

AKAI

Multisystem LCD TV set

LTC-16R5X3M



Service manual

AKAI

LTC-16R5X3M

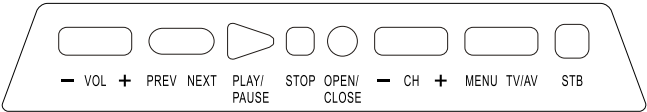
SERVICE MANUAL

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OPERATION PARTS

Top View of TV Set:



ITEM	BUTTON NAME	FUNCTION DESCRIPTION
1	-VOLUME+	Press to increase or decrease the sound level.
2	PREV/NEXT	PREVIOUS/NEXT for DVD.
3	PLAY/PAUSE	PLAY/PAUSE for DVD.
4	STOP	STOP for DVD.
5	OPEN/CLOSE	DVD DISC eject/close.
6	-CH+	Press to scan through channels. To scan quickly channels, press and hold down either +/- button.
7	MENU	Press to bring up the main menu to the screen.
8	TV/AV	Press to select the input source.
9	STANDBY	Switch ON the LCD TV when at standby mode or vice versa.

Rear View of TV Set

1. TV IN

2. HeadPhone OUT

3. PC Audio IN

4. AV-R IN

5. AV-L IN

6. AV CVBS IN

7. S-VIDEO IN
8. SCART

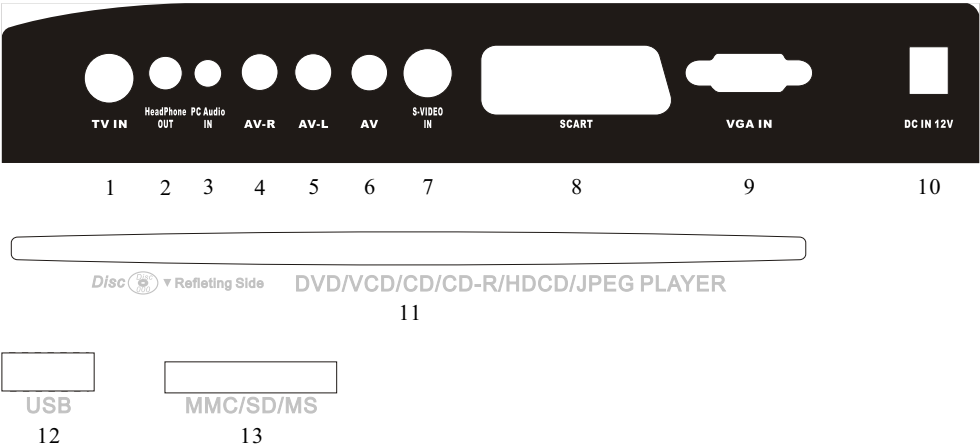
9. VGA IN

10. DC IN 12V

11. Lorder that DVD DISC eject/close

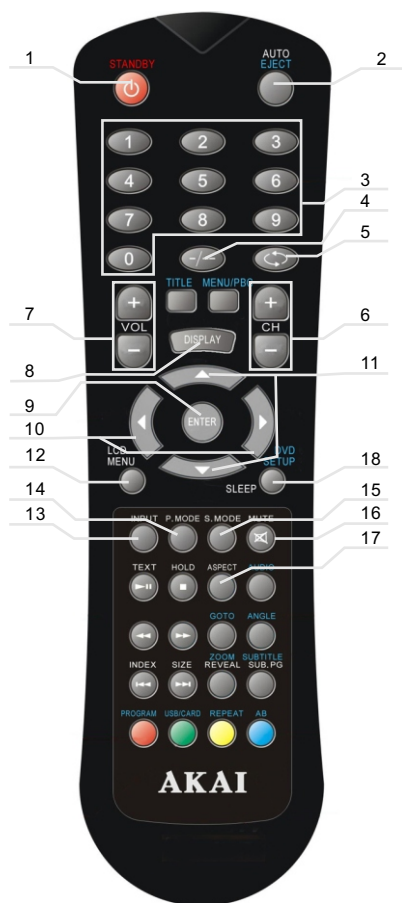
12. USB jack

13. MMC/SD/MS socket



OPERATION PARTS

Remote Control Unit



1. STANDBY	Press this button to switch on the TV when in standby mode or to enter standby mode
2. AUTO	Press to do auto configuration directly for PC-RGB.
3. 0-9	Number selection.
4. -/--	To enter a program number for multi program channel such as 2-1, etc.
5. ↺	Press to return to the previously viewed program.
6. CH+ or CH-	Press these buttons to select channels in ascending or descending order.
7. VOL- or VOL+	Press these buttons to lower or raise the volume.
8. DISPLAY	Press to display program or channel's information.
9. ENTER	Confirmation key
10. ◀/▶	LEFT/RIGHT
11. ▲ / ▼	UP/DOWN
12. LCD MENU	LCD TV Menu enter/e.xit.
13. INPUT	Press to cycle through the input source to select TV、AV、S-VIDEO、SCART、PC or DVD.
14. P. MODE	Press to cycle through the different picture mode.
15. S. MODE	Press this button to select the desired sound mode.
16. MUTE	Mute or restore sound
17. ASPECT	Press to select picture ratio for screen.
18. SLEEP	Press these buttons to set the sleeper timer for turning off TV.

OPERATION PARTS

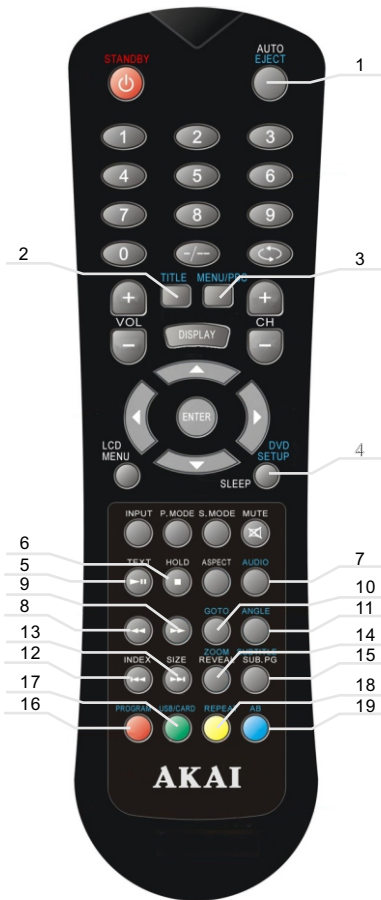
TELETEXT OPERATIONS



1. TEXT	Switch on or off the teletext mode.
2. HOLD	Hold on or off for current page display.
3. INDEX	Request the index page.
4. SIZE	Change display size in teletext.
5. REVEAL	Reveal the teletext information.
6. SUB.PG	Sub page.
7. CH+	Page up.
8. CH-	Page down.

OPERATION PARTS

Remote Contrller Unit (DVD INPUT)



1. EJECT	DVD disc eject/close.
2. TITLE	(1). Press to enter to title . (2). Press to switch between document and file .
3. MENU/PBC	DVD DISC menu/VCD DISC menu
4. DVD SETUP	DVD setup enter/ex it
5. ►►	PLAY/PAUSE
6. ■	STOP
7. AUDIO	Press to select audio mode.
8. ◀◀	Fast reverse
9. ►►	Fast forward
10. GOTO	Press to scan program.
11. ANGLE	Press to select shoot' s angle of playing program.
12. ◀◀	Previous
13. ►►	Next
14. ZOOM	Press to zoom screen size.
15. SUBTITLE	Recalls your preferred subtitle .
16. PROGRAM	Press to program order that you want to play program.
17. USB/CARD	Press to select these modes such as DVD, USB or CARD.
18. REPEAT	Repeat
19. AB	It repeat playing between point A that you select from playing program and point B that you select from playing program.

SYMPTOMS and CORRECTIONS

SYMPTOMS and CORRECTIONS for TV SET

Please make these simple checks as indicated (●) on the chart for the respective symptoms and their possible remedies.

Symptoms \ Possible Remedies																		
	Try different channel, if OK, probably station trouble	Check aerial connections on back of set	Check aerial for broken wires	Re-orient aerial (if indoor type)	Probably local interference, such as an appliance	Adjust fine tuning control	Adjust brightness control	Adjust contrast control	Check if station is broadcasting colour	Adjust colour control	Check if system is correctly set	Check if on/off switch is "on"	Check batteries in remote control unit					
No picture, no sound	●	●	●			●					●	●						
Poor sound, picture OK	●			●	●	●					●							
Poor picture, sound OK	●	●	●	●	●	●	●				●							
Weak picture	●	●	●	●		●					●							
Blurred picture	●		●	●		●					●							
Double image	●	●	●	●		●												
Lines in picture	●		●	●	●	●												
Distorted picture	●		●	●		●					●							
Weak reception on some channels	●	●	●	●	●	●					●							
Horizontal bars			●	●	●													
Picture rolls vertically	●		●	●	●						●							
Poor colour	●	●	●	●	●	●	●	●		●	●							
No colour	●	●	●	●		●			●	●	●							
Misoperation of Remote control																	●	
Remote control unit no operation																	●	
On Screen Display Control outside the screen											●							

SYMPTOMS and CORRECTIONS

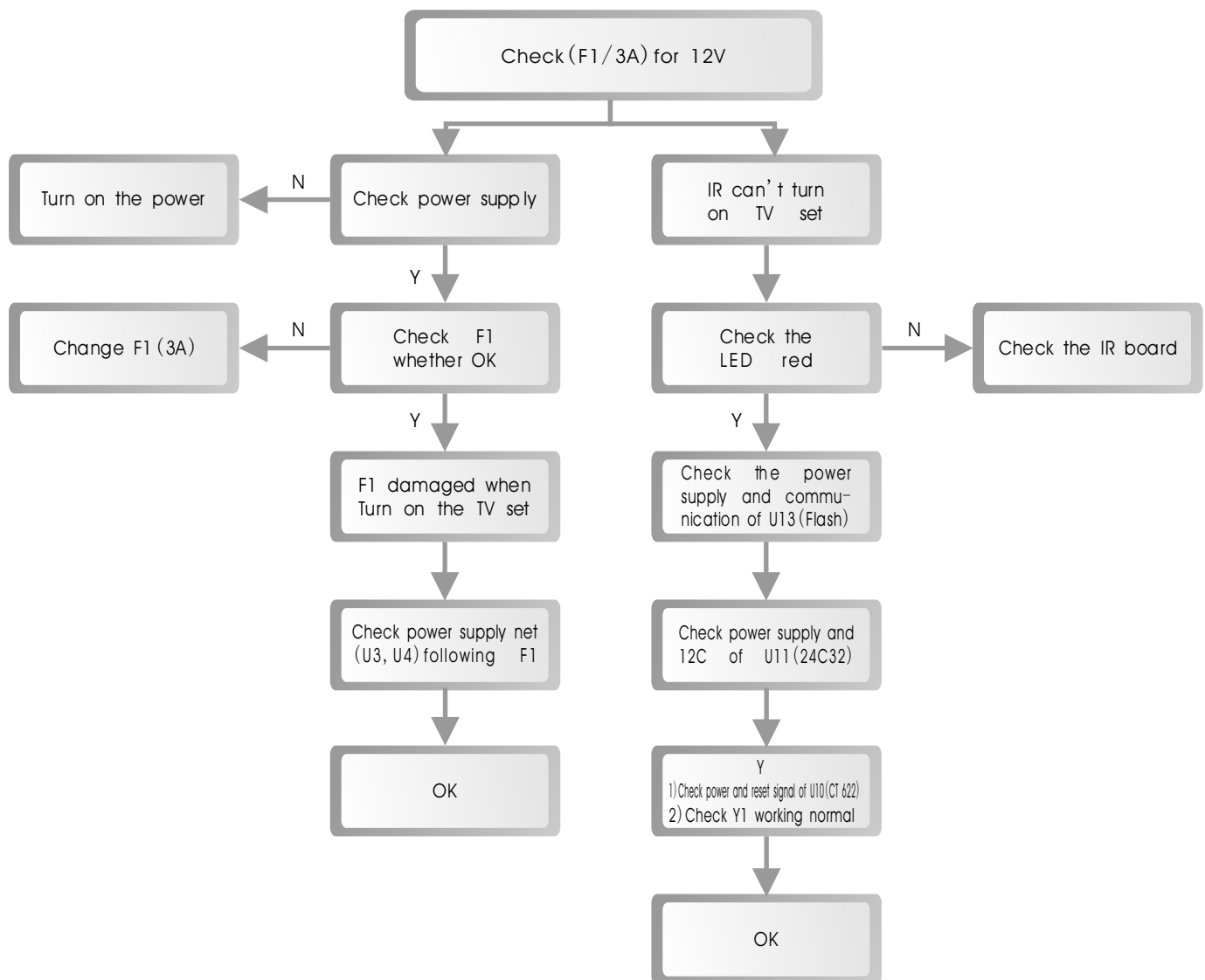
SYMPTOMS and CORRECTIONS for DVD PLAYER

SYMPTOMS	CORRECTIONS
NO POWER	Check to make sure that the power connection is correct
NO picture	Make sure the connection between the player and the TV is correct
	Make sure that the TV is in good working condition
	Check to make sure that the power connection is correct
No sound	Make sure the connections between the player and other devices are correct
	Make sure that the TV and AMP are in good working condition and properly set up
Fails to play	Check that the disc is properly inserted
	Clean the disc
Fails to respond to remote control	Remove obstacles between remote control and unit.
	Aim remote control at the sensor on the front panel
	Check batteries and replace them if necessary.
Picture disturbance	Check the disc for dirt and scratches. Clean or replace disc
	Shut down the unit, wait ten seconds and restart the unit
Fails to work with keys	Power surges or brown outs or other electrical phenomena. Shut down the unit, wait ten seconds restart the unit.

Your DVD player is a basic part of your home theater. The technical features on this machine are far superior to any previous Audio-visual equipment. This completely new digital technology has compressed the audio visual effect of cinema into a 12cm-diameter disc, which is the same size as a CD, The Dolby digital out put in particular can provide a prominent digital surround effect. It is also compatible with existing CD,CD-R and CD-RW(It is not compatible with some CD-RW discs).

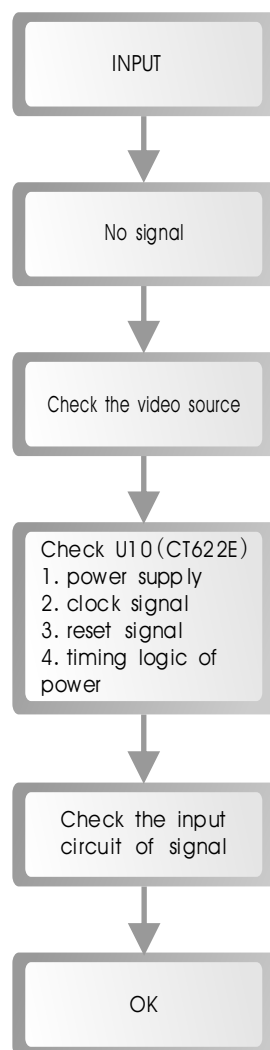
MANI BOARD FAULT JUDGMENT

■ Power supply trouble

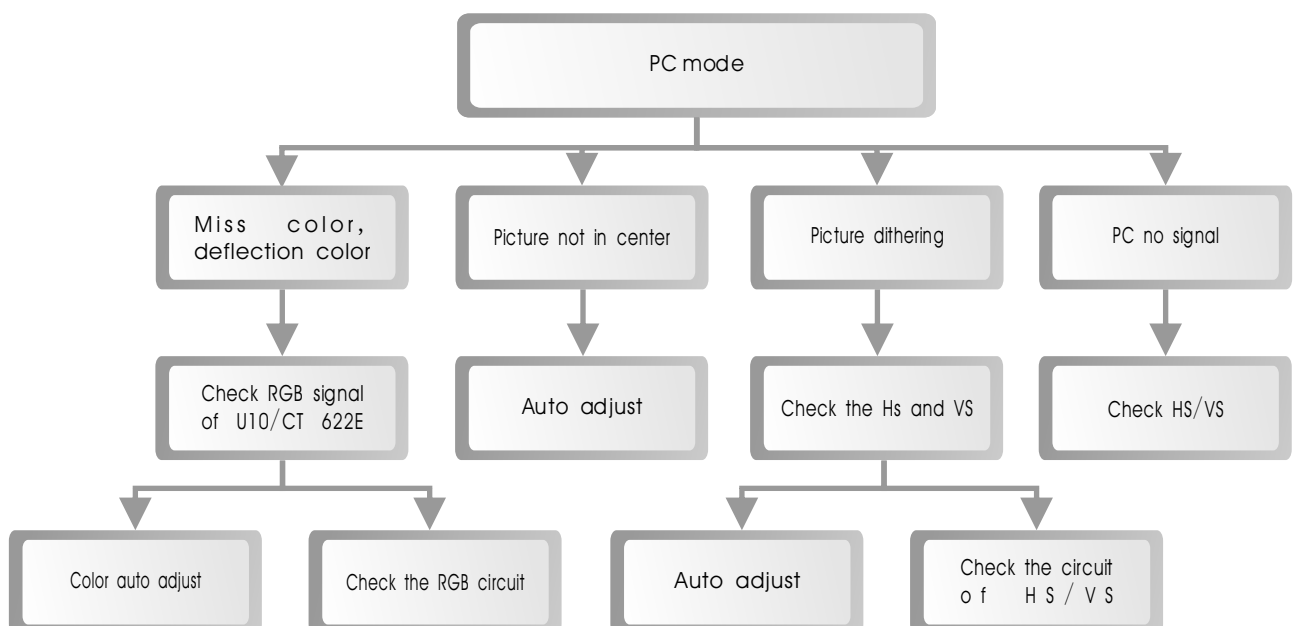


MANI BOARD FAULT JUDGMENT

■ Function trouble

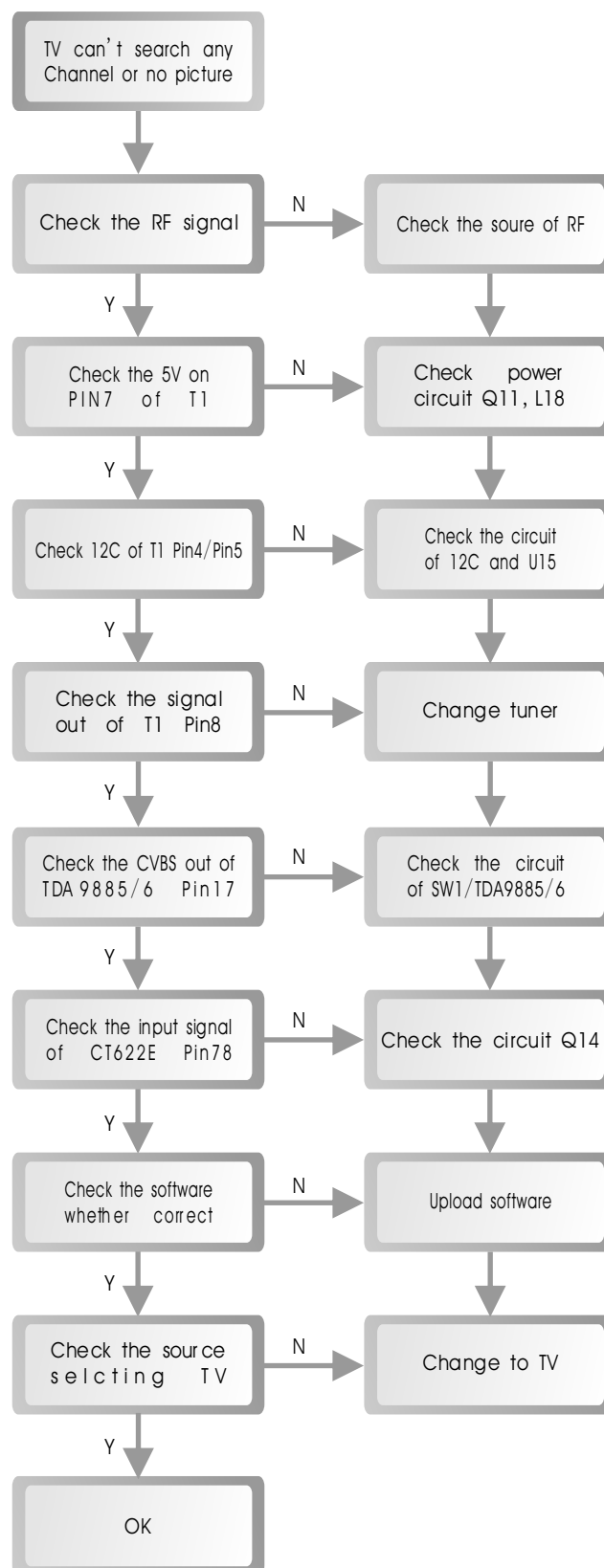


■ Display trouble



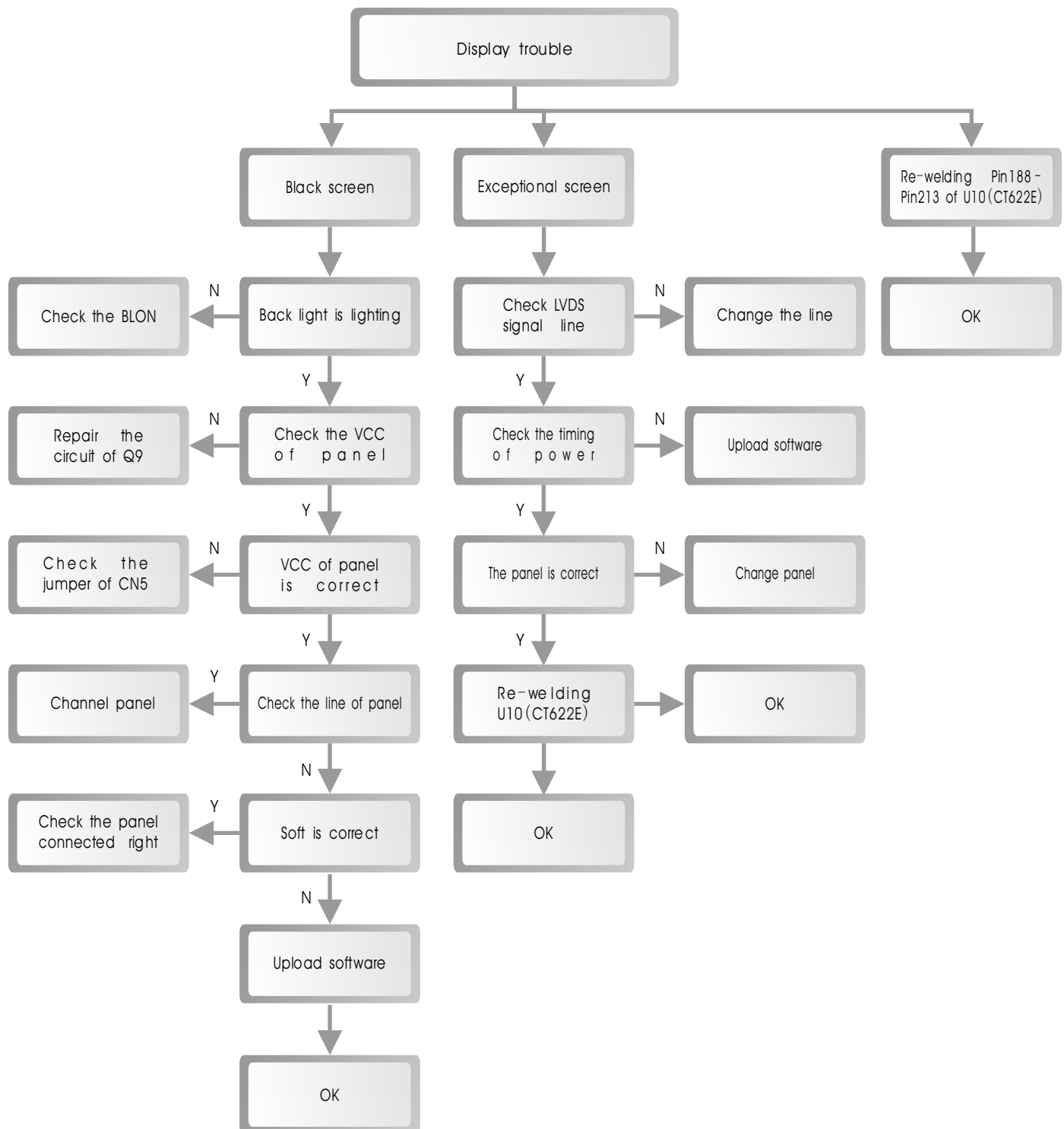
MANI BOARD FAULT JUDGMENT

■ Function trouble (ATV)



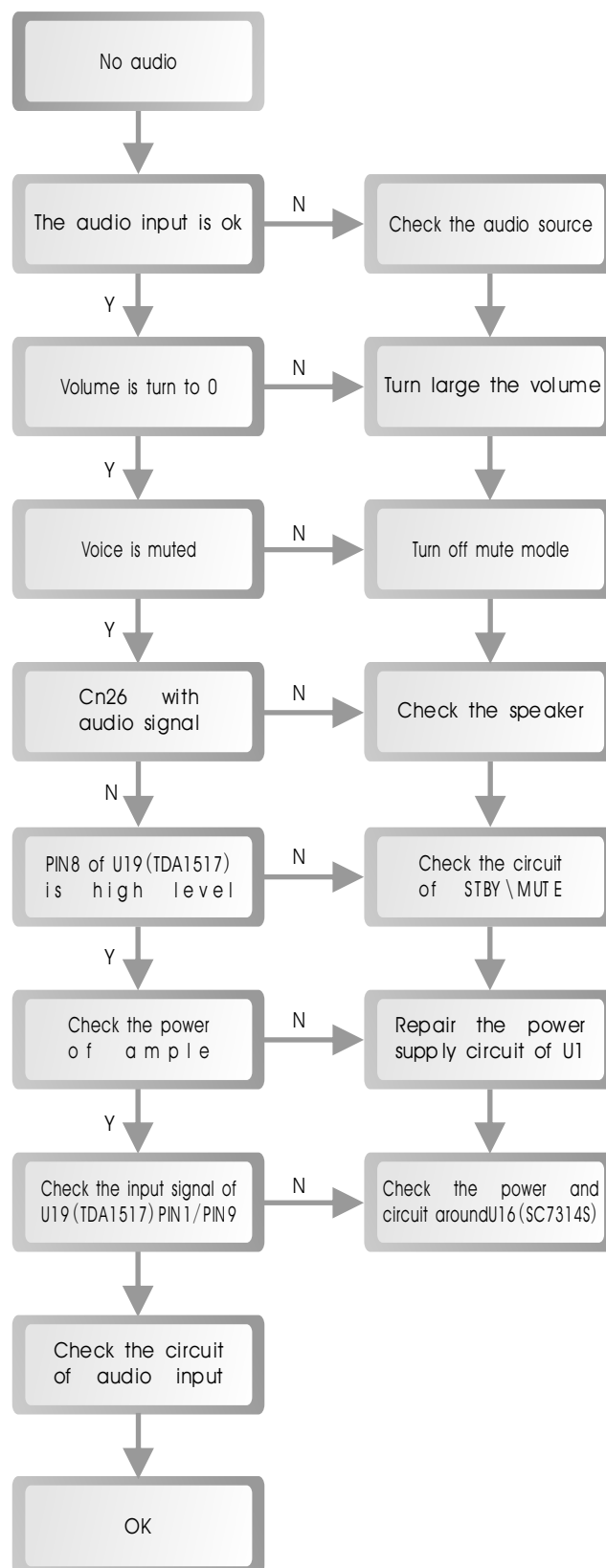
MANI BOARD FAULT JUDGMENT

■ Display trouble



MANI BOARD FAULT JUDGMENT

■ Audio trouble



SOFTWARE UPGRADE

■ ATV SOFTWARE UPGRADE

1. PC setting

1.1. Please run operation system of windows XP, advice using English windows XP.

1.2. Please open the computer's hardware device manager, set the Baud Rate of port COM1 and port COM2 to 115200. Please use default setting about other setting items.

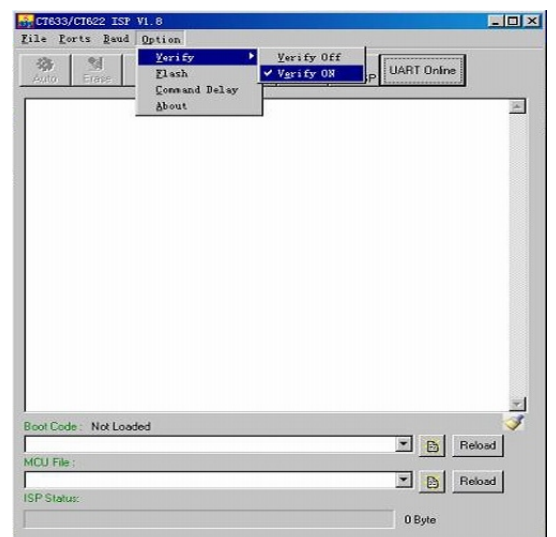
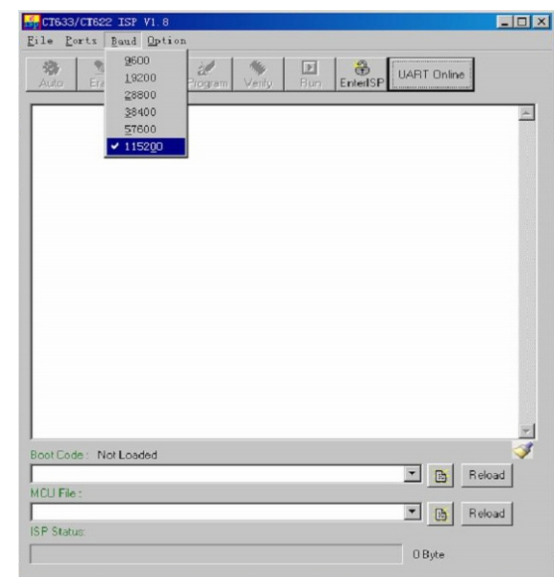
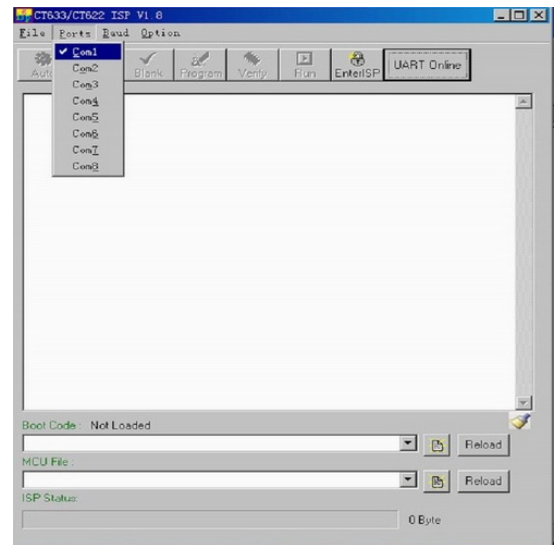
1.3. Open control panel of windows XP, enter view item of folder option, cancel selecting hidden extension of known file type.

1.4. Copy CT622_ISP_Tool folder into PC. Cancel all file's attributes of folder.

1.5. Run CT633ISP.exe, Press Ports and select Com1.

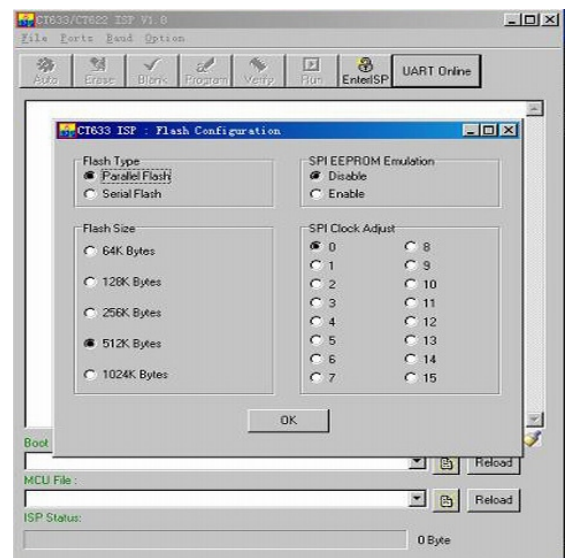
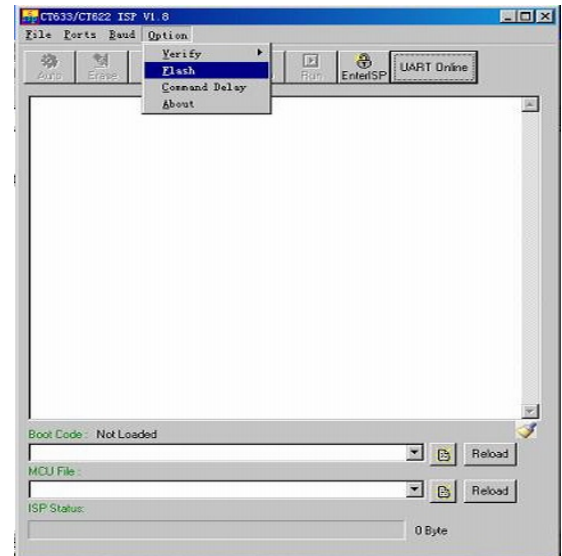
1.6. Press Baud and select 115200.

1.7. Press Option and Verify, then select Verify ON.



SOFTWARE UPGRADE

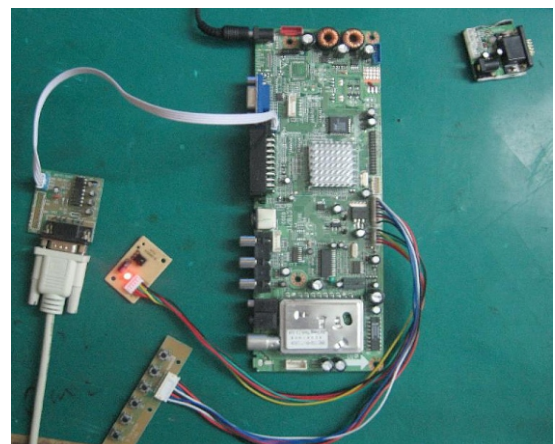
1.8. Press Option and Flash, and select Option Item as fig, then press OK.



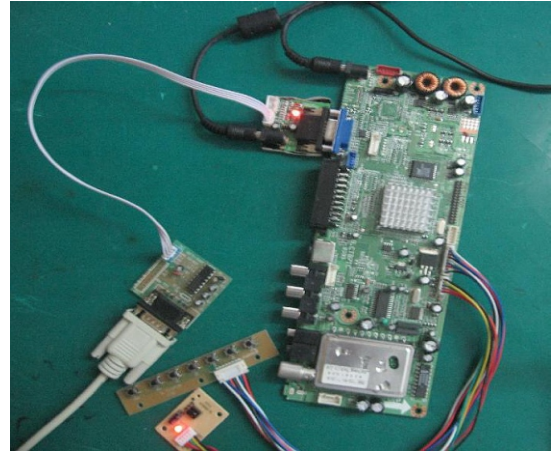
2. Connect PC and TV.

2.1. Turn off the TV.

2.2. Connect update match board into PC and TV main board's Cn23 or TV main board's VGA socket.



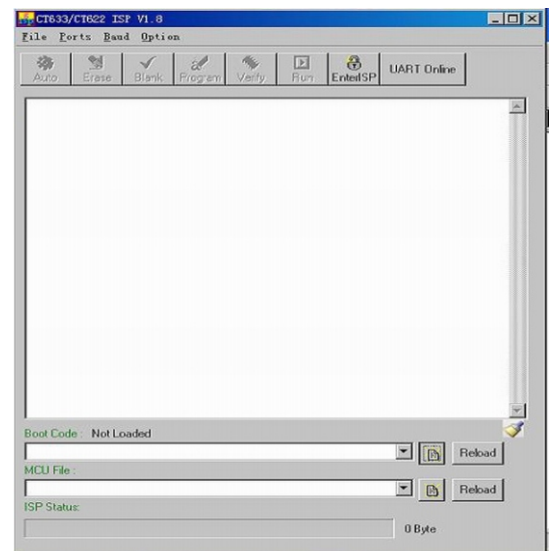
SOFTWARE UPGRADE



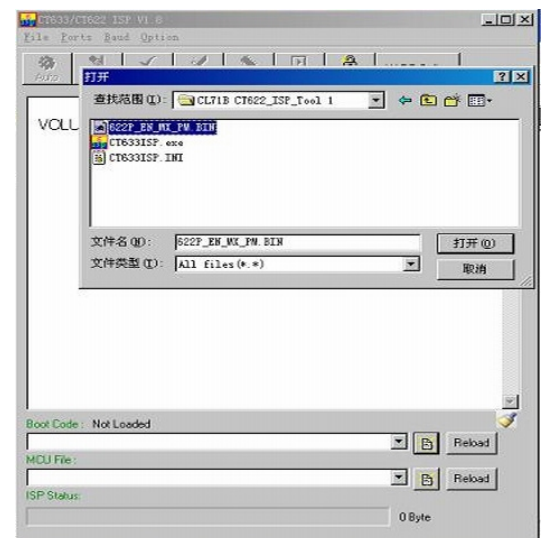
2.3. Turn on the TV.

3. Update

3.1. If ICO UART Online is UART Offline, Press UART Offline to change to UART Online. If it can't change to UART Online, Connection is badness.

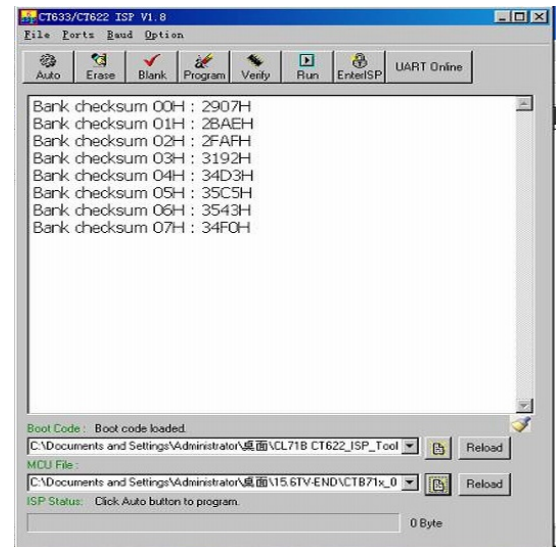


3.2. Select Boot Code files “622P_EN_MX_PM.BIN” by ICO of Boot Code item.

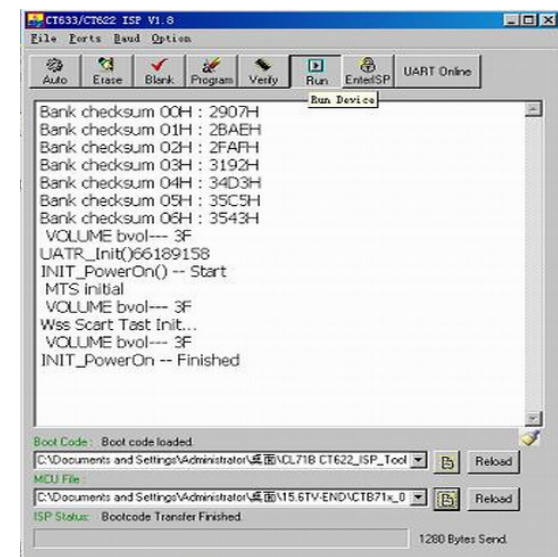
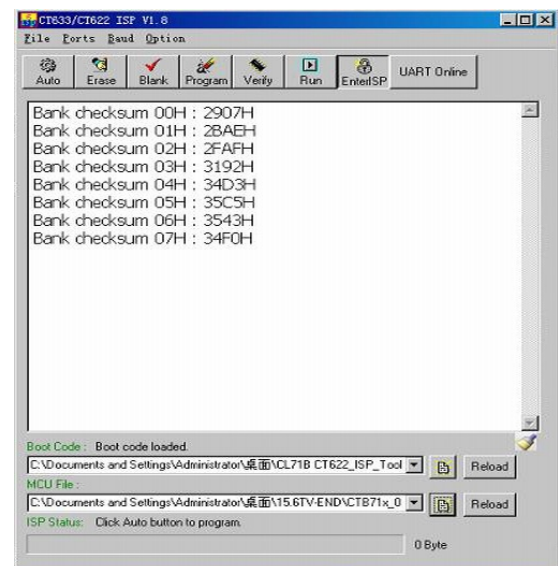


SOFTWARE UPGRADE

3.3. Select MCU files “CTBxxx.BIN” by ICO of MCU files item.

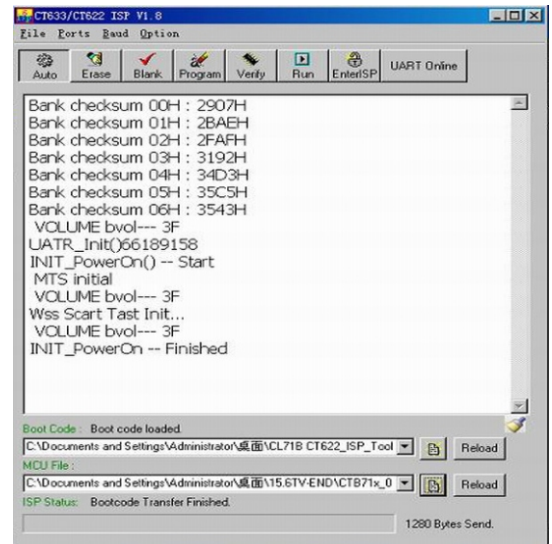
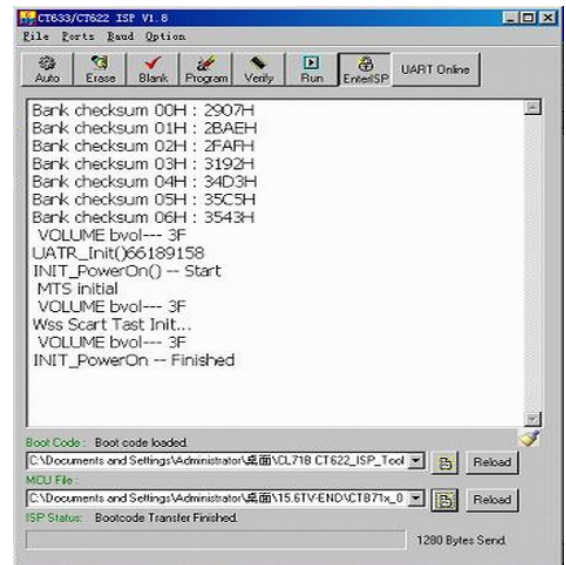


3.4. Press EnterISP, then press Run, until display finished on Window of SOFT.



SOFTWARE UPGRADE

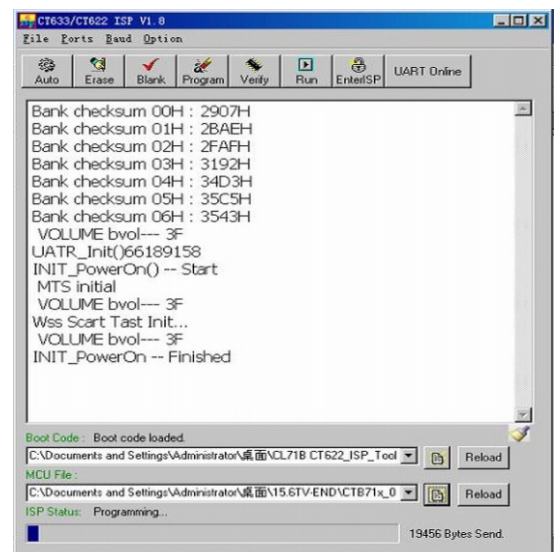
3.5. Then press EnterISP again, then Press Auto, Update start.



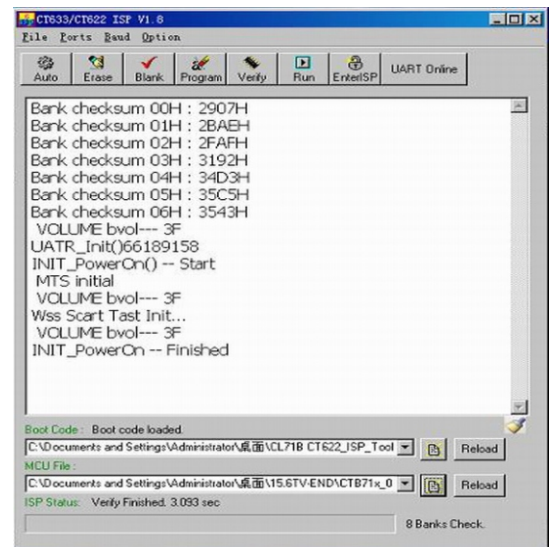
3.6. Update finished until it display “program finished” and “Verify finished” on ISP status.

Warning: Don't turn off TV while Updatetng! And don't do other opration. If update is discontinuity, you can continue by pressing Retry.

Note: This software need restoration after update.



SOFTWARE UPGRADE



DVD SOFTWARE UPGRADE

1. Del all files in USB.
2. Copy update files into USB, the file name must be MTK. BIN. If it isn't this file name, this file name must be rename to MTK. BIN.
3. Turn on the TV Combo, select working in DVD input, and take out all disc and take out all USB and take out all CARD.
4. Insert USB with update file, select reading USB.
5. After it read update file, it have prompt on TV Combo, then you must operate according to prompt. If it is automatically Updatting, please can't do any operation, If it have cue that you press play key to continue update, please press play button on R/H to update.
6. You can't do any operation while updatting, until TV-Combo restart DVD working screen, update is finished, then you take out USB.

Warnning: you can't do any operation while updatting, and it can't quit DVD working! If update is discontinuuty, DVD will not work.

Note: This software need restoration after update.

SOFTWARE DATA'S RESTORATION

■ ATV

1. OSD RESTORATION

1.1. Enter LCD TV menu.

1. 2. Select into SETUP item.

1. 3. Select to RESTORE SET item, then press RIGHT button, OSD will restore.

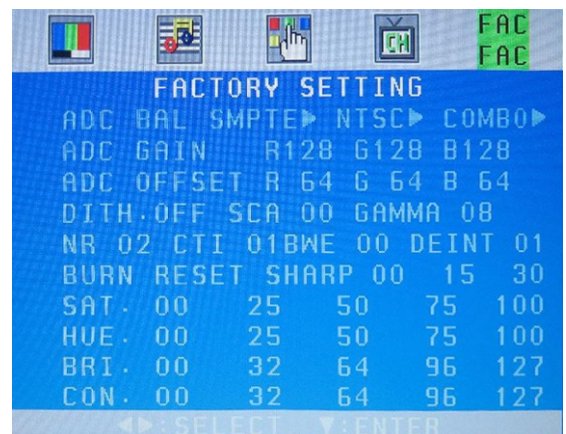


2. Inner data restoration

2.1. Press menu button, then press 1234 numbers, then press menu button, it enters Factory Menu.

2.2. Select into FAC item, it will display Factory Menu.

2.3. Select into RESET item, press RIGHT button, it will restore inner data.

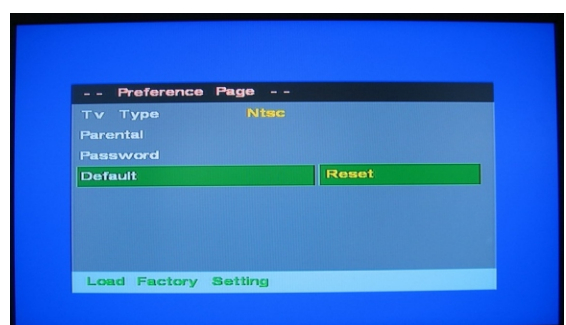
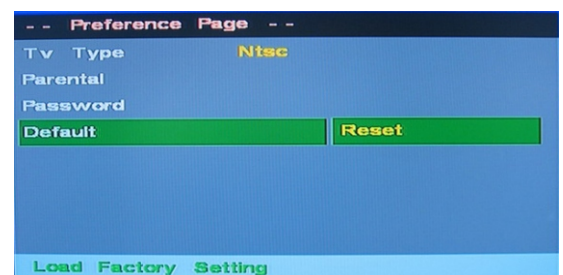


■ DVD (MTK1389L)

1. Select DVD of INPUT.

2. Press DVD setup to enter DVD setup menu.

3. Select Preference Page, then select Default, then press OK button to reset.



Main Electric Parts List

■ Main Electric Parts List

Main Electric Subassembly	Part Name	Referenced Model/Specification	Location
TV Main Board (Model: B.CTB71C)	Tuner	TDQ-6K/T126CW	T1
	IC	MP1430DN	U1
		AZ1084S2	U3
		EH13A	U4
		402B-2GLI	U6
		MP9141ES	U7
		CT622	U10
		432A-2GLI	U11
		EN29LV040A-70JCCP	U13
		TDA9886TS	U14
		SC7314S	U16
		74HC4052D	U17
		TDA1517P	U19
	SAW Filter	VF389A1Dc	SAW1
	SAW Filter	AF389A14Dc	SAW2
DVD Loader & Pick-up (Model: DL-08HA-00-018)	Loader	DL-08	
	Pick-up	HOP-1200X	
DVD Decode board (Model: CX89L-01)	IC	CD58888/SA5888	
		MT1389DE0835-LEAL	
		HY57V641620FTP-6	
		F80-100HCP	
	Crystal	4558	
USB&CARD Reader Board Back Light Inverter (Model: BL1502075A-12-GP)	USB&CARD Reader Board	27.000MHZ	
		CXTV0076 FOR MT1389L CARD	
		Transformer	ST-20173WH
		IC	TL494
LCD Module	MOS FET	AO4828	Q4
Speaker	Speaker	SVA156WX1-01TB	
Sensor Board	Sensor Board	6Ω/3W,2840	
Key Switch Board	Key Switch Board	190-15W4J2-51	
AC-DC Adapter	AC-DC Adapter	190-15W4J7-51	
		INPUT: 100-240AC, OUTPUT: DC 12V/4A	

SPECIFICATIONS

Screen Size	15. 6" inch diagonal
Screen Resolution	1366X768 pixel
Power Supply	DC 12V, AC100-240V/50Hz/60Hz
Power Consumption	45W
Reception System	Multi System
RF system	PAL - B/G,D/K, I SECAM - B/G,D/K, L
VIDEO system	PAL NTSC 4.43, NTSC 3. 58 SECAM
Frequency Range	48.25 - 863.25 Mhz
Channel memory	119
Aerial Input	75 ohm coaxial
VGA input format	640X480, 800X600, 1024X768/60-75 Hz,1280X768, 1360X768/60Hz
PLAYING DISC TYPE	DVD-5, DVD-9, DVD-R, DVD+R, DVD-RW, DVD+RW, VCD1. 0, VCD2. 0, SVCD, CD, HDCD, CD-R, CD-RW, Picture CD, etc.
PLAYING Multi-Media TYPE	MP3, WMA, MPEG2, MPEG4, XVID, etc.
USB/CARD TYPE	USB1. 1, USB2. 0, MMC (Multi-Media Card) , MS (Memory Stick) , SD (Secure Digital Memory Card) .

Specifications may be subject to change without notice for improvement.

ACCESSORIAL CIRCUITR DRAWING and CONFIGURATION DRAWING

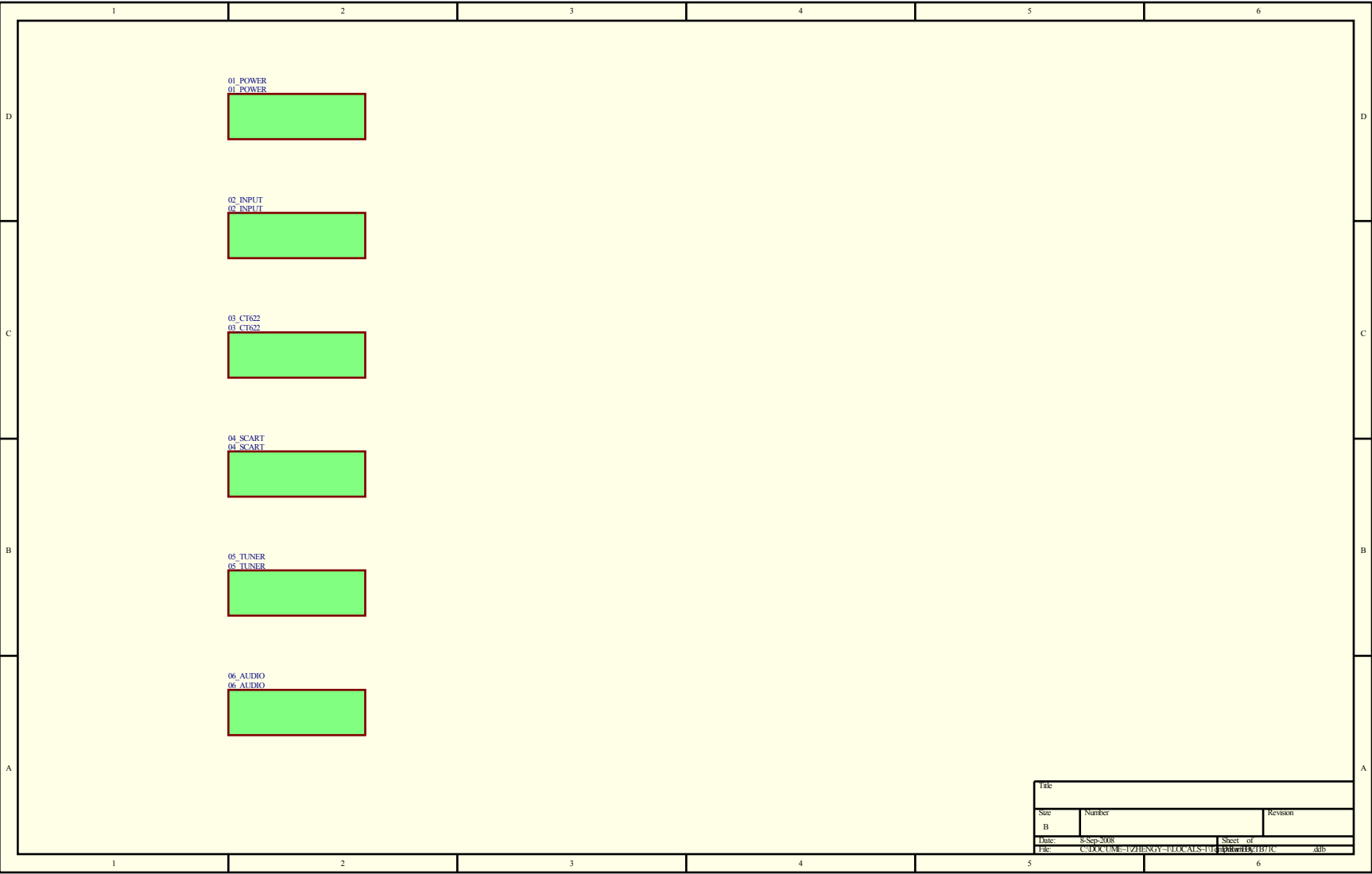
■ ACCESSORIAL CIRCUITR DRAWING

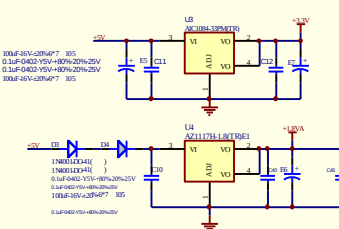
Please see annex such as:

Accessorial Circuit Diagram of TV Main board for LTC-16R5X3M.

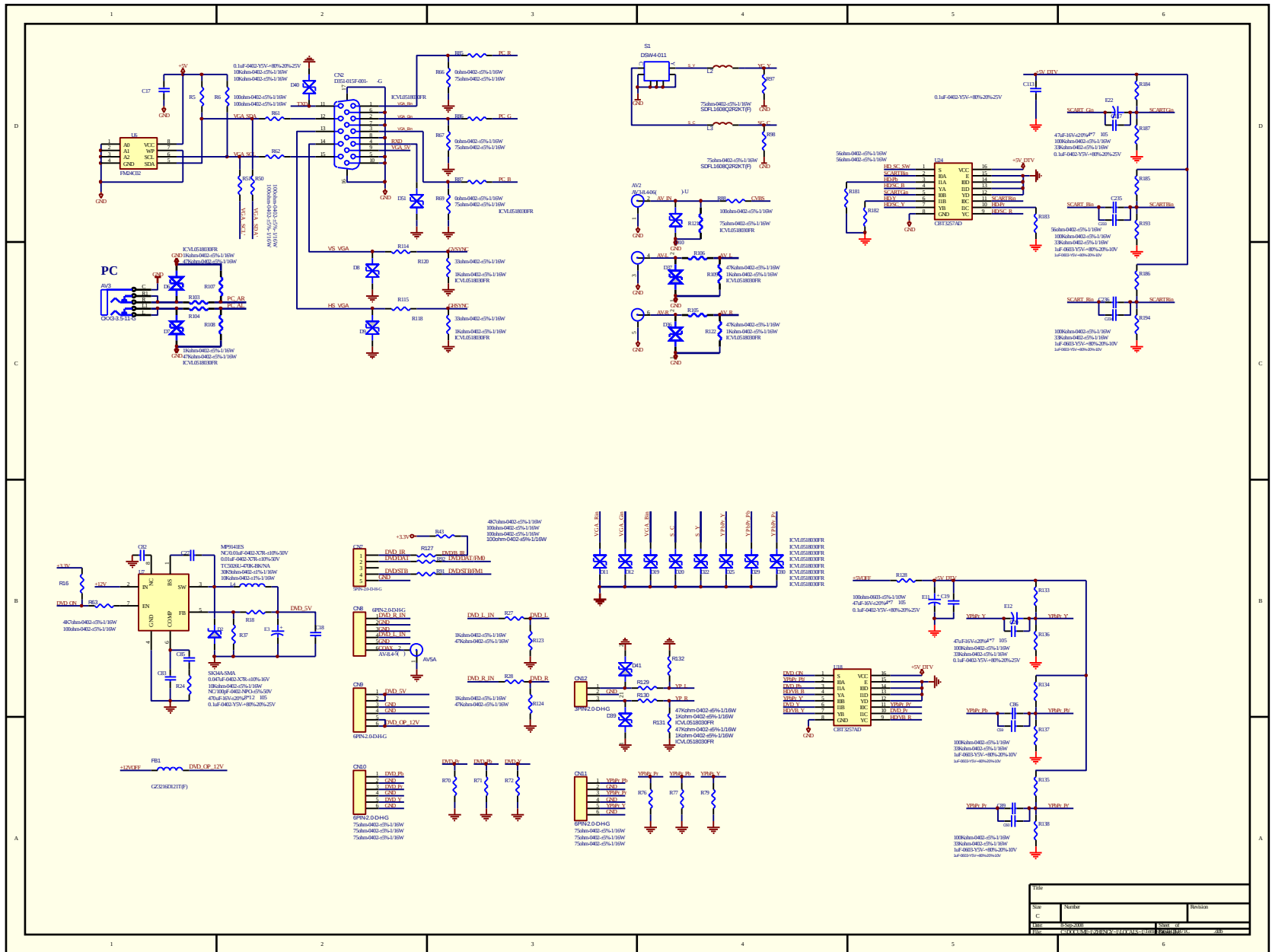
■ CONFIGURATION DRAWING

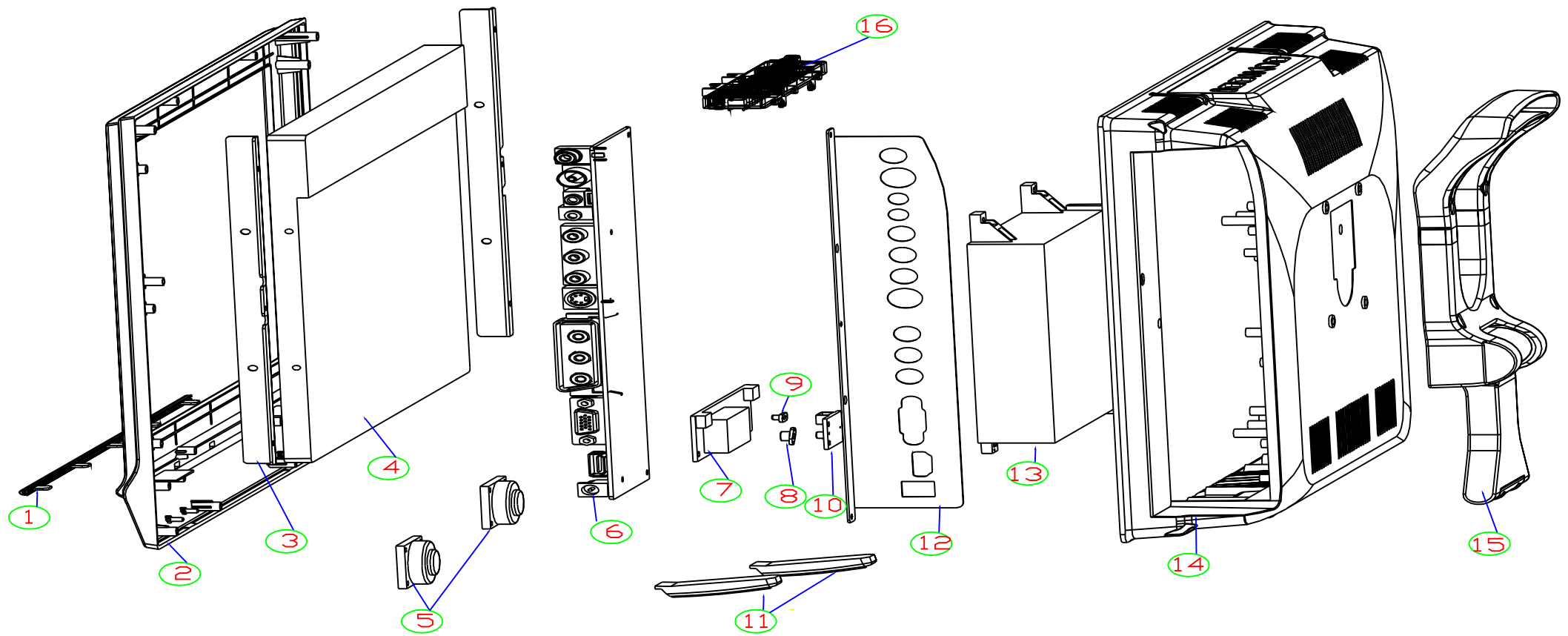
Please see annex: CONFIGURATION DRAWING for LTC-16R5X3M.





Title		
Size C	Number	Revision
Date 8-Sep-2016	Sheet of _____ Total Sheets = 7 / Total Size = 9mm x 12mm A3/D.	





1.	ADORNING PIECE
2.	FRONT SHELL
3.	METAL FIXING SHELF FOR LCD MODULE
4.	LCD MODULE
5.	SPEAKER
6.	TV MAIN BOARD
7.	BACK LIGHT INVERTER
8.	TRANSPARENT LID FOR IR
9.	TRANSPARENT LID FOR LAMP
10.	SENSOR BOARD
11.	RUBBER FOOT CUSHION
12.	PANEL FOR JACK & SOCKET
13.	DVD LOADER
14.	BACK SHELL
15.	HANDLE
16.	KEY AND KEY SWITCH BOARD