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LCT TV

Service Manual

MODEL:
LCT-20CVST

CONTENTS

SPECIFICATION

LCD Panel

- LG-Philips LCD Panel : LC201V02-A3
- Active Screen Size : 20.1 inches (**584.40m/m**) diagonal
- Outline Dimension : 432(H) x 331.5(V) x 25.0(D)mm(Typ)
- Pixel Pitch : **0.6375mm x 0.6375 x RGB**
- Pixel Format : 640 horiz. By 480 Vert. Pixels RGB strip arrangement
- Color Depth : 8bit, 16.7M Colors
- Luminance, White : 450 cd/□
- Response Time : 25msec (Rise 13ms + Decay 12ms)
- Viewing Angle : R/L 176 Degree, U/D 176 Degree
- Backlight Assembly : 6 CCFL
- Contrast Ratio : 350 : 1

In/Out Jack

- Power Input : AC100 ~ 240V 50 ~ 60Hz
- Antenna Input : 75 Ohm Unbalanced Coaxial Cable
- PC Input : 15 Pin D-sub Jack(Female Type) – RGB Analog Input, Included Main Board
- PC Audio Input : Phone Jack(Stereo) – From PC, Included Main Board
- Video & Audio In/Out – Included Sub Board
  - Video Input 1(Composite RCA 3Pin, Included Audio 2Pin)
  - Video Input 2(Composite RCA 3Pin, Included Audio 2Pin)
  - DVD Input (Y Cb Cr, RCA 3Pin)
  - S-Video Input
  - EURO Scart Jack
  - Headphone Output (Phone Jack, Stereo)
  - A/V Output (Scart Jack)

User Interface

- 7 Panel Key
- Power , Menu , Select , Vol Up , Vol Down , CH Up , CH Down
- 3 Color LED
- Red : Stand by Condition
- Green : Power On Condition
- Yellow : SLEEP TIME On Condition
- Remocon Receiver
- Remocon (42Key)
- On Screen Display
- Control using OSD
- OSD Language : English, Arab
- Plug & Play : DDC - 1/2B
- Factory Mode
- Mode for controlling the adjustment item & Panel Option in mass production

Electrical specification

In /Out	Items	Sub Items	Specification
INPUT	Video 1, 2	Level	1±0.1p_p (75Ω)
	PC	Analog RGB	0.7±0.1Vp_p (75Ω)
		H Frequency	31KHz
		V Frequency	56~85Hz
	DVD	Level	Y: 1Vp_p
			Cb: 0.7Vp_p
			Cr: 0.7Vp_p
	Sound	Level	1.4±0.2Vp_p (0.5Vrms)
OUTPUT	A/V OUT	Level	2±0.1Vp_p
	Sound	Speaker	RMS 5W*2
POWER	LIPS	Input Voltage	AC 90~265 Vac
		Input Frequency	47~63Hz
		Output 1 Voltage	DC 14.5~15.5V
		Out Current	Min 30mA~Max 2A
		Output 2 Voltage	DC 10.8~15V
		Out Current	Min 0A~Max2A
	Power Consumption		60W

Available PC input mode & Video timing standard

Mode	Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Pixel Clock Frequency (MHz)	Sync Polarity (H/V)
VGA	720 x 400	31.469	70.087	28.322	-/+
	640 x 480	31.469	59.940	25.175	-/-
	640 x 480	37.861	72.809	31.500	-/-
	640 x 480	37.500	75.000	31.500	-/-
	640 x 480	43.269	85.008	36.000	-/-

OSD Specification

- PICTURE
- CONTRAST
- BRIGHTNESS
- COLOR TEMPERAT (PC input mode only)
- STANDARD , 6500K , USER, RESET , 9300K
- SHARPNESS (Not Available PC MODE)
- COLOR (Not Available PC MODE)
- SOUND
- TREBLE
- BASS
- BALANCE
- S.MODE
- GEOMETRY (PC input mode only)
- H-POSITION
- V-POSITION
- AUTO POSITION
- FUNCTION
- TRACKING (PC input mode only)
- AUTO TRACKING
- CLOCK
- PHASE
- INFORMATION
- TUNING (TV input mode only)
- SORT
- AUTO TUNING
- MANUAL TUNING
- FINE TUNING
- CH SKIP
- LANGUAGE

Factory Mode OSD Specification

- How to use Factory Mode
- Press Power & Select Key in Panel Control key, and go to Factory mode.
- Factory ADJ
- CLOCK DELAY
- AUTO COLOR GAIN
- OPTION
- MX88L281 1
- MST9883 1 (PC input mode only)
- MST9883 2 (PC input mode only)
- SUB C VCO
- SUB C CHG CURRENT
- INIT VCO CURRENT
- VPC3230 (excluding PC MODE)
- CONTRAST
- BRIGHTNESS
- PEAKING
- CIP CONTRAST
- CIP BRIGHT

** In mass production, adjust only Factory ADJ item, do not adjust other Modes. (In the time of variation of A/S & initial condition of screen quality , built in other Modes for controlling)

ADJUSTMENT SPECIFICATION

Adjustment instruction of CLOCK DELAY

1. Adjustment item: Adjust the dispersion happening in the time of matching ASSY-MAIN and LCD PANEL. (As the contact status of the CONNCETOR for connecting LCD PANEL, dispersion happens)
2. Adjustment Process: After assembling the SET, do the adjustment.
3. Preliminary adjustment:
    1) Connect the outlet VIDEO PATTERN GENERATOR (ANALOG RGB & SEPARATE H, V OUT) to INPUT (15PIN D-sub with VGA CABLE)
    2) TEST PATTERN: 1DOT MOIRE PATTERN.
    3) Select Output FORMAT into 640 x 480 @60HZ.
    4) Turn on the SET, and them select in PC MODE.
4. Adjustment Instruction:
    1) Press SEL & Power Key in Front panel at the same time , go to Factory mode
    2) Select CLOCK DELAY (including in FACTORY ADJ MENU) with CH UP/DOWN KEY in Factory mode
    3) Changing the level of CLOCK DELAY with VOL UP/DOWN KEY, adjust to the noiseless level in screen (variable range : 0 ~ 15, DEFAULT : 15)

Adjustment Instruction of AUTO COLOR GAIN

1. Adjustment Item: Function of automatically setting ADC LEVEL of AD9884 with ANALOG RGB (D-sub) signal. (WHITE BALANCE & CONTRAST adjustment)
2. Adjustment Process: After assembling the SET, do the adjustment.
3. Preliminary Adjustment
   - ⇨ Connect Outlet of VIDEO PATTERN GENERATOR to the input terminal of D-SUB.
   - ⇨ TEST PATTERN : Select COLOR BAR PATTERN
   - ⇨ Turn on the SET, and then select in PC MODE.
4. Adjustment Instruction
   - ⇨ Press SEL & Power Key in Front Panel at the same time, and go to Factory mode.
   - ⇨ In Factory mode, select Auto Color Gain in Factory ADJ.
   - ⇨ Press VOL UP KEY, and then displaying the phrase " Processing ", AUTO Adjustment start
   - ⇨ When adjustment is completed, the phrase " Processing " disappears
   - ⇨ Caution: In the course of Processing, do not remove the signal.

Setting Instruction for OPTION

1. OPTION : - X2 - BYPASS
   - ➢ Using 6 BIT PANEL
   - ➢ Back-Light Control of Inverter (Bright Max: LOW, Min : HIGH)

2. OPTION : - X2 - INVERT
   - ➢ Using 6 BIT PANEL
   - ➢ Back-Light Control of Inverter voltage polarity (Bright Max : HIGH, Min : LOW)

3. OPTION : - X3 - BYPASS
   - ➢ Using 8 BIT PANEL
   - ➢ Back-Light Control of Inverter voltage polarity (Bright Max : LOW, Min : HIGH)

4. OPTION : - X3 - INVERT
   - ➢ Using 8 BIT PANEL
   - ➢ Back-Light Control of Inverter voltage polarity (Bright Max : HIGH, Min : LOW)

*** Select no 4 in the case that no 4 is not selected.

Adjustment Instruction of VPC3230

1. Adjustment item: Function of adjusting DEFAULT VALUE of VPC3230 DEVICE.
2. Adjustment process: After assembling the SET, do the adjustment .
3. Preliminary adjustment
   - Connect Outlet of VIDEO PATTERN GENERATOR to the input terminal of CVBS.
   - TEST PATTERN : Select COLOR BAR PATTERN
   - Turn on the SET, and then select in VIDEO MODE.
4. Adjustment Instruction
   - Press SEL & Power Key in Front Panel at the same time, and go to Factory mode.
   - Select VPC3230 in Factory mode.
   - Adjust to the following levels with VOLUME UP/DOWN, CH UP/DOWN
     a. CONTRAST 52
     b. BRIGHT 9
     c. PEAKING 0
     d. CIP CONTRAST 12
     e. CIP BRIGHT 7

*** No need to adjust when the SET is stable.

PCB ASSEMBLY FUNCTIONAL DESCRIPTION

A/D Board

Display conversion A/D Board assembly (champion Junior) connector location:

Reference	Description	Pin	Connector Type 4
JA360	Analog RGB input		15 Pin D-sub jack
JAS1	Euro scart input		Scart jack (2202-21T)
JA203	PC-audio input		Ear-phone jack (EJ310CD-5-A 3.5¢)
JA301A	S-Video input		S-Video jack
JA202	Video input		RCA 1P jack
JA201	Sound input		RCA 4P jack
JA204	Video 2/ DVD input		RCA 4P Jack
JA206	Head phone output		Ear-phone jack (EJ310CD-5-A 3.5¢)
CN21M	Tuner connector	8	Moles 53014-08
CN70M	Inverter connector	12	Molex53015-12
CN01M	OSD Control connector	8	Molex53015-08
CN002	RS232 Control connector (option)	4	Molex 53015-04
CN25M	Speaker Connector	4	Molex 53015-04
CN72M	Interface connector	40	PH03-40DS-G

- **CN21M (tuner connector)**

Pin No	Symbol	Description
1	VCC	+5V
2	GND	GND
3	SDA	12C serial data
4	SCL	12C serial clock
5	GND	GND
6	CVBS	CVBS out
7	GND	GND
8	SIF	Sound IF out

- **CN70M (inverter connector)**

Pin No.	Symbol	Description
1	VCC	+24V
2	VCC	
3	VCC	
4	NC	
5	PWSEL	Select of luminance control signal method
6	BRTP	PWM signal
7	BRTI	Luminance control by voltage method
8	BRTC	Backlight ON/OFF signal
9	NC	
10	GND	GND
11	GND	
12	GND	

- **CN25M (speaker connector)**

Pin No.	Symbol	Description
1	R+	Speaker out right
2	R-	GND
3	L-	GND
4	L+	Speaker out left

- **CN72M (interface connector)**

Pin No.	Symbol	Description
1	VLCD	+12Vcc
2	VLCD	+12Vcc
3	RA0	Red Data (LSB)
4	RA1	Red Data
5	RA2	Red Data
6	RA3	Red Data
7	RA4	Red Data
8	RA5	Red Data
9	GND	Ground
10	GND	Ground
11	RA6	Red Data

Pin No.	Symbol	Description
12	RA7	Red Data (MSB)
13	GA0	Green Data (LSB)
14	GA1	Green Data
15	GA2	Green Data
16	GA3	Green Data
17	GND	Ground
18	GND	Ground
19	GA4	Green Data
20	GA5	Green Data
21	GA6	Green Data
22	GA7	Green Data (MSB)
23	BA0	Blue Data (LSB)
24	BA1	Blue Data
25	GND	Ground
26	GND	Ground
27	BA2	Blue Data
28	BA3	Blue Data
29	BA4	Blue Data
30	BA5	Blue Data
31	BA6	Blue Data
32	BA7	Blue Data (MSB)
33	GND	Ground
34	GND	Ground
35	LVSYNC	Vertical sync
36	LCKA	Dot Clock
37	GND	Ground
38	GND	Ground
39	LHSYNC	Horizontal Sync
40	LDTC	Data Enable

OSD Control Board

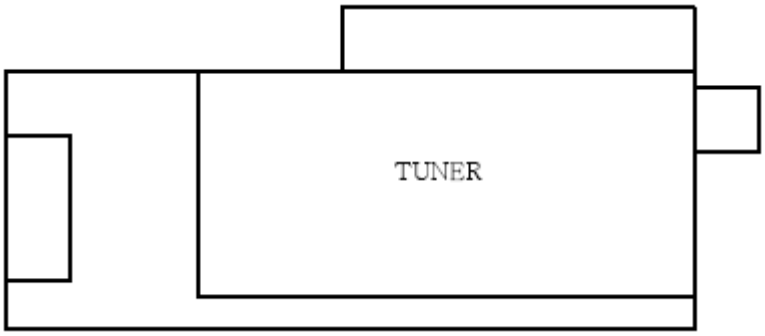
OSD Key Pad Control Board Assembly.
The Control Board assembly is the OSD user control /interface.

Control PCB connector and switch identification.

Reference	Description	Connector type
Sw1	POWER	IT-1102AH-T
Sw2	SELECT	IT-1102AH-T
Sw3	VOL+	IT-1102AH-T
Sw4	VOL-	IT-1102AH-T
Sw5	CH+	IT-1102AH-T
Sw6	CH-	IT-1102AH-T
Sw7	Menu	IT-1102AH-T
LED	LED	SAM3270
RM03	Remocon reciver	Rom-N338TM2
CNC01	OSD Connector	MOLEX 53015-0810

Tuner board

Tuner control board assembly



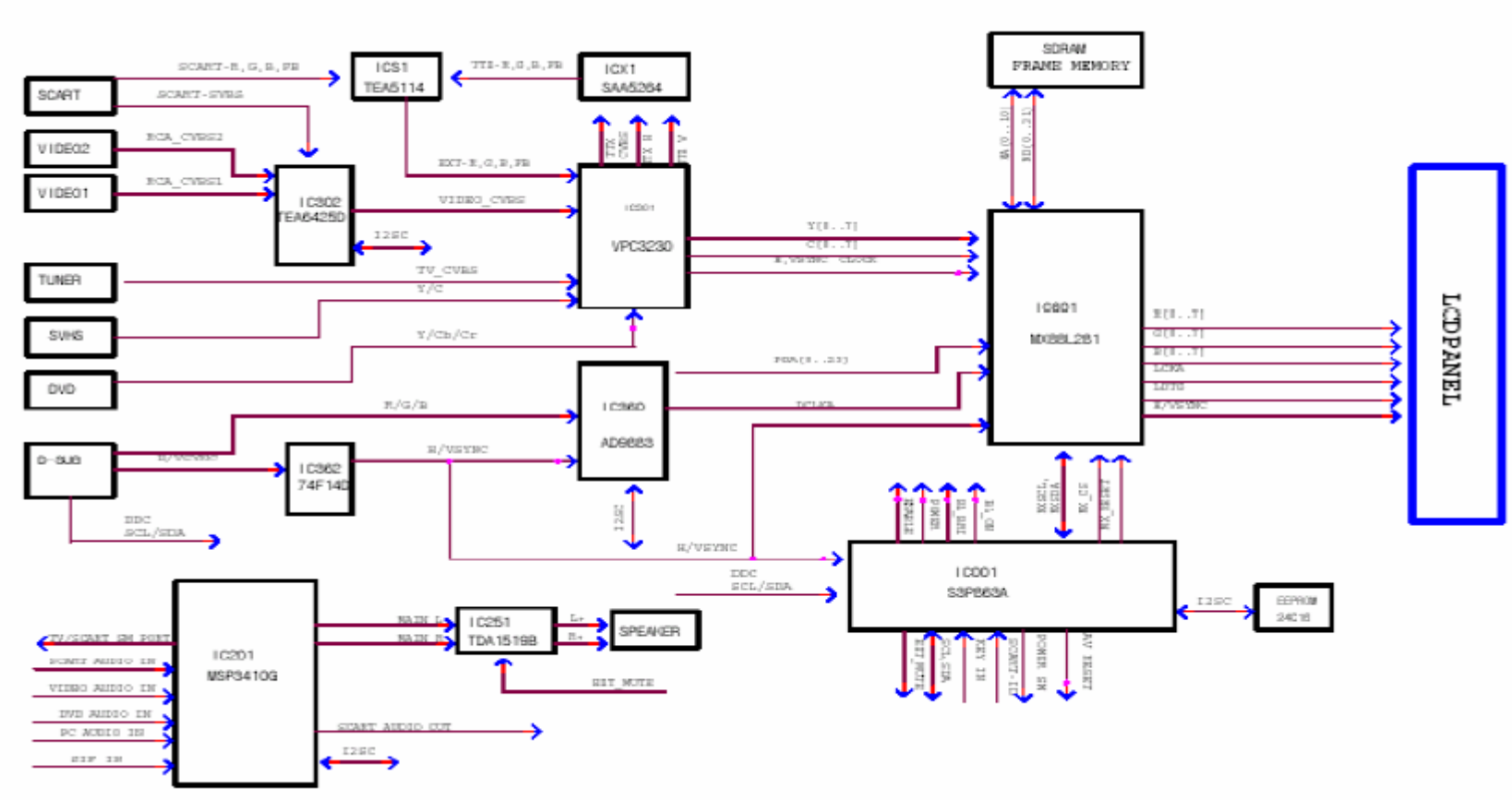
Tuner specification

Model			**TCPQ9091PD27D(T) (SAM SUNG)**
Receiving			PAL – B /GD /K, I SECAM L /L’
Channel	VHF	LOW	48.25MHz ~ 168.25MHz
		HI	175.25MHz ~ 463.25MHz
	UHF		471.25MHz ~ 855.25MHz

TUNER PCB connector and switch identification

Pin No	**Symbol**	**Description**
1	VCC	+5V
2	GND	GND
3	SDA	I2C serial Data
4	SCL	I2C serial clock
5	GND	GND
6	CVBS	CVBS out
7	GND	GND
8	SIF	Sound if out

BLOCK DIAGRAM



IMPORTANT IC LIST

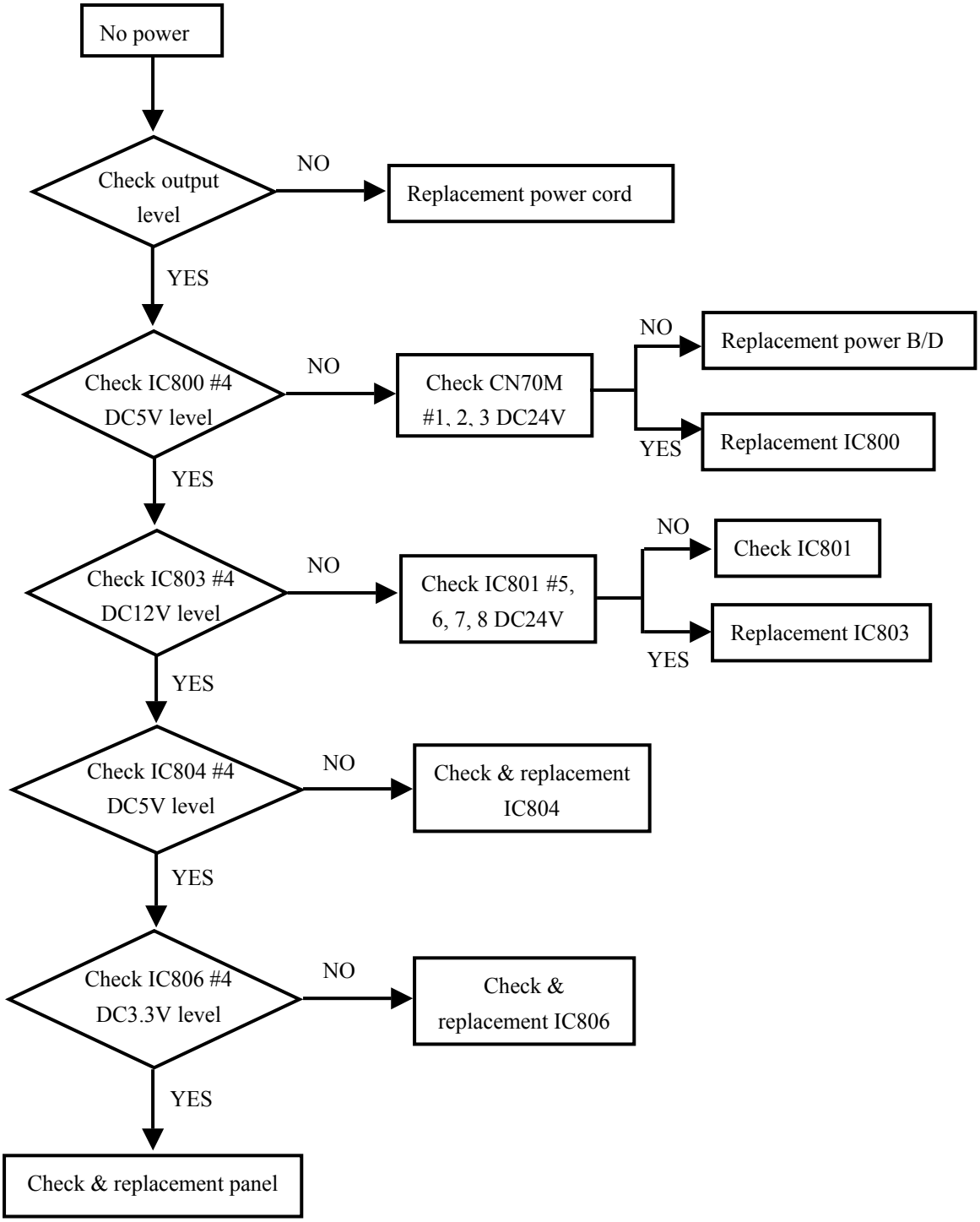
No	Part type	Specification	Package	Qty	Ref No
1	IC image scaller	MX88L284AEC	QFP-282	1	IC601
2	IC Video	VPC3230D-C5	PQFP-80	1	IC301
3	IC Audio	MSP3410G-B8	PQFP-80	1	IC201
4	IC Video S/W	TEA6425D	SOIC	1	IC302
5	IC ADC	MST9883C-110	LQFP-80	1	IC360
6	IC Memory	HY57V16160DTC-7	SOP-50	2	IC701, IC702
7	IC Micom	S3P863AXZZ /OTP DIP	DIP	1	IC0001
8	IC TTX	SAA5264PS /M3 /0104 DIP	DIP	1	ICX1
9	IC Audio AMP	TDA1519B	SOT110	1	IC251
10	IC RGB S/W	TEA5114A DIP	DIP	1	ICS1
11	IC EEPROM	24C16 ROM DIP	DIP	1	IC002
12	IC Logic	N74F14D	SOIC	1	IC362
13	IC EEPROM	24C02 DIP	DIP	1	ICX2
14	IC Reset	KIA7042AF	SOT-89	1	IC003

TROUBLE SHOOTING

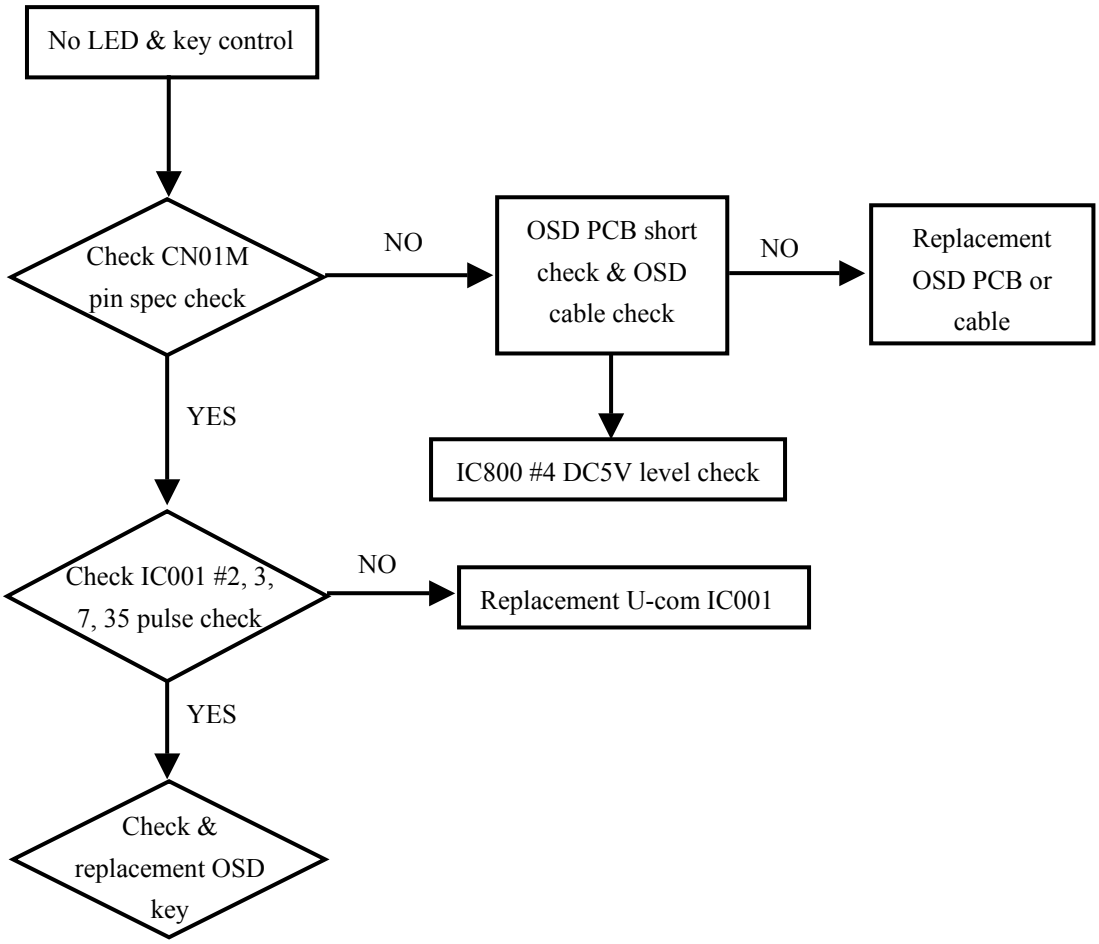
What you see	Suggestion actions	Reference
Screen is blank and power indicator is off	➢ Ensure that the power cord is firmly connected and the LCD monitor is on	Connecting a PC.
"CHECK CABLE OR SIGAL" message	➢ Ensure that the signal cable is firmly connected to the PC or video sources. ➢ Ensure that the PC or video sources are tuned on.	Connecting a PC, TV, VCR.
"INVALID MODE" massage	➢ Check the maximum resolution and the frequency of the video adaptor. ➢ Compare these values with the data in the display modes timing chart.	PC stable adjustment.
The image is too light or too dark	➢ Adjust the brightness and contrast.	
Horizontal bars appear to flicker, jitter or shimmer on the image	➢ Adjust the clock function. Auto tracking will clear it automatically.	
Vertical bars appear to flicker, jitter or shimmer on the image	➢ Adjust the phase function and then adjust the clock function. ➢ Auto tracking will clear it automatically.	
Image is not stable and may appear to vibrate	➢ Auto tracking will clear it automatically. ➢ Check that the display resolution and frequency from your PC or video board is an available mode for your monitor. ➢ On your computer check control panel, display, setting.	PC stable adjustment.
	➢ Horizontal frequency ➢ Vertical frequency ➢ Maximum refresh rate	31khz 56~85hz 640*480 @ 60hz

What you see	Suggestion actions	Reference
Image is not centered on the screen	➢ Auto position will set the best position automatically	Auto position, h position v-position.
No sound	➢ Adjust the horizontal and vertical position. ➢ Ensure that the audio cable is firmly connected to both the audio-in jack on your monitor and the audio-out jack on your sound card. ➢ Check the volume level.	Connecting a PC, TV, VCR.
Sound level is too low	➢ Check the volume level ➢ If the volume is still too low after turning the control to its maximum, check the volume control on the computer sound card or software program.	Refer to your computer, sound card or software documentation.
Sound is too high pitched or too low pitched	➢ Adjust the treble and bass to appropriate level.	
TV signal is not received	➢ Ensure that the antenna cable is firmly connected to the VHF /UHF jack. ➢ Check “channel memory” and make sure you choose the correct channel system. ➢ Select “Auto tuning” to configure the channel system automatically.	Channel memory.

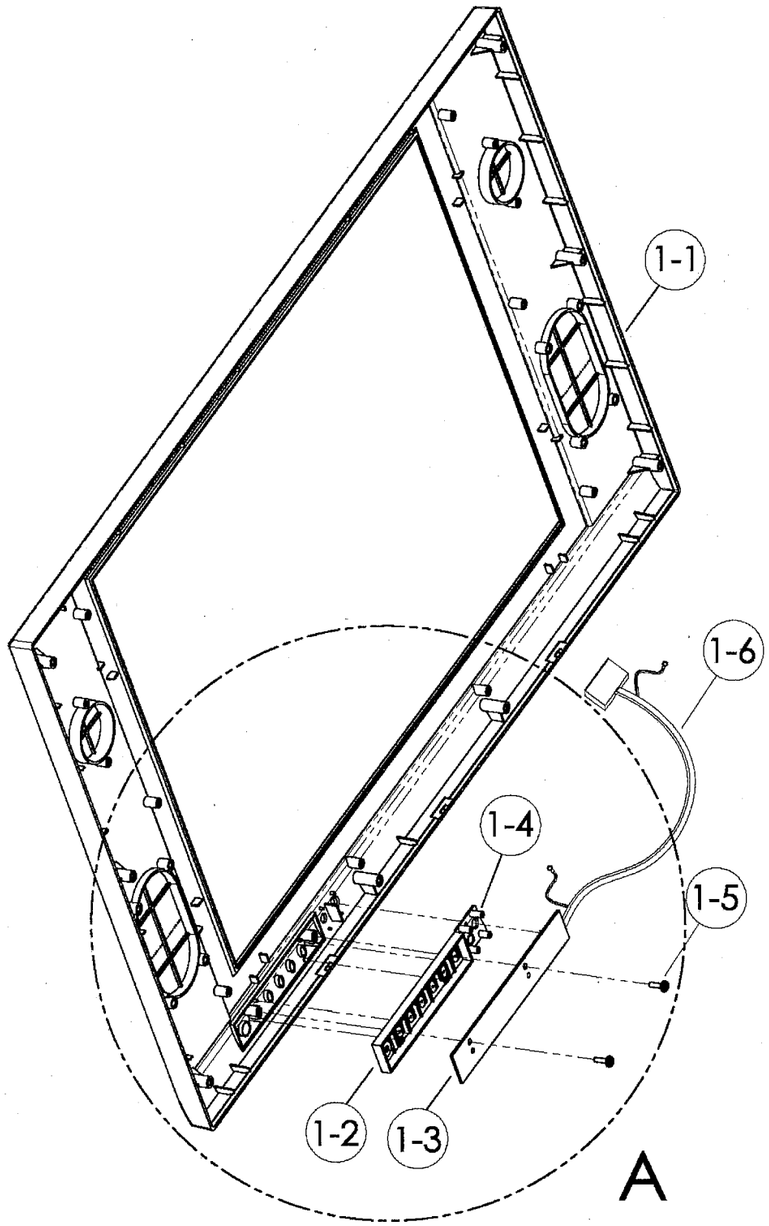
No power

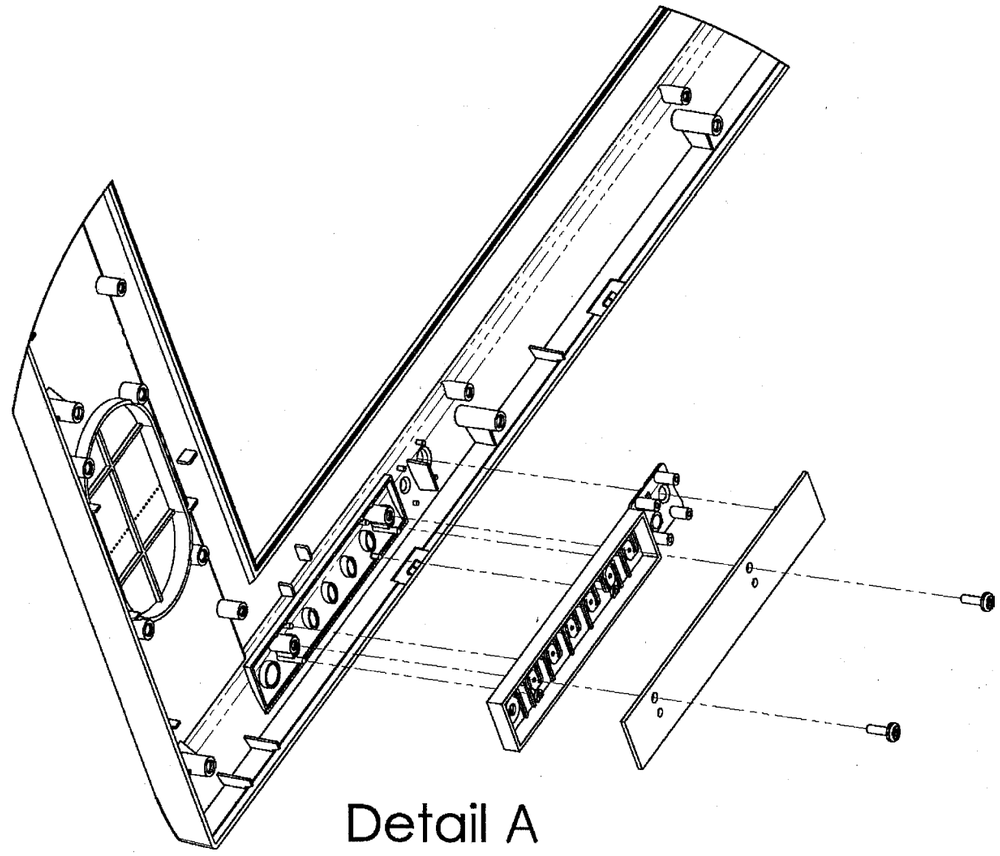

No power
Check output level
NO
Replacement power cord
YES
Check IC800 #4 DC5V level
NO
Check CN70M #1, 2, 3 DC24V
NO
Replacement power B/D
YES
Replacement IC800
YES
Check IC803 #4 DC12V level
NO
Check IC801 #5, 6, 7, 8 DC24V
NO
Check IC801
YES
Replacement IC803
YES
Check IC804 #4 DC5V level
NO
Check & replacement IC804
YES
Check IC806 #4 DC3.3V level
NO
Check & replacement IC806
YES
Check & replacement panel

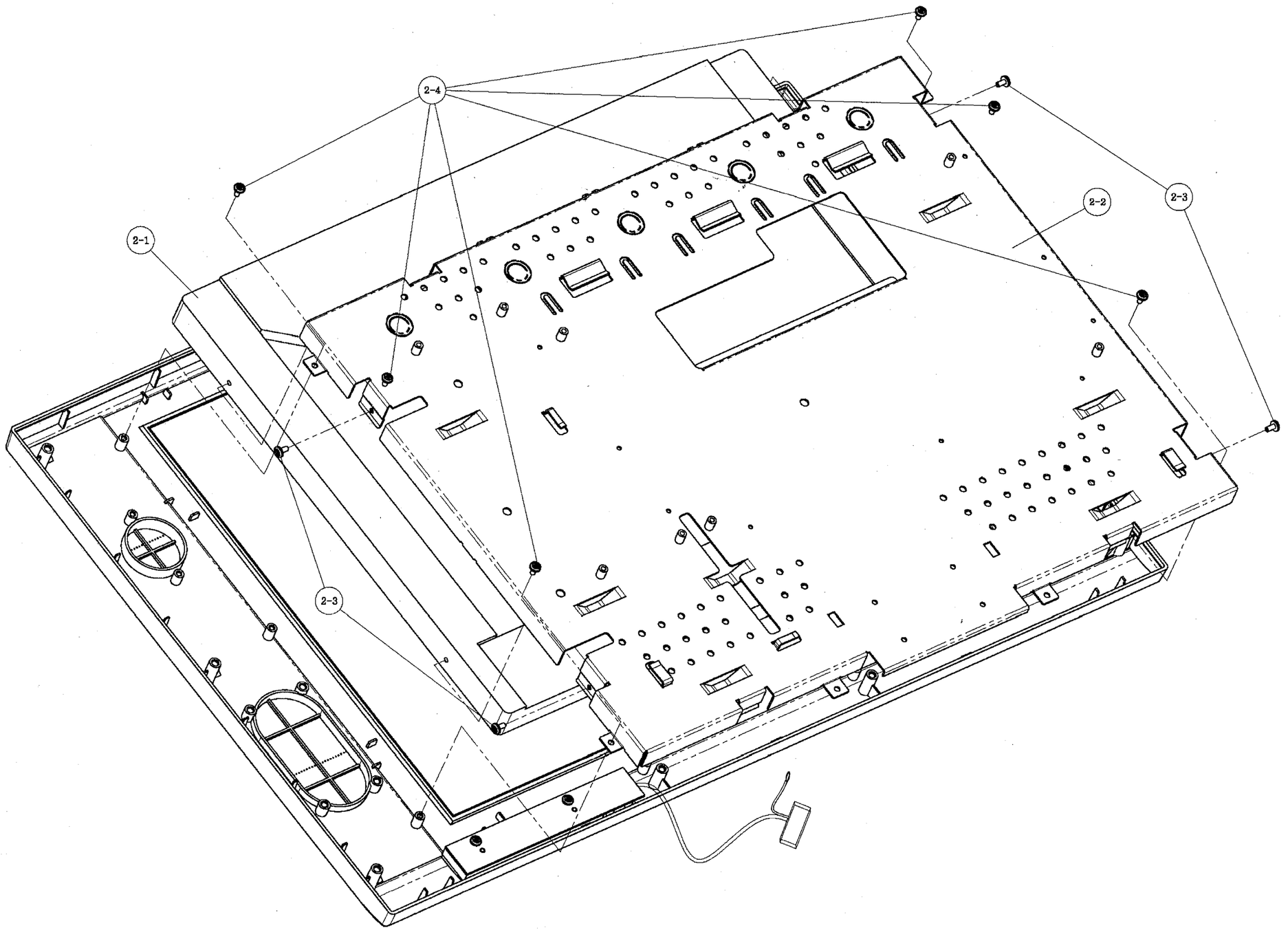
No LED & key control



EXPLODED VIEW



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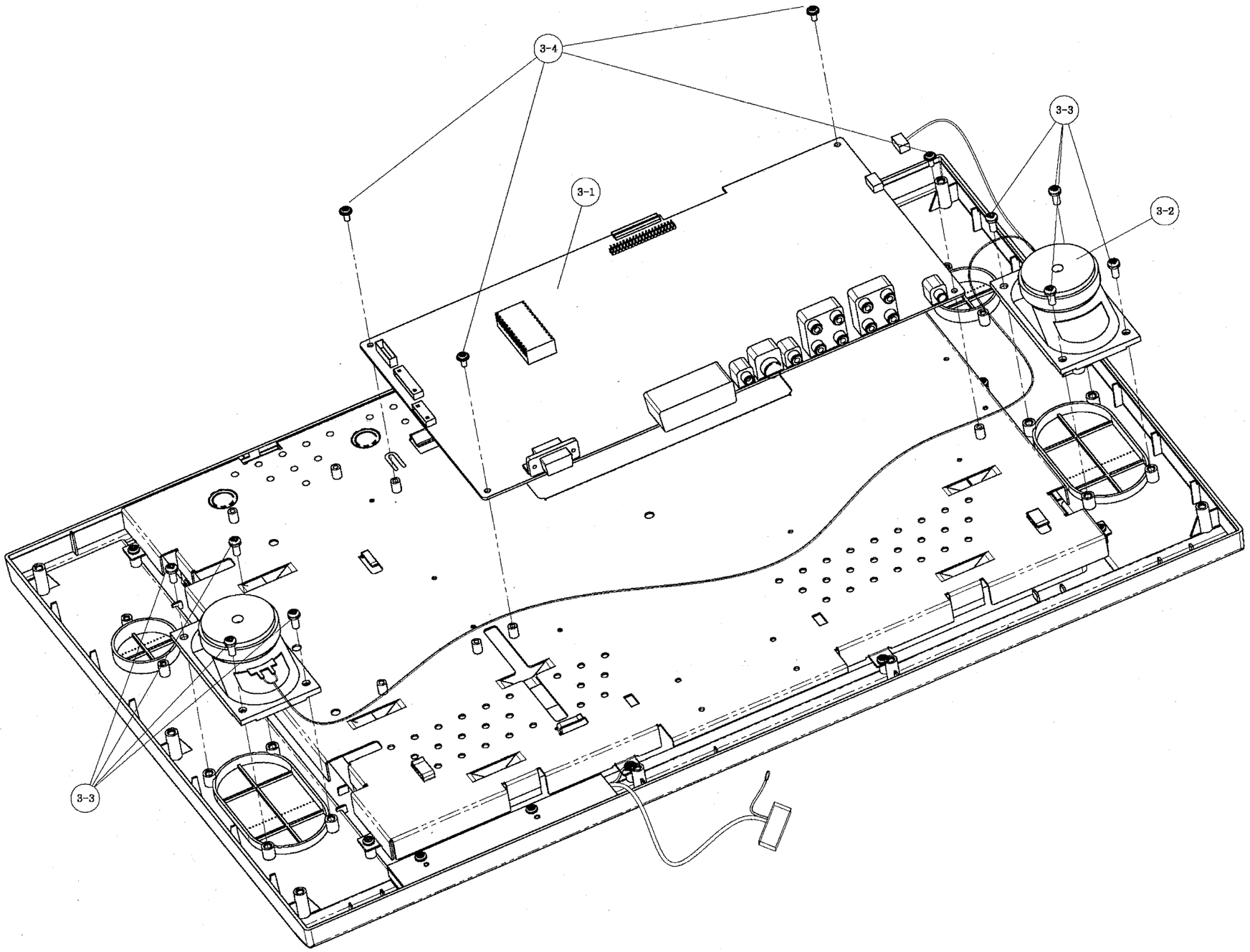
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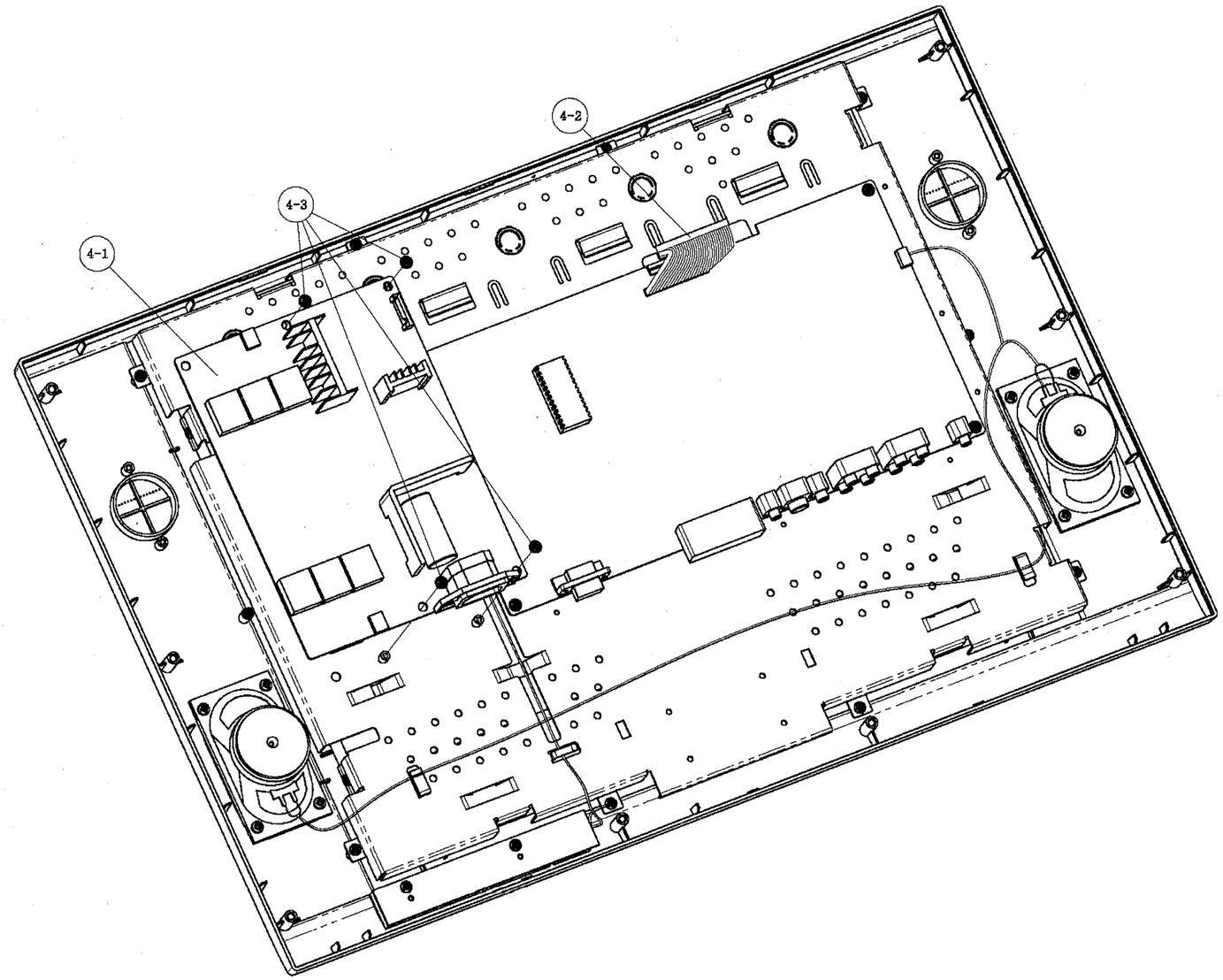
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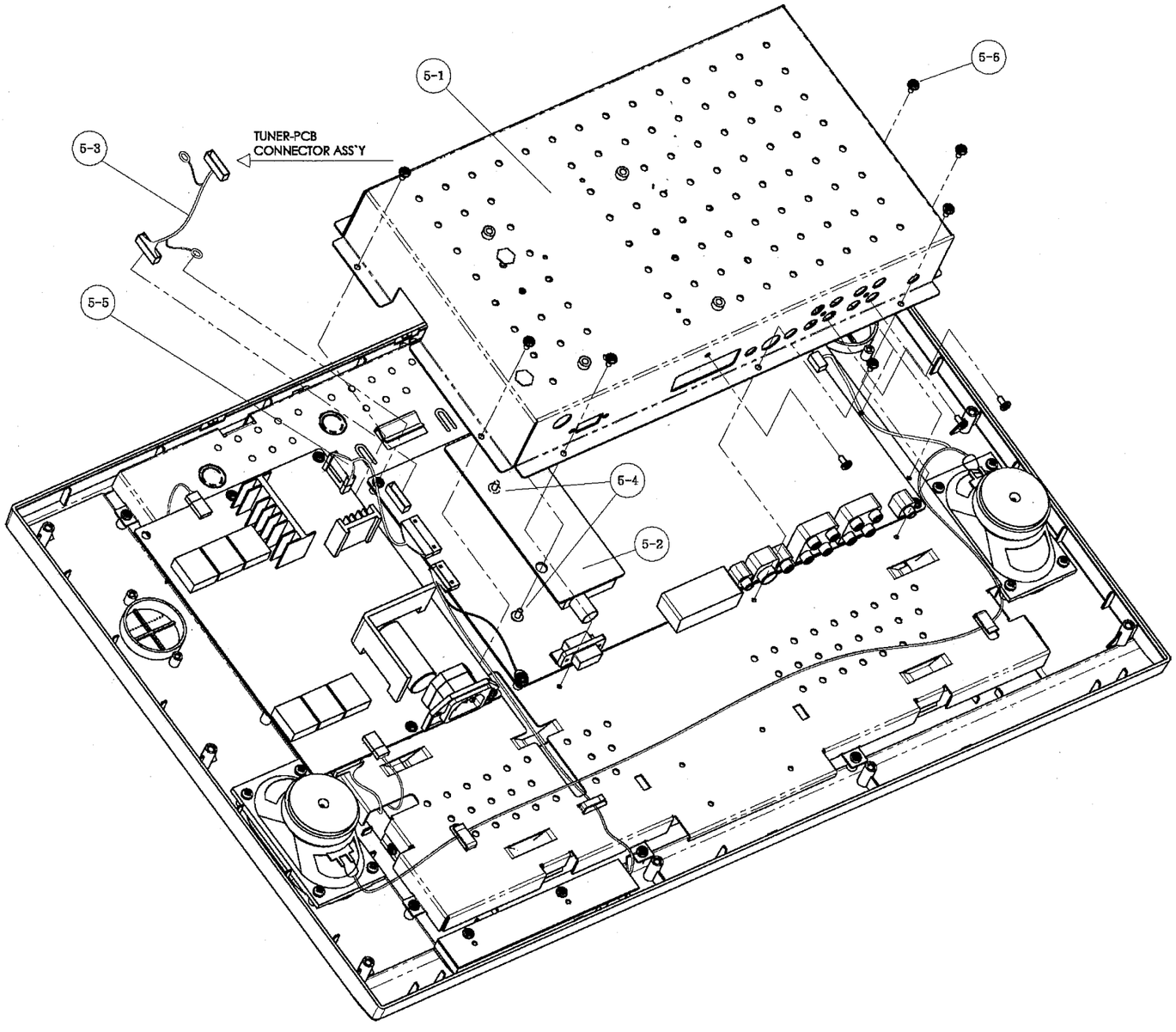
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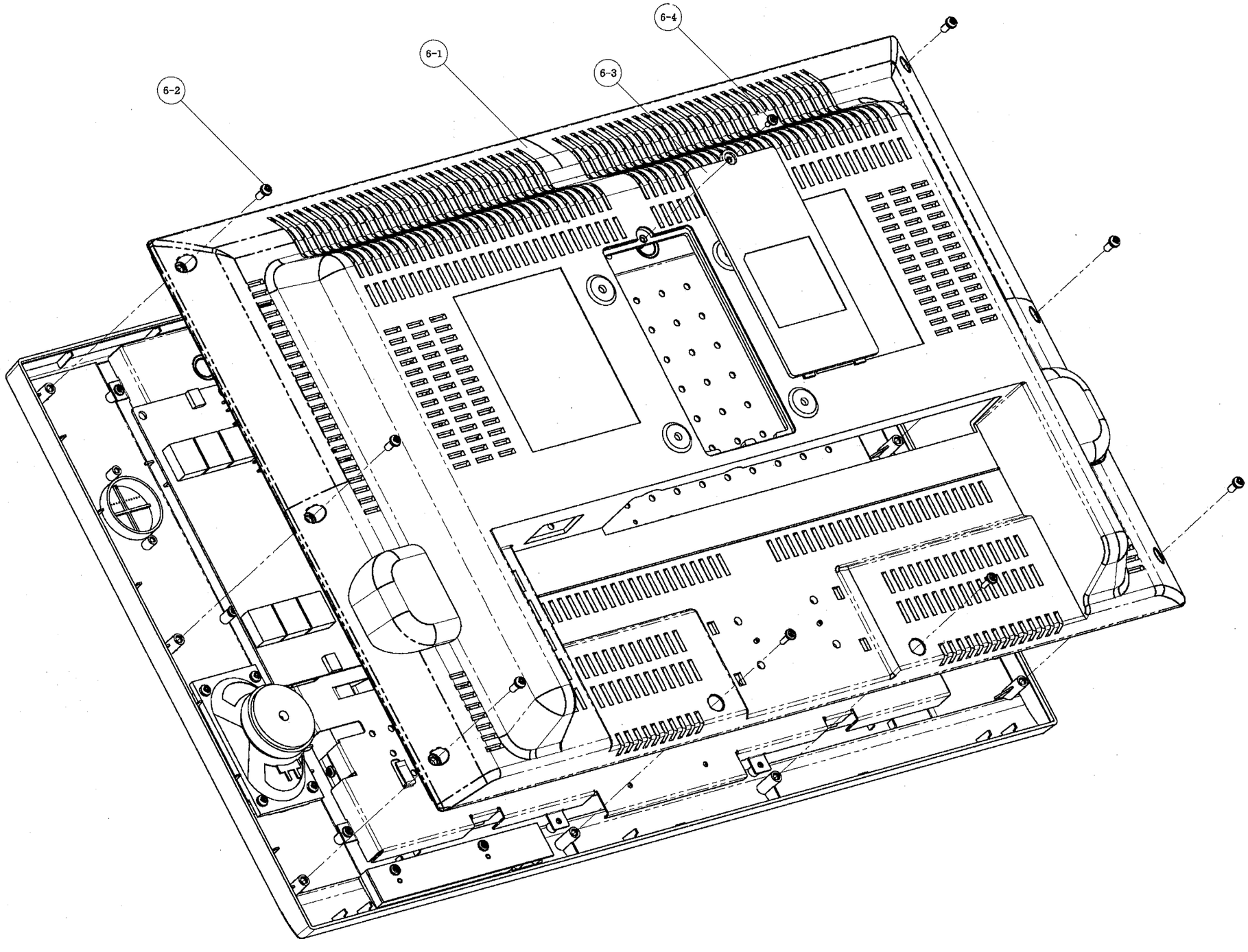
TUNER-PCB
CONNECTOR ASS'Y
5-4
5-5
5-6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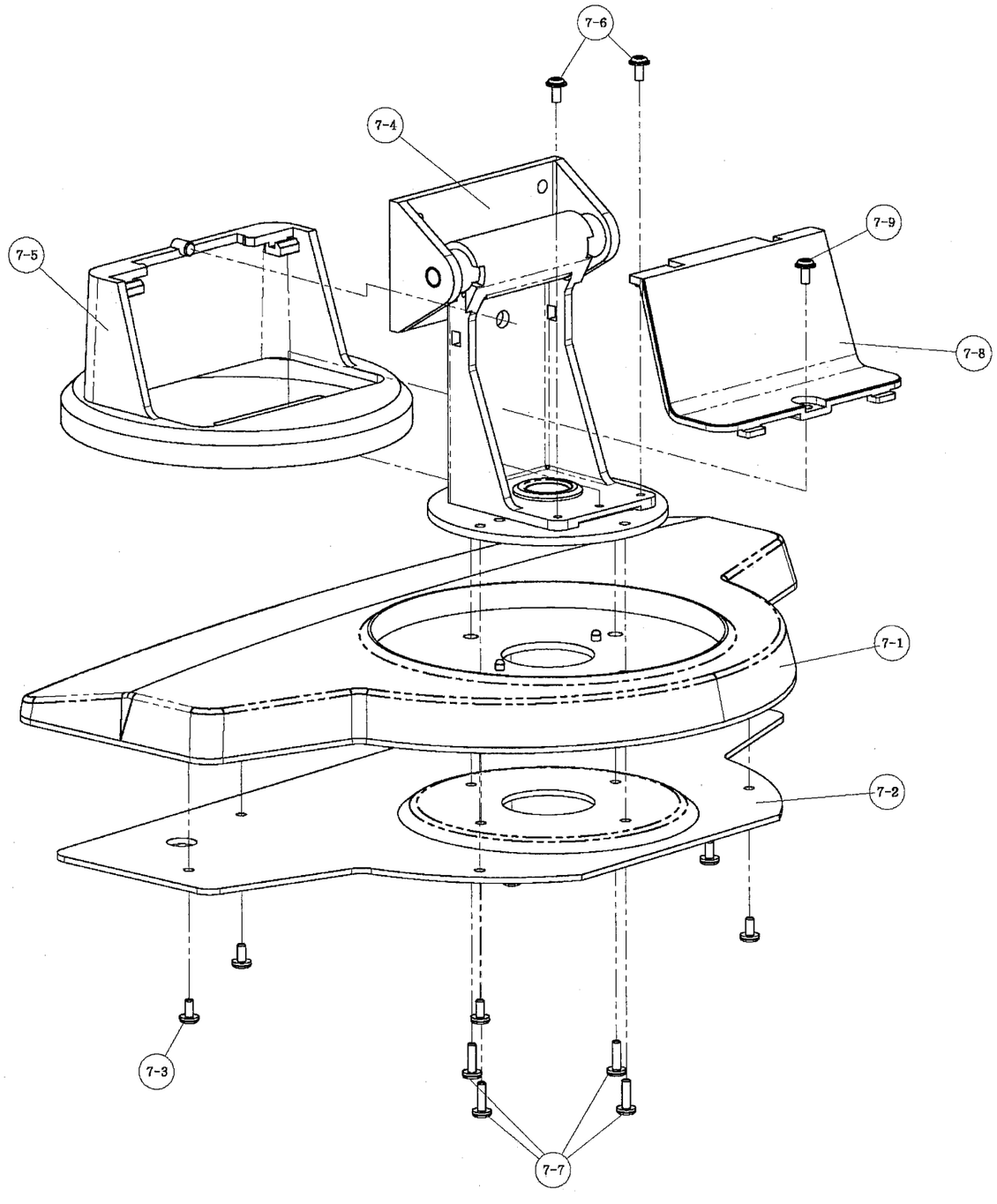
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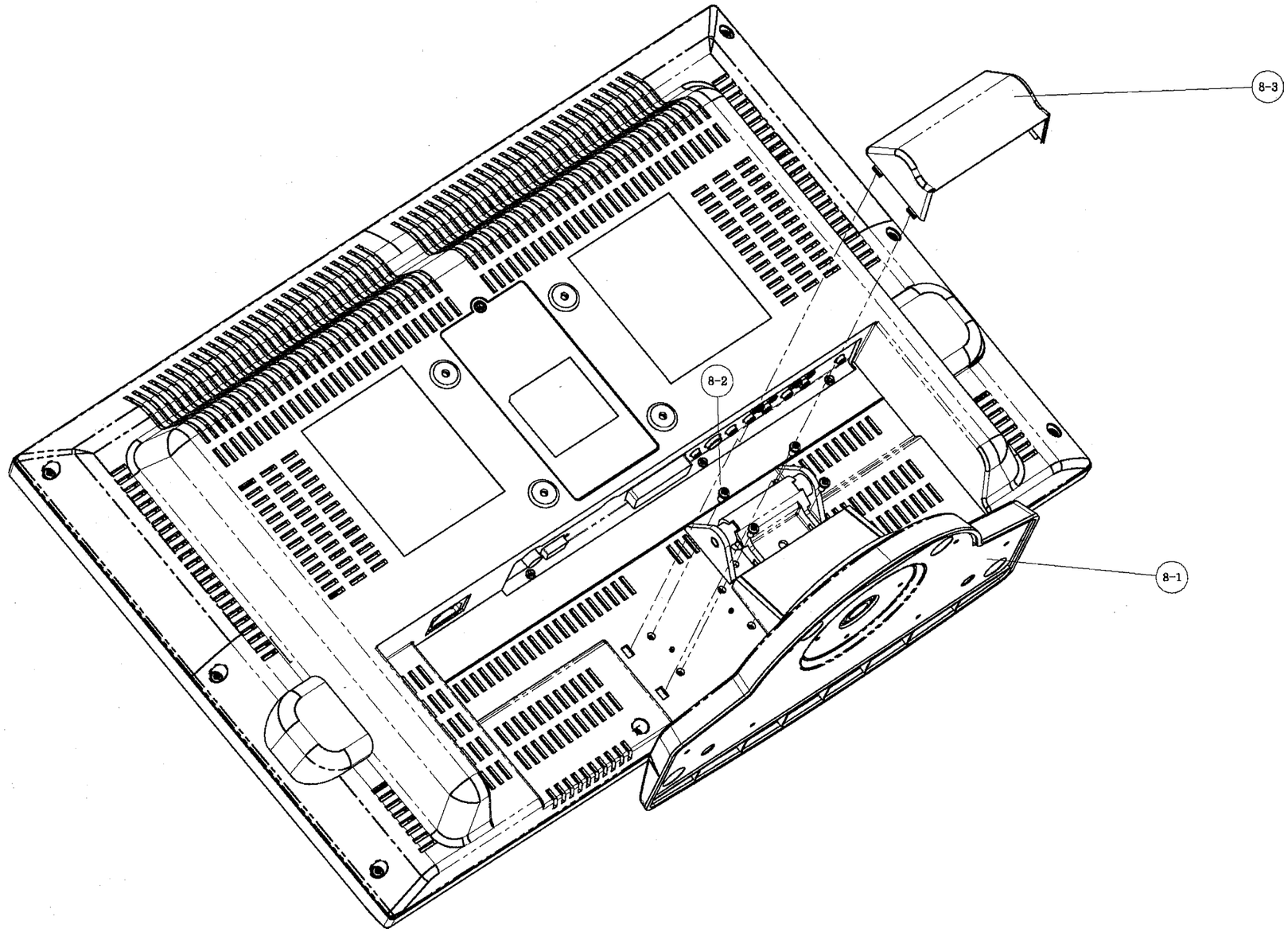
7-7


8-3
8-2
8-1

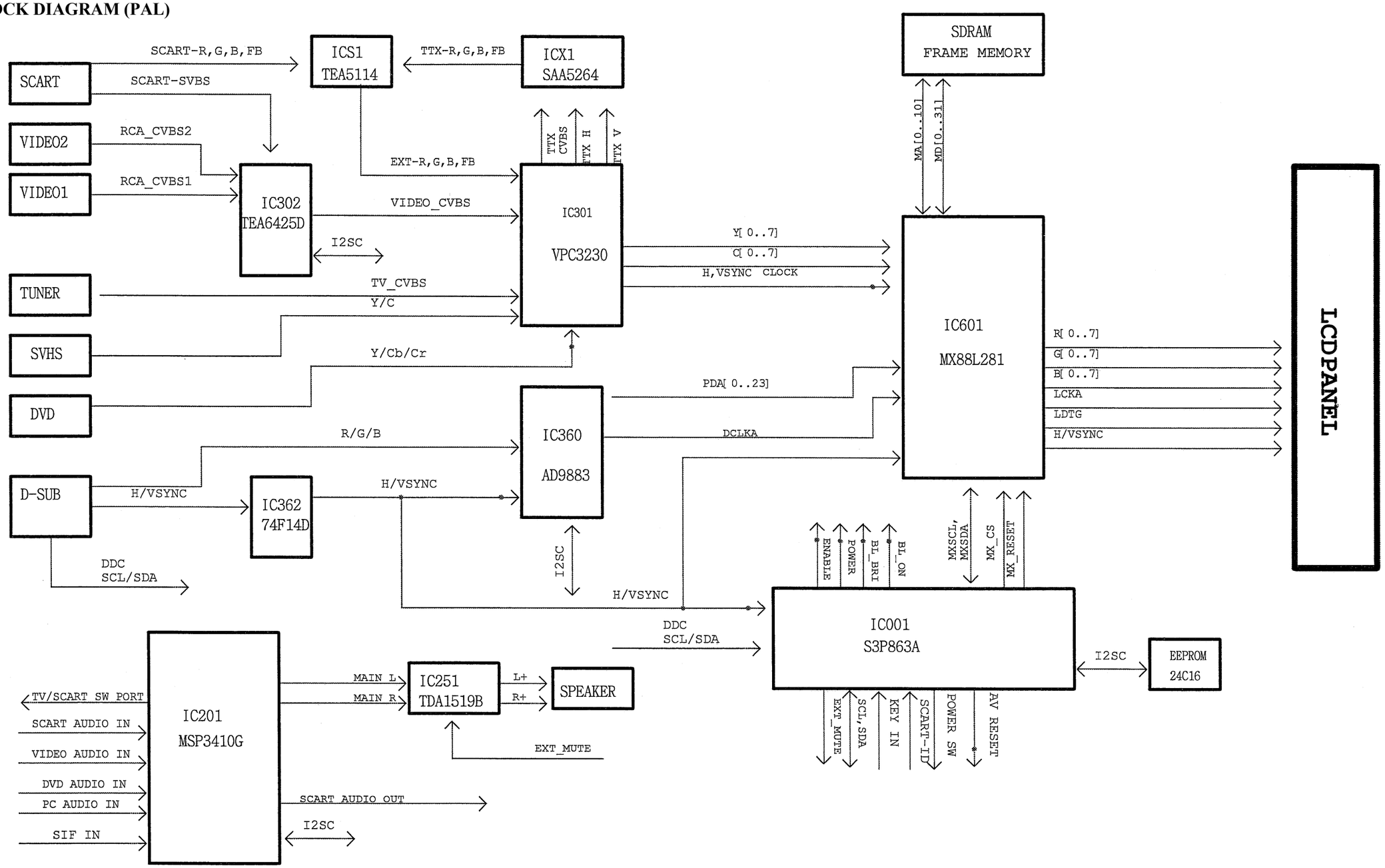
PART LIST

No	Part name	Qty
1-1	Front cover	1
1-2	Key knob	1
1-3	OSD PCB	1
1-4	Window	1
1-5	BTS-(TT) 3*8	2
1-6	OSD PCB cable	1
2-1	LCD-Panel	1
2-2	Main chassis	1
2-3	BHS M3x5	4
2-4	TTB (TT) 3x8	6
3-1	Main PCB	1
3-2	Speaker ass'y	1
3-3	PTS (TT) 4x8	8
3-4	BMS 4x6	4
4-1	Power-lips	1
4-2	Signal-cable	1
4-3	BMS 4x6	4
5-1	EMI-cover	1
5-2	Tuner-PCB	1
5-3	Tuner cable	4
5-4	Lips cable	1
5-5	BMS M3x6	2
5-6	BTS (TT) 3x6	10
6-1	Rear cover	1
6-2	PTS (TT) 4x10	8
6-3	Tuner cover	4
6-4	WPTS (TT) 4x8	1
7-1	Base cover	1
7-2	Metal base	1
7-3	BTS (TT) 3x8	6
7-4	Hinge body	1
7-5	Base cover-F	1

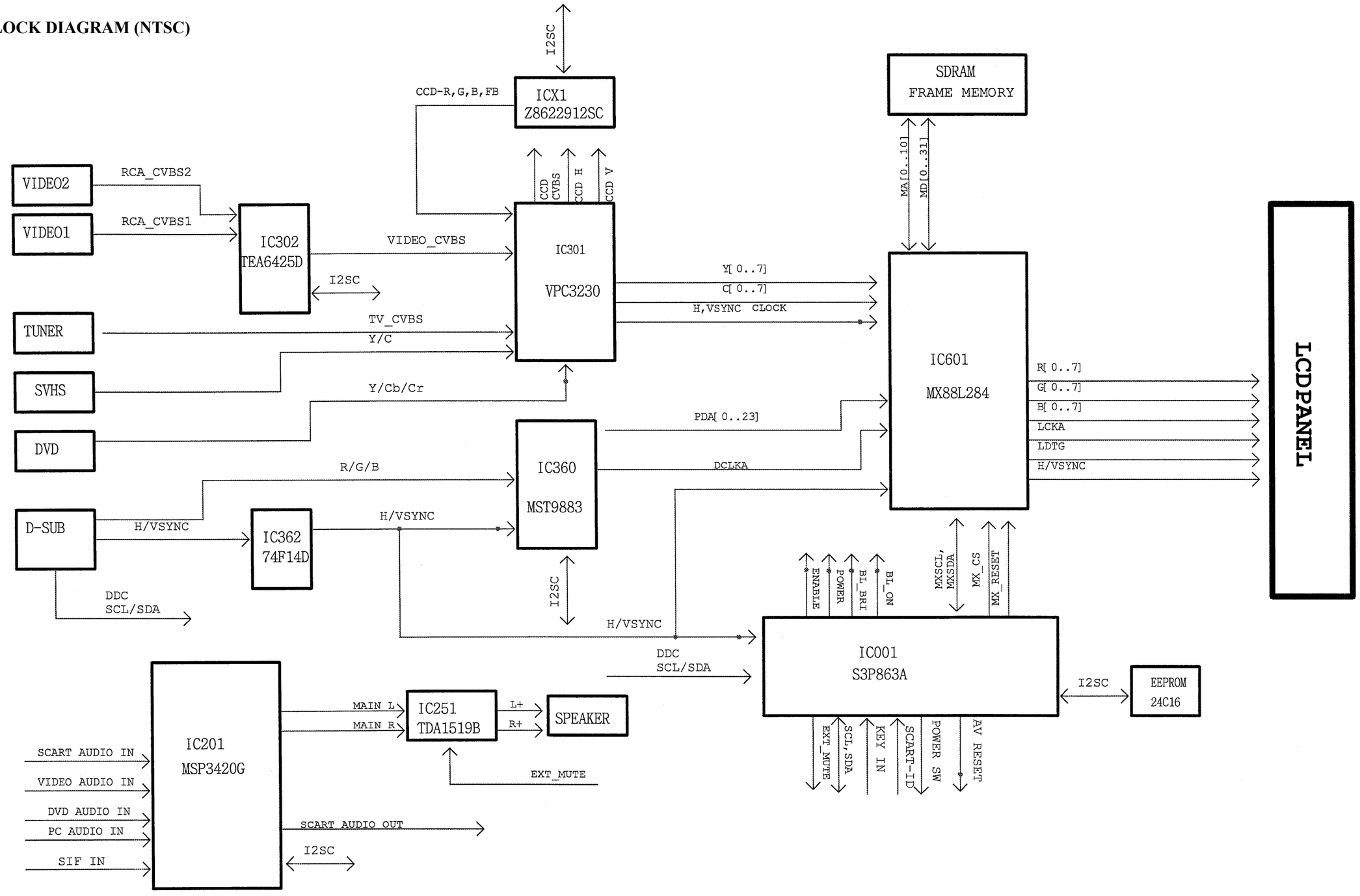
No	Part name	Qty
7-6	BHM M3x6	2
7-7	BHM M4x10-SEMS	4
7-8	Base cover-R	1
7-9	BHM M3x6	1
8-1	Stand ass'y	1
8-2	PMS M4x12-SEMS	4
8-3	Hinge cover	1

CIRCUIT DIAGRAM

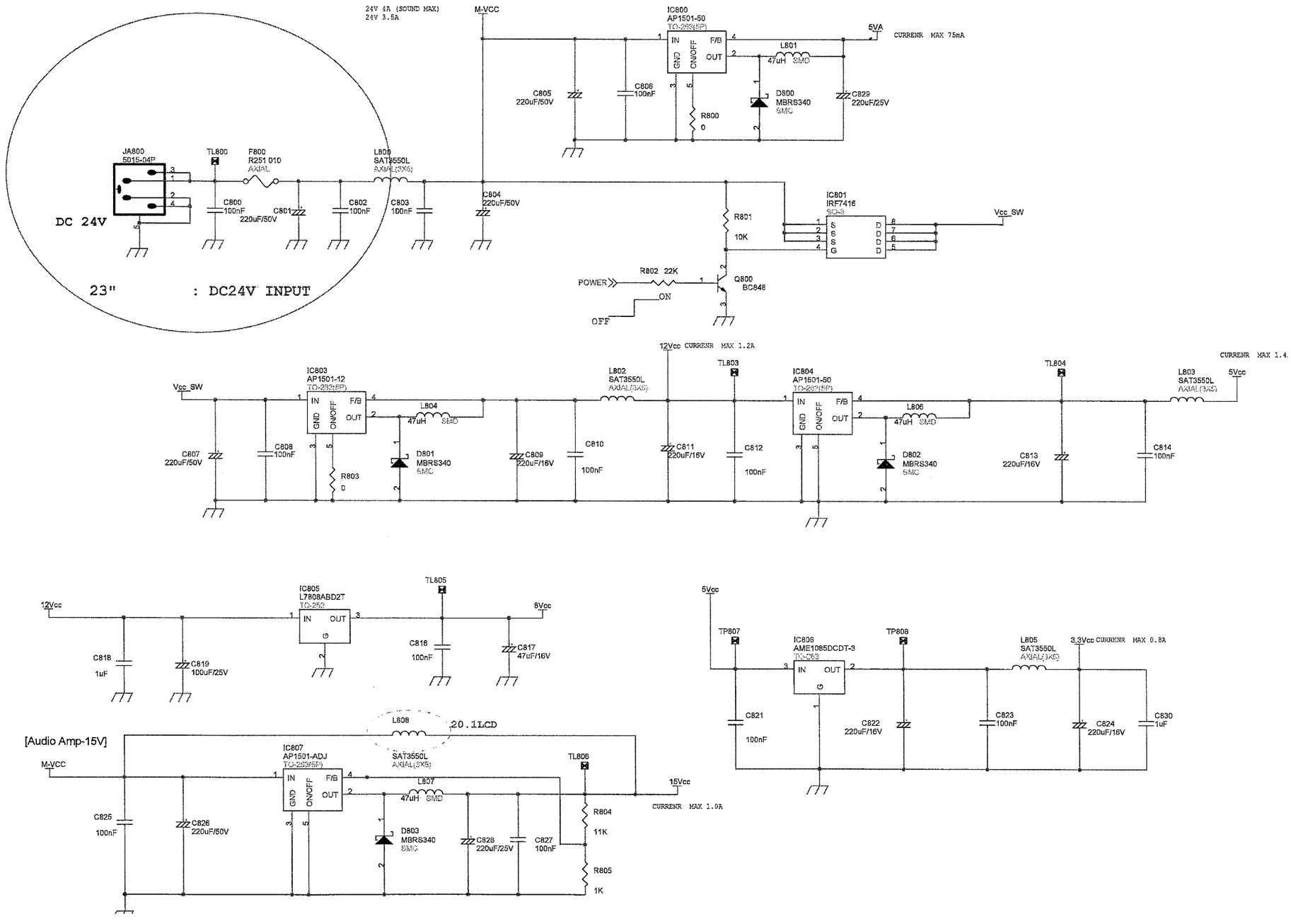
BLOCK DIAGRAM (PAL)



BLOCK DIAGRAM (NTSC)



POWER


24V 4A (SOUND MAX)
24V 3.5A
M-VCC
IC800
AP1501-50
TO-263(5P)
IN
GND
ON/OFF
F/B
OUT
5VA
CURRENR MAX 75mA
L801
47uH SMD
C805
220uF/50V
C806
100nF
D800
MBRS340
SMC
C829
220uF/25V
R800
0
JA800
5015-04P
TL800
F800
R251 010
AXIAL
L808
SAT3550L
AXIAL(3X5)
C800
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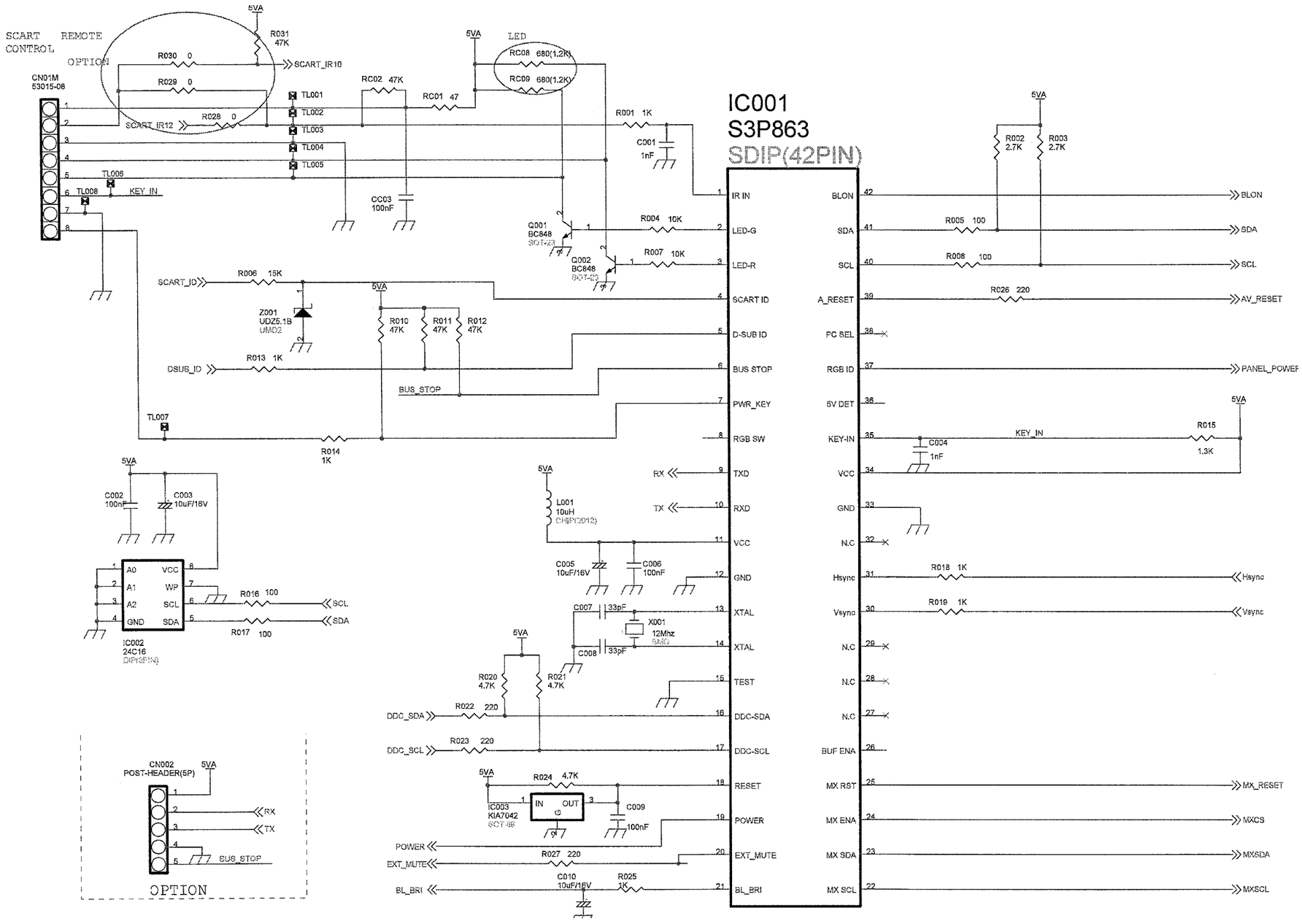
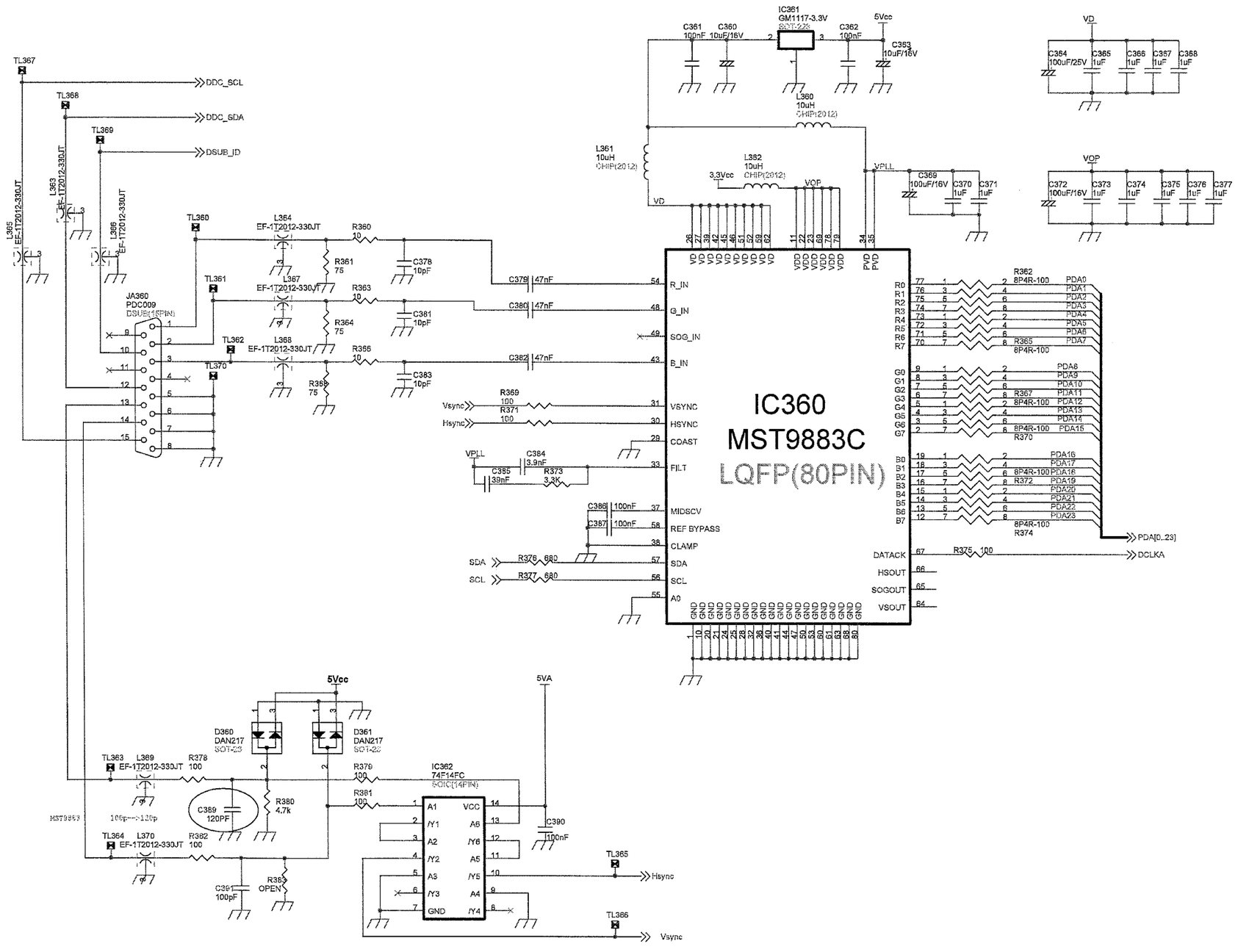
C801
220uF/50V
C802
100nF
C803
100nF
C804
220uF/50V
DC 24V
23" : DC24V INPUT
R801
10K
IC801
IRF7416
SO-8
S
D
G
Vcc_SW
R802 22K
Q800
BC848
POWER
ON
OFF
12Vcc CURRENR MAX 1.2A
TL803
IC803
AP1501-12
TO-263(5P)
L802
SAT3550L
AXIAL(3X5)
IC804
AP1501-50
TO-263(5P)
TL804
L803
SAT3550L
AXIAL(3X5)
5Vcc
CURRENR MAX 1.4.
L804
47uH SMD
L806
47uH SMD
C807
220uF/50V
C808
100nF
R803
0
D801
MBRS340
SMC
C809
220uF/16V
C810
100nF
C811
220uF/16V
C812
100nF
D802
MBRS340
SMC
C813
220uF/16V
C814
100nF
IC805
L7808ABD2T
TO-252
TL805
12Vcc
8Vcc
C818
1uF
C819
100uF/25V
C816
100nF
C817
47uF/16V
5Vcc
TP807
IC806
AME1085DCDT-3
TO-252
TP809
L805
SAT3550L
AXIAL(3X5)
3.3Vcc CURRENR MAX 0.8A
C821
100nF
C822
220uF/16V
C823
100nF
C824
220uF/16V
C830
1uF
[Audio Amp-15V]
L808
20.1LCD
M-VCC
IC807
AP1501-ADJ
TO-263(5P)
SAT3550L
AXIAL(3X5)
TL806
15Vcc
CURRENR MAX 1.0A
L807
47uH SMD
C825
100nF
C826
220uF/50V
D803
MBRS340
SMC
C828
220uF/25V
C827
100nF
R804
11K
R805
1K

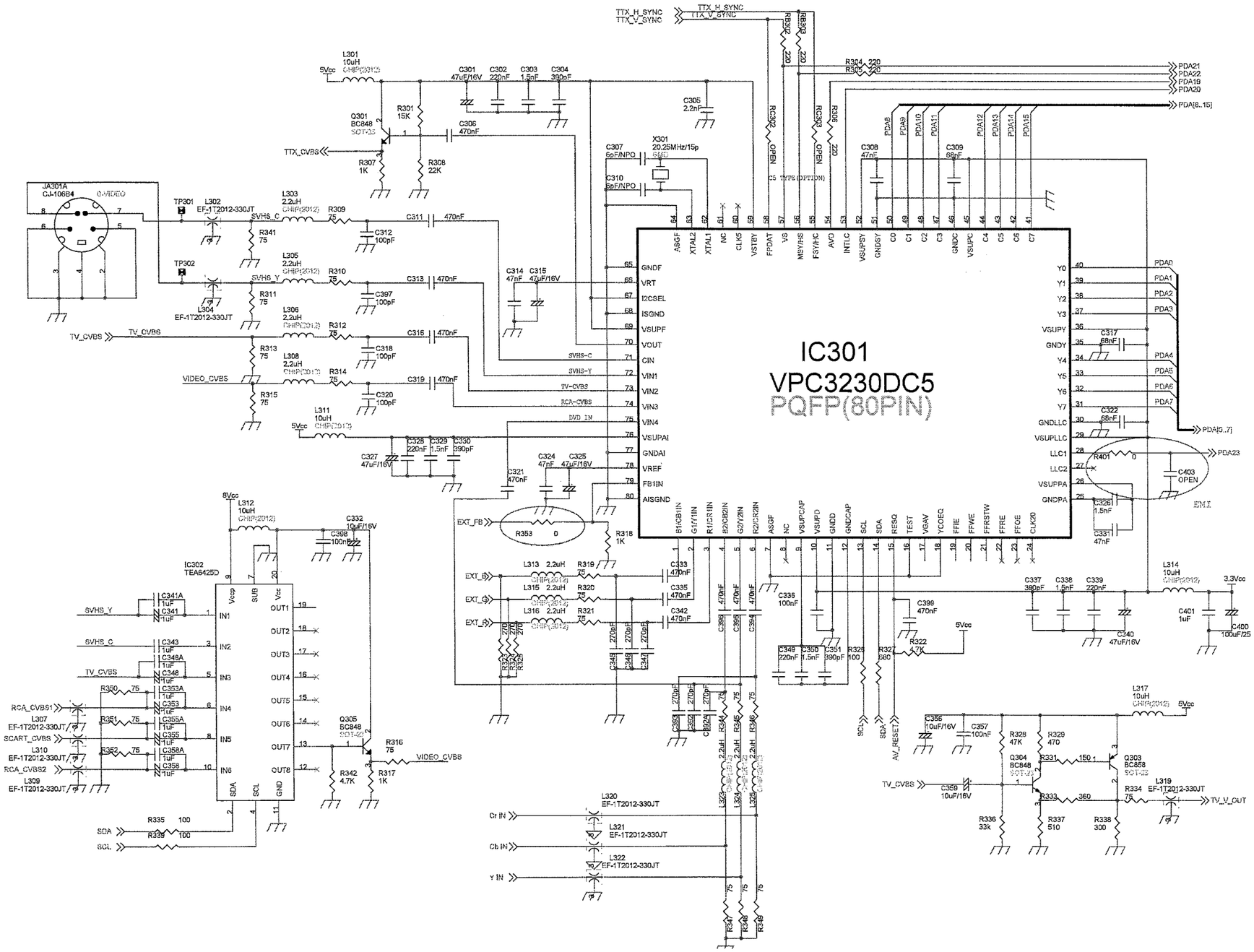
U-COM


IC001
S3P863
SDIP(42PIN)
SCART REMOTE CONTROL
OPTION
CN01M
53015-08
R030 0
R029 0
R028 0
R031 47K
SCART_IR10
SCART_IR12
TL001
TL002
TL003
TL004
TL005
TL006
TL008
KEY_IN
RC02 47K
RC01 47
CC03 100nF
LED
RC08 680(1.2K)
RC09 680(1.2K)
R001 1K
C001 1nF
Q001 BC848 SOT-23
Q002 BC848 SOT-23
R004 10K
R007 10K
SCART_ID
R006 15K
Z001 UDZ5.1B
R010 47K
R011 47K
R012 47K
DSUB_ID
R013 1K
BUS_STOP
TL007
R014 1K
C002 100nF
C003 10uF/16V
IC002 24C16
R016 100
R017 100
SCL
SDA
CN002
POST-HEADER(5P)
RX
TX
BUS_STOP
OPTION
L001 10uH
C005 10uF/16V
C006 100nF
C007 33pF
C008 33pF
X001 12Mhz
R020 4.7K
R021 4.7K
R022 220
R023 220
DDC_SDA
DDC_SCL
R024 4.7K
IC003 KIA7042
C009 100nF
POWER
R027 220
EXT_MUTE
C010 10uF/16V
R025
BL_BRI
IR IN
LED-G
LED-R
SCART ID
D-SUB ID
BUS STOP
PWR_KEY
RGB SW
TXD
RXD
VCC
GND
XTAL
XTAL
TEST
DDC-SDA
DDC-SCL
RESET
POWER
EXT_MUTE
BL_BRI
BLON
SDA
SCL
A_RESET
PC SEL
RGB ID
5V DET
KEY-IN
VCC
GND
N.C
Hsync
Vsync
N.C
N.C
N.C
BUF ENA
MX RST
MX ENA
MX SDA
MX SCL
R002 2.7K
R003 2.7K
R005 100
R008 100
R026 220
R015 1.3K
C004 1nF
R018 1K
R019 1K
BLON
SDA
SCL
AV_RESET
PANEL_POWER
MX_RESET
MXCS
MXSDA
MXSCL
Hsync
Vsync

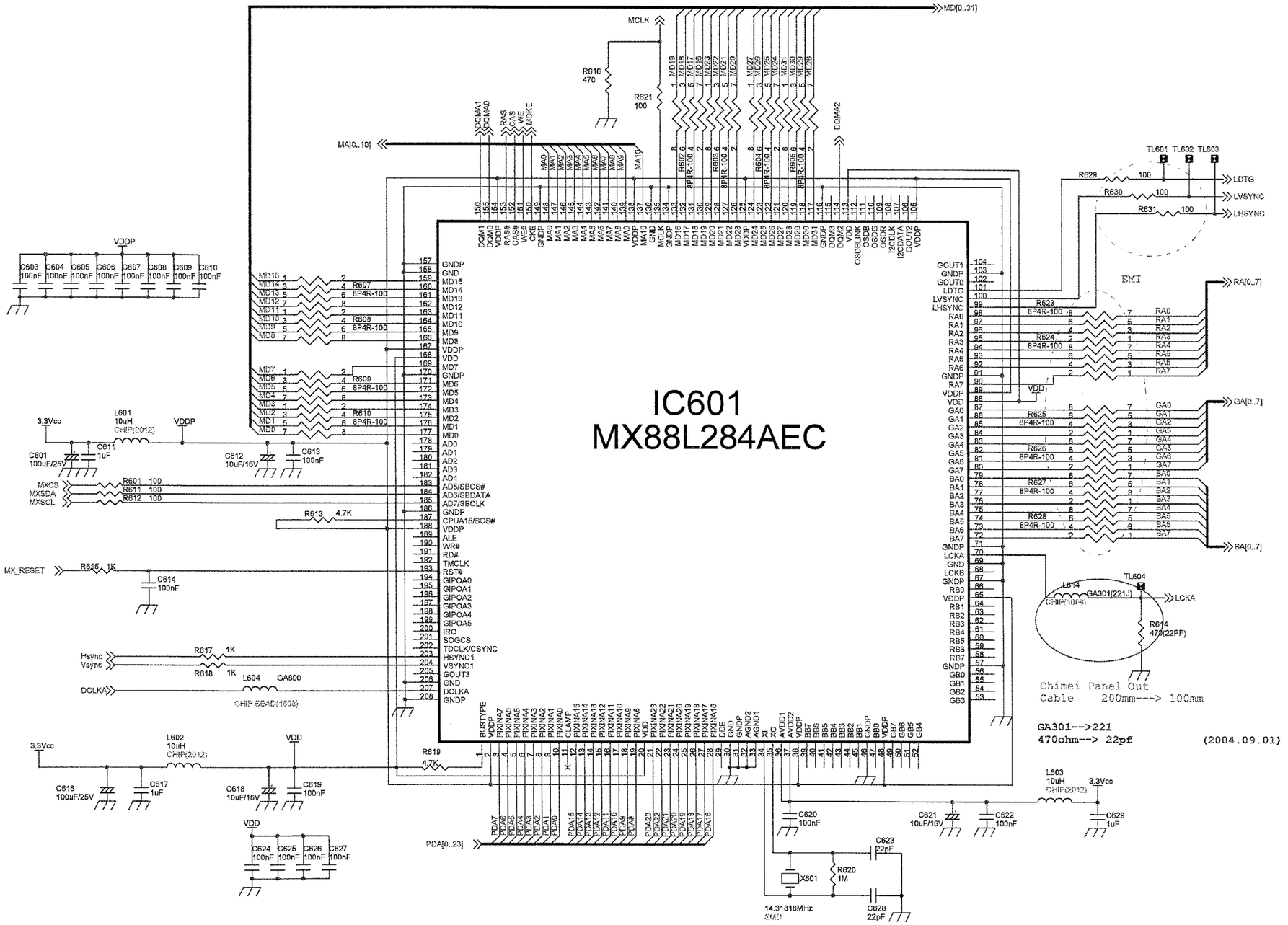
AD9883


IC360
MST9883C
LQFP(80PIN)
IC361
GM1117-3.3V
SOT-223
5Vcc
3.3Vcc
VD
VOP
VPLL
L360
10uH
CHIP(2012)
L361
10uH
CHIP(2012)
L362
10uH
CHIP(2012)
C361 100nF
C360 10uF/16V
C362 100nF
C363 10uF/16V
C354 100uF/25V
C355 1uF
C356 1uF
C357 1uF
C358 1uF
C369 100uF/16V
C370 1uF
C371 1uF
C372 100uF/16V
C373 1uF
C374 1uF
C375 1uF
C376 1uF
C377 1uF
TL367
TL368
TL369
DDC_SCL
DDC_SDA
DSUB_ID
L363 EF-1T2012-330JT
L365 EF-1T2012-330JT
L366 EF-1T2012-330JT
JA360
PDC009
DSUB(15PIN)
TL360
TL361
TL362
TL370
L364 EF-1T2012-330JT
L367 EF-1T2012-330JT
L368 EF-1T2012-330JT
R360 10
R361 75
R363 10
R364 75
R366 10
R368 75
C378 10pF
C381 10pF
C383 10pF
C379 47nF
C380 47nF
C382 47nF
R_IN
G_IN
SOG_IN
B_IN
R369 100
R371 100
Vsync
Hsync
VSYNC
HSYNC
COAST
FILT
MIDSCV
REF BYPASS
CLAMP
SDA
SCL
A0
C384 3.9nF
C385 39nF
R373 3.3k
C386 100nF
C387 100nF
R376 680
R377 680
R362 8P4R-100
R365 8P4R-100
R367 8P4R-100
R372 8P4R-100
R370
R374
R375 100
PDA0
PDA1
PDA2
PDA3
PDA4
PDA5
PDA6
PDA7
PDA8
PDA9
PDA10
PDA11
PDA12
PDA13
PDA14
PDA15
PDA16
PDA17
PDA18
PDA19
PDA20
PDA21
PDA22
PDA23
PDA[0..23]
DCLKA
DATACK
HSOUT
SOGOUT
VSOUT
5Vcc
5VA
D360 DAN217 SOT-23
D361 DAN217 SOT-23
TL363 L369 EF-1T2012-330JT R378 100
TL364 L370 EF-1T2012-330JT R382 100
C389 120PF
100p-->120p
R380 4.7k
C391 100pF
R383 OPEN
R376 100
R381 100
IC362
74F14FC
SOIC(14PIN)
C390 100nF
TL365
TL366
Hsync
Vsync

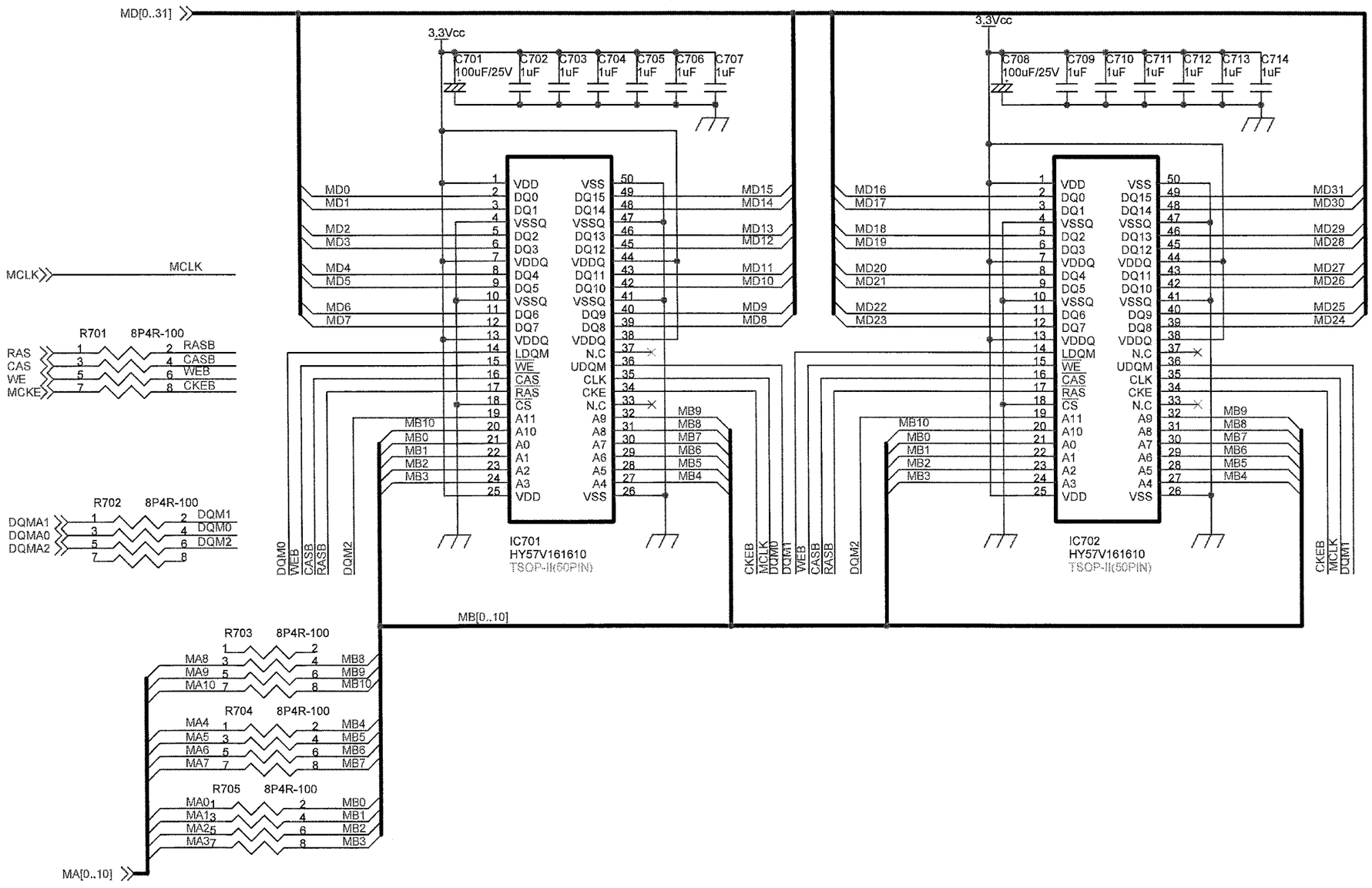
VPC3230


IC301
VPC3230DC5
PQFP(80PIN)
TTX_H_SYNC
TTX_V_SYNC
TTX_CVBS
5Vcc
8Vcc
3.3Vcc
JA301A
CJ-106B4
S-VIDEO
TP301
TP302
L302
EF-1T2012-330JT
L303
L304
L305
L306
L307
L308
L309
L310
L311
L312
L314
SVHS_C
SVHS_Y
TV_CVBS
VIDEO_CVBS
RCA_CVBS1
RCA_CVBS2
SCART_CVBS
X301
20.25MHz/15p
IC302
TEA6425D
Q301
BC848
Q305
Q303
Q304
SDA
SCL
Cr IN
Cb IN
Y IN
TV_V_OUT
AV_RESET
PDA[8..15]
PDA[0..7]
PDA23
EMI
C403
OPEN
R401
0

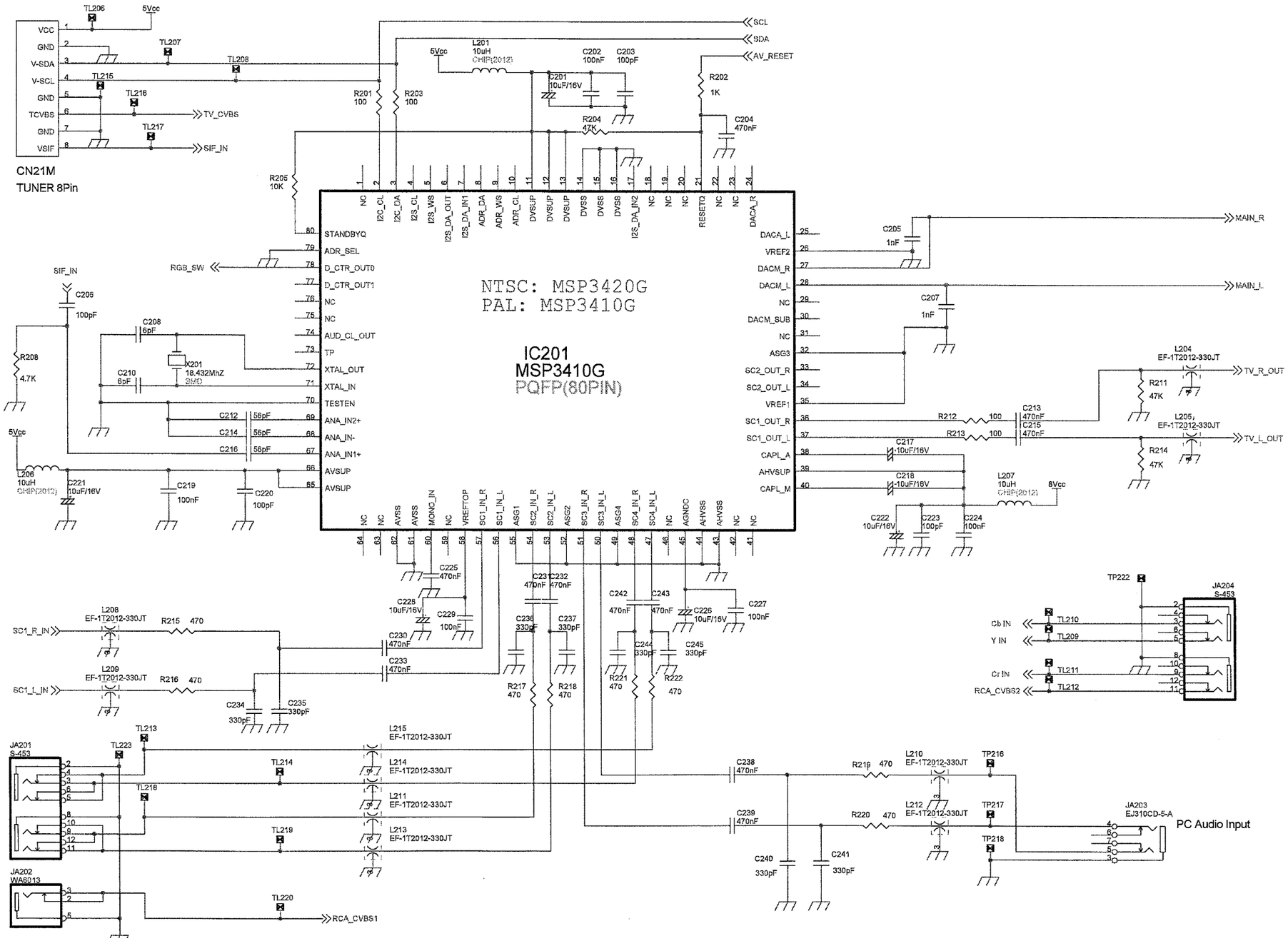
SCALER


IC601
MX88L284AEC
MD[0..31]
MA[0..10]
MCLK
R616 470
R621 100
DQMA2
VDDP
C603 100nF
C604 100nF
C605 100nF
C606 100nF
C607 100nF
C608 100nF
C609 100nF
C610 100nF
3.3Vcc
L601 10uH CHIP(2012)
C601 100uF/25V
C611 1uF
C612 10uF/16V
C613 100nF
MXCS
MXSDA
MXSCL
R601 100
R611 100
R612 100
R613 4.7K
MX_RESET
R615 1K
C614 100nF
Hsync
Vsync
R617 1K
R618 1K
L604 GA600
CHIP BEAD(1608)
DCLKA
L602 10uH CHIP(2012)
C615 100uF/25V
C617 1uF
C618 10uF/16V
C619 100nF
R619 4.7K
C624 100nF
C625 100nF
C626 100nF
C627 100nF
PDA[0..23]
TL601 TL602 TL603
R629 100
R630 100
R631 100
LDTG
LVSYNC
LHSYNC
EMI
RA[0..7]
GA[0..7]
BA[0..7]
R623 8P4R-100
R624 8P4R-100
R625 8P4R-100
R626 8P4R-100
R627 8P4R-100
R628 8P4R-100
TL604
L614 GA301(221J)
CHIP(1608)
LCKA
R614 470(22PF)
Chimei Panel Out
Cable 200mm---> 100mm
GA301-->221
470ohm--> 22pf
(2004.09.01)
L603 10uH CHIP(2012)
C620 100nF
C621 10uF/16V
C622 100nF
C629 1uF
X601
14.31818MHz
C623 22pF
R620 1M
C628 22pF

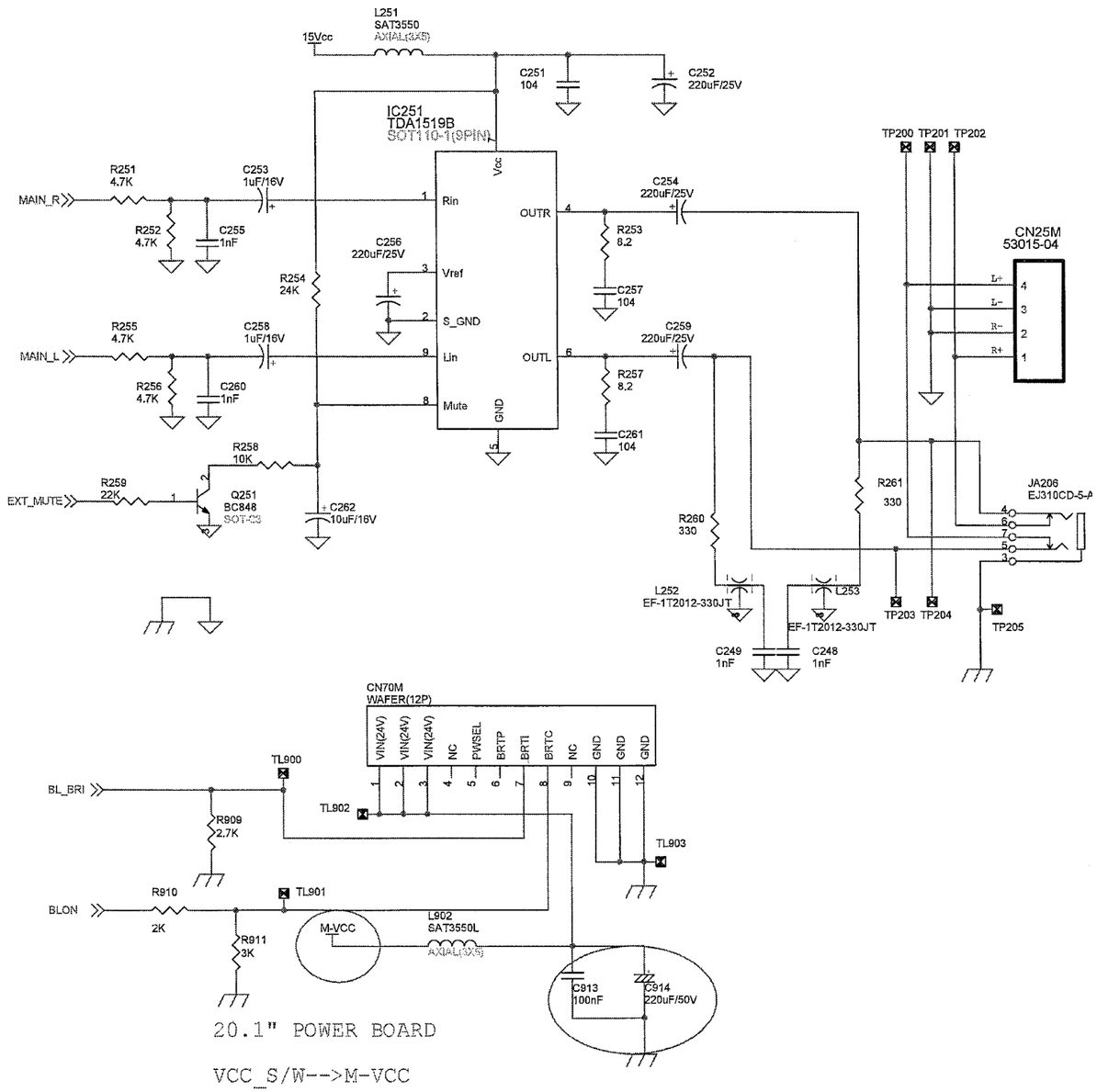
MEMORY


MD[0..31]
3.3Vcc
C701 100uF/25V
C702 1uF
C703 1uF
C704 1uF
C705 1uF
C706 1uF
C707 1uF
C708 100uF/25V
C709 1uF
C710 1uF
C711 1uF
C712 1uF
C713 1uF
C714 1uF
MCLK
R701 8P4R-100
RAS
CAS
WE
MCKE
RASB
CASB
WEB
CKEB
R702 8P4R-100
DQMA1
DQMA0
DQMA2
DQM1
DQM0
DQM2
IC701
HY57V161610
TSOP-II(50PIN)
IC702
HY57V161610
TSOP-II(50PIN)
MB[0..10]
R703 8P4R-100
R704 8P4R-100
R705 8P4R-100
MA[0..10]

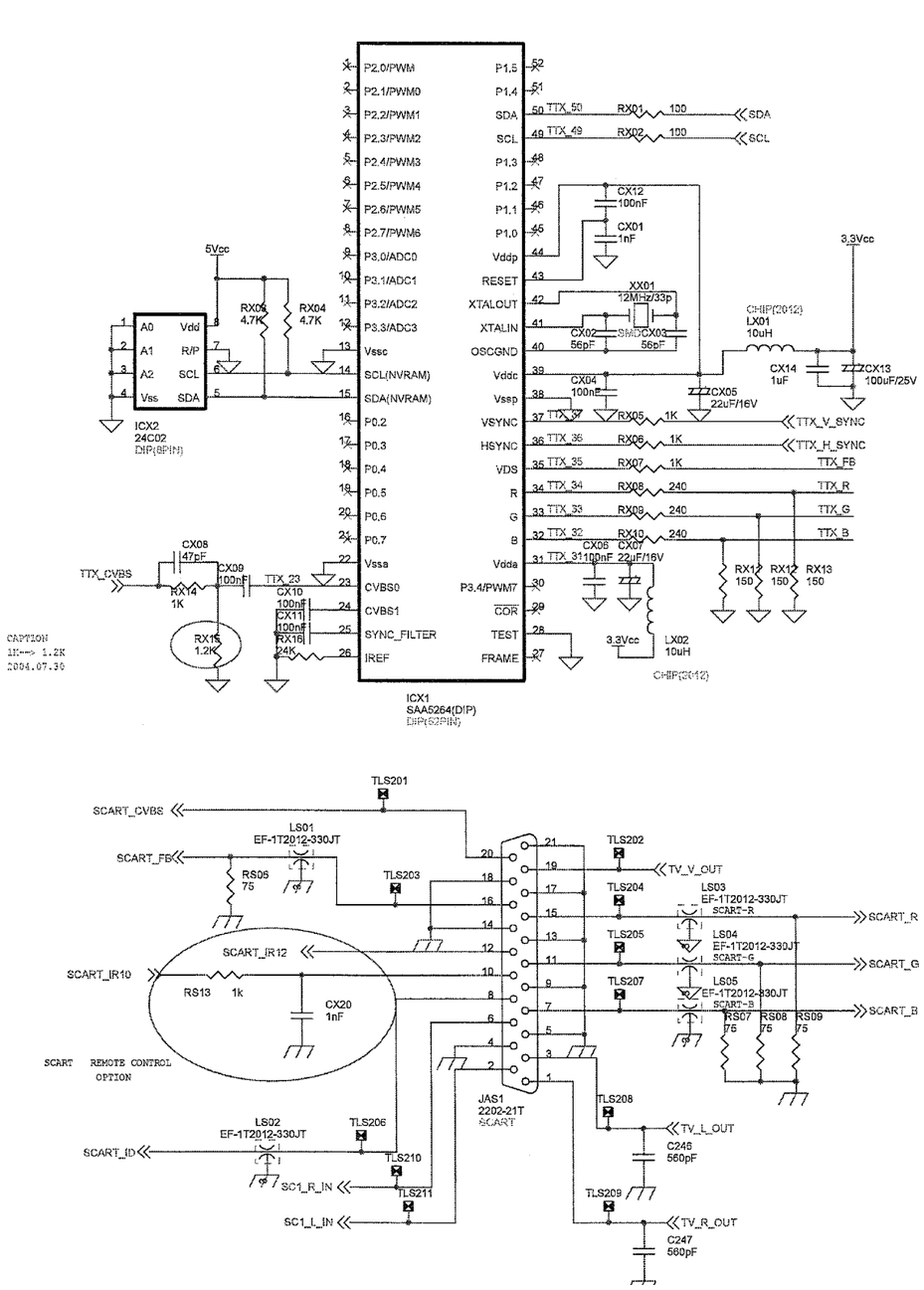
SOUND IC

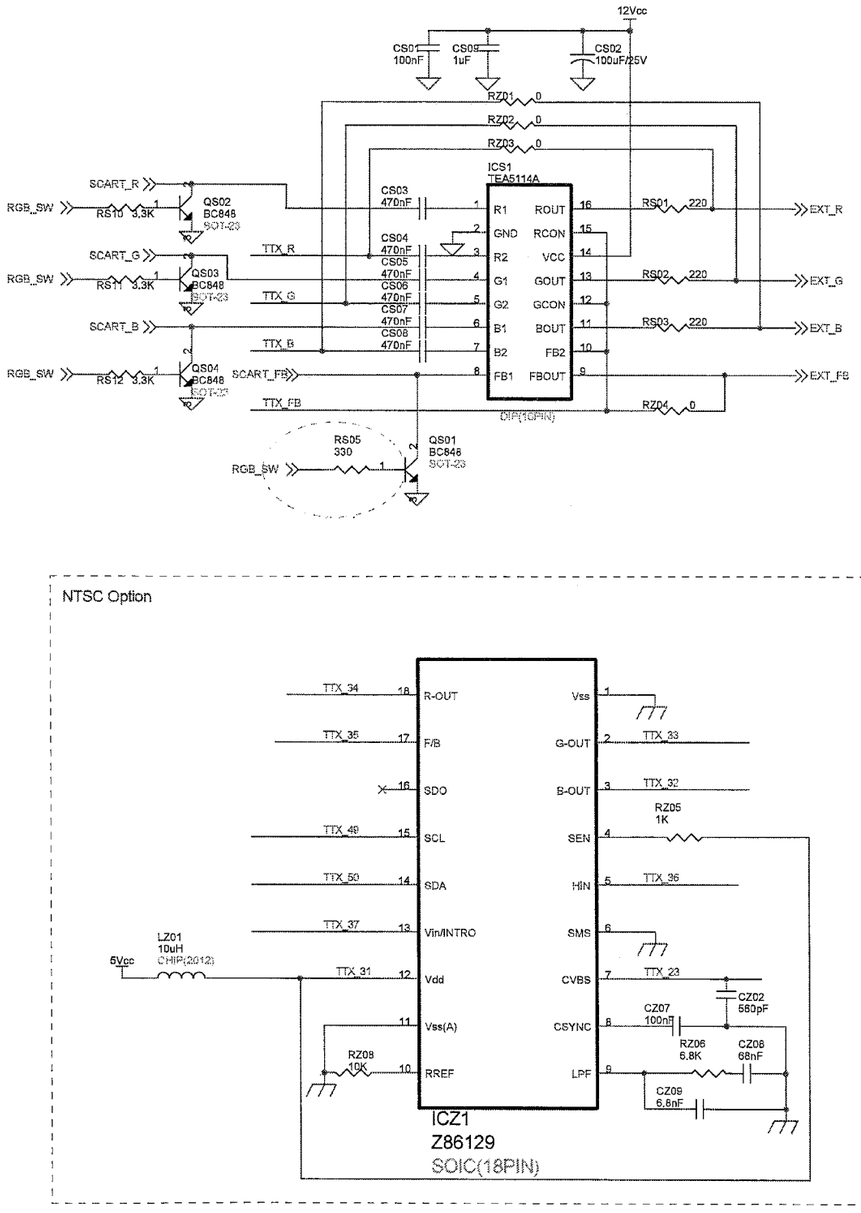

CN21M
TUNER 8Pin
VCC
GND
V-SDA
V-SCL
GND
TCVBS
GND
VSIF
TV_CVBS
SIF_IN
SCL
SDA
AV_RESET
5Vcc
8Vcc
R201 100
R203 100
R202 1K
R204 47K
R205 10K
C201 10uF/16V
C202 100nF
C203 100pF
C204 470nF
L201 10uH
L206 10uH
L207 10uH
NTSC: MSP3420G
PAL: MSP3410G
IC201
MSP3410G
PQFP(80PIN)
STANDBYQ
ADR_SEL
D_CTR_OUT0
D_CTR_OUT1
AUD_CL_OUT
TP
XTAL_OUT
XTAL_IN
TESTEN
ANA_IN2+
ANA_IN-
ANA_IN1+
AVSUP
I2C_CL
I2C_DA
I2S_CL
I2S_WS
I2S_DA_OUT
I2S_DA_IN1
ADR_DA
ADR_WS
ADR_CL
DVSUP
DVSS
I2S_DA_IN2
RESETQ
DACA_L
VREF2
DACM_R
DACM_L
DACM_SUB
ASG3
SC2_OUT_R
SC2_OUT_L
VREF1
SC1_OUT_R
SC1_OUT_L
CAPL_A
AHVSUP
CAPL_M
SC1_R_IN
SC1_L_IN
RGB_SW
MAIN_R
MAIN_L
TV_R_OUT
TV_L_OUT
PC Audio Input
RCA_CVBS1
RCA_CVBS2
Cb IN
Y IN
Cr IN
JA201
JA202
JA203
JA204
TP222
TL206
TL207
TL208
TL209
TL210
TL211
TL212
TL213
TL214
TL215
TL216
TL217
TL218
TL219
TL220
TL223
L204 EF-1T2012-330JT
L205 EF-1T2012-330JT
L208 EF-1T2012-330JT
L209 EF-1T2012-330JT
L210 EF-1T2012-330JT
L211 EF-1T2012-330JT
L212 EF-1T2012-330JT
L213 EF-1T2012-330JT
L214 EF-1T2012-330JT
L215 EF-1T2012-330JT
X201 18.432MhZ

SOUND AMP

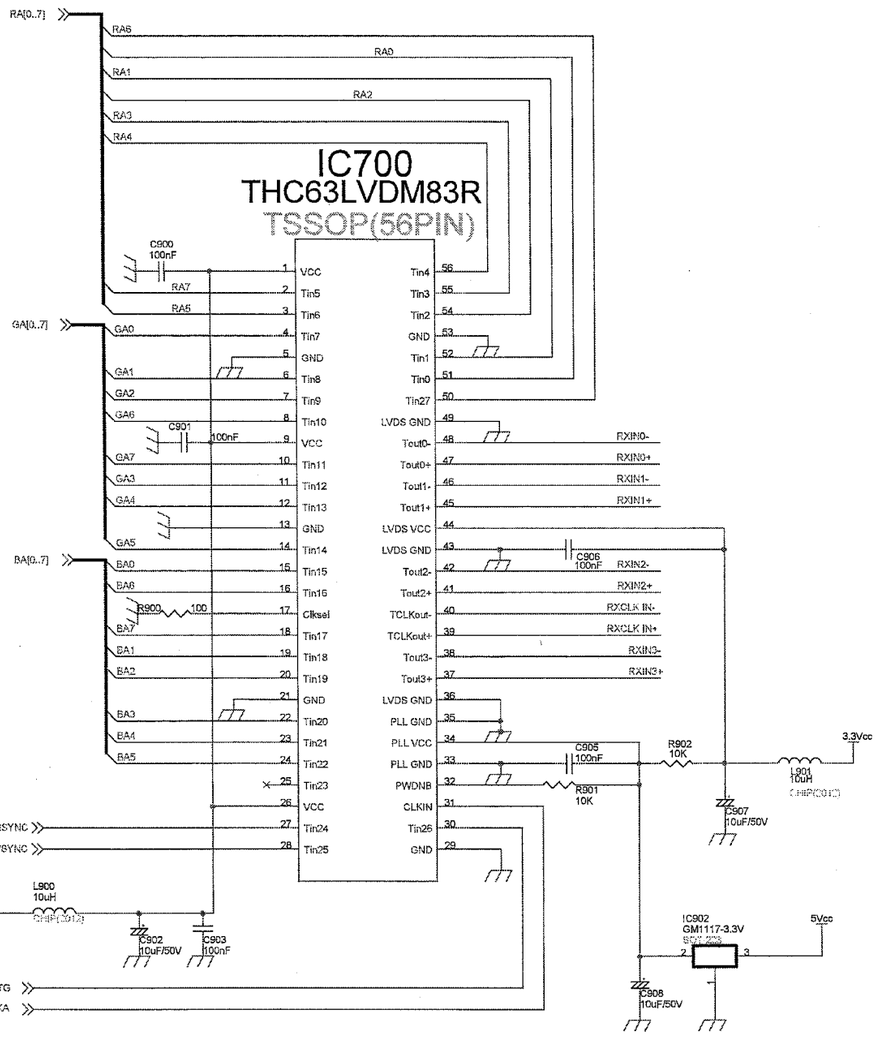

L251
SAT3550
AXIAL(3X5)
15Vcc
C251
104
C252
220uF/25V
IC251
TDA1519B
SOT110-1(9PIN)
Vcc
Rin
Vref
S_GND
Lin
Mute
GND
OUTR
OUTL
MAIN_R
MAIN_L
R251
4.7K
R252
4.7K
C253
1uF/16V
C255
1nF
R254
24K
C256
220uF/25V
R255
4.7K
R256
4.7K
C258
1uF/16V
C260
1nF
R258
10K
R259
22K
EXT_MUTE
Q251
BC848
SOT-23
C262
10uF/16V
C254
220uF/25V
R253
8.2
C257
104
C259
220uF/25V
R257
8.2
C261
104
TP200 TP201 TP202
CN25M
53015-04
L+
L-
R-
R+
R261
330
JA206
EJ310CD-5-P
R260
330
L252
EF-1T2012-330JT
L253
EF-1T2012-330JT
TP203 TP204
TP205
C249
1nF
C248
1nF
CN70M
WAFER(12P)
VIN(24V)
VIN(24V)
VIN(24V)
NC
PWSEL
BRTP
BRTI
BRTC
NC
GND
GND
GND
TL900
TL902
TL903
TL901
BL_BRI
R909
2.7K
BLON
R910
2K
R911
3K
M-VCC
L902
SAT3550L
AXIAL(3X5)
C913
100nF
C914
220uF/50V
20.1" POWER BOARD
VCC_S/W-->M-VCC

TTX /CAPTION

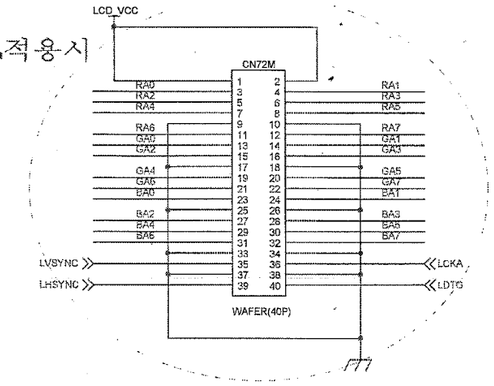

ICX1
SAA5264(DIP)
DIP(52PIN)
ICX2
24C02
DIP(8PIN)
5Vcc
3.3Vcc
TTX_CVBS
CAPTION
1K--> 1.2K
2004.07.30
XX01
12MHz/33p
CHIP(2012)
LX01
10uH
LX02
10uH
TTX_V_SYNC
TTX_H_SYNC
TTX_FB
TTX_R
TTX_G
TTX_B
SDA
SCL
SCL(NVRAM)
SDA(NVRAM)
SCART_CVBS
SCART_FB
SCART_IR12
SCART_IR10
SCART REMOTE CONTROL OPTION
SCART_ID
SC1_R_IN
SC1_I_IN
JAS1
2202-21T
SCART
TV_V_OUT
TV_I_OUT
TV_R_OUT
SCART_R
SCART_G
SCART_B


12Vcc
ICS1
TEA5114A
DIP(16PIN)
SCART_R
SCART_G
SCART_B
SCART_FB
RGB_SW
TTX_R
TTX_G
TTX_B
TTX_FB
QS01
QS02
QS03
QS04
BC846
SOT-23
EXT_R
EXT_G
EXT_B
EXT_FB
NTSC Option
ICZ1
Z86129
SOIC(18PIN)
LZ01
10uH
CHIP(2012)
5Vcc

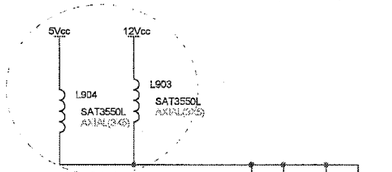
LVDS



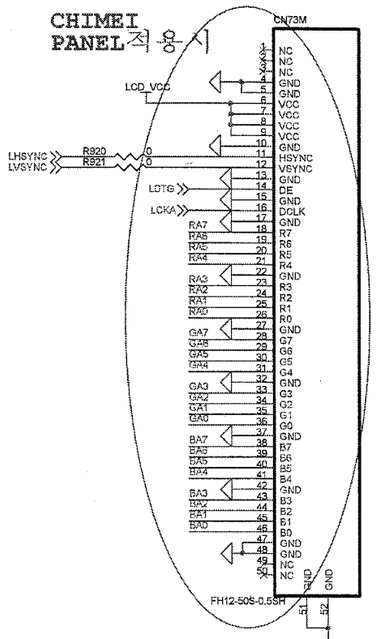
LG 20.1" PANEL적용시

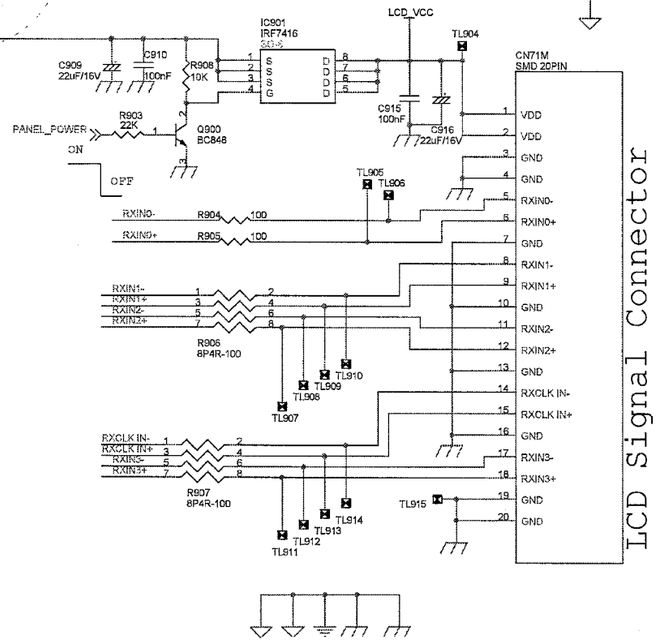


L904: 20.1" CMO PANEL적용시
L903: 20.1"/23" LG PANEL적용시

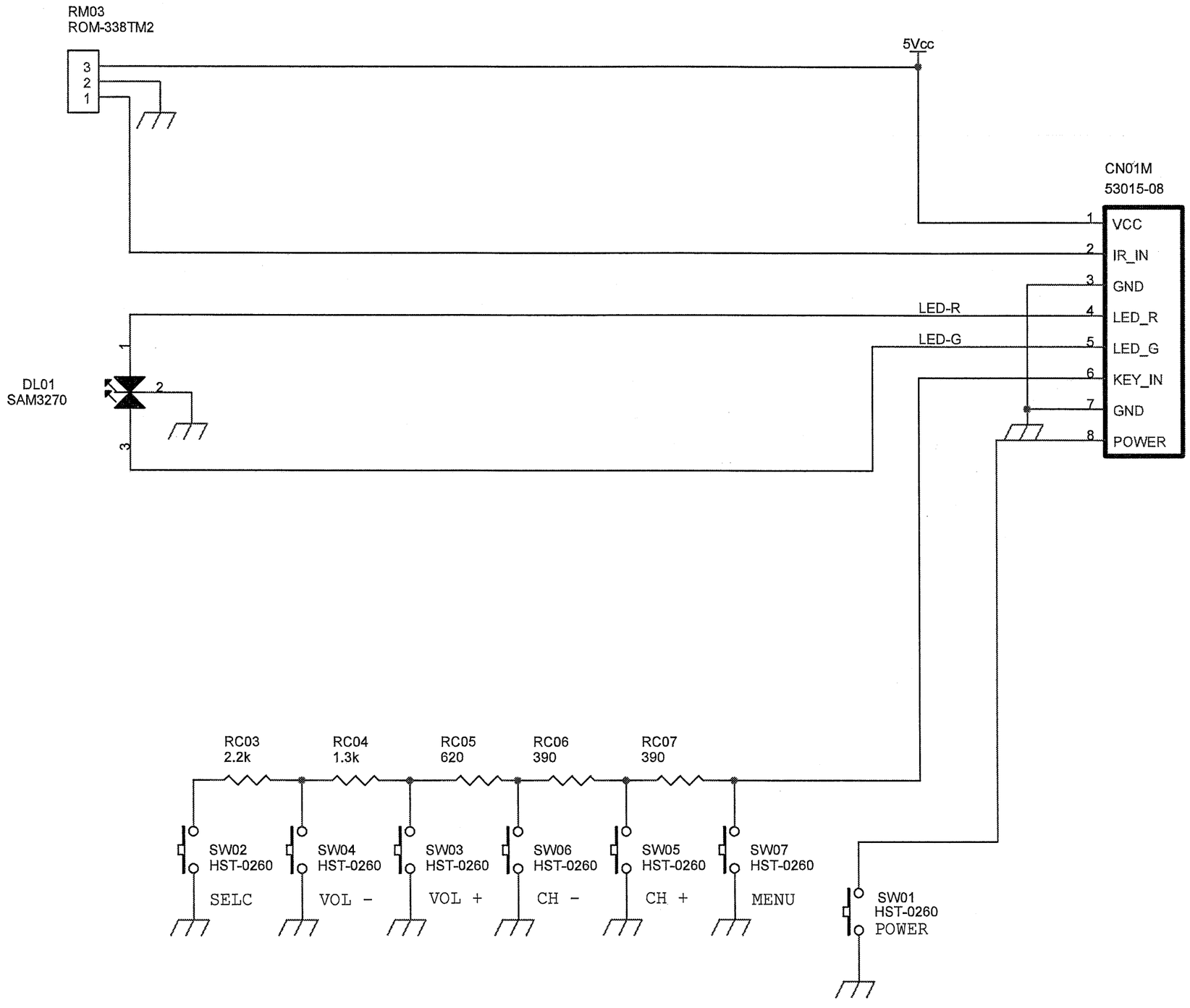


CHIMEI PANEL적용시



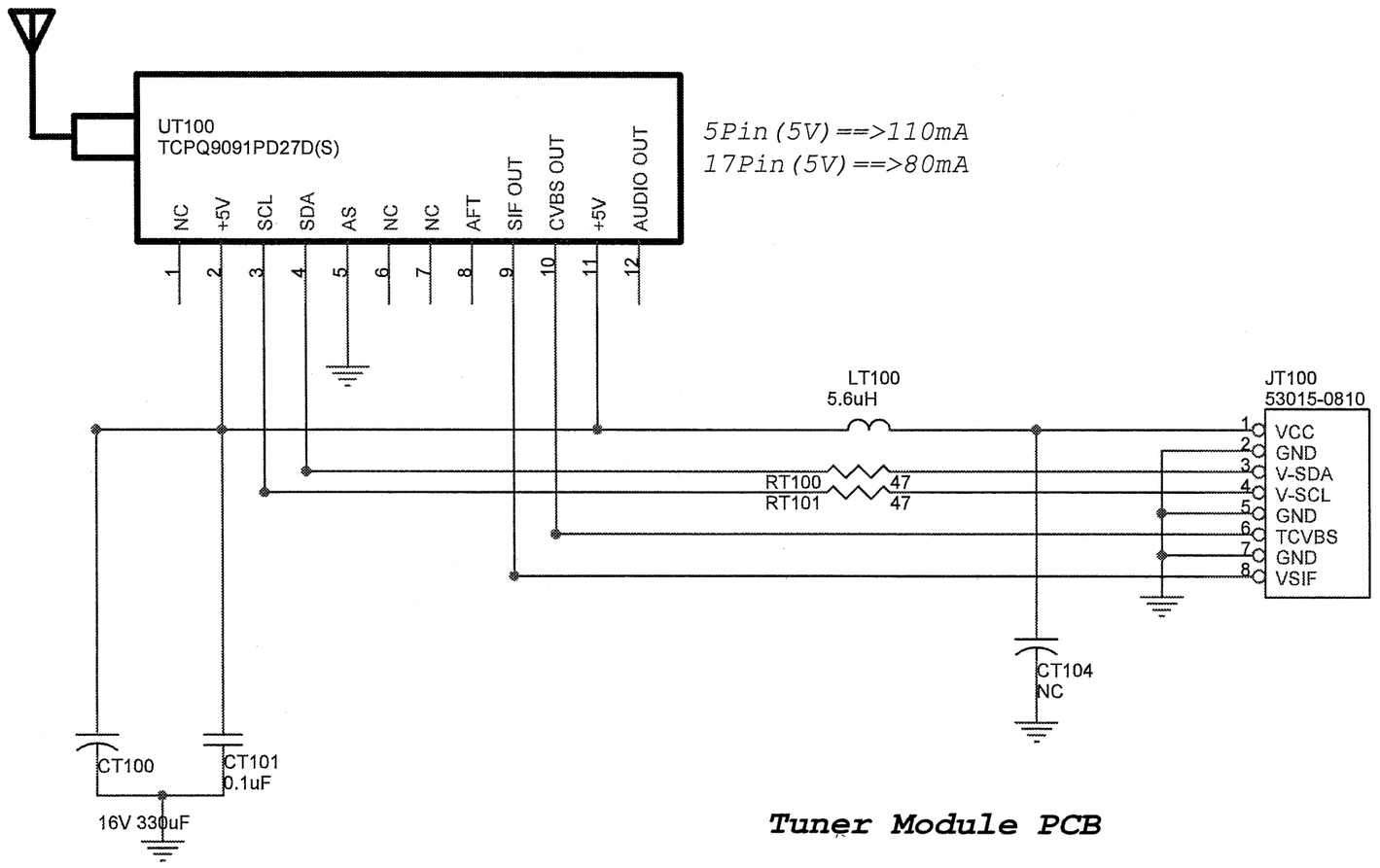


KEY CONTROL


RM03
ROM-338TM2
3
2
1
5Vcc
CN01M
53015-08
1 VCC
2 IR_IN
3 GND
4 LED_R
5 LED_G
6 KEY_IN
7 GND
8 POWER
LED-R
LED-G
DL01
SAM3270
RC03
2.2k
RC04
1.3k
RC05
620
RC06
390
RC07
390
SW02 HST-0260 SELC
SW04 HST-0260 VOL -
SW03 HST-0260 VOL +
SW06 HST-0260 CH -
SW05 HST-0260 CH +
SW07 HST-0260 MENU
SW01 HST-0260 POWER

TUNER

NTSC: TCLN9081DA27D
PAL:
TCPQ9091PD27D(T)



Tuner Module PCB

AKIRA
makes life better