

Service
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32PFL5657/V7
22,24,32PFL5637/V7
22,24,32PFL5237/V7
24,42PFL3457/V7
32PFL3057/V7
42PFL7357/V7
32,42PFL6357/V7

Service Manual

Contents	Page
1. SAFETY PRECAUTION	2
2. SERVICE PROCEDURE	6
3. SOFTWARE UPGRADE	13
4. BLOCK DIAGRAM	21
5. CIRCUIT DIAGRAM	27
6. CONNECTORS & IC DETAILS	41
7. PANEL VCC SELECTION	46
8. TROUBLESHOOTING	48
9. ABBREVIATIONS	59

1. Safety Precaution

CAUTION :

Use of controls, adjustments or procedures other than those specified herein may result in hazardous radiation exposure.



CAUTION
RISK OF ELECTRIC
SHOCK DO NOT OPEN.



CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, with an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to the person.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT SAFETY INSTRUCTIONS

CAUTION:

Read all of these instructions. Save these instructions for later use. Follow all Warnings and Instructions marked on the audio equipment.

1. Read Instructions- All the safety and operating instructions should be read before the product is operated.
2. Retain Instructions- The safety and operating instructions should be retained for future reference.
3. Heed Warnings- All warnings on the product and in the operating instructions should be adhered to.
4. Follow Instructions- All operating and use instructions should be followed.

FOR YOUR PERSONAL SAFETY

1. When the power cord or plug is damaged or frayed, unplug this television set from the wall outlet and refer servicing to qualified service personnel.
2. Do not overload wall outlets and extension cords as this can result in fire or electric shock.
3. Do not allow anything to rest on or roll over the power cord, and do not place the TV where power cord is subject to traffic or abuse. This may result in a shock or fire hazard.
4. Do not attempt to service this television set yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
5. Never push objects of any kind into this television set through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the television set.
6. If the television set has been dropped or the cabinet has been damaged, unplug this television set from the wall outlet and refer servicing to qualified service personnel.
7. If liquid has been spilled into the television set, unplug this television set from the wall outlet and refer servicing to qualified service personnel.
8. Do not subject your television set to impact of any kind. Be particularly careful not to damage the picture tube surface.
9. Unplug this television set from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- 10.1. Do not place this television set on an unstable cart, stand, or table. The television set may fall, causing serious injury to a child or an adult, and serious damage to the appliance. Use only with a cart or stand recommended by the manufacturer, or sold with the television set. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.
- 10.2. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



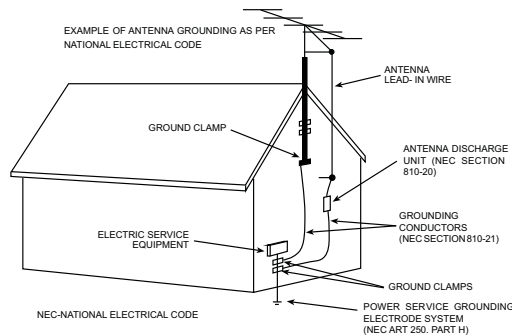
PROTECTION AND LOCATION OF YOUR SET

11.
 - Do not use this television set near water ... for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.
 - Never expose the set to rain or water. If the set has been exposed to rain or water, unplug the set from the wall outlet and refer servicing to qualified service personnel.
12. Choose a place where light (artificial or sunlight) does not shine directly on the screen.
13. Avoid dusty places, since piling up of dust inside TV chassis may cause failure of the set when high humidity persists.
14. The set has slots, or openings in the cabinet for ventilation purposes, to provide reliable operation of the receiver, to protect it from overheating. These openings must not be blocked or covered.
 - Never cover the slots or openings with cloth or other material.
 - Never block the bottom ventilation slots of the set by placing it on a bed, sofa, rug, etc.
 - Never place the set near or over a radiator or heat register.
 - Never place the set in a "built-in" enclosure, unless proper ventilation is provided.

PROTECTION AND LOCATION OF YOUR SET

- 15.1. If an outside antenna is connected to the television set, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges, Section 810 of the National Electrical Code, NFPA No. 70-1975, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrode, and requirements for the grounding electrode.

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE INSTRUCTIONS



- 15.2. Note to CATV system installer : (Only for the television set with CATV reception)

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

16. An outside antenna system should not be located in the vicinity of overhead power lines or other electric lights or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
17. For added protection for this television set during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage due to lightning and power-line surges.

OPERATION OF YOUR SET

18. This television set should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply at your home, consult your television dealer or local power company. For television sets designed to operate from battery power, refer to the operating instructions.
19. If the television set does not operate normally by following the operating instructions, unplug this television set from the wall outlet and refer servicing to qualified service personnel. Adjust only those controls that are covered in the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the television set to normal operation.
20. When going on a holiday : If your television set is to remain unused for a period of time, for instance, when you go on a holiday, turn the television set " off " and unplug the television set from the wall outlet.

IF THE SET DOES NOT OPERATE PROPERLY

21. If you are unable to restore normal operation by following the detailed procedure in your operating instructions, do not attempt any further adjustment. Unplug the set and call your dealer or service technician.
22. Whenever the television set is damaged or fails, or a distinct change in performance indicates a need for service, unplug the set and have it checked by a professional service technician.
23. It is normal for some TV sets to make occasional snapping or popping sounds, particularly when being turned on or off. If the snapping or popping is continuous or frequent, unplug the set and consult your dealer or service technician.

FOR SERVICE AND MODIFICATION

24. Do not use attachments not recommended by the television set manufacturer as they may cause hazards.
25. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
26. Upon completion of any service or repairs to the television set, ask the service technician to perform routine safety checks to determine that the television is in safe operating condition.

2. Service Procedure

1. Overview:

Star182VG chassis is designed for India market. Both Full HD panel and HD panel can be compatible. The signal sources include TV, AV, YPBPR / YCBCR, VGA, HDMI and USB. For YPBPR, HDMI source, Format up to 1080p can be supported; USB support image, audio, video playing. AV output is available too. The whole process of alignment includes ADC calibration.

2. Design Menu

1. Methods of Entering

Using the remote, Go to the Menu in the OSD and Press 1,9,5,0 keys on Remote.

In Design Menu, below Sub Menus are present :

VIDEO ADJUSTMENT PARAMETERS

MODE	PARAMETER	DESCRIPTION
PICTURE MODE	MODE	This setting is used to adjust the different Picture modes parameter values. These values will be displayed in the User menu
	Brightness	
	Contrast	
	Color	
	Sharpness	
	Hue	
W/B ADJUST	SOURCE	These settings are used to set the White balance data for Different panels, in different sources.
	Temperature	
	R_Gain	
	G_Gain	
	B_Gain	
	R_Cut	
	G_Cut	
	B_Cut	
	SUB Brightness	
	SUB Contrast	
WB OFFSET	MODE	
	Temperature	These parameters are used to adjust the OFFSET values of WB data. In RF normal values are set directly and other color temp are adjusted with OFFSET values.
	R_Gain Offset	
	G_Gain Offset	
	B_Gain Offset	
	R_Cut Offset	
	G_Cut Offset	
	B_Cut Offset	
	SUB Bright Offset	
	SUB Contrast Offset	

MODEL	PARAMETER	DESCRIPTION
PICTURE CURVE	MODE	These parameters are used to adjust the Picture parameter values for all sources.
	PICTURE MODE	
	BRIGHTNESS	
	CONTRAST	
	COLOR	
	HUE	
	SHARPNESS	
ADC ADJUST	SOURCE	
	R_Gain	The calibration is used in YPbPr and VGA sources, to set the color and resolution of these sources.
	G_Gain	
	B_Gain	
	R_Cut	
	G_Cut	
	B_Cut	
	Auto ADC	
AGC	This parameter used for automatic gain control.	
OVERSCAN	Not applicable.	
REVERSE	The REVERSE function used to reverse the picture.	

Note:- Video settings for Different AV source may be different depending on measurements.

AUDIO ADJUSTMENT PARAMETERS

MODEL	PARAMETER	DESCRIPTION
Volume	Mode	This is volume curve for TV. It is different for each source.
	OSD_0	
	OSD_25	
	OSD_50	
	OSD_75	
	OSD_100	
Treble	OSD_0	This is curve for TREBLE. The Treble is same for all sources
	OSD_25	
	OSD_50	
	OSD_75	
	OSD_100	
Bass	OSD_0	This is curve for TREBLE. The Treble is same for all sources
	OSD_25	
	OSD_50	
	OSD_75	
	OSD_100	
BAND MAX	120Hz	These are the Gains settings for different equalizer settings.
	500Hz	
	1.5KHz	
	5KHz	
	10KHz	
SMART SOUND	Smart Sound	These are the settings used for different Audio modes and the same will be displayed in User Menu.
	Treble	
	Bass	
	120Hz	
	500Hz	
	1.5KHz	
	5KHz	
	10KHz	

MODEL	PARAMETER	DESCRIPTION
Speaker Selection	Strata 10w	This is selection for Model wise Audio selection. When change the selection, the Pre adjusted Audio settings will be enabled.
SRS	OFF	NA
SRS Setting		NA
Select Audio	2.0	NA
On Music VoL.	10	This is level setting for set start ON Music Volume Level.
Surround	Incredible Surround	Enable surround effects for stereo sources.(Depending On Model)

Note:- Audio settings for Different AV source audio modes may be different depending on measurements.

SETUP DESIGN PARAMETERS

MODEL	PARAMETER	DESCRIPTION
Clear EEPROM		To clear all the EEPROM data. To be used after SW loading or any abnormality in Set
IR Select		This is selection for Remote control Option e.g. PHILIPS
Keyboard Select	Keyboard.Touchkey	This is selection for Keypad type.
Burning	Off	This is burning mode. If made ON, then RED/GREEN/ BLUE raster will flash on screen continuously
Power Status	Off	This is for Status of set after Power OFF. i.e. if made on set will go to St. by mode or will become ON or Last status before poewr off.
Boot Logo	PHILIPS	This is Boot logo selection.
Panel Control	Panel Type	Panel Data settings
	Lvds Mapping	
	Design Set	
	Back light Way	DC/PWM setting
	Back Light Curve	Backlight curve-5 point
Source Switch	TV	This is for Source selection as per model specifications
	AV1	
	AV2	
	YPbPr	
	VGA	
	HDMI	
	USB	
	d2h	
M-Mode	Off	M-Mode for Production
Clone	Clone Out Data	For EEPROM Programming
	Clone Data Into	

MODEL	PARAMETER	DESCRIPTION
Feature Switch	OSD Language	OSD language selection as per model specifications
	Energy Saving	ECOVision feature ON-OFF selection
	Energy Meter	Energy Meter feature ON-OFF selection
	Back Light	Backlight feature ON-OFF selection in Setting menu
	Demo EOPS	This is E-OPS feature. With selection pf the features at different positions, the E-OPS feature in User menu if made ON, then it displays the features selected in this list with their short description
	EOPS Mode	
	Icon Num	
	POS 1	
	POS 2	
	POS 3	
	POS 4	
	POS 5	
	POS 6	
	POS 7	
	POS 8	
	POS 9	
	POS 10	
	POS 11	
	CEC Function	CEC feature ON-OFF selection
	Hotel Mode	Hotel mode feature ON-OFF selection
	Timer Menu	Timer menu feature ON-OFF selection
	Blue Back	Black Back feature ON-OFF selection
	PQ Engine	Used to select PQ Engine.
Shipping	If selected Shipping, then all changes made in User menu and all design parameters, get changed to Factory settings for that model	
Sw Version:	MST182_0.2.05-20110718_V_HY	This is SW version information
HW Version	MST6M182VG -Version 2.1(2011-05-20)	This is SW version information

Note:- The Design data Can be different depending on Model/Panel Used/Speakers Used. So, kindly refer the Design data provided by factory for particular Model depending on SW Version used.

3. Software Upgrade Procedure

The SW installation in MST182 chassis can be done with USB in two procedures.

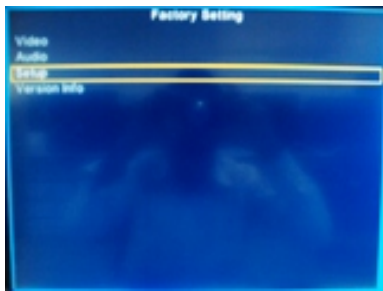
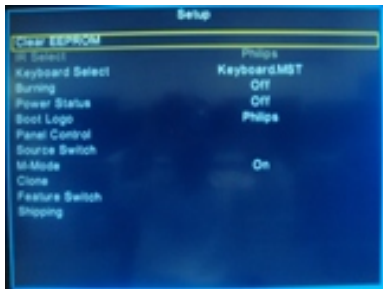
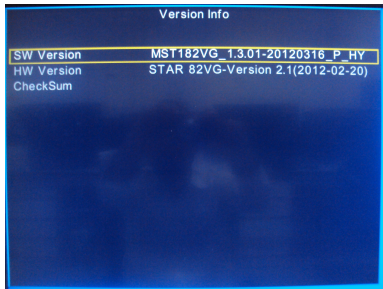
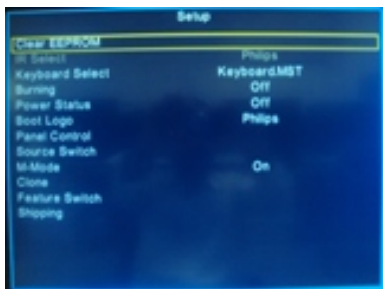
A) Set in Stand by condition by USB.

B) In Set ON condition by USB.

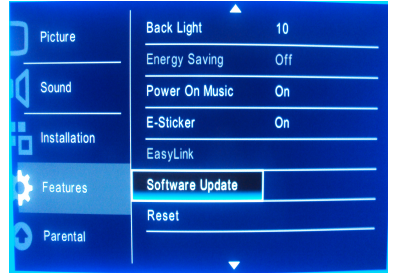
C) SW loading with M-STAR tool

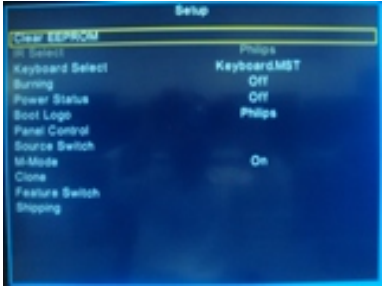
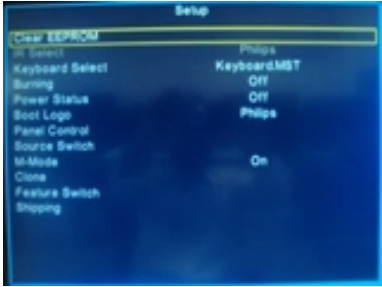
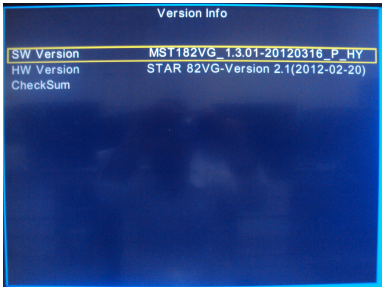
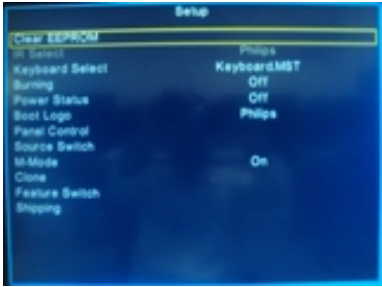
A) SW installation in Stand By Condition by USB

Sr. No.	STEPS	PHOTOS
A	Copy the SW .bin file from computer to Root of our USB drive.	
B	Rename the SW .bin File as PHILIPS.bin.	
C	Keep the set in Mains Power OFF condition.	
D	Plug in the USB drive In USB port of	
E	Now Plug in the Mains Power of LCD.	
F	The RED LED indicator will glow.	
G	After 2-3 Sec. the LED will Start Blinking	
H	After few Seconds, the LED blinking will stop and set will be released from Stand by i.e. will become ON.	

I	The set is in M-Node now. Then go to Design Menu by Pressing MENU => 1 9 5 0	 A screenshot of the 'Factory Setting' menu on a blue background. The menu items are 'Video', 'Audio', 'Setup' (highlighted with a yellow bar), and 'Version Info'.
J	Go to Setup design menu and Select Clear EEPROM option and press OK key of remote.	 A screenshot of the 'Setup' menu. The 'Clear EEPROM' option is highlighted with a yellow bar. Other options include 'Keyboard Select', 'Burning', 'Power Status', 'Boot Logo', 'Panel Control', 'Source Switch', 'M-Mode', 'Clone', 'Feature Switch', and 'Shipping'.
K	After Clear EEPROM, the set will go to stand by and will again restart automatically in RF source.	
L	Then verify the modelwise Audio/ Video settings as per Design data. Verify the SW date and version in Version info menu of Design data	 A screenshot of the 'Version Info' menu. It displays 'SW Version' as 'MST182VG_1.3.01-20120316_P_HY' and 'HW Version' as 'STAR 82VG-Version 2.1(2012-02-20)'. 'Checksum' is also listed.
M	Then press Shipping in Setup design menu by pressing OK key of remote, then Switch OFF and again Switch ON the SET. The SW loading process Is complete.	 A screenshot of the 'Setup' menu. The 'Shipping' option is highlighted with a yellow bar. Other options are visible as in the previous screenshot.

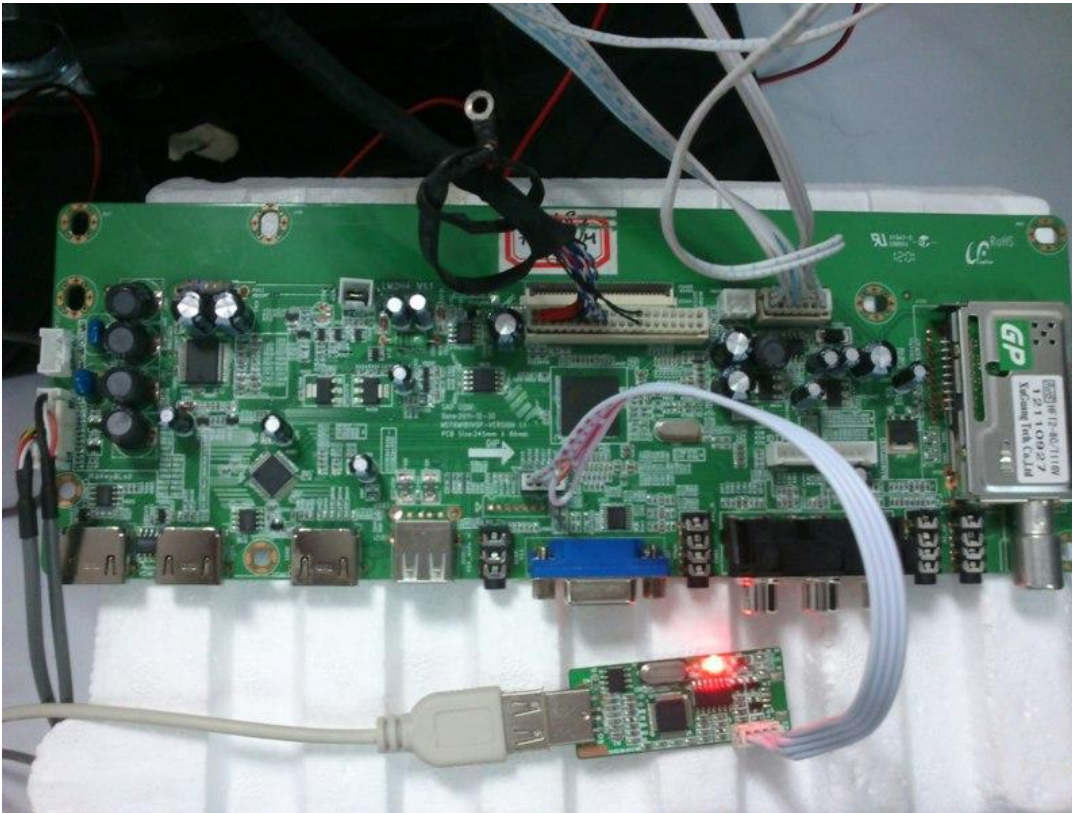
B) SW installation in ON Condition

Sr. No.	STEPS	PHOTOS
A	Copy the SW .bin file from computer to Root of our USB drive.	
B	Rename the SW .bin File as PHILIPS.bin	
C	Keep the set in ON condition.	
D	Plug in the USB drive In USB port of LCD.	
E	Press Menu key , then select SETUP -> FEATURES -> SOFTWARE UPDATE , then press OK.	
F	Then a Pop up window will appear on screen. Press left navigation key of remote or VOL - key of TV front key panel for SW update. Or press Right navigation key of remote or Vol+ key of TV front Key panel to cancel SW update.	
G	If select YES, then the SW loading will start. The SW loading progress will display on screen.	

H	After SW loading is complete i.e. 100%, the set will go to stand by automatically and will restart again.	
I	The set is in M-Node now. Then go to Design Menu by Pressing MENU => 1 9 5 0	
J	Go to Setup design menu and Select Clear EEPROM option and press OK key of remote.	
K	After Clear EEPROM, the set will go to stand by and will again restart automatically in RF source.	
L	Then verify the modelwise Audio/ Video settings as per Design data. Verify the SW date and version in Version info menu of Design data	
M	Then press Shipping in Setup design menu by pressing OK key of remote, then Switch OFF and again Switch ON the SET. The SW loading process Is complete.	

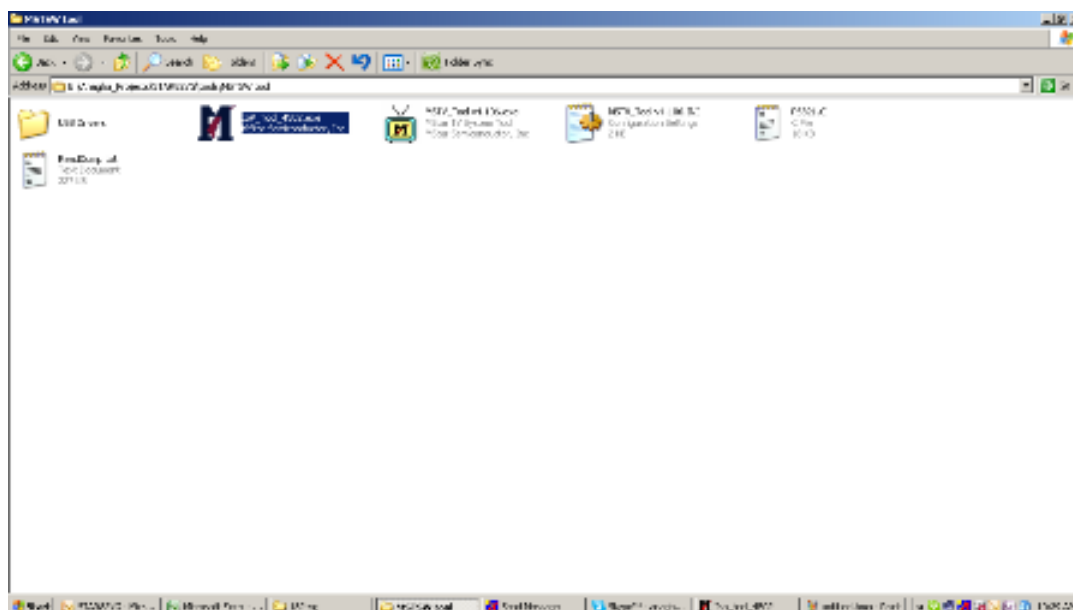
C) SW installation by MSTAR TOOL

1.Firstly need Connector with the Update Jips with PC and Chassis.



Connect the Jips to port XS352 of chassis as shown in above fig.

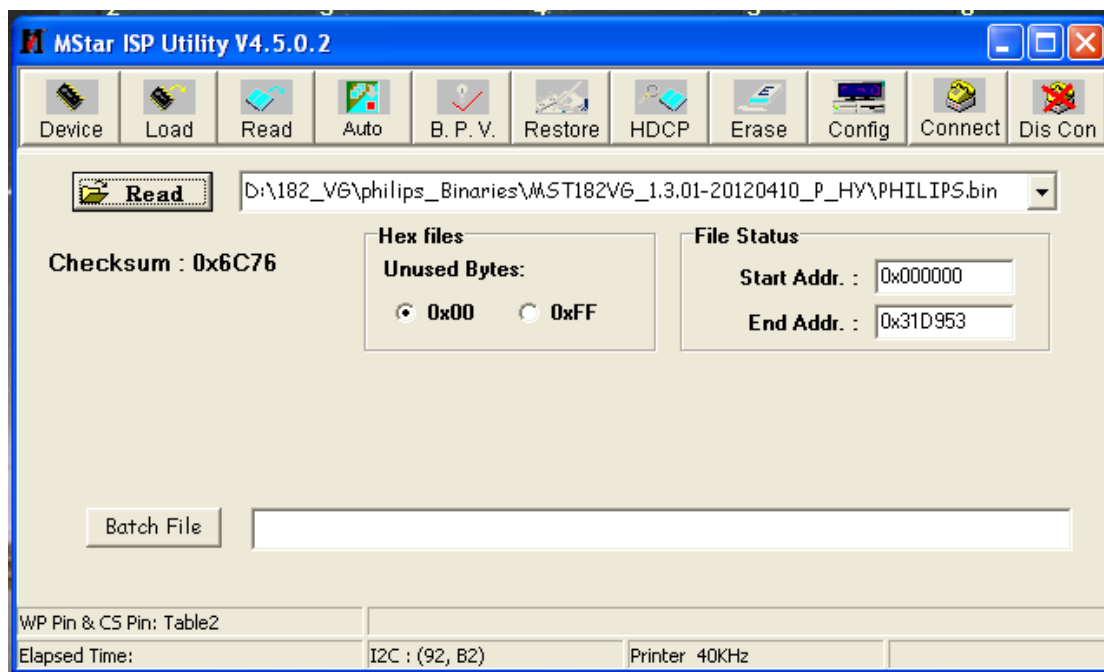
2.Open "ISP_tool_4502.exe"



Then below window will display. Then press "Connect" Button.

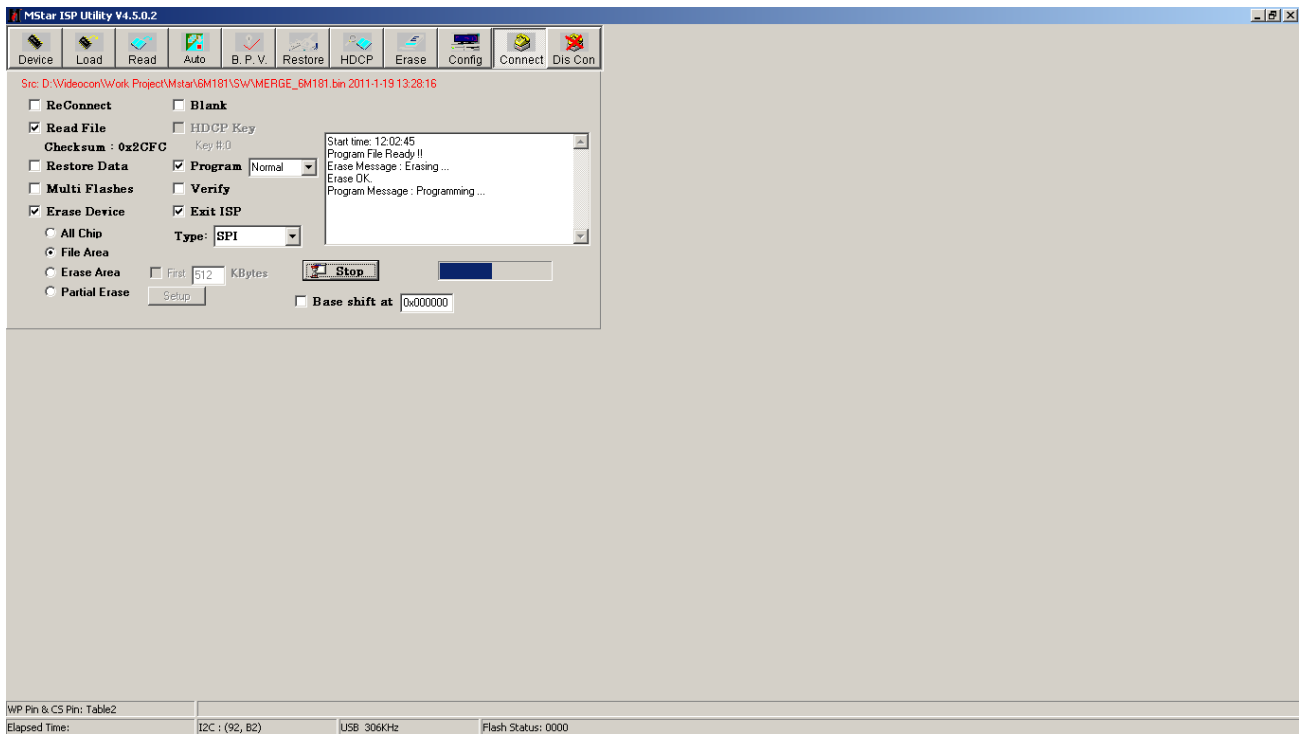


Then press "Read" button as shown in below image.

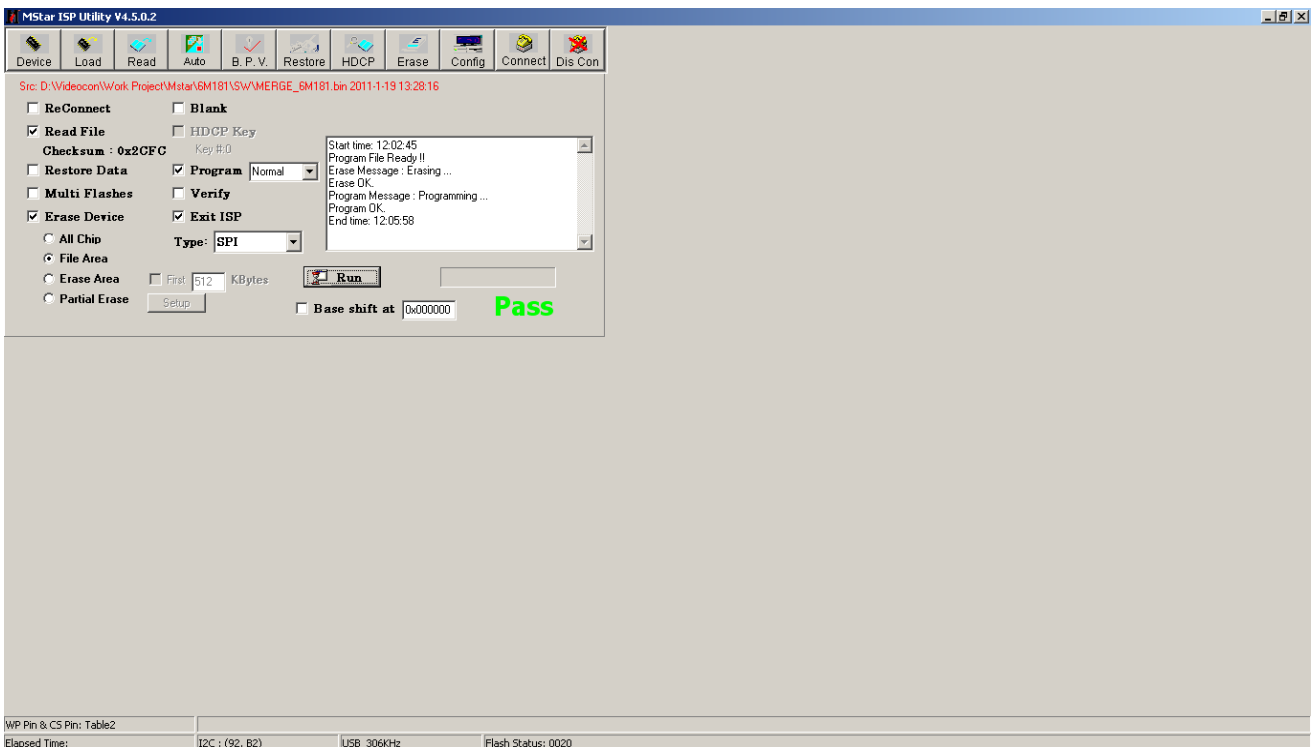


6. Then Press  **Read** , Select the required BIN file to upgrade SW.

7. After selecting the .BIN file, Press  **Auto** , then Press  **Run** Button. Then the software will be upgraded as shown in image.

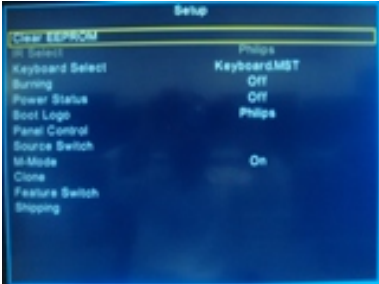
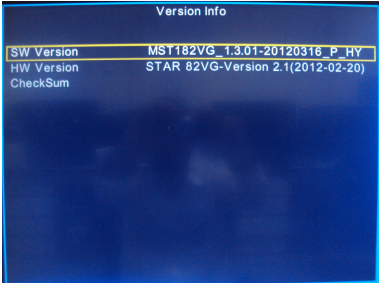
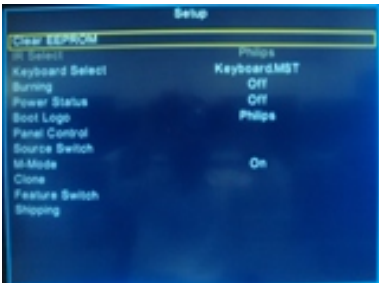


8. Update is finished and it is OK, then following information will be displayed.



9. After successful software loading Mains On/Off the TV SET.

Step to refer after software installation –

A	Go to Design Menu by Pressing MENU => 1 9 5 0	 The image shows the 'Factory Setting' menu on a device screen. The menu is titled 'Factory Setting' and lists several options: Video, Audio, Setup (highlighted with a yellow bar), and Version Info.
B	Go to Setup design menu and Select Clear EEPROM option and press OK key of remote.	 The image shows the 'Setup' menu on a device screen. The menu is titled 'Setup' and lists several options: Clear EEPROM (highlighted with a yellow bar), Keyboard Select, Barring, Power Status, Boot Logo, Panel Control, Source Switch, M-Mode, Clone, Feature Switch, and Shipping.
C	After Clear EEPROM, the set will go to stand by and will again restart automatically in RF source.	
D	Then verify the modelwise Audio/ Video settings as per Design data. Verify the SW date and version in Version info menu of Design data	 The image shows the 'Version Info' menu on a device screen. The menu is titled 'Version Info' and lists several options: SW Version, HW Version, and CheckSum. The SW Version is highlighted with a yellow bar and shows the text 'MS1182VG_1.3.01-20120316_P_HY'.
E	Then press Shipping in Setup design menu by pressing OK key of remote, then Switch OFF and again Switch ON the SET. The SW loading process Is complete.	 The image shows the 'Setup' menu on a device screen. The menu is titled 'Setup' and lists several options: Clear EEPROM, Keyboard Select, Barring, Power Status, Boot Logo, Panel Control, Source Switch, M-Mode, Clone, Feature Switch, and Shipping (highlighted with a yellow bar).

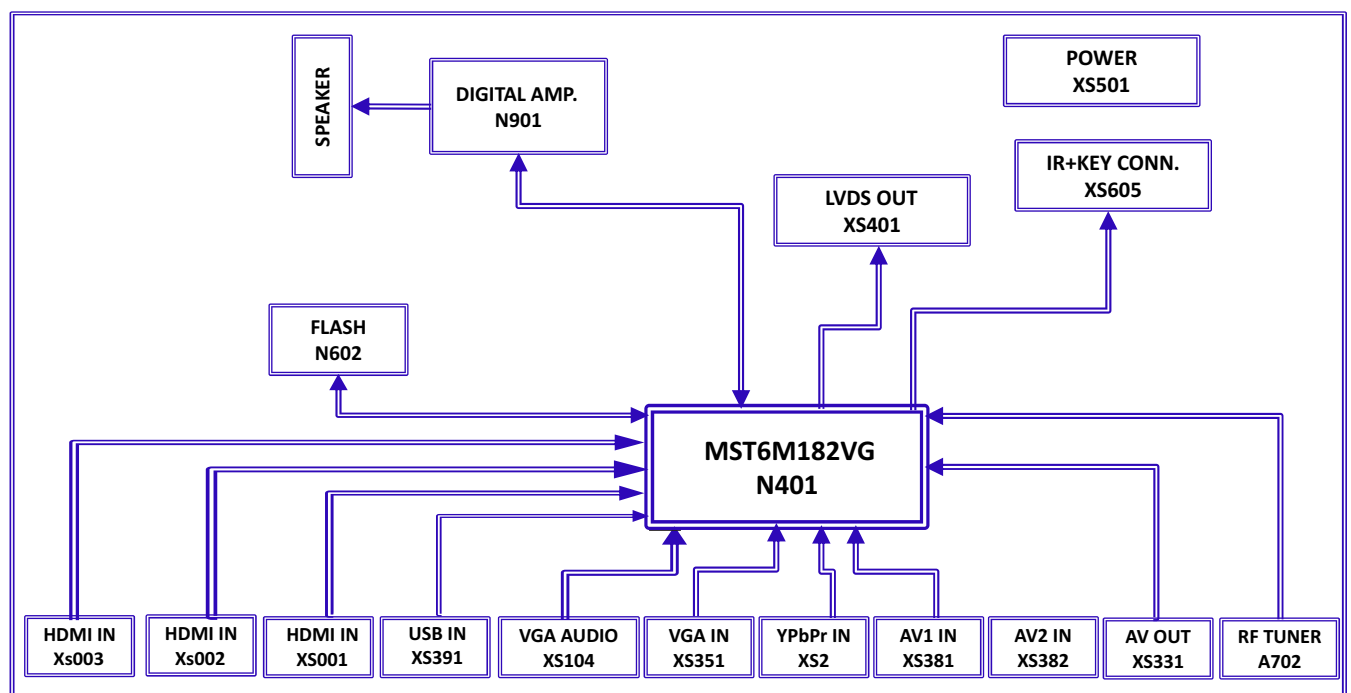
4. Block Diagram

A) CHASSIS BLOCK DIAGRAM

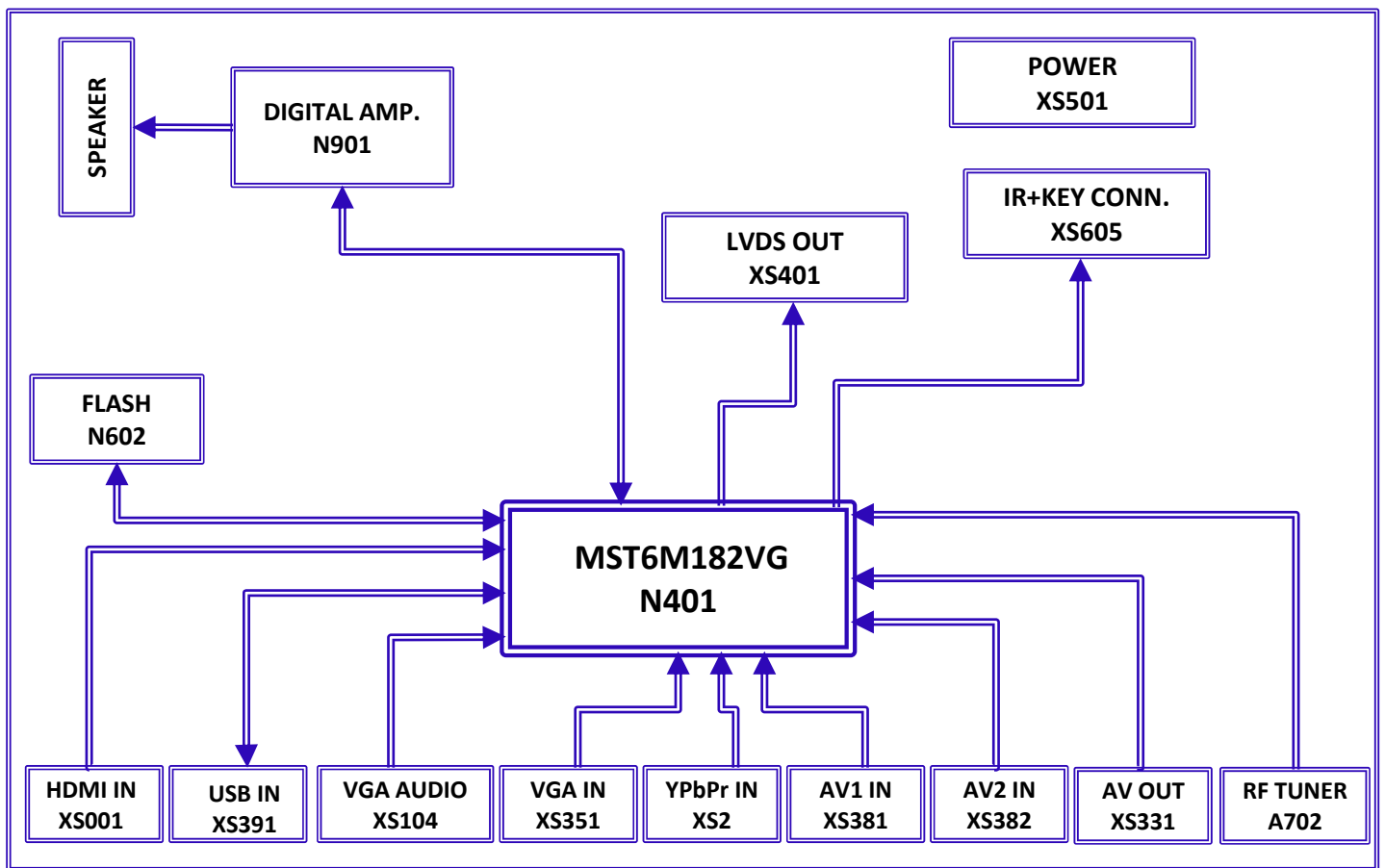
1. **N401 MST6M182** is the Main IC.
2. Power management of LDO voltage output following:
 - a. N452 output volt: $3.3V_{STB} \pm 0.1V$,
 - b. N454 output volt: $2.5V \pm 0.1V$,
 - c. N451 output volt: $1.25V \pm 0.1V$,
 - d. N701 output volt: $5V \pm 0.1V$
3. Tuning circuit of tuner type is HFT2-8C/T116V. The colour system PAL/SECAM and sound system BG/I/DK.
4. **N901 – TDA7491** is the Digital audio amplifier. Output power option 2x10W/stereo.
5. **N602 MX25L3205DM21** is the FLASH IC for software storage and operation.

The block diagram as follow:

1. For 3 HDMI Chassis-



1. For 1 HDMI Chassis-



B) IC SPECIFICATION

1. For 3 HDMI Chassis-

USB HOST	Max. 1-ch w/o Hub
HDMI Rx	3-ch (HDMI 1.3)
VGA+ YBPPR	YPBPR*1+VGA*1
CVBS	CVBS IN*2 + CVBS OUT*1
Audio I2S	YES
Audio DAC	2*DAC (L/R)
Parallel/Serial Flash I/F	Serial
LVDS Tx	Dual LVDS 10-bits*2 (Two-channel LVDS Tx)

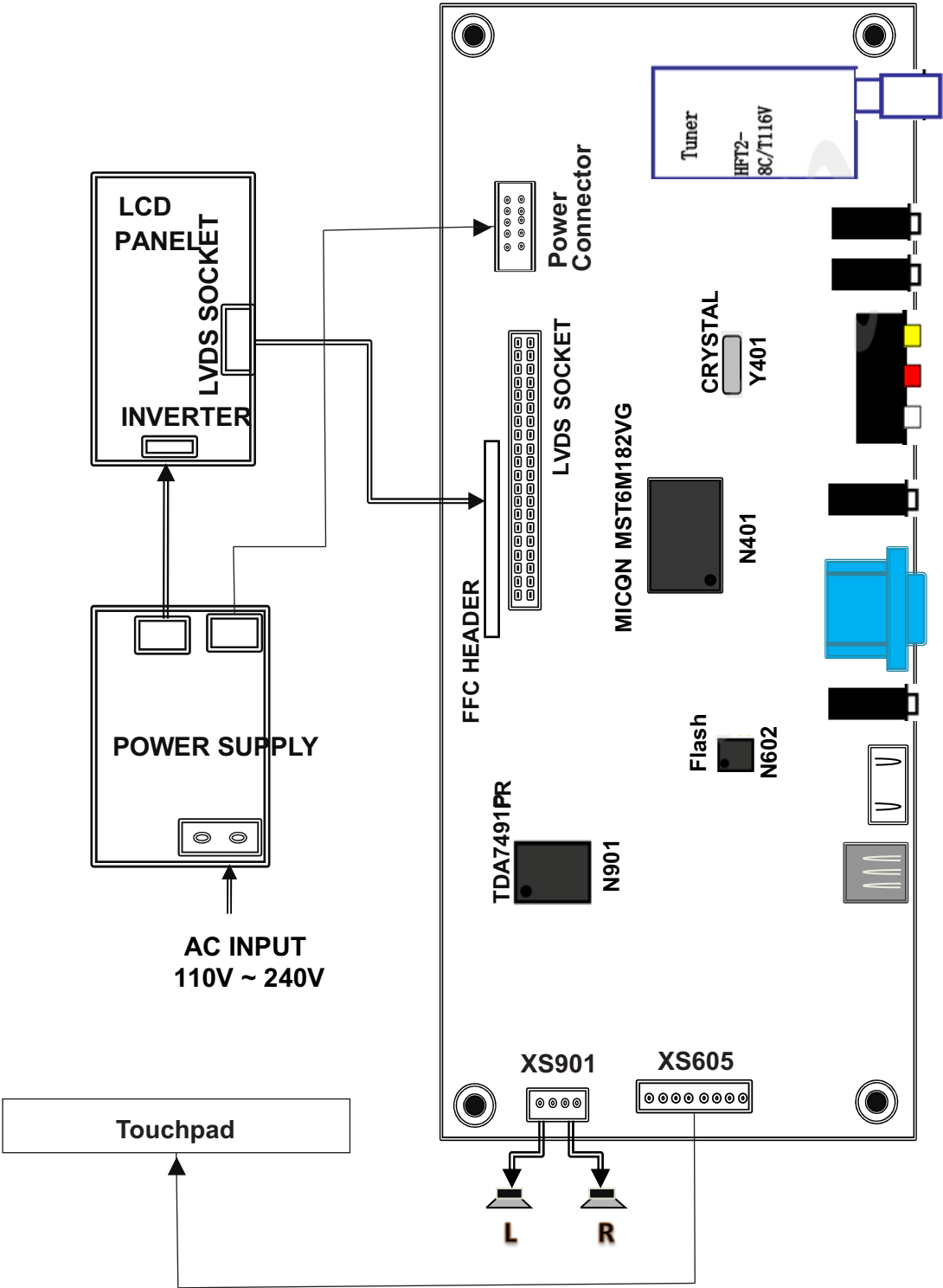
2. For 1 HDMI Chassis-

USB HOST	Max. 1-ch w/o Hub
HDMI Rx	1-ch (HDMI 1.3)
VGA+ YBPPR	YPBPR*1+VGA*1
CVBS	CVBS IN*2 + CVBS OUT*1
Audio I2S	YES
Audio DAC	2*DAC (L/R)
Parallel/Serial Flash I/F	Serial
LVDS Tx	Dual LVDS 10-bits*2 (Two-channel LVDS Tx)

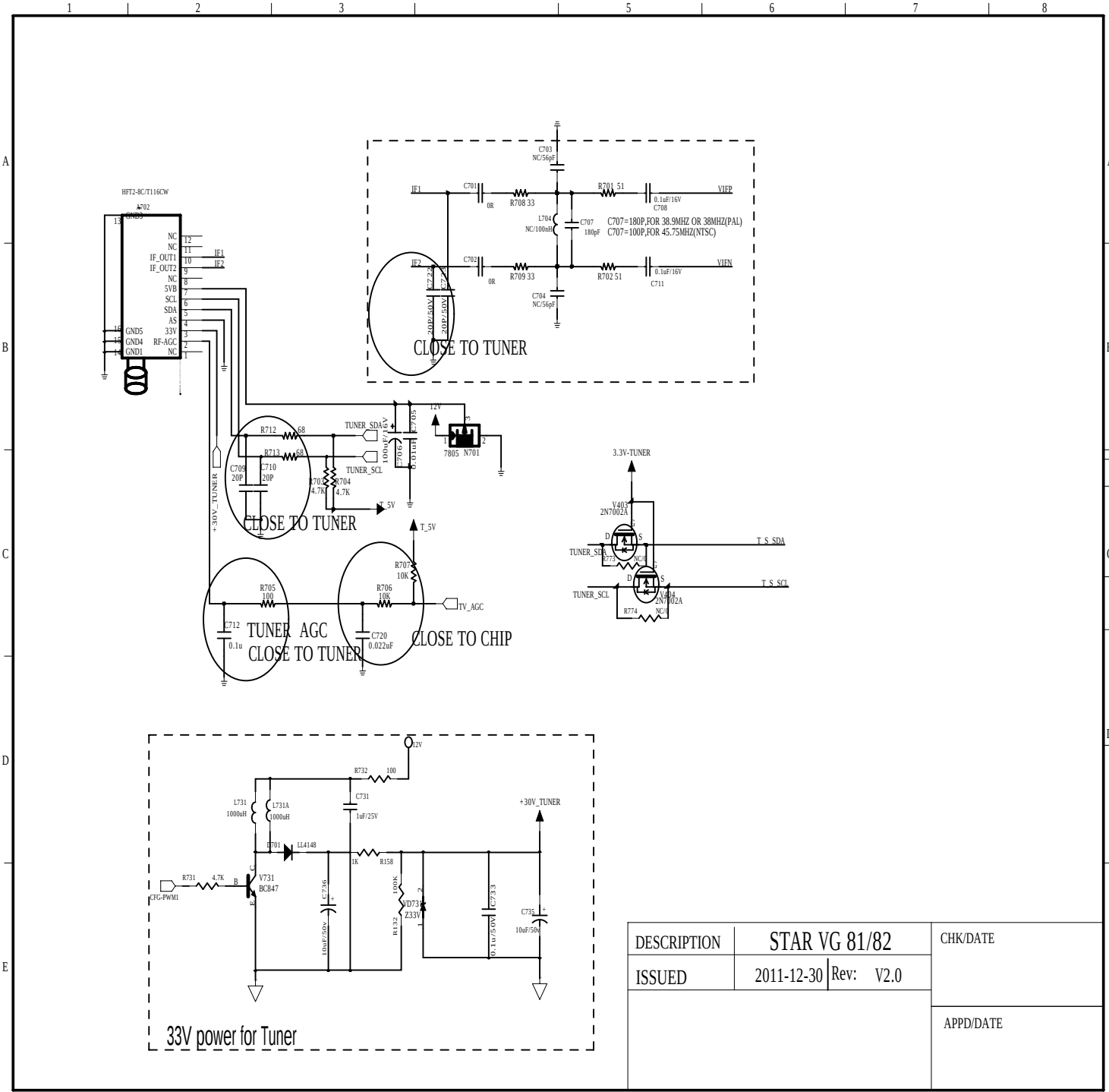
1. Wiring diagram for 3 HDMI Chassis-



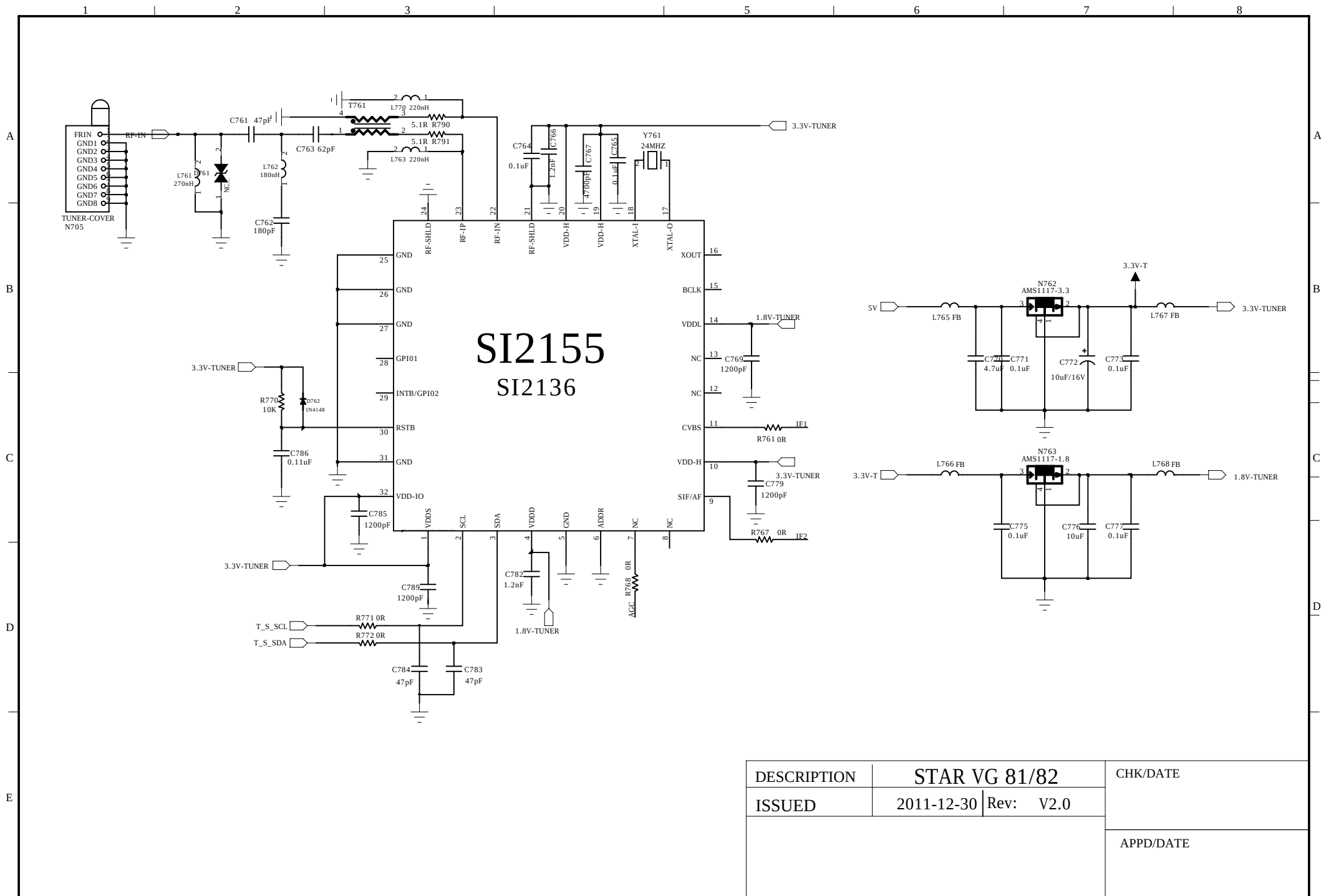
1. Wiring diagram for 1 HDMI Chassis-

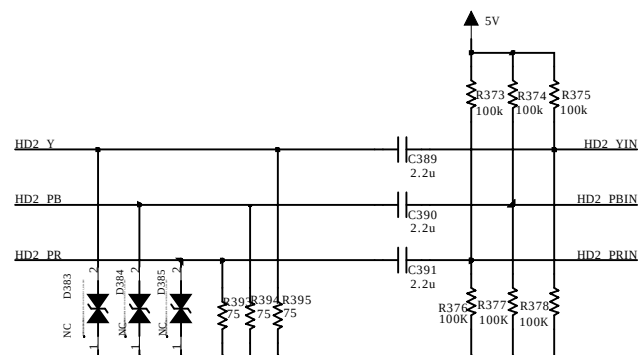
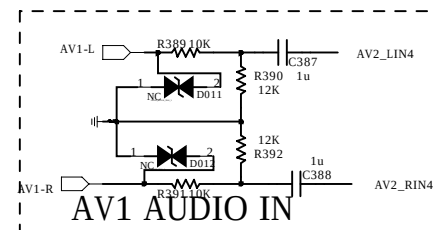
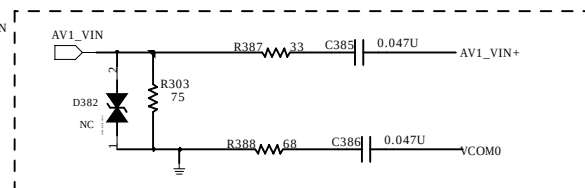
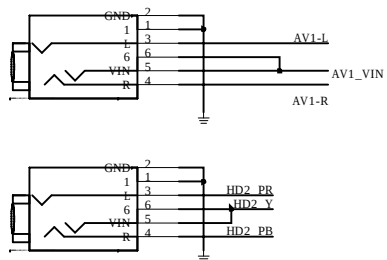
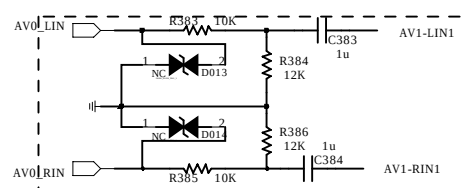
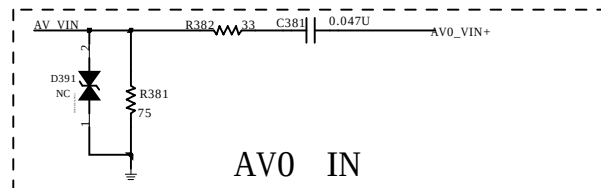
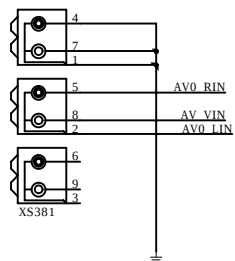


5. Circuit Diagram



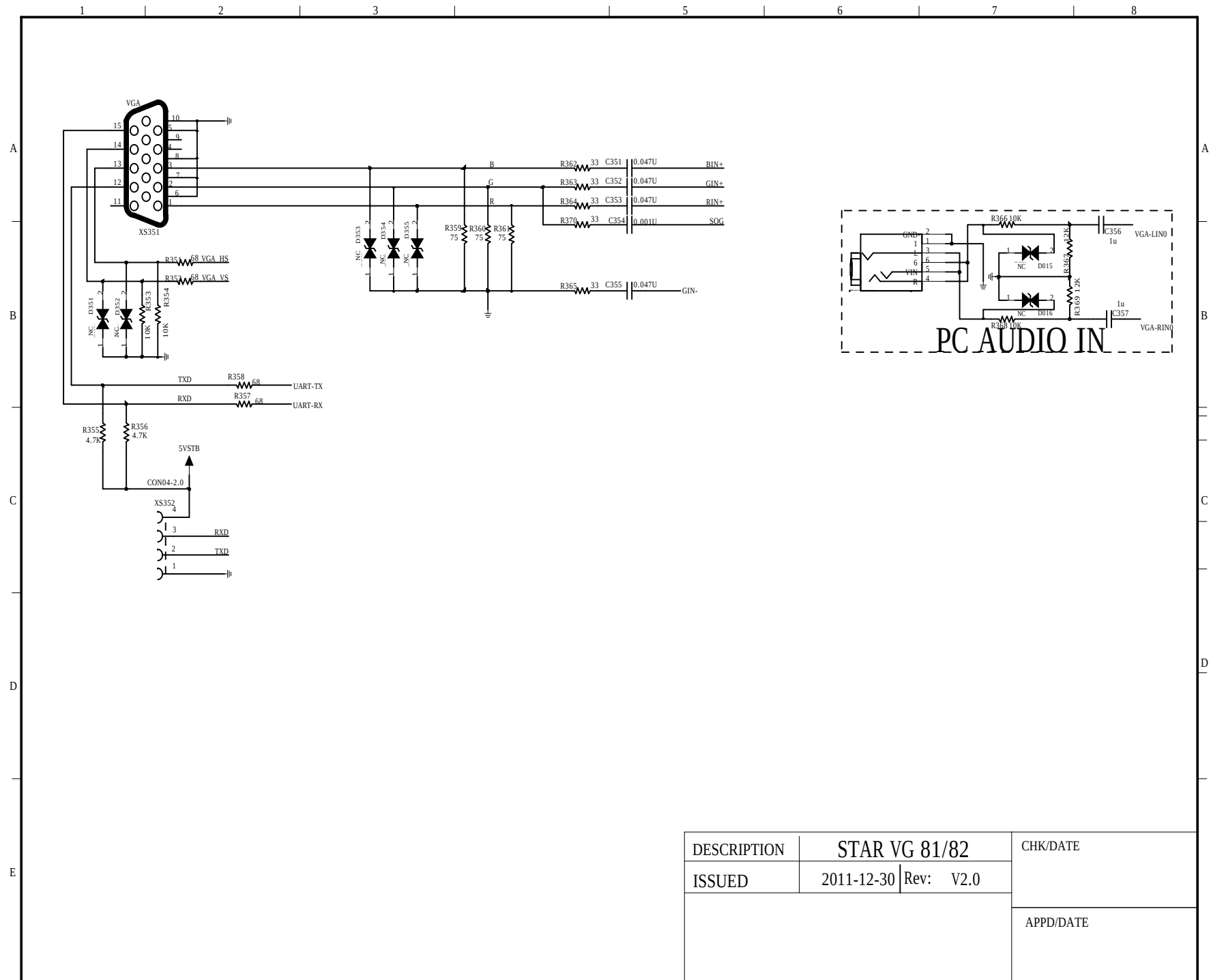
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ISSUED	2011-12-30 Rev: V2.0	
		APPD/DATE

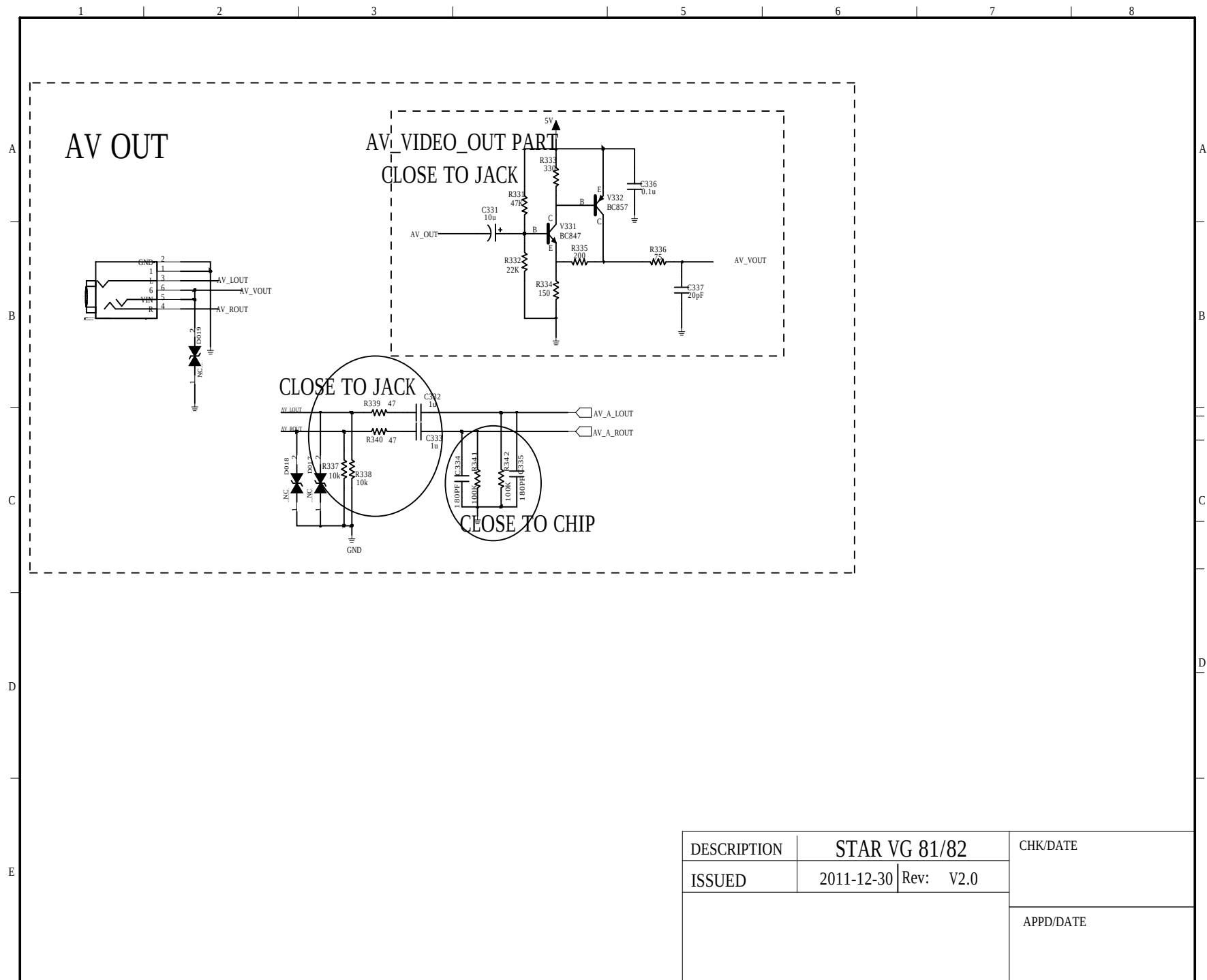


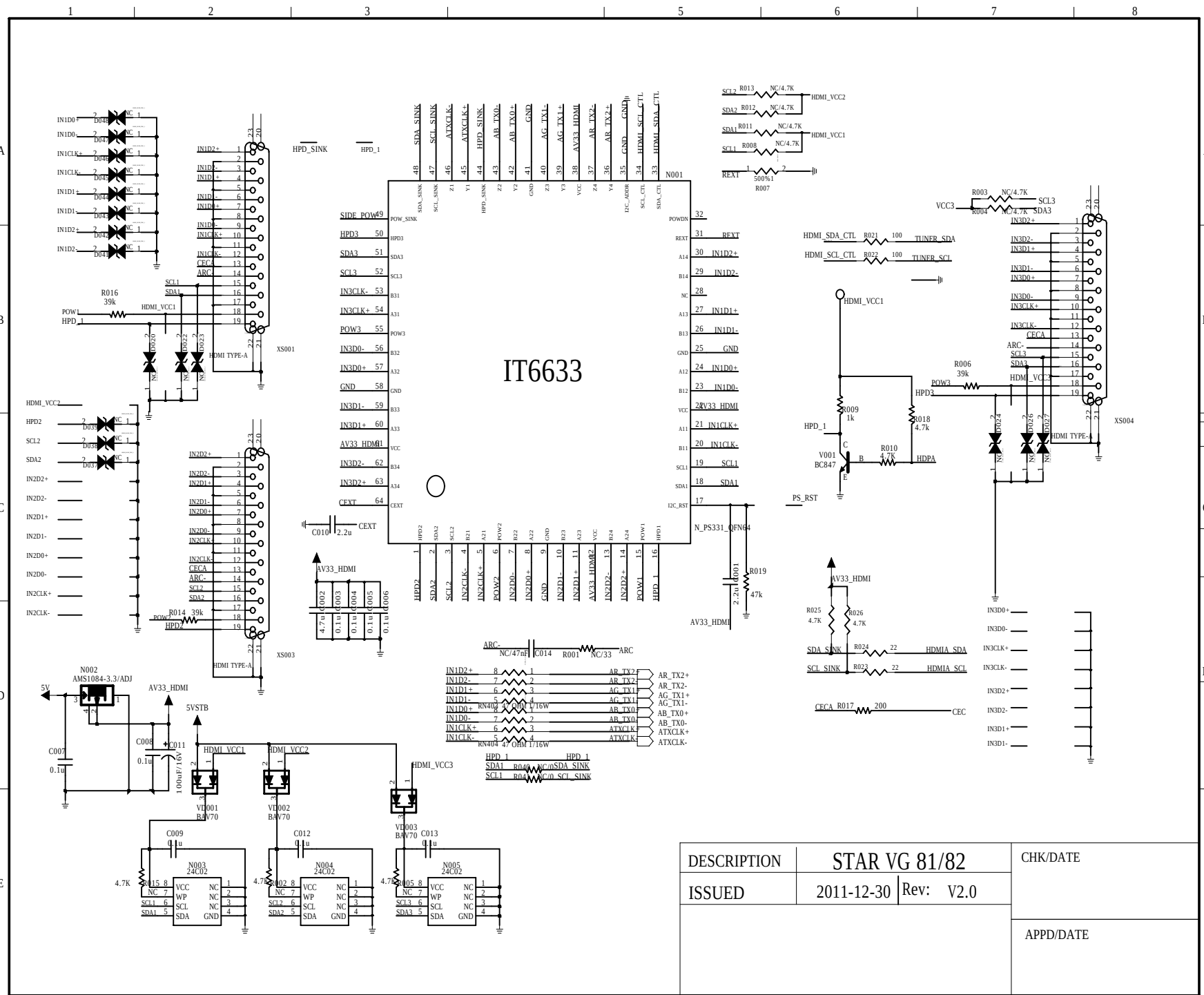


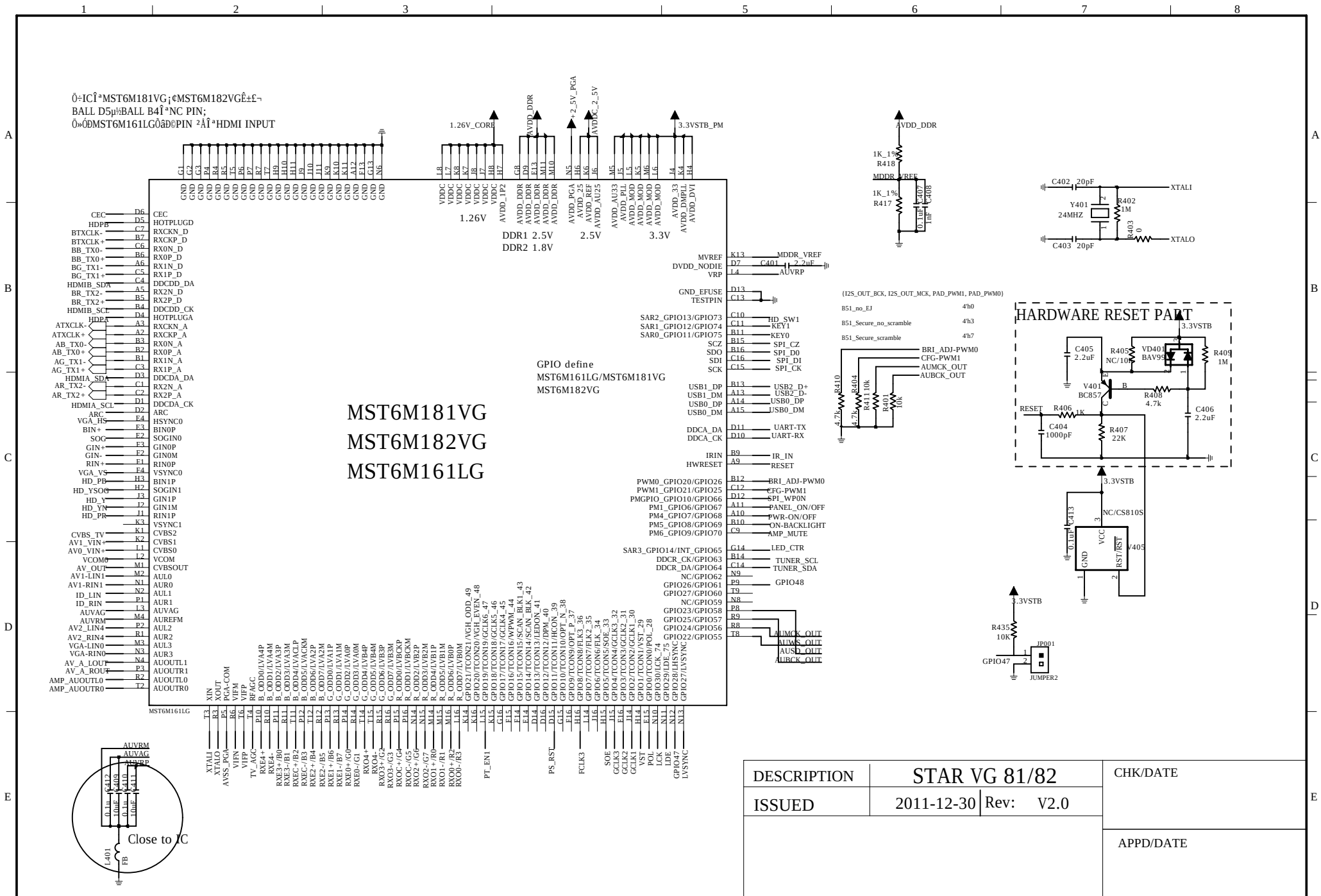
YPBPR VIDEO INPUT

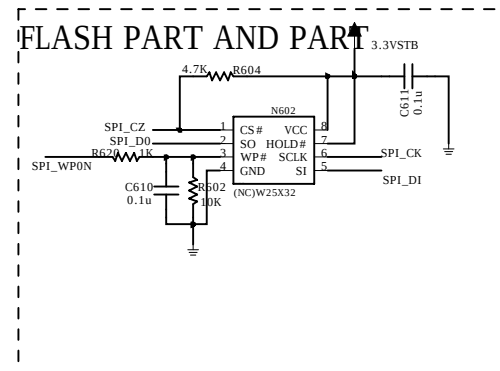
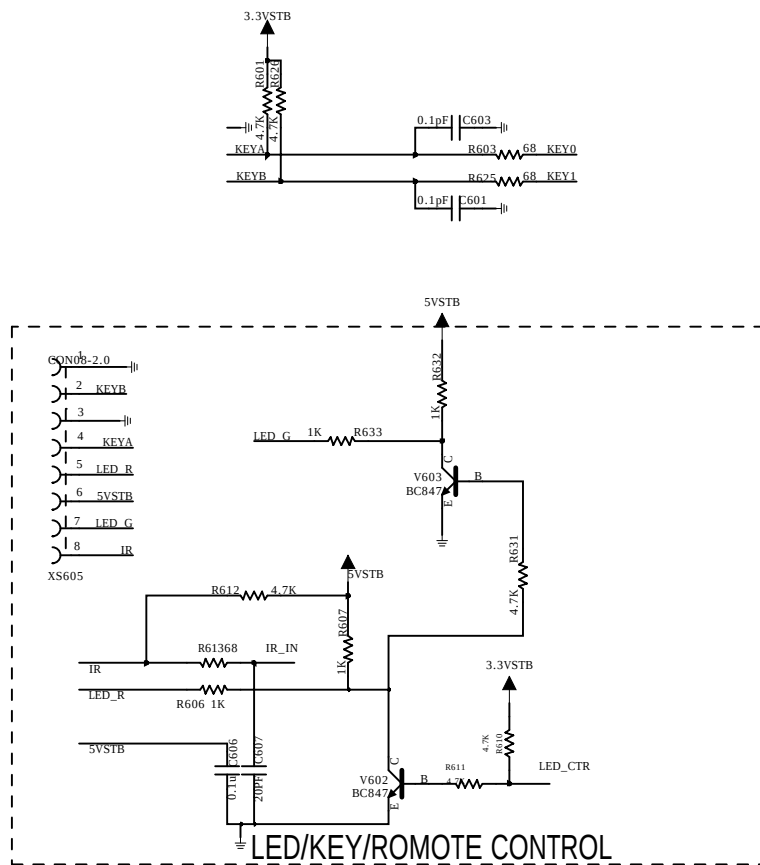
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ISSUED	2011-12-30 Rev: V2.0	
		APPD/DATE



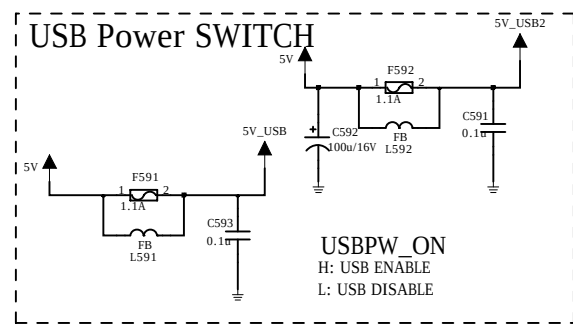
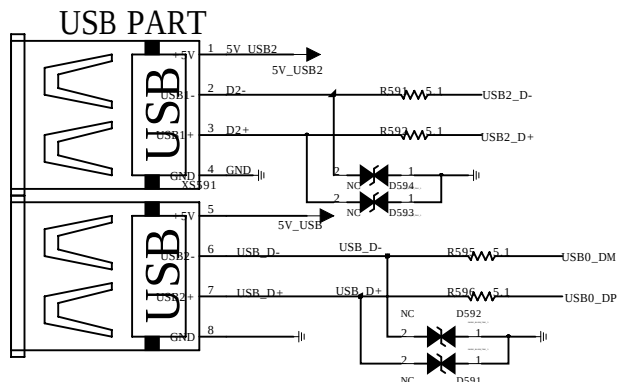




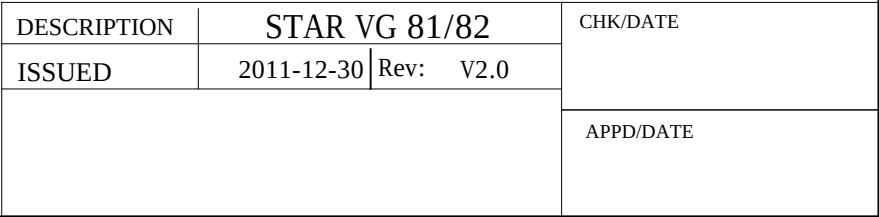




DESCRIPTION	STAR VG 81/82		CHK/DATE
ISSUED	2011-12-30	Rev: V2.0	
			APPD/DATE



DESCRIPTION	STAR VG 81/82		CHK/DATE
ISSUED	2011-12-30	Rev: V2.0	
			APPD/DATE



1 2 3 5 6 7 8

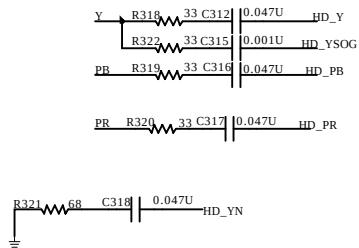
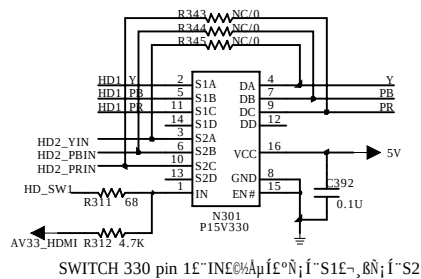
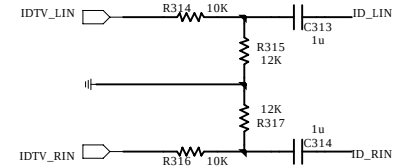
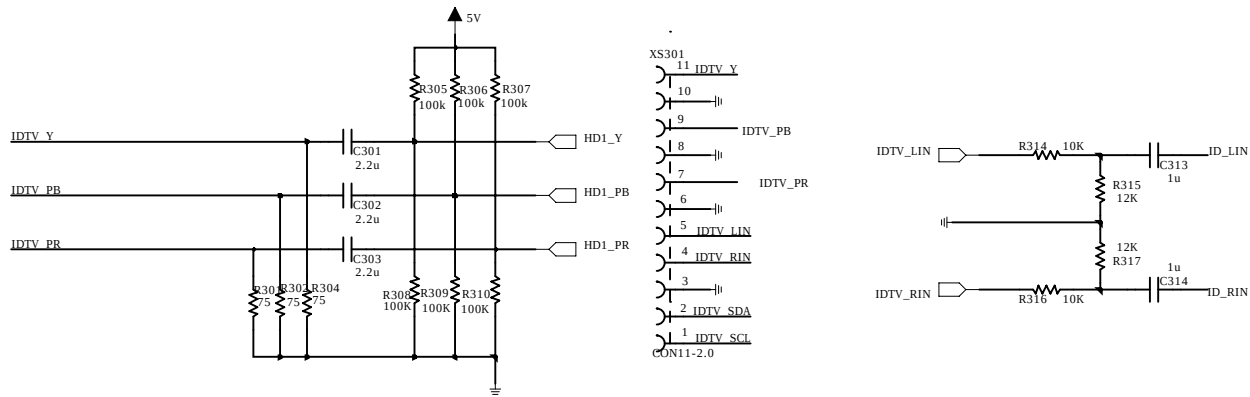
A

B

C

D

E



A

B

C

D

E

DESCRIPTION	STAR VG 81/82		CHK/DATE
ISSUED	2011-12-30	Rev: V2.0	
			APPD/DATE

6. Connectors & IC Details

A) CONNNECTOR DETAILS

POWER CONN. VOLTAGES XS504

SR. NO.	Pin Connection	STAND BY (V)	ON Condition (V)
1	12V	0	12
2	12V	0	12
3	GND	0	0
4	12V	0	12
5	GND	0	0
6	GND	0	0
7	5V	0	5
8	5V	0	5
9	5VSB	5	5
10	GND	0	0
11	STB	0	4.21
12	GND	0	0
13	BLON	0	4.604
14	ADJ	0	5.07

IR & Key Board Connector XS605

NO.	Symbol	Function	Voltages at Standby (V)	Voltages at ON condition (V)
1	GND	GND	0	0
2	KEY1	KEY VOLTAGE	3.28	3.28
3	GND	GND	0	0
4	KEY0	KEY VOLTAGE	3.28	3.28
5	LED-R	LED VOLTAGE	0	4.32
6	5VSTB	5V STAND BY SUPPLY	5	5
7	LED- G		2.41	0
8	IR	IR SIGNAL TO MICON	3.92	3.92

Audio Connector Configuration

AUDIO OUTPUT CONN (XS901)		
NO.	Symbol	Function
1	L_OUT+	L_OUT+
2	GND	GND
3	GND	GND
4	R_OUT+	R_OUT+

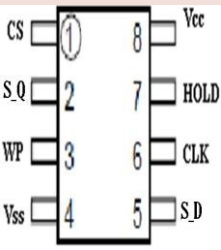
LVDS Connector XS401

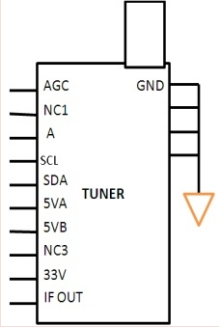
Pin No.	Symbol	Function	Parameter
1	LVDS_Vcc	PANEL VDD	+5V/+12V
2	LVDS_Vcc	PANEL VDD	+5V/+12V
3	GND		
4	LVDS_Vcc	PANEL VDD	+5V/+12V
5	GND		0V
6	GND		0V
7	RX00-		Vpp: 3.3v
8	RX00+		Vpp: 3.3v
9	RX01-		Vpp: 3.3v
10	RX01+		Vpp: 3.3v
11	RX02-		Vpp: 3.3v
12	RX02+		Vpp: 3.3v
13	GND		0V
14	GND		0V
15	RX0C-		Vpp: 3.3v
16	RX0C+		Vpp: 3.3v
17	RX03-		Vpp: 3.3v
18	RX03+		Vpp: 3.3v
19	NC		Vpp: 3.3v
20	NC		Vpp: 3.3v
21	RXE0-		Vpp: 3.3v
22	RXE0+		Vpp: 3.3v
23	RXE1-		Vpp: 3.3v
24	RXE1+		Vpp: 3.3v
25	GND		0V
26	GND		0V
27	RXE2-		Vpp: 3.3v
28	RXE2+		Vpp: 3.3v
29	RXEC-		Vpp: 3.3v
30	RXEC+		Vpp: 3.3v
31	GND		0V
32	GND		0V
33	RXE3-		Vpp: 3.3v
34	RXE3+		Vpp: 3.3v
35	NC		Vpp: 3.3v
36	NC		Vpp: 3.3v
37	SEL		3.3V
38	T1_SEL		3.3V
39	NC		
40	NC		

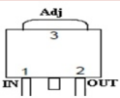
B) CRITICAL COMPONENT LIST

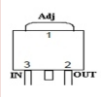
SAP CODE	DESCRIPTION	QTY	LOCATION	FUNCTION
1100077466	CRYSTAL,HC49,24MHZ ,+/- 20PPM,20PF,MST182	1	Y401	Crystal
1100064121	TUNER,XUGUANG,HFT 2-8C/T126CW,MT8223L	1	A702	DIP TUNER
1100086324	IC,CHIP,MICON,LFBGA -200P,MST6M182VG	1	N401	MICON
1100049334	IC,CHIP,SOP8,MX25L32 05DM2I-12G	1	N602	FLASH
1100058379	IC,CHIP,SOP36,TDA749 1P	1	N901	AUDIO AMPLIFIER
1100047972	IC,CHIP,TO252- 3,7805/AZ7805	1	N701	LDO TUNER POWER +5V
1100077439	IC,Regulator,SY8132 DC to DC 2A,MST182	1	N451	LDO IC DDR 5V TO 1.26V Micon Core Supply
1100047970	IC,CHIP,SOT223,G1117- 3.3V	1	N452	LDO IC STAND BY VTG. +5VSTB TO 3.3V
1100078552	HEADER, 2.54MM, 2P,HP,CE,LCK	1	JP001	FHD panel selection jumper
1100087737	Jumper 2.54 mm, 3P LCK TYPE CAP 12V RED	1	JP003	12V PANEL SELECTION JUMPER
1100041520	IC,CHIP,TO- 252,LM1117DTX-ADJ	1	N454	2.5V SUPPLY REGULATOR
100087736	HEADER, 2.54MM, 3P,HP,CE,LCK	1	JP003	5V PANEL SELECTION JUMPER

C) CRITICAL IC VOLTAGES

N602 (Flash IC)	Pin No.	Pin Label	Standby (V)	On Condition (V)	IC Function
	1	CS#	0	3.3	Flash IC
	2	S_Q	0	1.08	
	3	WP#VPP	0	3.3	
	4	VSS	0	0	
	5	S_D	0	0	
	6	SCLK	0	0	
	7	HOLD#	0	3.3	
	8	VCC	0	3.3	

A702 (TUNER)	Pin No.	Pin Label	Voltage (Volts)	Remark
			WITH SIGNAL	Voltage changes according to freq and Signal Strength
	1	AGC	2V	
	2	BT_30	32.48	
	3	AS	0	
	4	SDA	5	
	5	SCL	5	
	6	5VA	5	
	7	BT_TEST	6.9	
	8	DIF OUT2	0	
	9	DIF OUT1	0	

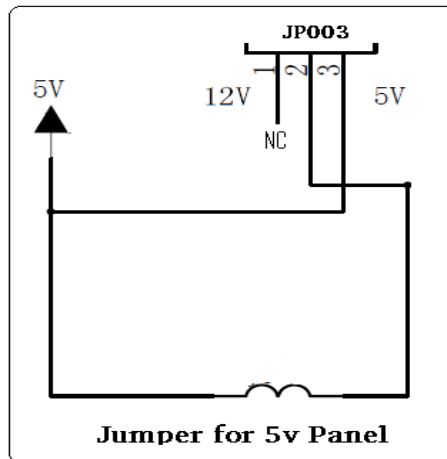
N701	Pin No.	Pin Label	Standby (V)	On Condition (V)	IC Function
	1	IN	0	12	Tuner Power +5V
	2	OUT	0	5	
	3	ADJ/GND	0	0	

N452	Pin No.	Pin Label	Standby (V)	On Condition (V)	IC Function
	1	ADJ/GND	0	0	3.3V LDO
	2	OUT	3.3	3.3	
	3	IN	5	5	

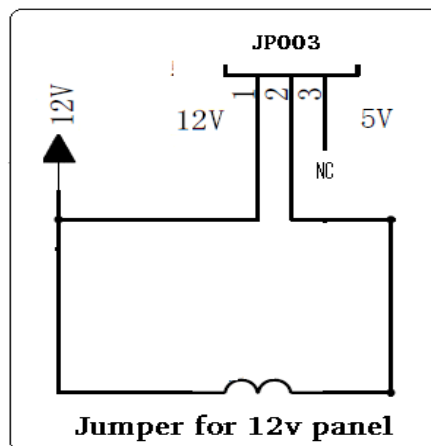
7 Panel VCC Selection

For Panel VCC selection, Provision to connect a Jumper is given at location JP003.

- 1.) For 22"/24" 5V panel, Add jumper at location JP003.
as shown in fig. below.



- 2.) For 32" 12V Panel, Add jumper at location JP003.
as shown in fig. below.



3.) For DC to PWM or PWM to DC panel there is no change required In chassis. Only panel selection and panel type selection required in Design data.

PANEL HD/FHD SELECTION

For Panel HD or FHD panel selection, Provision of Ferrite bid is given in chassis at location JP001.

- 1). For Full HD Panel selection, add Ferrite bid at location JP001.
- 2). For HD Panel selection, remove Ferrite bid from location JP001.

Screen Size	Panel Type	Panel Supply	HD/FHD Selection
22" LCD	SAM_LTA216AT01_02	5V	HD
	CMO_CMIV216B1_L04	5V	HD
	LG_LC220WXE_TBA1	5V	HD
24" LCD	AUO_T240XW01_V1 5V HD	5V	HD
	AUO_T240XVN02.0 12V HD	12V	HD
24" LED	24" LED M240HW01VD 5V FHD	5V	FHD
32" LCD	AUO_T315XW03_V3	12V	HD
	AUO_T315XW04_V3	12V	HD
	SAM_LTA32AP05	12V	HD
	LG_LC320WXN_SCB1	12V	HD
32" LED	FHD_AUO_T320HVN01.2	12V	FHD
	HD_AUO_T315XW06_V6 12V	12V	HD
	HD_AUOT320XVN-1.1 12V	12V	HD
	FHD_AUO_T320HVN01.2	12V	FHD
42" LED	FHD_AUO_T420HVN01.1	12V	FHD
	FHD_AUO_T420HW08_V1	12V	FHD
	FHD_AUO_T420HVN01.1	12V	FHD
42" 3D LED	FHD_AUO_T420HB01_V1	12V	FHD

Compoment change Required as per mention location on chassis for Panels

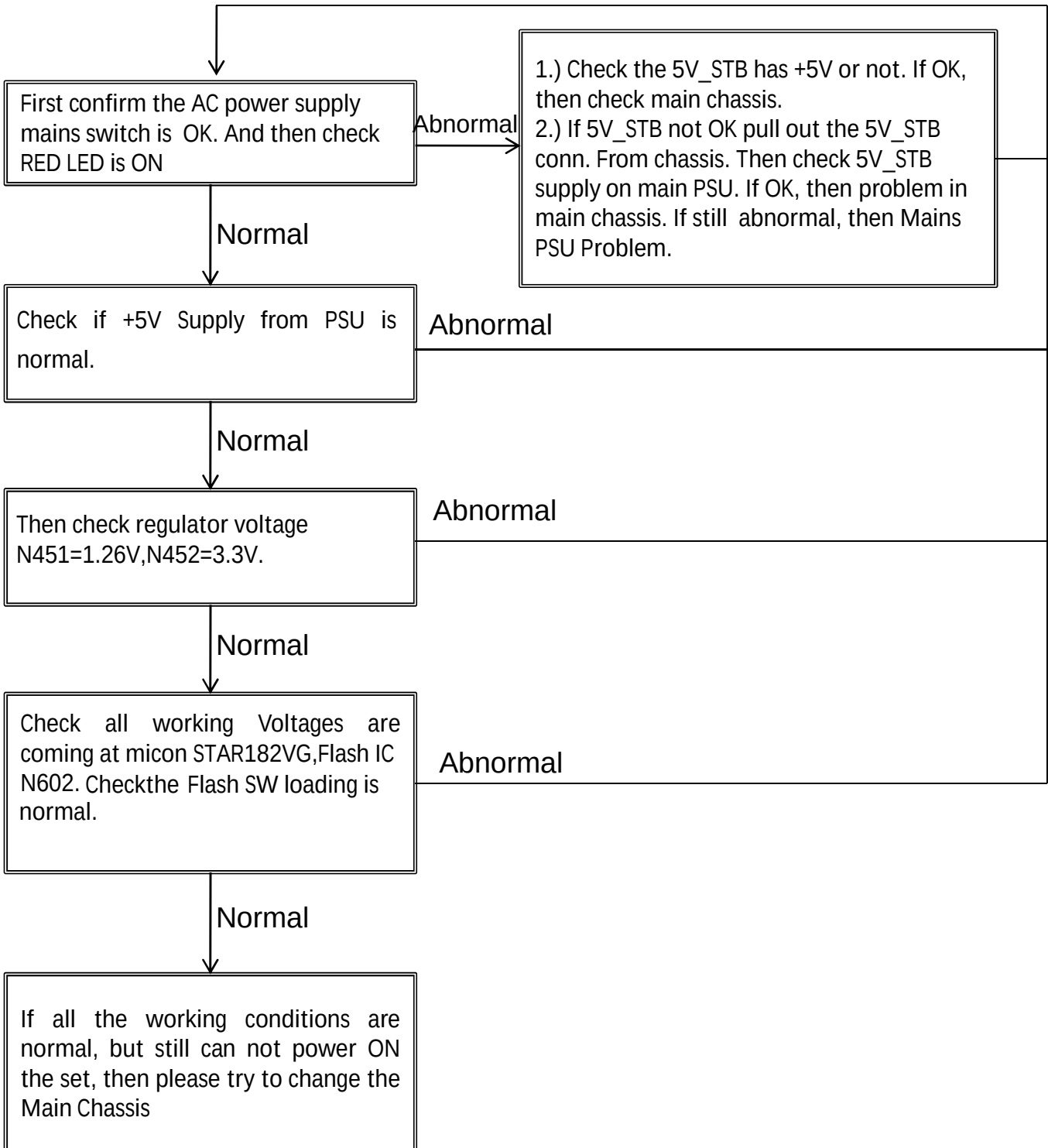
Location	other Panel copomnet on chassis	For T320XVN-1.1	For T420HB01_V1
R205	R=10KE	R=10KE	R=4.7KE
R206	R=10KE	R=10KE	R=68E
R502	R=4.7kE	R=100E	R=4.7kE
R501	R=1KE	R=4.7KE	R=1KE

! Precaution Before ON TVset.

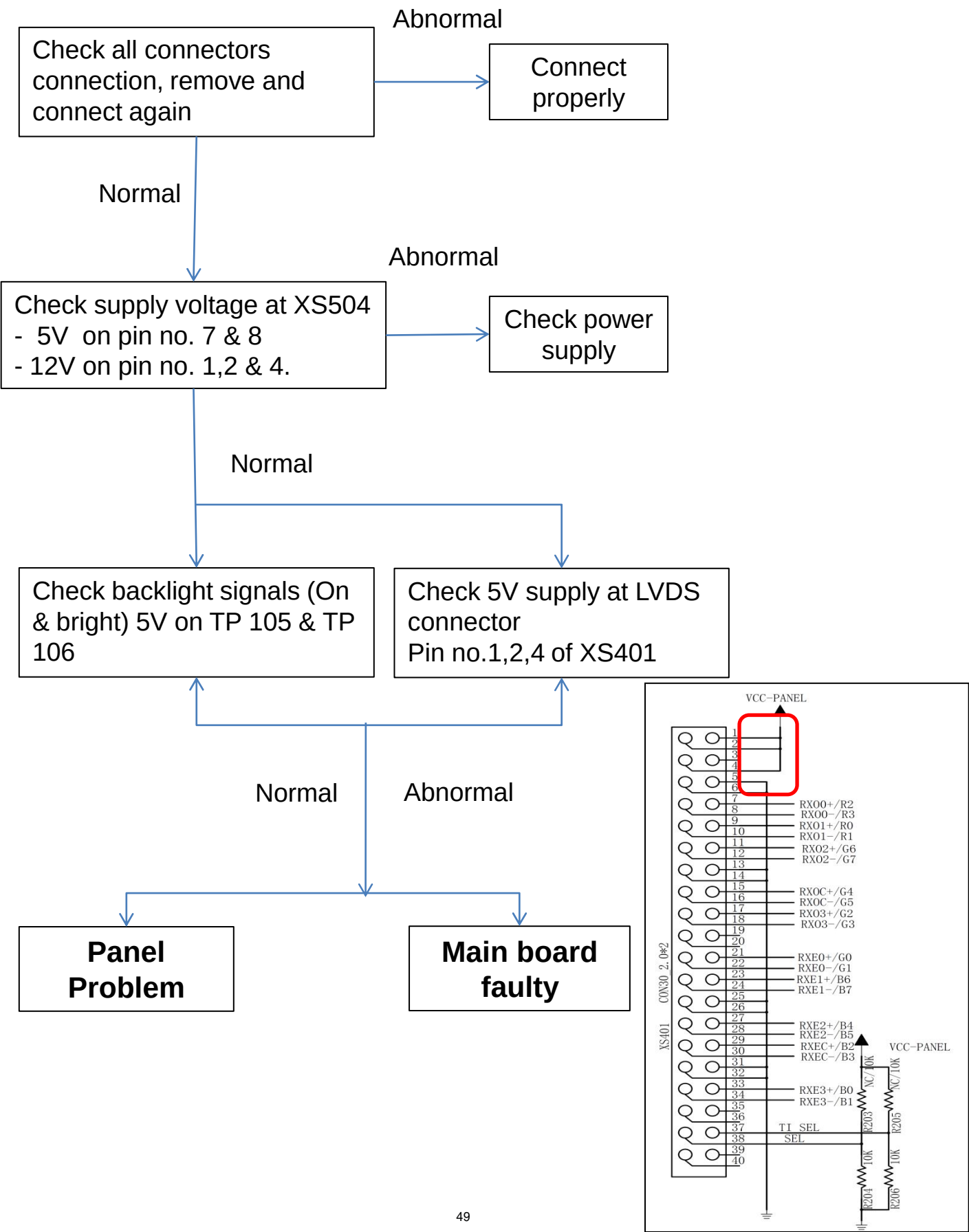
- 1.Power board is high voltage, don ’t touch its metal when it's working.
- 2.Please confirm the power to Panel is +5V or +12V when change main board,if not the panel can't work or be damage.

8. Troubleshooting

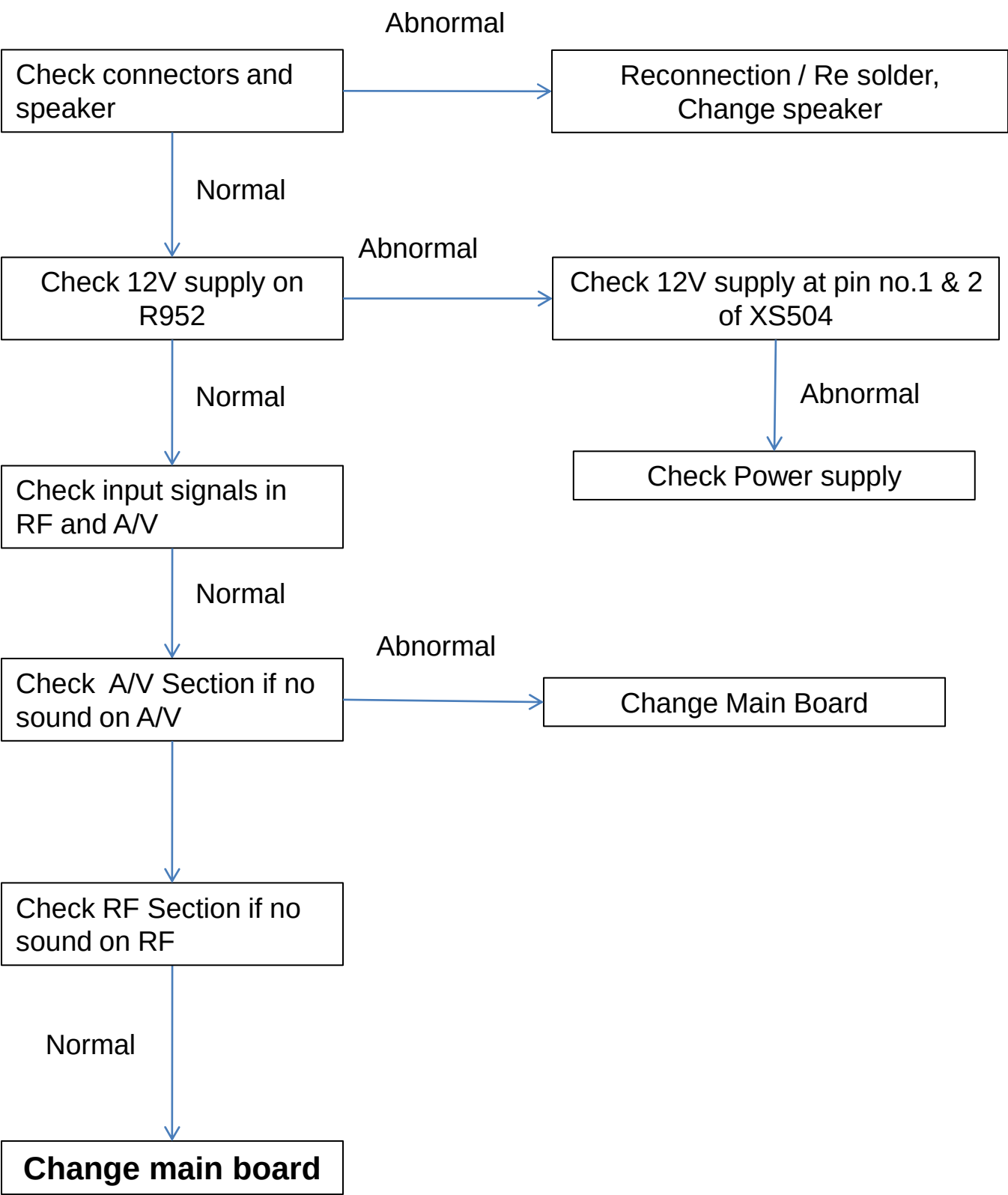
A) DEAD or STAND BY



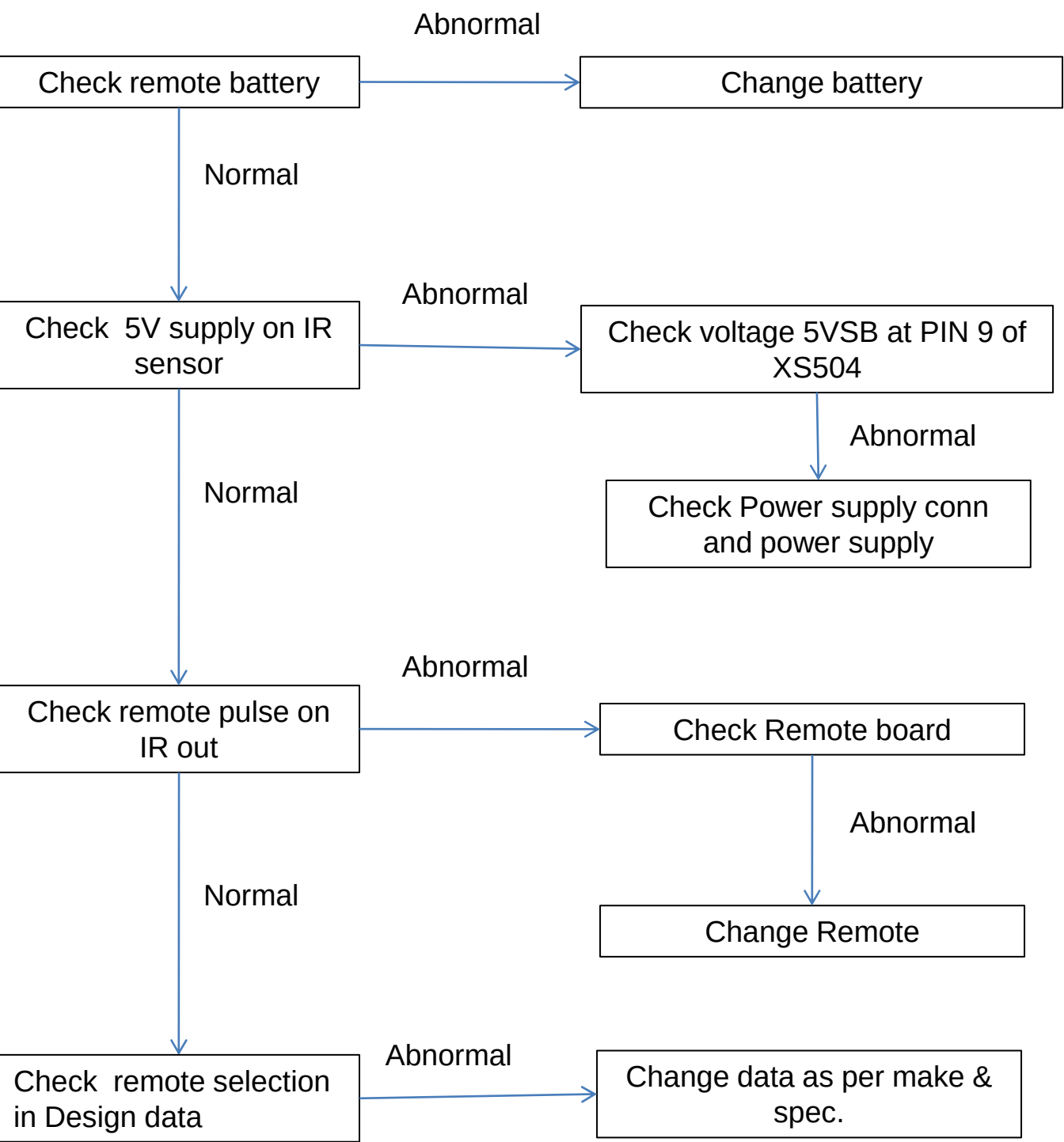
B) No Picture Condition



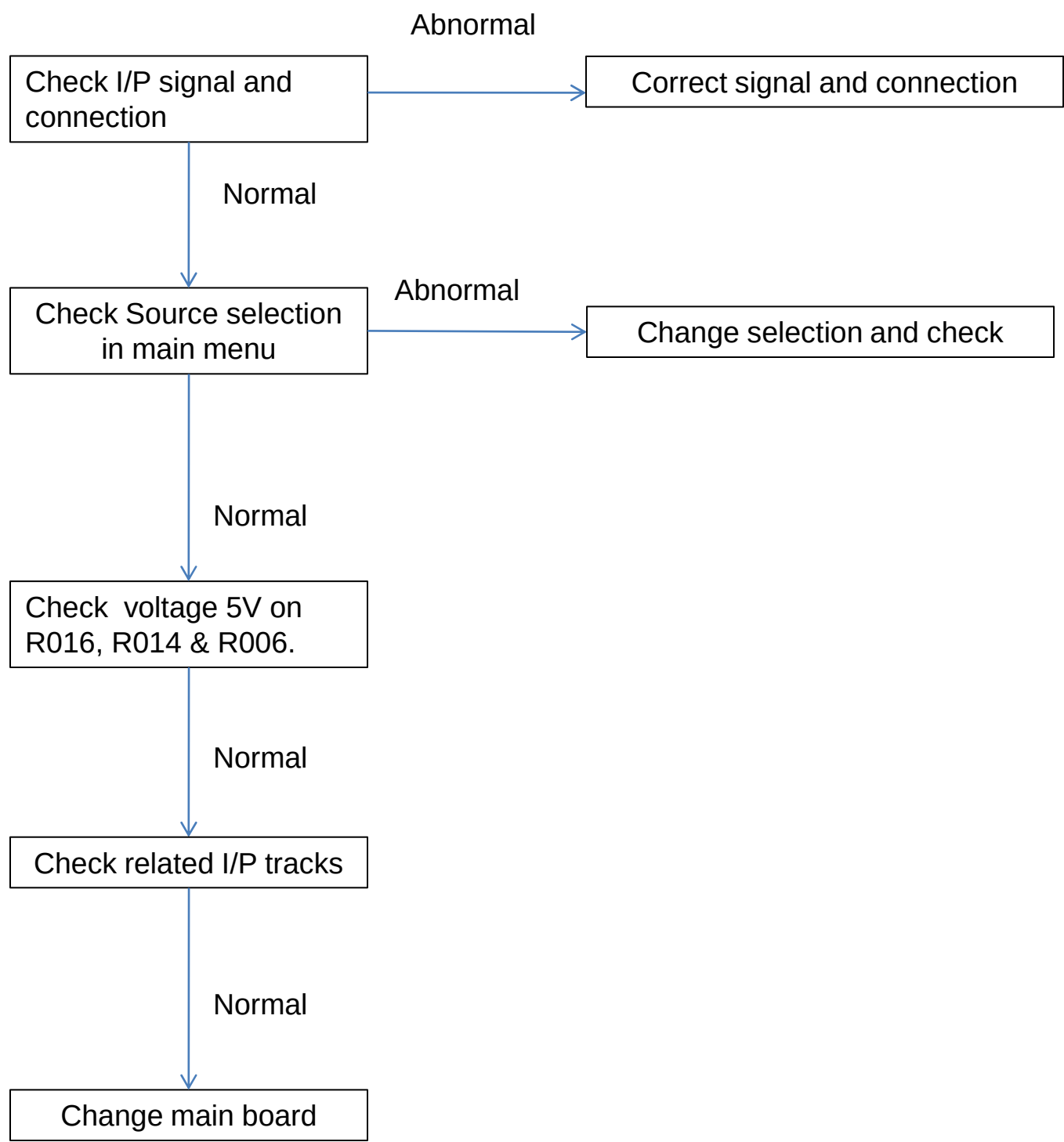
C) No Sound Condition



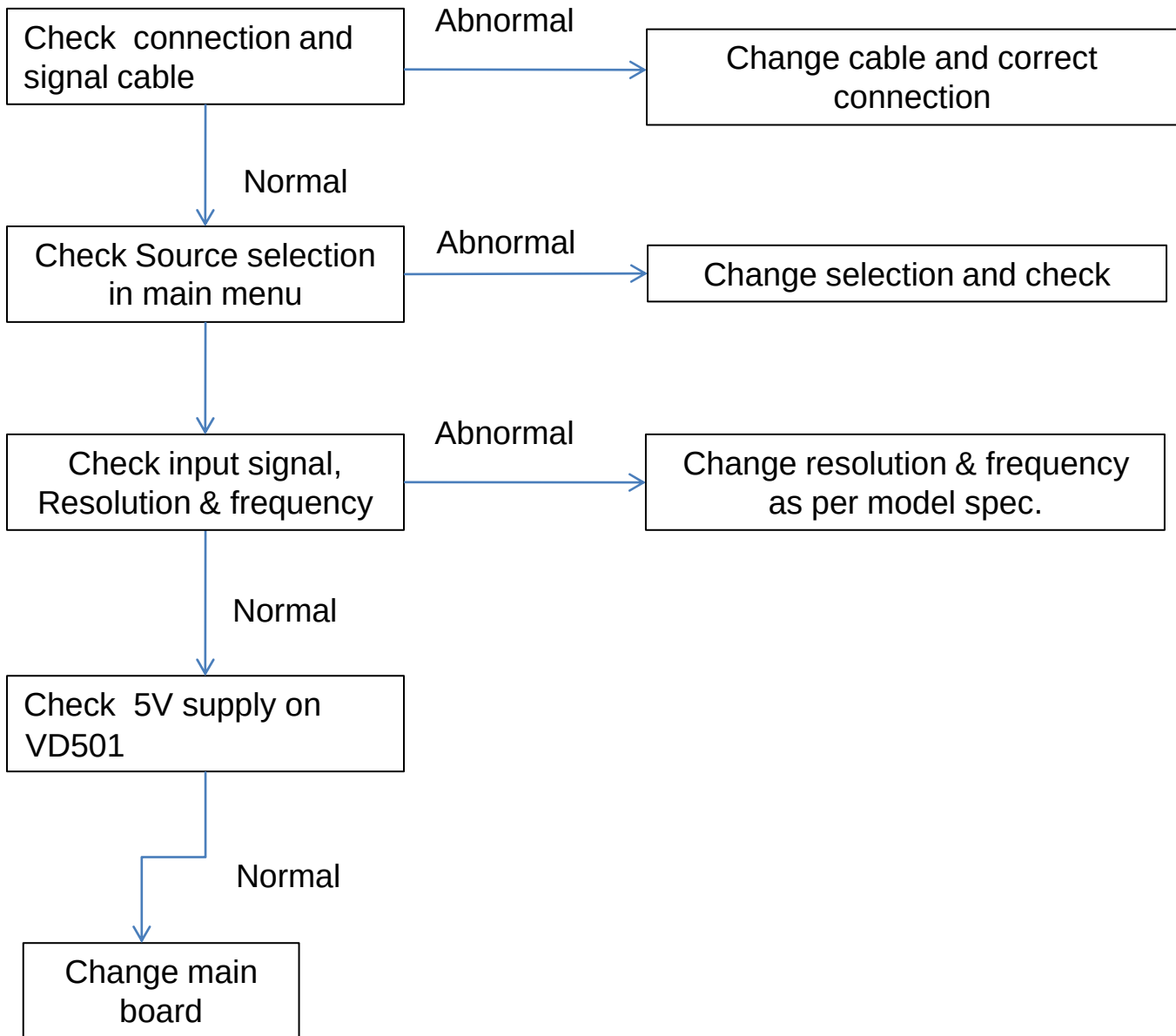
D) RC Not Working



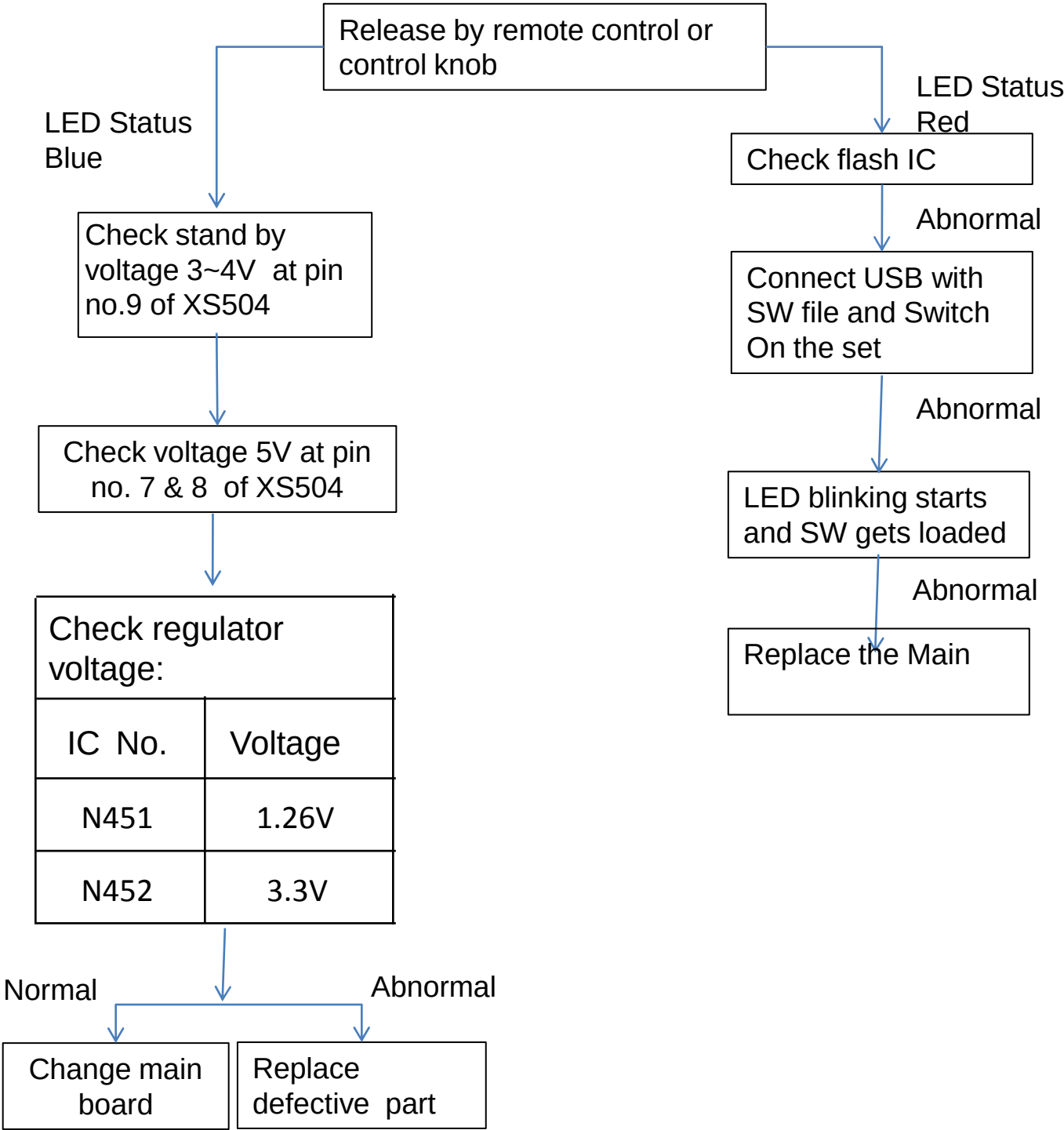
E) No HDMI Display/Audio



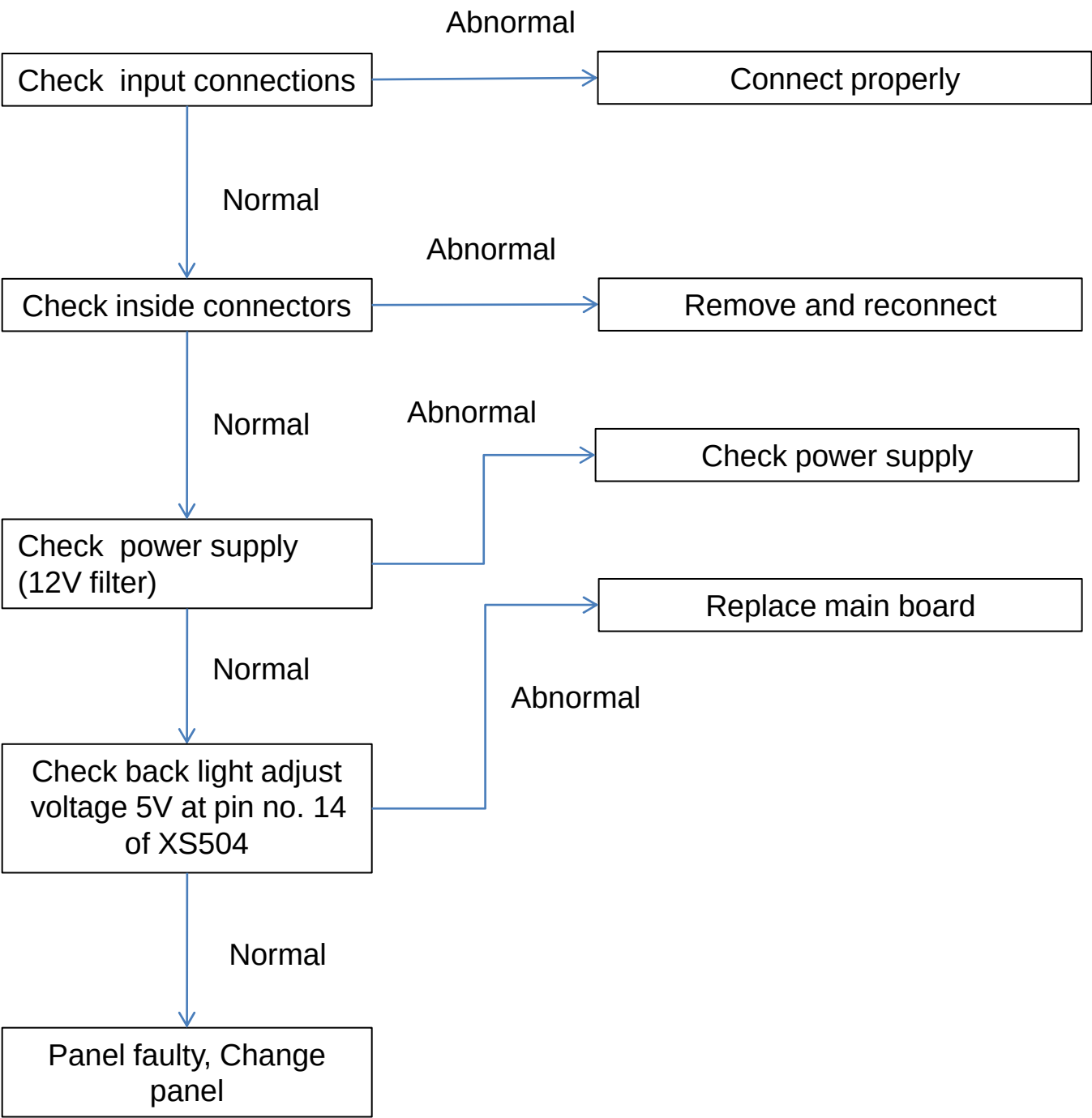
F) No VGA Display



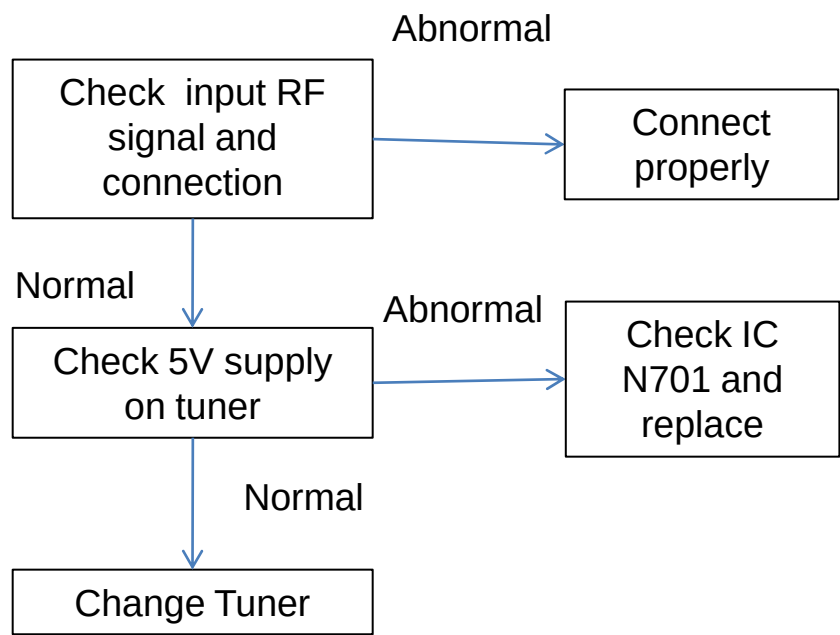
G) Stand By Mains LED red, Set off



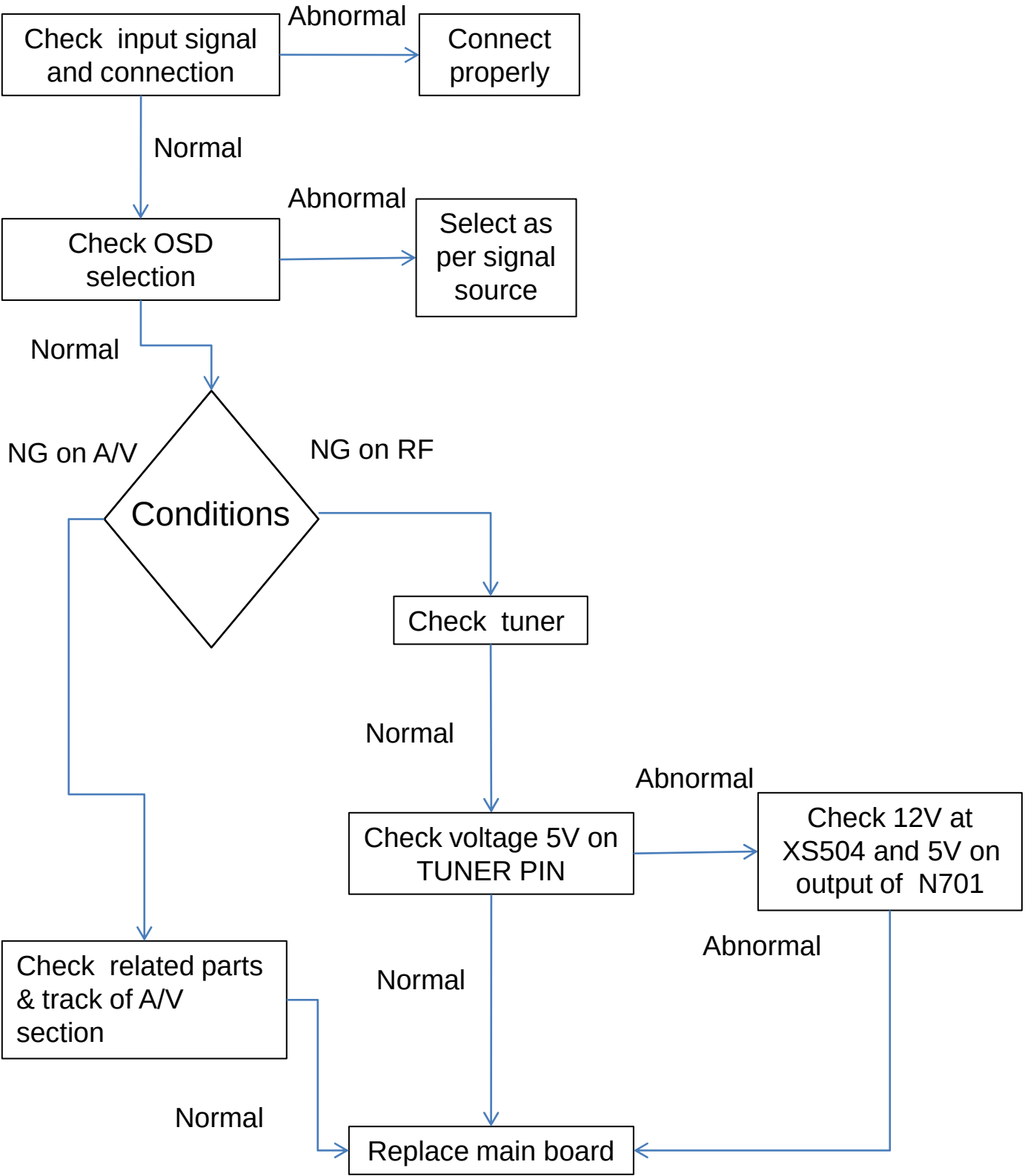
H) Screen Flickering



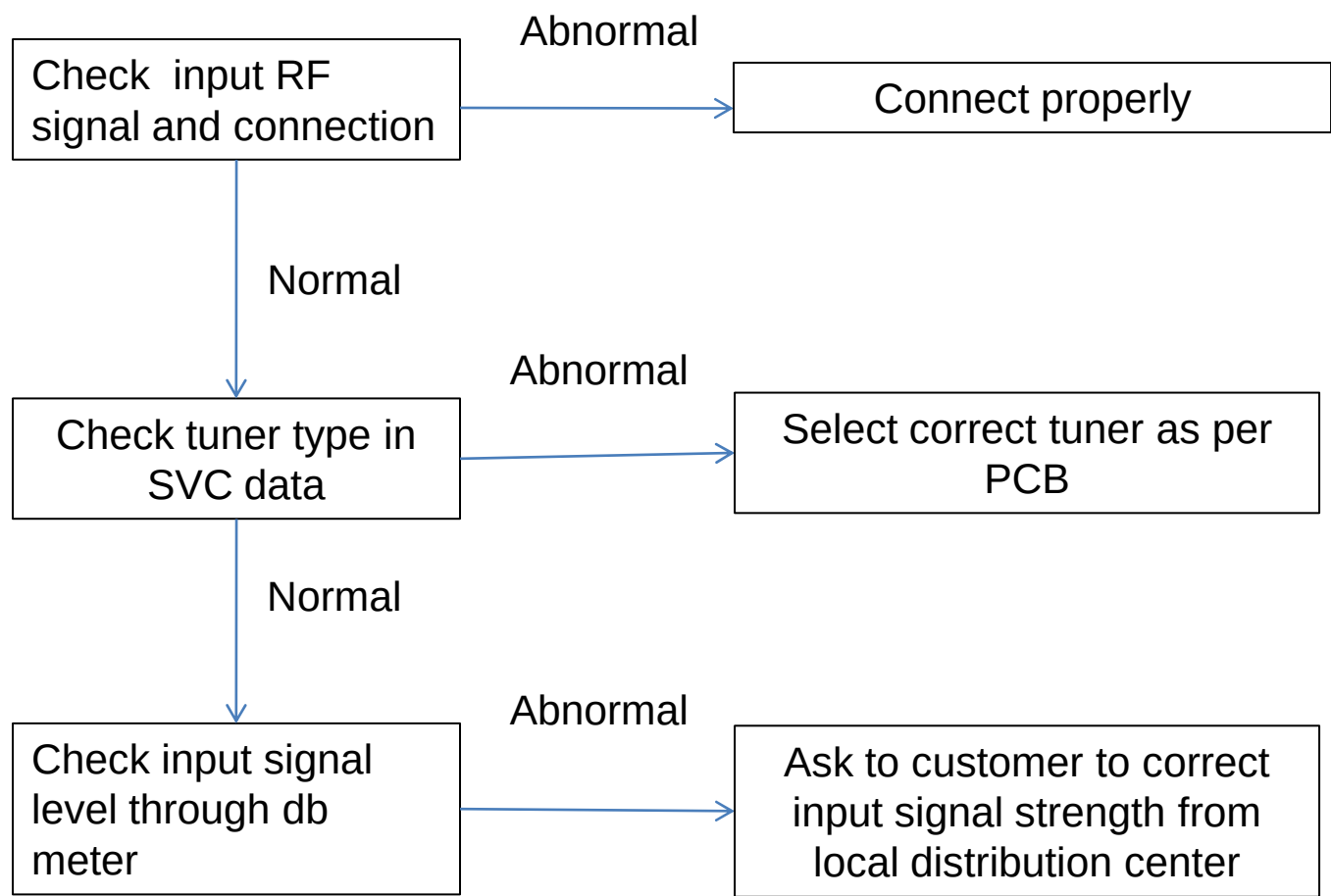
I) No Chanel Search



J) No Signal - AV and RF



K) Channel Skip



9 Abbreviations

COMMON ABBREVIATIONS USED IN AUDIO/VIDEO	
TFT	Thin Film Transistor
LCD	Liquid Crystal Display
PSU	Power Supply Unit
Conn	Connector
SCL	Serial Clock
SDA	Serial Data
PAL	Phase Alteration by Line (Color System)
NTSC	National Television System Committee
SECAM	Sequential Color And Memory
DNR	Dynamic Noise Reduction
AVL	Auto Volume Leveler
PWM	Pulse Width Modulation
VGA	Video Graphics Array
SVGA	Super Video Graphics Array
X-VGA	Extended Video Graphics Array
W-XGA	Wide Extended Graphics Array
DAC	Digital to Analog Converter
ADC	Analog to Digital Converter
USB	Universal Serial Bus
HDMI	High Defination Multimedia Interface
CVBS	Composite Video Baseband Signal
LVDS	Low Voltage Differantial Signal
EEPROM	Electrically Erasable Programmable Read Only Memory
DDR	Dual Data Rate Memory
LDO	Low Drop Output Regulator
Tx	Transmission
RX	Receiption
UART	Universal Asynchronous Receiver & Transmitter
SW	Software
CEC	Consumer Electronic Control