

Haier

SERVICE MANUAL

FOR 15HL25S



TFT-LCD TV

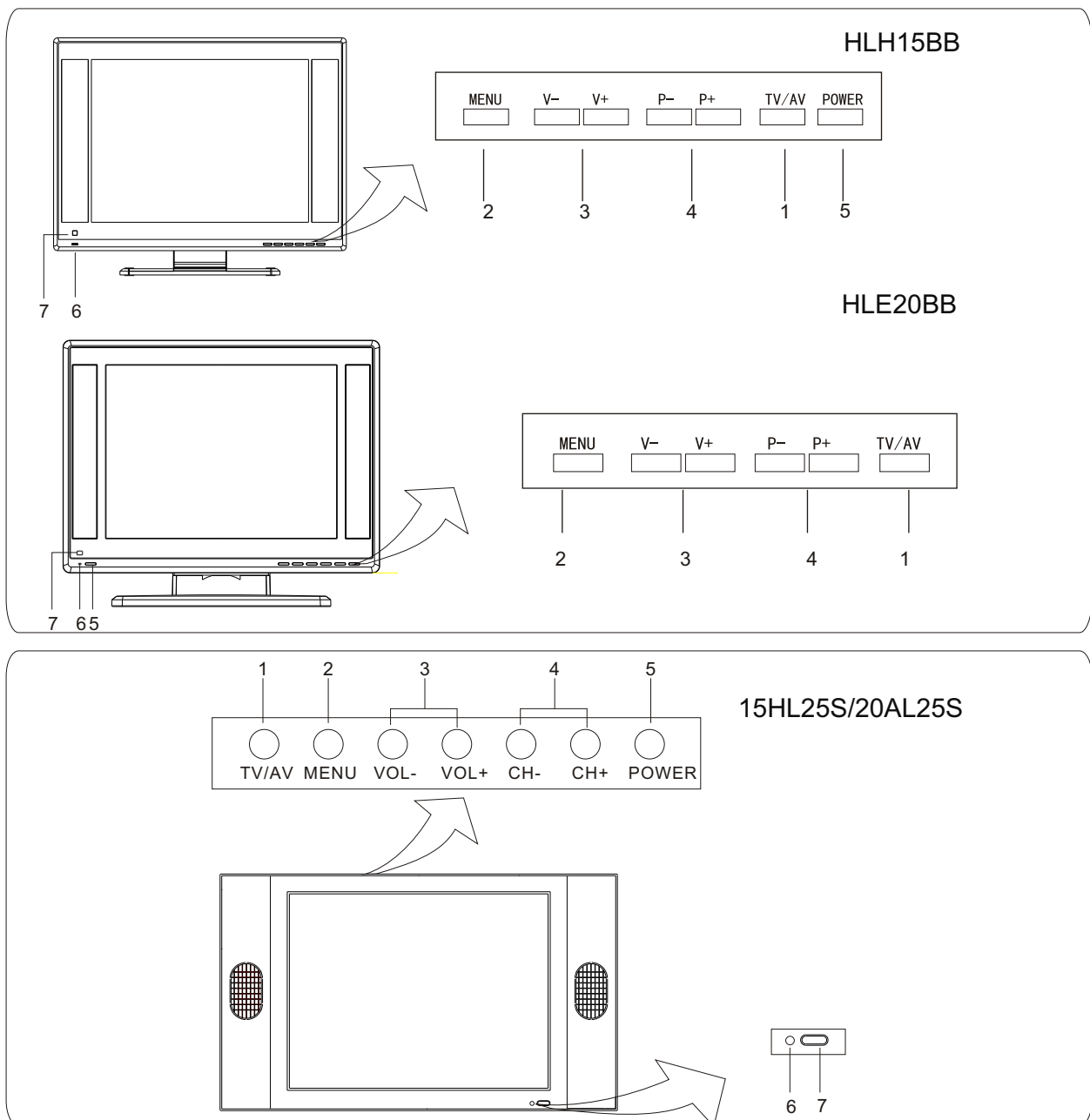
Haier Group

TV-8888-70

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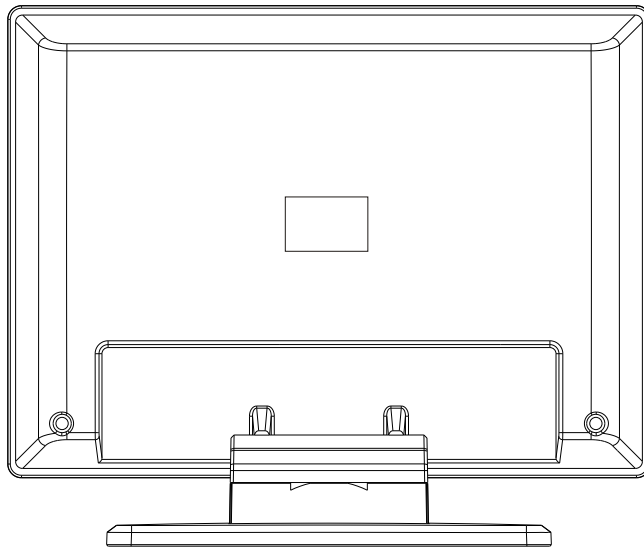
Main Unit Description



Control Panel Function

1. TV/AV Selects the input signals: PC/COMPONENT/AV/SV/TV
2. MENU Press to select the main menu
3. VOL-(V-) Volume down / Left orientation to adjust the item in the OSD
VOL+ (V+) Volume up / Right orientation to adjust the item/Press to enter
4. CH-(P-) TV channel down / to select the item in the menu
CH+(P+) TV channel up / to select the item in the menu
5. Power supply switch
6. Power indicator
Illuminates red in standby mode, illuminates green when the display is turned on
7. Remote Sensor Receives the signals from the remote control

Connection Options



(The figure is just for reference, please see actual unit.)

AV/S-VIDEO/COMPONENT Audio Input

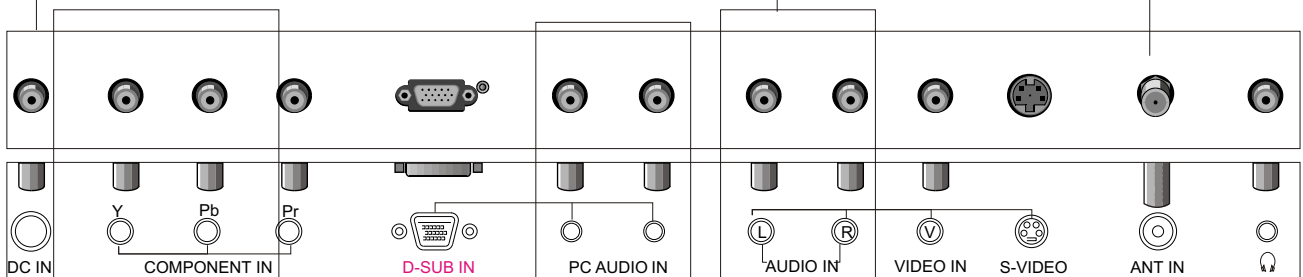
Connect audio output from an external device to these jacks

Antenna Input

Connect cable or antenna signals to the TV, either directly or through your cable box.

DC Power Cord Socket

This TV operates on DC power. The voltage is indicated on the specifications page. Never attempt to operate the TV on ac power



DVD/DTV Input

Connect a component device to these jacks

D-SUB Input

Connect to the VGA 15PIN analog output connector of the PC display card for PC display purpose

PC Audio Input

Connect the PC output connector from a PC to the audio input port

Earphone port

S-Video Input

Connect S-Video out from an S-Video device to the jacks.

Video Input

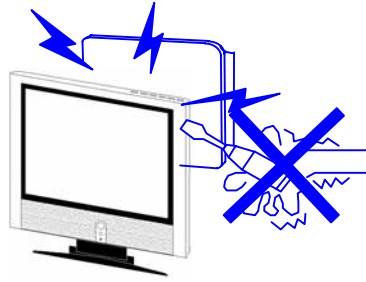
Connect video output from an external device to this jack

Features

NO.	Functions	Model
		15HL25S
1	TFT	SVA
2	Screen size	15inch
3	Aspect ratio	4:3
4	Resolution	1024x768
5	Brightness	250cd/m ²
6	Contrast(Darkroom)	400:1
7	Response time(ms)	16
8	Color system	NTSC
9	NO. of preset channels	100
10	Picture mode	Yes
11	Angel of view	H:120° / V:100°
12	Color display	16,777,216
13	Color level	16
14	OSD languages	ENGLISH,FANCE, SPAISH
15	AV stereo	Yes
16	Surrounding sound	No
17	Audio system	M
18	Bass	Yes
19	Balance	Yes
20	Sound mode	Yes
21	Mute	Yes
22	BTSC	Yes
23	AV input	Yes
24	AV output	NO
25	Y CB CR	Yes
26	Y PB PR	Yes
27	S-video jack	NO
28	TV in	Yes

NO.	Functions	Model
		15HL25S
29	D-SUB jack	Yes
30	DVI socket	NO
31	SCART socket	NO
32	Ear-Phone Out	Yes
33	CCD,V-CHIP	Yes
34	Semitransparent menu	Yes
35	ZOOM	NO
36	16:9 mode	NO
37	Child Lock	NO
38	Quick View	Yes
39	NO. of built-in speakers	2
40	Audio output power(Built-in)(W)	2*1.5
41	Total power input (W)	40
42	Voltage range (V)	120
43	Power frequency (Hz)	60
44	Time of sleep timer(MINS)	240
45	Approval	UL
46	Suitable market	U.S.

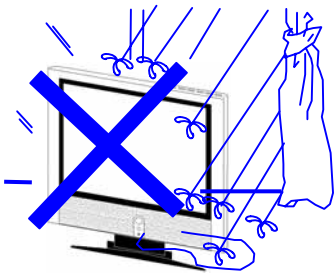
Warnings and Cautions



Warning

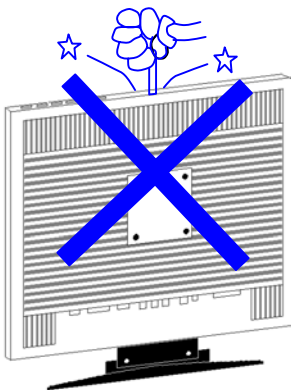
High voltages are used in the operation of this product.

Do not remove the cabinet back from your set. Refer servicing to qualified service personnel.



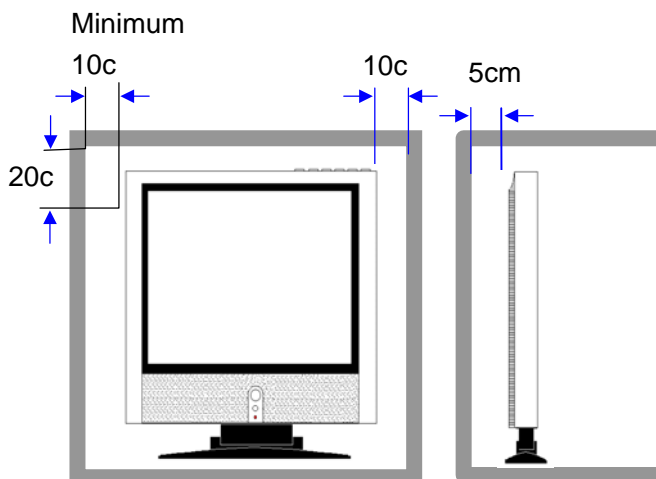
Warning

To prevent fire or electrical shock hazard, Do not expose the main unit to rain or moisture.



Warning

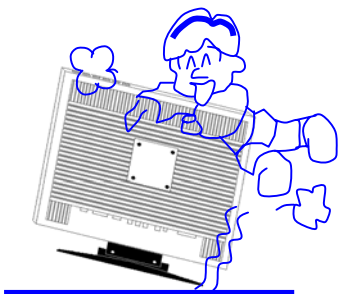
Do not drop or push objects into the television cabinet slots or openings. Never spill any kind of liquid on the television receiver.



Caution

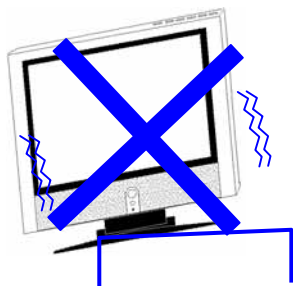
If the television is to be built into a compartment or similarly enclosed, the minimum distances must be maintained.

Heat build-up can reduce the service life of your television, and can also be dangerous.



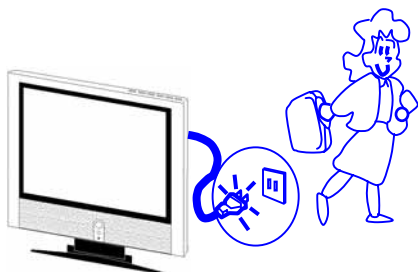
Caution

Never stand on, lean on, push suddenly the product or its stand. You should pay special attention to children to children.



Caution

Do not place the main unit on an unstable cart stand, shelf or table. Serious injury to an individual, and damage to the television, may result if it should fall.



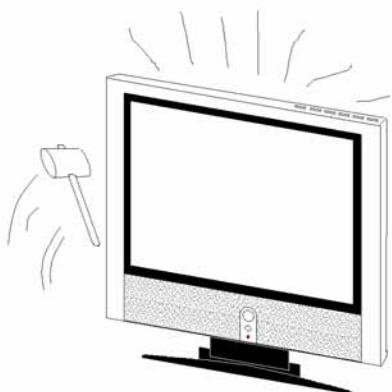
Caution

When the product is not used for an extended period of time, it is advisable to disconnect the AC power cord from the AC outlet.



Caution

Avoid exposing the main unit to direct sunlight and other source of the heat. Do not stand the television receiver directly on other produces which give off heat. E. g. video cassette players, Audio amplifiers. Do not block the ventilation holes in the back cover. Ventilation is essential to prevent failure of electrical component. Do not squash power supply cord under the main unit.



Caution

The LCD panel used in this product is made of glass. Therefore, it can break when the product is dropped or applied with impact. Be careful not to be injured by broken glass pieces in case the LCD panel breaks.

REPLACEMENT OF MEMORY IC

1. MEMORY IC.

This LCD TV uses memory IC. In the memory IC are memorized data for correctly operating the video and sound circuits. When replacing memory IC, be sure to use IC written with the initial value of data.

2. PROCEDURE FOR REPLACING MEMORY IC

(1) Power off

Unplug the +12V power plug from +12V power socket.

(2) Replace IC

Be sure to use memory IC written with the initial data values or blank memory IC.

(3) Power On

Plug the +12V power plug into +12V power socket. (If memory IC is blank, the program will take 25s to initial memory IC.

(4) Check and set SYSTEM default value:

- 1) Press "DISPLAY" key, then press colour key "red","green",yellow","DISPLAY" on the Remote control unit continuously for factory used.
- 2) The "Factory2" will be displayed on the screen,
- 3) Check the setting value of the SYSTEM default value of Table below. If the value is different, select items by [CH+]/[CH-] keys and set value by [VOL+]/[VOL-] keys.
- 4) Press "OK" key and return to the normal screen.

Remote Control Key Functions

When using the remote control, aim it towards the remote sensor on the TV

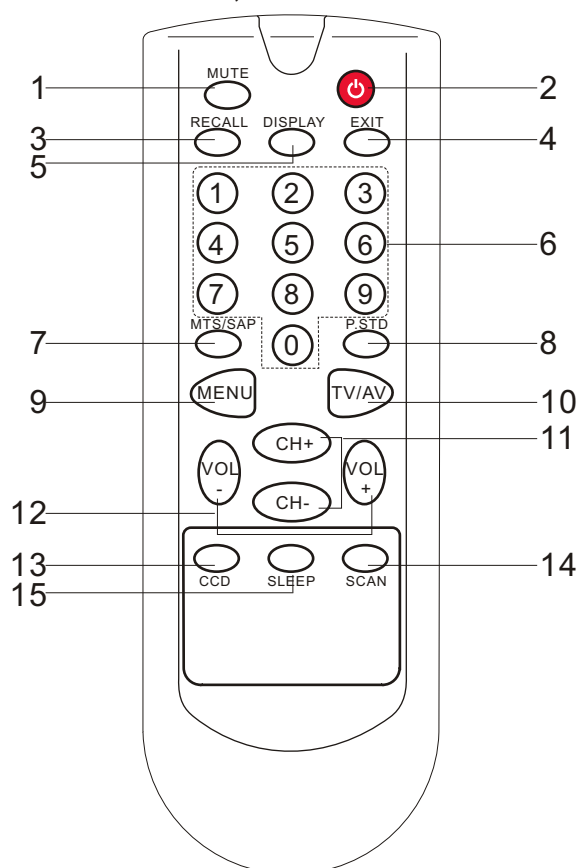



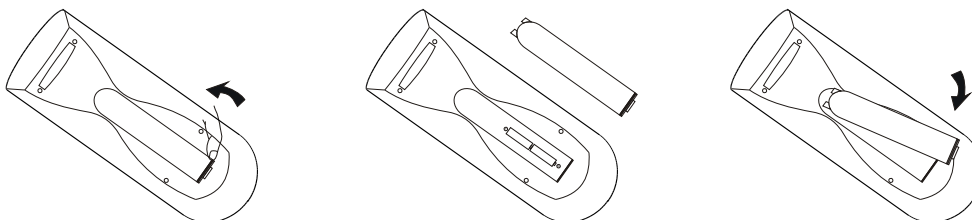
Illustration of the keys on the remote control:

1. MUTE	MUTE
2. 	Power supply switch
3. RECALL	Quick TV channel switch(return to the last channel)
4. EXIT	Menu exit
5. DISPLAY	Display current input signal information
6. 0-9	TV channel number select
7. MTS/SAP	Select MONO,STEREO, SAP in NTSC system
8. P.STD	Select picture mode: PERSONAL/STANDARD/MILD/FRESH
9. MENU	To display/exit the main menu
10. TV/AV	Select PC/COMPONENT/AV/SV/TV
11. CH+/CH-	TV channel up/down or select the item of the menu
12. VOL+	Volume up / to select the main menu/ to adjust the item/ to enter the submenu.
VOL-	Volume down / to select the main menu/ to adjust the item
13. CCD	Closed caption on/off
14. SCAN	Channel scan
15. SLEEP	TV sleep button

Remote Control

Installing Batteries

1. Slide open the cover of the battery compartment on the back of the remote control.
2. Load two **AAA** alkaline batteries in the compartment. (plus and minus poles to respective mark)
3. Replace the cover of the battery compartment.



ICs Function Description

1.UOC3

Function: TV signal processor with Teletext and Nicam

PIN	SYMBOL	DESCRIPTION
1	VSSP2	ground
2	VSSC4	ground
3	VDDC4	Digital supply to SDACs(1.8V)
4	VDDA3(3.3V)	Supply(3.3V)
5	VREF_POS_LSL	Positive reference voltage SDAC(3.3V)
6	VREF_NEG_LSL+HPL	Negative reference voltage SDAC(0V)
7	VREF_POS_LSR+HPR	Positive reference voltage SDAC(3.3V)
8	VREF_NEG_HPL+HRP	Negative reference voltage SDAC(0V)
9	VREF_POS_HPR	Positive reference voltage SDAC(3.3V)
10	XTALIN	Crystal oscillator input
11	XTALOUT	Crystal oscillator output
12	VSSA1	ground
13	VGUARD/SWIO	V-guard input/I/O switch (e.g.4mA current sinking capability for direct drive of LEDs)
14	DECDIG	Decoupling digital supply
15	VP1	1 st supply voltage TV-processor(+5V)
16	PH2LF	Phase-2 filter
17	PH1LF	Phase-1 filter
18	GND1	Ground 1 for TV-processor
19	SECPLL	SECAM OLL decoupling
20	DECBG	Bandgap decoupling
21	EWD/AVL	East-West drive output or AVL capacitor
22	VDRB	Vertical drive B output
23	VDRA	Vertical drive A output
24	VIFIN1	IF input 1
25	VIFIN2	IF input 2
26	VSC	Vertical sawtooth capacitor
27	IREF	Reference current input
28	GNDIF	Ground connection for IF amplifier
29	SIFN1/DVBIN1	SIF input 1/ DVB input 1
30	SIFN2/DVBIN2	SIF input 2/ DVB input2
31	AGCOUT	Tuner AGC output
32	EHTO	EHT/over voltage protection input
33	AVL/SWO/SSIF/REFO/ REFIN	Automatic volume leveling/switch output/sound IF input sub-carrier reference output/external reference signal mixer for DVB operation

34	AUDIOIN5L	Audio-5 input(left signal)
35	AUDIOIN5R	Audio-5 input(right signal)
36	AUDOUTSL	Audio output for SCART/CINCH(left signal)
37	ADUOUTSR	Audio output for SCART/CINCH(right signal)
38	DECSDEM	Decoupling sound demodulator
39	QSS0/AMOUT/AUDEEM	QSS inter-carrier output/AM output/deemphasis(front-end audio out)
40	GND2	Ground 2 for TV processor
41	PLLIF	IF-PLL loop filter
42	SIFAGC/DVBAGC	AGC sound IF/internal-external AGC for DVB applications
43	DVBO/IFVO/FMRO	Digital Video Broadcast output/IF video output/FM radio output
44	DVBO/FMRO	Digital Video Broadcast output/IF video output
45	VCC8V	8 Volt supply for audio switches
46	AGC2SIF	AGC capacitor second sound IF
47	VP2	2th supply voltage TV processor(+5V)
48	IFVO/SVO/CVBSI	IF video output/selected CVBS out/CVBS input
49	AUDIOIN4L	Audio-4 input(left signal)
50	AUDIOIN4R	Audio-4 input(right signal)
51	CVBS4/Y4	CVBS4/Y4 input
52	C4	Chroma-4 input
53	AUDIOIN2L/SSIF	Audio 2 input (left signal)/sound IF input
54	AUDIOIN2R	Audio 2 input (right signal)
55	CVBS2/Y2	CVBS2/Y2 input
56	AUDIOIN3L	Audio 3 input(left signal)
57	AUDIOIN3R	Audio 3 input(right signal)
58	CVBS3/Y3	CVBS 3/Y2 input
59	C2/C3	Chroma-2/3 input
60	AUDOUTLSL	Audio output for audio power amplifier (left signal)
61	AUDOUTLSR	Audio output for audio power amplifier (right signal)
62	AUDOUTHPL	Audio output for headphone channel (left signal)
63	AUDOUTHPR	Audio output for headphone channel (right signal)
64	CVBSO/PIP	CVBS/PIP output
65	SVM	Scan velocity modulation output
66	FBISO/CSY	Flyback input/sandcastle output or composite H/V timing output
67	HOUT	Horizontal output
68	VSScomb	Ground connection for comb filter
69	VDDcomb	Supply voltage for comb filter(5V)
70	VIN(R/Prin2/Cx)	V-input for YUV interface(2th 日 input/Pr input or Cx input)
71	UIN(B/PBIN2)	U-input for YUV interface(2th B input/PB input)

72	YIN(G/YIN2/CVBS-Yx)	Y-input for YUV interface(2th G input/Y input or CVBS/Yx input)
73	YSYNC	Y-input for sync separator
74	YOUT	Y-output (for YUV interface)
75	UOUT(INSSW2)	U-output for YUV interface(2 nd RGB/YPbPr insertion input)
76	VOUT(SWO1)	V-output for YUV interface(general purpose switch output)
77	INSSW3	3 rd RGB/YPbPr insertion input
78	R/PRIN3	3 rd R input/Pr input
79	G/YIN3	3 rd G input/Y input
80	B/PbIN3	3 rd B input/P5 input
81	GND3	Ground 3 for TV-processor
82	VP3	3 rd supply for TV processor
83	BCLIN	Beam current limiter input
84	BLKIN	Black current input
85	RO	Red output
86	GO	Green output
87	BO	Blue output
88	VDDA1	Analog supply for TCG u-Controller and digital supply for TV-processor(+3.3V)
89	VREFAD_NEG	Negative reference voltage (0V)
90	VREFAD_POS	Positive reference voltage (3.3V)
91	VREFAD	Reference voltage for audio ADCs(3.3/2V)
92	GNDA	Ground
93	VDDA(1.8V)	Analogue supply for audio ADCs(1.8v)
94	VDDA2(3.3V)	Supply voltage SDAC(3.3V)
95	VSSadc	Ground for video ADC and PLL
96	VDDadc(1.8V)	Supply voltage video ADC and PLL
97	INT0/P0.5	External interrupt 0 or port 0.5(4mA current sinking capability for direct drive of LEDs)
98	P1.0/INT1	Port 1.0 or external interrput1
99	P1.1/T0	Port 1.1 or Counter/Timer 0 input
100	VDDC2	Digital supply to core(1.8V)
101	VSSC2	ground
102	P0.4/I2SWS	Port 0.4 or I2S word select
103	P0.3/I2SCLK	Port 0.3 or I2S clock
104	P0.2/I2SDO2	Port 0.2 or I2S digital output 2
105	P0.1/I2SDO1	Port 0.1 or I2S digital output 1
106	P0.0/I2SDI1/O	Port 0.0 or I2S digital input 1 or I2S digital output
107	P1.3/T1	Port 1.3 or Counter/Timer 1 input
108	P1.6/SCL	Poet 1.6 or I2C-bus clock line
109	P1.7/SDA	Port 1.7 or I2C-bus data line

110	VDDP(3.3V)	Supply to periphery and on-chip voltage regulator(3.3V)
111	P2.0/TPWM	Port 2.0 or tuning PWM output
112	P2.1/PWM0	Port 2.1 or PWM0 output
113	P2.2/PWM1	Port 2.2 or PWM1 output
114	P2.3/PWM2	Port 2.3 or PWM2 output
115	P3.0/ADC0	Port 3.0 or ADC0 input
116	P3.1/ADC1	Port 3.1 or ADC1 input
117	VDDC1	Digital supply to core(+1.8)
118	DECV1V8	Decoupling 1.8V supply
119	P3.2/ADC2	Port 3.2 or ADC2 input
120	P3.3/ADC3	Port 3.3 or ADC3 input
121	VSSC/P	Digital ground for u-Controller core and periphery
122	P2.4/PWM3	Port 2.4 or PWM3 output
123	P2.5/PWM4	Port 2.5 or PWM4 output
124	VDDC3	Digital supply to core(1.8v)
125	VSSC3	ground
126	P1.2/INT2	Port 1.2 or external interrupt 2
127	P1.4/RX	Port 1.4 or UART bus
128	P1.5TX	Port 1.5 or UART bus

2.RTD2023B

PIN	SYMBOL	DESCRIPTION
1	APLL_GND	Ground for multi-phase PLL
2	APLL_VDD	Power for multi-phase PLL
3	PLL_TEST1	Test Pin 1 Power-on-latch for MCU crystal location
4	PLL_TEST2	Test Pin 2 Power-on-latch for crystal in frequency
5	TMDS_TST	TMDS_TEST Pin Power-on-latch for host interface type
6	REXT	Impedance Match Reference.
7	TMDS_VDD	TMDS power
8	RX2P	Differential Data Input
9	RX2N	Differential Data Input
10	TMDS_GND	TMDS ground
11	RX1P	Differential Data Input
12	RX1N	Differential Data Input
13	TMDS_VDD	TMDS power
14	RX0P	Differential Data Input
15	RX0N	Differential Data Input
16	TMDS_GND	TMDS ground
17	RXCP	Differential Data Input
18	RXCN	Differential Data Input
19	AVS0	ADC vertical sync input 5V tolerance Power from PIN

		13
20	AHS0	ADC horizontal sync input Adjustable Schmidt trigger 5V tolerance Power from PIN 13
21	ADC_VDD	ADC Power
22	ADC_GND	ADC Ground
23	B0+	1st Positive BLUE analog input (Pb+)
24	B0	1st Negative BLUE analog input (Pb-)
25	SOG0	1st Sync on Green
26	G0+	1st Positive GREEN analog input (Y+)
27	G0	1st Negative GREEN analog input (Y-)
28	R0+	1st Positive RED analog input (Pr+)
29	R0	1st Negative RED analog input (Pr-)
30	V7	Video8 bit 7
31	V6	Video8 bit 6
32	V5	Video8 bit 5
33	V4	Video8 bit 4
34	V3	Video8 bit 3
35	V2	Video8 bit 2
36	V1	Video8 bit 1
37	ADC_GND	ADC Ground
38	ADC_VDD	ADC Power
39	V0	Video8 bit 0
40	VCLK	Video8 Clock
41	NC	--
42	NC	--
43	NC	--
44	NC	--
45	NC	--
46	Digital 1.8V Ground	GNDK
47	Digital 1.8V Power	VCCK
48	COUT	Crystal out
49	PWM2	Pulse width modulation output port2
50	DDCSCL1(ADC)	Open drain (Internal 75K pull high)
51	DDCSDA1(ADC)	Open drain (Internal 75K pull high)
52	DCLK	CLOCK
53	DENA	DATA ENABLE
54	BGRN0	Display B-port Green Data 0
55	BGRN1	Display B-port Green Data 1
56	BRED0	Display B-port Red Data 0
57	BRED1	Display B-port Red Data 1
58	BJT_B	Embedded regulator P type BJT control pin out
59	Pad 3.3V Power	PVCC
60	Pad 3.3V Ground	PGND

61	BBLU7	Display B-port Blue Data 7
62	BBLU6	Display B-port Blue Data 6
63	BBLU5	Display B-port Blue Data 5
64	BBLU4	Display B-port Blue Data 4
65	BBLU3	Display B-port Blue Data 3
66	BBLU2	Display B-port Blue Data 2
67	BBLU1	Display B-port Blue Data 1
68	BBLU0	Display B-port Blue Data 0
69	BGRN7	Display B-port Green Data 7
70	BGRN6	Display B-port Green Data 6
71	NC	--
72	NC	--
73	BGRN5	Display B-port Green Data 5
74	BGRN4	Display B-port Green Data 4
75	BGRN3	Display B-port Green Data 3
76	BGRN2	Display B-port Green Data 2
77	BRED7	Display B-port Red Data 7
78	BRED6	Display B-port Red Data 6
79	BRED5	Display B-port Red Data 5
80	BRED4	Display B-port Red Data 4
81	BRED3	Display B-port Red Data 3
82	BRED2	Display B-port Red Data 2
83	Pad 3.3V Power	PVCC
84	Pad 3.3V Ground	PGND
85	ABLU7	Display A-port Blue Data 7
86	ABLU6	Display A-port Blue Data 6
87	ABLU5	Display A-port Blue Data 5
88	ABLU4	Display A-port Blue Data 4
89	ABLU3	Display A-port Blue Data 3
90	ABLU2	Display A-port Blue Data 2
91	ABLU1	Display A-port Blue Data 1
92	ABLU0	Display A-port Blue Data 0
93	AGRN7	Display A-port Green Data 7
94	AGRN6	Display A-port Green Data 6
95	NC	--
96	NC	--
97	AGRN5	Display A-port Green Data 5
98	AGRN4	Display A-port Green Data 4
99	AGRN3	Display A-port Green Data 3
100	AGRN2	Display A-port Green Data 2
101	ARED7	Display A-port Red Data 7
102	ARED6	Display A-port Red Data 6
103	ARED5	Display A-port Red Data 5

104	ARED4	Display A-port Red Data 4
105	ARED3	Display A-port Red Data 3
106	ARED2	Display A-port Red Data 2
107	Pad 3.3V Ground	PGND
108	Pad 3.3V Power	PVCC
109	33VPNLOUT	Panel on/off switch ot(Max current driving 1A)
110	COUT	Crystal out
111	ARED1	Display A-port Red Data 1
112	ARED0	Display A-port Red Data 0
113	AGRN1	Display A-port Green Data 1
114	AGRN0	Display A-port Green Data 0
115	SDIO[3]	Serial control I/F data in or Parallel port data [3] (Open drain) MSB
116	Digital 1.8V Power	VCCK
117	Digital 1.8V Ground	GNDK
118	SCSB	Serial control I/F chip select (Open drain)
119	SCLK	Serial control I/F clock (Open drain)
120	DDCSDA2(DVI)	Open drain (Internal 75K pull high)
121	DDCSCL2(DVI)	Open drain (Internal 75K pull high)
122	PWM0	Pulse width modulation output port0
123	RESET_OUT	Reset out
124	33VRST_REF	Reference 3.3v for Reset Out
125	DPLL_VDD	Power for digital PLL
126	DPLL_GND	Ground for display digital PLL
127	XO	Crystal OSC output
128	XI	Reference clock input from external crystal or from single-ended CMOS/TTL OSC

3.SM5964(PLCC)

Function: MCU

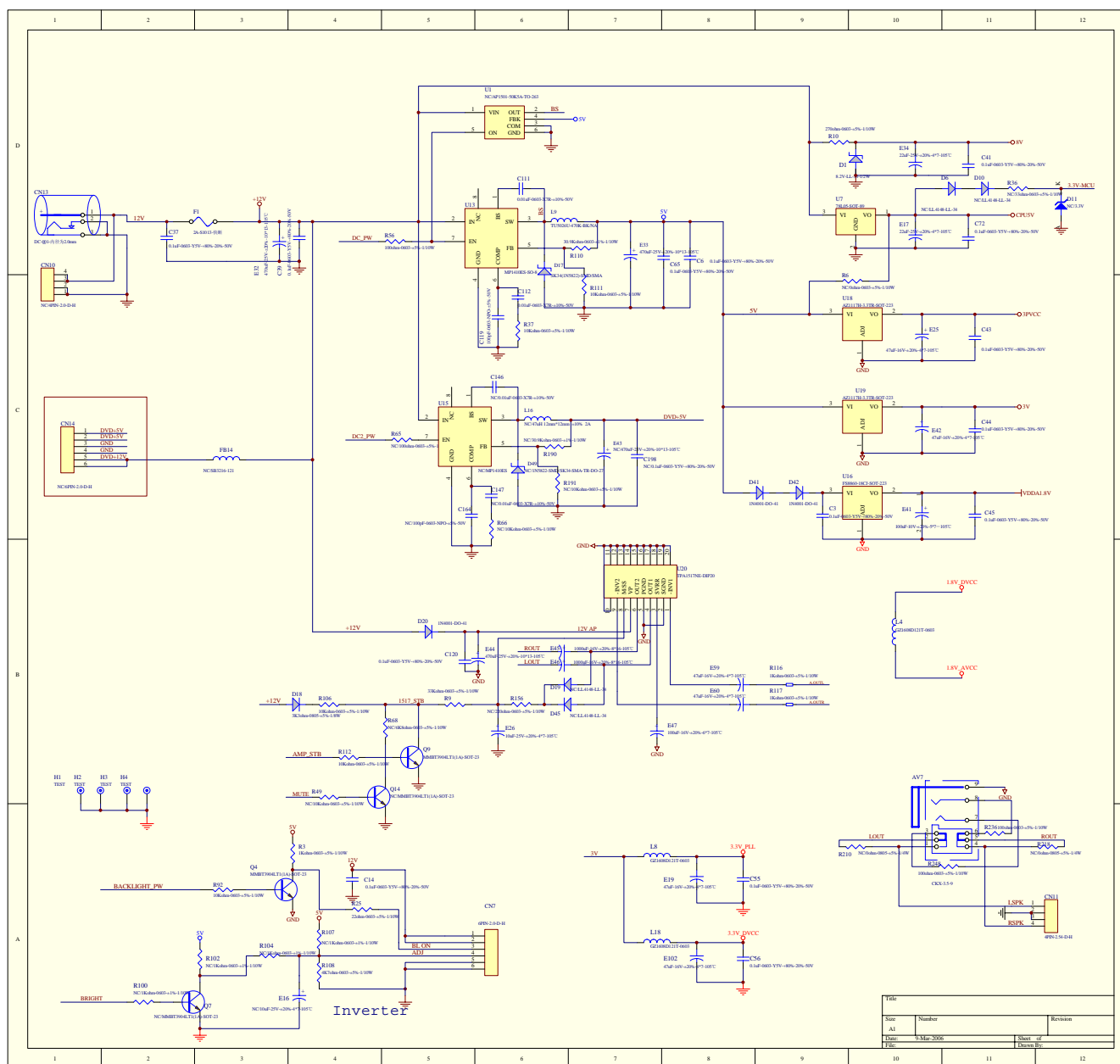
PIN	SYMBOL	DESCRIPTION
1	P4.2	Bit 2 of port 4
2	P1.0/T2	Bit 0 of port 1 & timer 2 clock out
3	P1.1/T2EX	Bit 1 of port 1 & timer 2 control
4	P1.2	Bit 2 of port
5	P1.3/SPWM0	Bit 3 of port 1 & SPWM Channel 0
6	P1.4/SPWM1	Bit 4 of port 1 & SPWM Channel 1
7	P1.5/SPWM2	Bit 5 of port 1 & SPWM Channel 2
8	P1.6/SPWM3	Bit 6 of port 1 & SPWM Channel 3
9	P1.7/SPWM4	Bit 7 of port 1 & SPWM Channel 4
10	RES	Reset
11	P3.0/RXD	Bit 0 of port 3 & Receive data

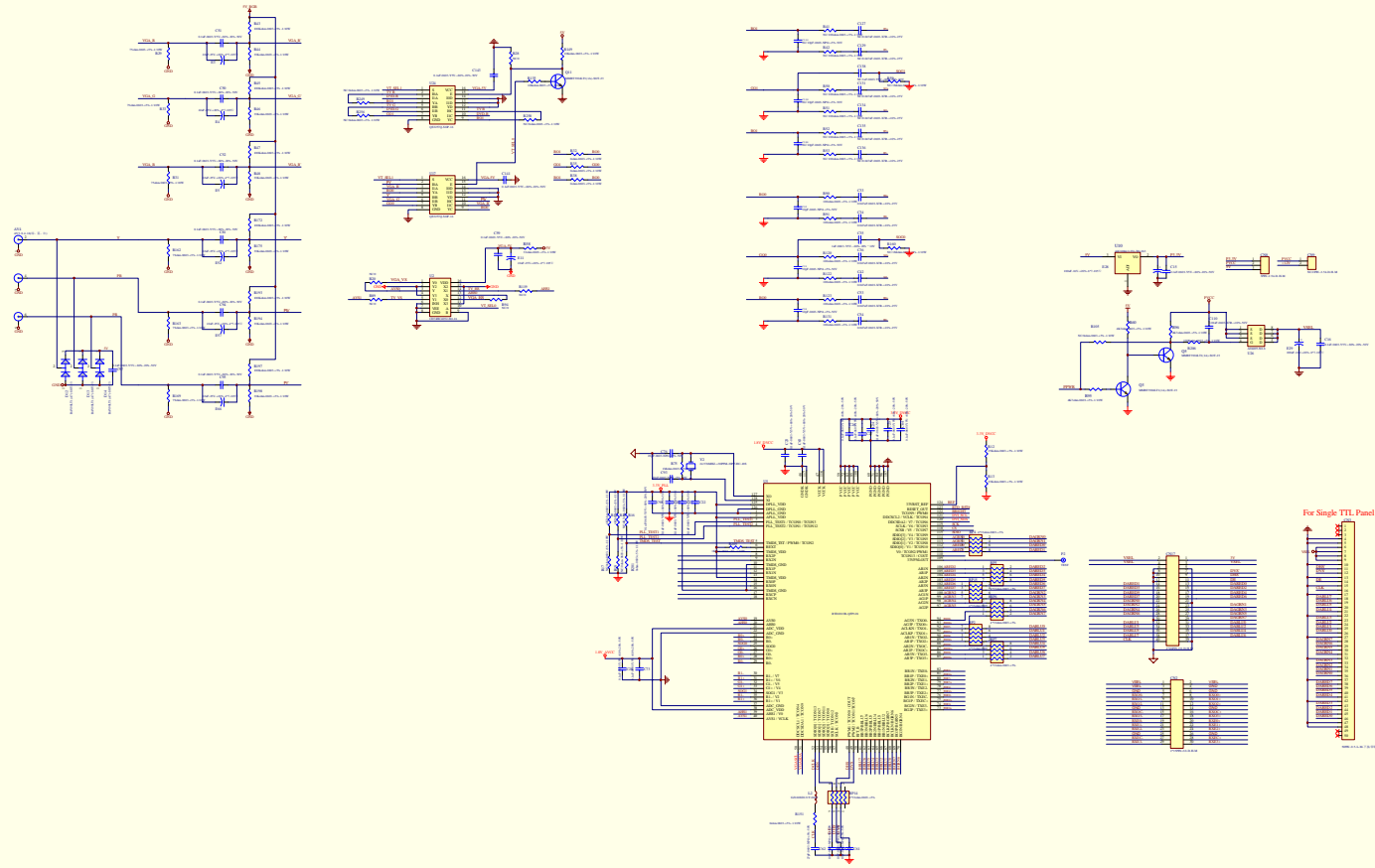
12	P4.3	Bit 3 of port 4
13	P3.1/TXD	Bit 1 of port 3 & Transmit data
14	P3.2/INT0	Bit 2 of port 3 & low true interrupt 0
15	P3.3/INT1	Bit 3 of port 3 & low true interrupt 1
16	P3.4/T0	Bit 4 of port 3 & Timer 0
17	P3.5/T1	Bit 5 of port 3 & Timer 1
18	P3.6/WR	Bit 6 of port 3 & ext. memory write
19	P3.7/RD	Bit 6 of port 3 & ext. memory read
20	XTAL2	Crystal out
21	XTAL1	Crystal in
22	VSS	Sink voltage, ground
23	P4.0	Bit 0 of port 4
24	P2.0/A8	Bit 0 of port 2 & bit 8 of external memory address
25	P2.1/A9	Bit 1 of port 2 & bit 9 of external memory address
26	P2.2/A10	Bit 2 of port 2 & bit 10 of external memory address
27	P2.3/A11	Bit 3 of port 2 & bit 11 of external memory address
28	P2.4/A12	Bit 4 of port 2 & bit 12 of external memory address
29	P2.5/A13	Bit 5 of port 2 & bit 13 of external memory address
30	P2.6/A14	Bit 6 of port 2 & bit 14 of external memory address
31	P2.7/A15	Bit 7 of port 2 & bit 15 of external memory address
32	PSEN	Program storage enable
33	ALE	Address latch enable
34	P4.1	Bit 1 of port 4
35	EA	External access
36	P0.7/AD7	Bit 7 of port 0 & data/address bit 7 of external memory
37	P0.6/AD6	Bit 6 of port 0 & data/address bit 6 of external memory
38	P0.5/AD5	Bit 5 of port 0 & data/address bit 5 of external memory
39	P0.4/AD4	Bit 4 of port 0 & data/address bit 4 of external memory
40	P0.3/AD3	Bit 3 of port 0 & data/address bit 3 of external memory
41	P0.2/AD2	Bit 2 of port 0 & data/address bit 2 of external memory
42	P0.1/AD1	Bit 1 of port 0 & data/address bit 1 of external memory
43	P0.0/AD0	Bit 0 of port 0 & data/address bit 0 of external memory
44	VDD	Drive voltage

4.TPA1517NE

Function: Audio power amplifier

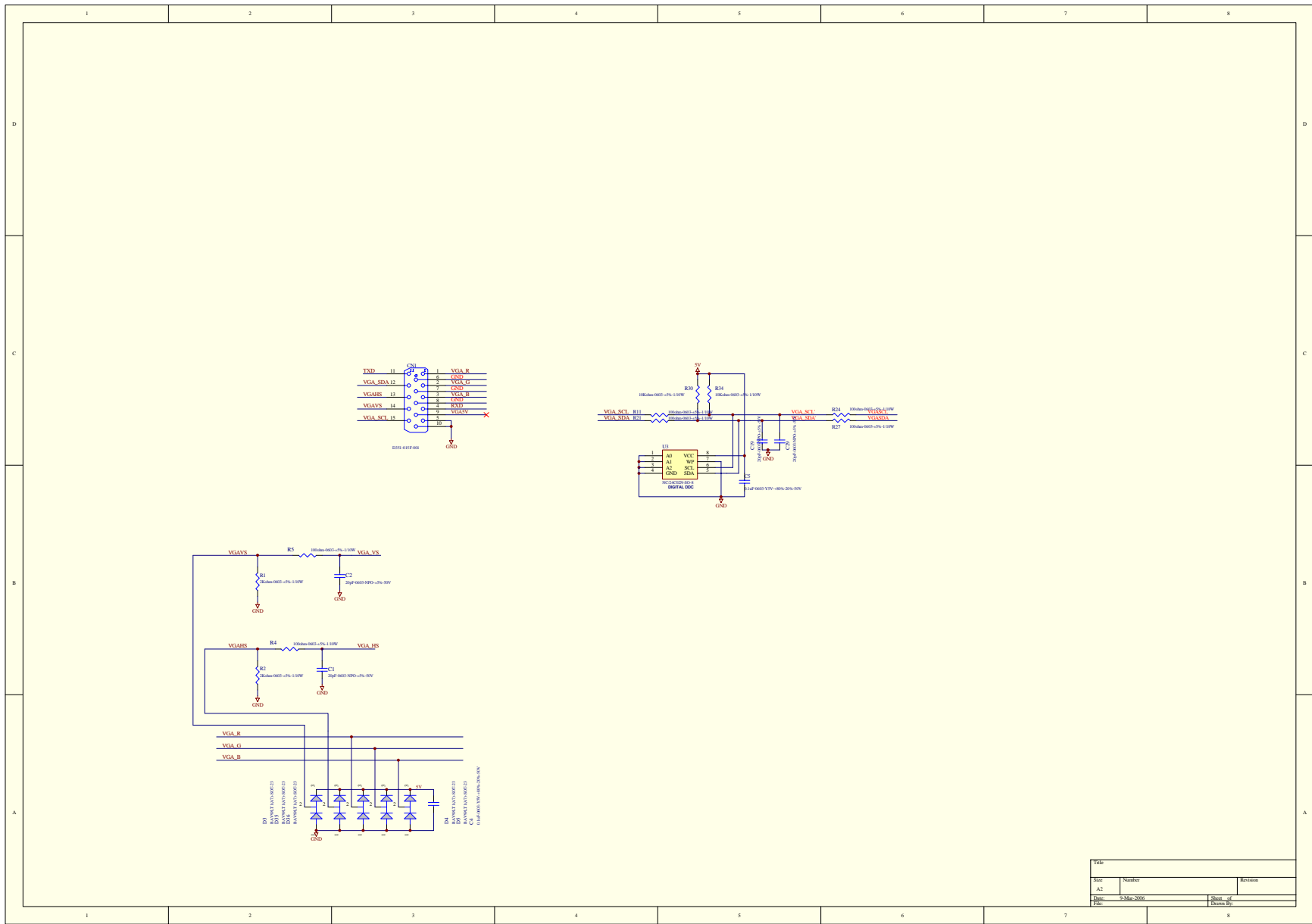
1	IN1	IN1 is the audio input for channel 1
2	SGND	SGND is the input signal ground reference
3	SVRR	SVRR is the midrail bypass mode enable
4	OUT1	OUT1 is the audio output for channel 1
5	PGND	PGND is the power ground reference
6	OUT2	OUT2 is the audio output for channel 2
7	VCC	VCC is the supply voltage input.
8	M/SB	M/SB is the mute/standby mode enable. When held at less than 2V, this signal enables the TPA1517 for standby operation. When held between 3.4V and 8.8V, this signal enables the TPA1517 for mute operation. When held above 9.2V, the TPA1517 operates normally.
9	IN2	IN2 in the audio input for channel 2
10-20	GND/HS	GND/HS are the ground and heat-sink connections. ALL GND/HS terminals are the connected directly to the mount pad for thermal-enhanced operation.





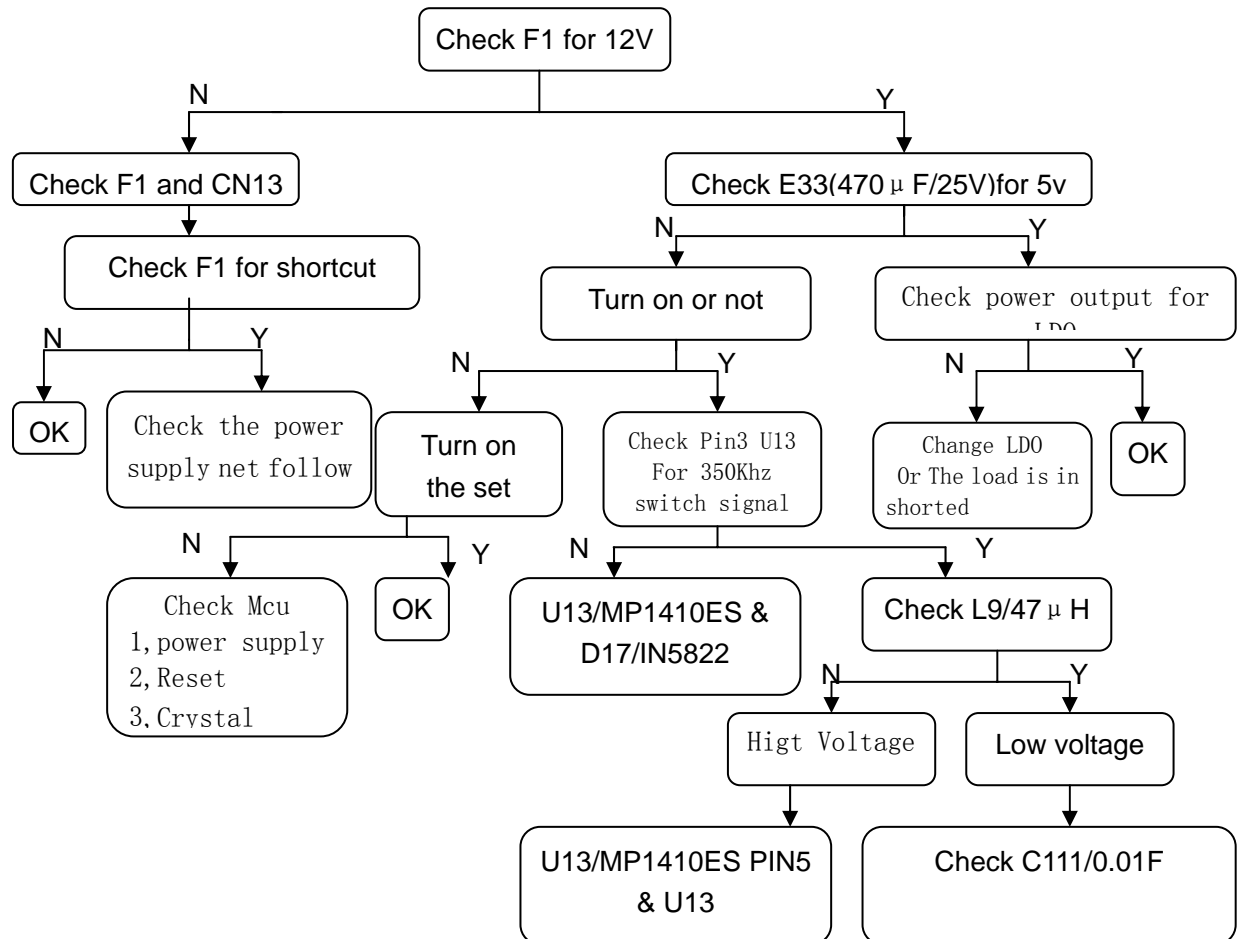
For Single TTL Panel

Rev	1
Date	10/10/2023
By	10/10/2023
Check	10/10/2023



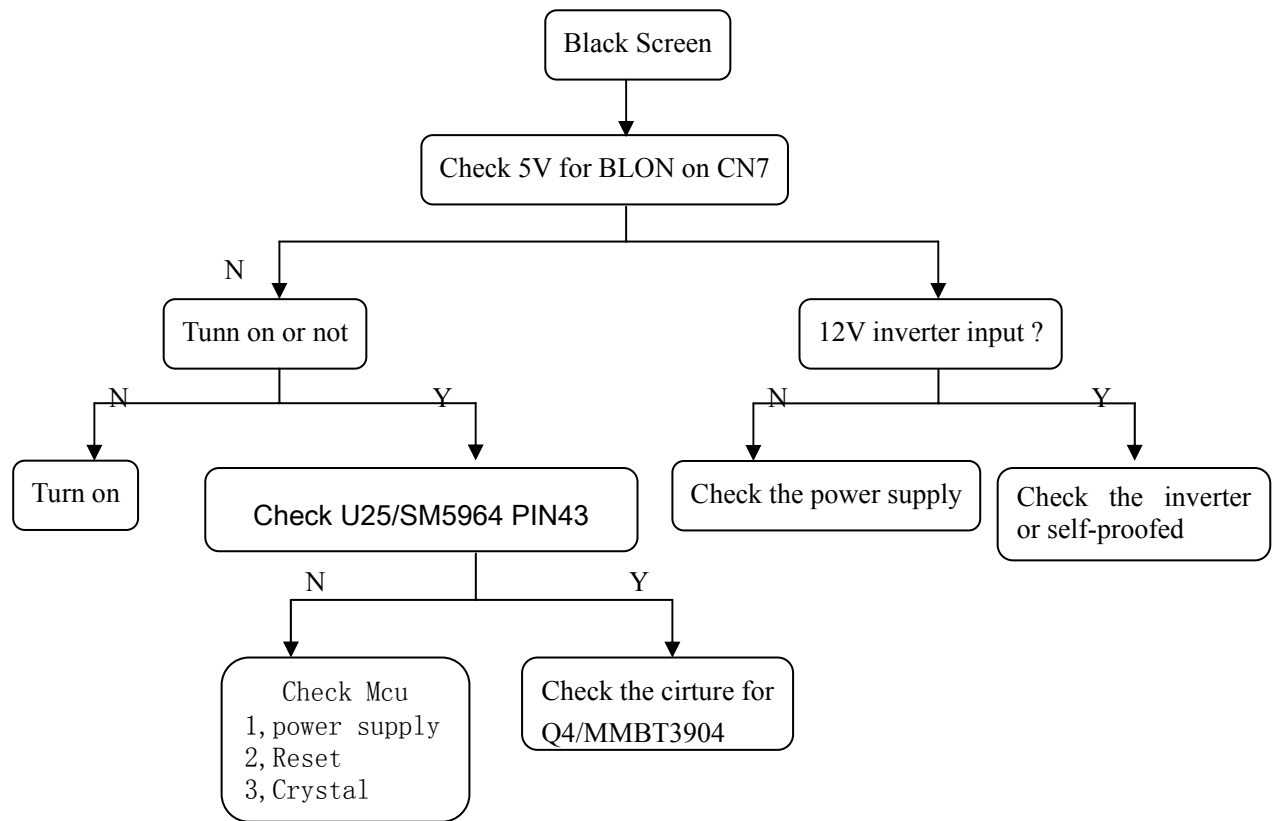
Trouble shooting

1.Power Supply Trouble

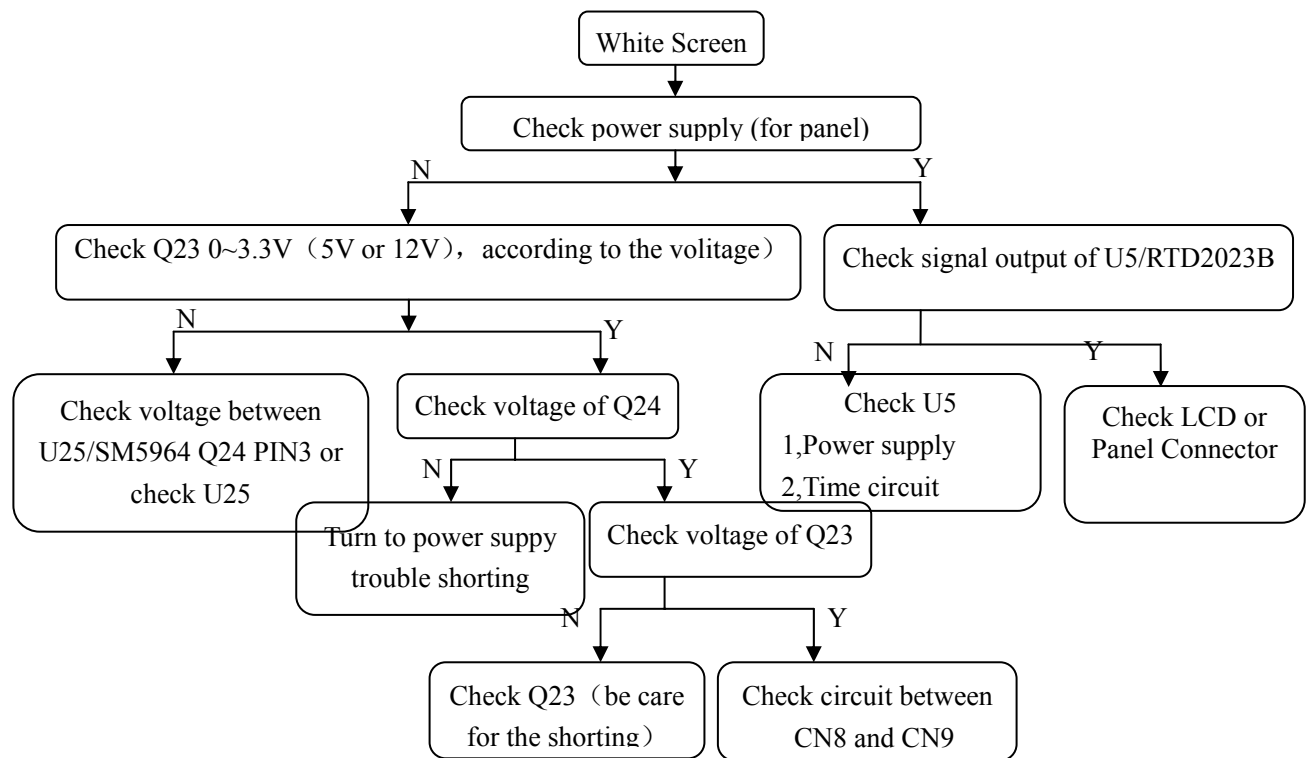


2.Display Trouble

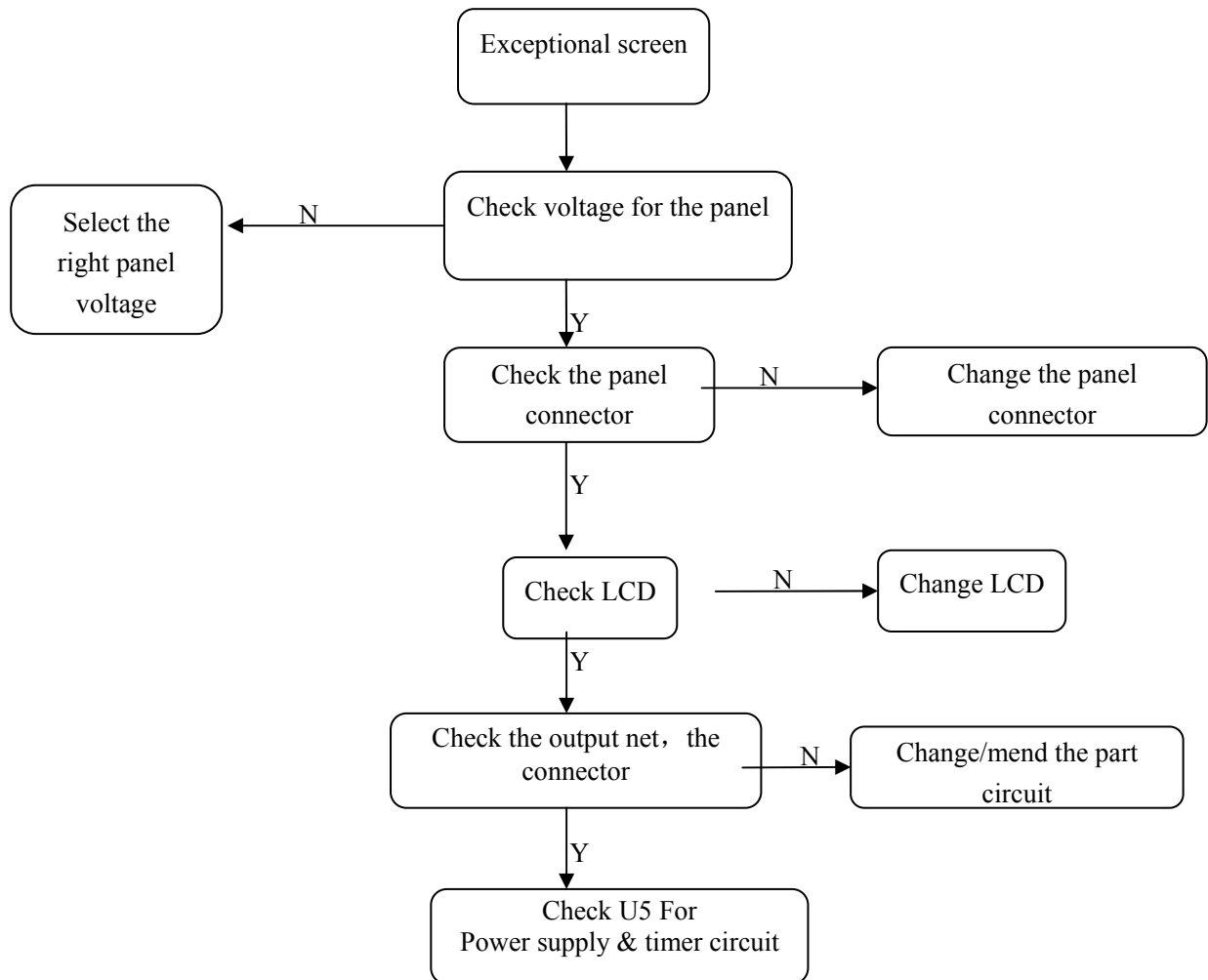
2.1 Black



2.2 White

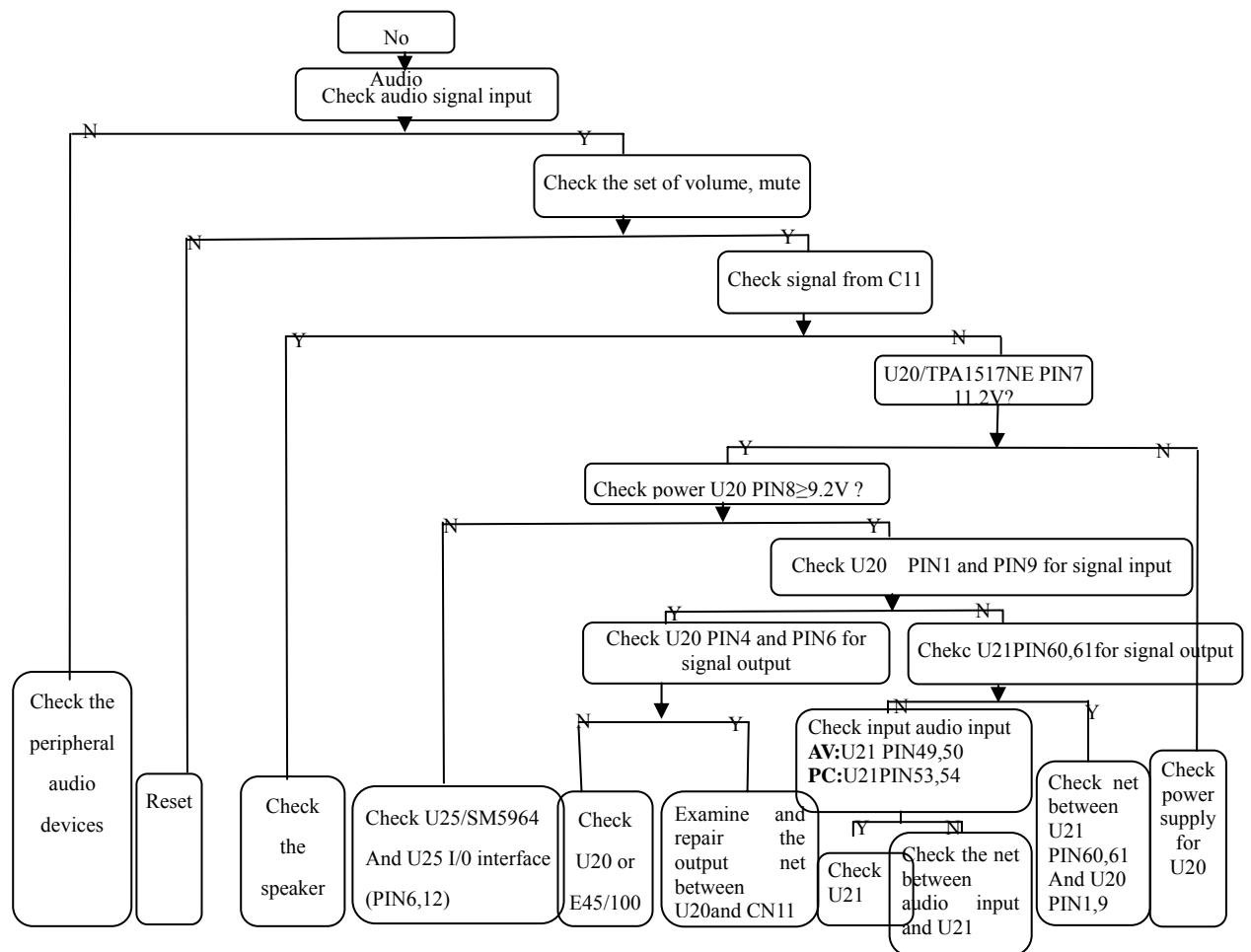


2.3 Exceptional screen

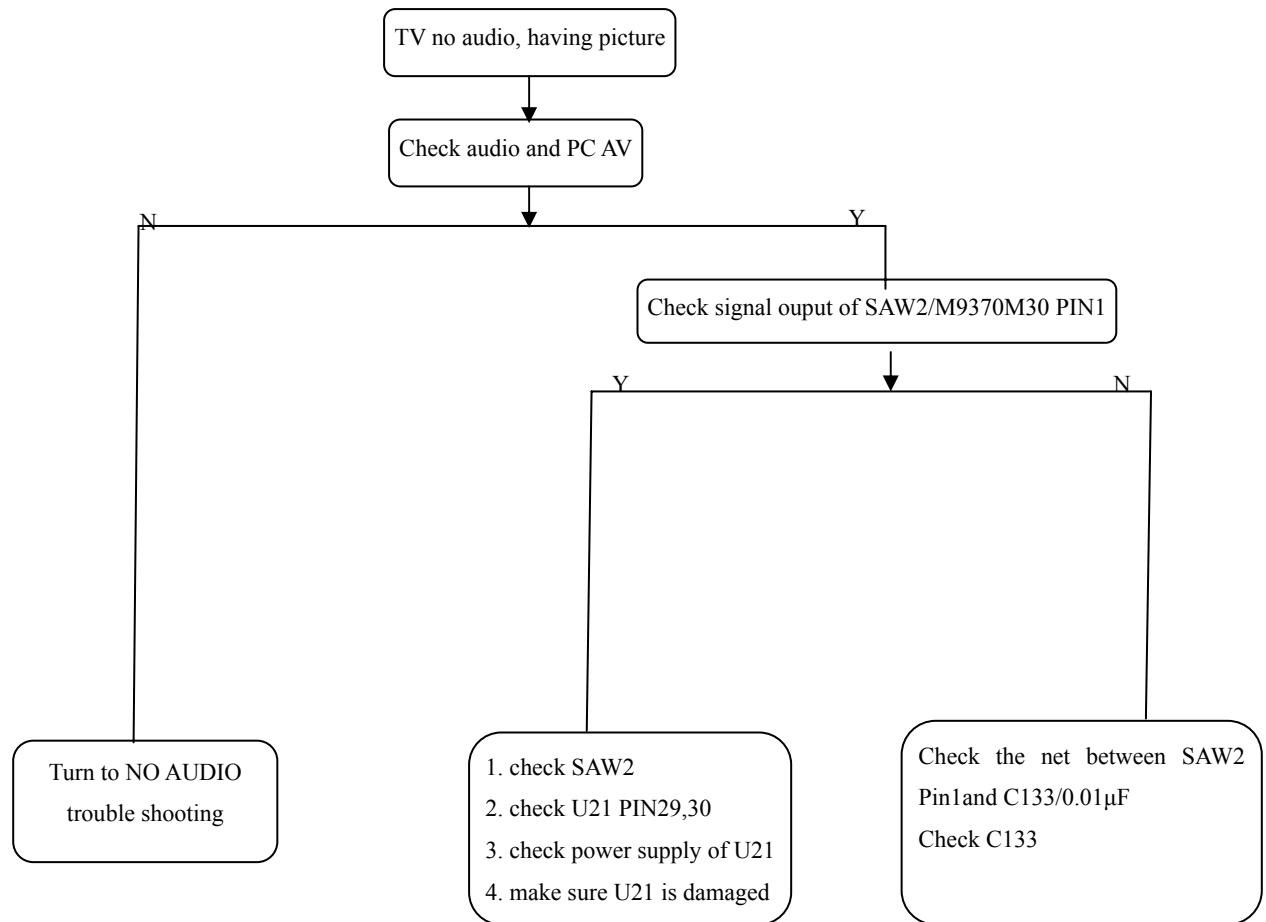


3.Audio Trouble

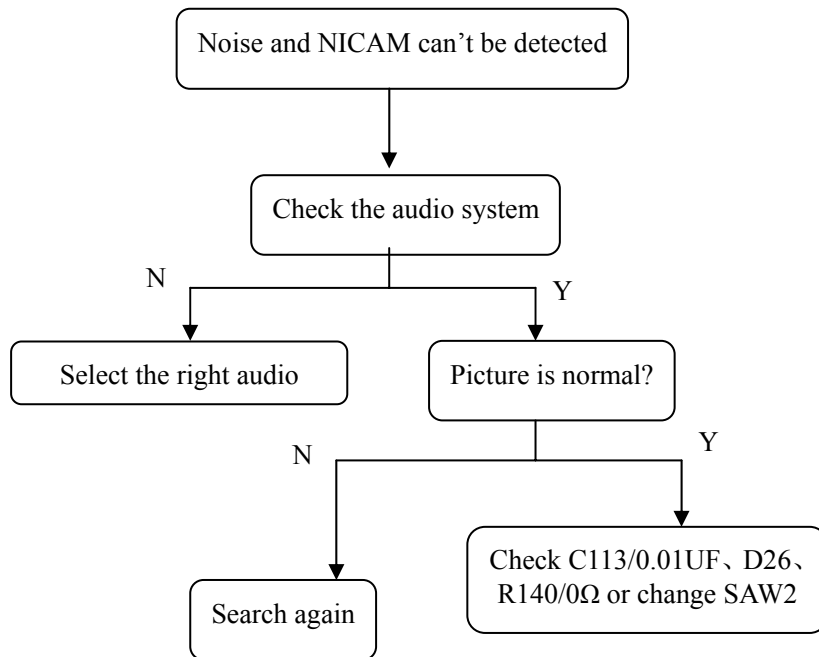
3.1 No Audio



3.2 TV No Audio

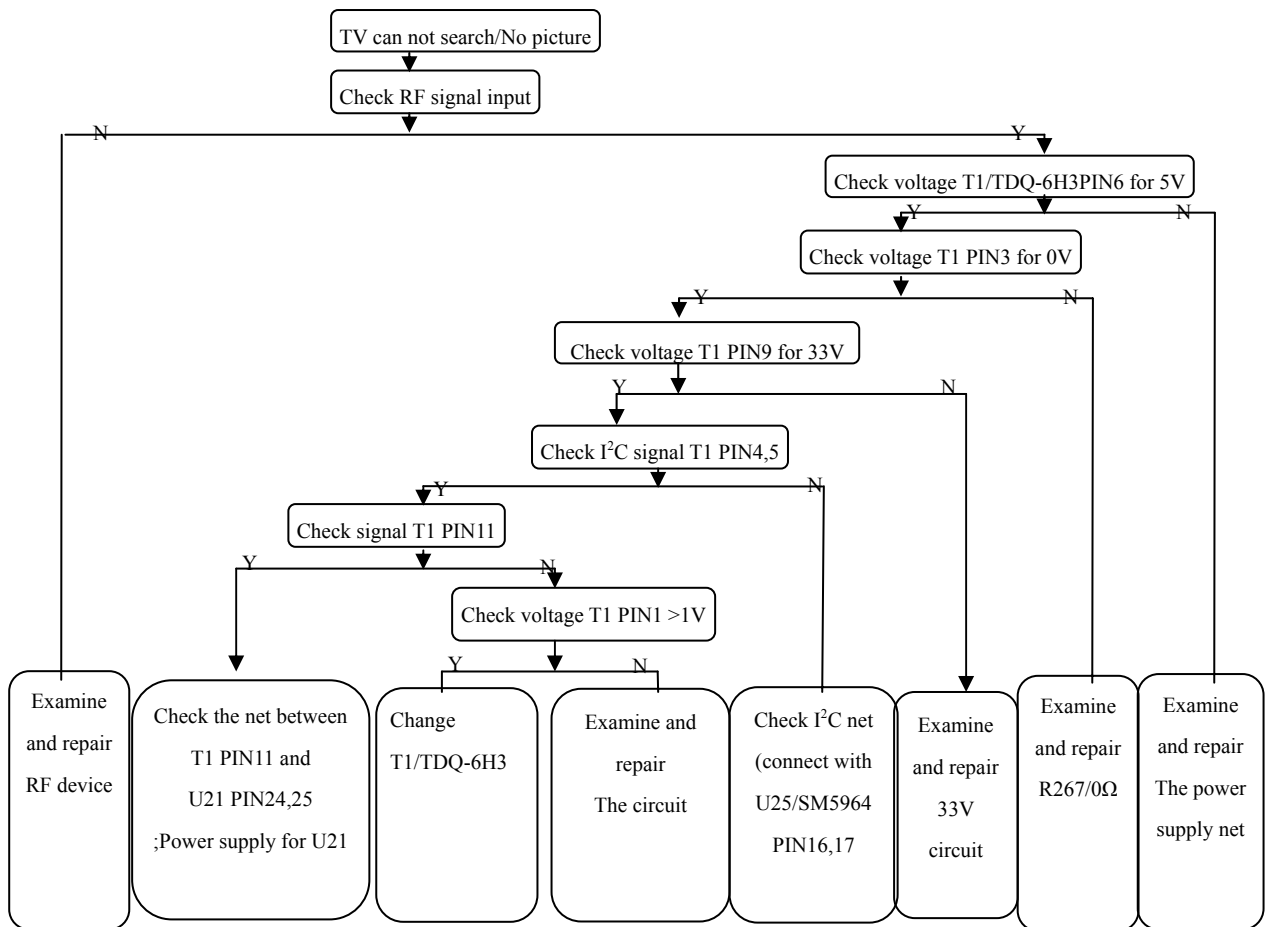


3.3 TV Audio abnormal

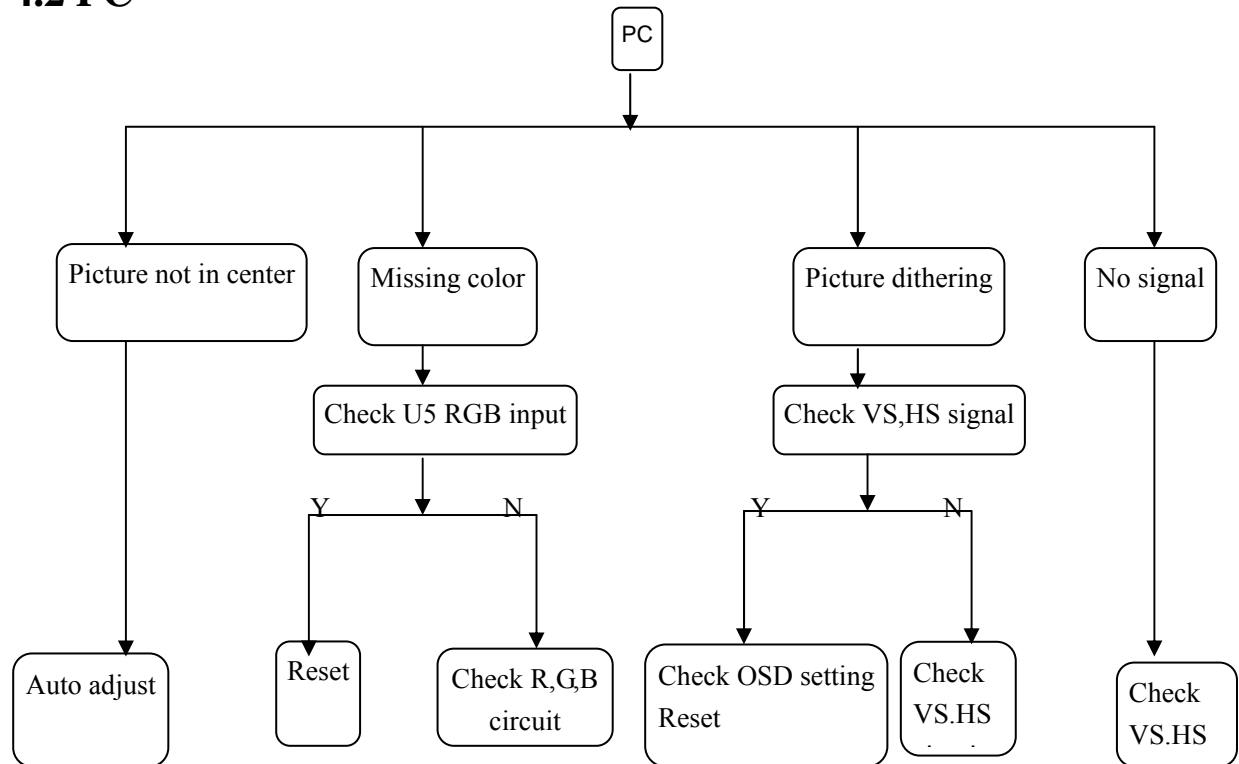


4.Function Trouble

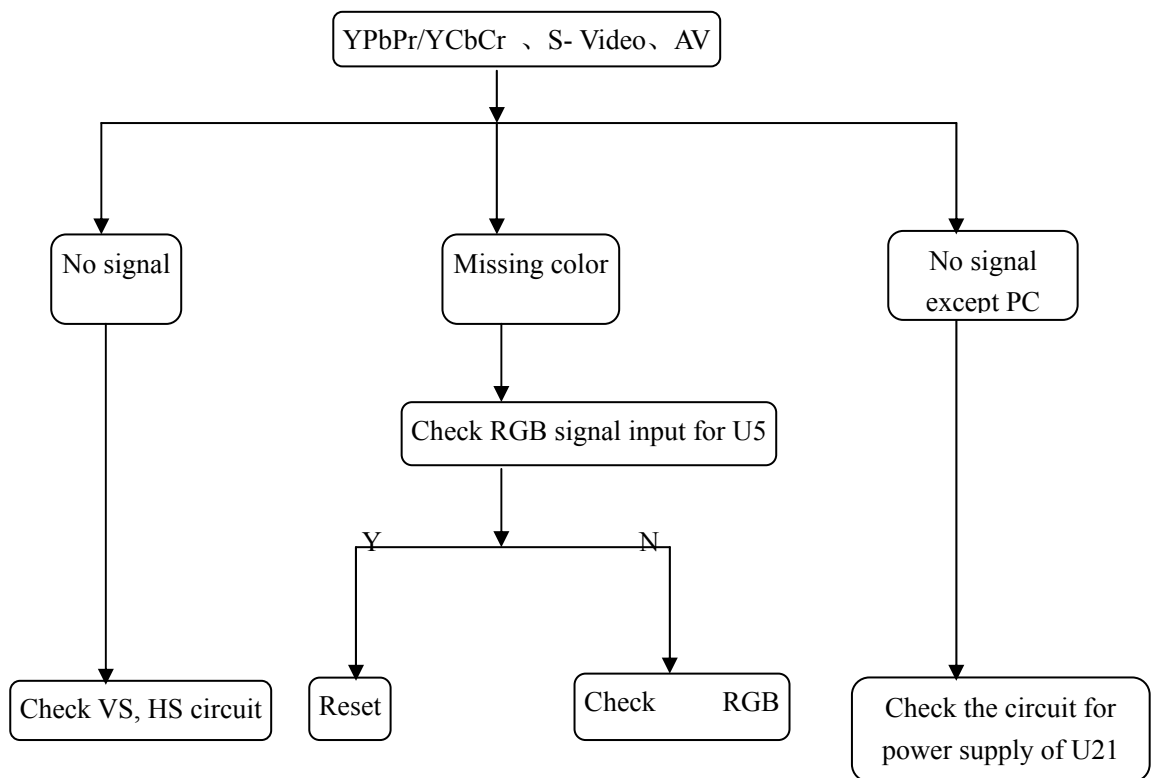
4.1 TV



4.2 PC



4.3 AV/SV SCART



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