

SERVICE MANUAL

LC-32IE*2, LN-32IE*2
32inch TFT-LCD TV/MONITOR



2006. 09.05



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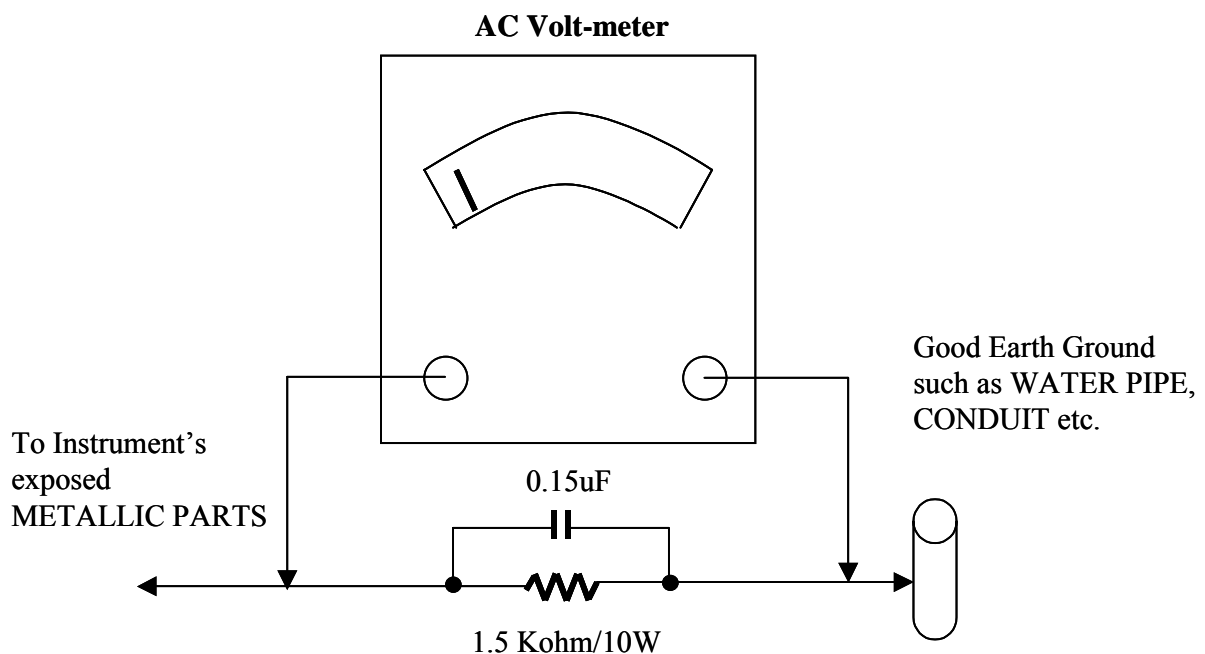
1. Safety Instructions

Important Safety Notice

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by in the Schematic Diagram and Replacement Parts List. It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent Shock, Fire, or other Hazards. Do not modify the original design without permission of manufacturer.

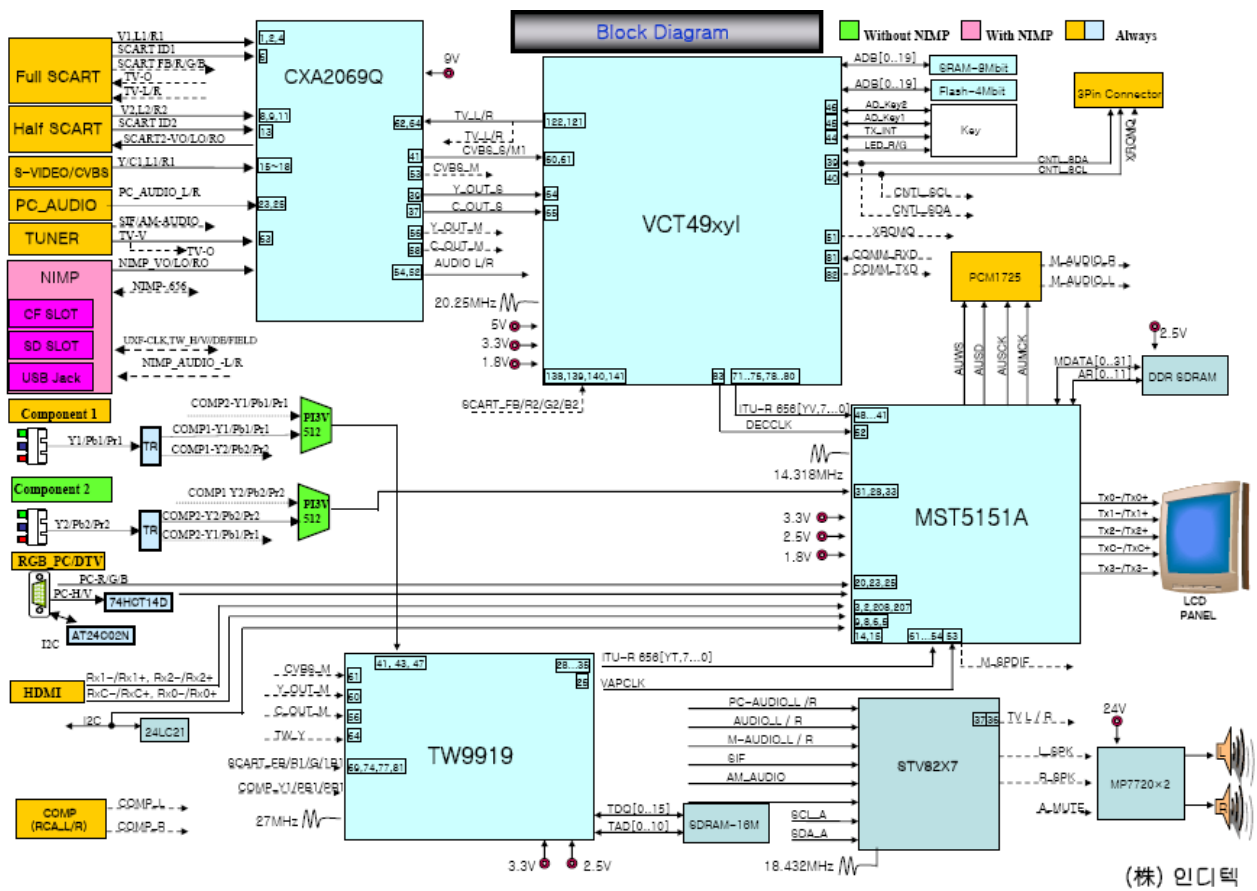
Leakage Current Hot Check (See below Figure)

Plug the AC cord directly into the AC outlet. Do not use a line Isolation Transformer during this check. Connect 1.5K/10watt resistor in parallel with a 0.15uF capacitor between a known good earth ground (Water Pipe, Conduit, etc) and the exposed metallic parts. Measure the AC voltage across the resistor using AC voltmeter with 1000 ohms/volt or more sensitivity. Reverse plug of the AC cord into the AC outlet and repeat AC voltage measurements for each exposed metallic part. Any voltage measured must not exceed 0.75 volt RMS, which is, corresponds to 0.5mA. In case any measurement is out of the limits specified, there is possibility of shock hazard and the set must be checked and repaired before it is returned to the customer.

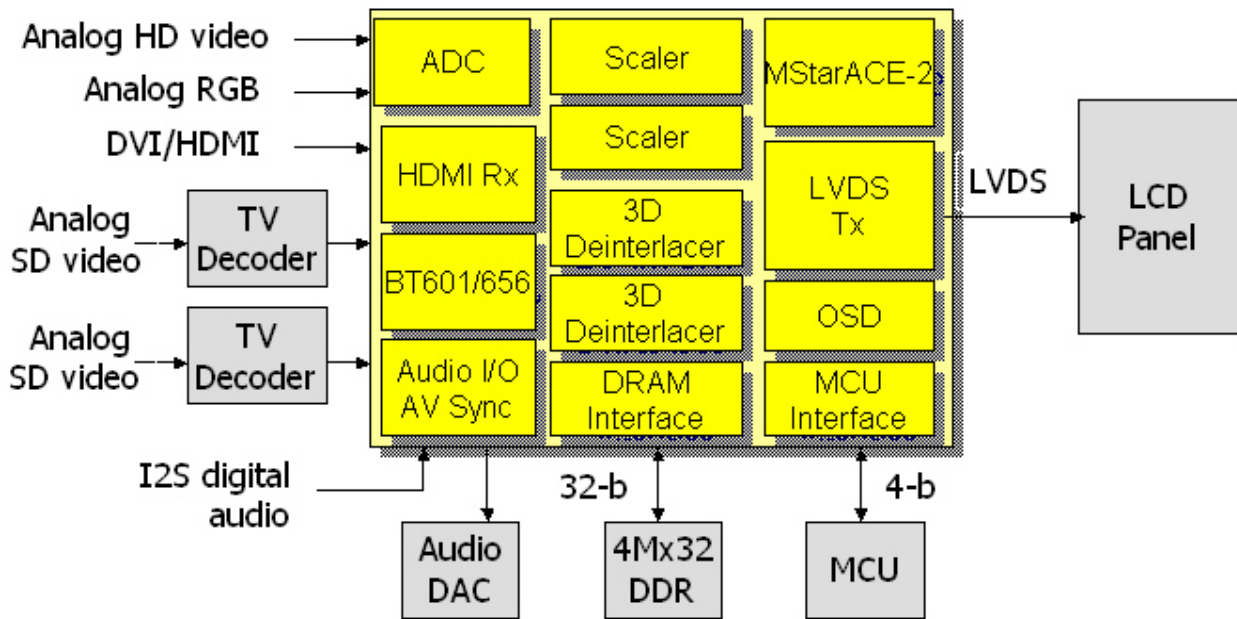


2. BLOCK DIAGRAM

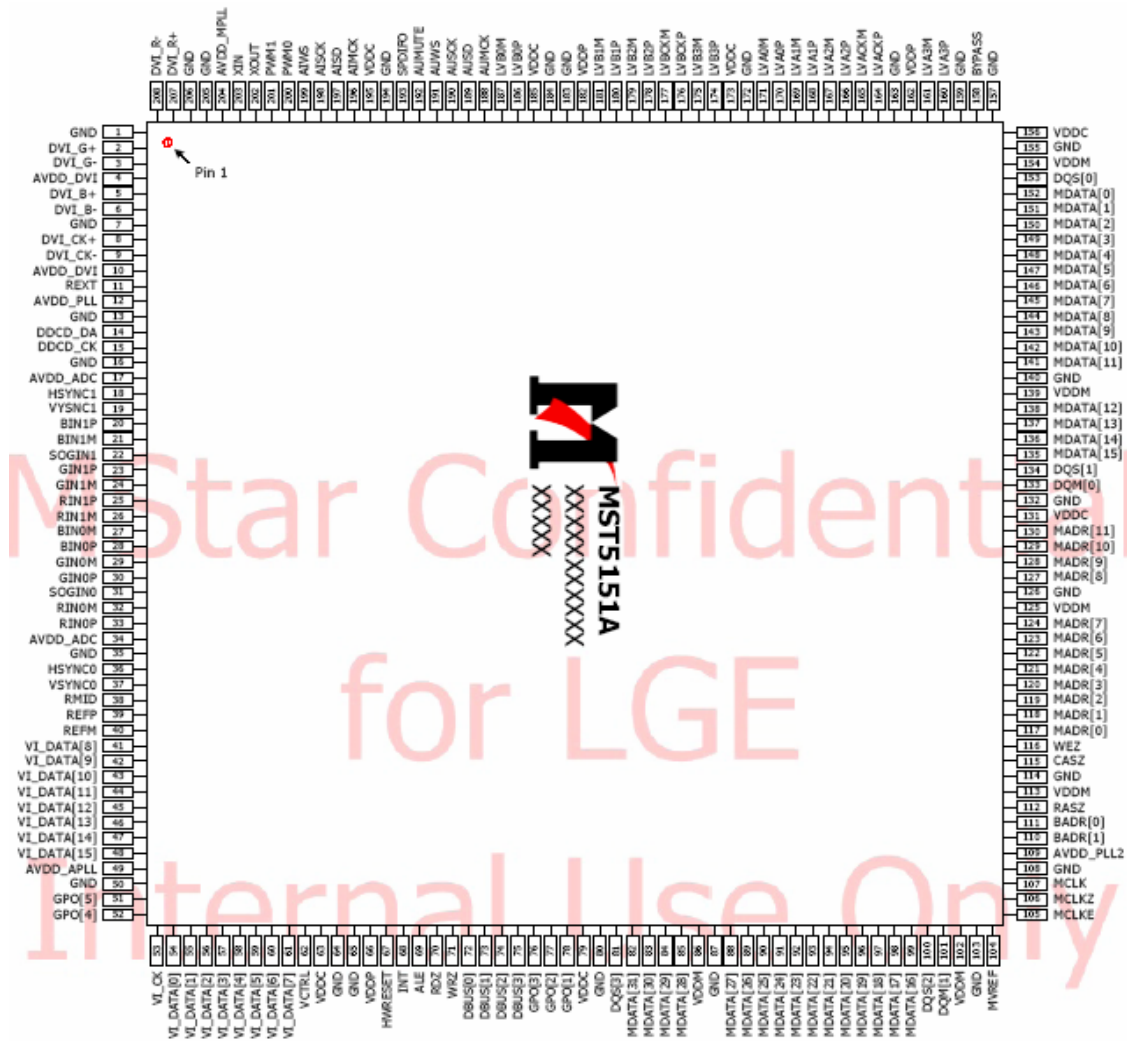
■ BLOCK DIAGRAM



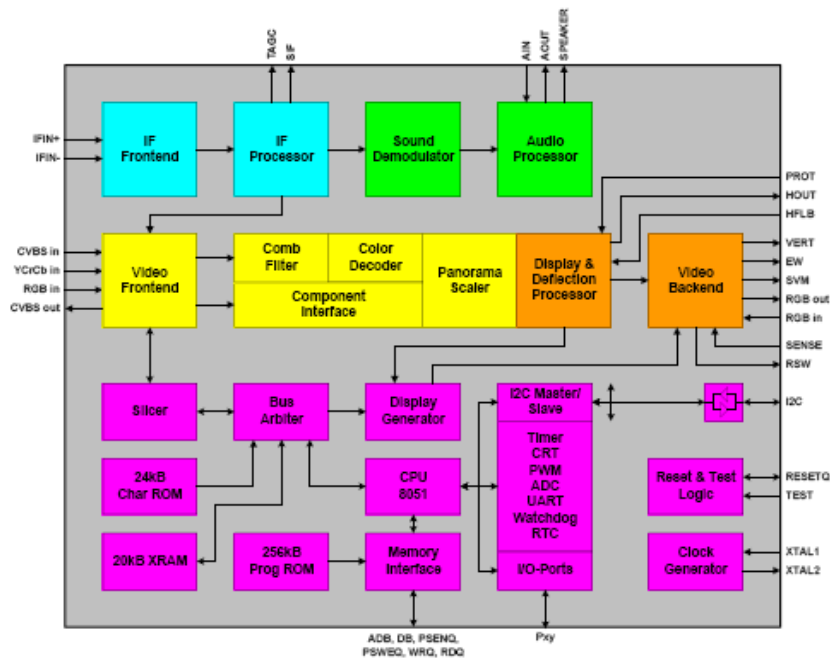
■ IC FUNCTIONAL BLOCK DIAGRAM (MST5151A)



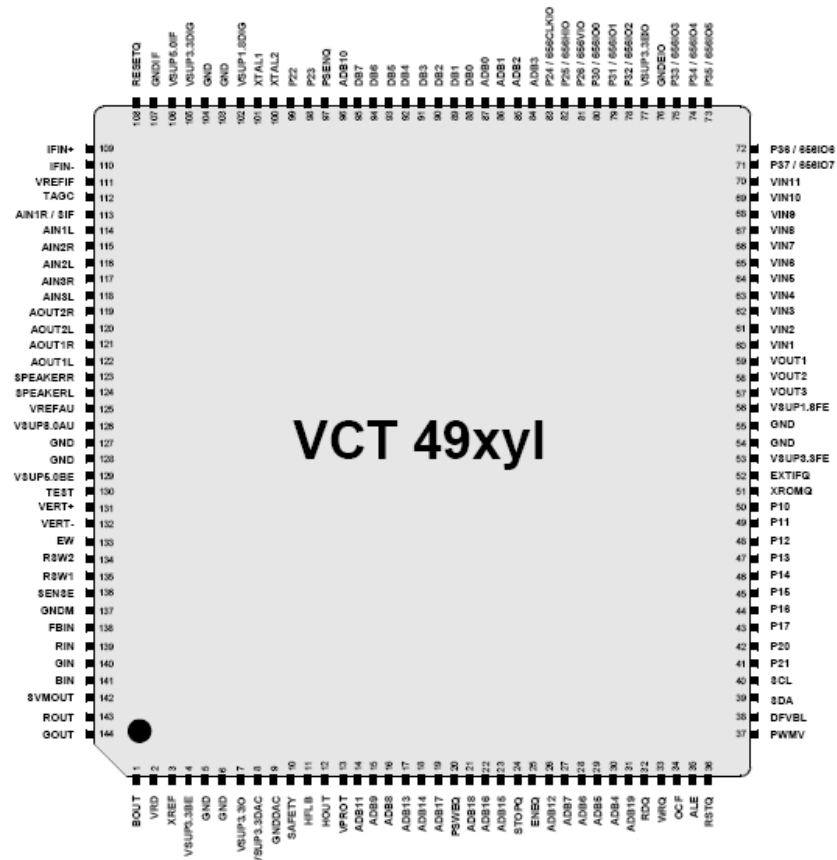
■ IC PIN ASSIGNMENT (MST5151A)



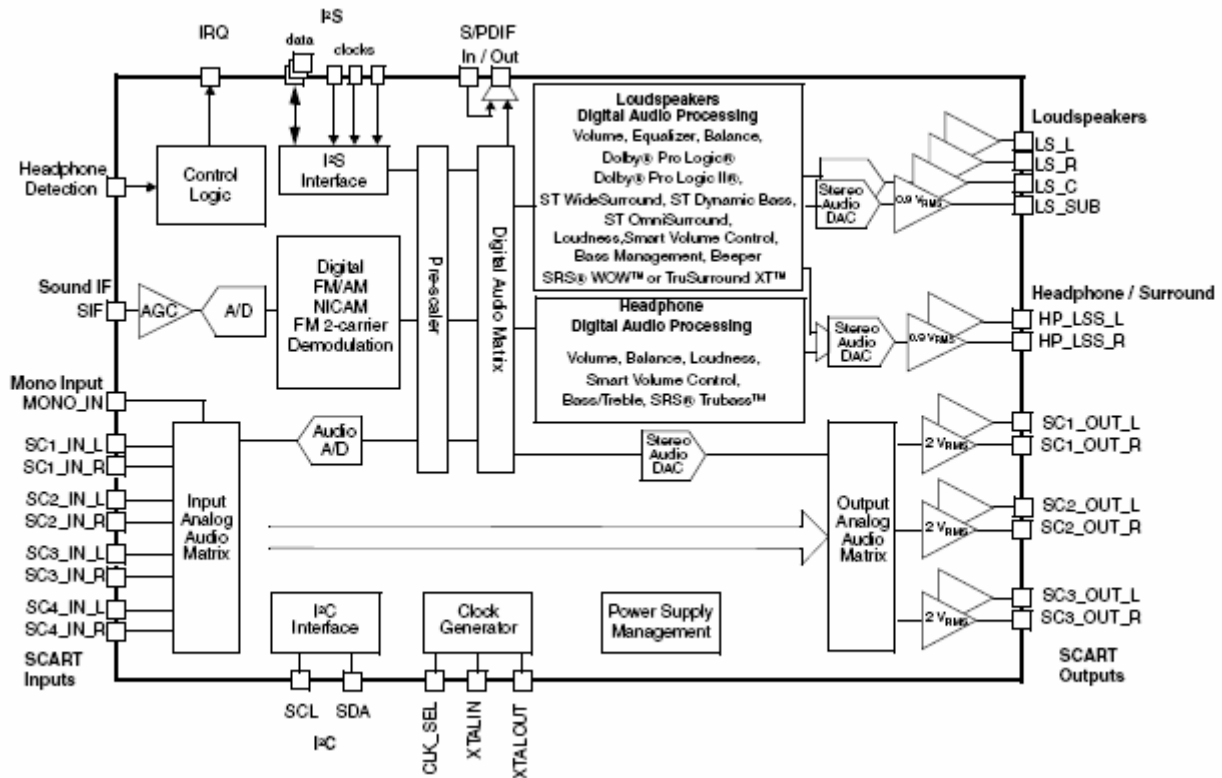
■ IC BLOCK DIAGRAM (VCT 49xx1)



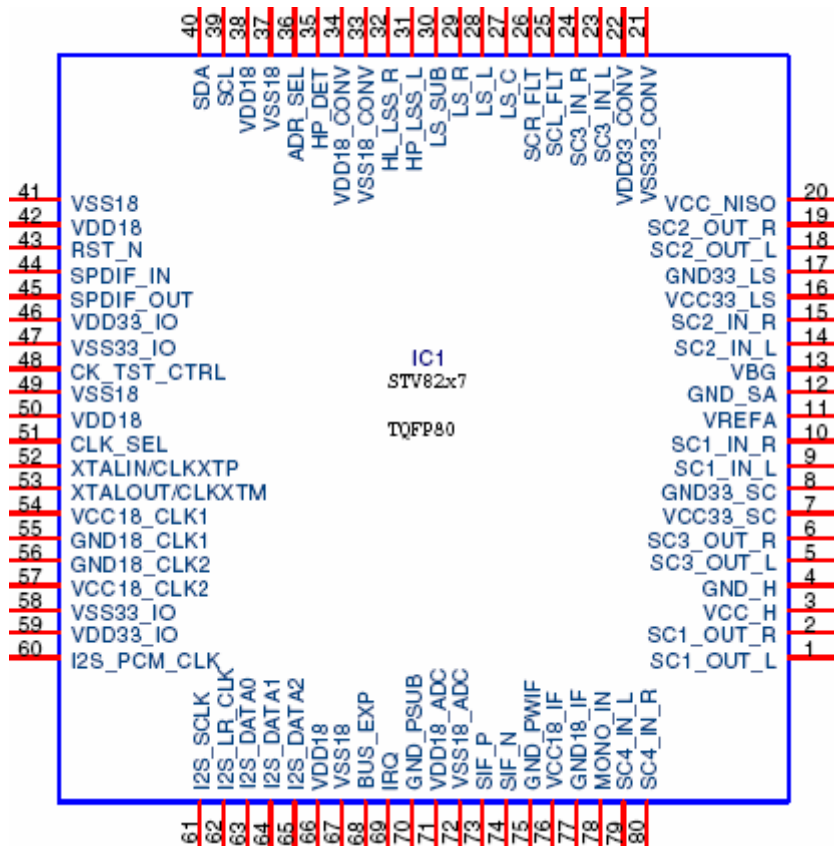
■ IC PIN OUT (VCT 49xxI)



■ IC BLOCK DIAGRAM (STV82*7 (TQFP80) ST)



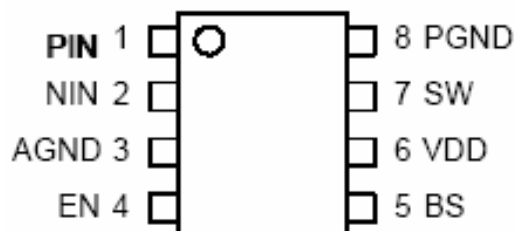
■ IC PIN OUT (STV82*7 (TQFP80) ST)



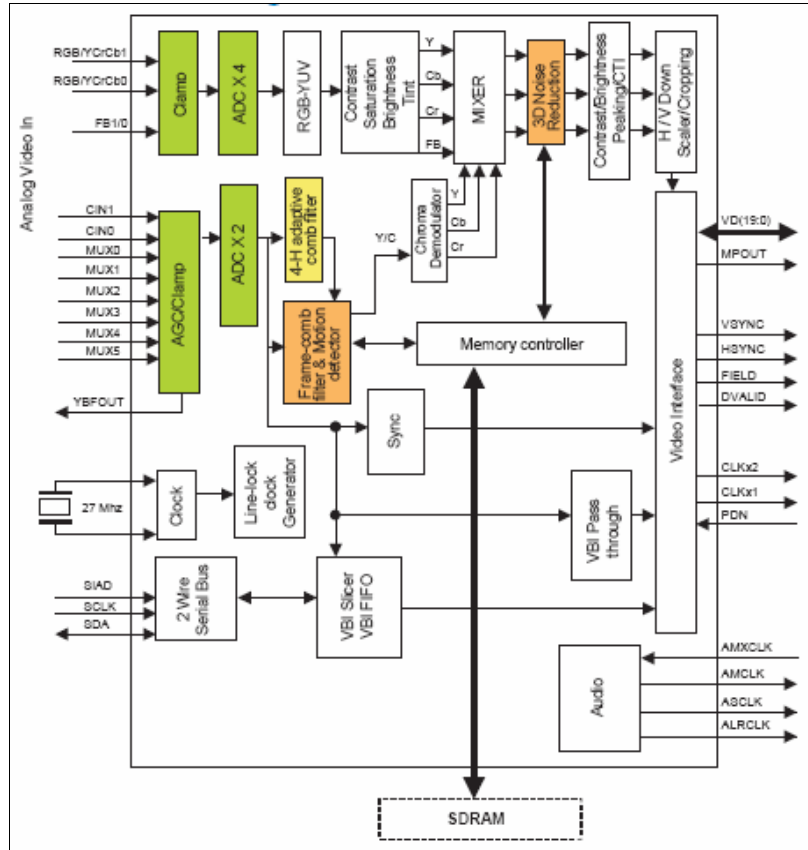
■ IC BLOCK DIAGRAM (MP7720)

- 20W output at $V_{DD}=24V$ into a 4Ω load
- THD+N as low as 0.06%
- 90% efficiency at 20W
- Low Quiescent Current (2mA)
- Switching Frequency to 1MHz
- 7.5V to 24V operation from single supply
- Integrated Start up and Shut Down Pop Elimination Circuit
- Thermal protection
- Integrated $180m\Omega$ switches
- Mute / Standby-mode (Sleep)
- **Tiny 8 Pin SOIC or PDIP Package**
- **Evaluation Board Available**

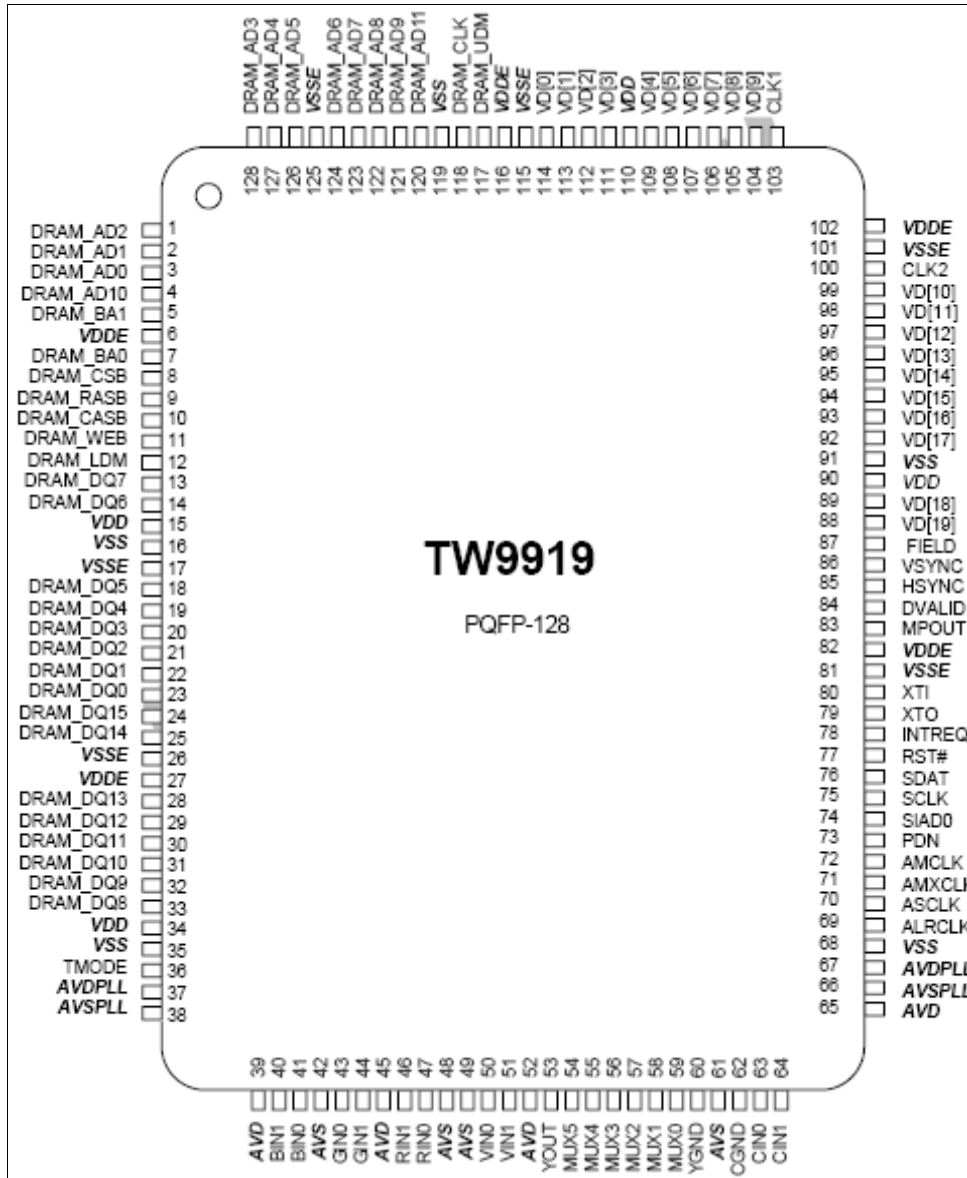
■ IC PIN OUT (MP7720)



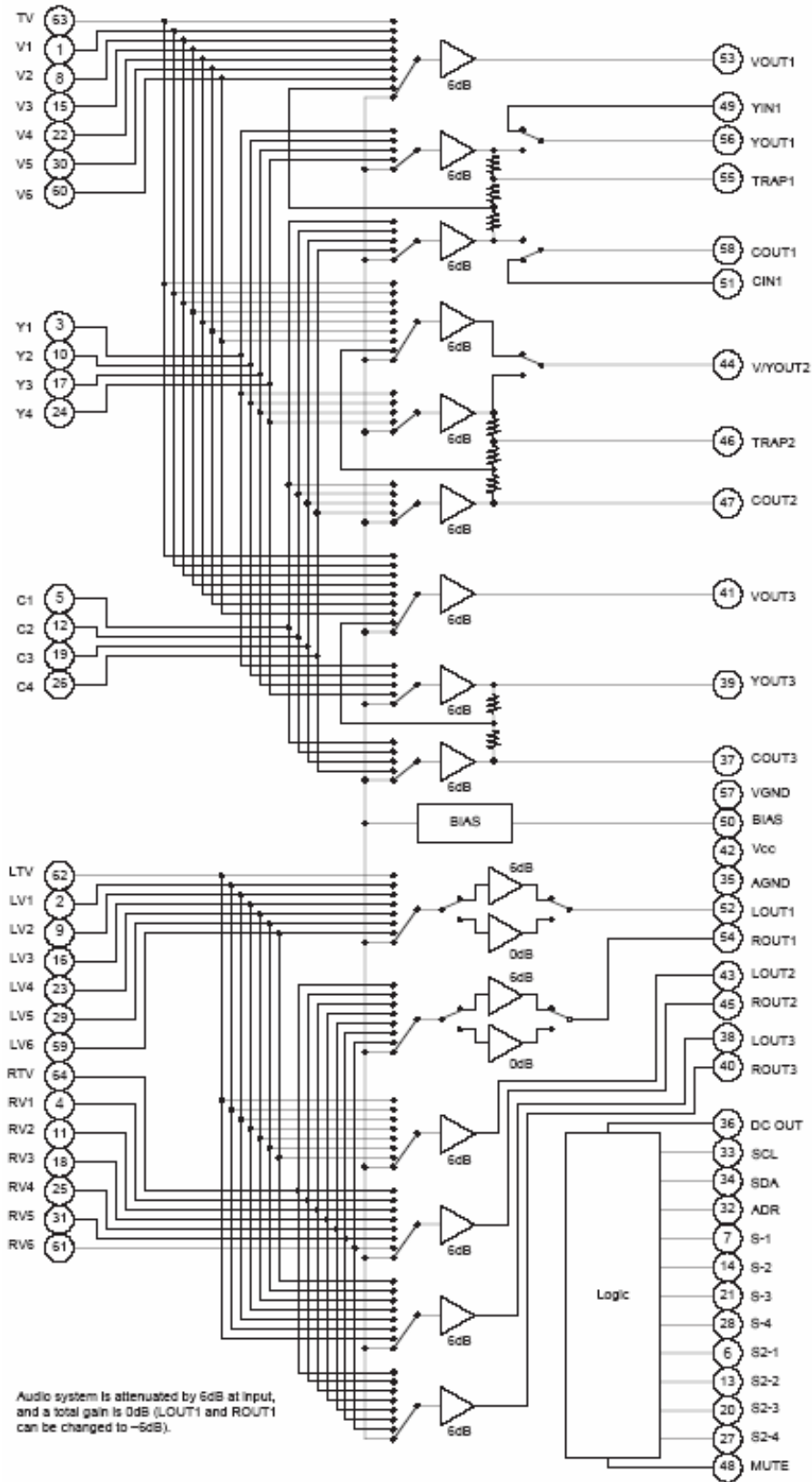
■ IC BLOCK DIAGRAM (TW9919)



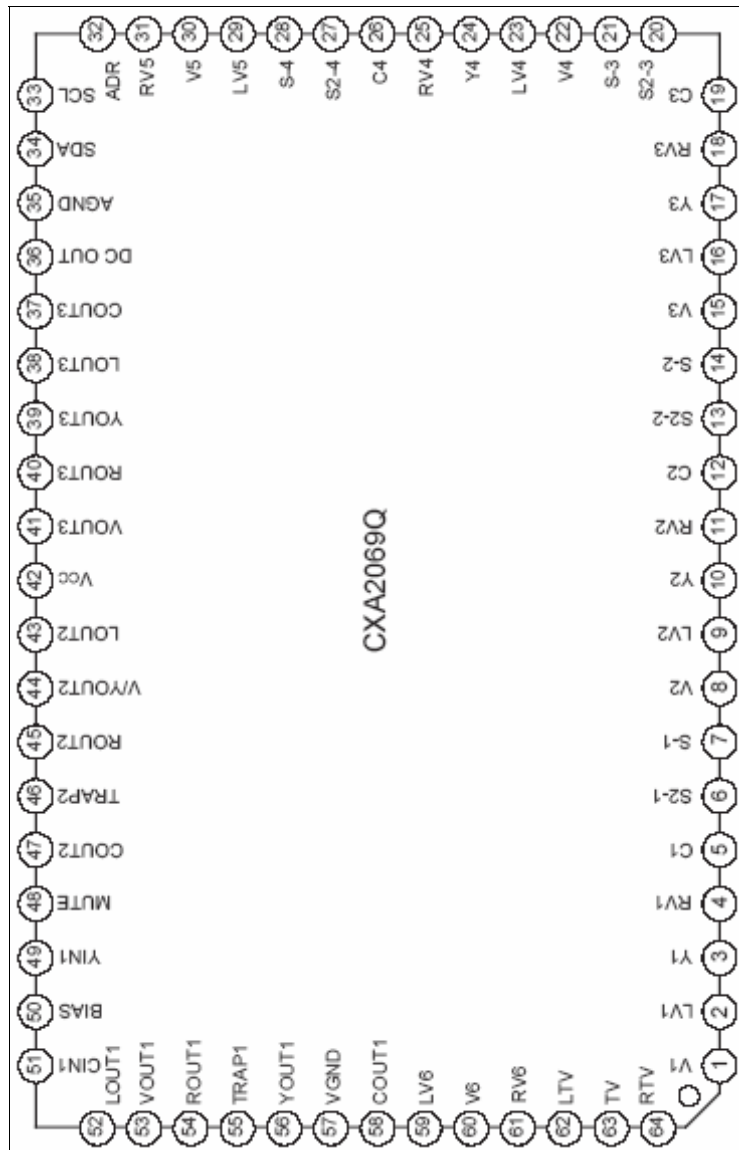
■ IC PIN OUT (TW9919)



■ IC BLOCK DIAGRAM (CXA2069Q)



■ IC PIN OUT (CXA2069Q)



3. General Specification

No	Item	Specification				Remark
		Min	Typ	Max	Unit	
1.	Video Input	1) NTSC M 2) NTSC 4.43 3) PAL 4) SECAM				3.579545 / 60 Hz 4.433618 / 60 Hz 4.433618 / 50 Hz 4.286 / 50 Hz
2.	Component Input	480i/59.94/60Hz 576i/50Hz 480p/59.94/60Hz 576p/50Hz 720p/50/59.94/60Hz 1080i/50/59.94/60Hz				Table 1. (Component)
3.	RGB DTV Input	480p/59.94/60Hz 576p/50Hz 720p/50/59.94/60Hz 1080i/50/59.94/60Hz				Table 2. (RGB DTV)
4.	DVI DTV Input	480p/59.94/60Hz 576p/50Hz 720p/50/59.94/60Hz 1080i/50/59.94/60Hz				Table 3. (DVI DTV)
5.	RGB PC Input	VGA (640x480) SVGA (800x600) XGA (1024x768) SXGA (1280x1024) UXGA (1600x1200) MAC				Table 4. (RGB PC)
6.	DVI PC Input	VGA (640x480) SVGA (800x600) XGA (1024x768) SXGA (1280x1024) UXGA (1600x1200) MAC				Table 5. (DVI PC)
7.	HDMI Input	480p/59.94/60Hz 576p/50Hz 720p/50/59.94/60Hz 1080i/50/59.94/60Hz				Table 2. (RGB DTV) →HDMI Input (digital interface with HDCP)
8.	Input Voltage	AC 100 ~ 240 V, 50hz / 60hz				
9.	External Interface	DVI/ DVI DTV/ HDMI Input		1		DVI-I Connector
		RGB PC/RGB DTV Input		1		D-Sub 15 Pin
		PC Sound Input		1		Ear-phone Jack (RGB PC,DVI)
		Component/L/R		1		RCA 2P
		COMPONENT Input		1		RCA 3P
		Full SCART Half SCART		1		SCART JACK
		SPDIF Output		1		OPTICAL JACK (HDMI)
		RF Input		1		-
S-VIDEO Input		1		S-VIDEO JACK		

■< Table 1. > Component Signal Resolution

No	Resolution	H-freq(KHz)	V-freq.(Hz)	Pixel lock(MHz)	Proposed
1.	720x480	15.73	59.94	13.500	SDTV,DD 480i(525i)
2.	720x480	15.75	60.00	13.514	SDTV,DD 480i(525i)
3.	720x576	15.625	50.00	13.500	SDTV,DD 576i(525i)
4.	720x480	31.47	59.94	27.000	SDTV 480p
5.	720x480	31.50	60.00	27.027	SDTV 480p
6.	720x576	31.25	50.00	27.000	SDTV 576p
7.	1280x720	44.96	59.94	74.176	HDTV 720p
8.	1280x720	45.00	60.00	74.250	HDTV 720p
9.	1280x720	37.50	50.00	74.25	HDTV 720p 50Hz
10.	1920x1080	33.72	59.94	74.176	HDTV 1080i
11.	1920x1080	33.75	60.00	74.250	HDTV 1080i
12.	1920x1080	28.125	50.00	74.250	HDTV 1080i 59Hz

■< Table 2. > RGB -DTV Signal Resolution

No	Resolution	H-freq(KHz)	V-freq.(Hz)	Pixel lock(MHz)	Proposed
1.	720x480	31.47	59.94	27.000	SDTV 480p
2.	720x480	31.50	60.00	27.027	SDTV 480p
3.	720x576	31.25	50.00	27.000	SDTV 576p
4.	1280x720	44.96	59.94	74.176	HDTV 720p
5.	1280x720	45.00	60.00	74.250	HDTV 720p
6.	1280x720	37.50	50.00	74.25	HDTV 720p 50Hz
7.	1920x1080	33.72	59.94	74.176	HDTV 1080i
8.	1920x1080	33.75	60.00	74.250	HDTV 1080i
9.	1920x1080	28.125	50.00	74.250	HDTV 1080i 59Hz

■< Table 3. > DVI- DTV Resolution

No	Resolution	H-freq(KHz)	V-freq.(Hz)	Pixel lock(MHz)	Proposed
1.	720x480	31.47	59.94	27.000	SDTV 480p
2.	720x480	31.50	60.00	27.027	SDTV 480p
3.	720x576	31.25	50.00	27.000	SDTV 576p
4.	1280x720	44.96	59.94	74.176	HDTV 720p
5.	1280x720	45.00	60.00	74.250	HDTV 720p
6.	1280x720	37.50	50.00	74.25	HDTV 720p 50Hz
7.	1920x1080	33.72	59.94	74.176	HDTV 1080i
8.	1920x1080	33.75	60.00	74.250	HDTV 1080i
9.	1920x1080	28.125	50.00	74.250	HDTV 1080i 59Hz

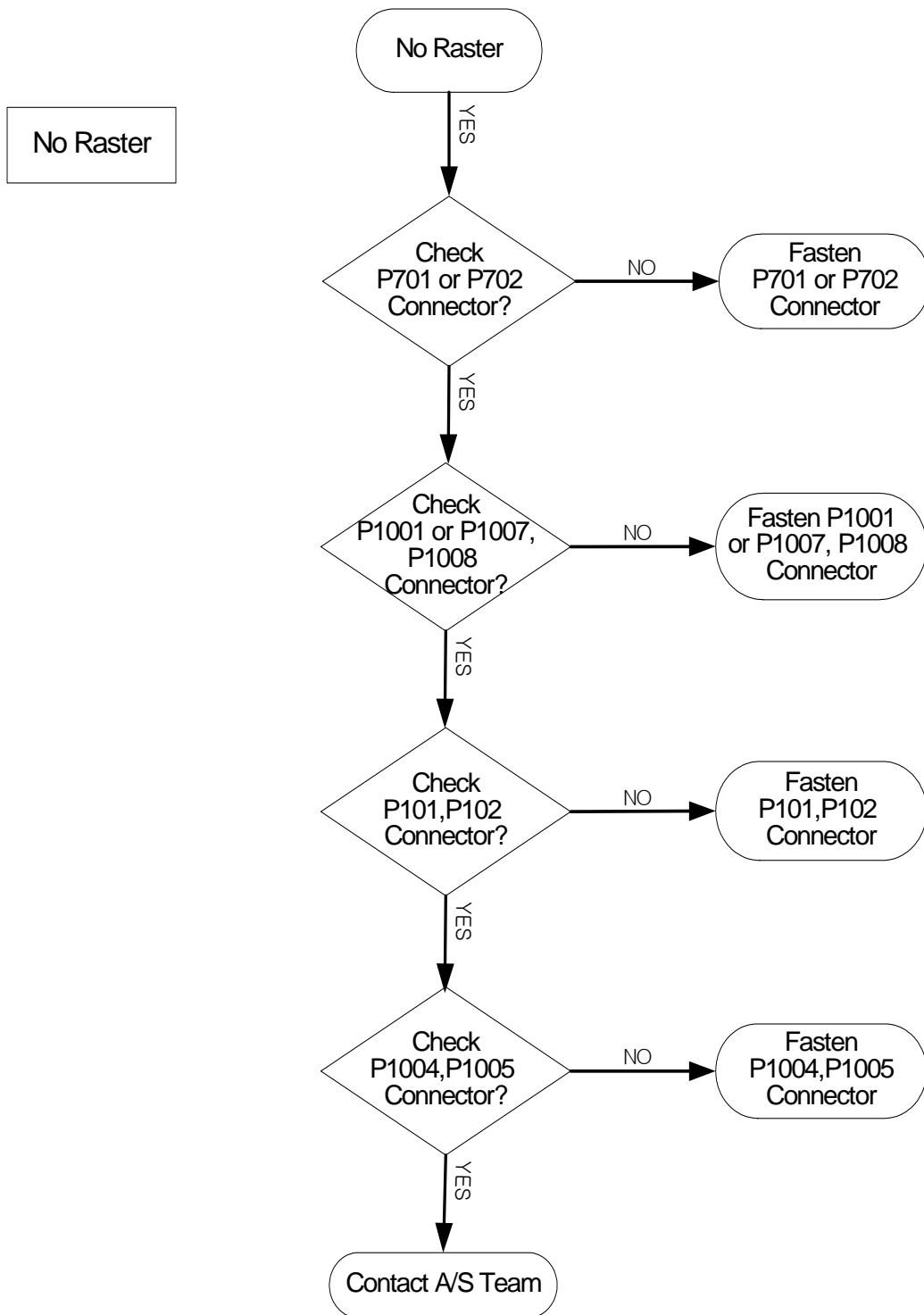
■ < Table 4. > RGB -PC Signal Resolution

No	Resolution	H-freq(KHz)	V-freq.(Hz)	Pixel clock(MHz)	Proposed
1.	640x350	31.469	70.08	25.17	DOS
2.	720x400	31.469	70.08	28.32	DOS
3.	720x400	37.927	85.03	35.50	DOS
4.	640x480	31.469	59.94	25.17	VESA(VGA)
5.	640x480	37.861	72.80	31.50	VESA(VGA)
6.	640x480	37.500	75.00	31.50	VESA(VGA)
7.	640x480	43.269	85.00	36.00	VESA(VGA)
8.	800x600	35.156	56.25	36.00	VESA(SVGA)
9.	800x600	37.879	60.31	40.00	VESA(SVGA)
10.	800x600	48.077	72.18	50.00	VESA(SVGA)
11.	800x600	46.875	75.00	49.50	VESA(SVGA)
12.	800x600	53.674	85.06	56.25	VESA(SVGA)
13.	832x624	49.725	74.55	57.28	Macintosh
14.	1024x768	48.363	60.00	65.00	VESA(XGA)
15.	1024x768	56.476	70.06	75.00	VESA(XGA)
16.	1024x768	60.023	75.02	78.75	VESA(XGA)
17.	1024x768	68.677	85.00	95.62	VESA(XGA)
18.	1280x768	47.693	60.0	80.12	VESA(WXGA)
19.	1280x768	60.091	75.0	102.87	VESA(WXGA)
20.	1280x768	68.504	85.0	118.37	VESA(WXGA)
21.	1280x1024	64.000	60.00	108.000	VESA(SXGA)
22.	1280x1024	74.405	69.99	125.000	VESA(SXGA)
23.	1280x1024	80.000	75.00	135.000	VESA(SXGA)
24.	1280x1024	91.100	85.00	157.500	VESA(SXGA)
25.	1600x1200	75.000	60.00	162.000	VESA(UXGA)

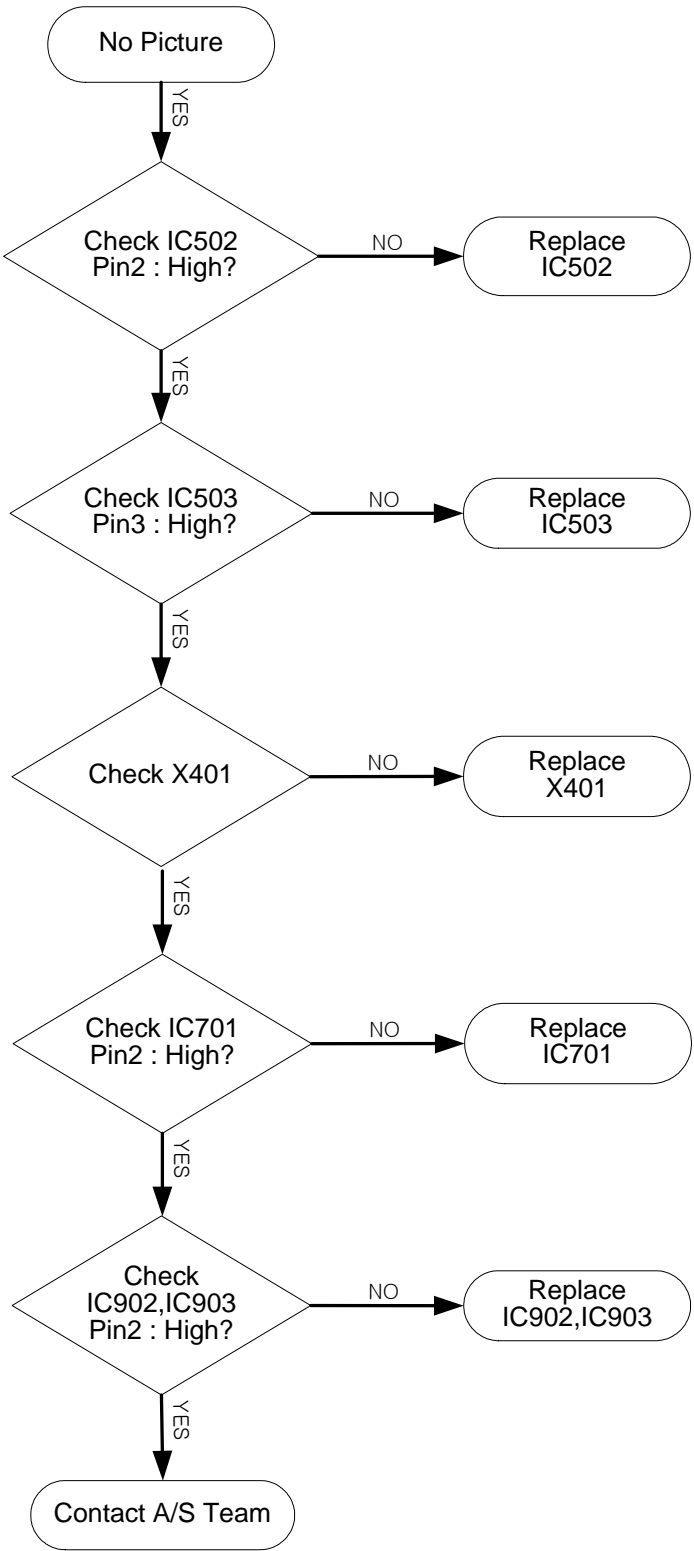
■ < Table 5. > DVI -PC Signal Resolution

No	Resolution	H-freq(KHz)	V-freq.(Hz)	Pixel lock(MHz)	Proposed
1.	640x350	31.469	70.08	25.17	DOS
2.	720x400	31.469	70.08	28.32	DOS
3.	720x400	37.927	85.03	35.50	DOS
4.	640x480	31.469	59.94	25.17	VESA(VGA)
5.	640x480	37.861	72.80	31.50	VESA(VGA)
6.	640x480	37.500	75.00	31.50	VESA(VGA)
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20.	1280x768	68.504	85.0	118.37	VESA(WXGA)
21.	1280x1024	64.000	60.00	108.000	VESA(SXGA)
22.	1280x1024	74.405	69.99	125.000	VESA(SXGA)
23.	1280x1024	80.000	75.00	135.000	VESA(SXGA)
24.	1280x1024	91.100	85.00	157.500	VESA(SXGA)
25.	1600x1200	75.000	60.00	162.000	VESA(UXGA)

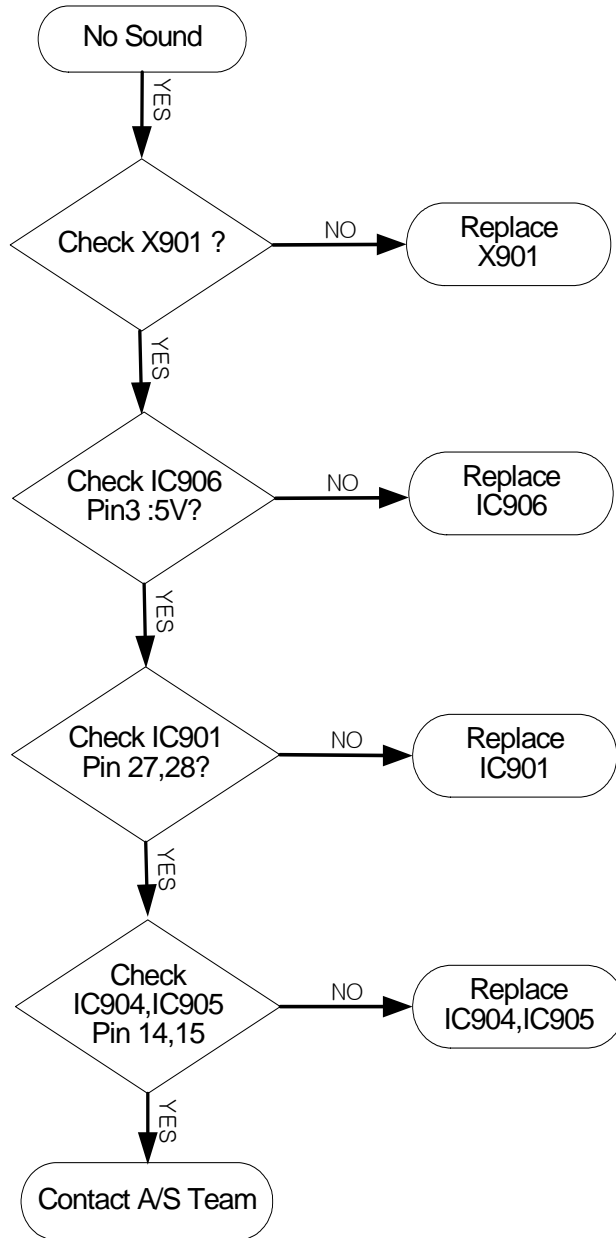
4. TROUBLESHOOTING



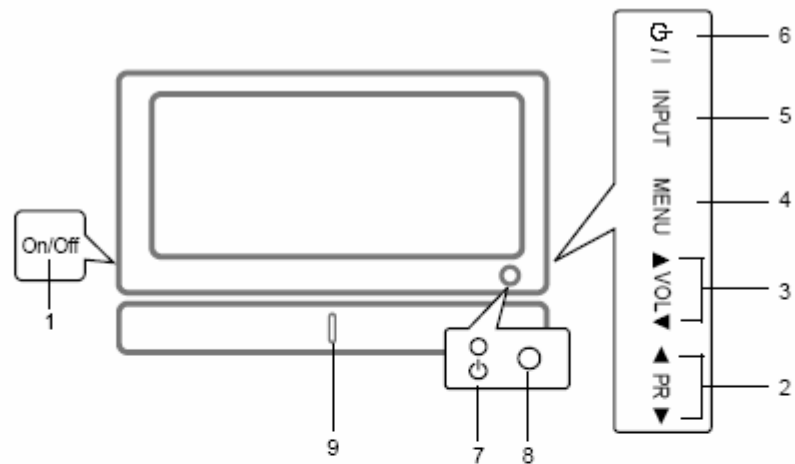
No Picture



No Sound

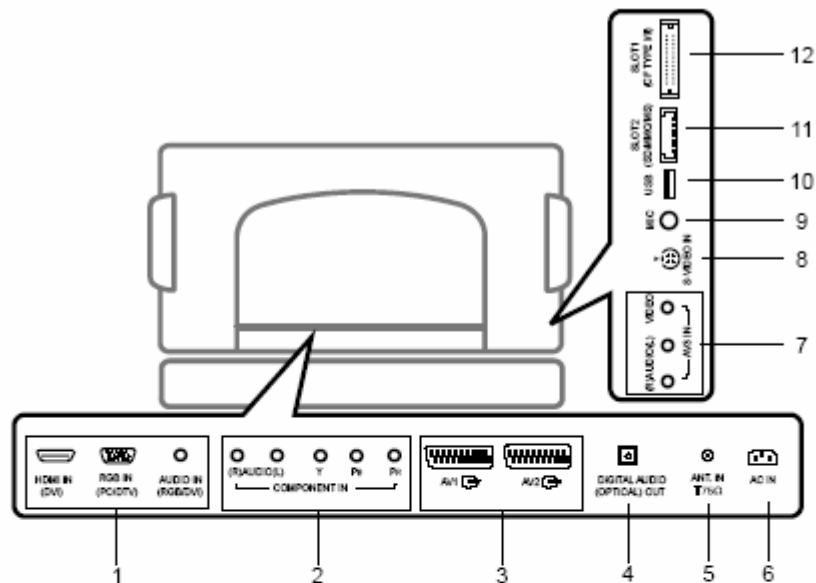


5. CONTROLS OF FRONT PANEL



- | | |
|---|--|
| <p>1. MAIN POWER
switches the set On or Off.</p> <p>2. ▲ / ▼ (Programme Up/Down)
selects a programme or a menu item.
switches the set On from standby.</p> <p>3. ◀ / ▶ (Volume Down/Up)
adjusts the volume.
adjusts menu settings.</p> <p>4. MENU
selects a menu.</p> | <p>5. INPUT
selects TV, AV1, AV2, AV3, S-VIDEO, COMPONENT, PC-RGB, HDMI, NIMP mode.</p> <p>6. POWER (Ⓞ)
switches the set On from standby or On to standby.</p> <p>7. POWER/STANDBY INDICATOR (Ⓞ)
illuminates red in standby mode.
illuminates green when the set is switched On.</p> <p>8. REMOTE CONTROL SENSOR</p> <p>9. Front Light LED</p> |
|---|--|

6. CONNECTIONS OF BACK PANEL



1. HDMI IN / RGB IN / AUDIO IN SOCKETS

Connect the set output socket of the PERSONAL COMPUTER to this socket.

2. AUDIO IN / COMPONENT IN (480i / 480p / 576i / 576p / 720p / 1080i) SOCKETS

3. EURO SCART SOCKET

connect the euro scart socket of the VCR to these sockets.

4. DIGITAL AUDIO (OPTICAL) OUT

Connect digital audio from various types of equipment.
Note : In standby mode, these ports will not work.

5. AERIAL SOCKET

6. POWER CORD SOCKET

This set operates on an AC power. The voltage is indicated on the Specifications page. Never attempt to operate the set on DC power.

7. AUDIO/VIDEO SOCKET

Connect the audio/video out sockets of the VCR to AV sockets of the set.

8. S-VIDEO IN

connect video out from an S-VIDEO VCR to the S-VIDEO input.

9. MIC

Microphone socket.

10. USB

USB Host socket.

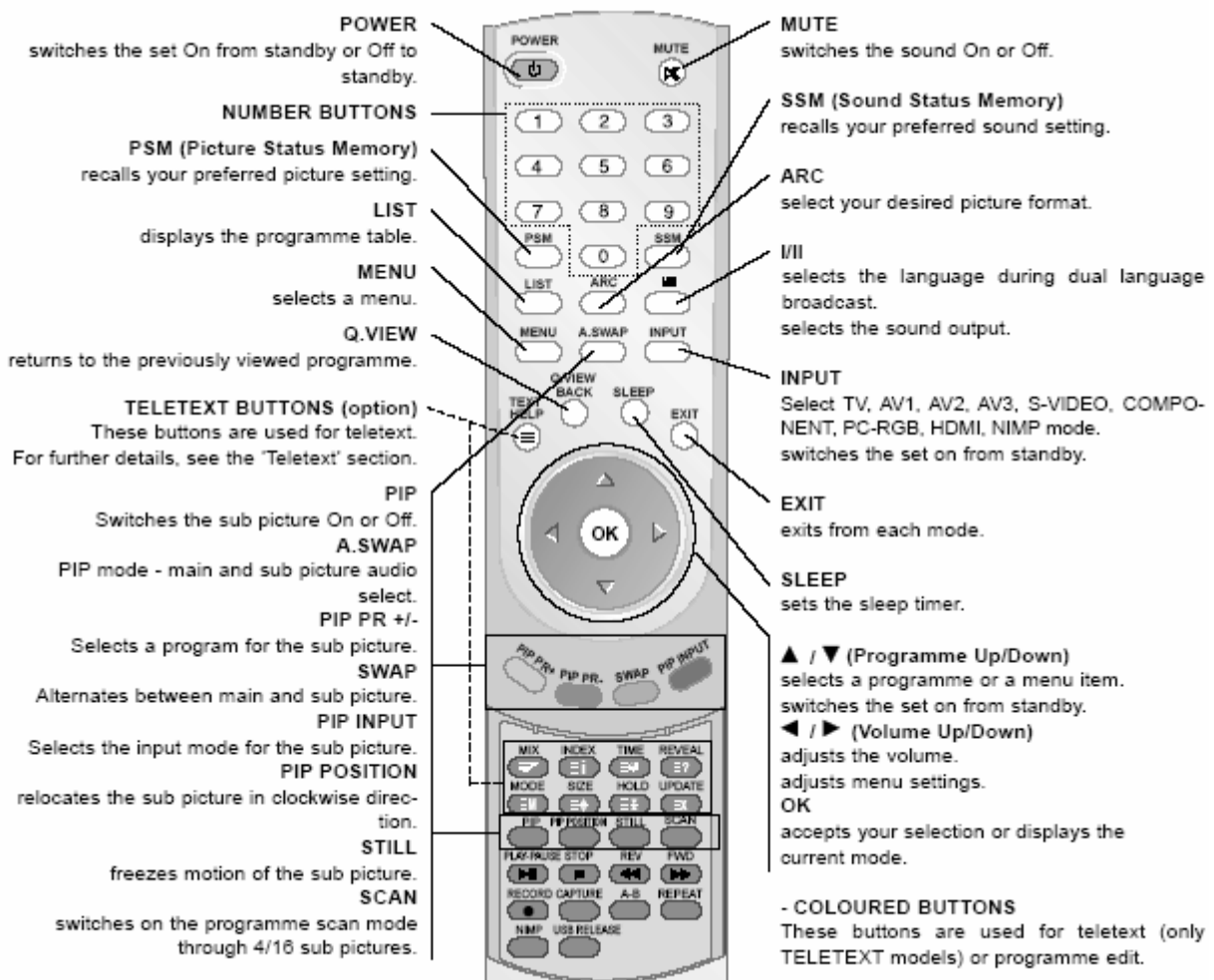
11. SLOT2

SD/MMC/MS card socket.

12. SLOT1

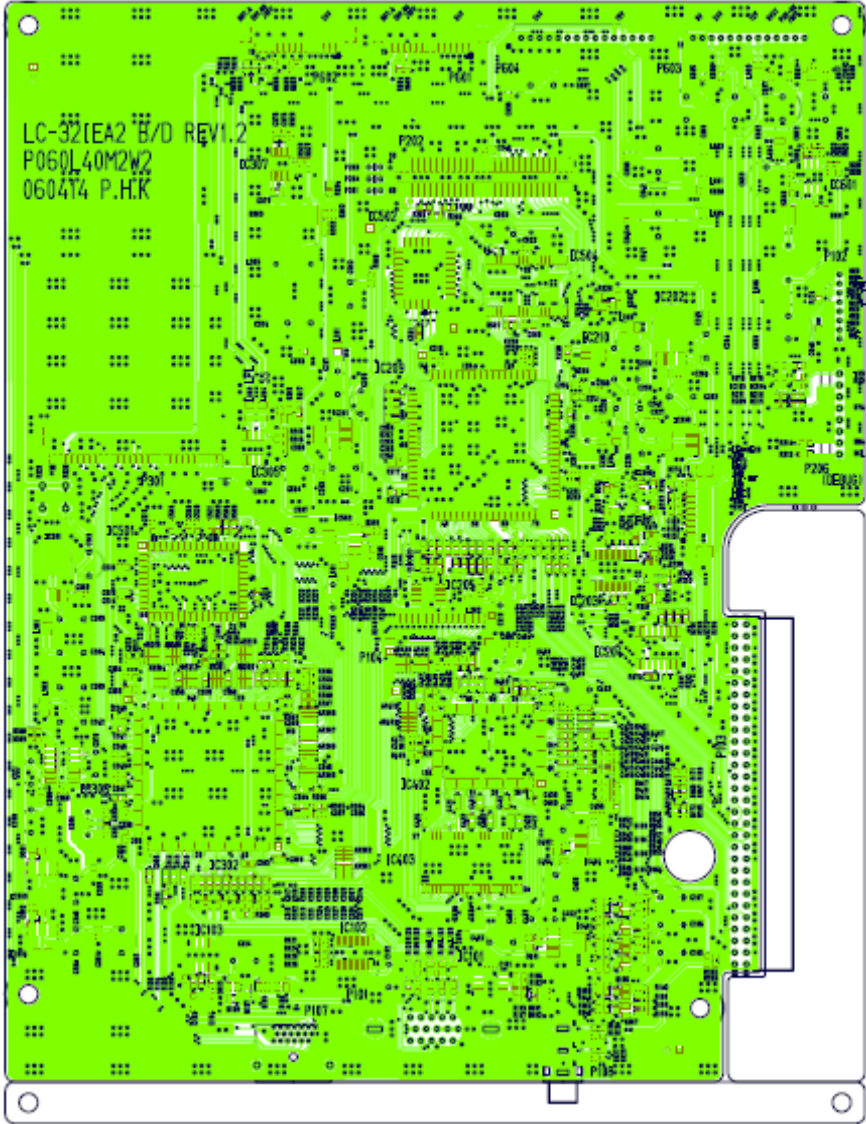
CF TYPE I/II card socket.

7. REMOTE CONTROL HANDSET



8. PCB LAYOUT

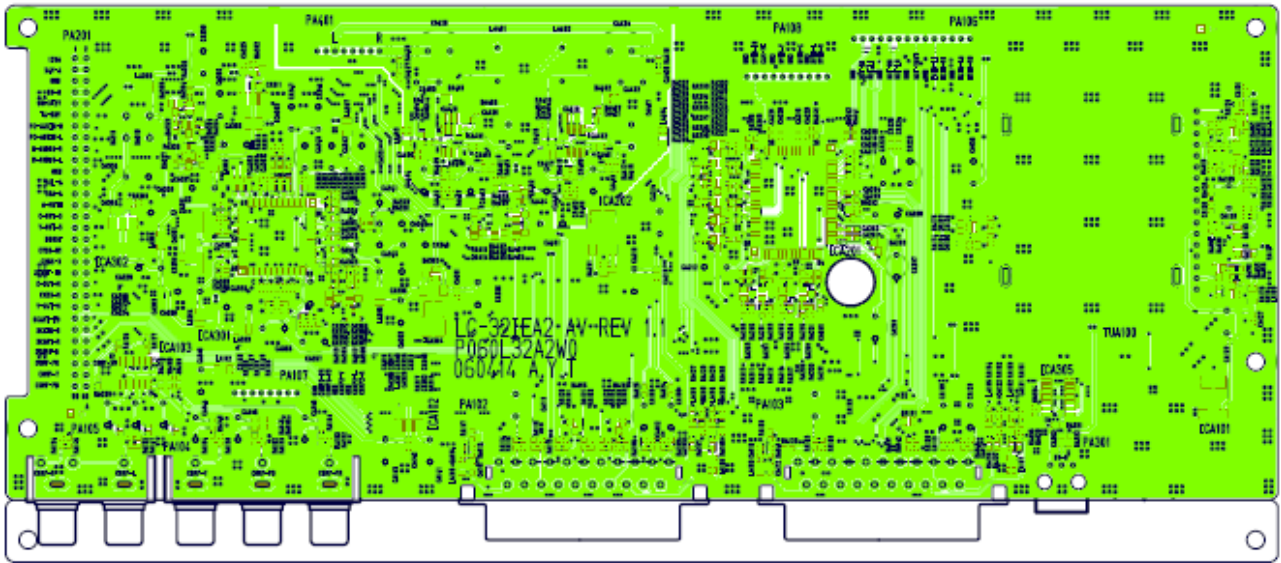
■MAIN TOP SILK



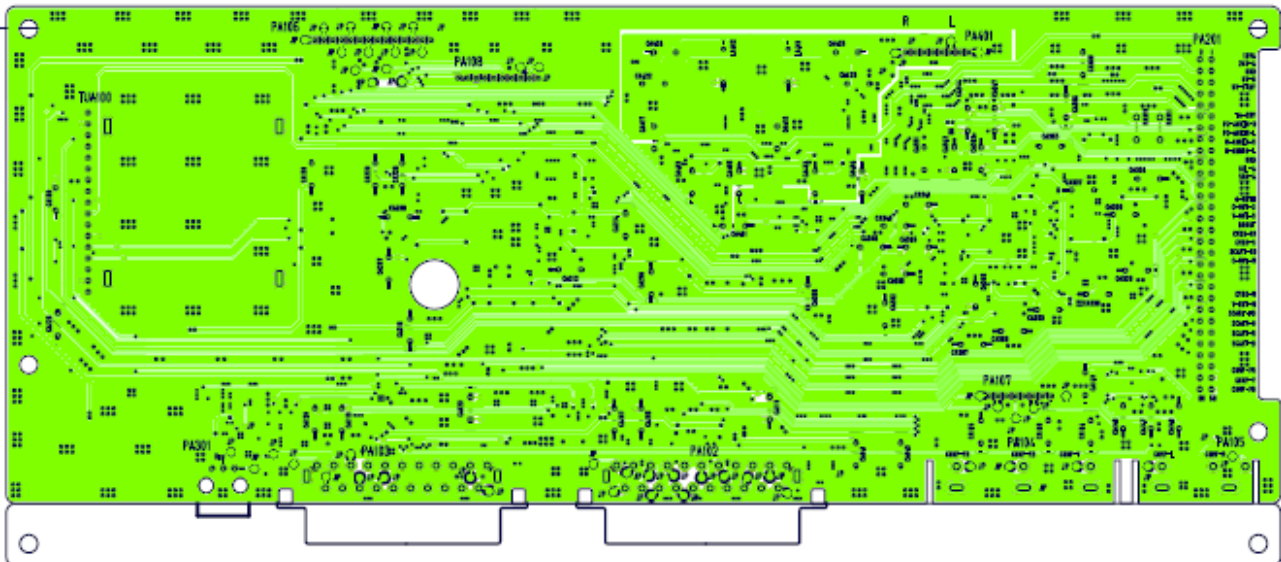
■MAIN BOTTOM SILK



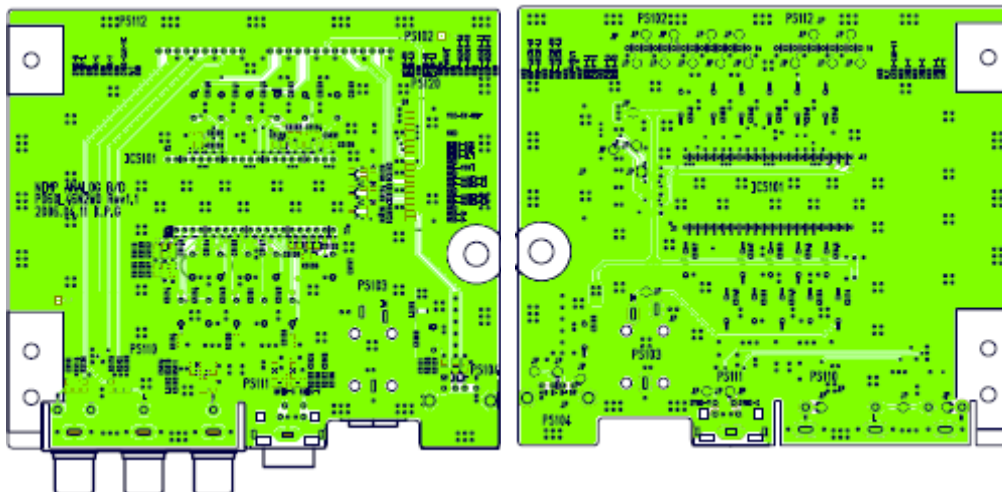
■AV TOP SILK



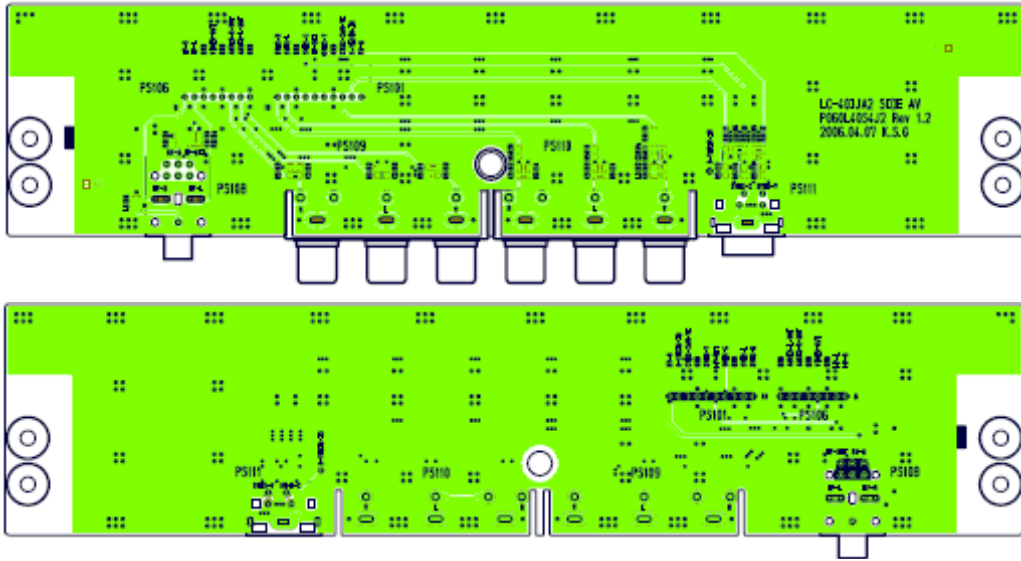
■AV BOTTOM SILK



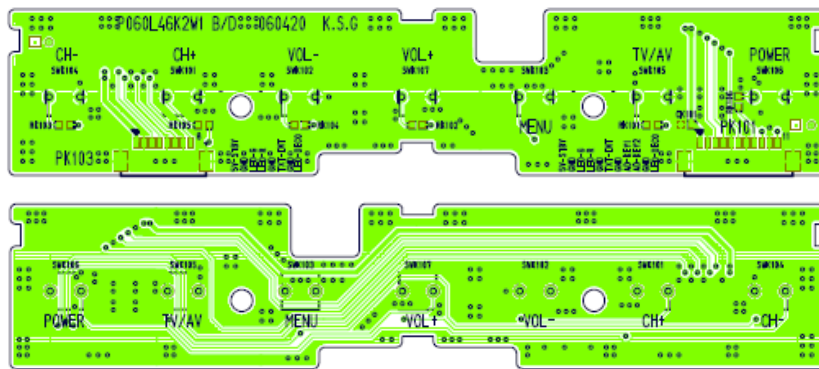
■NIMP AV PCB



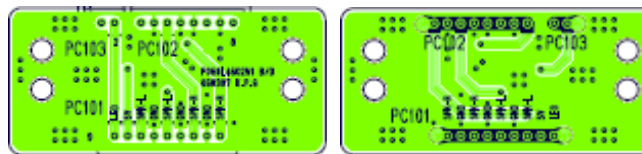
■SIDE AV PCB



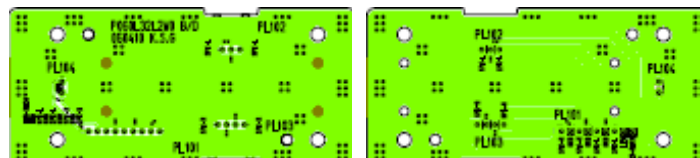
■KEY PCB



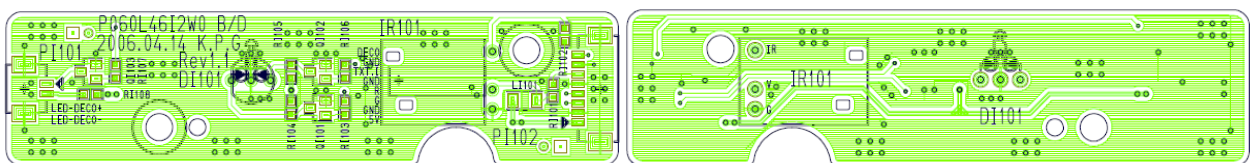
■AUDIO OUT PCB



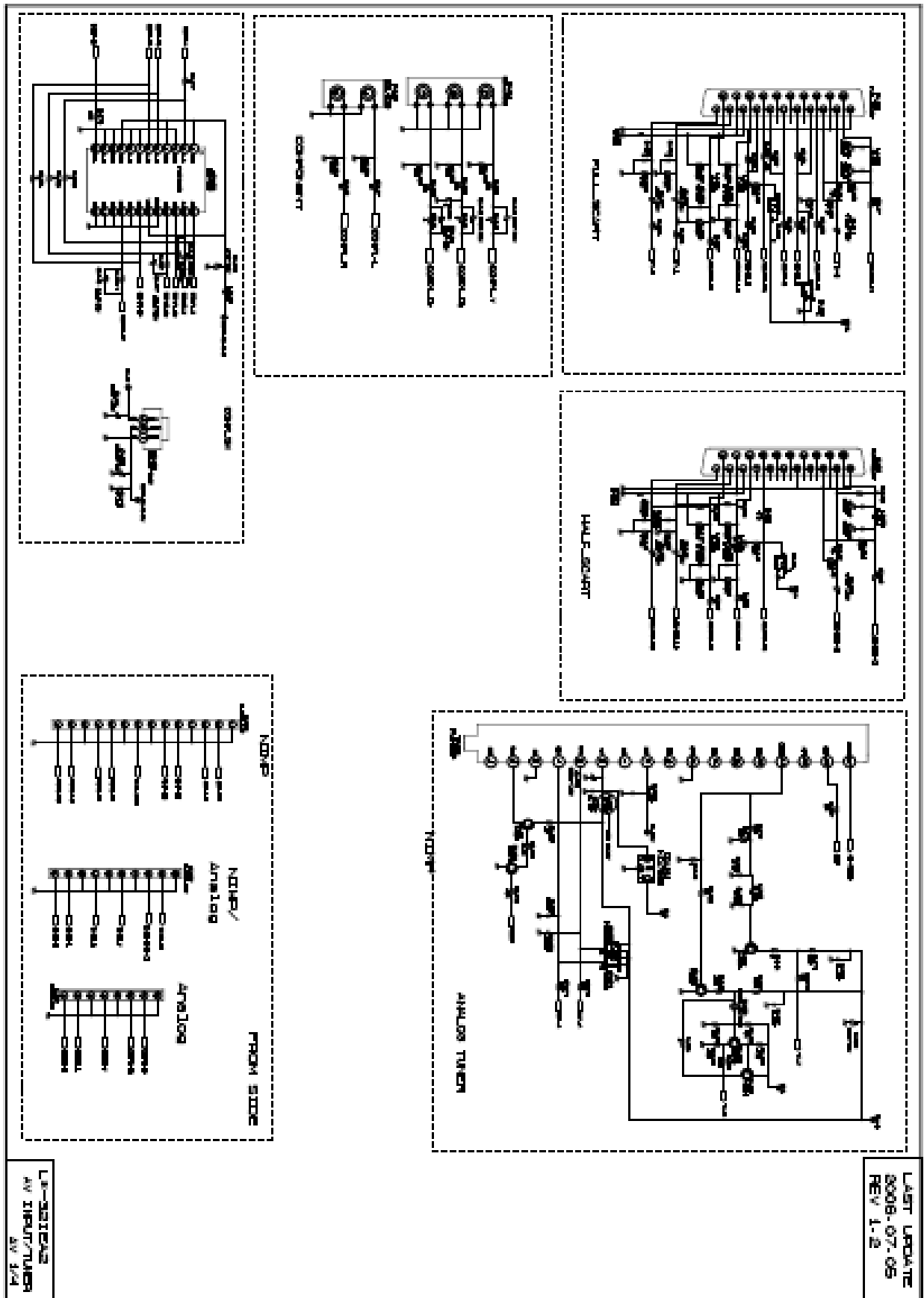
■LAMP PCB



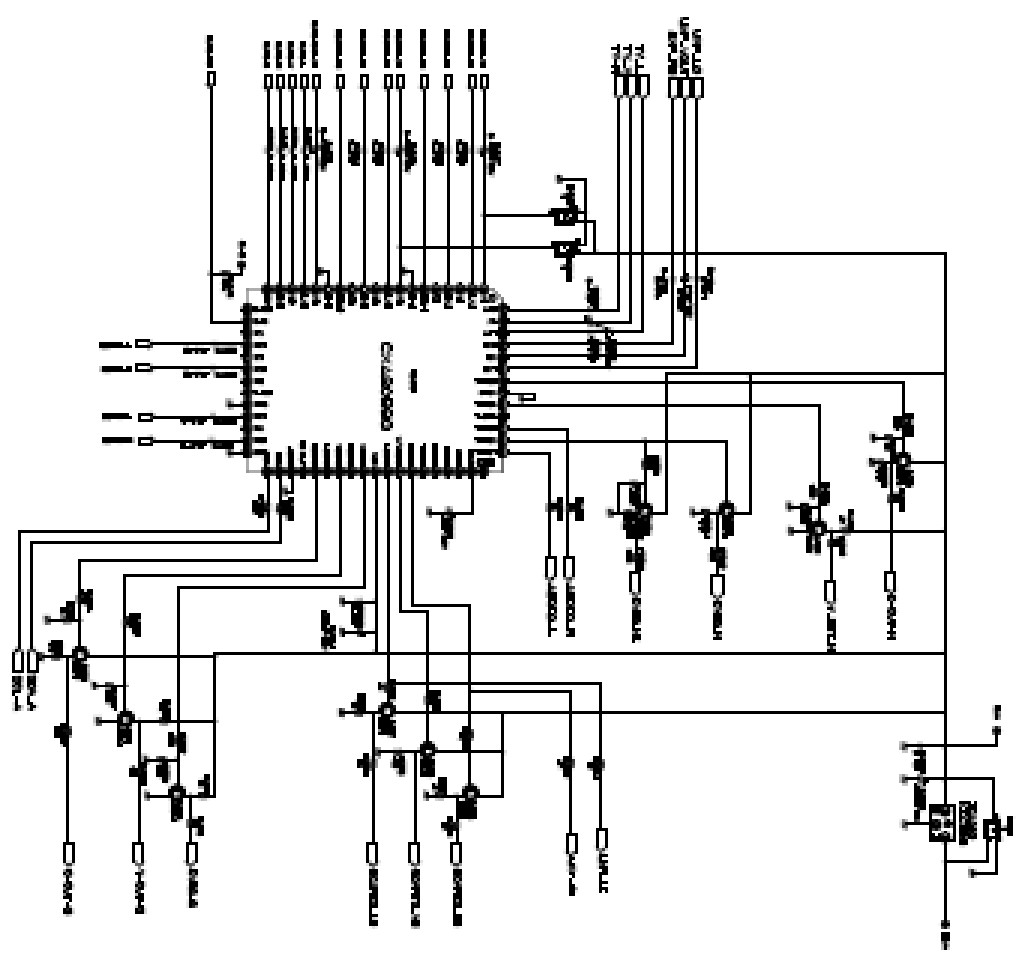
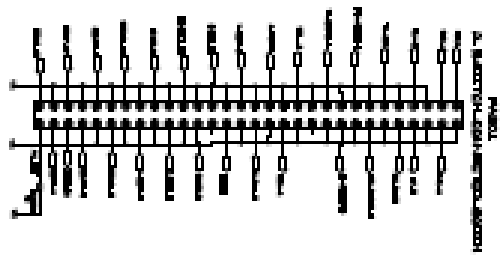
■IR PCB



9. SCHEMATIC DIAGRAM

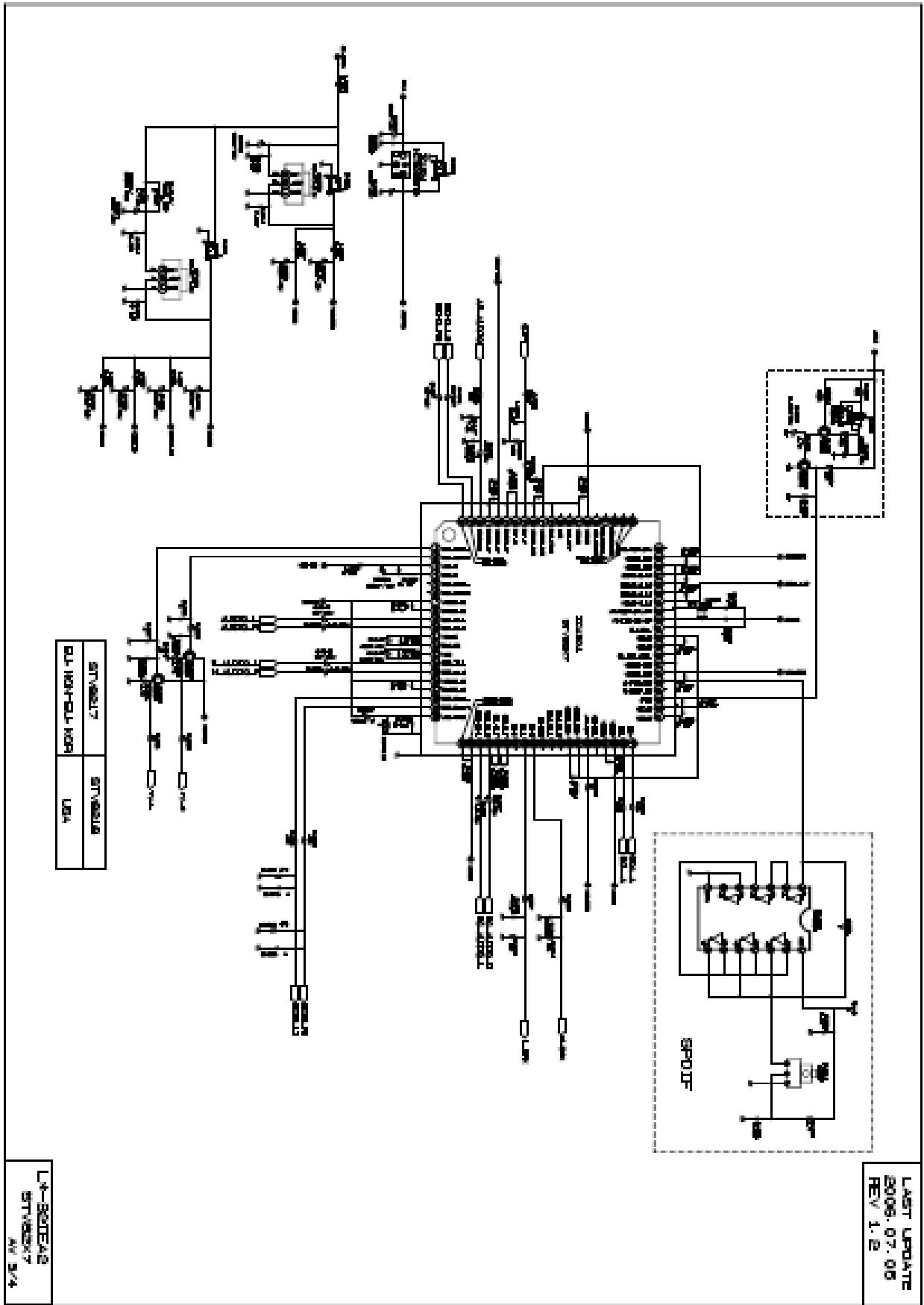


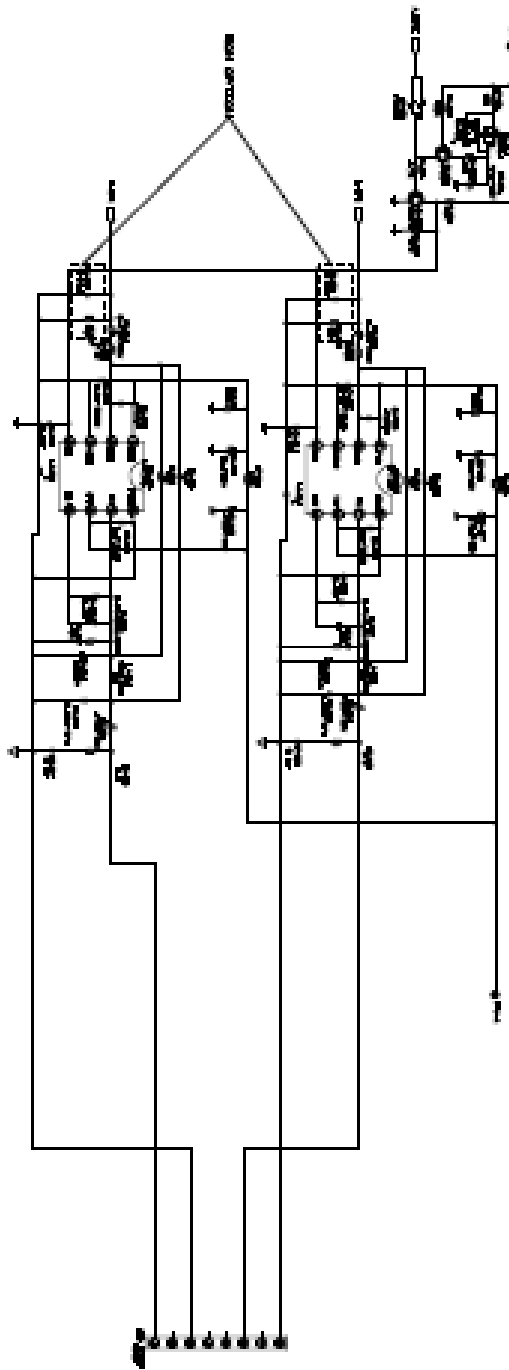
VE-CONNECTOR



LAST UPDATE
2008.07.05
REV 1.2

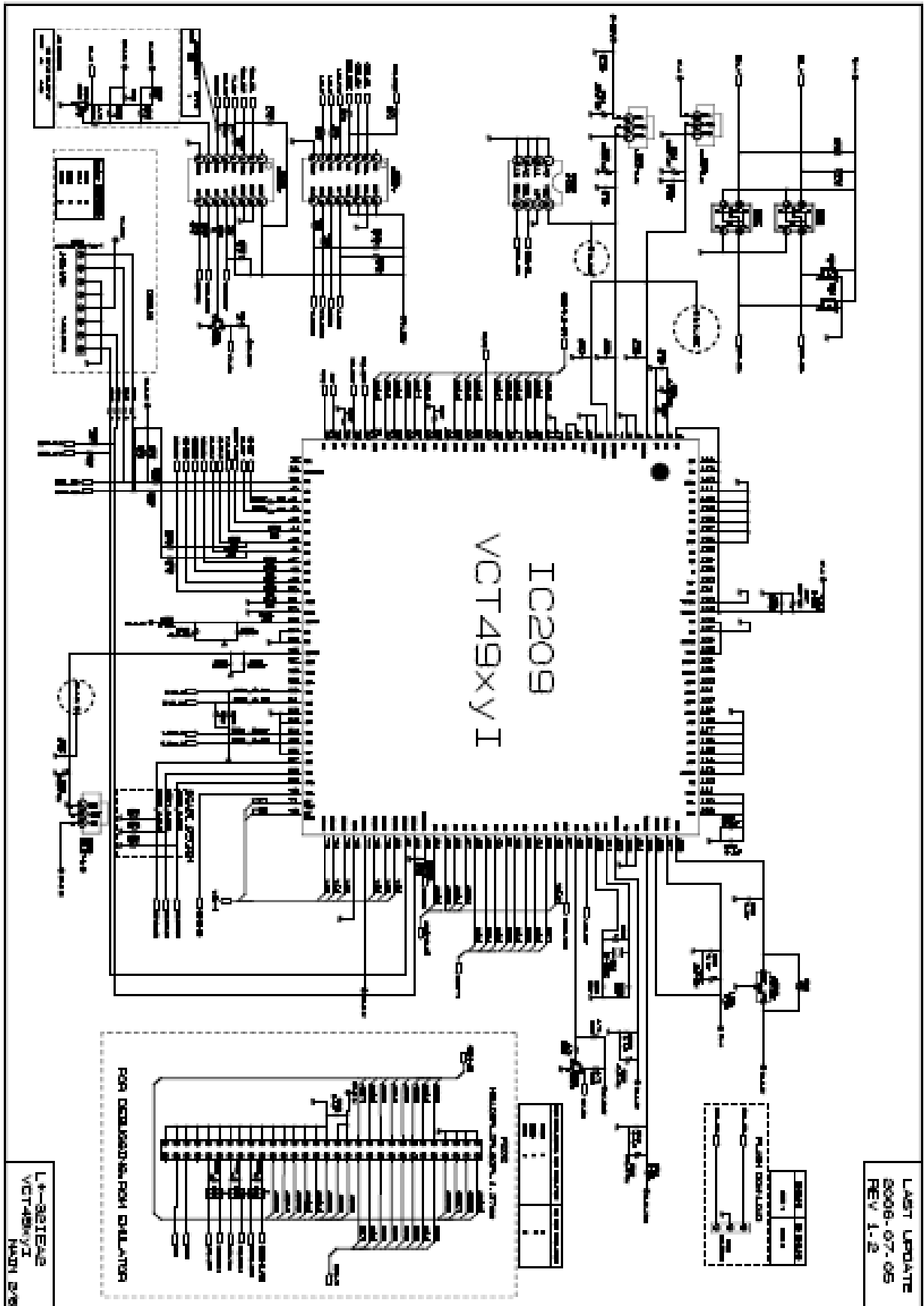
LS-SERIAL
CAMERA
2V 2V4

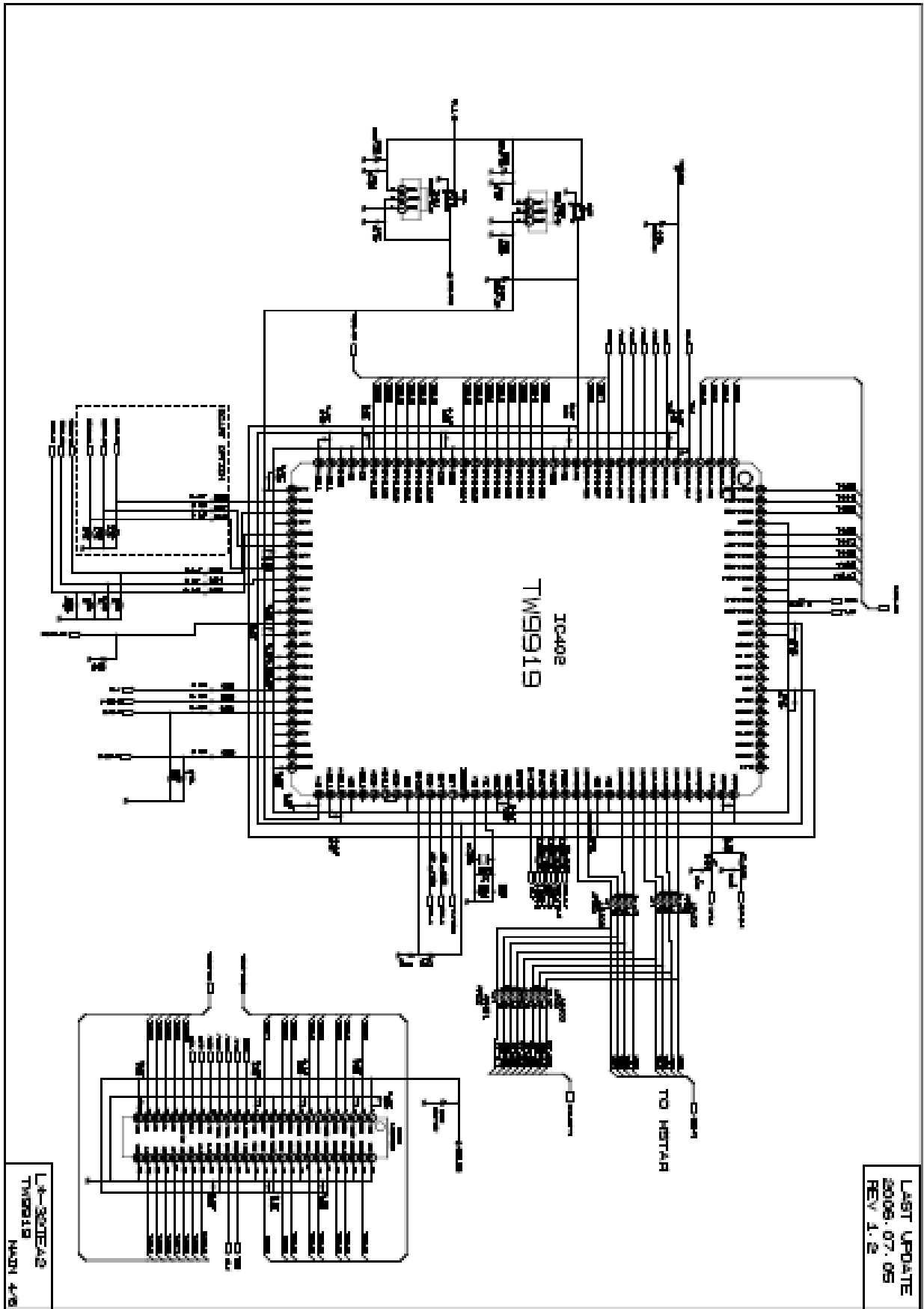




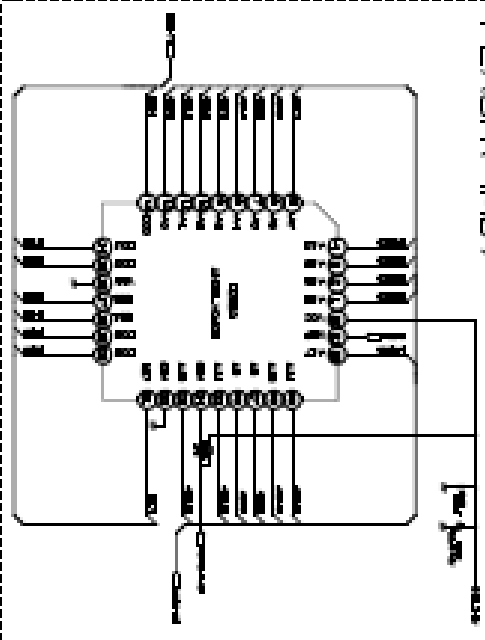
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LAST UPDATE
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 REV 11.2

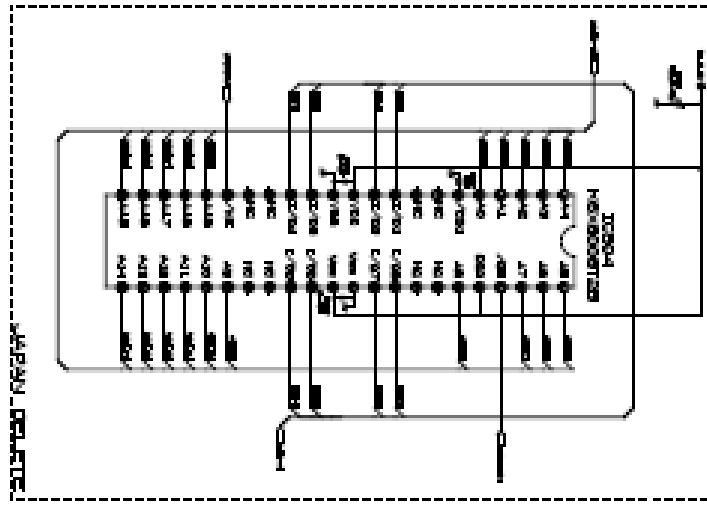




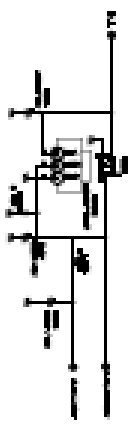
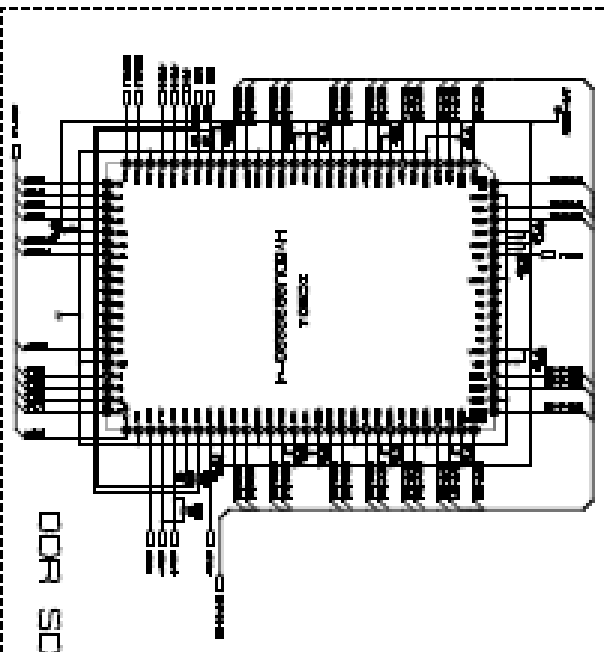
FLASH (4MB)



SRAM (6MB)



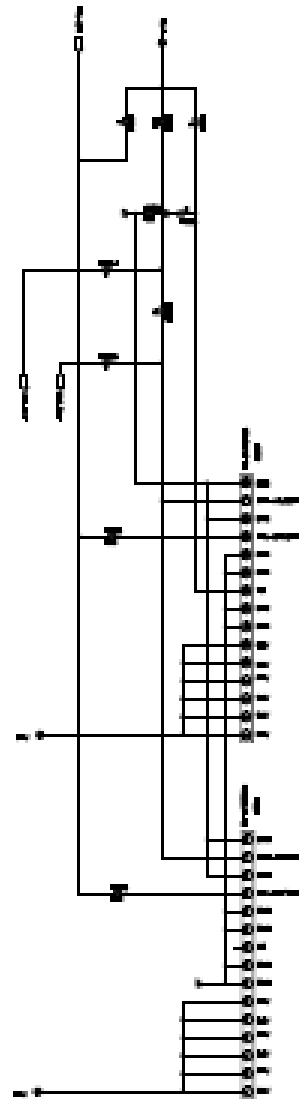
DDR SDRAM



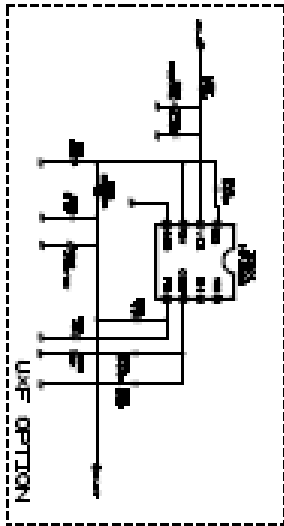
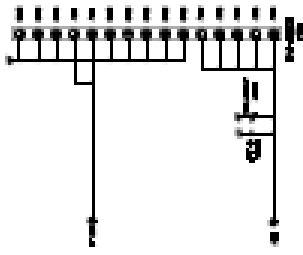
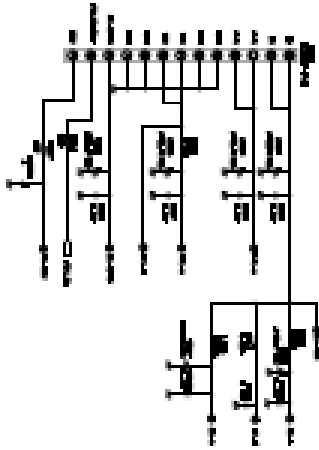
LAST UPDATE
2008.07.08
REV 1.5

L4-321E-2
FLASH MAIN B7/B

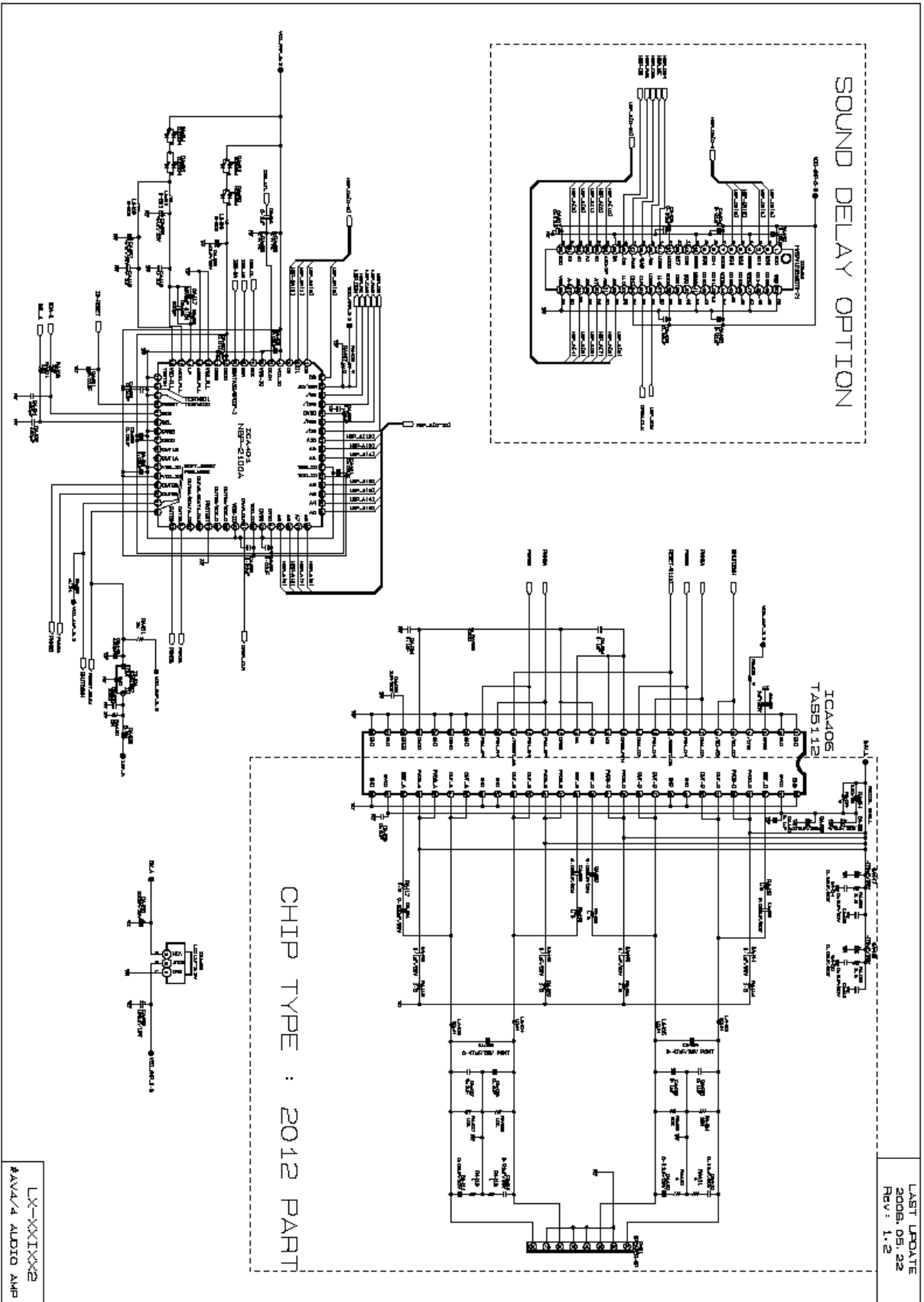
LAST UPDATE
2006.07.09
REV. 1.2



POWER BOARD



LC-981E12
POWER MAIN B/S

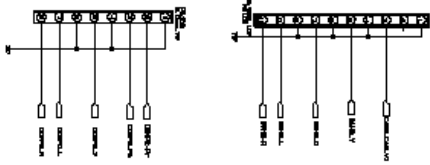


LAST UPDATE
2006.05.22
Rev : 1.2

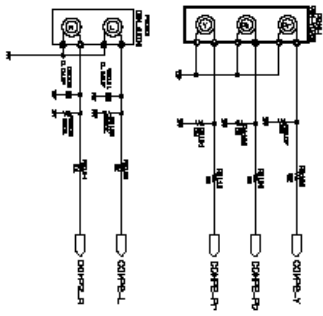
CHIP TYPE : 2012 PART

LX-XXXXX2
#AV4/4 AUDIO AMP

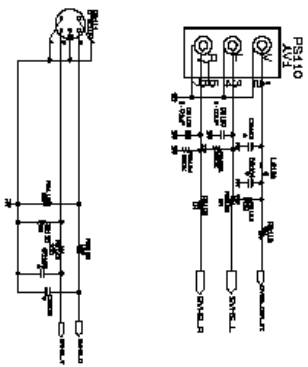
TO AV

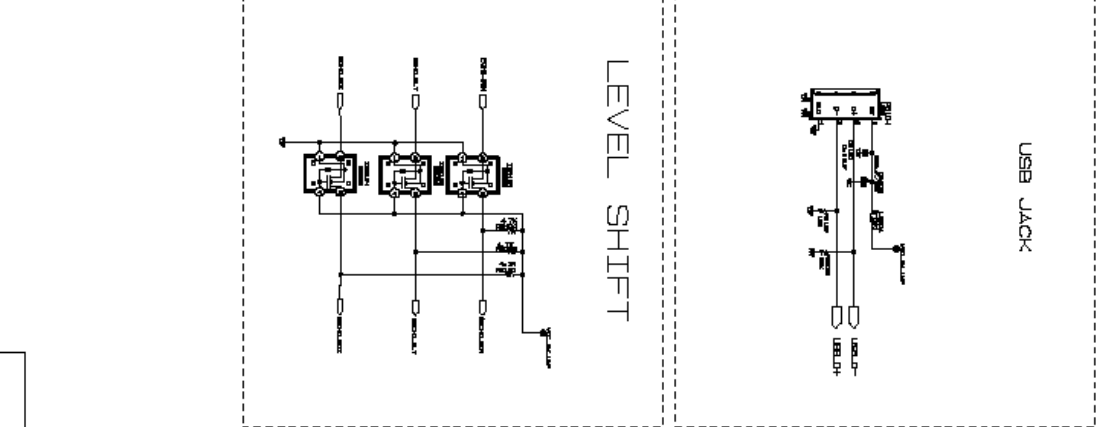
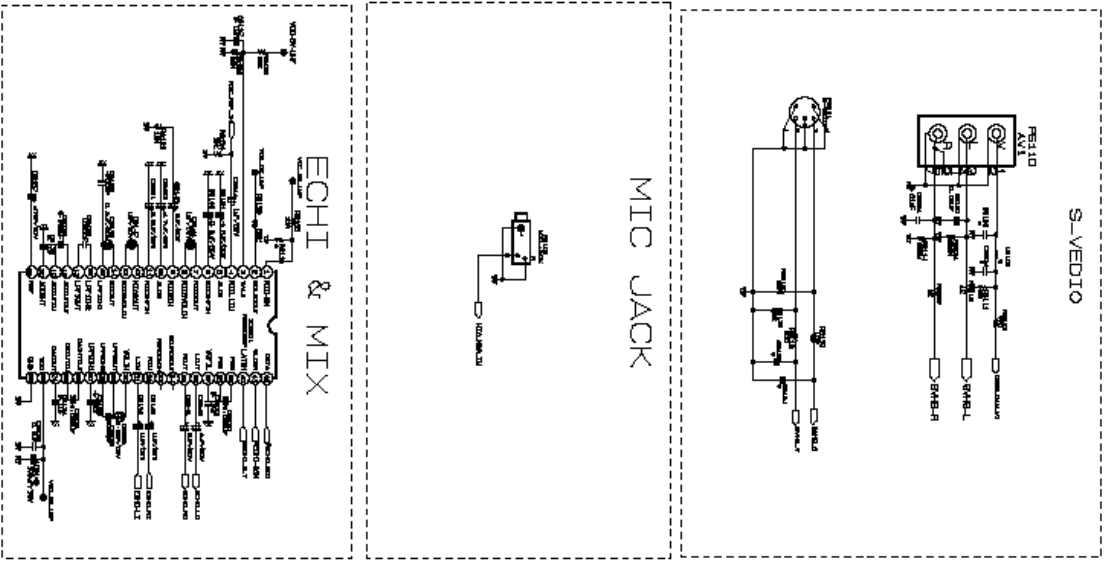
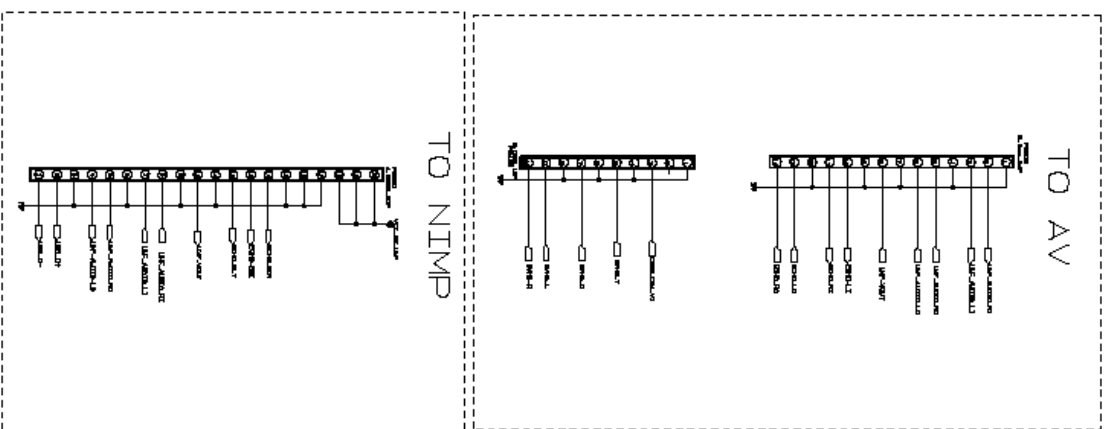


COMPONENT 2

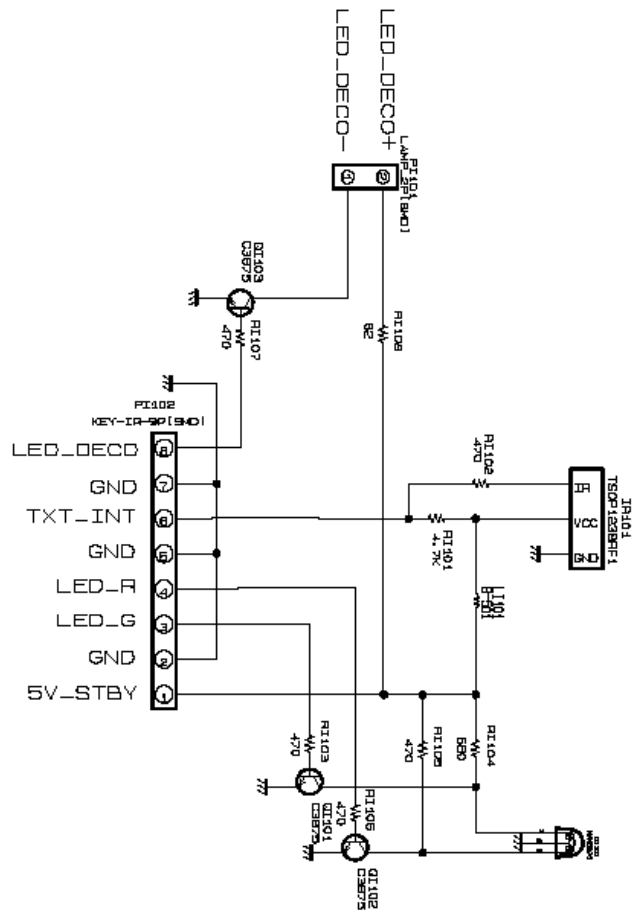


S_VEDIO





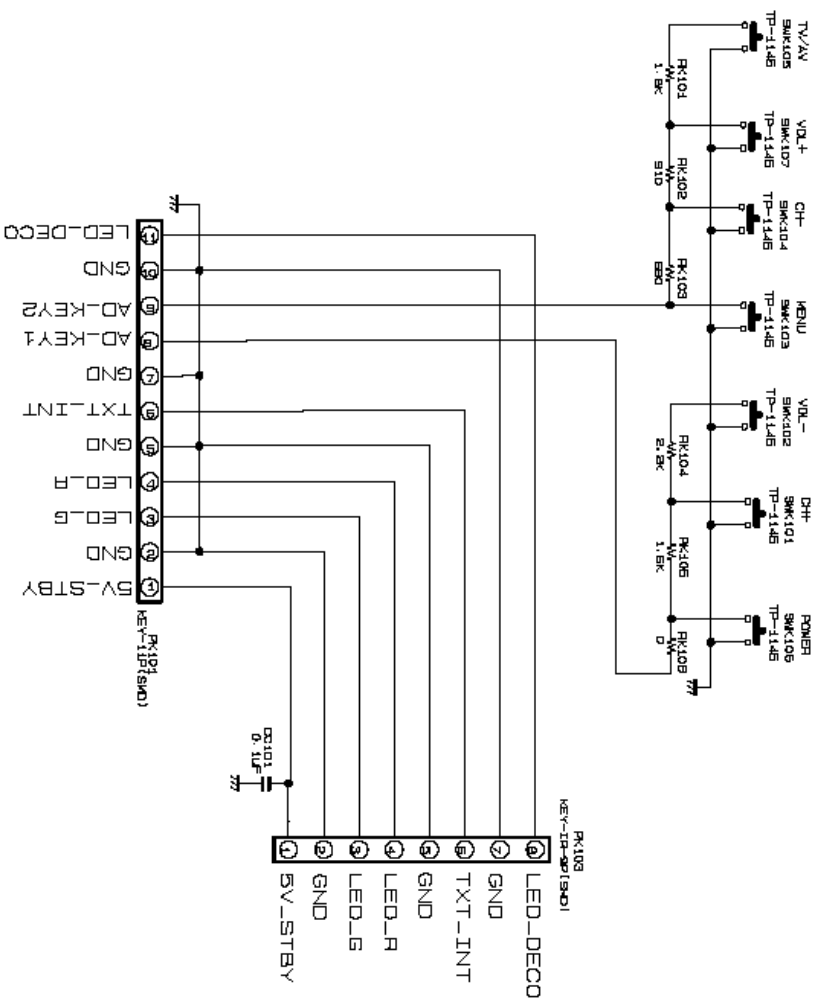
LAST UPDATE
2006.2.23



Power_DN : GREEN
Standby : RED

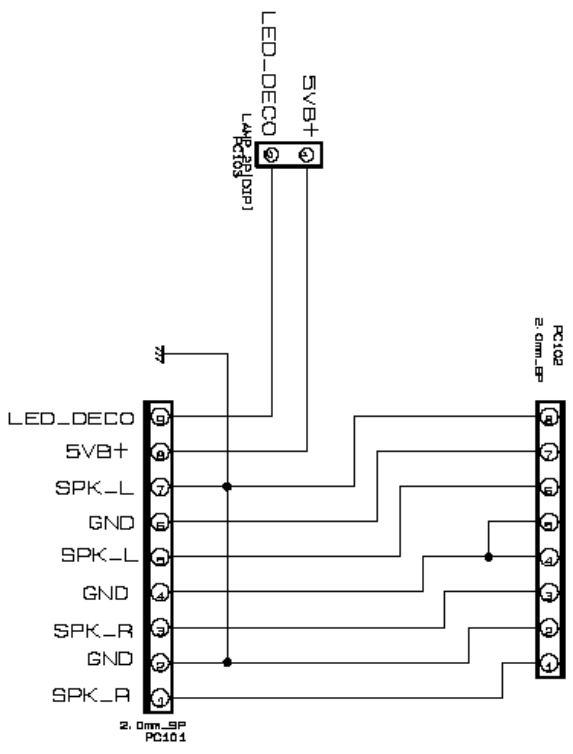
LC-46IEXX3
IR PART

LAST UPDATE
2006.05.22



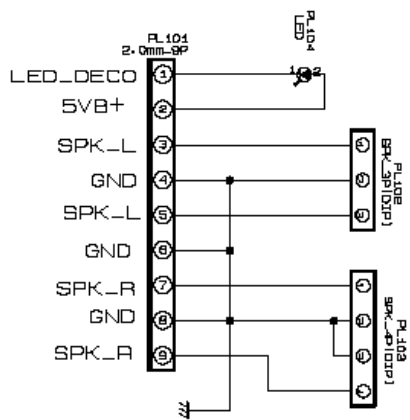
LC-461E
KEY BUTTON

LAST UPDATE
2006.05.22



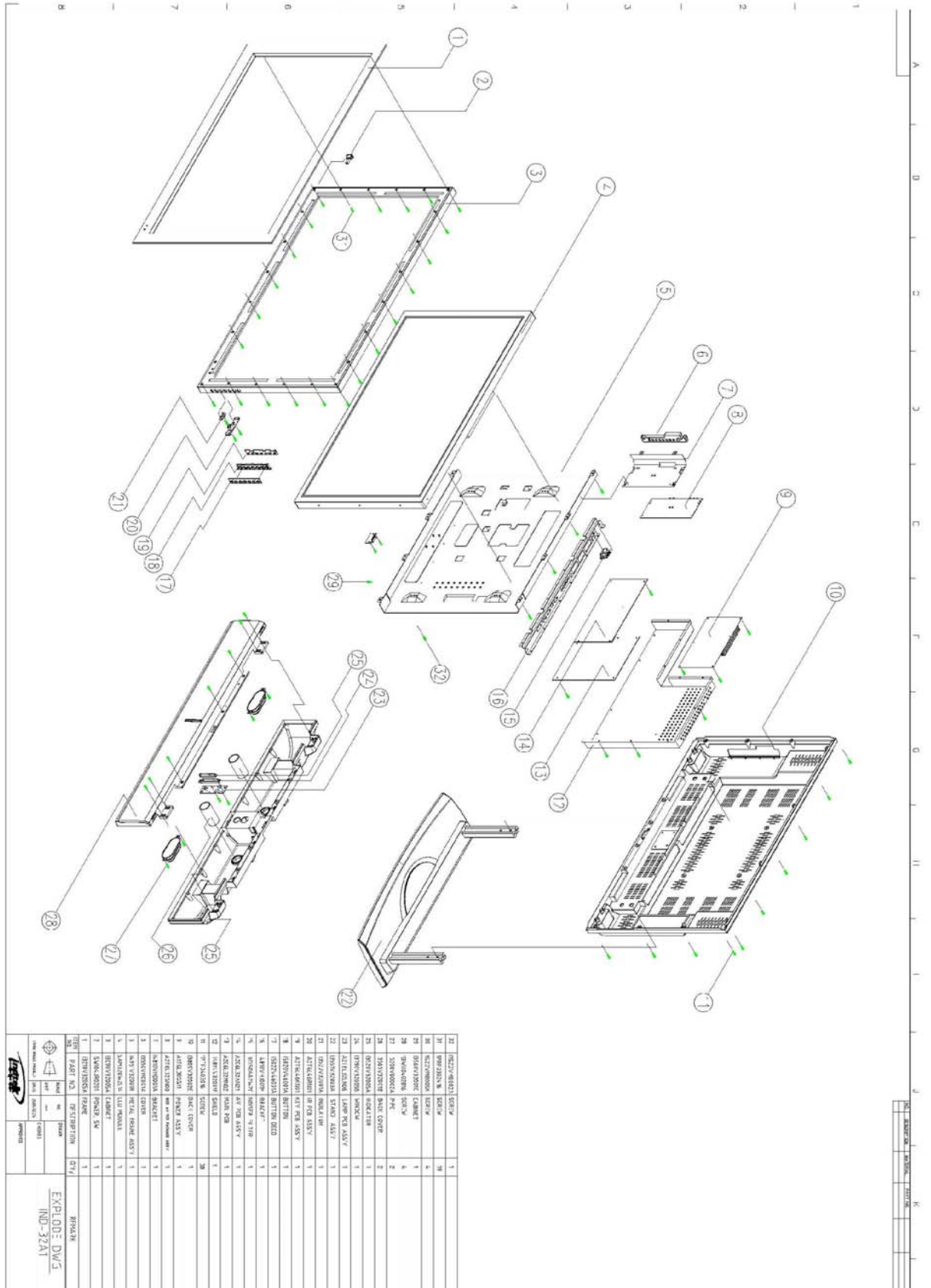
LC-46IE
AUDIO_OUT

LAST UPDATE
2006.02.23



LC-46IEXX3
LAMP&SPEAKER

10. EXPLODED VIEW



NO.	PART NO.	DESCRIPTION	QTY.
1	1000000000	HOUSING	1
2	1000000000	HOUSING	1
3	1000000000	HOUSING	1
4	1000000000	HOUSING	1
5	1000000000	HOUSING	1
6	1000000000	HOUSING	1
7	1000000000	HOUSING	1
8	1000000000	HOUSING	1
9	1000000000	HOUSING	1
10	1000000000	HOUSING	1
11	1000000000	HOUSING	1
12	1000000000	HOUSING	1
13	1000000000	HOUSING	1
14	1000000000	HOUSING	1
15	1000000000	HOUSING	1
16	1000000000	HOUSING	1
17	1000000000	HOUSING	1
18	1000000000	HOUSING	1
19	1000000000	HOUSING	1
20	1000000000	HOUSING	1
21	1000000000	HOUSING	1
22	1000000000	HOUSING	1
23	1000000000	HOUSING	1
24	1000000000	HOUSING	1
25	1000000000	HOUSING	1
26	1000000000	HOUSING	1
27	1000000000	HOUSING	1
28	1000000000	HOUSING	1
29	1000000000	HOUSING	1
30	1000000000	HOUSING	1
31	1000000000	HOUSING	1
32	1000000000	HOUSING	1

11. REPLACEMENT PARTS LIST

32 inch

Item	Specification	Location
MAIN PCB ASS'Y	MAIN PCB_LN-321EA2_Rev1.2 ASS'Y_PAL	ASS01:
MICOM ASS'Y	LN-321EA2 MEMORY ASS'Y	IC502:
MICOM LABEL	LN-321EA2 12*10 MICOM LABEL	IC502:
IC FLASH MEMORY	EN29LV040-70JC(PLCC) 4Mb EON	IC502:
MANUAL INSERT	MAIN_LN-321EA2_Rev1.2 (MANUAL INSERT)_PAL	ASS02:
JACK, EAR-PHONE	SJ3513-3A, (EAR-PHONE) NINE NEW ELECTRONICS CO.	P108:
JACK, HDMI	HDMI Receptacle through hole type,HA HA 일렉콤	P107:
JACK, D_SUB	D_SUB FEMALE 15P (SM-025),	P101:
WAFER	SMM200-08P (DIP) , YEONHO	P102:
WAFER	SMM200-03P (DIP) , YEONHO	P205:
WAFER	SMM200-13P (DIP) , YEONHO	P603:
WAFER	SMM200-15P (DIP) , YEONHO	P604:
POWER INDUCTOR	33uH, CPS-01-330(CH-8010S), GET 170	L606
CRYSTAL	HC49U KJE RADIAL 14.31818MHZ +/-30 PPM	X300:
CRYSTAL	HC49U RADIAL 27.000MHZ 25ppm 20 pF BK	X400:
CRYSTAL	HC49U RADIAL 20.2500MHZ 30ppm 16 pF BK	X201:
HEADER PIN	2.54MM PITCH RIGHT ANGLE 2X30 60PIN MALE	P103:
AUTO INSERT_RADIAL	MAIN_LN-321EA2_Rev1.2 (AUTO INSERT_RADIAL)_PAL	ASS03:
RADIAL REGISTER	8.2 OHM 2 W 5.00% Super Mini Register	R320,R321:
AL EL CAPACITORS	4.7uF STD 50V M FL TP5 (5X11 85°C)	C209:
AL EL CAPACITORS	10uF STD 50V M FL TP5 (5X11 85°C)	C105,C106,C107,C219,C237,C370,C452:
AL EL CAPACITORS	47uF STD 16V M FL TP5 (5X9 85°C)	C102,C104,C217,C239,C371:
AL EL CAPACITORS	47uF STD 50V M FL TP5 (6.3X11 85°C)	C367:
AL EL CAPACITORS	100uF STD 16V M FL TP5 (6.3X11 85°C)	C244,C301,C303,C304,C340,C342,C363,C364,C365,C402,
		C442,C453,C455,C502,C503,C504,C507,C523:
AL EL CAPACITORS	220uF STD 10V M FL TP5 (6.3X11 85°C)	C201,C202,C228,C242:
AL EL CAPACITORS	220uF STD 25V M FL TP5 (8X11.5 85°C)	C601,C603,C604,C647,C653:
AL EL CAPACITORS	220uF STD 50V M FL TP5 (10X16 85°C)	C602:
AL EL CAPACITORS	470uF STD 16V M FL TP5 (10X12.5 85°C)	C642,C650
AL EL CAPACITORS	470uF STD 35V M FL TP5 (10X16 85°C)	C637:
SMD_TOP	MAIN_LN-321EA2_Rev1.2 (SMD_TOP)_PAL	ASS04:
PCB	MAIN LC-321EA2 B/D REV1.2 060414	MA01:
CHIP RESISTOR	0 OHM 1/10W 1608 5% D (000)	R259,R260,R261,R402,R409,R615:
CHIP RESISTOR	22 OHM 1/10W 1608 5% D (220)	R252,R312,R313,R314,R322,R323,R324,R325,R326,R418

		R419, R420, R424, R425, R426, R501, R502, R503, R504
CHIP RESISTOR	33 OHM 1/10W 1608 5% D (330)	R306, R307, R310, R311:
CHIP RESISTOR	75 OHM 1/10W 1608 5% D (750)	R114, R115, R118:
CHIP RESISTOR	82 OHM 1/10W 1608 5% D (820)	R152, R153, R154, R155, R156, R157, R158, R159, R160, R161,
		R162, R163, R164, R165, R167, R168, R169, R171, R172, R603:
CHIP RESISTOR	100 OHM 1/10W 1608 5% D (101)	R112, R113, R133, R134, R174, R206, R207, R225, R226, R227,
		R228, R231, R232, R233, R234, R235, R237, R239, R240, R241,
		R265, R302, R303, R305, R318, R319, R405, R406, R507, R608,
		R613, R617, R272, R269, R271
CHIP RESISTOR	150 OHM 1/10W 1608 5% D (151)	R505:
CHIP RESISTOR	15K OHM 1/10W 1608 5% D (153)	R619
CHIP RESISTOR	160 OHM 1/10W 1608 5% D (161)	R606:
CHIP RESISTOR	200 OHM 1/10W 1608 5% D (201)	R407:
CHIP RESISTOR	220 OHM 1/10W 1608 5% D (221)	R122, R123, R124, R125, R601:
CHIP RESISTOR	270 OHM 1/10W 1608 5% D (271)	R143, R144, R145:
CHIP RESISTOR	390 OHM 1/10W 1608 5% D (391)	R301:
CHIP RESISTOR	47 OHM 1/10W 1608 5% D (470)	R423, R404
CHIP RESISTOR	470 OHM 1/10W 1608 5% D (471)	R146, R147, R148, R257
CHIP RESISTOR	1K OHM 1/10W 1608 5% D (102)	R131, R137, R205, R211, R212, R248, R308, R309, R412, R413,
		R415:
CHIP RESISTOR	2K OHM 1/10W 1608 5% D (202)	R129, R130:
CHIP RESISTOR	2.7K OHM 1/10W 1608 5% D (272)	R262, R263:
CHIP RESISTOR	4.7K OHM 1/10W 1608 5% D (472)	R119, R120, R175, R176, R201, R202, R203, R204, R208, R209,
		R210, R219, R220, R221, R222, R223, R224, R229, R230, R249,
		R250, R251, R266, R270, R274, R317, R401, R410, R414, R416,
		R417:
CHIP RESISTOR	8.2K OHM 1/10W 1608 5% D (822)	R149, R150, R151:
CHIP RESISTOR	10K OHM 1/10W 1608 5% D (103)	R116, R117, R135, R136, R140, R141, R142, R304, R315, R620
CHIP RESISTOR	22K OHM 1/10W 1608 5% D (223)	R258:
CHIP RESISTOR	47K OHM 1/10W 1608 5% D (473)	R132, R506, R618:
CHIP RESISTOR	68K OHM 1/10W 1608 5% D (683)	R316:
CHIP RESISTOR	470K OHM 1/10W 1608 5% D (474)	R127, R128:
CHIP RESISTOR	1M OHM 1/10W 1608 5% D (105)	R403:
CHIP ARRAY RESISTOR	22 OHM ARRAY 1/8W 3216 5% (220)	AR301, AR302, AR305, AR306, AR307, AR308, AR309, AR310, AR311, AR312,
		AR313, AR314, AR315, AR400, AR401, AR402, AR403:
CHIP CAPACITORS	10pF 50V 10% 1608 R/TP (100)	C369:
CHIP CAPACITORS	33pF 50V 10% 1608 R/TP (330)	C459

CHIP CAPACITORS	22pF 50V 10% 1608 R/TP (220)	C235, C236, C414
CHIP CAPACITORS	39pF 50V 10% 1608 R/TP (390)	C416
CHIP CAPACITORS	27pF 50V 10% 1608 R/TP (270)	C231, C372;
CHIP CAPACITORS	47pF 50V 10% 1608 R/TP (470)	C305, C306, C307;
CHIP CAPACITORS	15pF 50V 10% 1608 R/TP (150)	C331, C333
CHIP CAPACITORS	120pF 50V 10% 1608 R/TP (121)	C460
CHIP CAPACITORS	100pF 50V 10% 1608 R/TP (101)	C652
CHIP CAPACITORS	1000pF 50V 10% 1608 R/TP (102)	C103, C229, C318, C328;
CHIP CAPACITORS	0.01uF 50V 10% 1608 R/TP (103)	C220, C222, C350, C366, C648, C651;
CHIP CAPACITORS	0.047uF 50V 10% 1608 R/TP (473)	C316, C317, C319, C320, C321, C323, C324, C325, C326, C327,
		C329, C330;
CHIP CAPACITORS	0.1uF 50V 20% 1608 R/TP (104)	C101, C203, C204, C205, C206, C207, C208, C216, C223, C224,
		C225, C226, C227, C230, C233, C234, C238, C240, C241, C243,
		C245, C302, C308, C309, C310, C311, C312, C313, C314, C315,
		C332, C336, C337, C338, C339, C341, C343, C344, C345, C346,
		C347, C348, C349, C353, C354, C355, C356, C357, C358, C359,
		C360, C361, C368, C401, C403, C404, C405, C406, C407, C408,
		C409, C410, C412, C413, C415, C417, C418, C419, C420, C421,
		C423, C424, C425, C426, C427, C428, C429, C430, C431, C432,
		C433, C434, C435, C436, C437, C438, C439, C440, C443, C444,
		C445, C454, C456, C457, C458, C501, C505, C506, C508, C509,
		C510, C511, C512, C513, C514, C515, C516, C517, C518, C519,
		C520, C521, C522, C605, C606, C607, C608, C636, C638, C639,
		C646, C649, C654;
CHIP CAPACITORS	0.22uF 16V 20% 1608 R/TP (224)	C213, C214, C215;
CHIP BEAD	CHIP BEAD 2012 800 (80Ω)	L101, L102, L103;
CHIP BEAD	CHIP BEAD 3216 501 (500Ω)	L201, L202, L203, L204, L301, L302, L304, L501, L601, L602,
		L603, L604, L605;
DIODE, SWITCHING	BAV70LT1G, ON SEMI, SOT-23 high speed switching (KDS184 대체)	D105;
DIODE, SHOTTKY RECTIFIERS	MBRS340T3G, ON semi, 40V/3A, SMC-403-03	D601
TR	MMBT2222LT1G, ON SEMI, SOT-23 (Pb-Free), switching (KTC3875 대체)	Q105, Q106, Q107, Q108, Q109, Q110, Q111, Q201, Q202, Q203,
		Q301;
TR, FET	SI4925DY, TEMIC, SO-8, 30V 6.1A	IC305;
IC Video Processor	TW9919 PQFP 128P TRAY TECHWELL	IC402;

IC,MICRO CONTROLLER	VCT49xyI,F2 MICRONAS 144P QFP MICOM&VSP&MSP IC	IC209:
IC SCALER	MST5151A, MSTAR	IC302:
IC	PCM1725, DIGITAL TO ANALOG AUDIO CONV. SOIC 14P	IC306:
IC Voltage Detector	KIA7027AF 3P SOT-89 R/TP KEC	IC210:
IC	M62320FP,I/O EXPANDER 16P SOP	IC203,IC204:
IC REG	LD1117S18TR SOT-223 1.8V 800mA, ST	IC208,IC301:
IC REG	LD1117S25TR SOT-223 2.5V 800mA, ST	IC404,IC503:
IC REG	LD1117S33TR SOT-223 3.3V 800mA, ST	IC201,IC202,IC303,IC304,IC401:
IC TTL	74HCT14D Hex inverting Schmitt trigger	IC102:
IC SRAM	K6X8008T2B-TF70 TSOP32 8Mb SEC	IC504:
IC SDRAM	K4S641632H-UC75, TSOP54 64Mb SAMSUNG	IC403:
IC DDR SDRAM	HY5DU283222Q-4, DDR SDRAM LQFP 100P	IC501:
IC EEPROM	AT24C32 SOP8 ATMEL	IC205:
IC EEPROM	AT24C02N-10SI-1.8 8S1 ATMEL	IC101:IC103:
IC,DC-DC CONVERTER	MP1583DN 8P TSOP R/TP DC-DC CONVERTER	IC601
TR	BSS83, PHILIPS, SOT-143B, n-ch switching tr	IC104,IC105,IC206,IC207:
PLCC AMP (SOCKET)	AMP 32PIN 2.54MM PLCC CCSD-32T-SM (SMD)	IC502:
WAFER	FW12523-30(S) 후성	P301:
WAFER	1001-31MV (SMD) 1.25MM 삼원 FT	P104
WAFER	12505WR-11 (SMD), YEONHO	P105:
WAFER	12505WR-15 (SMD), YEONHO	P601,P602:
AV PCB ASS'Y	LN-321EA2 AV PCB_Rev1.1 ASS'Y_PAL	
MANUAL INSERT	LN-321EA2 AV_Rev1.1 (MANUAL INSERT)_PAL	
JACK, SCART	SHIELD SCART (SM-024)	PA102: PA103:
SPDIF	TOTX178A, TOSHIBA	PA301:
TUNER	TAUM-W101P LG INOTEK MULTI FS MINI 4	TUA100:
WAFER	SMM200-08P (DIP) , YEONHO	PA401
WAFER	SMM200-10P (DIP) , YEONHO	PA108:
WAFER	SMM200-14P (DIP) , YEONHO	PA106:
JACK, RCA	PPJ128A-1 (A/V 3P WITH S/W GR-BU-RD), PARK	PA104:
JACK, RCA	PPJ137A (RCA_L/R WITH S/W RD-WH), PARK	PA105:
POWER INDUCTOR	33uH, CPS-01-330(CH-8010S), GET 170	LA401,LA402:
HEADER PIN	2.54MM PITCH RIGHT ANGLE 2X30 60PIN FEMALE	PA201:
AUTO INSERT_RADIAL	LN-321EA2 AV_Rev1.1 (AUTO INSERT_RADIAL)_PAL	
AL EL CAPACITORS	10uF STD 50V M FL TP5 (5X11 85°C)	CA106,CA107,CA119,CA120,CA212,CA412,CA413:
AL EL CAPACITORS	10uF STD 16V M FL TP5 (5X11 85°C)	CA340,CA341:

AL EL CAPACITORS	22uF STD 50V M FL TP5 (5X11 85°C)	CA144, CA145, CA146, CA147, CA148, CA149
AL EL CAPACITORS	1uF STD 50V M FL TP5 (5X11 85°C)	CA342, CA343, CA344, CA345, CA346, CA347, CA348; CA368, CA367,
AL EL CAPACITORS	0.47uF STD 50V M FL TP5 (5X11 85°C)	CA207, CA208, CA226, CA404, CA405;
AL EL CAPACITORS	100uF STD 16V M FL TP5 (6.3X11 85°C)	CA141, CA216, CA329, CA330, CA331, CA332, CA333, CA334, CA335, CA336,
		CA337, CA338, CA339;
AL EL CAPACITORS	47uF STD 16V M FL TP5 (5X9 85°C)	CA130, CA140, CA210, CA220;
AL EL CAPACITORS	47uF STD 50V M FL TP5 (6.3X11 85°C)	CA401;
AL EL CAPACITORS	220uF STD 16V M FL TP5 (8X11.5 85°C)	CA129, CA143, CA366;
AL EL CAPACITORS	220uF STD 25V M FL TP5 (8X11.5 85°C)	CA214;
AL EL CAPACITORS	6.8uF STD 50V M FL TP5 (5X11 85°C)	CA365;
AL EL CAPACITORS	470uF STD 16V M FL TP5 (10X12.5 85°C)	CA111, CA123;
AL EL CAPACITORS	470uF STD 35V M FL TP5 (10X16 85°C)	CA416, CA417, CA424, CA425;
AL BIPOLAR EL CAPACITORS	100uF STD 16V M FL TP5 (8X11 85°C) - 무극성	CA139;
CAPACITOR, FIXED FILM	0.22uF 63V 5% PCMT 365	CA422, CA423;
RADIAL REGISTER	4.7 OHM 2 W 5.00% Super Mini Register	RA311;
SMD_TOP	LN-321EA2 AV_Rev1.1 (SMD_TOP)_PAL	
PCB	LC-321EA2 AV REV1.1	AV01;
CHIP RESISTOR	0 OHM 1/10W 1608 5% D (000)	RA177, RA239, RA320, RA14A;
CHIP RESISTOR	10 OHM 1/10W 1608 5% D (100)	RA156;
CHIP RESISTOR	100 OHM 1/10W 1608 5% D (101)	RA174, RA175, RA178, RA301, RA302;
CHIP RESISTOR	1K OHM 1/10W 1608 5% D (102)	RA115, RA124, RA125, RA126, RA127, RA146, RA147, RA153, RA154, RA205,
		RA207, RA208, RA216, RA219, RA220, RA221, RA225, RA227, RA228, RA230,
		RA231, RA232, RA241, RA242, RA303, RA304, RA305, RA306, RA307, RA308,
		RA309
CHIP RESISTOR	10K OHM 1/10W 1608 5% D (103)	RA148, RA176, RA407, RA408, RA417, RA418, RA13B, RA13C, RA329, RA330;
CHIP RESISTOR	100K OHM 1/10W 1608 5% D (104)	RA411, RA412, RA415, RA416;
CHIP RESISTOR	150 OHM 1/10W 1608 5% D (151)	RA168, RA323, RA326, RA401, RA403, RA13D, RA13E;
CHIP RESISTOR	180 OHM 1/10W 1608 5% D (181)	RA223;
CHIP RESISTOR	1.5K OHM 1/10W 1608 5% D (152)	RA203;
CHIP RESISTOR	15K OHM 1/10W 1608 5% D (153)	RA405;
CHIP RESISTOR	150K OHM 1/10W 1608 5% D (154)	RA324, RA402;
CHIP RESISTOR	13K OHM 1/10W 1608 5% D (133)	RA327;
CHIP RESISTOR	2K OHM 1/10W 1608 5% D (202)	RA119;
CHIP RESISTOR	2.2K OHM 1/10W 1608 5% D (222)	RA155;
CHIP RESISTOR	200 OHM 1/10W 1608 5% D (201)	RA213, RA218;
CHIP RESISTOR	220 OHM 1/10W 1608 5% D (221)	RA171, RA206, RA209, RA214;

CHIP RESISTOR	220K OHM 1/10W 1608 5% D (224)	RA106, RA107, RA118, RA123, RA134, RA135, RA136, RA137, RA151, RA152:
CHIP RESISTOR	22K OHM 1/10W 1608 5% D (223)	RA310:
CHIP RESISTOR	24K OHM 1/10W 1608 5% D (243)	RA113, RA142:
CHIP RESISTOR	3.3 OHM 1/10W 1608 5% D (3R3)	RA419, RA420:
CHIP RESISTOR	300 OHM 1/10W 1608 5% D (301)	RA157:
CHIP RESISTOR	390 OHM 1/10W 1608 5% D (391)	RA172:
CHIP RESISTOR	3.3K OHM 1/10W 1608 5% D (332)	RA409, RA410:
CHIP RESISTOR	4.7 OHM 1/10W 1608 5% D (4R7)	RA322:
CHIP RESISTOR	470 OHM 1/10W 1608 5% D (471)	RA211, RA212, RA233, RA234, RA235, RA13F:
CHIP RESISTOR	4.7K OHM 1/10W 1608 5% D (472)	RA116, RA312, RA313, RA328, RA404, RA406:
CHIP RESISTOR	47K OHM 1/10W 1608 5% D (473)	RA103, RA131, RA240, RA314, RA315:
CHIP RESISTOR	470K OHM 1/10W 1608 5% D (474)	RA108, RA109, RA139, RA140:
CHIP RESISTOR	510 OHM 1/10W 1608 5% D (511)	RA201:
CHIP RESISTOR	5.1K OHM 1/10W 1608 5% D (512)	RA325:
CHIP RESISTOR	560 OHM 1/10W 1608 5% D (561)	RA173, RA202, RA204, RA215, RA217, RA222, RA224, RA236, RA316:
CHIP RESISTOR	75 OHM 1/10W 1608 5% D (750)	RA114, RA143:
CHIP RESISTOR	7.5K OHM 1/10W 1608 5% D (752)	RA317:
CHIP RESISTOR	75K OHM 1/10W 1608 5% D (753)	RA413, RA414:
CHIP RESISTOR	82 OHM 1/10W 1608 5% D (820)	RA101, RA102, RA104, RA112, RA117, RA120, RA121, RA122, RA132, RA133,
		RA138, RA141, RA183, RA182, RA184, RA150, RA167, RA169, RA170, RA210,
		RA226, RA229, RA237, RA238,
CHIP CAPACITORS	0.01uF 50V 10% 1608 R/TP (103)	CA108, CA109, CA121, CA122, CA301, CA402, CA403:
CHIP CAPACITORS	0.1uF 50V 20% 1608 R/TP (104)	CA127, CA131, CA137, CA138, CA142, CA213, CA215, CA304, CA305, CA306,
		CA307, CA308, CA309, CA310, CA311, CA312, CA313, CA314, CA315, CA316,
		CA317, CA318, CA319, CA320, CA321, CA322, CA323, CA324, CA325, CA363,
		CA364, CA410, CA411, CA420, CA421, CA426, CA427:
CHIP CAPACITORS	1000pF 50V 10% 1608 R/TP (102)	CA113, CA114, CA362:
CHIP CAPACITORS	10pF 50V 10% 1608 R/TP (100)	CA414, CA415:
CHIP CAPACITORS	27pF 50V 10% 1608 R/TP (270)	CA350, CA351, CA132
CHIP CAPACITORS	100pF 50V 10% 1608 R/TP (101)	CA126, CA128, CA328:
CHIP CAPACITORS	330pF 50V 10% 1608 R/TP (331)	CA104, CA118:
CHIP CAPACITORS	4700pF 50V 10% 1608 R/TP (472)	CA352, CA353, CA354, CA355, CA408, CA409:
CHIP CAPACITORS	0.022uF 50V 10% 1608 R/TP (223)	CA349:
CHIP CAPACITORS	0.22uF 16V 20% 1608 R/TP (224)	CA326:
CHIP CAPACITORS	0.033uF 50V 10% 1608 R/TP (333)	CA302, CA303:
CHIP CAPACITORS	0.47uF 16V 20% 1608 R/TP (474)	CA201, CA202, CA203, CA204, CA205, CA206, CA209, CA211, CA217, CA218,
		CA219, CA221, CA222, CA223, CA224, CA225, CA327:

CHIP CAPACITORS	1uF 50V 10% 3216 R/TP (105)	CA418, CA419:
CHIP CAPACITORS	2.2uF 50V 10% 3216 R/TP (225)	CA406, CA407:
CHIP INDUCTOR	3.3uH Inductor 50mA 2012 20%	LA101, LA102, LA103, LA104, LA105, LA106, LA110
CHIP INDUCTOR	10uH Inductor 25mA 2012 20%	LA301:
CHIP BEAD	CHIP BEAD 3216 501 (500Ω)	LA107, LA108, LA109, LA112, LA302, LA303, LA304, LA305, LA306, LA307,
		LA308:
TR	MMBT2222LT1G, ON SEMI, SOT-23 (Pb-Free), switching (KTC3875 대체)	QA104, QA113, QA201, QA203, QA206, QA207, QA208, QA209, QA210, QA303,
		QA402:
TR	MMBT2907ALT1G, ON SEMI, SOT-23 (Pb-Free), switching (KTA1504 대체)	QA101, QA102, QA103, QA112, QA202, QA204, QA205, QA304, QA401:
TR	MMBTH10LT1G, ON SEMI, SOT-23 (Pb-Free), VHF band amp (KTC3881 대체)	QA301, QA302:
DIODE, SWITCHING	BAV70LT1G, ON SEMI, SOT-23 high speed switching (KDS184 대체)	DA403, DA404:
DIODE, SWITCHING	BAV99LT1G, ON SEMI, SOT-23 (Pb-Free) high speed switching (KDS226 대체)	DA103, DA104, DA304:
DIODE, SHOTTKY RECTIFIERS	D1FS4A SBD SHINDENGEN	DA401, DA402:
DIODE, ZENER	UDZS 6.2B, ROHM, SOD-323, 6.2v zener	DA406, DA407:
IC REG	MC7805BDTRKG DPAK R/TP ONSEMI (KIA7805 대체)	ICA101:
IC TTL	74HCU04D S014 PHILIPS	ICA305:
IC 5CH SWITCH	P13V512QE QSOP24 PERICOM	ICA103:
IC REG	LD1117S18TR SOT-223 1.8V 800mA, ST	ICA302:
IC REG	LD1117S33TR SOT-223 3.3V 800mA, ST	ICA102, ICA303:
IC REG	KIA7809AF 2P DPAK R/TP KEC	ICA202:
IC REG	MC7808BDTRKG DPAK R/TP ONSEMI (KIA7808 대체)	ICA304:
IC AUDIO AMP	MP7720DS S01C8 20W CLASS D MONO MPS	ICA401, ICA402:
IC Sound Processor	STV8217(TQFP80) ST	ICA301:
IC	CXA2069Q QFP64 BK SONY	ICA201:
CRYSTAL	SX-1 27.0000MHZ +/-30ppm 16 pF TA	XA301:
NIMP AV PCB ASS'Y	LN-40/461EA3 NIMP AV PCB REV 1.1 ASS'Y	ASS022
MANUAL INSERT	LN-40/461EA3 NIMP AV MANUAL_INSERT REV 1.1	ASS023
JACK, MIC	MIC_JACK (NIMP AV 용)	PS103:
IC ECHO	M65856SP-A	ICS101:
JACK, S_VIDEO	PJ60466 (S_VIDEO), PARK	PS111:

JACK, USB	USB RECEPTACLE SERIES-A RIGHT ANGLE A4SA121R00	PS104:
WAFER	SMAW200-10P (DIP) , YEONHO	PS112:
JACK, RCA	PPJ128A-2 (A/V 3P WITH S/W RD-WH-YL), PARK	PS110:
WAFER	SMAW200-14P (DIP) , YEONHO	PS102:
AUTO_INSERT_RADIAL	LN-40/461EA3 N1MP AV SUTO_INSERT_RADIAL REV 1.1	ASS024
AL EL CAPACITORS	100uF STD 16V M FL TP5 (6.3X11 85°C)	CS140:
AL EL CAPACITORS	220uF STD 10V M FL TP5 (6.3X11 85°C)	CS109:
AL EL CAPACITORS	1uF STD 50V M FL TP5 (5X11 85°C)	CS114,CS141,CS142,CS143,CS145,CS146
AL EL CAPACITORS	2.2uF STD 50V M FL TP5 (5X11 85°C)	CS148,CS151:
AL EL CAPACITORS	4.7uF STD 50V M FL TP5 (5X11 85°C)	CS153,CS154:
AL EL CAPACITORS	47uF STD 50V M FL TP5 (6.3X11 85°C)	CS157:
AL BIPOLAR EL CAPACITORS	1uF STD 50V M FL BP (5X11 85°C)	CS144,CS147
AL BIPOLAR EL CAPACITORS	2.2uF STD 50V M FL BP (5X11 85°C)	CS149,CS150
SMD_TOP	LN-40/461EA3 N1MP AV SMD_TOP REV 1.1	ASS025
PCB	LC-40/461EA3 N1MP AV REV1.1 060322	IR01
CHIP RESISTOR	0 OHM 1/10W 1608 5% D (000)	RS122,RS117
CHIP RESISTOR	10K OHM 1/10W 1608 5% D (103)	RS133,RS134,RS135:
CHIP RESISTOR	15K OHM 1/10W 1608 5% D (153)	RS136,RS137:
CHIP RESISTOR	1K OHM 1/10W 1608 5% D (102)	RS115,RS120:
CHIP RESISTOR	220K OHM 1/10W 1608 5% D (224)	RS114,RS121:
CHIP RESISTOR	10K OHM 1/10W 1608 5% D (103)	CS152:
CHIP RESISTOR	4.7K OHM 1/10W 1608 5% D (472)	RS124,RS125,RS126:
CHIP RESISTOR	51K OHM 1/10W 1608 5% D (513)	RS138:
CHIP RESISTOR	56K OHM 1/10W 1608 5% D (563)	RS139:
CHIP RESISTOR	82 OHM 1/10W 1608 5% D (820)	RS111,RS113,RS116,RS118,RS112,RS119:
CHIP CAPACITORS	0.01uF 50V 10% 1608 R/TP (103)	CS121:
CHIP CAPACITORS	0.022uF 50V 10% 1608 R/TP (223)	CS130:
CHIP CAPACITORS	0.068uF 50V 10% 1608 R/TP (683)	CS131,CS132:
CHIP CAPACITORS	0.1uF 50V 20% 1608 R/TP (104)	CS133,CS134,CS135,CS136,CS137:
CHIP CAPACITORS	1000pF 50V 10% 1608 R/TP (102)	CS138,CS139:
CHIP CAPACITORS	330pF 50V 10% 1608 R/TP (331)	CS104:
CHIP CAPACITORS	4700pF 50V 10% 1608 R/TP (472)	CS155,CS156:
CHIP BEAD	CHIP BEAD 3216 501 (500Ω)	LS101:
TR	BSS83, PHILIPS, SOT-143B, n-ch switching tr	ICS102,ICS103,ICS104:
CHIP INDUCTOR	3.3uH Inductor 50mA 2012 20%	LS102:

WAFER	12507WR-20 (SMD) , YEONHO	PS120:
NIMP PCB ASS'Y	NIMP SUB PCB ASS'Y Rev1.2 (SMD TOP)	ASS026
SMD_BOTTOM	NIMP SUB PCB ASS'Y Rev1.2 (SMD BOTTOM)	ASS027
CHIP RESISTOR	0 OHM 1/10W 1608 5% D (000)	RU147
CHIP RESISTOR	33 OHM 1/10W 1608 5% D (330)	RU117, RU118, RU148
CHIP RESISTOR	10K OHM 1/10W 1608 5% D (103)	RU178, RU190, RU191, RU205, RU211
CHIP RESISTOR	4.7K OHM 1/10W 1608 5% D (472)	RU106, RU107
CHIP RESISTOR	47K OHM 1/10W 1608 5% D (473)	RU170, RU172, RU173, RU174, RU200, RU201, RU206, RU207, RU212, RU213
		RU217, RU218, RU220, RU221, RU222, RU223, RU224, RU225, RU226, RU227
		RU228, RU229, RU230, RU231, RU232, RU233, RU234, RU235, RU236, RU237
		RU238, RU239, RU240, RU241, RU242
CHIP CAPACITORS	3pF 50V 10% 1608 R/TP (030)	CU114, CU115
CHIP CAPACITORS	1000pF 50V 10% 1608 R/TP (102)	CU113
CHIP CAPACITORS	0.01uF 50V 10% 1608 R/TP (103)	CU100, CU101, CU103, CU104, CU105, CU106, CU107, CU108, CU109, CU110
		CU111, CU119, CU121, CU122, CU126, CU128, CU130, CU132, CU135, CU136
		CU137, CU146, CU147, CU153, CU156, CU157, CU158
CHIP CAPACITORS	0.1uF 50V 10% 1608 R/TP (104)	CU127, CU145, CU162, CU170, CU173, CU175, CU180, CU202, CU203, CU206
IC SDRAM	HY57V281620ETP-H, TSOP54 128M SDRAM HYNIX	ICU103
CHIP BEAD	CHIP BEAD 3216 501 (500Ω)	LU101, LU102, LU103, LU107, LU110, LU111, LU113
CHIP INDUCTOR	3.3uH Inductor 50mA 2012 20%	LU100
IC BUS SWITCH	SN74CBTLV16210DLR, SSOP48 TI, LOW VOLTAGE 20BIT BUS SW	ICU200, ICU201, ICU202
DIODE, SWITCHING	BAV99LT1G, ON SEMI, SOT-23 (Pb-Free) high speed switching (KDS226 대치)	DU100, DU101, DU102, DU103, DU200, DU201
DIODE, ZENER	UDZS 5.6B, ROHM, SOD-323, 5.6v zener	ZDU200, ZDU201, ZDU202, ZDU203, ZDU204, ZDU205, ZDU206, ZDU207, ZDU208, ZDU209
		ZDU210, ZDU211, ZDU212, ZDU213, ZDU214, ZDU215, ZDU216
IC REG	LD1117S33TR SOT-223 3.3V 800mA, ST	ICU115
IC	AMC3526LDMF, DUAL USB POWER SW, SO1CB (ADD MICROTECH CORP.)	ICU116
SMD_TOP	NIMP SUB PCB ASS'Y Rev1.2 (SMD TOP)	
PCB	NIMP SIDE PCB REV1.2 060424 K.K	
CHIP RESISTOR	0 OHM 1/10W 1608 5% D (000)	RU149, RU163, RU164
CHIP RESISTOR	0 OHM 1/8W 2012 5% D (000)	LU200
CHIP RESISTOR	10 OHM 1/10W 1608 5% D (100)	RU101
CHIP RESISTOR	27 OHM 1/10W 1608 5% D (270)	RU138, RU139
CHIP RESISTOR	33 OHM 1/10W 1608 5% D (330)	RU104
CHIP RESISTOR	47 OHM 1/10W 1608 5% D (470)	RU125, RU126
CHIP RESISTOR	100 OHM 1/10W 1608 5% D (101)	RU113, RU114, RU128, RU129, RU142, RU165, RU166

CHIP RESISTOR	200 OHM 1/10W 1608 5% D (201)	RU111
CHIP RESISTOR	1K OHM 1/10W 1608 5% D (102)	RU115, RU152, RU153
CHIP RESISTOR	1.2K OHM 1/10W 1608 5% D (122)	RU103
CHIP RESISTOR	1.6K OHM 1/10W 1608 5% D (162)	RU110
CHIP RESISTOR	2.2K OHM 1/10W 1608 5% D (222)	RU112
CHIP RESISTOR	3.3K OHM 1/10W 1608 5% D (332)	RU122, RU124, RU208, RU209, RU210
CHIP RESISTOR	4.7K OHM 1/10W 1608 5% D (472)	RU105, RU108, RU109, RU136
CHIP RESISTOR	10K OHM 1/10W 1608 5% D (103)	RU116, RU150, RU192, RU193, RU194
CHIP RESISTOR	22K OHM 1/10W 1608 5% D (223)	RU151
CHIP RESISTOR	47K OHM 1/10W 1608 5% D (473)	RU120, RU121, RU127, RU130, RU202, RU203, RU204, RU214, RU215, RU216
CHIP RESISTOR	1M OHM 1/10W 1608 5% D (105)	RU100, RU102
CHIP CAPACITORS	22pF 50V 10% 1608 R/TP (220)	CU117, CU118
CHIP CAPACITORS	47pF 50V 10% 1608 R/TP (470)	CU148, CU151
CHIP CAPACITORS	0.01uF 50V 10% 1608 R/TP (103)	CU112, CU125, CU133, CU134, CU161, CU169
CHIP CAPACITORS	0.1uF 50V 10% 1608 R/TP (104)	CU102, CU181
CHIP CAPACITORS	0.47uF 16V 20% 1608 R/TP (474)	CU124, CU138, CU150, CU152
AL SMD CAPACITORS	10uF MVG 16V VC M D56 TP (4X5.3 85°C)	CU139, CU144, CU149, CU179, CU204
AL SMD CAPACITORS	100uF MVG 16V VC M F60 TP (6.3X5.7 85°C)	CU171, CU172, CU176, CU177
CRYSTAL	SX-1 27.000MHZ +/-30ppm 16 pF TA	XU101
CRYSTAL	SX-1 48.000MHZ +/-30ppm 18 pF TA	XU100
CHIP BEAD	CHIP BEAD 3216 501 (500Ω)	LU104, LU105, LU108, LU112
TR	KTC3875S, KET, SOT-23, switching	QU100
IC DSP PROCESSOR	TMS320DM320ZHA-K BGA306 TI	ICU100
IC FLASH MEMORY	M29W640FT70NGE TSOP48 STM	ICU101
IC SDRAM	HY57V281620ETP-H, TSOP54 128M SDRAM HYNIX	ICU102
IC AUDIO CODEC	TLV320AIC23BFW, AUDIO CODEC IC, TSSOP28 TI	ICU104
IC Voltage Detector	K1A7027AF 3P SOT-89 R/TP KEC	ICU106
IC PLL	PLL1705DBQ, PLL IC, SSOP20 TI	ICU107
IC REG	LD1086DT15 DPAK 1.5V 1.5A	ICU111
IC REG	AZ1085S-3.3E1, 3.3V 3A, TO-263-3L BCD	ICU112
IC REG	LD1117S33TR SOT-223 3.3V 800mA, ST	ICU113
MEMORY CARD SLOT	CFHD-B9-0000, CF_CARD_SLOT, TC&C	PU200
MEMORY CARD SLOT	4IN1-X0-1006, 4IN1 CARD SLOT, TC&C	PU201
WAFER	12507WR-20 (SMD) , YEONHO	PU204
WAFER	FW12523-30(S) 후성	PU202
WAFER	20022WR-08A, 2.0MM(SMD) 8P R/A, YEONHO	PU203
IC EEPROM	AT24C32 SOP8 ATMEL	ICU109

AUDIO OUT PCB ASS'Y	LC-40/461EA3 AUDIO OUT PCB REV 1.0 ASS'Y	ASS013
MANUAL INSERT	LC-40/461EA3 AUDIO OUT MANUAL_INSERT REV 1.0	ASS014
PCB	LC-40/461EA3 AUDIO OUT REV1.1 060307	
WAFER	SMW200-02P (DIP) , YEONHO	PC103:
WAFER	SMW200-08P (DIP) , YEONHO	PC102:
WAFER	SMW200-09P (DIP) , YEONHO	PC101:
LAMP PCB ASS'Y	L*-32I*A* LAMP PCB REV 1.1 ASS'Y	ASS015
MANUAL INSERT	L*-32I*A* LAMP MANUAL_INSERT REV 1.1	
PCB	LC-32IEA2 LAMP REV1.1 060627	
WAFER	SMW200-09P (DIP) , YEONHO	PL101
WAFER	SMW200-03P (DIP) , YEONHO	PL102
WAFER	SMWA200-04P (DIP) , YEONHO	PL103
DIODE, LED	LED BLUE(고휘도) , LTL-2F3CBK5	PL104
SMD_TOP	LC-40/461*A3 LAMP SMD_TOP REV 1.1	
CHIP RESISTOR	82 OHM 1/10W 1608 5% D (820)	PR100
KEY PCB ASS'Y	LC-40/461EA3 KEY PCB REV 1.1 ASS'Y	ASS017
MANUAL INSERT	LC-40/461EA3 KEY MANUAL_INSERT REV 1.1	ASS018
TACT_SW	TACT 2LEAD 160G(TA) 140-313B, (D10S)	SWK101,SWK102,SWK103,SWK104,SWK105,SWK106,SWK107
SMD_TOP	LC-40/461EA3 KEY SMD_TOP REV 1.1	ASS019
PCB	L*-32/40/461EA3 KEY REV1.1_060420	RK01
CHIP RESISTOR	0 OHM 1/10W 1608 5% D (000)	RK106
CHIP RESISTOR	1.6K OHM 1/10W 1608 5% D (162)	RK105
CHIP RESISTOR	1.8K OHM 1/10W 1608 5% D (182)	RK101
CHIP RESISTOR	2.2K OHM 1/10W 1608 5% D (222)	RK104
CHIP RESISTOR	680 OHM 1/10W 1608 5% D (681)	RK103
CHIP RESISTOR	910 OHM 1/10W 1608 5% D (911)	RK102
CHIP CAPACITORS	0.1uF 50V 20% 1608 R/TP (104)	CK101
WAFER	12505WR-08 (SMD) , YEONHO	PK103
WAFER	12505WR-11 (SMD) , YEONHO	PK101
IR PCB ASS'Y	LC-40/461EA3 IR PCB REV 1.1 ASS'Y	ASS019
MANUAL INSERT	LC-40/461EA3 IR MANUAL_INSERT REV 1.1	ASS020
IR Receiver Modules	TSOP1238RF1, VISHAY	IR101
DIODE, dual color LED lamp	SAM5270, kwang (5.8 x 22), dual color LED (red, green)	DI101
SMD_TOP	LC-40/461EA3 IR SMD_TOP REV 1.1	ASS021
PCB	LC-40/461EA3 IR REV1.1	IR01
CHIP RESISTOR	4.7K OHM 1/10W 1608 5% D (472)	RI101:

CHIP RESISTOR	470 OHM 1/10W 1608 5% D (471)	RI 102,RI 103,RI 106,RI 107:
CHIP RESISTOR	560 OHM 1/10W 1608 5% D (561)	RI 105:
CHIP RESISTOR	680 OHM 1/10W 1608 5% D (681)	RI 104:
CHIP RESISTOR	82 OHM 1/10W 1608 5% D (820)	RI 108
CHIP BEAD	CHIP BEAD 3216 501 (500Ω)	LI 101:
TR	KTC3875S, KEC, SOT-23, switching	QI 101,QI 102,QI 103:
WAFER	12505WR-08 (SMD) , YEONHO	PI 102
WAFER	12505WR-02 (SMD) , YEONHO	PI 101

Item	Specification	Location
LCD TV ASS'Y	LN-321EA2, LCD TV SET(PAL)	
CABINET PHANTOM ASSY	32A1 117C/142A PR BASIC	
CABINET ASSY	32A1 117C PR BASIC SKD	
FRAME ASSY	32A1 142A/AT#7600 BASIC	
INDICATOR	3201 PMMA CRYSTAL	
SCREW	TAP TITE(P),TRUSS HEAD,03.0 L8.0 MSWR3/FZB	
CUSHION	ADHESIVE VO 400*15*0.5	
MARK BRAND	15-32 SR 58*7 VIEWPIA	
FRAME LABEL	NIMP 40.5*18 REMOVAL STICKER(GLAZED COATING)	
FRAME LABEL	HDREADY,HDMI 50*15 REMOVAL STICKER(GLAZED COATING)	
NIMP LABEL	NIMP 150*150 REMOVAL	
KEY ASSY	46 7KEY	
KEY PCB ASS'Y	LC-40/461EA3 KEY PCB REV 1.1 ASS'Y	
BUTTON	46A1 ABS 117C	
BUTTON DECO	46A1 ABS CR PLATING	
SCREW	TAP TITE(P),PAN HEAD,03.0 L8.0	
IR AUDIO OUT ASS'Y	LC(N)-321EA2 IR AUDIO OUT ASS'Y REV 1.1	ASS022
IR PCB ASS'Y	LC-40/461EA3 IR PCB REV 1.1 ASS'Y	ASS019
CONNECTOR ASS'Y	8P 1.25mm 150mm H-H (40" 46" KEY IR CABLE)	
CONNECTOR ASS'Y	2P 1.25mm-2.00mm 310mm H-H (32" IR AUDIO OUT CABLE)	
AUDIO OUT PCB ASS'Y	LC-40/461EA3 AUDIO OUT PCB REV 1.1 ASS'Y	
SCREW	TAP TITE(P),PAN HEAD,03.0 L8.0	
BRACKET	SIDE 32A1 SECC T1.0 NIMP	
SCREW	TAP TITE(P),TRUSS HEAD,04.0 L12.0 MSWR3/FZB	

LCD MODULE	LTA320W2-L14, SS	
SCREW	DRAWING, BIND D4 L6 NI	
TAPE	AL FOIL CONDUCTIVITY 60*45*0.06	
TAPE	V0 INSULATION 50*20*0.2	
TAPE	AL FOIL CONDUCTIVITY 50*20*0.06	
TAPE	P-625 ELECTRICAL #1350-1 15MM	
METAL FRAME ASSY	32A1 SECC T1.6 GASKET SS	
BRACKET	FRAME 32A1 SECC T1.6	
SCREW	D3.0 L6.0 MSWR/FZMCW1(FIJI)	
TAPE	EMI GASKET CONDUCTIVITY 80*20*12	
SCREW	D3.0 L6.0 MSWR/FZMCW1(FIJI)	
SCREW	ASSEMBLE TAP TITE,D4.0 6.0MM NON NON PVS MSWR/FZB	
CHASSIS ASSY	32 HIGH INDEK EU HDMI	
MAIN PCB ASS'Y	MAIN PCB_LN-321EA2_Rev1.2 ASS'Y_PAL	ASS01
AV PCB ASS'Y	LN-321EA2 AV PCB_Rev1.1 ASS'Y_PAL	ASS06
CABLE, COAXIAL	COAXIAL CABLE(PAL) UL1365#26 150MM UCA-EX-069 PAL CABLE	
CONNECTOR ASS'Y	8P 2.00mm 400mm H-H (32" AUDIO OUT CABLE)	
CONNECTOR ASS'Y	15P 2.0mm 280mm H-H UL1007 AWG24 (POWER) M-STAR 전모델	
CONNECTOR ASS'Y	13P 2.0mm 280mm H-H UL1007 AWG24 (POWER)	
CONNECTOR ASS'Y	11P 1.25mm 400mm H-H (32" SPK 하단형 KEY CABLE)	
BRACKET	A/V 32A1 SECC T1.0 HDMI BASIC	
NUT, HEXAGON	1 D12.5 NO RULE BSP,BSW(유림향)	
WASHER, DRAWING	PLAIN WASHER 13.0MM 20.0MM 0.5T SPC NI-PLATING (유림향)	
SCREW	TAP TITE(B),PAN HEAD,D3.0 L8.0 MSWR3/FZB	
SCREW	DRAWING,BIND 3 4 BK	
SCREW	DRAWING,FLAT D3.0 L8.0 BK	
NUT	SCREW(NET)	
NOISER FILTER ASS'Y	LC-371E10 NOISE FILTER ASS'Y	NOS01;
POWER SWITCH	JRA-1102H (POWER SWITCH)	NOS02;
NOISER FILTER	IF-06A2W2C (동일기연)	NOS03;
CARTON BOX	23-37,AV ASSY IN BOX,550*280	
CARTON BOX	23-37,AV ASS'Y MULTY CARTON 575*575*250	
ANTI-STATIC BAG	750*350 ANTI-STATIC	
SHIELD	32A1 SPET T0.5 GASKET SKD	

SCREW	D3.0 L6.0 MSWR/FZMCW1(FIJI)	
BACK COVER ASSY	32A1 PS CUSHION SKD	
CUSHION	ADHESIVE VO 400*15*0.5	
DECORATION	MAIN M-STAR HDMI	
DECORATION	A/V BOTTOM SPEAKER EU SCART	
COVER	SUB JACK 46A1 ABS BASIC	
DECORATION	32A1 SIDE NIMP	
BACK LABEL	32A1 SR90*90 INDTEK ASSEMBLED IN EU	
SCREW	TAP TITE(P),TRUSS HEAD,D4.0 L14.0 MSWR/FZB	
SPEAKER BOX ASSY	SPEAKER 32A1 PS 197/117C	
CABINET	SPEAKER 32A1 PS 197/117C	
BACK COVER	SPEAKER 32A1 PS	
SPEAKER	4Ω 15W MAIN	
LAMP PCB ASS'Y	L*-321*A* LAMP PCB REV 1.1 ASS'Y	
INDICATOR	32A1 LENS PMMA CRYSTAL	
WINDOW	32A1 SPEAKER ABS VACUUM EVAPORATION	
PIPE	PAPER D40*L40*IN35	
CONNECTOR ASS'Y	9P 2.00mm 120mm H-H (32" AUDIO OUT-LAMP CABLE)	
CONNECTOR ASS'Y	3P 2.00mm 90mm H-T (32" SPEAKER CABLE)	
CONNECTOR ASS'Y	4P 2.00mm 90mm H-T (32" SPEAKER CABLE)	
SCREW	TAP TITE(B),PAN HEAD,D3.0 L8.0 MSWR3/FZB	
SCREW	TAP TITE(P),TRUSS HEAD,D4.0 L14.0 MSWR/FZB	
SCREW	MACHINE PAN HEAD 4*20 WHITE	
SCREW	TAP TITE(P),TRUSS HEAD,D4.0 L20.0 MSWR/FZB	
STAND ASSY	32A1 117C SKD	
STAND COVER	32A1 PS 117C	
STAND DECO	40A1 PS 212/213 BASIC	
SUPPORTER	32A1 AL 7227S00136A	
BRACKET	STAND 32A1 SGHC T3.0	
RUBBER	D22*H5 55HR	
SCREW	TAP TITE(P),TRUSS HEAD,D4.0 L12.0 MSWR/FZB	
SCREW	TAP TITE(P),TRUSS HEAD,D4.0 L12.0 MSWR/FZB	
SCREW	MACHINE PAN HEAD 6*20 WHITE	
CARTON BOX	32A1 D/W BROWN INDTEK ASSEMBLED IN EU	
BOX LABEL	VIEWPIA NIMP BOX LABEL	

BOX LABEL	70*70,WHITE,BASIC	
BAG	32 HDPE T0.5*1150*850	
PACKING	32A1 TOP EPS	
PACKING	32A1 BOTTOM EPS	
ACCESSORY ASS'Y	VIEWPIA ACCESSORY ASS'Y (LN-321EA2)	
BAG	VINYL ACCESSORY LDPE 350*280*0.05	
MANUAL	LN-321EA2 NIMP	MAN01:
CABLE	D-SUB CABLE 15P 1.5M	DSUB01:
REMOTE CONTROL	LN-461EA3 VIEWPIA	REM01:
BATTERY	BATTERY AAA 1.5V	BAT01,BAT02:
POWER CORD	SP-023,IS-14 1.8M 220V/10A BK(Germany) , I-SHENG	POW02:
MANUAL	NIMP SIMPLE FUNTION MANUAL 1st	
USB MEMORY STICK	USB MEMORY MOMORIVE PRO+ 256MB	
CONNECTOR ASS'Y	30P 350mm (LVDS CABLE) SS	
CONNECTOR ASS'Y	14P-15P 1.25mm 400mm H-H UL1061 AWG28 CORE (32",40" INVERTOR) SS	P805:
RUBBER	30mmX50mm, 10mm Rubber 2006-04-18	
POWER ASS'Y	LC(D)-26-321**2 POWER ASS'Y REV 1.4 (DH)	POW01:
NIMP AV PACKAGE ASS'Y	LN-321EA2 NIMP PCB PACKAGE ASS'Y	
NIMP AV PCB ASS'Y	LN-40/461EA3 NIMP AV PCB REV 1.1 ASS'Y	
CONNECTOR ASS'Y	14P 2.00mm 200mm H-H (32" NIMP MIC-AV CABLE)	
CONNECTOR ASS'Y	10P 2.00mm 290mm H-H (32" AV ANALOG SIDE CABLE)	
BUBBLE BAG	AV PCB BOARD,330*170	
NIMP PCB PACKAGE ASS'Y	LN-321EA2 NIMP PCB PACKAGE ASS'Y	
NIMP PCB ASS'Y	NIMP SUB PCB ASS'Y Rev1.2 (SMD TOP)	
CONNECTOR ASS'Y	30P-31P 1.25mm 580mm H-H (40" 46" MAINP-NIMP CABLE)	
CONNECTOR ASS'Y	8P 2.00mm 420mm H-H (32" NIMP-AV CABLE)	
CONNECTOR ASS'Y	20P 1.25mm 65mm H-H (40" 46" NIMP-NIMP MIC CABLE)	
BUBBLE BAG	AV PCB BOARD,330*170	
SHIELD	SIDE 4601 SPET T0.5	
BOX SKD	AV PCB BOARD,542*363*287	
CROSS PAD	AV PCB BOARD,360*135	
CROSS PAD	AV PCB BOARD,539*135	
PAPER PAD	MAIN PCB BOARD,539*360	
BUBBLE BAG	AV PCB BOARD,330*170	
TIE_CABLE	100MM	

■ PCB Rev. LIST

NO	PCB Rev. NO	Remarks
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

■ Soft ware Rev. list

NO	M-com Rev	Remarks
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

