



# Liquid Crystal Display Television Service Manual

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Chassis: HUDSON

Product Type: LT1914S/LT1514S

# Contents

Contents.....	- 2 -
Service Manual.....	- 3 -
1. Product Safety Servicing Guidelines.....	- 3 -
1-1 Fire And Shock Precautions.....	- 3 -
1-2 Warning.....	- 4 -
2. Product Function Specifications.....	- 4 -
2-1 LCD1933EU Product Function.....	- 4 -
2-2 LCD1906EU Product Function.....	- 6 -
2-3 LCD1933EU Specifications.....	- 7 -
2-4 LCD1906EU Specifications.....	- 8 -
3. Lcd Panel Spec.....	- 9 -
3-1 General Description.....	- 9 -
3-2 General Features.....	- 10 -
4. Block Diagram.....	- 10 -
4-1 Chassis Block Diagram.....	- 10 -
4-2 Video Processing Part.....	- 12 -
4-3 Audio Processing Part.....	- 13 -
5. Service Mode And Adjustment.....	- 14 -
5-1 Service Mode.....	- 14 -
6. Software Updating.....	- 17 -
7. Explode View And Bom.....	- 21 -
7-1 LCD1933EU Explode View And Bom.....	- 22 -
7-2 LCD1906EU Explode View And Bom.....	- 23 -
7-3 LCD1533EU Explode View And Bom.....	- 24 -
7-4 LCD1504EU Explode View And Bom.....	- 24 -
9. Circuit Diagram.....	- 24 -

## Service Manual

### 1. Product Safety Servicing Guidelines

#### 1-1 Fire And Shock Precautions

1、 Adequate ventilation must be provided to prevent heat build up inside unit. Keep the inside of unit free from foreign objects, such as hairpins, nails, paper, etc. Do not build the set into a bookcase or other enclosures in which it would be poorly ventilated. Do not place it on carpet or a bed as low ventilation holes could become obstructed.

2、 Do not set liquids, including flower vases and vessels filled with chemicals or water etc., On top of the unit as liquid could get inside the unit. If a hazardous object falls inside the TV set, unplug it immediately and call a qualified technician for removal.

3、 When placing or moving the TV set, take care to insure that the power cord is fitted into the allocated slot.

To avoid damage to the power cord, never allow heavy objects such as the TV set itself to be placed on the power cord. Keep cord away from radiating appliances. Do not allow cord to become knotted or tangled. Do not lengthen the cord. When removing the power plug from the socket, always hold onto the plug, never pull by the cord.

4、 This TV set shall be connected to a main socket outlet with a protective earthing connection.

5、 The main plug and main switch should be remain readily operable after installation.

6、 No naked flame sources, such as lighted candles, should be placed on the apparatus.

7、 Minimum distances around the apparatus for sufficient ventilation

8、 The use of apparatus in moderate climates.

### 1-2 Warning

1、 During vacation or other occasions when you will not be using the set for an extended period, remove the power plug from the socket.

2、 This appliance should not be operated by children or infirm persons without adequate supervision.



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



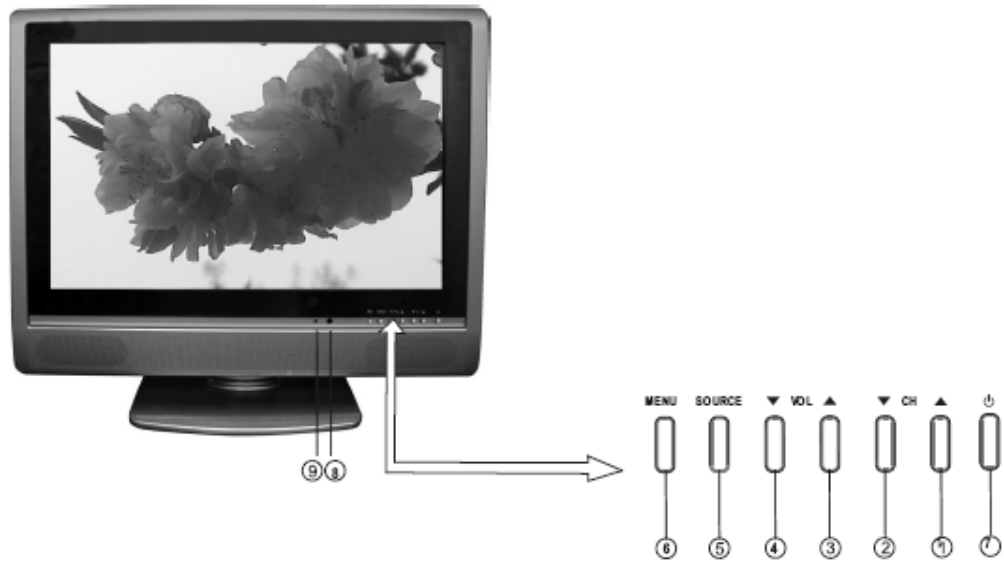
The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance( servicing ) instructions in the literature accompanying the set.

## 2. Product Function Specifications

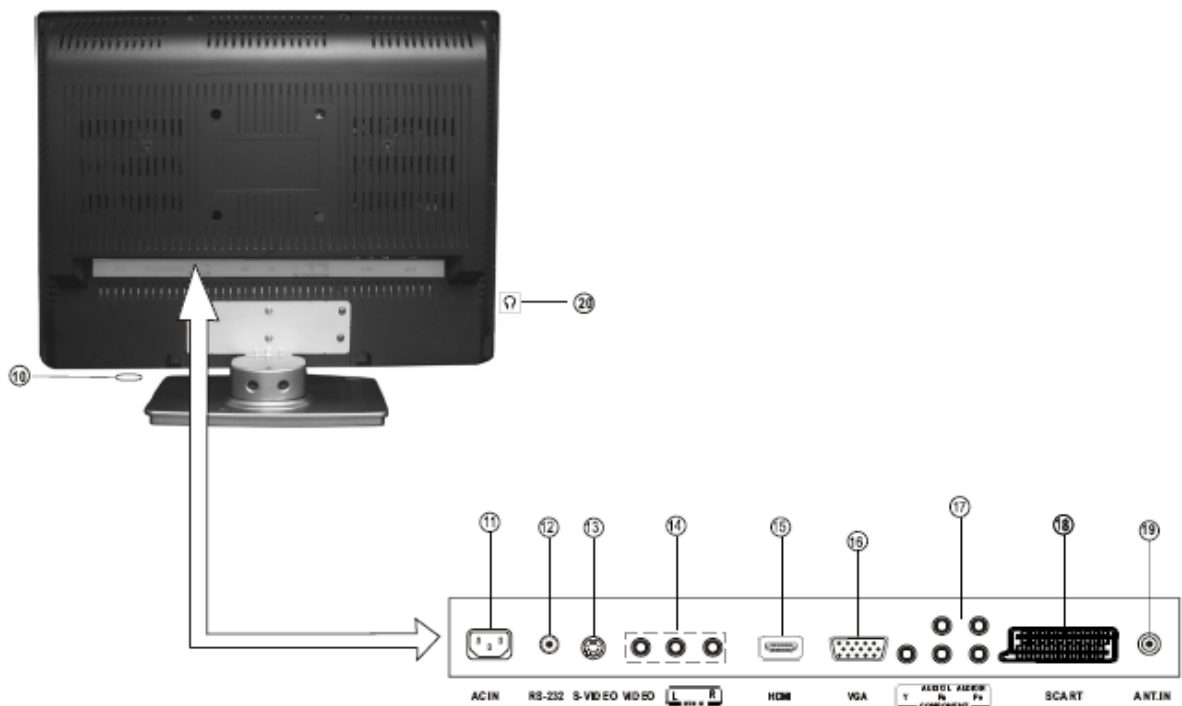
### 2-1 LCD1933EU Product Function

# LCD TV Service Manual

## Front Controls



## Back Connections



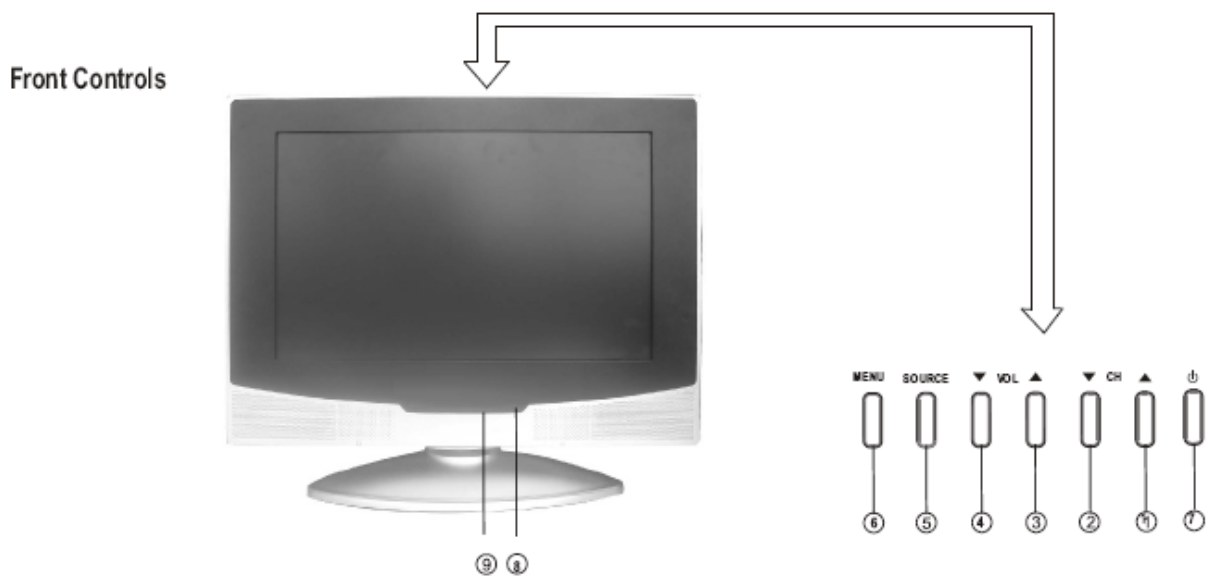
Note: The above figures are for reference only, please refer to the actual units to determine their appearance.

## LCD TV Service Manual

- |                              |                         |                      |
|------------------------------|-------------------------|----------------------|
| ① Channel up / cursor up     | ⑧ Remote Sensing Window | ⑮ HDMI               |
| ② Channel down / cursor down | ⑨ POWER indicator       | ⑯ PC VGA input       |
| ③ Volume up / cursor right   | ⑩ POWER switch          | ⑰ Component          |
| ④ Volume down / cursor left  | ⑪ POWER socket          | ⑱ SCART              |
| ⑤ SOURCE                     | ⑫ RS-232 input          | ⑲ CATV antenna input |
| ⑥ MENU button                | ⑬ S-Video input         | ⑳ Headphone jack     |
| ⑦ POWER button (standby)     | ⑭ AV input              |                      |

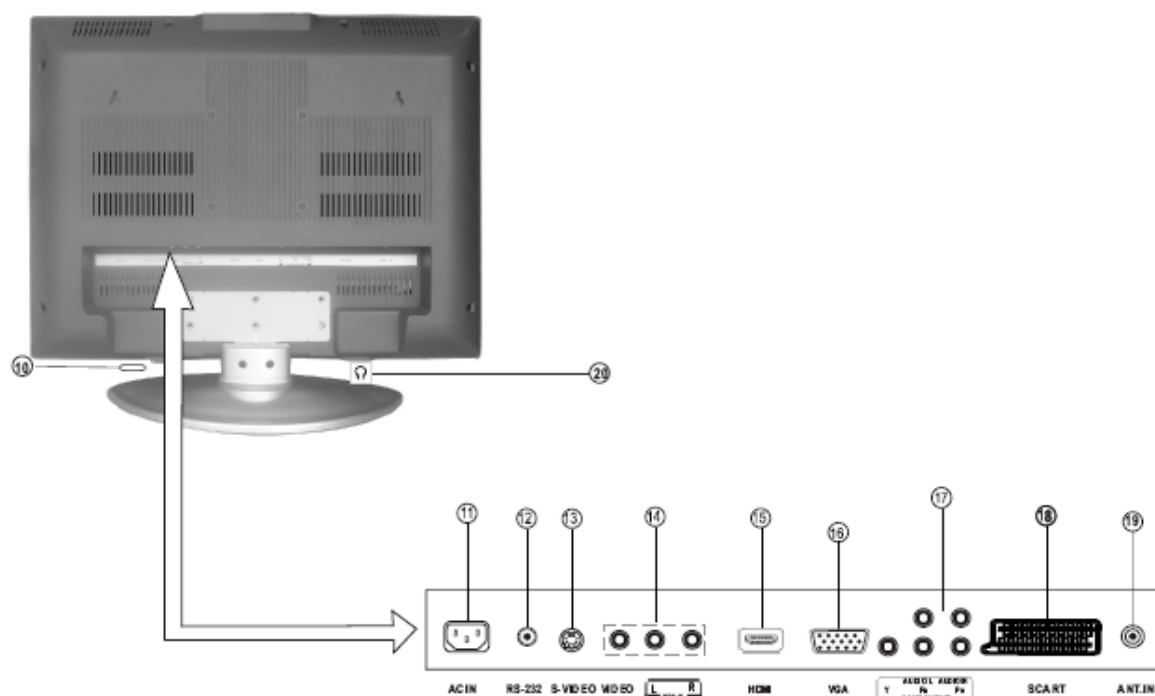
- Multimedia TV-receiver and PC display, all in one
- Wider view angle
- Digital display device--truthfully reproducing the images, without distortion or blurring, irrespective of magnetic and geomagnetic effect
- Auto tuning function with 200 channels storage
- Multi-system (PAL, SECAM)
- Sleep/ timer
- Nicam/A2 and Teletext
- English/French/German/Italian/Spanish/Portuguese/Romanian and so on on screen display
- Low power consumption and low radiation

### 2-2 LCD1906EU Product Function



## LCD TV Service Manual

### Back Connections



Note: The above figures are for reference only, please refer to the actual units to determine their appearance.

- |                              |                         |                      |
|------------------------------|-------------------------|----------------------|
| ① Channel up / cursor up     | ⑧ Remote Sensing Window | ⑮ HDMI               |
| ② Channel down / cursor down | ⑨ POWER indicator       | ⑯ PC VGA input       |
| ③ Volume up / cursor right   | ⑩ POWER switch          | ⑰ Component          |
| ④ Volume down / cursor left  | ⑪ POWER socket          | ⑱ SCART              |
| ⑤ SOURCE                     | ⑫ RS-232 input          | ⑲ CATV antenna input |
| ⑥ MENU button                | ⑬ S-Video input         | ⑳ Headphone jack     |
| ⑦ POWER button (standby)     | ⑭ AV input              |                      |

- Multimedia TV-receiver and PC display, all in one
- Wider view angle
- Digital display device--truthfully reproducing the images, without distortion or blurring, irrespective of magnetic and geomagnetic effect
- Auto tuning function with 200 channels storage
- Multi-system (PAL, SECAM)
- Sleep timer
- Nicam/A2 and Teletext
- English/French/German/Italian/Spanish/Portuguese/Romanian and so on on screen display
- Low power consumption and low radiation

### 2-3 LCD1933EU Specifications

## Specifications

Screen Size:	19-inch TFT LCD TV
Native Resolution:	1440 × 900 Pixels
Colour System:	PAL/SECAM
Sound System:	D/K, I, B/G, L, L'
Tuner:	VHF/UHF: 48.25~863.25MHz
Antenna:	75 Ω VHF/UHF input
Stereo:	Nicam/A2

### VIDEO INPUT:

SCART (composite Video, RGB and Y/C)

composite Video: 1 Vp-p, negative sync, 75 Ω input

RGB: 0.7 Vp-p, 75 Ω input

Y/C separate video signal

Y... 1 Vp-p/negative sync/75 Ω input

C... 0.283 Vp-p/75 Ω input (NTSC)

0.3 Vp-p/75 Ω input (PAL)

AV input

Video: 1 Vp-p, negative sync, 75 Ω input

Component

RCA, 0.7 Vp-p/75 Ω input

(480I/60Hz, 480P/60Hz, 576I/50Hz, 576P/50Hz, 720P/50Hz, 720P/60Hz, 1080I/50Hz, 1080I/60)

### PC

VGA

15 Pin, Analog RGB signal, 0.7 Vp-p, 75 Ω input

(VGA, SVGA, XGA, SXGA computer signal compatibility)

### TV SET OUT

Audio/Video Output

SCART1: composite video and audio output

Speaker Output

1.5W+1.5W

Power Requirement

AC 100 to 240V, 50/60Hz

Power Consumption

40W

Dimensions (mm)

499(L) × 155(D) × 424(H)

Weight

6.9kg

## 2-4 LCD1906EU Specifications



## Specifications

Screen Size:	19-inch TFT LCD TV
Native Resolution:	1440 × 900 Pixels
Colour System:	PAL/SECAM
Sound System:	D/K, I, B/G, L, L'
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AV input

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VGA

15 Pin, Analog RGB signal, 0.7 Vp-p, 75 Ω input

(VGA, SVGA, XGA, SXGA computer signal compatibility)

### TV SET OUT

Audio/Video Output

SCART1: composite video and audio output

Speaker Output

1.5W+1.5W

Power Requirement

AC 100 to 240V, 50/60Hz

Power Consumption

40W

Dimensions (mm)

528(L) × 213(D) × 455(H)

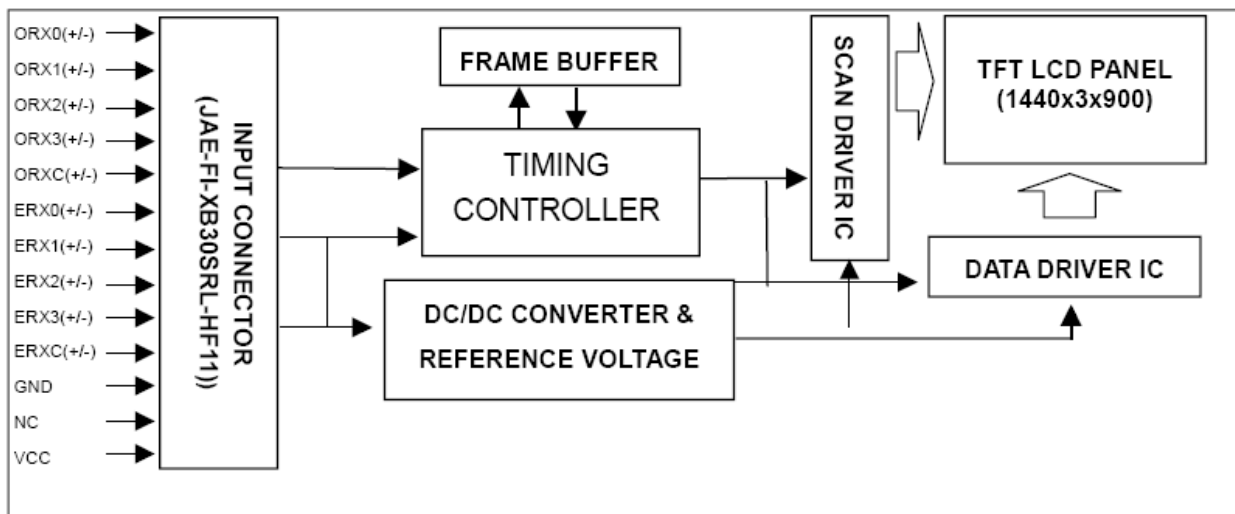
Weight

8Kg

## 3. Lcd Panel Spec

### 3-1 General Description

LCD1933EU' S Lcd Panel is a 19" TFT Liquid Crystal Display module with 4 CCFL Backlight units and 30 pins 2ch-LVDS interface. This module supports 1440 x 900 WXGA+ mode and can display 16.2M colors. The inverter module for Backlight is not built in.



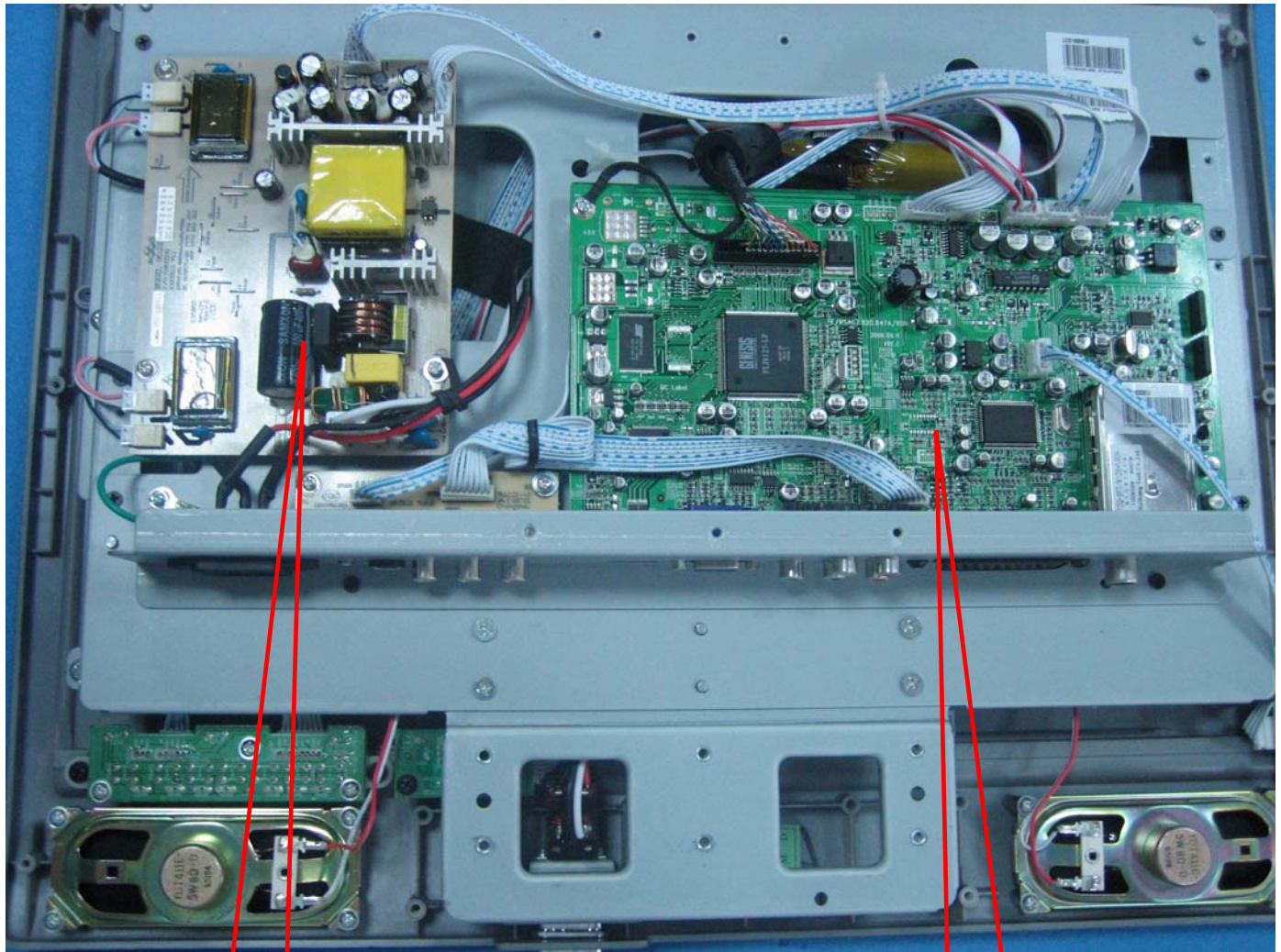
## 3-2 General Features

Item	Specification	Unit	Note
Active Area	410.4 (H) x 256.5 (V)	mm	(1)
Bezel Opening Area	414.36 x 260.45	mm	
Driver Element	a-si TFT active matrix	-	-
Pixel Number	1440 x R.G.B. x 900	pixel	-
Pixel Pitch (Sub Pixel)	0.285 (H) x 0.285 (V)	mm	-
Pixel Arrangement	RGB vertical stripe	-	-
Display Colors	16.2M	color	-
Transmissive Mode	Normally white	-	-
Surface Treatment	Hard coating (3H), Anti-glare (Haze 25)		

## 4. Block Diagram

### 4-1 Chassis Block Diagram

## LCD TV Service Manual



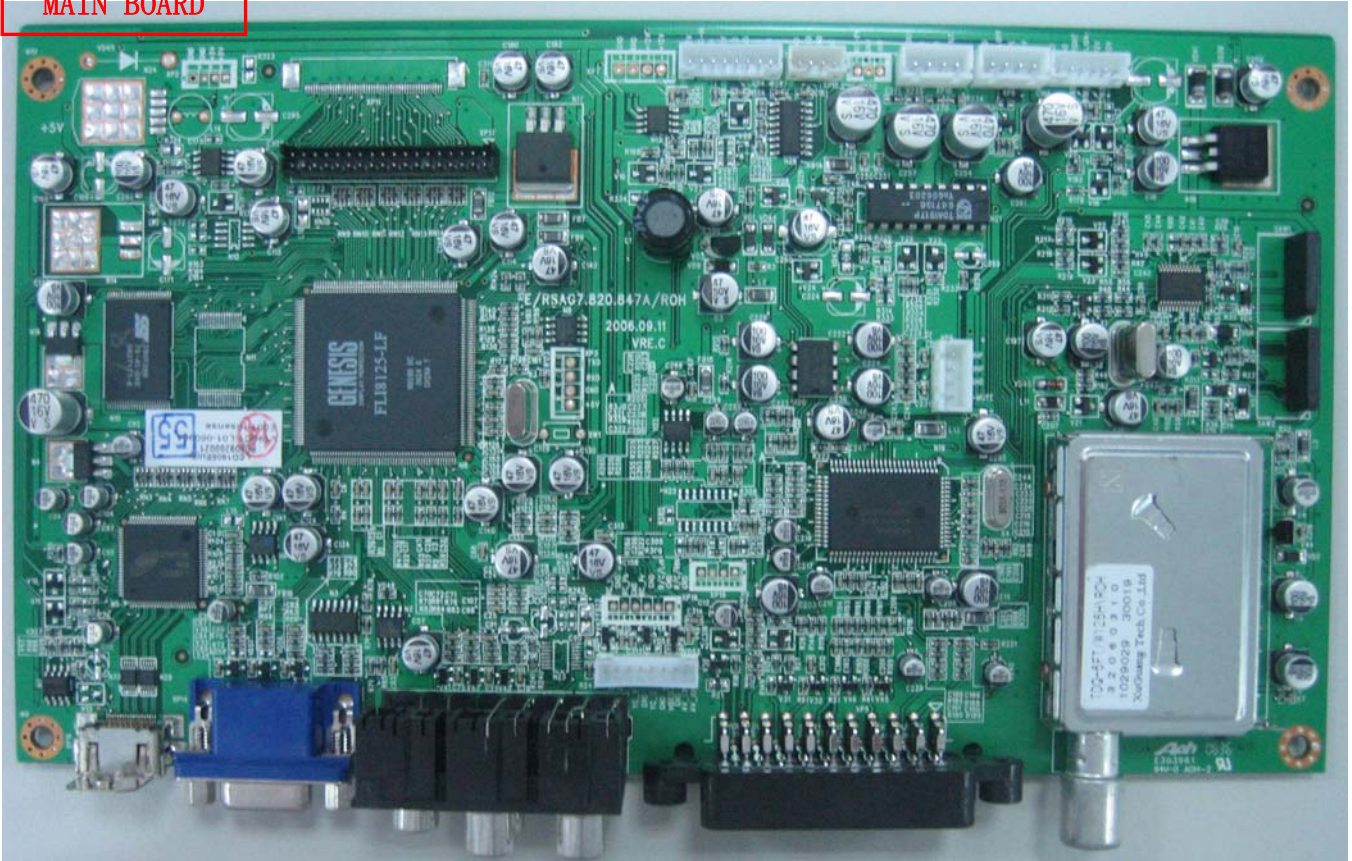
POWER BOARD

MAIN BOARD

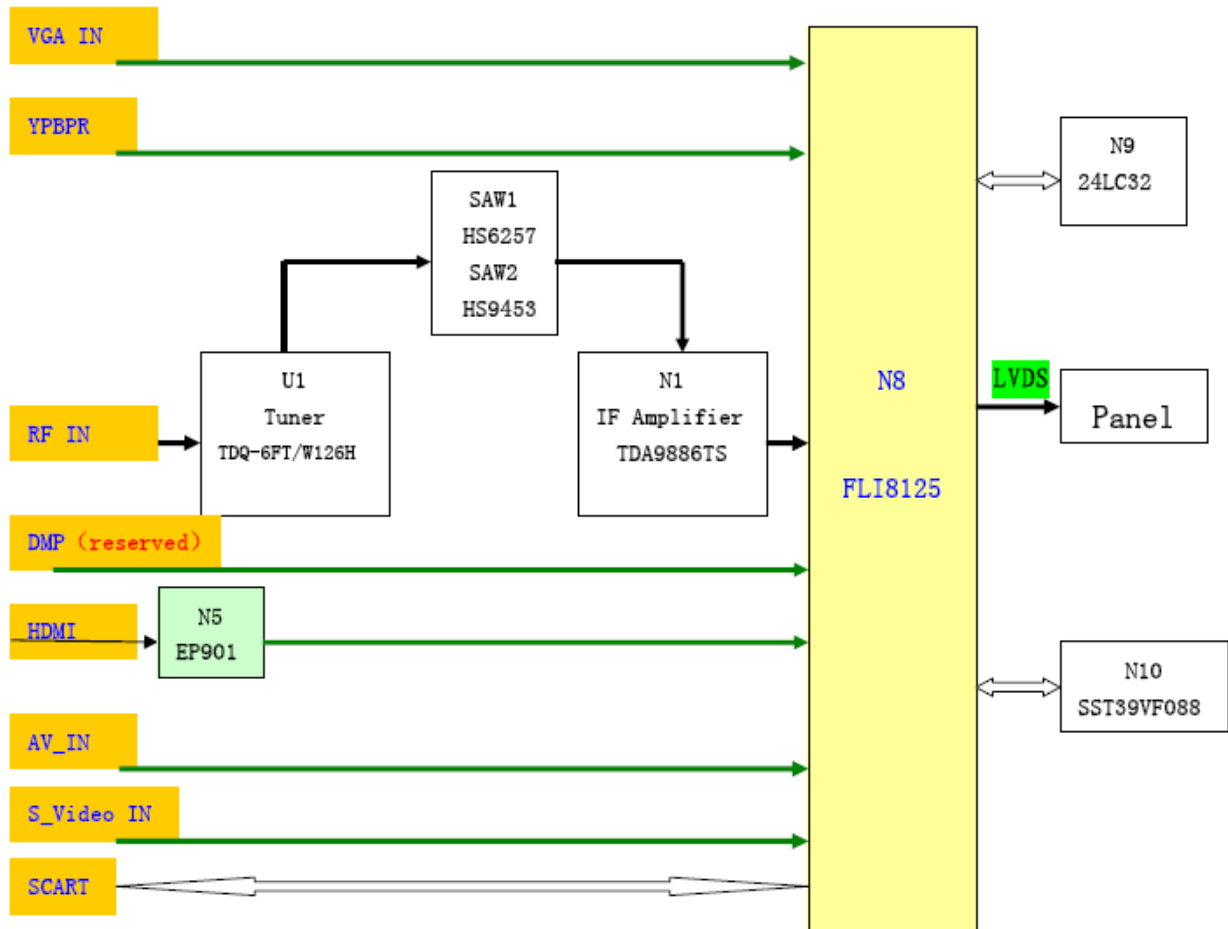


# LCD TV Service Manual

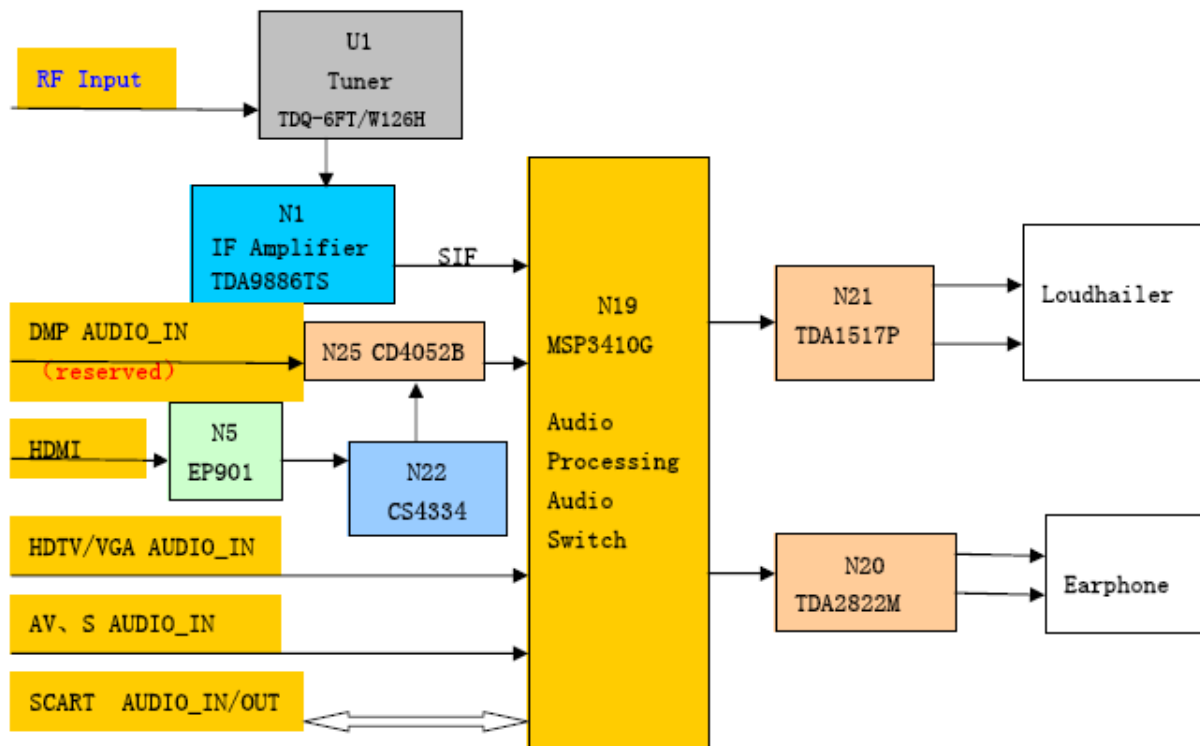
## MAIN BOARD



## 4-2 Video Processing Part



## 4-3 Audio Processing Part



## 5. Service Mode And Adjustment

### 5-1 Service Mode

Use the remote control, first open MAIN MENU with MENU button, and choose AUDIO SETTING with the CHANNEL UP/DOWN button, then choose the BALANCE with VOLUME UP/DOWN, In this condition, press 0、5、3、2, you can enter factory menu.

#### 5-1-1、Fac. Menu

##### 1、White Bal:

NO.	NAME	DEFAULT	ALTERNATIVE VALUE	REMARKS
1	RDRV	187		Adjustment white balance use
2	GDRV	192		Adjustment white balance use

## LCD TV Service Manual

3	BDRV	190		Adjustment white balance use
4	Bright	50		No use
5	Contrast	50		No use
6	Color	50		No use

### 2、Factory Init

Set Channel

Clear Rom(It is best not to use)

### 3、Option:

NO.	NAME	DEFAULT	ALTERNATIVE VALUE	REMARKS
1	To Factory	U	M	
2	Lang	English		
3	ATS	1		
4	Country	24		
5	Logo	HisenseAnyview		
6	LVDS_ICTRL	0		

### 4、auto color:

NO.	NAME	ALTERNATIVE VALUE	REMARKS
1	ADC CVBS	auto calibration	AV、S-video
2	ADC Graphic	auto calibration	VGA
3	ADC Component	auto calibration	YPbPr

### 5、Version

NO.	NAME	REMARKS
1	Soft Ver	LCD1906EU_B1. 01. 20060928
2	PanelType	CHI_MEI_V190C1_L01
3	Resolution	1440×900
4	Tuner	Xuguang TDQ6FT_W126H
5	Flash	SST 39VF088

### 5-1-2、Design Menu

#### 1、Picture Mode:

NO.	NAME	ALTERNATIVE VALUE	REMARKS	NO.	NAME	ALTERNATIVE VALUE	REMARKS
	Standard			2	Contrast	70	
1	Brightness	50		3	Colour	60	
2	Contrast	50			Soft Mode		
3	Colour	50		1	Brightness	40	

## LCD TV Service Manual

	Bright			2	Contrast	60	
1	Brightness	70		3	Colour	50	

### 2、Sound Mode

NO.	NAME	ALTERNATIVE VALUE	REMARKS	NO.	NAME	ALTERNATIVE VALUE	REMARKS
	Standard			2	Bass	80	
1	Treble	50					
2	Bass	50			Speech Mode		
				1	Treble	80	
	Music Mode			2	Bass	20	
1	Treble	20		3			

### 3、Picture setting

NO.	NAME	ALTERNATIVE VALUE	REMARKS	NO.	NAME	ALTERNATIVE VALUE	REMARKS
1	Min Bright	0		7	Min Color	0	
2	Mid Bright	115		8	Mid Color	125	
3	Max Bright	147		9	Max Color	160	
4	Min Contrast	0		10	Min Sharp	10	
5	Mid Contrast	125		11	Mid Sharp	100	
6	Max Contrast	162		12	Max Sharp	180	

### 4、Sound Setting:

NO.	NAME	ALTERNATIVE VALUE	REMARKS
1	Min Volume	65	
2	Mid Volume	111	
3	Max Volume	127	
4	80 Volume	120	
5	20 Volume	108	
6	Devitation	32	
7	Prescale	14	
8	Scart prescale	32	

### 5、Saving Mode:

NO.	NAME	DEFAULT	ALTERNATIVE VALUE	REMARKS
1	Standard	255		
2	Saving 1	128		
3	Saving 2	0		

### 6、Option:

NO.	NAME	DEFAULT	ALTERNATIVE VALUE	REMARKS
1	SPAmplitude	3		



## LCD TV Service Manual

2	SPPeriod	15		
3	AGCGain	8		
4	FlyWheel	Off		
5	NCOWindow	55		
6	HSyncSelect	NCO		
7	ovrGain	0		
8	MultiOption	0		
9	CTS Auto-Adj	On		

## 6. Software Updating

Firstly, setup the updating software of Gprobe 5.

Secondly, copy the folder of HudsonEuro to C:/ if you update for the first time , then the past program should be covered by the latest one (namely hudson\_pal\_asia\_tv.hex)

Thirdly, the special serial line links the RS232 port in computer to the one labeled RS232 in TV, then open TV.

Fourthly, open Gprobe, then press Options->Connection Setup (Figure 1) or F10, when you will find the dialog of Connection Settings (Figure 2):

Press the Connection label, you should set Device as Serial and set Protocol as SERIAL1;

Press the Serial label, you should set Port as the one you are using and set Baud as 115200, the other settins are like Figure 3.

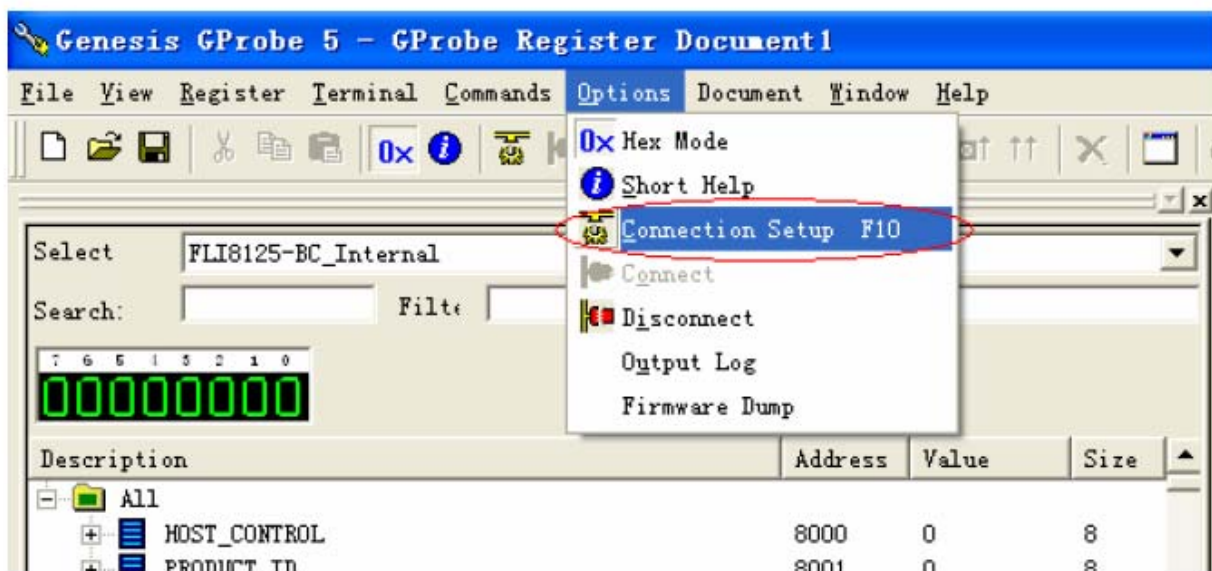


Figure 1

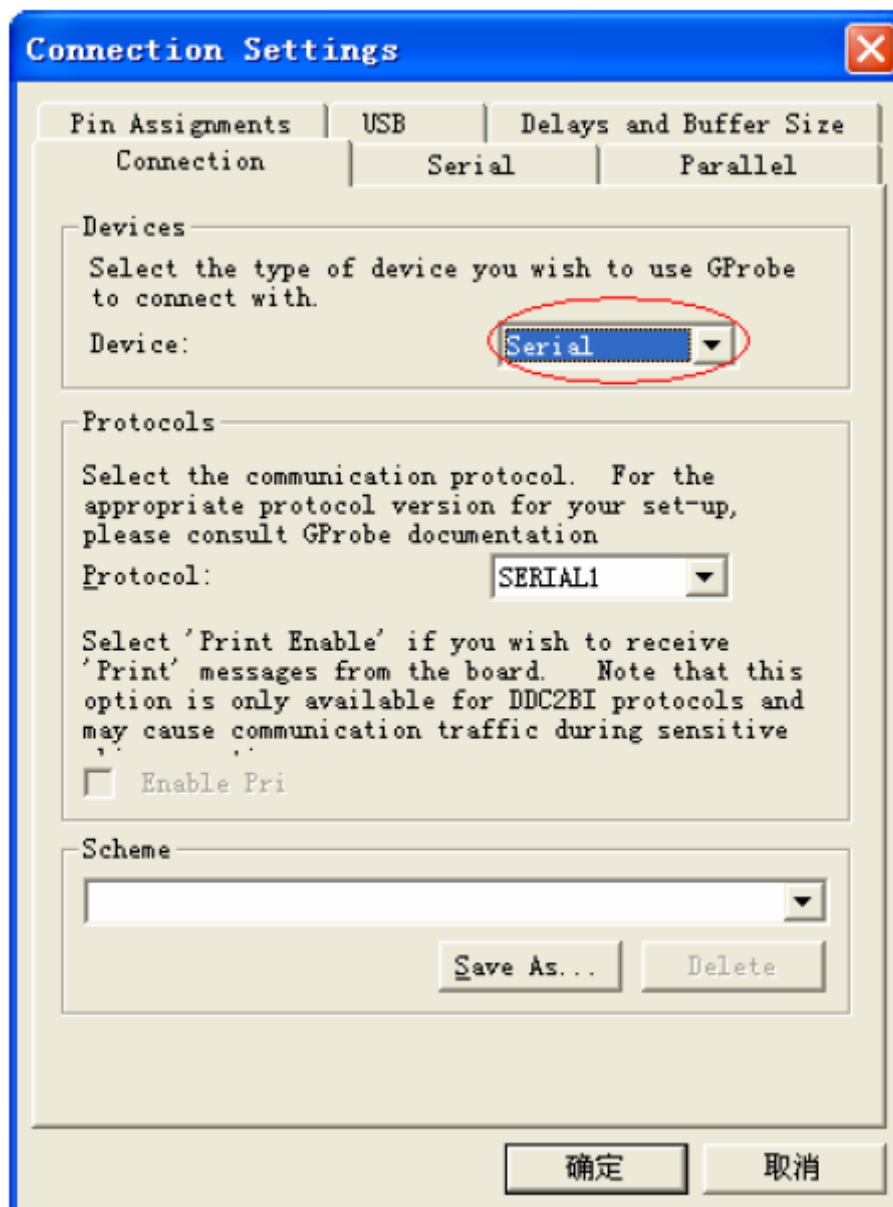


Figure 2

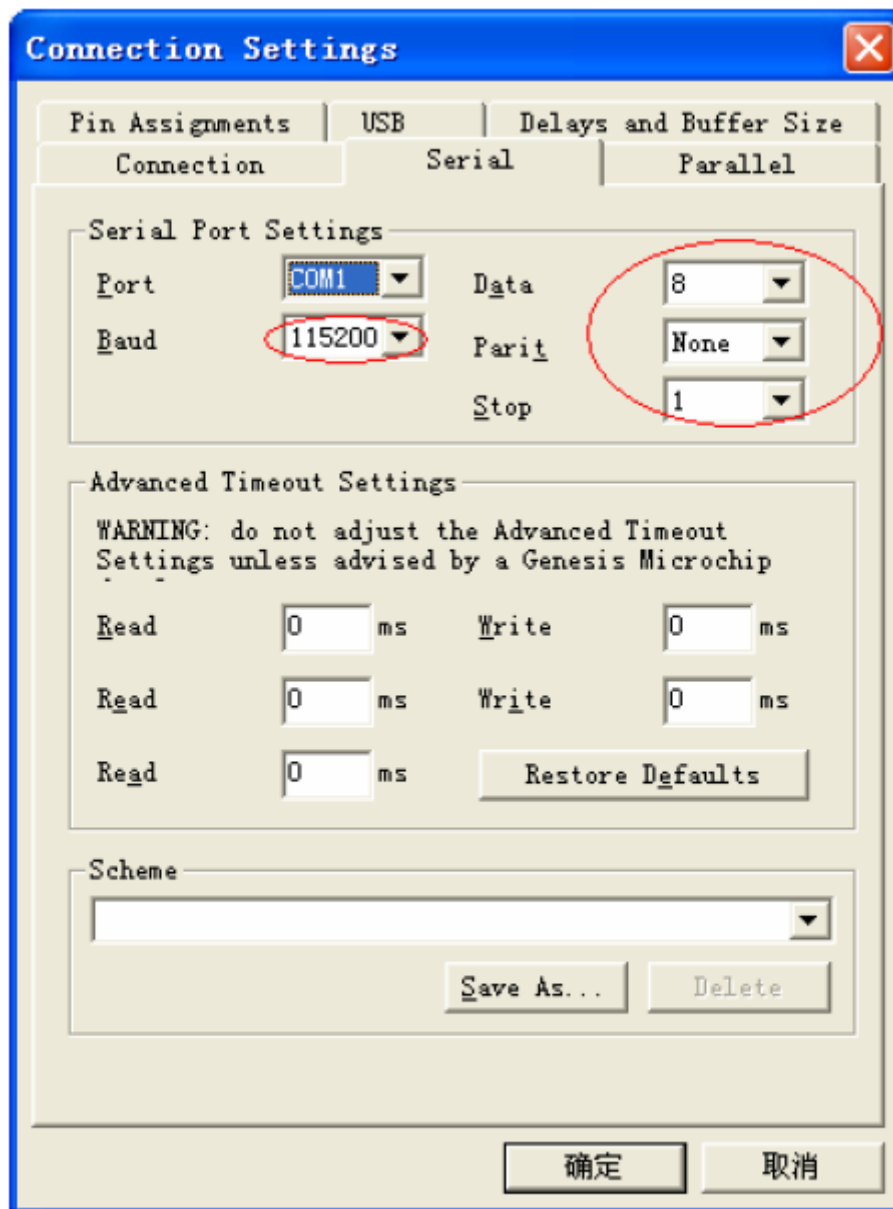


Figure 3

Finally, input the command of Batch "c:\HudsonEuro\HudsonEuro.bat" into the command line, then press Enter. Like Figure 4.

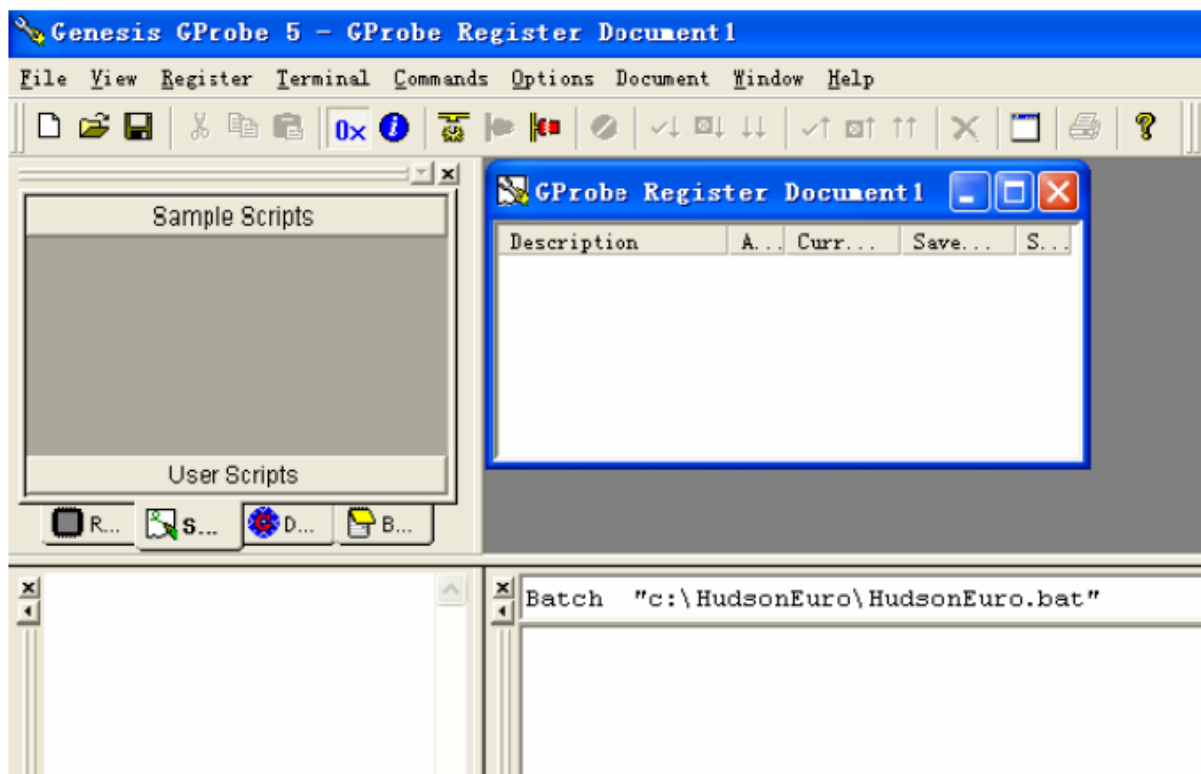


Figure 4

During updating, if you find the follows :

DebugOn: Command Successful.

SetBuffer: Command Successful.

Delay: Command Successful.

Reset: Command Successful.

RAMWrite: Command Successful.

Run: Command Successful.

Delay: Command Successful.

Erasing FLASH... Done.

Delay: Command Successful.

Writing FLASH...

- Start address: 0x00018000

- Buffer size: 532816 ( 0x00082150 ) Bytes

- Minimal address space required: 20 bits

Please waiting, the process will spend more than 50s

If you find:

Timeout while waiting for response. Check connections and reset board. (Error Code:00000002)

Error executing batch file at line 1.

Execution time: 1.15s

Please check the Gprobe settings, and whether the serial line is linked correctly,

## LCD TV Service Manual

and whether you copy the program into the correct folder .

Attention: Don' t turn off TV or cut off the link during updating, otherwise the updating will fail and you will find:

FAILED.

Timeout while waiting for response. Check connections and reset board. (Error Code:00000002)

Error executing batch file at line 15.

Execution time: 40.18s

When you must reset the flash of SST 39vf088, The reset way is like as the follows:

Turn off TV, the 38th pin of SST 39vf088 should be linked to the 44th one directly,

Like figure 5

Figure 5

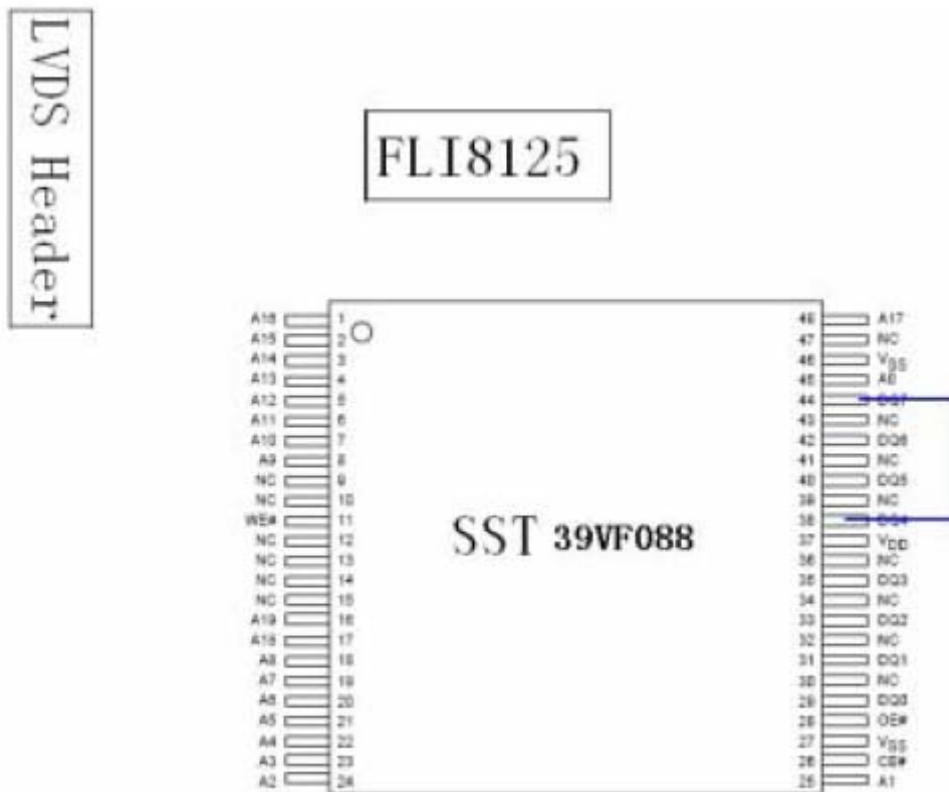


Figure 5

Turn on TV , when you can cut off the pin-to-pin link,

If the TV is reset successfully, you will find:

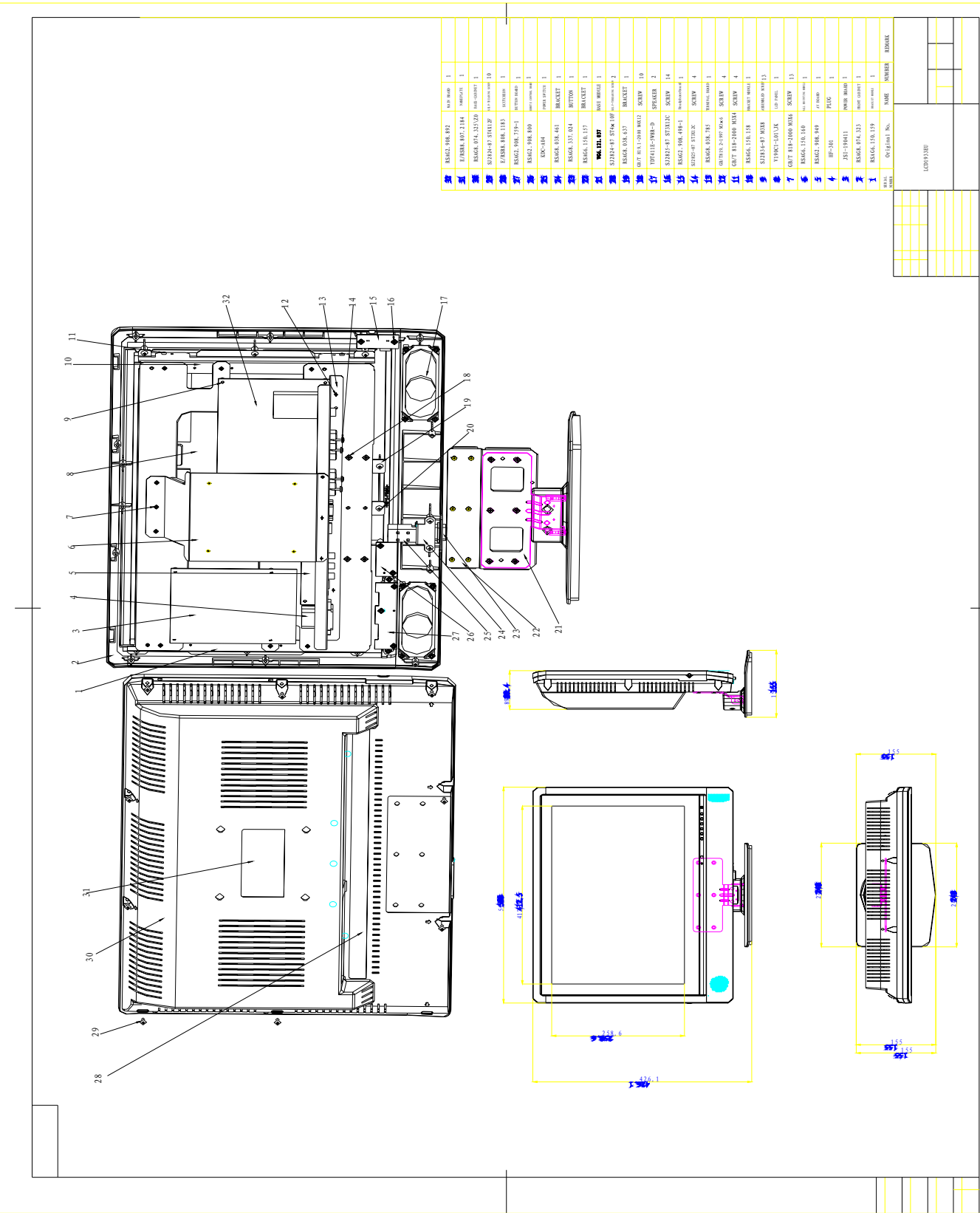
FLI8125BC

then you can update again.

## 7. Explode View And Bom

LCD TV Service Manual

## 7-1 LCD1933EU Explode View And Bom



Item No.	Original No.	NAME	UNIT	REMARK
1	RSAG8308461	BEZEL	1	
2	RSAG8308461	BEZEL PLATE	1	
3	RSAG8308461	BEZEL PLATE BRACKET	1	
4	RSAG8308461	BEZEL PLATE BRACKET	1	
5	RSAG8308461	BEZEL PLATE BRACKET	1	
6	RSAG8308461	BEZEL PLATE BRACKET	1	
7	RSAG8308461	BEZEL PLATE BRACKET	1	
8	RSAG8308461	BEZEL PLATE BRACKET	1	
9	RSAG8308461	BEZEL PLATE BRACKET	1	
10	RSAG8308461	BEZEL PLATE BRACKET	1	
11	RSAG8308461	BEZEL PLATE BRACKET	1	
12	RSAG8308461	BEZEL PLATE BRACKET	1	
13	RSAG8308461	BEZEL PLATE BRACKET	1	
14	RSAG8308461	BEZEL PLATE BRACKET	1	
15	RSAG8308461	BEZEL PLATE BRACKET	1	
16	RSAG8308461	BEZEL PLATE BRACKET	1	
17	RSAG8308461	BEZEL PLATE BRACKET	1	
18	RSAG8308461	BEZEL PLATE BRACKET	1	
19	RSAG8308461	BEZEL PLATE BRACKET	1	
20	RSAG8308461	BEZEL PLATE BRACKET	1	
21	RSAG8308461	BEZEL PLATE BRACKET	1	
22	RSAG8308461	BEZEL PLATE BRACKET	1	
23	RSAG8308461	BEZEL PLATE BRACKET	1	
24	RSAG8308461	BEZEL PLATE BRACKET	1	
25	RSAG8308461	BEZEL PLATE BRACKET	1	
26	RSAG8308461	BEZEL PLATE BRACKET	1	
27	RSAG8308461	BEZEL PLATE BRACKET	1	

### 7-3 LCD1533EU Explode View And Bom

### 7-4 LCD1504EU Explode View And Bom

## 8. Troubleshooting

No.	Trouble	Measure
1	Turn on the TV, The LED is red, no display on screen	- Pls replace the main board or updating the software. (it ' s the software is wrong)
2	Turn on the TV, The LED is blue, but no picture or/and no sound	you should to replace the main board
3	In TV state, can not to tuning	you should to replace the main board
4	No teletext	You should to replace the main board (the teletext IC bad)
5	No sound	You should to replace the main board
6	can not to updating software	You should to replace the main board
7	No reaction with PC	You should change the main board

## 9. Circuit Diagram