

LCD3201EU SERVICE MANUAL (V1.0)

DEC. 21 2004

CONTENTS

- SAFETY PRECAUTION
- PRODUCT SAFETY NOTICE
- PRODUCT FUNCTION
- LCD PANEL SPEC.
- BLOCK DIAGRAM
- CIRUIT DIAGRAM
- SOFTWARE UPDATING
- FAQ
- SPARE PARTS

SAFETY PRECAUTION

WARNING:

- Service should not be attempted by anyone unfamiliar with the necessary precaution on this receiver. The following are the necessary precaution to be observed before serving this chassis.
1. Since the power supply circuit of this receiver is directly connected to the AC power line, an Isolation transformer should be used during any dynamic service to avoid possible shock hazard.
 2. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as : non-metallic control knobs, insulating cover, shields, isolation resistor-capacitor network etc.
 3. When replacing parts or circuit boards, disconnect the power cord.
 4. When replacing a high wattage resistor (oxide metal film resistor) on the circuit board, keep the resistor (1/2in) away from circuit board.
 5. Connection wires must be kept away from components with high voltage or high temperature.
 6. If any fuse in this LCD TV receiver is blown, replace it with the FUSE specified in the chassis part list.

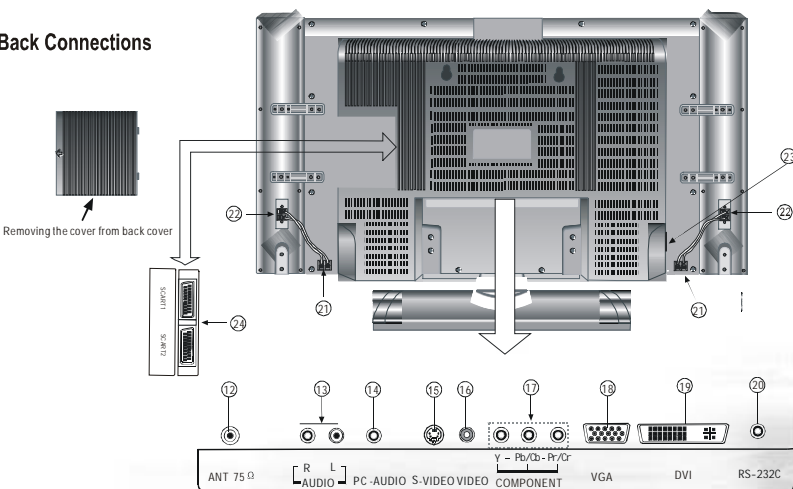
PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection. When replacement parts are required, be sure the service technician uses replacement parts specified by us that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, injury to persons or other hazards. This LCD TV product should be situated away from heat source such as radiation, stoves, or other product that produce heat.



PRODUCT FUNCTION

Back connections



Output connections

- Scart CVBS output X2
- Mini-jack for stereo X1

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

Input connections

- RS232 X1 (for software updating)
- Digital RGB(DVI-D) input X1
- Analog RGB 15pin input X1
- Cable/antenna RF X1
- Component input X1
- S-Video input X1
- Video input X1
- Scart (CVBS+RGB in+Y/C) X1
- Scart (Video in+Video out) X1
- S-Video input X1
- AV audio input X1
- PC audio input X1

PRODUCT FUNCTION

LCD-TV features

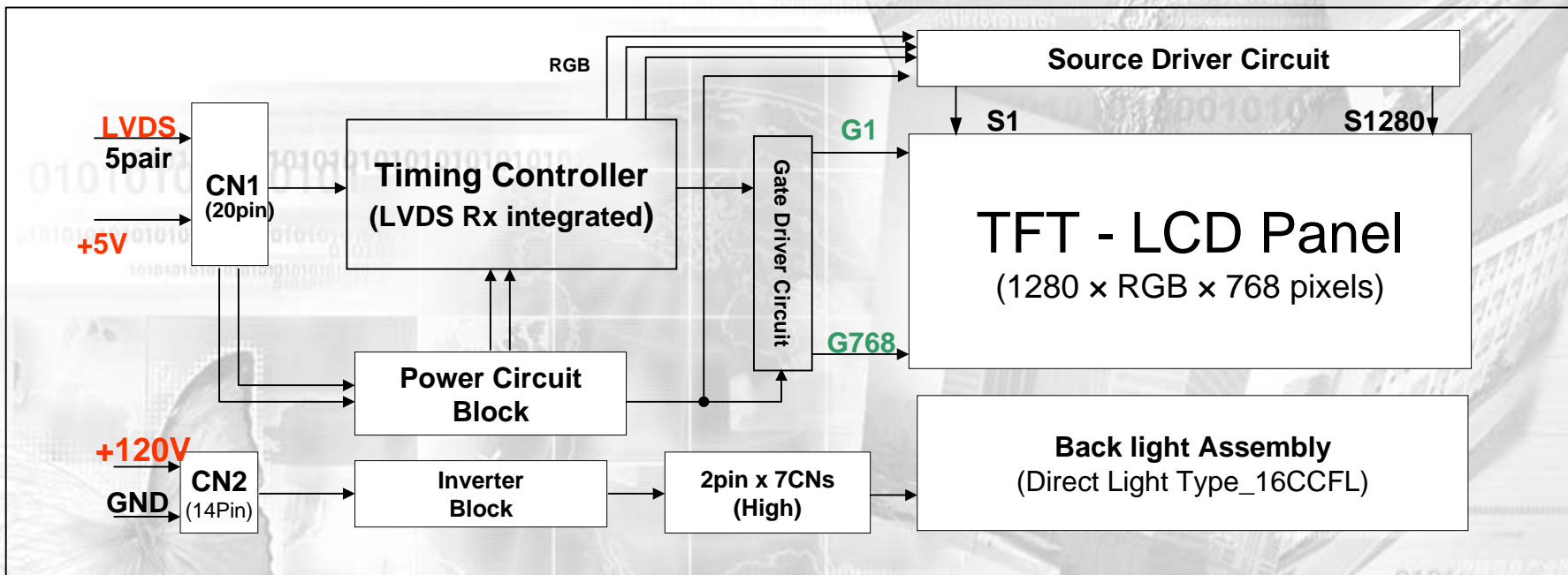
- Multimedia - TV receiver, Video monitor and PC display, all in one.
- Wider viewing angle, over 176 view angle
- Digital display device - truthfully reproducing the images, without distortion or blurring, irrespective of magnetic or geomagnetic effect.
- 200 channels storage
- Sleep timer
- Teletext with 252 pages memory
- NICAM/A2
- Dual SCART interface
- Multi-language OSD

LCD PANEL SPEC.

General Description

- The LTA320W1-L02 is a Color Active Matrix Liquid Crystal Display with an integral Cold Cathode Fluorescent Lamp(CCFL) backlight system. The matrix employs a-Si Thin Film Transistor as the active element. It is a transmissive type display operating in the normally black mode. This TFT-LCD has a 32.0 inch diagonally measured active display area with WXGA resolution (768 vertical by 1280 horizontal pixel array). Each pixel is divided into Red, Green and Blue sub-pixels or dots which are arranged in vertical stripes. Gray scale or the brightness of the sub-pixel color is determined with a 8-bit gray scale signal for each dot, thus, presenting a palette of more than 16.7M(true) colors with 8Bit.

- The LTA320W1-L02 has been designed to apply the 8Bit LVDS interface.
- It is intended to support LCD TV, PCTV where high brightness, wide viewing angle, high color saturation, and high color are important.



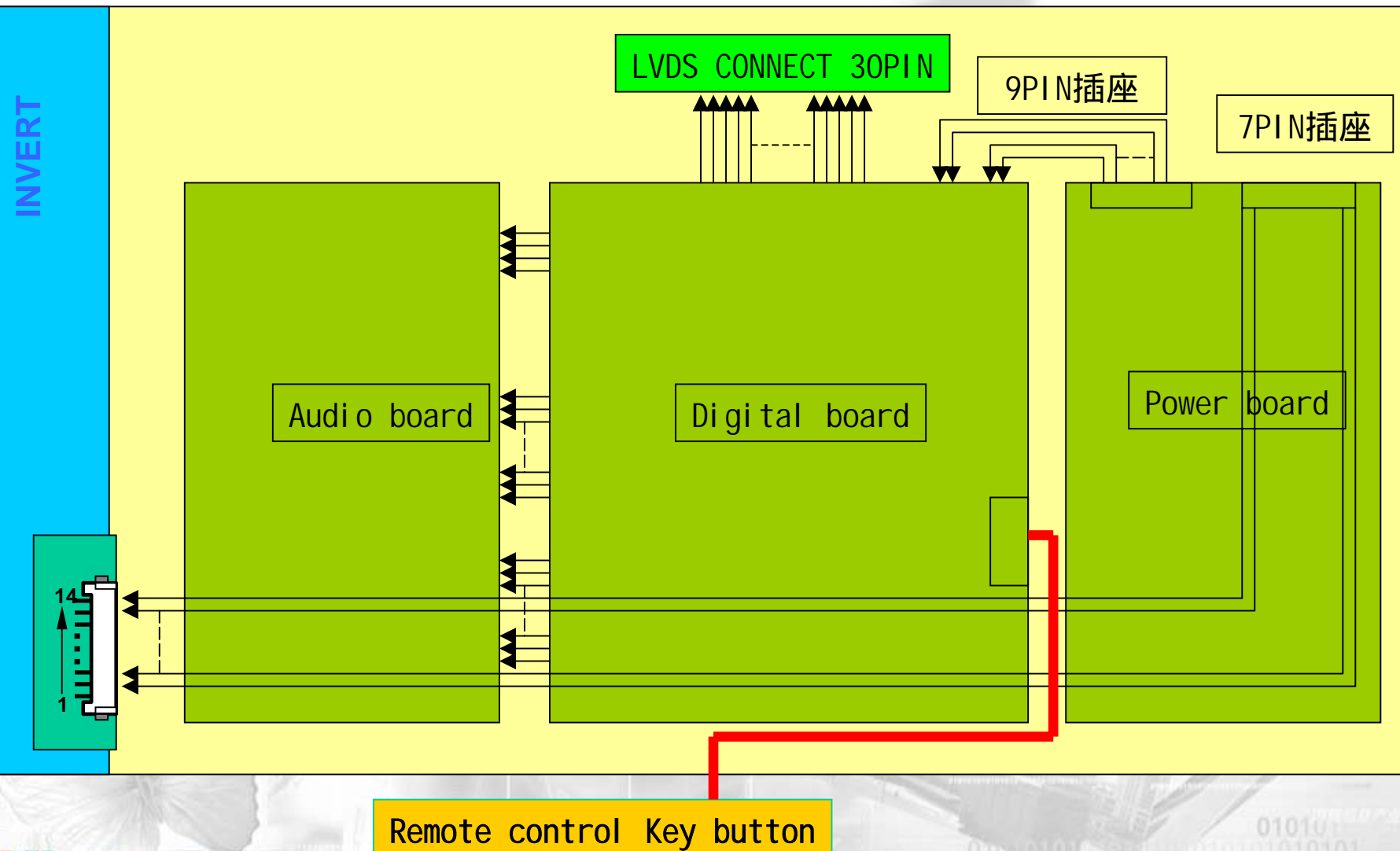
General Features

Active Screen Size	32.0 inches
Active area	687.36(H) x 412.42(V) x 53.0(D) mm(Typ.)
Pixel Pitch	0.0537mm x 0.537mm x RGB
Pixel Format	1280 horiz. By 768 vert. Pixels RGB strip arrangement
Color Depth	16.7M colors
Luminance, White	450 cd/m² (Center 1 points typ.)
Contrast Ratio	500:1
Viewing Angle(CR>10)	View Angle Free (R/L 170(Typ.), U/D 170(Typ.))
Power Consumption	Total 140 Watt
Response Time	16ms
Display Operating Mode	Transmissive mode, Normally Black
Surface Treatment	Hard coating(3H), Anti-glare treatment of the front polarizer,

BLOCK DIAGRAM

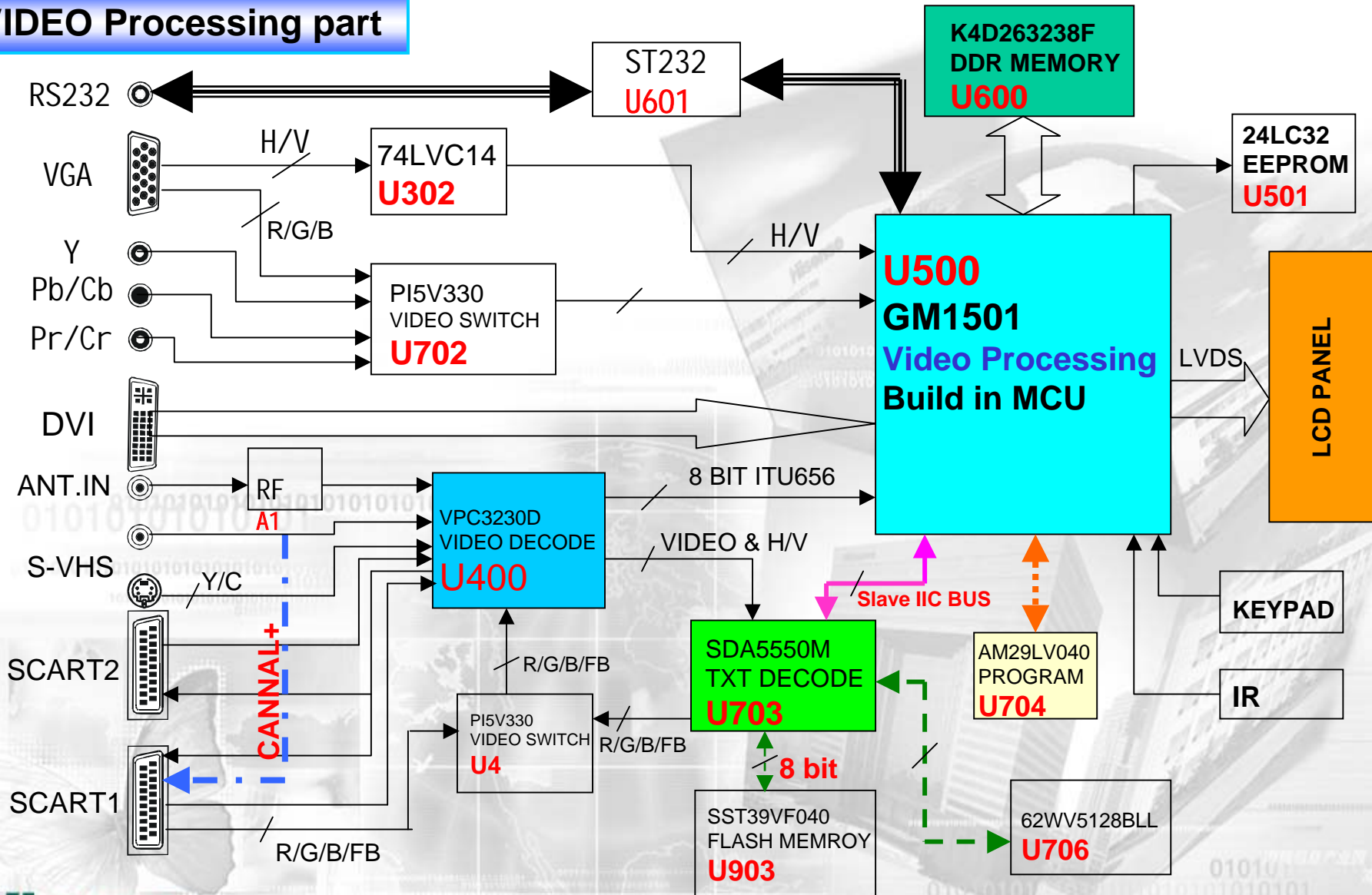
Chassis Block Diagram

LCD PANEL



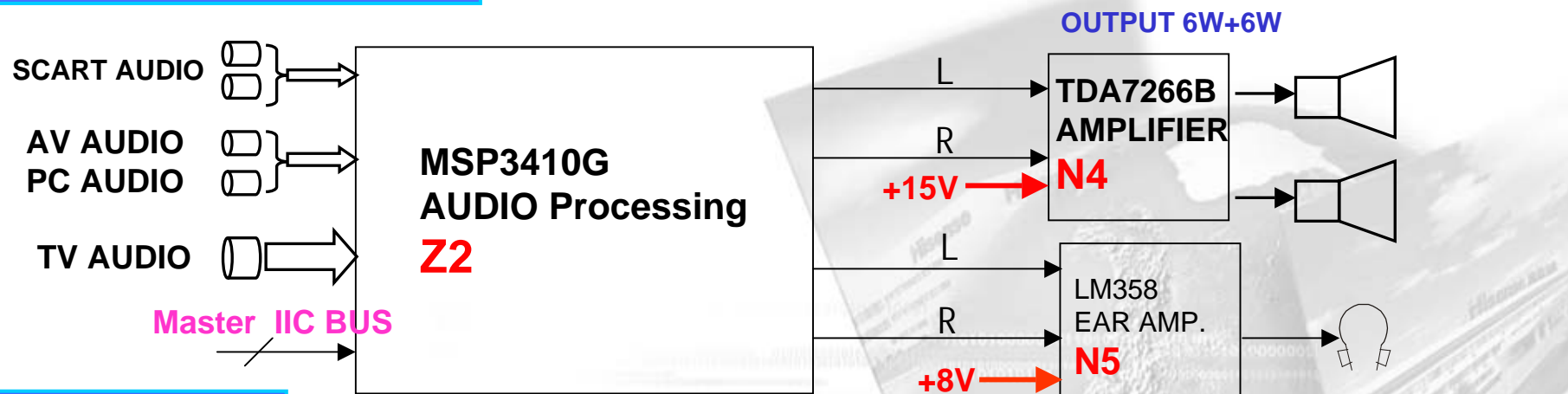
BLOCK DIAGRAM

VIDEO Processing part

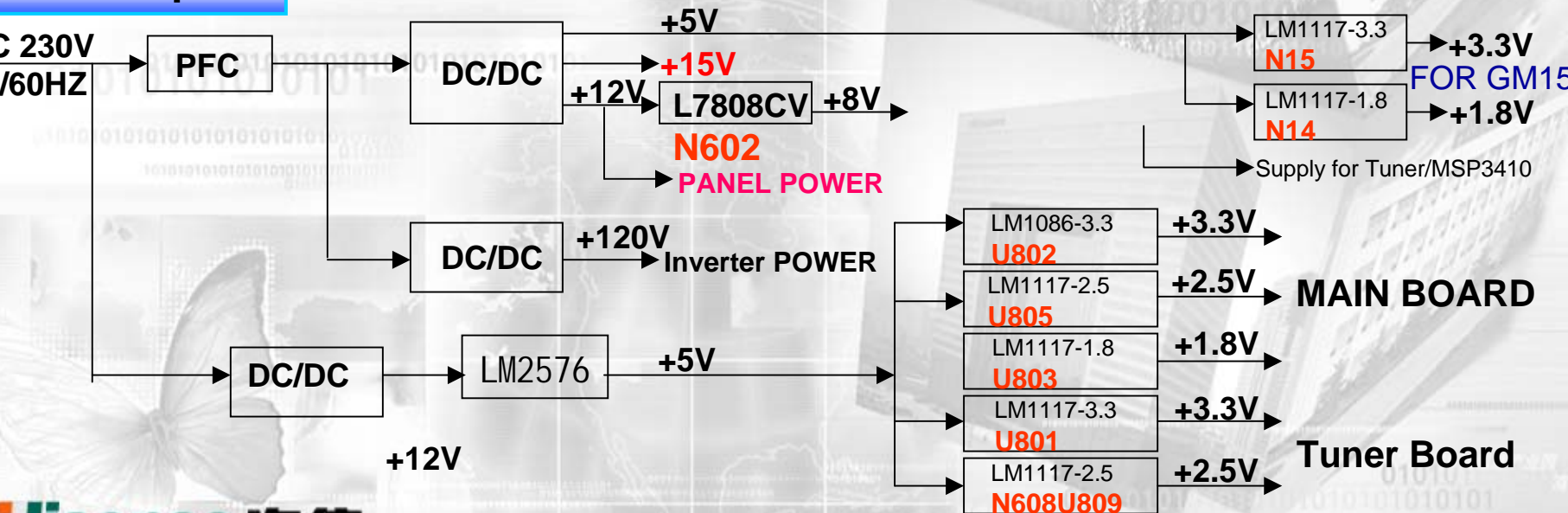


BLOCK DIAGRAM

AUDIO Processing part



POWER part



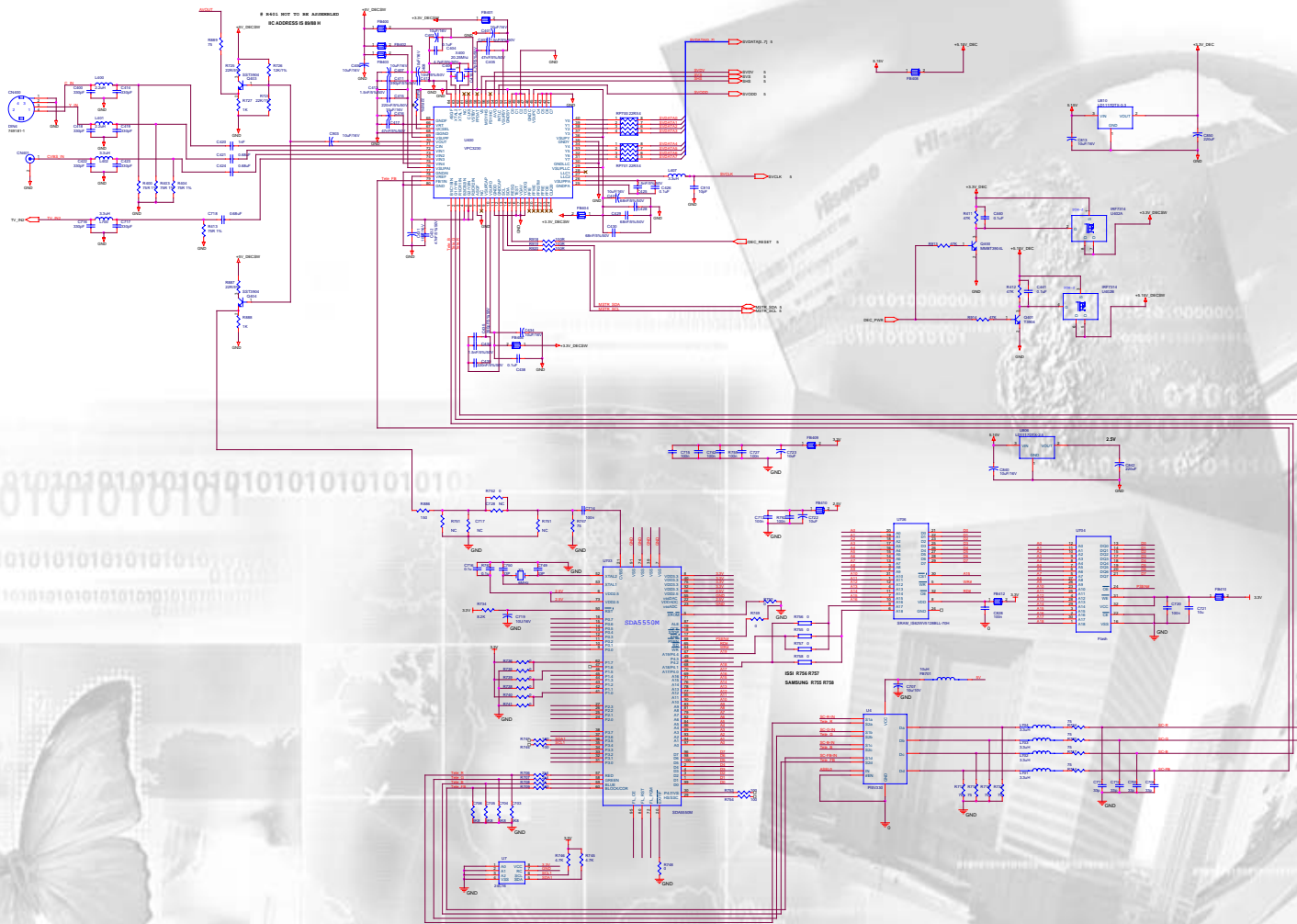
Main Board:Graphic input Part



INNOVATION IS LIFE

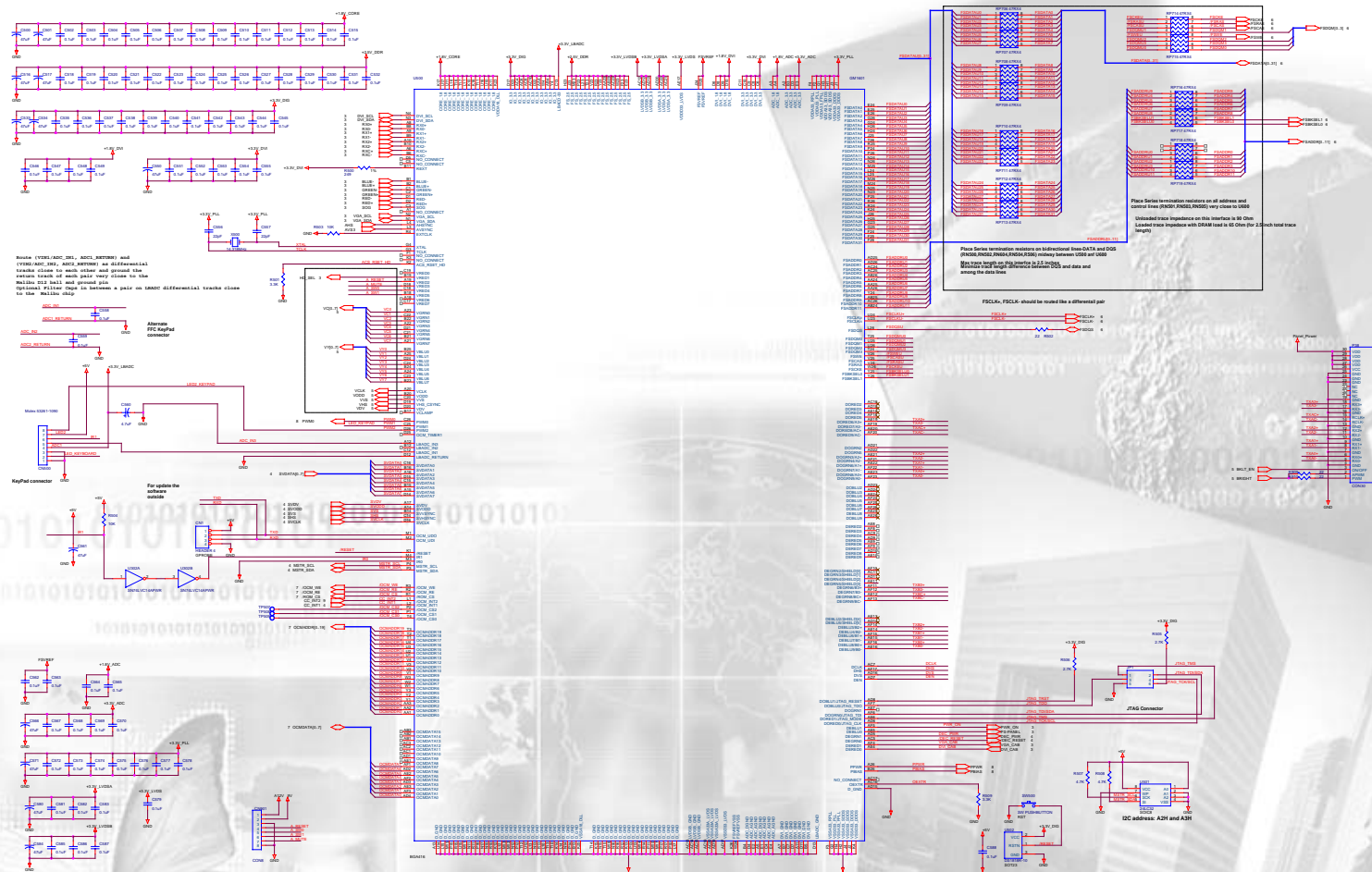
CIRCUIT DIAGRAM

Main Board:Video decode Part



CIRCUIT DIAGRAM

Main Board:GM1501 Part



Main Board:Frame & Memory Part



Main Board:Power part

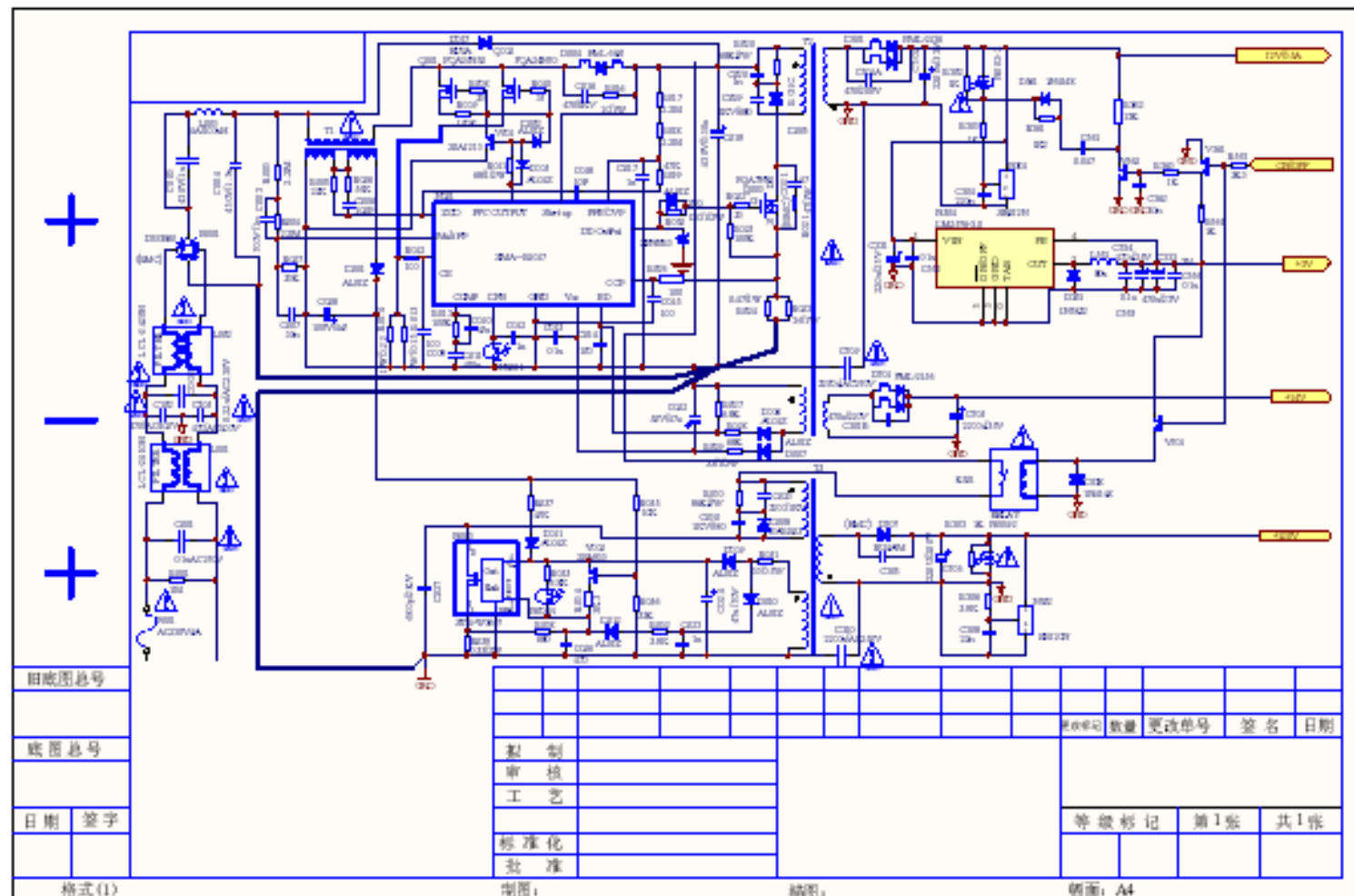


Tuner Board: sound Processing Part



INNOVATION IS LIFE

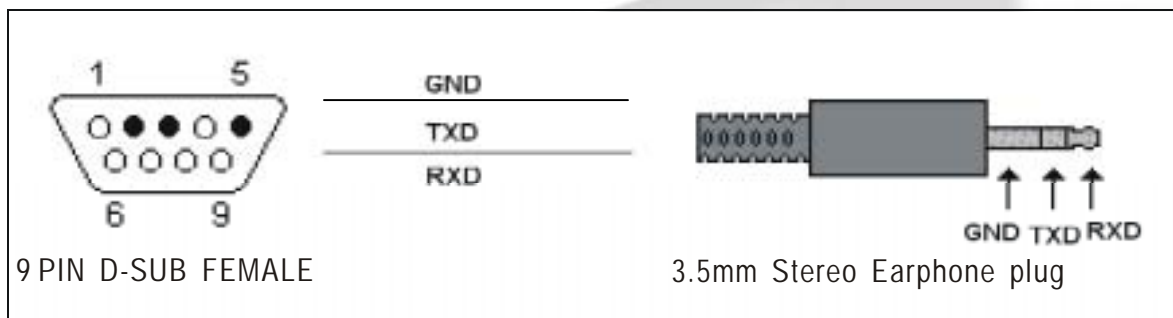
Power Board



SOFTWARE UPDATING

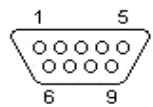
Updating CABLE

- You can update our LCD's software through a special RS232 cable(show as below)



- This RS232 cable includes a 9 PIN D-SUB FEMALE,a 3.5mm Stereo Earphone plug and 3 wires
Built the cable as show

Serial (PC 9)



(At the Computer)

9 PIN D-SUB MALE at the Computer.

Pin	Name	Dir	Description
1	CD	←	Carrier Detect
2	RXD	←	Receive Data
3	TXD	→	Transmit Data
4	DTR	→	Data Terminal Ready
5	GND	—	System Ground
6	DSR	←	Data Set Ready
7	RTS	→	Request to Send
8	CTS	←	Clear to Send
9	RI	←	Ring Indicator

SOFTWARE UPDATING

Updating Steps:

1. Gprobe4 is a communication software for update fireware from PC to our LCD. Double-click the Gprobe4.exe to install it. If the installation is completed, The Gprobe4 icon will be produced on the desktop.



SOFTWARE UPDATING

Updating Steps:

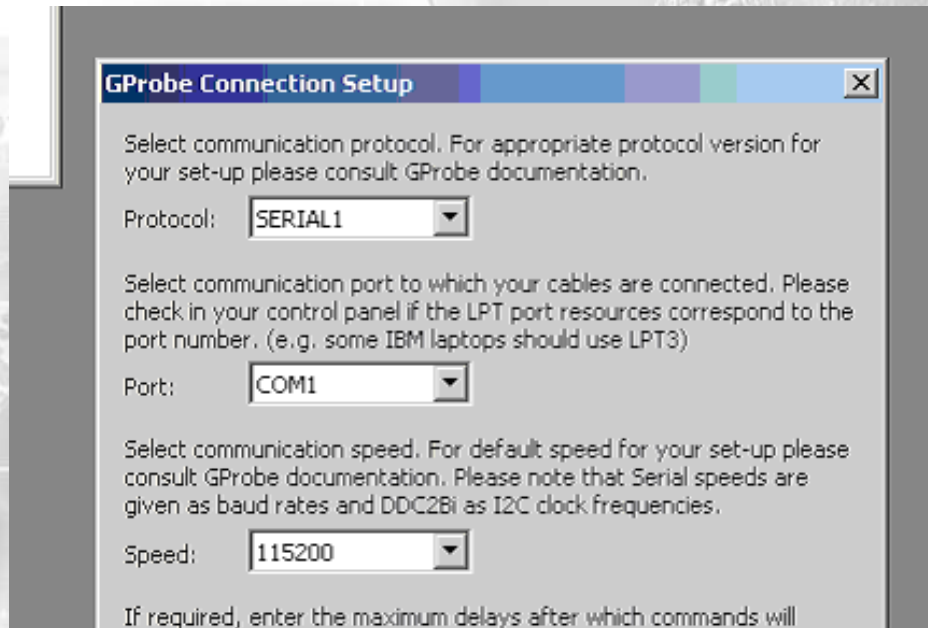
2. When running the Gprobe4 for the first time, there are some parameter need to be set.

Select the OPTIONS item form the menu bar of Gprobe4, then click the Connection Setup item to set up serial communication.

Protocol : SERIAL1

Port : select the corresponding serial interface.(for example: com1)

Speed : 115200



SOFTWARE UPDATING

Updating Steps:

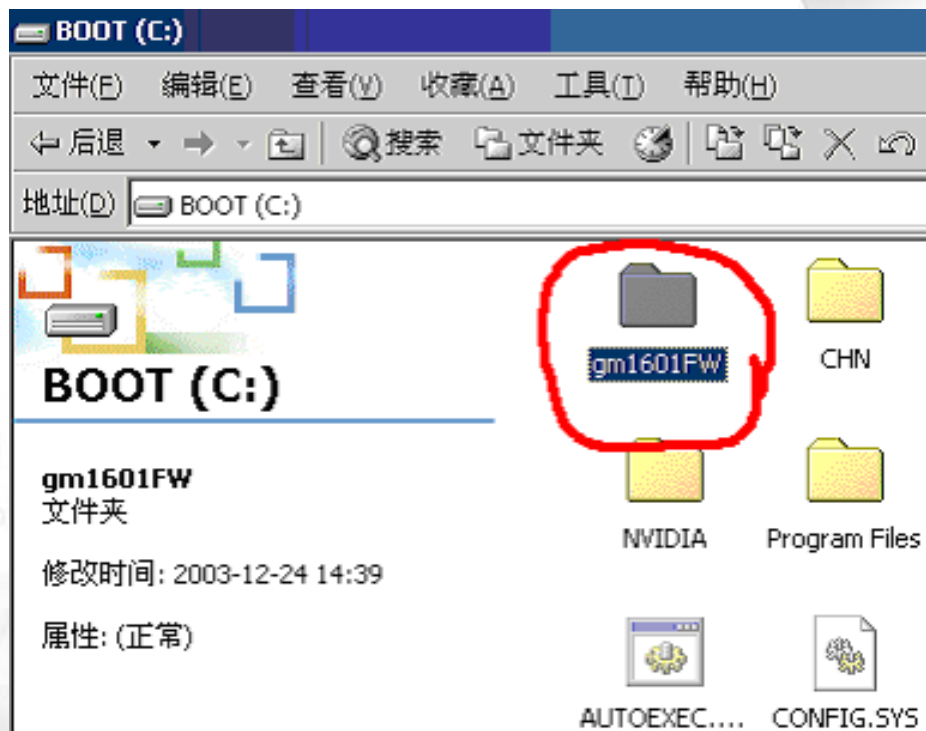
3. Connecting the cable:

Connecting the cable's 9 pin serial interface(female) to a computer, and connect the cable's headphone plug to RS232 terminal on the side panel of the LCD TV.

SOFTWARE UPDATING

Updating Steps:

4. Unzip the firmware file firmware.zip to C:\



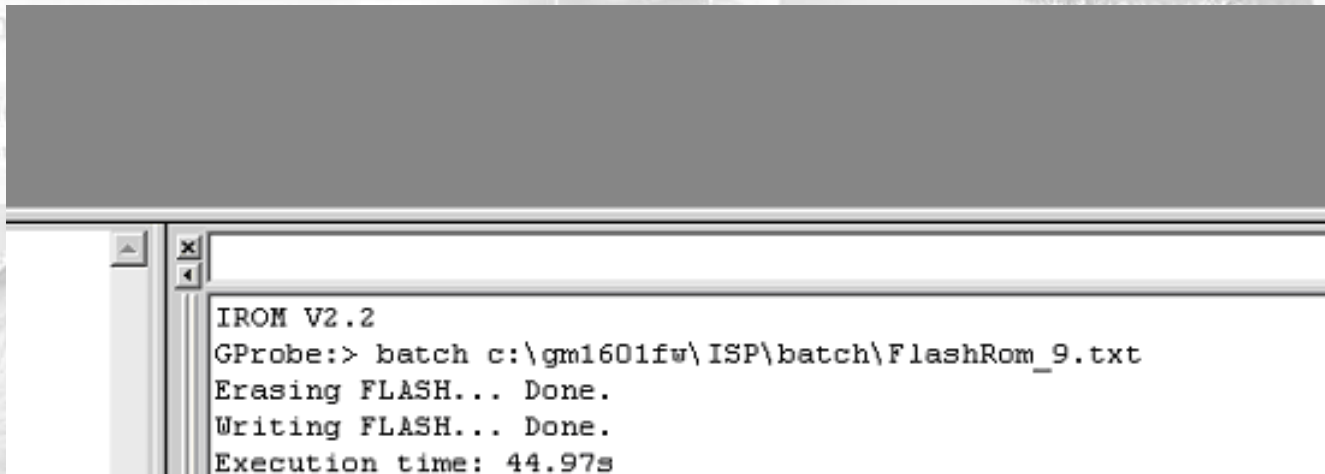
SOFTWARE UPDATING

Updating Steps:

5. Open the folder which the firmware is in, open the file LCD2601EU.txt, copy the content in it (*C:\gm1601FW\FlashROM_LCD2601EU.txt*)
6. Run the Gprobe4 and turn on the LCD TV, copy the content in command.txt to the command line and touch the enter key, the updating is executing.

The screen will display *Erasing Flash...done*
Writing Flash..

About 50 seconds later, the updating will be completed. The screen will display as below:

A screenshot of a GProbe4 command window. The window has a title bar with 'X' and '4' buttons. The text inside the window shows the execution of a batch file to update the flash ROM. The background of the slide features a faint image of a circuit board and binary code.

```
IROM V2.2
GProbe:> batch c:\gm1601fw\ ISP\batch\FlashRom_9.txt
Erasing FLASH... Done.
Writing FLASH... Done.
Execution time: 44.97s
```

SOFTWARE UPDATING

Updating Steps:

7. When the updating finishes, restart (turn off and turn on) the LCD, then the LCD will work with a new version of firmware.

Note:

Don't turn off the LCD in the updating process!

When there is another model's LCD TV need to be updated, please copy the update firmware to the C:\gm1601FM folder and operate as 5~7

FAQ

- 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 and no sound
 - you should to change the tuner board
- 3、 When turn on the TV, you can hear the “ZI ZI” voice
 - you should to changed the power board
- 4、 In TV state,can not to tuning
 - you should to change the tuner board (I think the xp607 connected wrong or the tuner bad)
- 5、 No teletext
 - You should to change the digital board(the teletext IC bad)
- 6、 No sound
 - You should to change the tuner board
- 7、 can not to updating software
 - You should to change the main board
- 8、 In VGA/YPBPR state,the picture colour is wrong
 - You should use the “ auto colour “function to make the colour to good
(press the [MENU] button of RC enter the main menu,and press the [VOL+] button enter the PC PARAMETERS,and press the [CH+] button to select the item AUTO COLOUR,and press the [VOL+] button to enable the AUTO COLOUR.
- 9、 No reaction with RC
 - You should change the main board

SPARE PARTS

CN801---XP501

ITEM	NAME	FUNCTION
1	5V	FOR PANEL POWER
2	PS	FOR POWER OFF
3	GND	GND
4	14V	FOR AUDIO POWER
5	PGND	AUDIO GND
6	12V	FOR MAIN POWER
7	12V	FOR MAIN POWER
8	GND	FOR MAIN GND
9	GND	FOR MAIN GND

ITEM	NAME	FUNCTION
1	GND	FOR AUDIO GND
2	14V	FOR AUDIO POWER
3	14V	FOR AUDIO POWER
4	GND	FOR AUDIO GND
5	12V	FOR AUDIO POWER
6	GND	FOR AUDIO GND
7	5.0V	TUNNER POWER

CN901---XP2

ITEM	NAME	FUNCTION
1	ADC1	FOR SCART1 AUTO IDENTIFY
2	ADC2	FOR SCART1 AUTO IDENTIFY
3	GND	GND
4	MUTE	AUDIO MUTE
5	RESET	MSP3410 RESET
6	GND	GND
7	SDA	FOR SERIAL DATA
8	SCL	FOR SERIAL CLOCK

SPARE PARTS

CN901---XP2

ITE	NAME	FUNCTION
1	GND	GND
2	CVBS	FOR TV' S CVBS SIGNAL
3	GND	GND
4	GREEN	FOR SCART GREEN
5	GND	GND
6	RED	FOR SCART RED
7	GND	GND
8	FB	FOR FAST BLANK
9	GND	GND
10	BLUE	FOR SCART BLUE
11	GND	GDN
12	AVOUT	FOR MONITOR OUT

CN903---XP1

ITEM	NAME	FUNCTION
1	AV1-IN	FOR VIDEO1 IN
2	GND	GND
3	AV2-IN	FOR VIDEO2 IN
4	GND	GND
5	S-CIN	FOR C-IN
6	GND	GND

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

SPARE PARTS

CD2602EU (Hsense)			
	PART NO.	SAP NO.	REMARK
MAIN BOARD MODULE	RSAG2.908.452	103246	
SOUND BOARD MODULE	RSAG2.908.451	103247	
POWER BOARD MODULE	RSAG2.908.469	103248	
BACK COVER MODULE	WTG6.170.217	105021	
REMOTE CONTROL	HYDFSR-EP209C1	1020053	