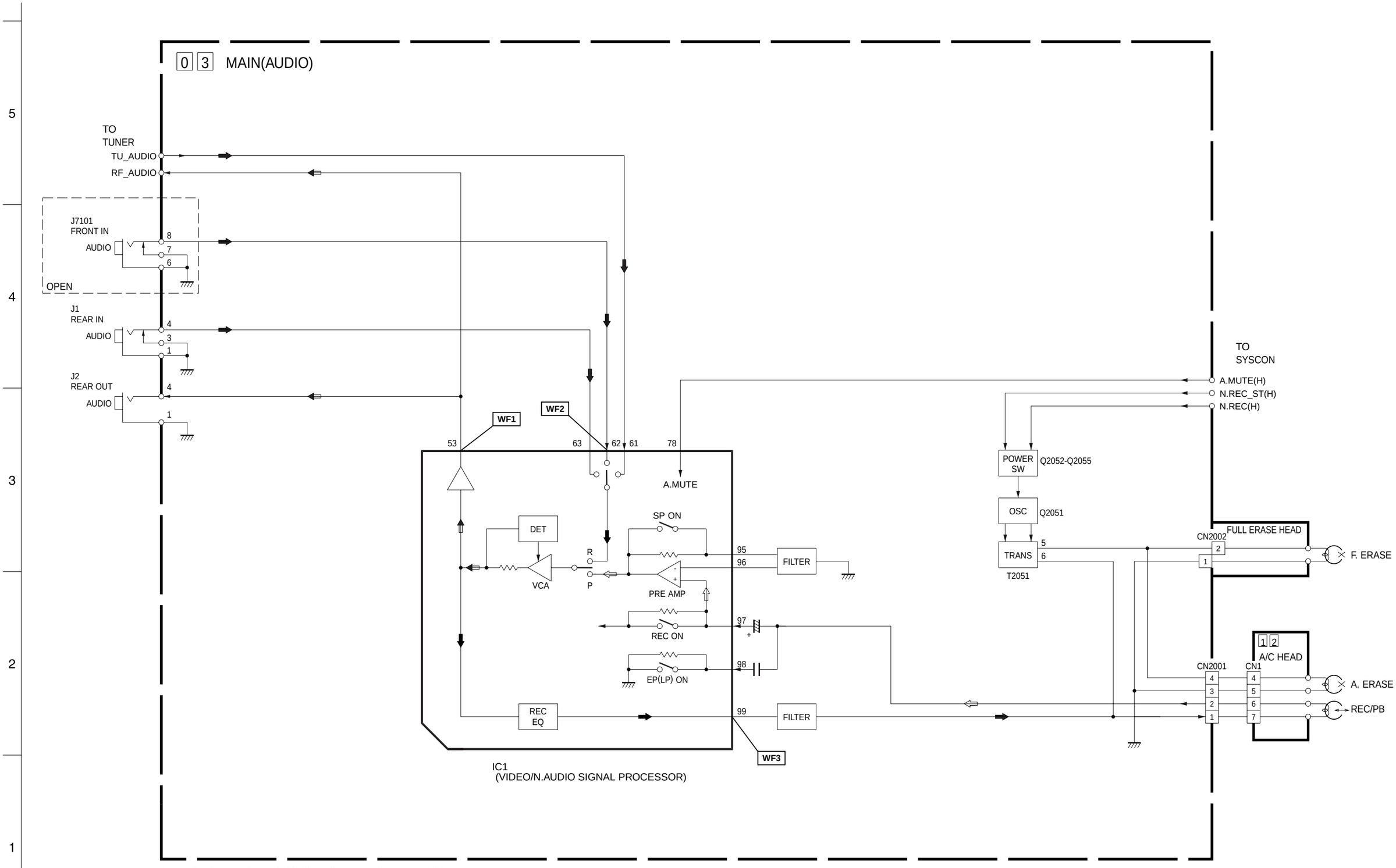
Note : For the waveforms in this block diagram, refer to page 4-22.

4.16 VIDEO BLOCK DIAGRAM



Note : For the waveforms in this block diagram, refer to page 4-22.

4.17 AUDIO BLOCK DIAGRAM



Note : For the waveforms in this block diagram, refer to page 4-22.

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