



LCD TV

Service Manual

MODEL: LCT-15CHST

CHASSIS

INFO: LS-07

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1.

IMPORTANT SAFETY PRECAUTION

Electricity is used to perform many useful functions, but it can also cause personal injuries and property damage if improperly handled. This product has been engineered and manufactured with the highest priority on safety. However, improper use can result in electric shock and/or fire. In order to prevent potential danger, please observe the following instructions when installing, operating and cleaning the product. To ensure your safety and prolong the service life of your LCD colour TV product, please read the following precautions carefully before using the product.

1. Read instructions—All operating instructions must be read and understood before the product is operated.
2. Keep this manual in a safe place—These safety and operating instructions must be kept in a safe place for future reference.
3. Observe warnings—All warnings on the product and in the instructions must be observed closely.
4. Follow instructions—All operating instructions must be followed.
5. Attachments—Do not use attachments not recommended by the manufacturer. Use of inadequate attachments can result in accidents.
6. Power source—This product must operate on a power source specified on the specification label. If you are not sure of the type of power supply used in your home, consult your dealer or local power company.
7. AC cord protection—The AC cords must be routed properly to prevent people from stepping on them or objects from resting on them. Check the cords at the plugs and product.
8. Overloading—Do not overload AC outlets or extension cords. Overloading can cause fire or electric shock.
9. Entering of objects and liquids—Never insert an object into the product through vents or openings. High voltage flows in the product, and inserting an object can cause electric shock and/or short internal parts. For the same reason, do not spill water or liquid on the product.
10. Servicing—Do not attempt to service the product yourself. Removing covers can expose you to high voltage and other dangerous conditions. Request a qualified service person to perform servicing.
11. Repair—If any of the following conditions occurs, unplug the AC cord from the AC outlet, and request a qualified service person to perform repairs.
 - a. When the AC cord or plug is damaged.
 - b. When a liquid was spilled on the product or when objects have fallen into the product.
 - c. When the product has been exposed to rain or water.
 - d. When the product does not operate properly as described in the operating instructions.
Do not touch the controls other than those described in the operating instructions. Improper adjustment of controls not described in the instructions can cause damage, which often requires extensive adjustment work by a qualified technician.
 - e. When the product has been dropped or damaged.
 - f. When the product displays an abnormal condition. Any noticeable abnormality in the product indicates that the product needs servicing.
12. Replacement parts—In case the product needs replacement parts, make sure that the service person uses replacement parts specified by the manufacturer, or those with the same characteristics and performance as the original parts. Use of unauthorized parts can result in fire, electric shock and/or other danger.
13. Safety checks—Upon completion of service or repair work, request the service technician to perform safety checks to ensure that the product is in proper operating condition.
14. Wall or ceiling mounting—When mounting the product on a wall or ceiling, be sure to install the product according to the method recommended by the manufacturer.

- **Cleaning**—Unplug the AC cord from the AC outlet before cleaning the product. Use a damp cloth to clean the product. Do not use liquid cleaners or aerosol cleaners.



- **Water and moisture**—Do not use the product near water, such as bathtub, washbasin, kitchen sink, laundry tub, swimming pool and in a wet basement.



- **Do not place vases or any other water-filled containers on this product.** The water may spill onto the product causing fire or electric shock.



- **Stand**—Do not place the product on an unstable cart, stand, tripod or table. Doing so can cause the product to fall, resulting in serious personal injuries as well as damage to the product. Use only a cart, stand, tripod, bracket or table recommended by the manufacturer or sold with the product. When mounting the product on a wall, be sure to follow the manufacturer's instructions. Use only the mounting hardware recommended by the manufacturer.



- **When relocating the product placed on a cart, it must be moved with utmost care.** Sudden stops, excessive force and uneven floor surface can cause the product to fall from the cart.



- **Ventilation**—The vents and other openings in the cabinet are designed for ventilation. Do not cover or block these vents and openings since insufficient ventilation can cause overheating and/or shorten the life of the product. Do not place the product on a bed, sofa, rug or other similar surface, since they can block ventilation openings. This product is not designed for built-in installation; do not place the product in an enclosed place such as a bookcase or rack, unless proper ventilation is provided or the manufacturer's instructions are followed.



- The LCD panel used in this product is made of glass. Therefore, it can break when the product is struck forcefully or with a sharp object. If the LCD panel is broken, be careful not to be injured by broken glass.



- **Heat sources**—Keep the product away from heat sources such as radiators, heaters, stoves and other heat-generating products (including amplifiers).



- **To prevent fire, never place any type of candle or naked flames on the top or near the TV set.**



- **To prevent fire or shock hazard, do not place the AC power cord under the TV set or other heavy items.**



- **Do not place heavy objects on this product or stand on it.** Doing so could cause injury if the product overturns. Take special care near children and pets.



The LCD panel is a very high technology product with 1,555,200 thin film transistors, giving you fine picture details.

Due to the very large number of pixels, occasionally a few non-active pixels may appear on the screen as a fixed point of blue, green or red.

This is within product specifications and does not constitute a fault.

Precautions when transporting the TV

When transporting the TV, never carry it by holding onto the speakers. Be sure to always carry the TV by two people holding it with two hands—one hand on each side of the TV.



MAIN FEATURE

- RF input ,CATV function
- Capable to receive the full append cable programs in 470MHZ, can store 100 programs (Program number display 0~99);
- AV Audio and AV Video input
- In SCART mode, the system can automatically activate SCART checking function to identify signal input modes(CVBS or RGB) and input signal character(16:9 or 4:3); Capable to receive PAL, NTSC, SECAM color systems; Very convenient to watch VCR (video cassette recorder), Pickup Camera and other Disc's programs.
- YPbPr input
- Can receive high definition YPbPr component video signal from such as DVD Conveniently . Support format:480I、480P、576I、576P、720P (50/60HZ) 、 1080I (50/60HZ) 、 1080P (50/60HZ) ;
- VGA input
- As the Terminal display Equipments of computer, it can connect with computer conveniently. it can connect with Computer audio card by its own Audio connection line ,so you can listen the audio information from computer.
- Program lock and child lock function
- The function of program lock can lock the programs、 input password and Modification, the function of child lock can lock the keys.
- Timer function
- You can set turn on and turn off on time, and power off in 15 min automatically if no signal input. Automatically enter into save energy mode by itself if no signal in PC condition, it can be awoken if signal inputs.
- Blue screen mute noise
- In condition of TV、 AV、 RGB and YPbPr, gentle blue screen will be

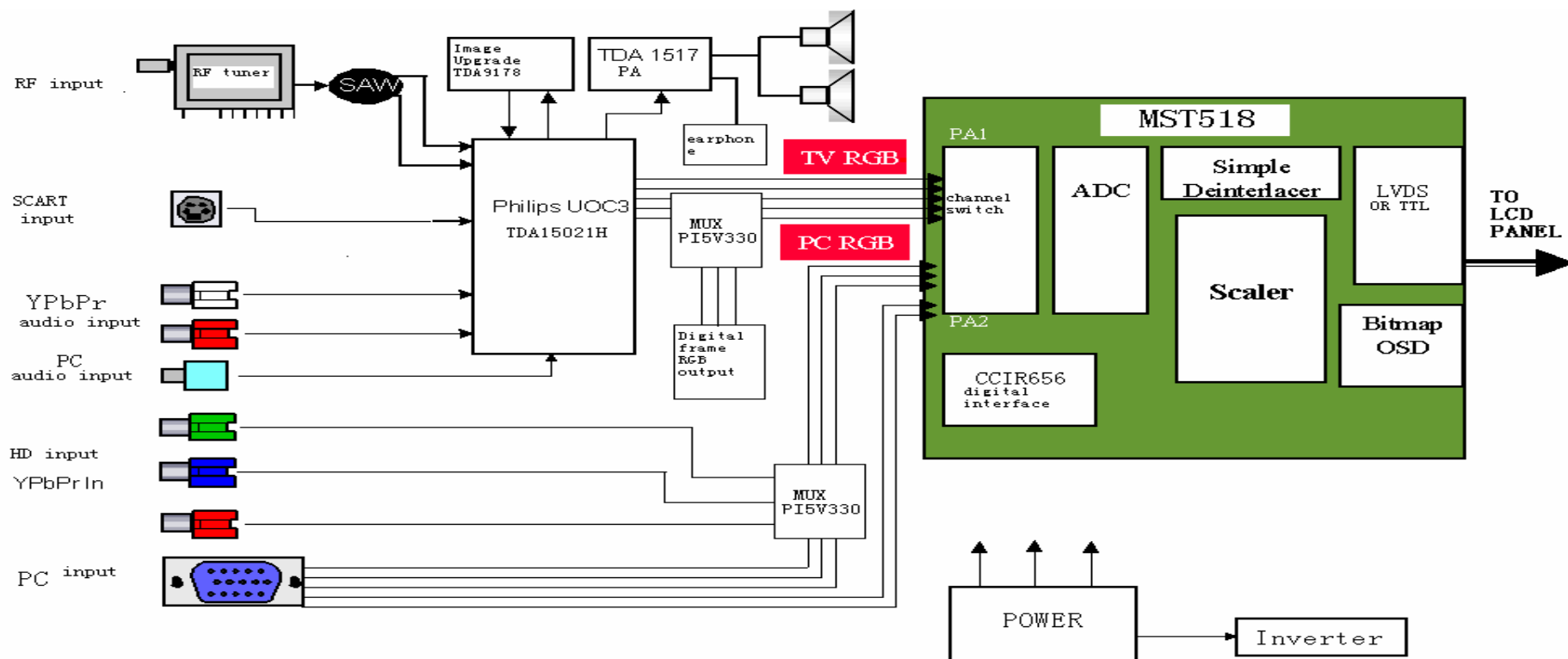
- displayed if no signal input.
- Chinese/English menu
- Adopt the design of Convenient and Simple graphic menu, you can operate menu more conveniently and more intuition.
- Save energy function(power management mode)
- When TV is used as PC display terminal, and PC has no output signal . The TV will be power off in about 30 Seconds automatically, and enter into standby condition. press down Power/P+/P-/ Number key of Remote control or the PC signal appearance again, the TV will be on automatically.
- Plug-and-play
- The TV works as the terminal Equipments of computer, need not equip install software, it is real Plug-and-Play.
- Automatic correct
- By its automatic correct function ,the LCD TV can bring you the best view.
- No Flicker、no Radiation 、Green environmental protection
- Because of it's Advanced power Management mode, the TV can realize standby and recall on function.
- ACI function (Auto channel Installation).
- Stereo and digital accompanying sound processing.
- Auto identify and demodulate IGR, and decode NICAM digital accompanying sound.
- Zoom image function
- Support follow zoom function: Full screen mode、4:3 mode (16:9 TFT) ,16:9 (4: 3 TFT) 、Movie mode、Sub-title movie mode.
- Light weight、small dimension、Low power consumption
- Advanced picture quality Strengthen function
- Dynamic skin color Correct: Improve distort color in picture, make it

Near to real color.

- Black level Extension: blacken the more black area of picture, Raise the contrast in Dark Background.
- Color Edge correct: Increase the Steep of color signal edge ,make the edge of color Transition more clearly .
- Brightness edge correct: increase the steep of Brightness signal edge, make the edge of picture is more clearly.
- Super fine and inner fairness TFT
- 10-page teletext storage
- Dynamic comb filter
- Headphones output

ELECTRIC CIRCUIT

The LS07 chassis LCD TV is composed of steady voltage circuit、inverter Circuit 、RF circuit、 video Strengthen circuit、 video Processing circuit、 Power Enlarge circuit、 VGA circuit、 system control circuit and key control circuit. The block diagram of circuit Constitute as below:



MAIN ICs FUNCTION INTRODUCTION

GENERAL INTRODUCTION

No.	Name	Model	Main Function
1	A1	TAF5-E2I21RW2	RF tuner
2	U8、U21	TDA1517AWT	Audio amplifier
3	U3	MST518	AD converter and format change
4	U2	UOC(TDA15021H)	Video decode and MCU control
5	Q9	Si2311DS	MOS switch
6	U11、U12	IRF7316	MOS switch
7	U19	NTMS10P02	MOS switch
8	U23	LM2596-5.0	Liner voltage IC
9	U1	24LC21A	EEPROM(save display parameter information)
10	U4	24LC32A	EEPROM (save user control information)
11	U6、U20	PI5V330A	Video switch

1. MST518 High Integration Chip:

MST518 is a high performance、high integration image processor which is designed for LCD, it can support SXGA format (1280*1024).it integrates a group of AD converter 、high quality format transform system、OSD generator、output clock generator、multiple format output display interface (support TTL、LVDS、RSDS)

MST518 feature:

- Have high quality Expand transform and compress transform, can output XGA format signal
- Integrated LVDS circuit inside
- 8 bit high quality ADC inside
- Double VGA input, Software switch
- Support ITU-656 format signal input
- Support H/V sync、composite sync、green composite sync input, and detect automatically by itself
- Programmable 10 bit Gamma correct, the brightness and contrast is adjustable
- 8 color、256 Character OSD
- Built-in DDC circuit inside
- Low standby power

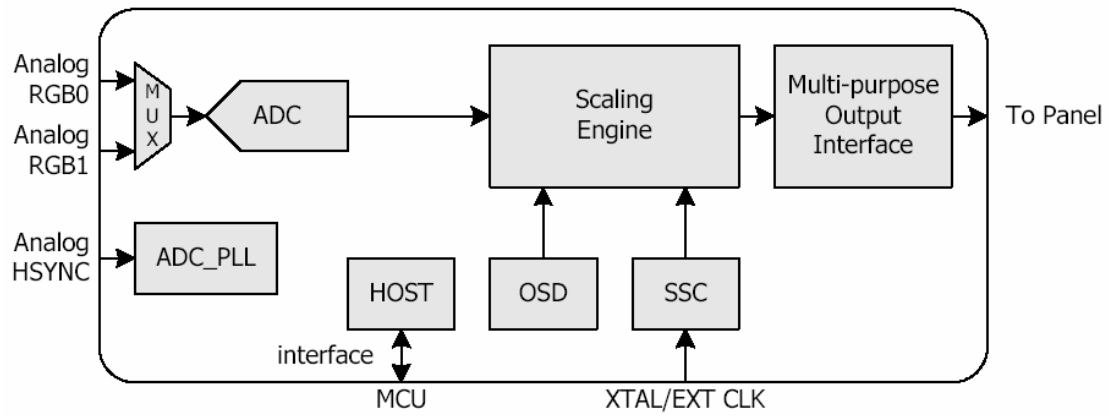
Support TTL、double LVDS signal output, Software switch

MST518 Pin Function:

Pin	Definition	Pin Function
CPU Interface		
33	HWRESET	Hardware reset, high voltage enable
82		Chip select signal of three-wire serial bus
83		data signal of three-wire serial bus
84	SCL	clock signal of three-wire serial bus
85	INT	interrupt
98-91	AD [7:0]	Parallel bus, the chassis is not used
125	BUSTYPE	Bus type select
Analog Interface		
38	HSYNC0	Analog Horizontal sync signal input channel 0
39	VSYNC0	Analog vertical sync signal input channel 0
40	HSYNC1	Analog Horizontal sync signal input channel 1
41	VSYNC1	Analog vertical sync signal input channel 1
78	RMID	Scalar internal reference. voltage
79	REFP	internal ADC decouple +
80	REFM	internal ADC decouple -
75	RIN0	Analog red signal input channel 0
74	RIN0M	Analog red signal input channel 0 re-grounding voltage
73	SOGIN0	Green sync signal input channel 0
72	GIN0	Analog green signal input channel 0
71	GIN0M	Analog green signal input channel 0 re-grounding voltage
70	BIN0	Analog blue signal input channel 0
69	BIN0M	Analog blue signal input channel 0 re-grounding voltage

66	RIN1M	Analog red signal input channel 1 re-grounding voltage
65	RIN1	Analog red signal input channel 1
64	GIN1M	Analog green signal input channel 1 re-grounding voltage
63	GIN1	Analog green signal input channel 1
62	SOGIN1	Green sync signal input channel 1
61	BIN1M	Analog blue signal input channel 1 re-grounding voltage
60	BIN1	Analog blue signal input channel 1
55	REXT	Outside connect 390Ω with 3.3V
LCD Interface		
145	OCLK	Clock output
146	LDE	enable signal
144	LVSYN	vertical sync output
143	LHSYN	Horizontal sync output
138	LVA0M	LVDS output 0—
137	LVA0P	LVDS output 0+
136	LVA1M	LVDS output 1—
135	LVA1P	LVDS output 1+
134	LVA2M	LVDS output 2—
133	LVA2P	LVDS output 2+
128	LVA3M	LVDS output 3—
127	LVA3P	LVDS output 3+
132	LVACKM	LVDS clock signal output—
131	LVACKP	LVDS clock signal output +
26-23, 18-15	RB[7:0]	TTL red signal channel
14-11, 8-5	GB[7:0]	TTL green signal channel
4, 3, 154, 153, 150-147	BB[7:0]	TTL blue signal channel
GPIO Interface		
87	GOUT1/PWM1	PWM output 1
86	GOUT0/PWM0	PWM output 0
2	BYPASS	Outside connect filter capacitor
29	DDC_DAT	Analog interface DDC data
30	DDC_CLK	Analog interface DDC clock
31	DDCROM_CLK	DDC ROM clock
32	DDCROM_DAT	DDC ROM data
34	XIN	Crystal oscillator signal input
35	XOUT	Crystal oscillator signal output
Power Pins		
48, 54, 58, 77	AVDD	A/D convert power supply
56	AVDD_PLL	PLL power supply
36	AVDD_MPLL	MPLL power supply
10, 22, 88, 99, 111, 129, 139, 151	VDDP	Digital signal output power supply
19, 102, 114, 142	VDDC	Digital circuit power supply
1, 9, 20, 21, 37, 42, 45, 51, 57, 59, 76, 81, 89, 100, 101, 112, 113, 130, 140, 141, 152	GND	Digital circuit ground

MST518 Internal Diagram:



2. TDA15021H:

The third-generator super integrated circuit UOC III which designed by Philips company recently integrates with video decode, 2D comb filter, high quality audio transacting technique, suitable with the European teletext technique and suitable with US closed caption and V-chip function compatible with single series IC. The series of UOC III have high integrity, besides completing the Processing of all small signal (IF signal demodulation, video decode, H/V signal, sound DSP), and integrate all the MCU function. It has many Advantages, example: the compact circuit, good performance, simple craft, etc. it matches with company's high performance price ratio and high product efficiency demanding. It is suitable for 4:3 or 16:9, 50/60HZ and A100/120HZ TV system, the main characteristic below:

- Multi-system IF demodulation, analog video decode
- Comb filter internal
- NICAM, stereo auto identify and decode
- SCART input channel source auto identify(RGB, CVBS),SCART image input format identify(4:3, 16: 9)
- Support 4:3, 16:9 display format
- TOP/FLOF TELETEXT (10 page) receive display
- Channel auto install ACI function (can preset)
- 4 CVBS or 3 Y/C input,1 CVBS output,2 YcrCb/2 RGB input
- 4 AV audio input,1 AV adjustable audio volume output
- Volume auto level control circuit
- Global FM demodulation
- Picture quality enhancement of dynamic peak value control, skin color correct, Gamma correct, Black level extension etc.
- Can turn down horizon and vertical scan part, output H/V sync. signal to Scalar
- 128K Flash Memory inside, support program on line
- Automatic Y/C signal identify

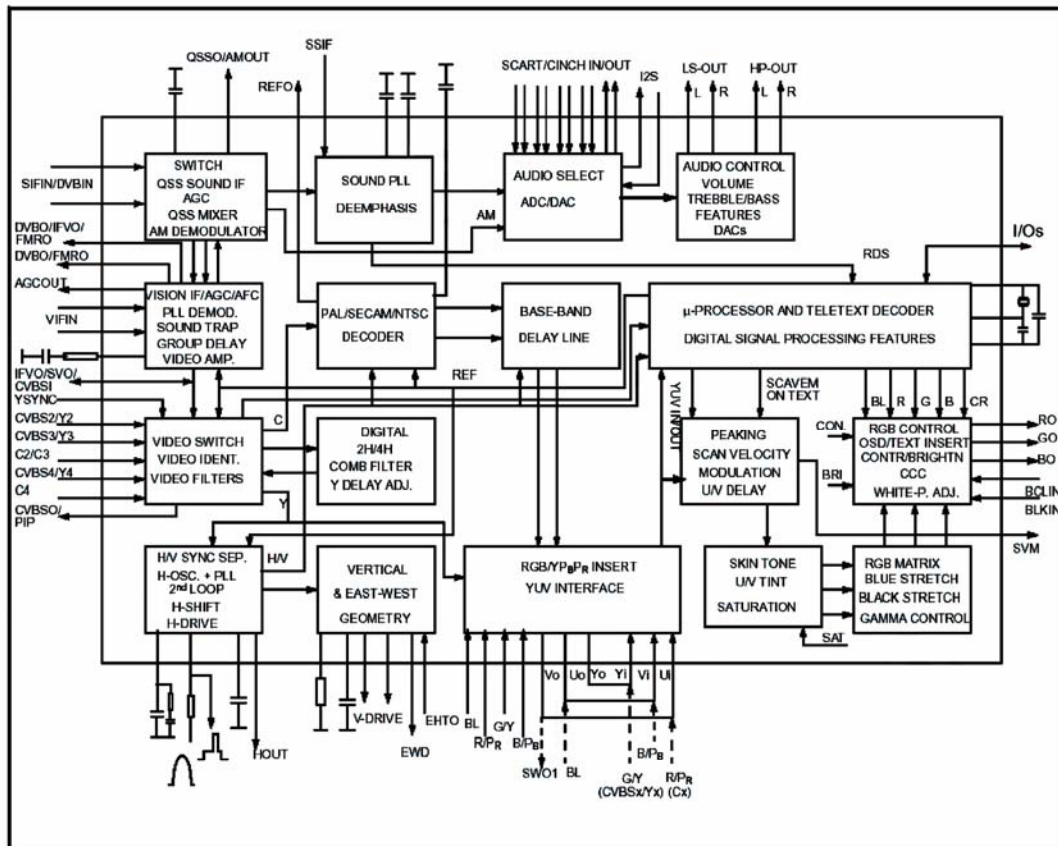
TDA15021H Pin Function:

Pin	Definition	Pin Function
1	VSSP2	Grounding
2	VSSC4	Grounding
3	VDDC4	+1.8V
4	VDDA3	+3.3V
5	VREF_POS_LSL	+3.3V
6	VREF_NEG_LSL+HPL	0V
7	VREF_POS_LSR+HPR	+3.3V
8	VREF_NEG_HPL+HPR	0V
9	VREF_POS_HPR	+3.3V
10	XTALIN	Crystal oscillator input
11	XTALOUT	Crystal oscillator output
12	VSSA1	Grounding
13	VGUARD/SWIO	Protecting voltage input or I/O
14	DECDIG	DECDIG signal input
15	VP1	+5V
16	PH2LF	The second grade horizontal phase lock filter
17	PH1LF	The first grade horizontal phase lock filter
18	GND1	Grounding
19	SECPLL	SECAM PLL decouple
20	DECBG	Inside reference voltage decouple
21	EWD/AVL	VDD5A voltage input
22	VDRB	TV vertical sync signal output

23	VDRA	vertical sync output
24	VIFIN1	VIF input 1
25	VIFIN2	VIF input 2
26	VSC	Outside connect vertical ramp capacity
27	IREF	Re-current input
28	GNDIF	IF grounding
29	SIFIN1	SIF input 1
30	SIFIN2	SIF input 2
31	AGCOUT	tuner RF AGC control voltage output
32	EHTO	Over voltage protection input
33	SSIF	MUTE control signal input
34	AUDIOIN5L	Av left track signal input
35	AUDIOIN5R	Av right track signal input
36	AUDOUTSL	SCART/CINCH left track output
37	AUDOUTSR	SCART/CINCH right track output
38	DECSDEM	Track demodulator decouple
39	QSSO	De-emphasis capacitor
40	GND2	grounding
41	PLLIF	IF_PLL filter
42	SIFAGC	Sound intermediate frequency auto gain control
43	IFVO	IF demodulation video output
44	FMRO	Fm broadcast output
45	VCC8V	The supply voltage of Sound switch
46	AGC2SIF	The second sound intermediate frequency auto gain control
47	VP2	+5V
48	IFVO	The video output of Choose channel
49	AUDIOIN4L	HD signal left track audio output
50	AUDIOIN4R	HD signal right track audio output
51	CVBS4/Y4	S-video luminance signal input
52	C4	S-video chroma signal input
53	AUDIOIN2L	PC signal left track audio input
54	AUDIOIN2R	PC signal right track audio input
55	CVBS2/Y2	AV CVBS signal input
56	AUDIOIN3L	Inside DVD module left track audio input
57	AUDIOIN3R	Inside DVD module right track audio input
58	CVBS3/Y3	Inside DVD module brightness signal input
59	C2/C3	Inside DVD module chroma signal input
60	AUDOUTLSL	Main channel left track output
61	AUDOUTLSR	Main channel right track output
62	AUDOUTHPL	Earphone channel left track output
63	AUDOUTHPR	Earphone channel right track output
64	CVBS/PIP	CVBS/PIP output
65	SVM	Scan modulate output
66	FBISO	Fly back input/sandcastle output or composite H/V timing output
67	HOUT	Horizontal sync signal output
68	VSS comb	Grounding
69	VDD comb	+5V
70	VIN	V signal input
71	UIN	U signal input
72	YIN	Y signal input
73	YSYNC	Y signal input for Sync separate
74	YOUT	Y signal output
75	UOUT	U signal output
76	VOUT	V signal output
77	INSSW3	RGB / YpbPr insert identify signal input

78	R/PrIN3	R/Pr signal input
79	G/YIN3	G/Y signal input
80	B/PbIN3	B / Pb signal input
81	GND3	Grounding
82	VP3	+5V
83	BCLIN	Beam current limiter input
84	BLKIN	Black current input
85	RO	R basic color signal input
86	GO	G basic color signal output
87	BO	B basic color signal output
88	VDD3	+3.3V
89	VREFAD_NEG	0V
90	VREFAD_POS	+3.3V
91	VREFAD	Audio ADC re voltage
92	GNDA	Grounding
93	VDDA	+1.8V
94	VDD3A	+3.3V
95	VSSADC	Grounding
96	VADC	+1.8V
97	INT0	Remote control signal input
98	P10/INT1	DPF clock line
99	P11/T0	DPF data line
100	VDDC2	+1.8V
101	VSSC2	Grounding
102	P04/12SWS	MST reset signal
103	P03/12SCLK	HD,PC select control signal
104	P02/12SDO2	Power Amplifier standby control signal
105	P01/12SDO1	TV-DPF select control signal
106	P00/12SDI/O	Turn on control signal
107	P13/T1	MST chip select signal
108	P16/SCL	UOC12C bus clock line
109	P17/SDA	UOC12C bus data line
110	VDDP	+3.3V
111	P20/TPWM	Red indicator light control signal
112	P21/PWM0	Green indicator light control signal
113	P22/PWM1	TFT power supply control signal
114	P23/PWM2	Inside DVD module power supply control signal
115	P30/ADC0	Reserve IO port
116	P31/ADC1	Earphone insert identify signal input
117	VDDC1	+1.8V
118	VDD18	+1.8V
119	P32/ADC2	DVD key-press signal input
120	P33/ADC3	TV key-press signal input
121	VSSC	Grounding
122	P24/PWM3	Background control signal output
123	P25/PWM4	SAW filter control signal
124	VDDC3	+1.8V
125	VSSC3	Grounding
126	P12/INT2	MST interrupt signal input
127	P14/RX	MST data line
128	P15/TX	MST clock line

TDA15021H Internal Block Diagram:



3 TDA9178 :

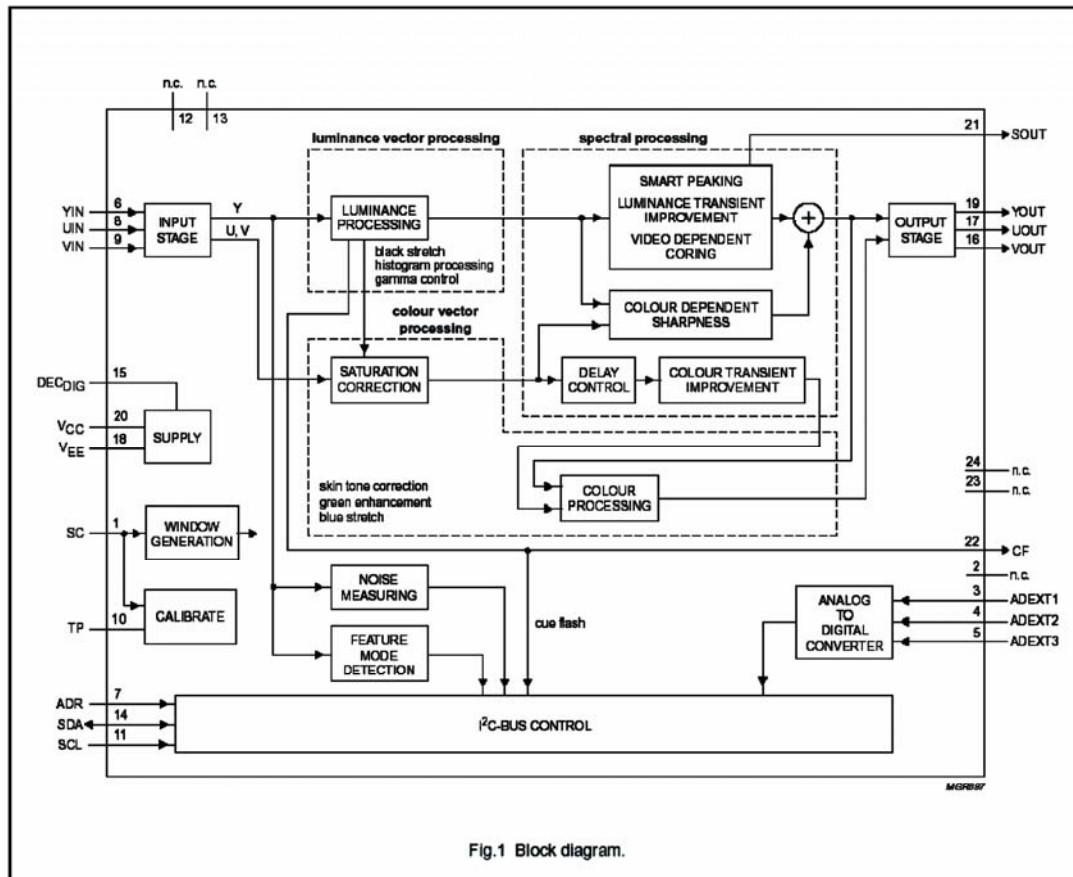
TDA9178 is an analog signal processor with standard YUV input and output interface .It provide three main process functions: luminance vector, color vector and spectrum process. It can finish comprehensive picture improving function independently. The characteristics of the TDA9178 are below:

- Luminance Transient Improvement (LTI), Colour Transient Improvement (CTI)
- Variable gamma control
- Self-suitable black level extend control
- Skin color correction, green intensity ,blue extend
- Noise measurement and reduced noise process function
- Line Width Control (LWC)

TDA9178 PIN FUNCTION

Pin	Definition	Pin Function
1	Sandcastle input	Sandcastle input
2	Not connected	Grounding
3	ADC input 1	A/D converter input 1
4	ADC input 2	A/D converter input 2
5	ADC input 3	A/D converter input 3
6	Luminance input	Y input
7	Address selection input	I2C address choose input port
8	U signal input	U input
9	V signal input	V input
10	Test pin	Grounding
11	Serial clock input (I2C-bus)	I2C bus clock signal
12	Not connected	Not connected
13	Not connected	Not connected
14	Serial data input/output (I2C-bus)	I2C bus data signal
15	Decoupling digital supply	Connect decouple capacitor external
16	V signal output	V signal output
17	U signal output	U signal output
18	Ground	Ground
19	Luminance output	Y signal input
20	Supply voltage	Supply power
21	SCAVEM output	Scan velocity modulate output
23	Not connected	Grounding
24	Not connected	Grounding

DA9178 Internal Block Diagram :



4 TDA1517AWT :

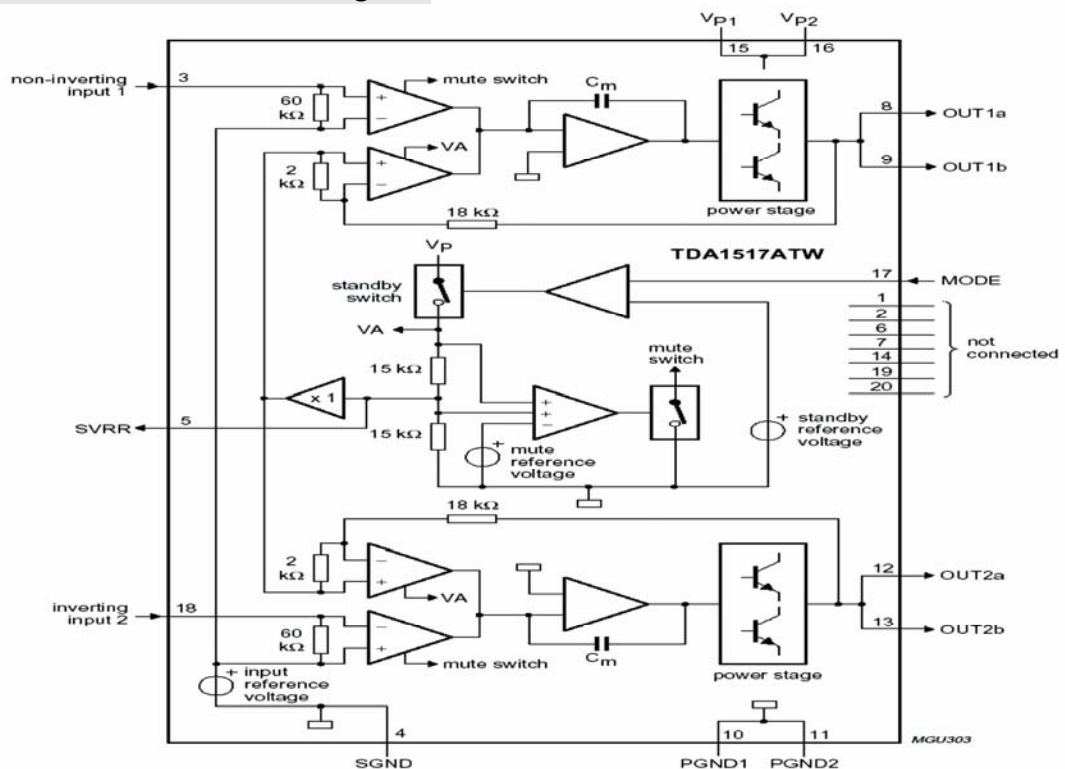
The TDA1517ATW is a double channel class-AB power amplifier contained in a plastic heat sink thin shrink small outline package (HTSSOP20). The device is primarily developed for multimedia applications.

- a) Outside circuit is simple
- b) Mute、standby is controllable
- c) Temperature protect circuit
- d) low noise switch
- e) Constant gain

TDA1517 PIN FUNCTION:

Pin	Definition	Pin Function
3	Non-inverting input	Audio input
5	Supply voltage ripple rejection	Bias circuit filter
8、9	Output	Audio output
12、13	N.C.	Not connected
15、16	Supply voltage	+12V power supply
17	Mode select switch	Work mode select
18	Inverting input	Reverse input terminal (connect capacitor to ground)
1、2、4、6、7、10、11、14、19、20	GND	ground

TDA1517 Inner Block Diagram :



SIGNAL PROCESSING FLOWCHART

I. Analog Signals Process

1 IF/RF process

Completed by TAF5-E2I21RW2 RF tuner, output IF signal.

The Function of RF tuner as below:

Pin	Symbol	Function
1	AGC	Auto gain control voltage
2	TU	The TV do not connect
3	ADD	Ground
4	SCL	I ² C bus (clock)
5	SDA	I ² C bus (data)
6	BM	+5V power supply
7	BM	+5V power supply
8	NC	Not connected
9	BTL	+32V power supply, form 0~32V tune voltage
10	NC	Not connected
11	IF	IF signal output

II. Image and Sound Process

UOC chip receives the IF signal separated from SAW, detect and decode. Output RGB color analog signals from the 85、86、87 pin respectively. Output the main channel L、R audio signal from 60、61 pin. Output earphone channel L、R audio signal from 62、63 pin. additional, Part number U7,TDA9178 complete the enhancement of quality of the picture ,by the output 74、75、76 pin Of UOC and the input 70、71、72 pin, combined with UOC to form a loop circuit.

Further, AV、S-Video、YC signal of inside DVD(some types of TV have not) is also decoded inside of UOC chip, switch internal UOC with TV input and output a RGB color analog signal, send it to back-end process.

III. Digital Signal Processes

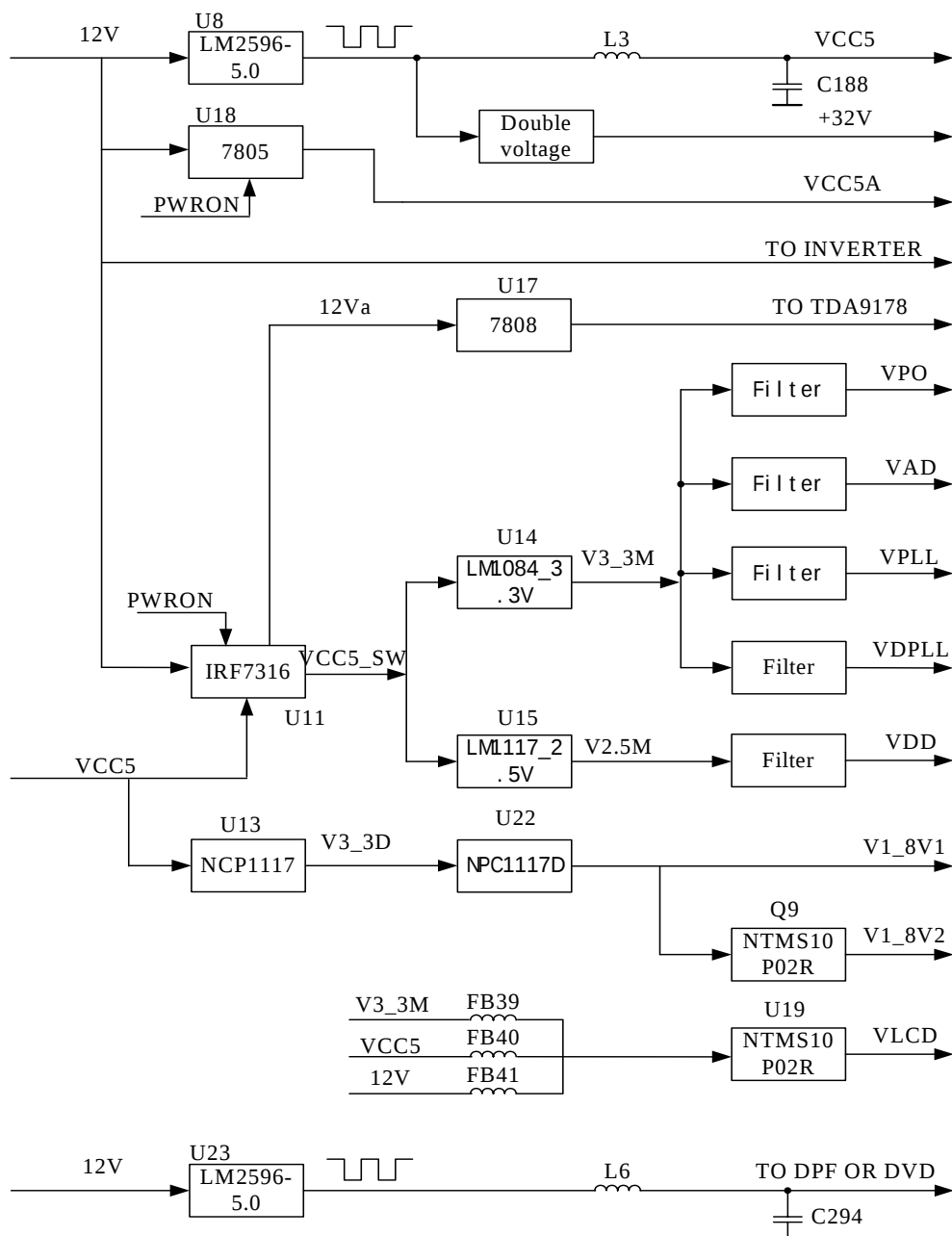
The analog RGB signal output from UOC and RGB signal output from DFP are switched and selected by a PI5V330A; input it into the 65、63、60 pin Of MST518. The RGB signal output from computer and HD-YpbPr signal are switched and selected by another PI5V330A,input into the 75、72、70? of MST518.This two channel RGB signal are switched inside MST518,then AD converter, video format transition, at last output digital color signal which is suitable for TFT drive circuit. MST518 process the pixels ratio converting of input video signal、the image auto optimization process, then process memory buffer、scaler、chroma matrix circuit、chroma look-up table、chroma space gain, etc. Output corresponding standard physical resolution digital color signal and corresponding sync, clock signal to TFT, control the TFT to display image correctly.

5 TV Power Supply System:

(1) The supply power system of the main IC as below:

- 12V: the unit main power supply
- +34V: RF tuner tune voltage
- VCC5: stable and constant +5V power supply
- VCC5A: +5V power supply software can turn off
- V3_3D: UOC digital part supply power supply
- V1_8V1: UOC digital part constant supply power supply
- V1_8V2: UOC digital part power supply can be turned off
- V2_5M: MST518 digital core supply power supply
- V3_3M: MST518 supply power supply

(2) The constitute and distributing of the TV



KEY PART AND FUNCTION

No.	Name	Element	Function Description
A	A1	RF tuner TAF5-E2I21RW2	RF input, IF output
B	U2	UOC(TDA15021H)	Video decode and MCU control
C	U3	MST518	AD converter and format transition
D	U20	PI5V330A	Video switch on/off
E	U6	PI5V330A	Video switch on/off
F	U11	IRF7316	MOS switch
G	U9	LM2596-5.0	Linear voltage IC
H	U23	LM2596-5.0	Linear voltage IC
I	U19	NTMS10P02	MOS switch
J	U21	TDA1517AWT	Audio power amplifier
K	U8	TDA1517AWT	Audio power amplifier
L	U4	24LC32A	EEPROM(store user control information)
M	Q9	Si2311DS	MOS switch
N	U12	IRF7316	MOS switch
O	U1	24LC21A	EEPROM(store display parameter information)

SOCKET AND DEFINITION

ITEM	NAME	FUNCTION
1	PWM	PWM Dimming
2	APWM	Analog PWM dimming
3	ON/OFF	Backlight On Off: 2.4-5.0V On 0-1V Off
4	GND	
5	RX0-	LVDS signal
6	RX0+	LVDS signal
7	GND	
8	RX1-	LVDS signal
9	RX1+	LVDS signal
10	GND	
11	RX2-	LVDS signal
12	RX2+	LVDS signal
13	GND	
14	RCLK-	LVDS clock signal
15	RCLK+	LVDS clock signal
16	GND	
17	RX3-	LVDS signal
18	RX3+	LVDS signal
19	GND	
20	N.C.	
21	N.C.	
22	N.C.	
23	GND	
24	GND	
25	GND	
26	Panel power	Module power
27	Panel power	Module power
28	Panel power	Module power
29	Panel power	Module power
30	Inverter power	Inverter logic power

SYMPTOMS AND CORRECTION

Symptom	Reason and resolve
The display board of PC no image in DVI.	If some display board of DVI can not receive the data when turning on the TV, there is no output; if pull out the DVI line abruptly, there is also no DVI output; Before starting PC, connect the DVI line with LCD TV steadily. So DVI can receive the correct date from DDC (Display Data Channel) when turning on the TV, DDC is in chassis 24LC21.
No picture but sound, on LOGO when turning on the TV, poor light is bright.	Check the connect line in up screen, and connect the line.
No picture, no sound, no snowflake in TV condition, but AV is normal.	Check the outside of RF (also bus and power supply), there is no problem but no output from RF, so the RF is disabled.
LCD TV can not be controlled (inc red lamp is no but the TV is off, remote control and key press in TV can not control the TV, etc.)	The LCD TV can not work abruptly, power off and turning it on again.

LISTS OF BREAKABLE AND MAINTENANCE PARTS

This list is provided for reference, if change the parameters of those maintain parts of an apparatus, we do not notice in the future. The newest data regard as the correct type or specification.

Material Name	Type (Module NO.)	Material Code	Remark
Main board groupware	JUJ6.690.033-2	8669000332J	
Remote control panel groupware	JUJ6.694.016	8669400160J	
Key-press panel groupware	JUJ6.694.017	8669400170J	
Earphone panel groupware	JUJ6.695.002	8669500020J	
TFT	LTM150XH-L06	68219601565	
INVERTER panel groupware	INV15-474	59324104740	Samsung screen use
Dynamoelectric speaker	Y2898-01-5W-4Ω	56231105042	
Remote control	KLC5A(JUL2.018.351)	8201803510L	
Power supply adapter	FSP084-1CD02C	67128084025	

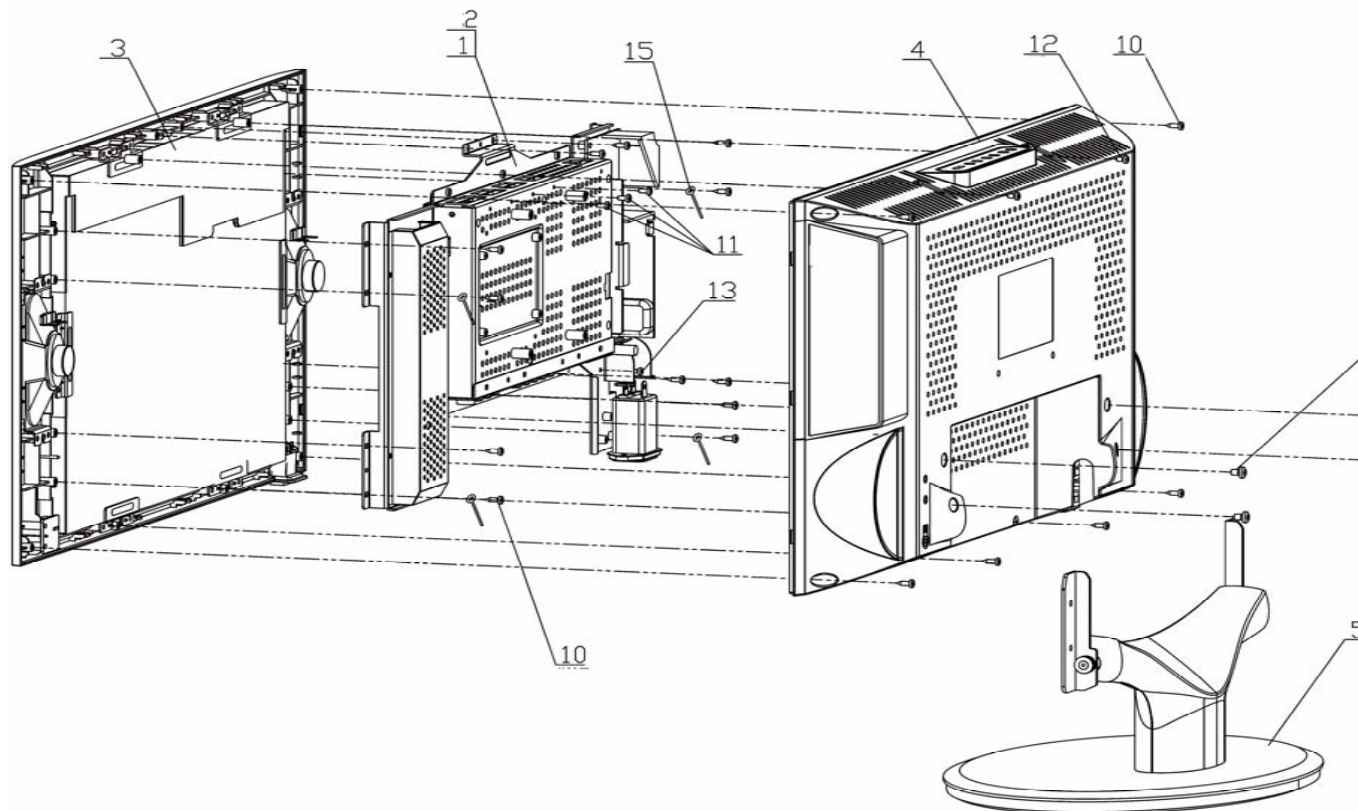
FACTORY MODE

The Parameter adjustment of factory mode introduction:

The method of Entering into factory mode: turn down the volume to 0, press down the key of “mute” in remote control, then press the key of “menu” in remote control. press CH+ and CH- choose the items which need to adjust. The method of exiting from factory mode: press the  in remote control, after exiting from the factory mode, you should turn on the TV again. Now the introduction of the modes which are often used is below, the others are design parameter mode, not permit to modify .

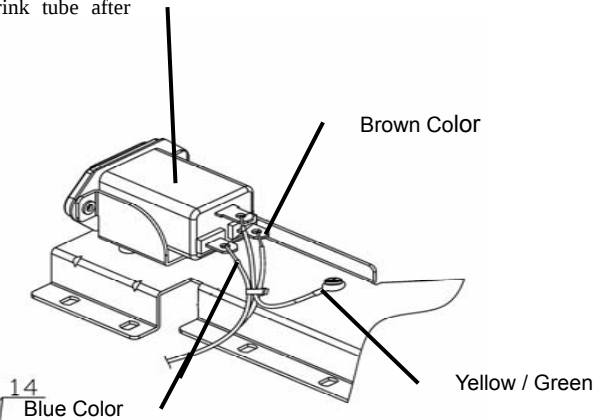
M6	Quick access key for “ Language “
IFPL	Adjust the scale of picture and sound in the IF signal
TOP	Tune AGC voltage
M13	Quick access key for “DVD”
DVD	Switch for DVD source
DPF	Switch for DPF source
M17	
LOGO	ON / OFF for LOGO display
BLUEBLACK	Blue screen switch
M24	
AUTO	AUTO revise
M25	Quick access key for “Title”
INIT	Initialization program
M28	Quick access key for “Open”
IIC BUS OPEN	OPEN bus

EXPLODED VIEW



Wiring connecting illustration

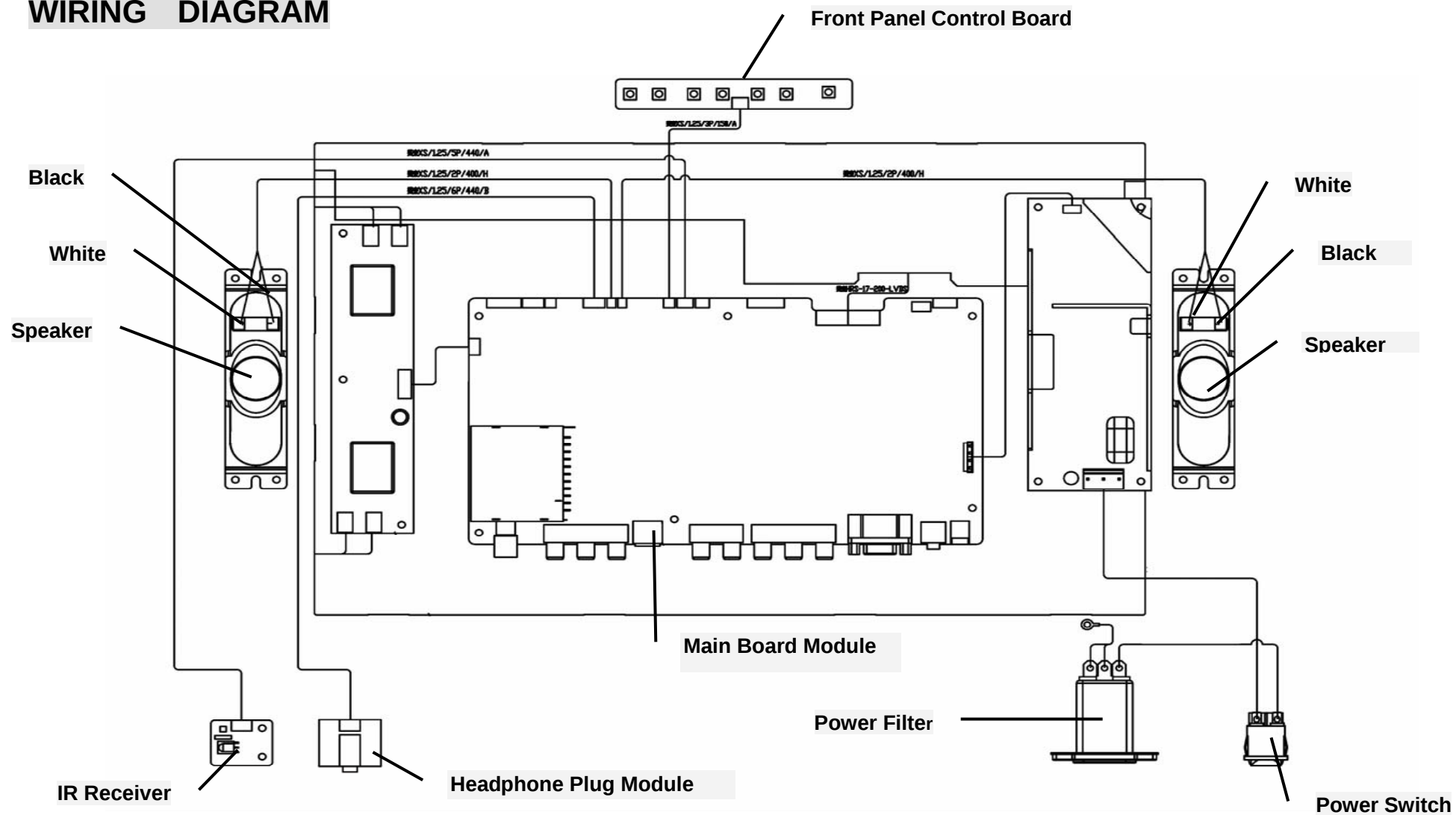
Assemble with heat shrink tube after hook soldering



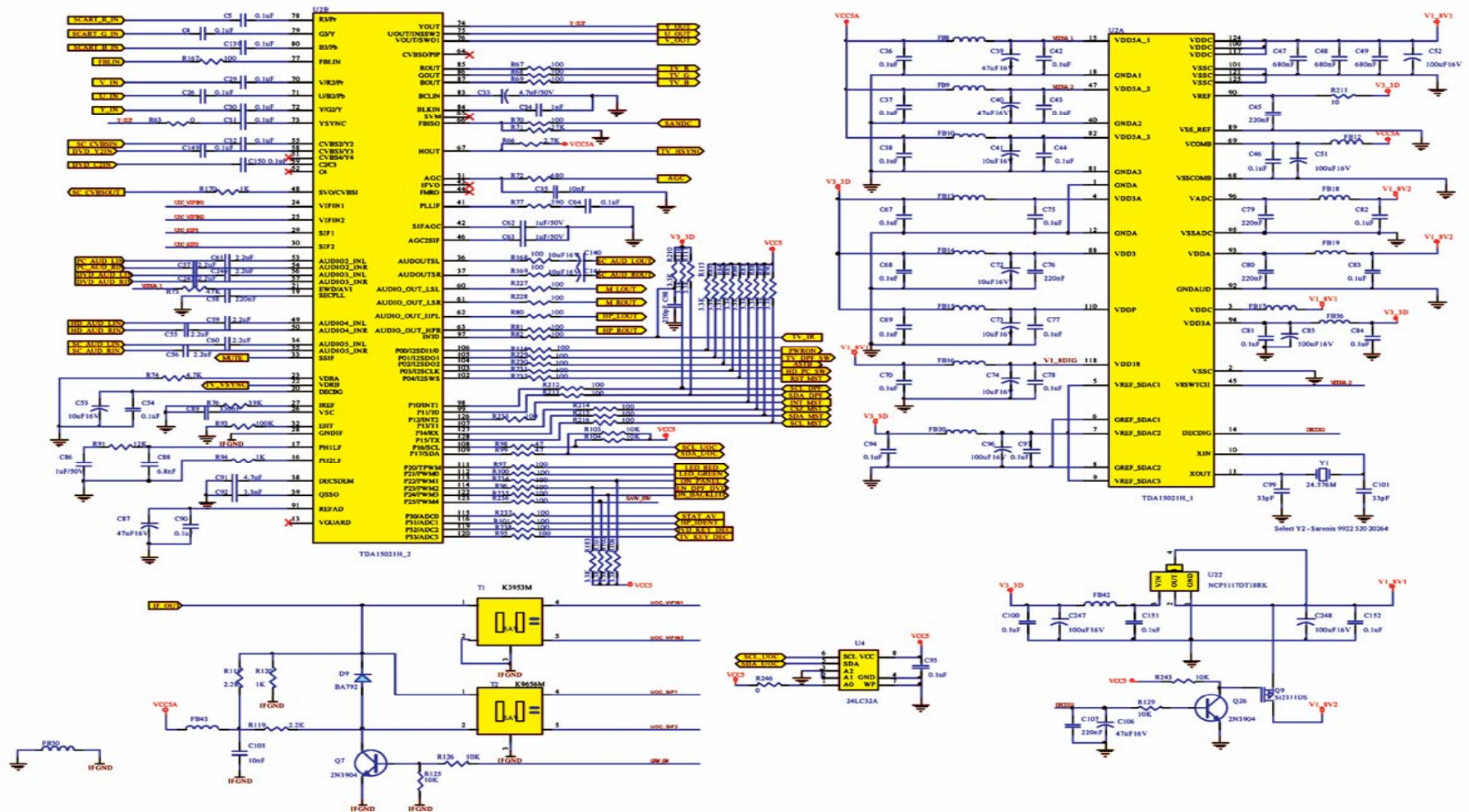
PART LIST

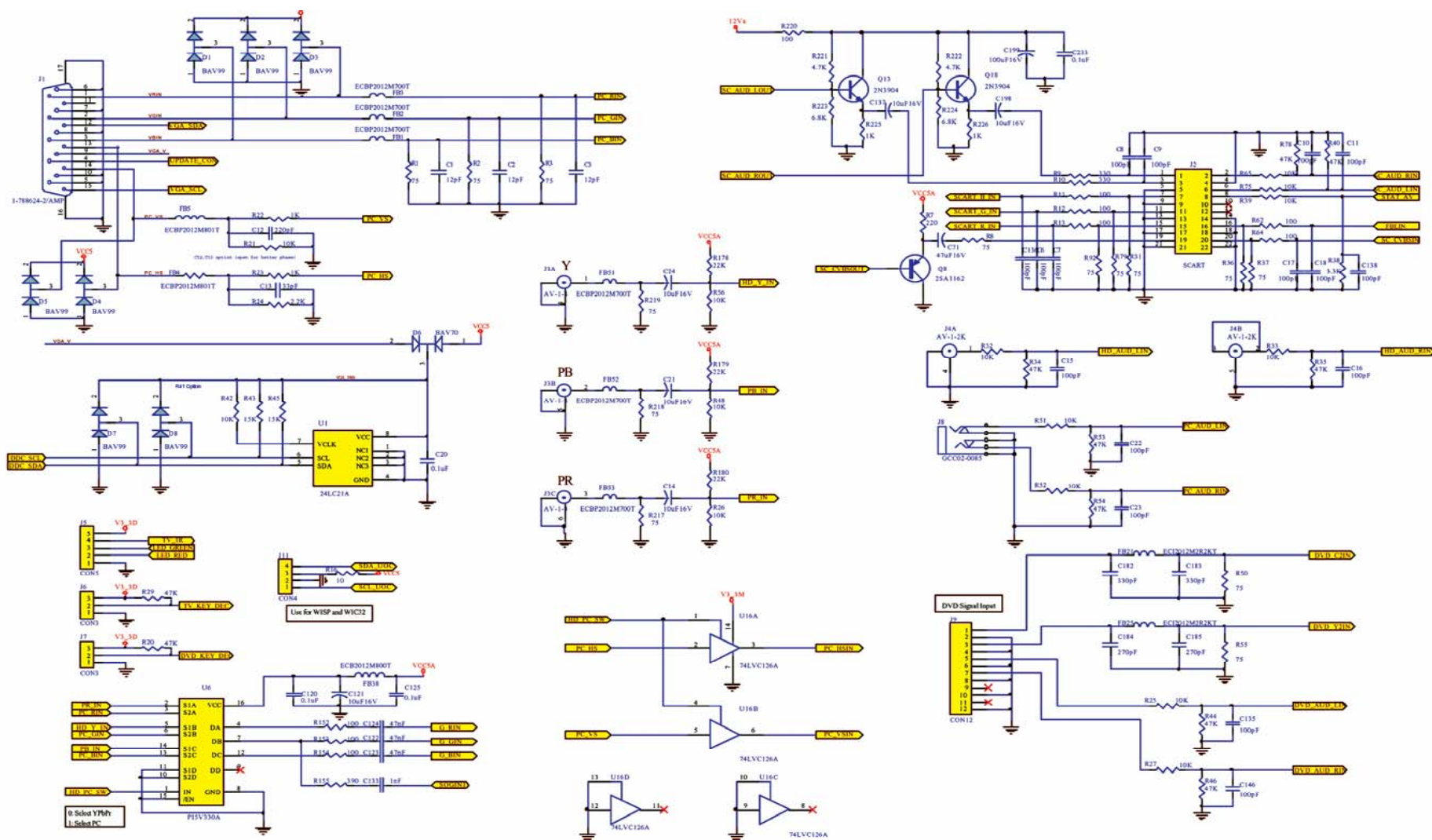
S/no.	Description	Qty
1 ~ 2	Main Module	1
3	Front Frame Module	1
4	Back Cover Module	1
5	Pedestal Module	1
10	Screw (3 x 10BTHch)	17
11	Screw (3 x 8BTHch)	5
12	Screw 3 x 6	2
13	Screw M3 x 8	1
14	M4 x 6	4
15	Wire Clip	4

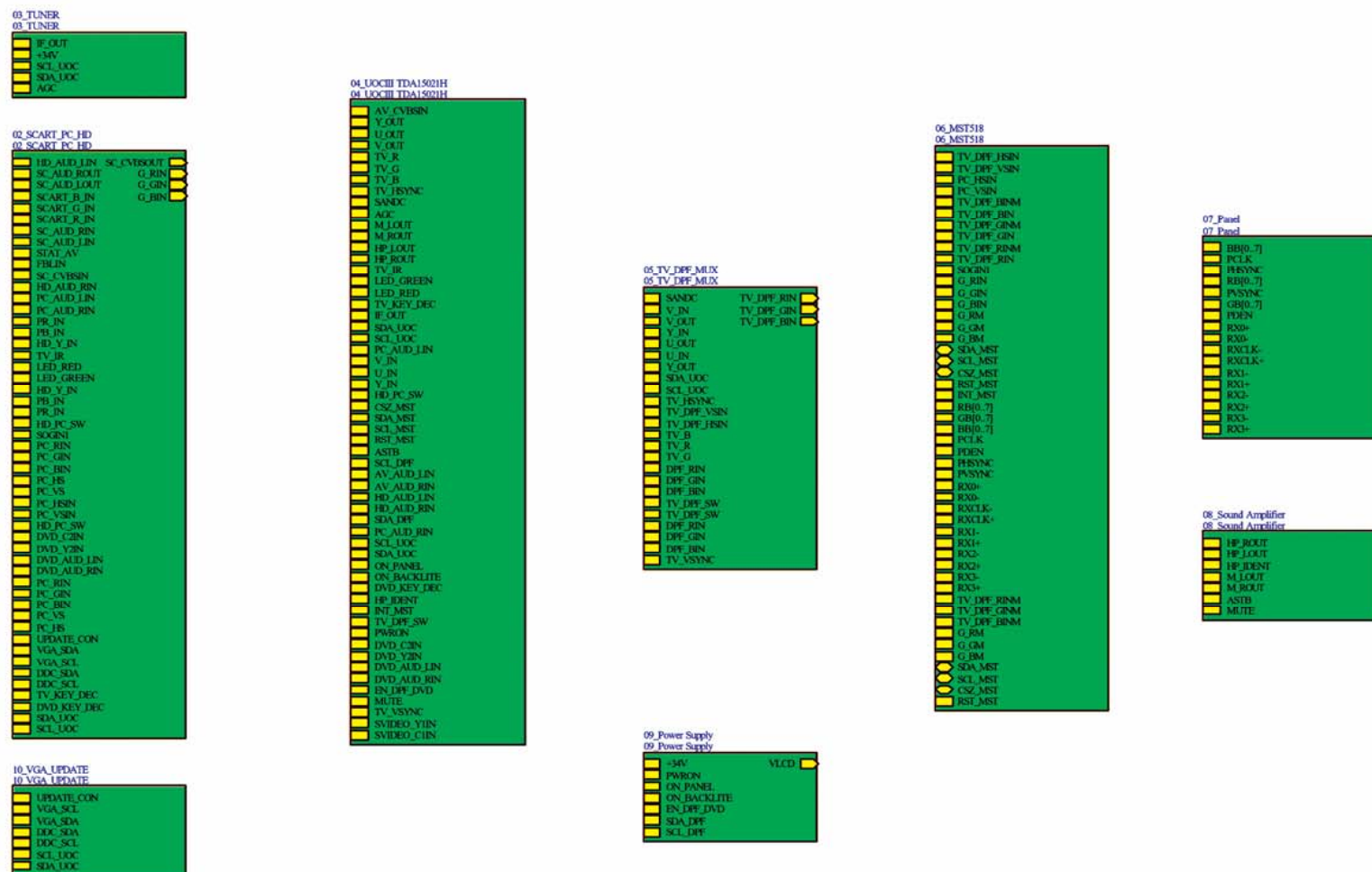
WIRING DIAGRAM

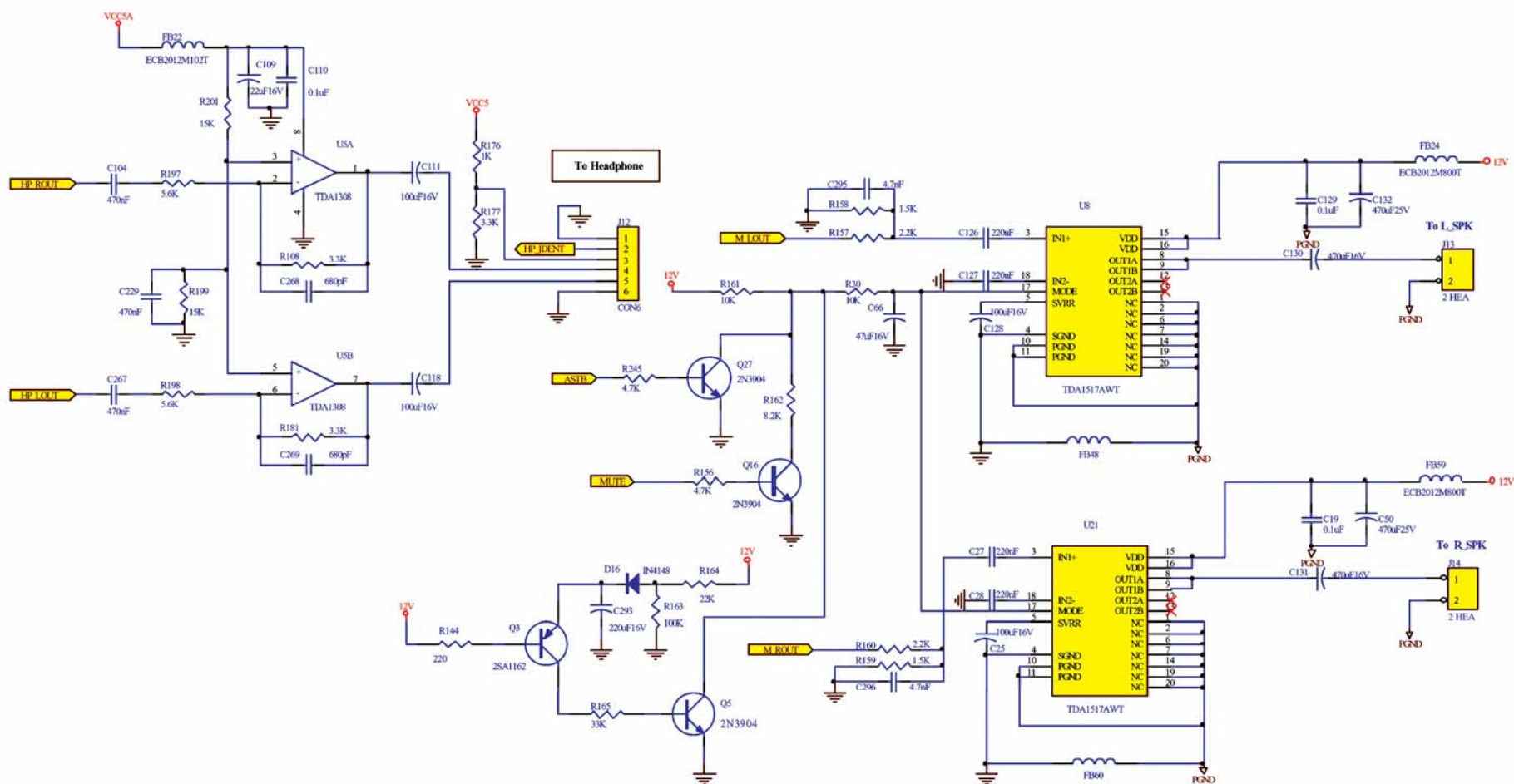


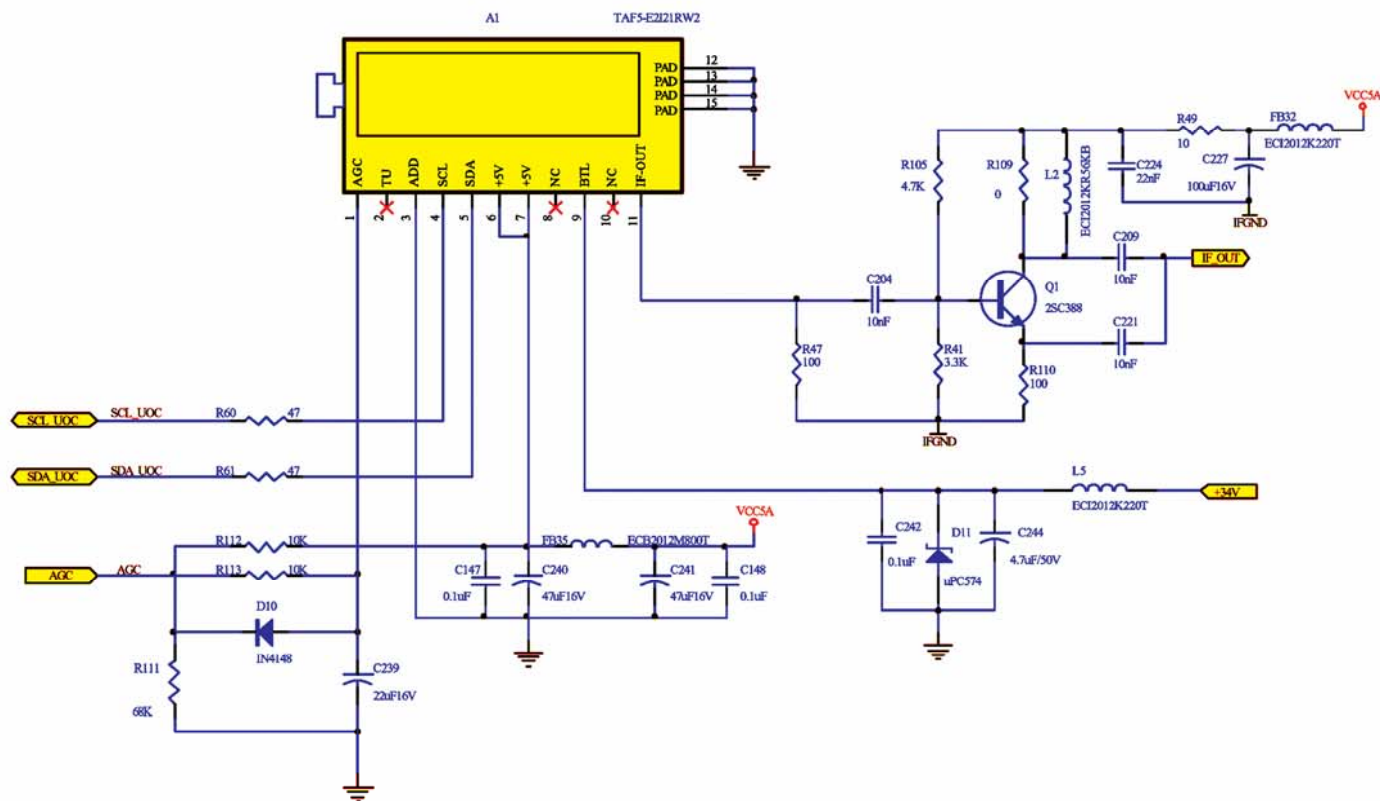
CIRCUIT DIAGRAM

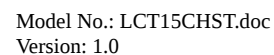


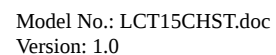












WALL-MOUNTING BRACKET INSTALLATION GUIDE

READ CAREFULLY BEFORE INSTALLATION!
THE INSTALLATION GUIDE SHOULD BE RETAINED FOR FUTURE REFERENCE.

Caution:

1. DO NOT attempt to install the TV by yourself to avoid mistakes or hazard. Refer all installation to qualified servicing personnel.
2. DO NOT install the TV on a wall aslope or a wall that makes the TV screen sloping over 25° off plumb line. Otherwise, it may cause tumble or injury.
3. One must follow the instructions in this guide to correctly install the TV.
4. It requires more than one person to install the TV.
5. Before installation, examine whether the wall conforms to the specifications and whether the supplied parts can be fixed on it. The wall for mounting should sustain the weight of TV and speakers e.g. cement wall or brick wall. DO NOT attempt to install an area with standard building rigidity, which sustains the weight of the TV and speakers. If the rigidity of the wall can not be measured, every mounting hole should sustain a frontal force over **75N**, and a shearing force of over **150N**.
6. Use the specified electric drill and drill bit for drilling. The drilling holes should conform to the specifications.
7. To avoid fire and shock, do NOT place radiator, heater or humidifier below the installed TV.
8. The TV should be kept away from moisture, sensors and power line. The TV should be kept away from impact and vibration.
9. Ensure that the power supply be disconnected before installation for fear of fire and shock.

Wall-mounting Installation Steps:

1. Take out the bracket from the package and check if there are serious defects (e.g. infirm juncture).
2. Adjust the bracket to the desired angle. Use bolt 7 to adjust the angle by meeting holes of column beam2 and holes of lever 4.
3. Drill locating holes in the specified dimension in a vertical wall of concrete or brick. The hole size should be 11mm. The hole depth should accommodate the expanding tube of the bolt.
4. Fix the bolts into the drilled holes in step3, and then cover each bolt with a metal washer. Meet the four mounting holes in the bracket with the four bolts in the wall, cover each bolt with a metal washer, and then fasten with a screw nut. Check its rigidity by pulling the bracket.
5. Fix the fixture disk to the back cover of the TV using six M4x20 bolts.
6. Wall-mount the TV by putting the six-fixture disk into the six mounting holes A.