LCD TELEVISION

SERVICE MANUAL

LC-42FE32

CONTENTS

Attention: This service manual is only for service personnel to take reference with. Before servicing please read the following points carefully.

Safety precautions

1. Instructions

Be sure to switch off the power supply before replacing or welding any components or inserting/plugging in connection wire Anti static measures to be taken (throughout the entire production process!):

a) Do not touch here and there by hand at will;

b) Be sure to use anti static electric iron;

c) It's a must for the welder to wear anti static gloves.

Please refer to the detailed list before replacing components that have special safety requirements. Do not change the specs and type at will.

2. Points for attention in servicing of LCD

2.1 Screens are different from one model to another and therefore not interchangeable. Be sure to use the screen of the original model for replacement.

2.2 The operation voltage of LCD screen is 700-825V. Be sure to take proper measures in protecting yourself and the machine when testing the system in the course of normal operation or right after the power is switched off. Please do not touch the circuit or the metal part of the module that is in operation mode. Relevant operation is possible only one minute after the power is switched off.

2.3 Do not use any adapter that is not identical with the TV set. Otherwise it will cause fire or damage to the set.

2.4 Never operate the set or do any installation work in bad environment such as wet bathroom, laundry, kitchen, or nearby fire source, heating equipment and devices or exposure to sunlight etc. Otherwise bad effect will result.

2.5 If any foreign substance such as water, liquid, metal slices or other matters happens to fall into the module, be sure to cut the power off immediately and do not move anything on the module lest it should cause fire or electric shock due to contact with the high voltage or short circuit.

2.6 Should there be smoke, abnormal smell or sound from the module, please shut the power off at once. Likewise, if the screen is not working after the power is on or in the course of operation, the power must be cut off immediately and no more operation is allowed under the same condition.

2.7 Do not pull out or plug in the connection wire when the module is in operation or just after the power is off because in this case relatively high voltage still remains in the capacitor of the driving circuit. Please wait at least one minute before the pulling out or plugging in the connection wire.

2.8 When operating or installing LCD please don't subject the LCD components to bending, twisting or extrusion, collision lest mishap should result.

2.9 As most of the circuitry in LCD TV set is composed of CMOS integrated circuits, it's necessary to pay attention to anti statics. Before servicing LCD TV make sure to take anti static measure and ensure full grounding for all the parts that have to be grounded.

2.10 There are lots of connection wires between parts behind the LCD screen. When servicing or moving the set please take care not to touch or scratch them. Once they are damaged the screen

would be unable to work and no way to get it repaired.
If the connection wires, connectors or components fixed by the thermotropic glue need to disengage when service, please soak the thermotropic glue into the alcohol and then pull them out in case of damage.
2.11 Special care must be taken in transporting or handling it. Exquisite shock vibration may lead to breakage of screen glass or damage to driving circuit. Therefore it must be packed in a strong case before the transportation or handling.
2.12 For the storage make sure to put it in a place where the environment can be controlled so as to prevent the temperature and humidity from exceeding the limits as specified in the manual. For prolonged storage, it is necessary to house it in an anti-moisture bag and put them altogether in one place. The ambient conditions are tabulated as follows:

Temperature	Scope for operation	0 ~ +50 ^{o}C
	Scope for storage	-20 ~ +60 ^{o}C
Humidity	Scope for operation	20% ~ 85%
	Scope for storage	10% ~ 90%

2.13 Display of a fixed picture for a long time may result in appearance of picture residue on the screen, as commonly called “ghost shadow”. The extent of the residual picture varies with the maker of LCD screen. This phenomenon doesn’t represent failure. This “ghost shadow” may remain in the picture for a period of time (several minutes). But when operating it please avoid displaying still picture in high brightness for a long time.

3. Points for attention during installation

3.1 The front panel of LCD screen is of glass. When installing it please make sure to put it in place.
3.2 For service or installation it’s necessary to use specified screw lest it should damage the screen.
3.3 Be sure to take anti dust measures. Any foreign substance that happens to fall down between the screen and the glass will affect the receiving and viewing effect
3.4 When dismantling or mounting the protective partition plate that is used for anti vibration and insulation please take care to keep it in intactness so as to avoid hidden trouble.
3.5 Be sure to protect the cabinet from damage or scratch during service, dismantling or mounting.

Alignment instructions

1. Test equipment

Digital Multi-meter
54200 (Signal generator)
PC (FLASH writing programs have to be installed first, W24CXX.EXE)
VG849 (HDMI signal generator)
CA210 (White balancer)
DVD player (with HDMI output)
Monitor

2. The alignment flow chart (see below figure)

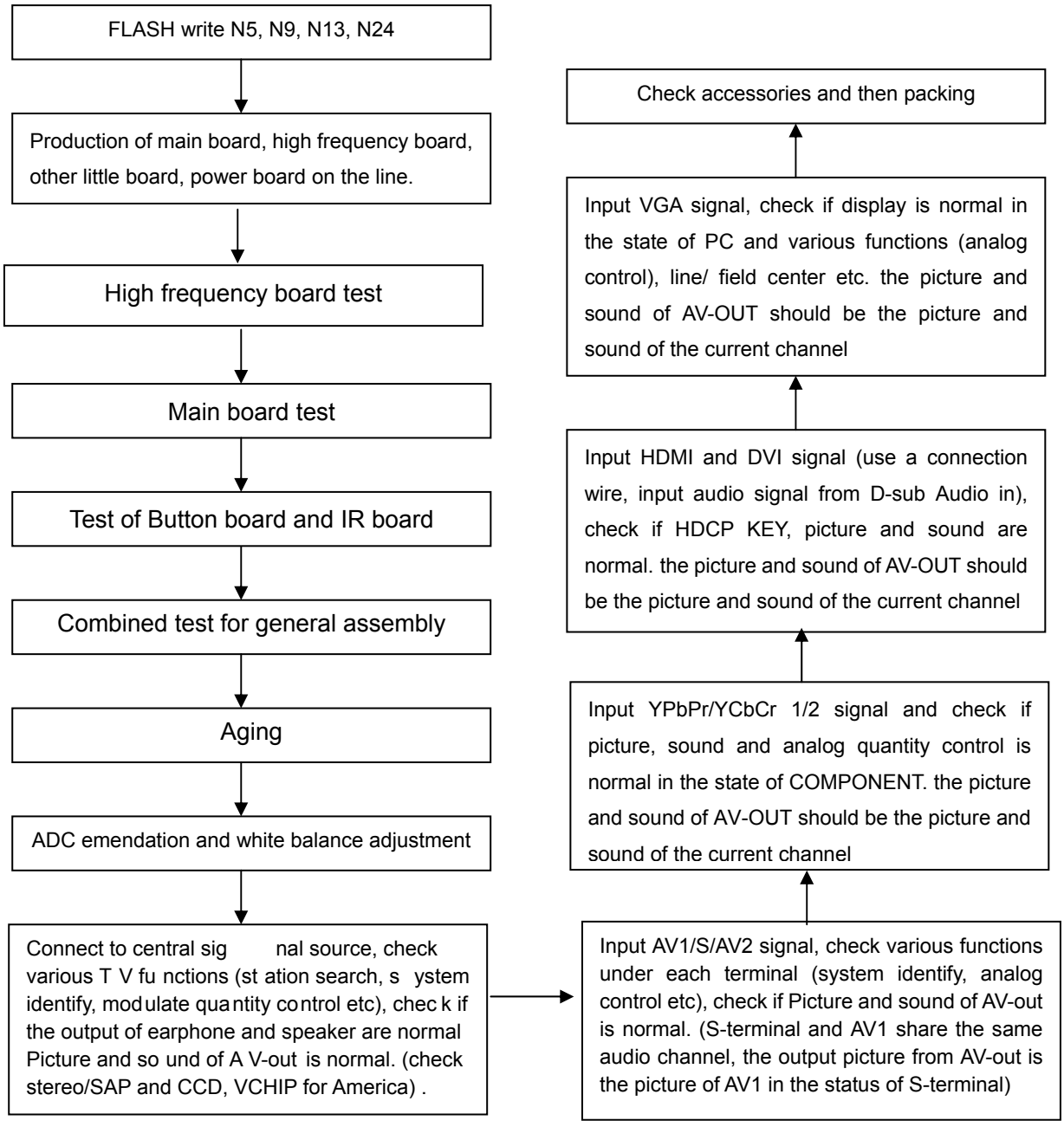


Fig.1 Flow process of alignment

3. Flash writing programs

Flash write N5, N9, N13, N24

Flash write W24CXX.EXE to N13, N24 with self-made flash write tool on the line.

Note: software upgrade of N5 from socket X51

software upgrade of N9 from USB interface

software upgrade of N13, N24 from HDMI and VGA interface separately

Adjustment of main board and high frequency board

a) Connect the main board and high frequency board according the wiring diagram. Connect X402 (on main bo ard) with IR board and insert the plug of power supply a ssy into X 707, now the indicator light of IR board is red.

b) Press POWER button on the remote control set, now the indicator light of IR board is blue.

c) Check if picture and sound are normal of all the channels, if STEREO/SAP can be identified correctly. Check AV-OUT function: the picture and sound of AV-OUT should be the picture and sound of the current channel at TV/AV1/S/AV2; the sound from AV-OUT should be the sound of the current channel at the other signal source, while the picture don't need to check.

4. Unit adjustment

4.1 Adjustment of unit connection

Turn on the TV and check if it is normal: display LOGO about 8 seconds later, display picture about 12 seconds later.

4.2 Aging

a) Turn on the TV, select TV channel without signal input.

b) Aging for an hour in the aging room.

4.3 ACD calibration and White balance adjustment (use CA210, VG849 generator)

Method of entering factory menu: enter "INPUT" menu, then press"2 5 8 0" one by one.

Note: Coordinate of cold color temperature 9300K is (X=283, Y=299), coordinate of warm color temperature 6500K is (X=311, Y=329).

YPbPr channel (YPbPr1 or YPbPr2)

a) Input SMPTE COLOR BAR signal of 480P (TIMING:976, PATTERN:984)

b) Set brightness to 50; contrast to 50

c) Enter factory menu and perform "Calibration"

VGA channel

a) Input 16-level gray scale signal of the mode 800*600 @60 (TIMING:885, PATTERN:920)

b) Set brightness to 50; contrast to 50

c) Enter factory menu and perform "Calibration"

d) Select "color temperature" of "COOL"

e) Enter "color temperature setting" menu

f) Fix GREEN GAIN at 1 28, adjust RED GAIN, BLUE GAI N to set the color coord inates of fourteenth level to (X=283, Y=299).

g) Set the color coordinates of warm color temperature (WARM) to (X =311, Y=329) using the same method.

h) Check if the color coordinates of the cool/warm color temperature at YPbPr (include 480i, 480P, 720P, 1080i), VIDEO(NTSC, PAL) and TV channels are within the scope of the corresponding value (permit ±8 error).

5 Functional Inspection

5.1 TV function

Connect RF terminal to the central signal source, Enter Search menu → auto search, check if there is station skipping. Check if Fine Tune, the output of earphone and speakers, and the picture are normal. Check STEREO/SAP/CCD/Parent Control and the picture and sound from AV-OUT.

5.2 ATSC function

Connect AIR terminal to the central signal source, press INFO button and check if the information is right. Open EPG table and do the same check. Open CCD, V-CHIP and check the display.

5.3 AV/S-Video terminal

Separate input AV1/S/AV2 signal, check if they are normal. Check if the picture and sound from AV-OUT is normal. It should auto-jump to S terminal when insert S-terminal at the status of AV1.

5.4 VGA terminal

Input VGA signal (VG849 signal generator), separate input the VGA format signal of table 1 and check if the display and sound are normal. If the image is slight disturb, press auto correction button on the remote control and check the display.

Table1 PC signal format

No	Resolution	H-frequency(kHz)	V-frenquency(Hz)	Point clock pulse frenquency(MHz)	Remark
1	720 ×400	31.47	70.08	25.17	DOS
2	640 ×480	31.50	60.00	25.18	DOS
3	640 ×480	37.90	72.00	31.50	Mac.(SOG)
4	640 ×480	37.50	75.00	31.50	VESA
5	640 ×480	43.30	85.00	36.00	VESA
6	800 ×600	35.16	56.25	36.00	VESA
7	800 ×600	37.90	60.00	40.00	VESA
8	800 ×600	46.90	75.00	49.50	VESA
9	800 ×600	48.08	72.19	50.00	VESA
10	832 ×624	49.00	74.00	57.27	Mac.(H+V)
11	1024 ×768	48.40	60.00	65.00	VESA
12	1024 ×768	56.50	70.00	75.00	VESA
13	1024 ×768	60.00	75.00	78.75	VESA
14	1280 ×1024	64.00	60	108.00	SXGA
15	1280 ×1024	80.00	75	135.00	SXGA

5.5 YPbPr terminal

Input YPbPr signal (VG849 signal generator), separate input the format signal of table 2, check if the image and sound is normal. If the image is slight disturb, press auto correction button on the remote control and check the display.

Table 2 Component mode

No	Resolution	H-frequency(kHz)	V-frenquency(Hz)	Point clock pulse frenquency(MHz)	Remark
1	720×480	15.734	59.94	13.5	480i(NTSC)
2	720 ×576	15.625	50	13.5	576i(PAL)
3	720×480	31.469	59.94	27	480p(NTSC PROG)
4	720 ×576	31.25	50	27	576p(PAL PROG)
5	1280×720	45	59.94	74.18	720p(59p)
6	1280 ×720	45	60	74.25	720p(60p)
7	1280×720	37.5	50	74.25	720p(50p)
8	1920 ×1080	33.75	59.94	74.25	1080i(59i)
9	1920×1080	33.75	60	74.25	1080i(60i)
10	1920 ×1080	28.125	50	74.25	1080i(50i)

5.6 HDMI terminal

Input HDMI signal (VG849 signal generator), separate input the format signal of table 3 and table 4. Check if the image and sound is normal. Input DVI signal through DVI-HDMI trans-connection wire, input audio signal from DVI/VGA AUDIO and check if it is normal.

Table 3 HDMI signal format

No	H-frequency(kHz)	V-frenquency(Hz)	Remark
1	15.735	60	SDTV 480i
2	15.625	50	SDTV 576i
3	31.47	60	SDTV 483p
4	45.00	60	HDTV 720p
5	33.75	60	HDTV 1080i

Table 4 HDMI audio signal format

Channel	2
Sampling frequency	32 Kbit/s, 44.1 Kbit/s, 48 Kbit/s
Wide	16 bit, 20 bit, 24 bit

6 Ex-factory preset

Enter the factory menu in the status of TV, then perform the ex-factory preset.

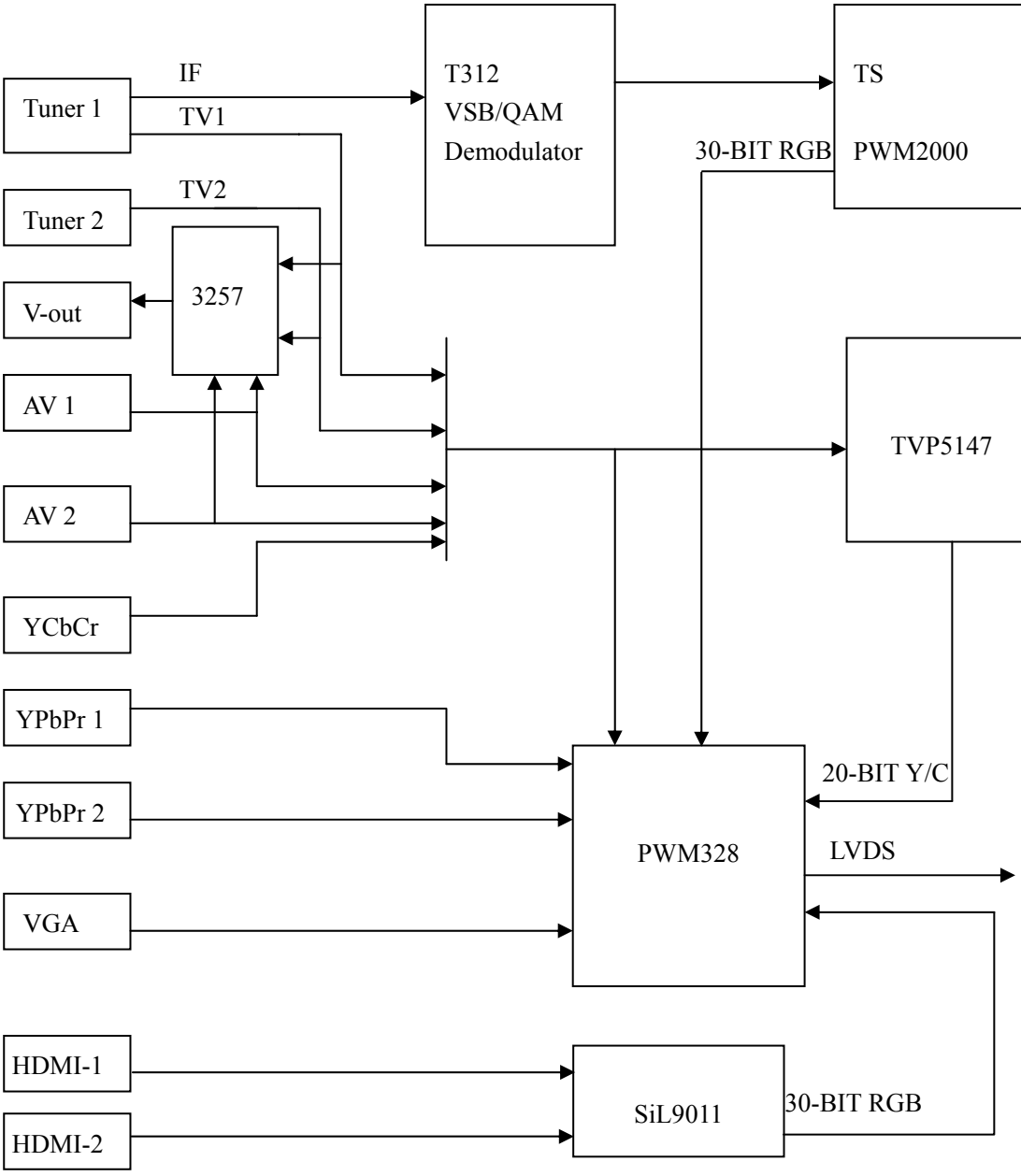
7 Packing

Check the accessories and then packing.

Working principle analysis of the unit

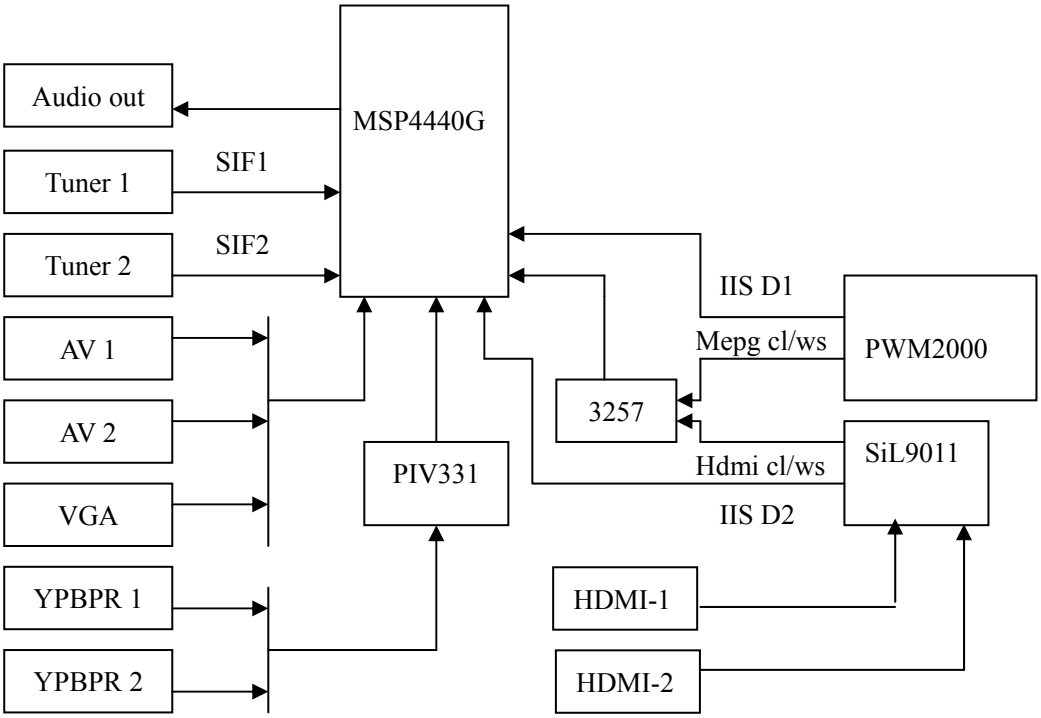
1. Video signal flow (see below figure)

TV VIDEO signal(TV1, TV2) output from TUNER1 and TUNER2 is divided into two ways, one way is sent to PW328 process of main-picture; another way is sent to TVP5147 process of sub-picture. Likewise, analog video signal of AV1, AV2, Y/C is divided into two ways and separate sent to PW328 and TVP5147 to do the same process. In addition, 44MHZ digital IF signal output from TUNER1 is sent to N717 demodulating for TS(0:7), then it send to PWM2000 to do the corresponding process, then switch to RGB of 30bit output to PW328, the signal of TV1,TV2, AV1, AV2, Y/C input into TVP5147 digital processing and convert into 20bit YC signal output to PW328; while digital signal of YPbPr1,YPbPr2 and VGA send straight to PW328. The differential signal of HDMI-1 and HDMI-2 via HDMI receiver SIL9011 after, demodulate 30bit RGB signal output to PW328 too. The all signal input into PW328 digital processing then send to LVDS level drive for LCD panel. In addition, TV1, TV2, AV1 and AV2 via QS3257 select after, send to X704 for output of video.

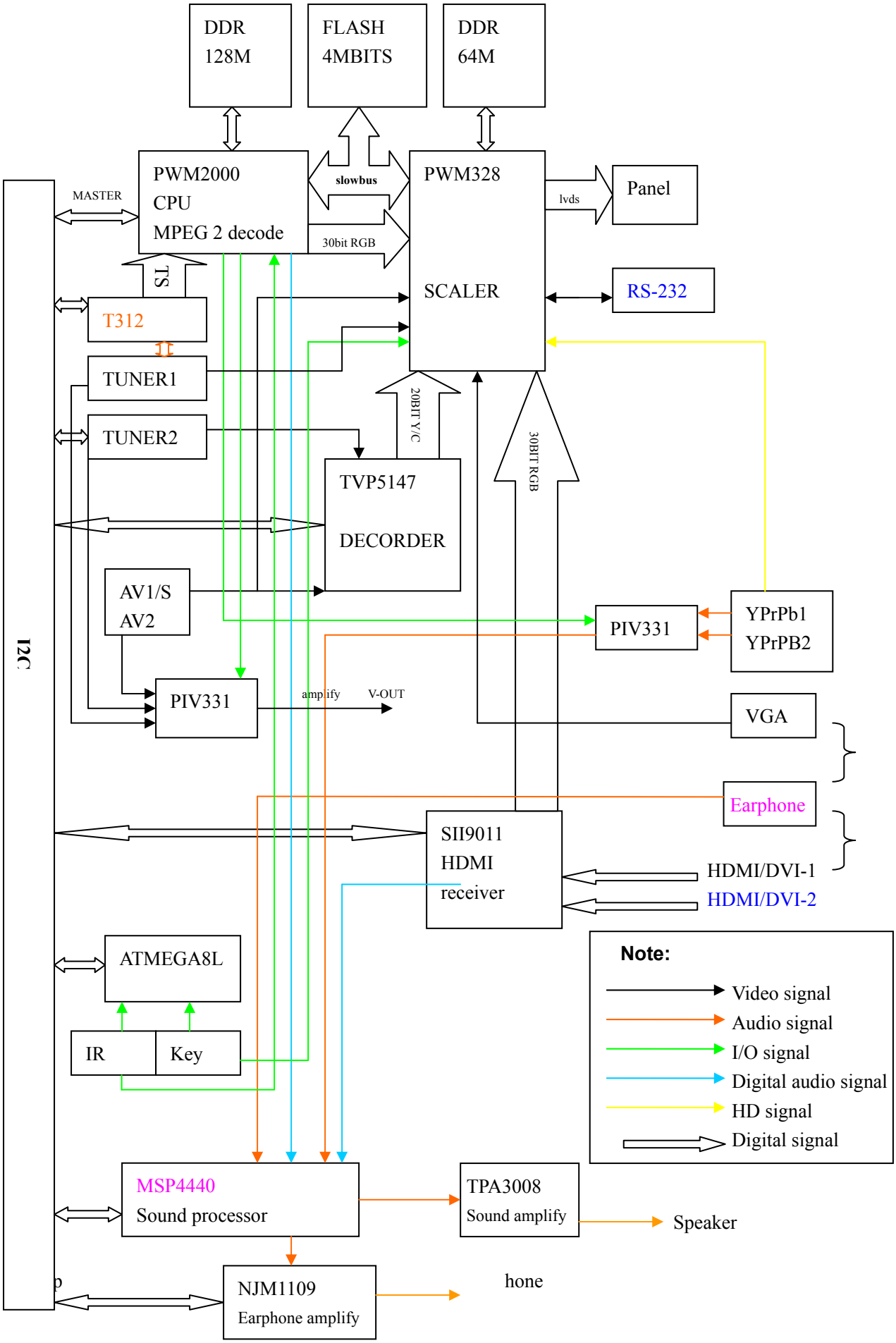


2. Audio signal flow (see below figure)

SIF1, SIF2 of TUNER1 and TUNER2 send straight to MSP4440G demodulate of MTS. The signal and the sound of AV1, AV2, VGA and YPbPr1, YPbPr2(via PIV331 to select signal),send to MSP4440G select output. CL/WS of HDMI-1, HDMI-2 and digital MEPG_CL/WS demodulated from PWM2000 via 3257 select after, it send to MSP4440G, while the data D1 and D2 of HDMI and PWM2000 send straight to MSP4440G. IIS and the audio signal of each channel are demodulated in MSP4440G then sent to TPA3008 amplify and output. The audio signal of TS stream may be demodulated and converted into SPDIF to output in PWM2000 at the same time.



Block diagram



IC block diagram

1. PWM2000

Feature:

- Main frequency of RSIC CPU up to 200MIPS
- USB controller
- MPEG2 decoder
- Intelligent controller
- Audio decode, supports formats of all kinds. In this system, it decodes TS audio signal, supports SPDIF output.

Pin descriptions:

Pin	Type	Name	Instruction
AN8	IRQ5	IR2000	Remote reception
AK9	IRQ1	EXTINT_328	V-sync send to PWM2000 judge of signal
AK10	IRQ0	INTENETn	Net adjustment board interrupt (DEBUG emulation)
AK11 PIO17		VO_SEL0	Selected video output (TV1, TV2, AV1, AV2)
AN10 PIO20		VO_SEL1	
AK13	PIO9	AUDIOSEL	Select HDMI/MPEG I2S output
AL13	PIO8	AUDIOSEL_Y	Selection of YPBPR input audio
AL12	PIO11	BK_ON	Backlight control: 0=OFF 1=ON
AK12	PIO10	LCD_ON	Power supply control of panel: 0=OFF 1=ON
AM11 PIO15		HOT_PLUG	Hot-plug control
AM13	PIO7	OSCOFF	A/D conversion of main tuner
AN13	PIO6	SID	Detect of SVIDEO input (SVIDEO prior)
AN14	PIO5	MUTE	Control of mute
AK14	PIO20	RF_SW	Select RF input (AIR/CABLE)

2. PWM328

Feature:

- Supports V-CHIP, CCD, OSD
- DEIMTERLACING
- SCALING
- PIP/POP
- Integrated ADC, VIDEO DECODER

Block diagram is follow:

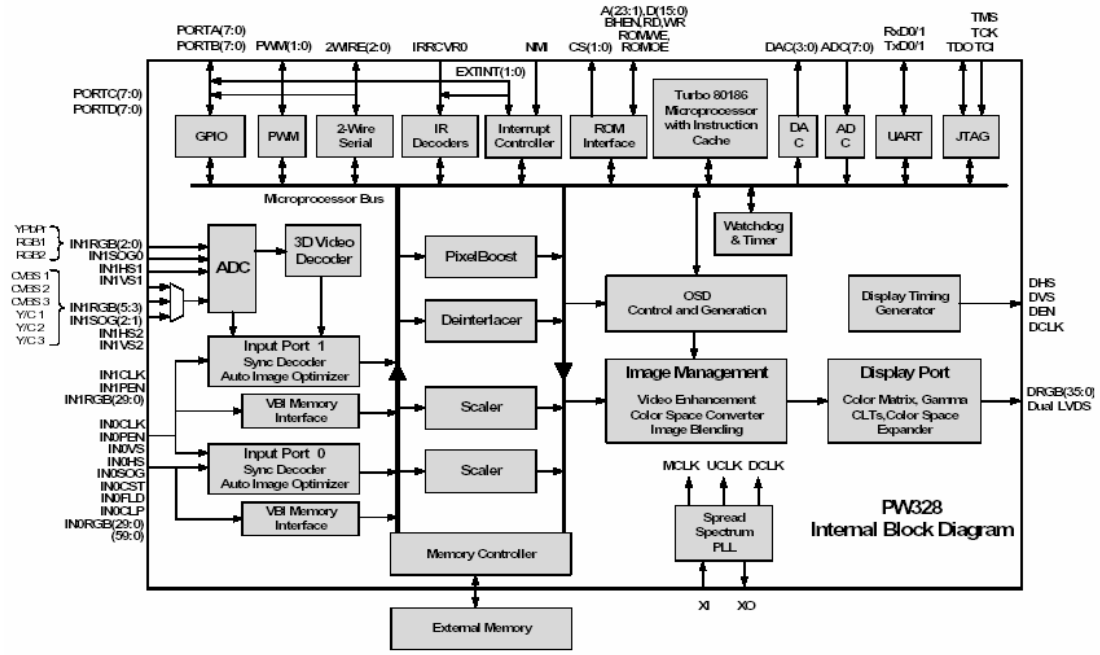


Figure 1-1 Top-Level Block Diagram

Pin descriptions:

Pin	Type	Name	Instruction
M1 POR	TA0	SBBE0	Enable cont rol of bus line of bit store
M2 POR	TA1	SBBE1	
D24 ADC0		KEY1_328	Button
C26 ADC1		KEY2_AD_IN	
A10	PWM0	BRIGHT	Brightness of backlight control

Description of main periphery components:

R62: amplitude adjustment of LVDS output, the resistance bigger, the LVDS amplitude smaller.

R259: DDR clock matching resistor for PWM32 8. in this system, DDR clock up to 180MHZ. The resistor is 0ohm for compatible 200MHZ.

R263-R269: DDR matching resistor

R721, R724: matching resistor for HD synchronizing separator circuit

C268: isolating capacitor for SOG separator circuit of VGA signal

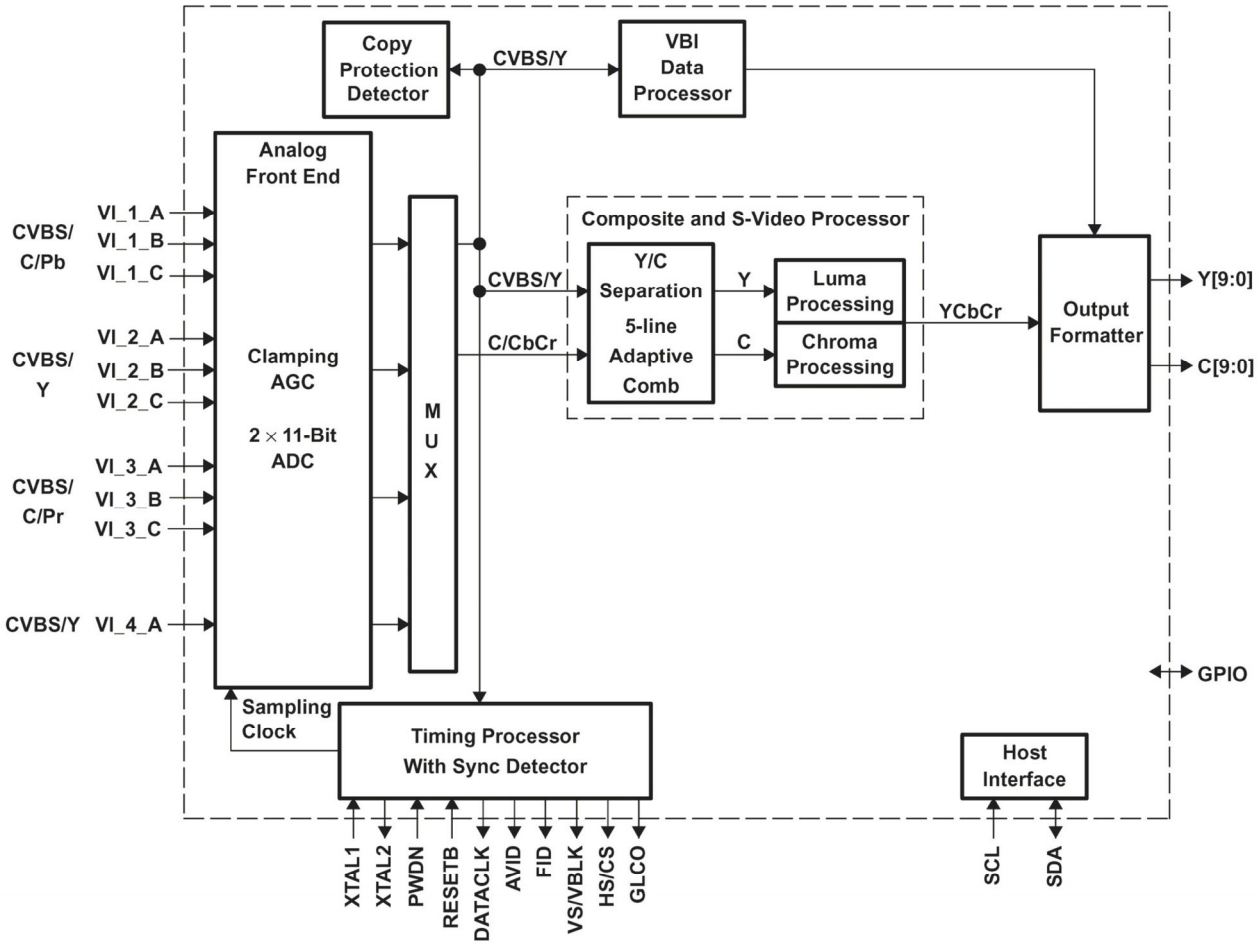
R478: matching resistor of SLOWBUS 50MHZ clock signal

3. TVP5147

Feature:

- VEDIO DECORDER of sub-picture
- BT 601 20-BIT 4:2:2 YCbCr output

Block diagram is follow:



Description of main periphery components:

C19, C20, C22, C23, C27: isolating capacitor for video input

R18: I2C sub-address select pin

R19: connect to the ground to insure the signal format output of BT.601

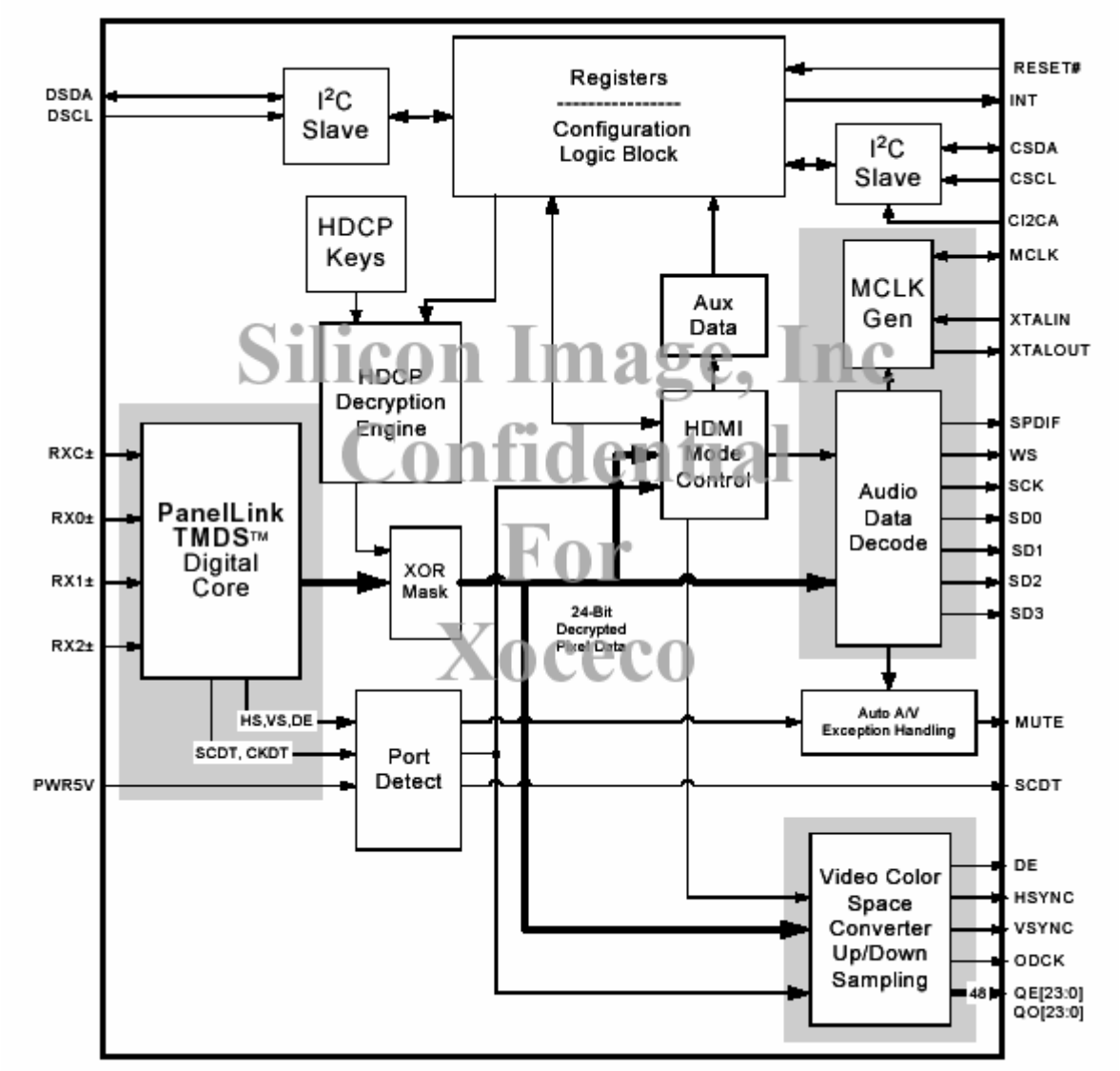
R22: indicator pin of odd-even bit output: select pin of BT.601 signal format output

4. SII901 1

Feature:

- HDMI1.1 and DVI1.0 compatible receiver, integrated HDCP1.1
- Supports digital interface of all kinds, this system supports 30bit RGB output
- Color space convert
- Four channels I2S outputs, sampling frequency up to 192KHZ
- Audio protection

Block diagram is follow:



5. A TMEGA8L

Feature:

- STANDBY power supply control
- WATCHDOG manual reset
- Remote, button reception
- Indicator light control

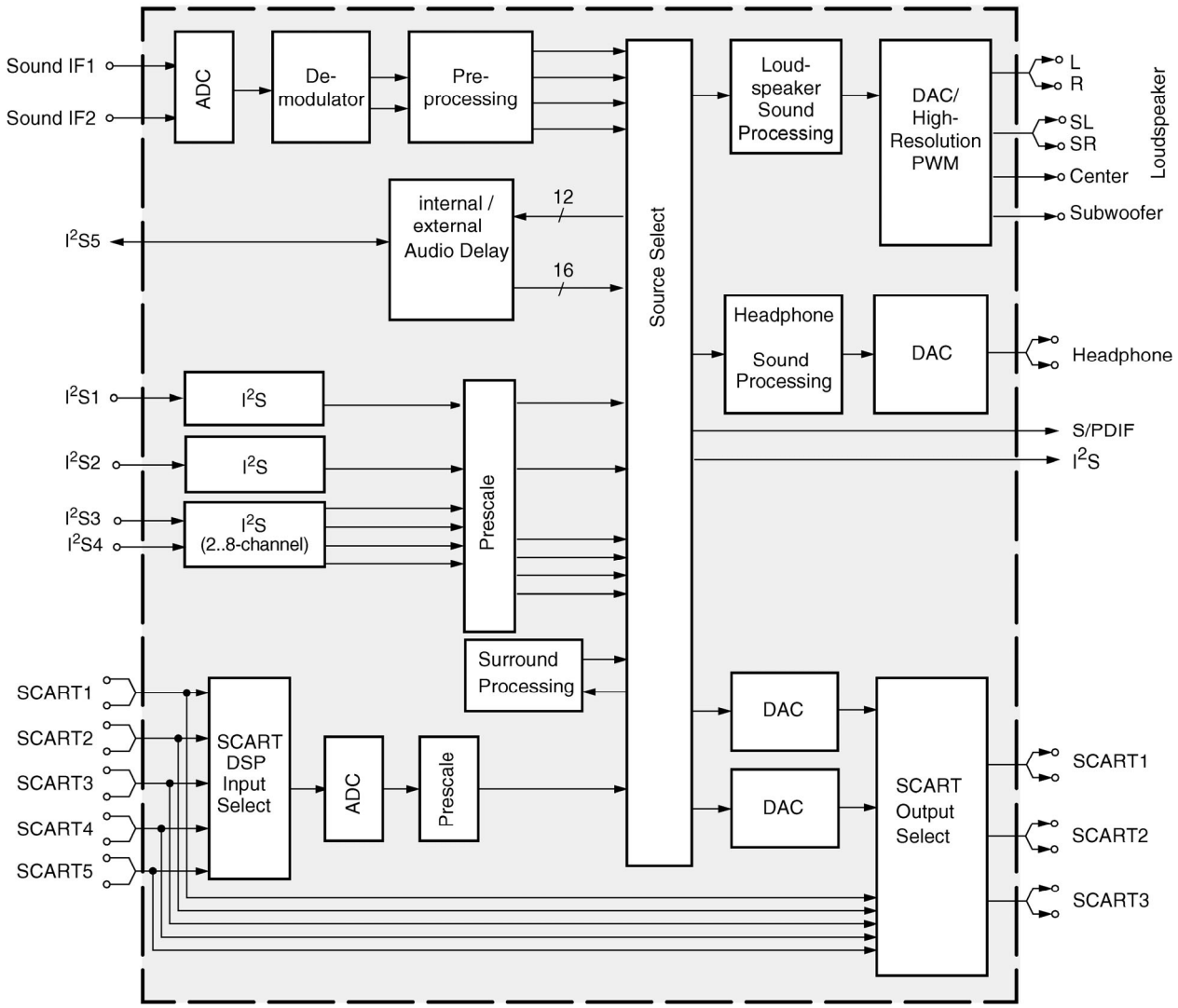
The ATMEGA8L is an 8bit of high performan ce and low power consumption AVR single chip of ATMEL.

6. MSP4440G

Feature:

- Multistandard sound process
- Multi-channel output, SPDIF output
- Interface of internal/external audio delay
- AVC(AUTOMATIC SOUND DORRECTION)
- I2S digital audio output

Block diagram is follow:



7. MK3771

Feature:

- Analog pulse generator
- Generate all kinds of fr equency, th e system n eeds frequency of 54MHA, 74.175 MHZ provided for PWM2000.

Logic table is follow:

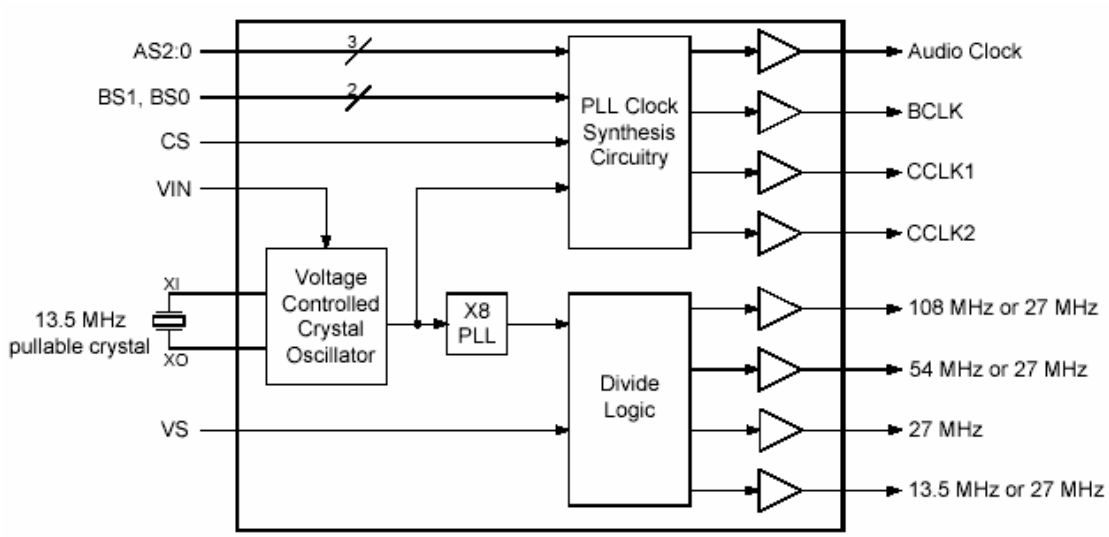
B and C Clocks (MHz)

BS1 BS0 CS			BCLK	CCLK1	CCLK2
0 0 0			74.175	20	25

VCSL Clocks (MHz)

VS	VCLK1	VCLK2 VCLK3	VCLK4	
0	27	27	27	108
M	27	54	13.5	108
1	27	27	27	27

Block diagram is follow:



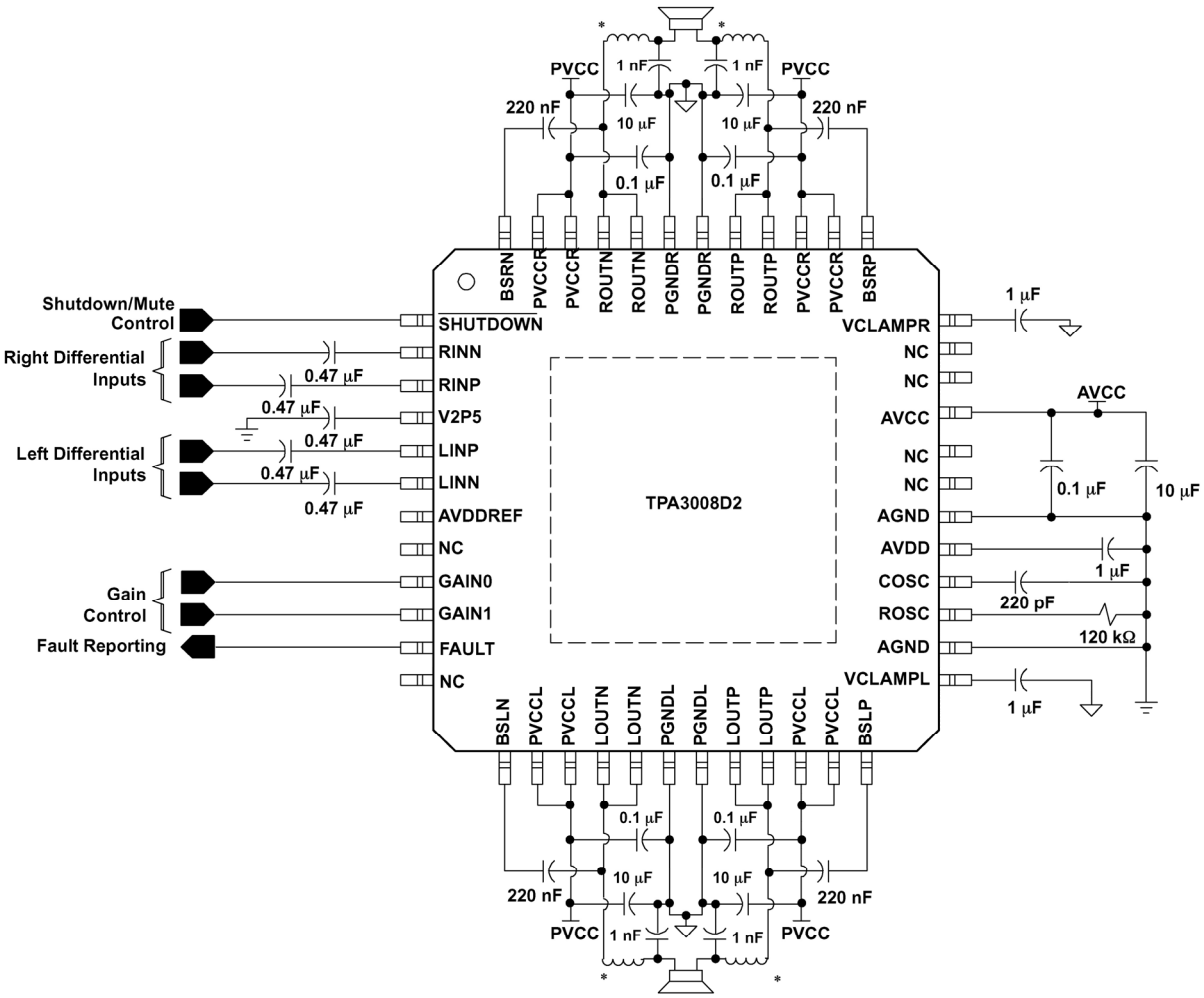
8. TP A3008

The TPA3008D2 is a 10-W (per channel) efficient, cl ass-D audio amplifier for driving bridged-t ied stereo speakers. The T PA3008D2 can drive stereo speake rs as low as 8 Ω. The high efficien cy of the TPA3008D2 eliminates the need for external heatsinks when playing music.

The gain of the amplifier is controlle d by two gai n select pin s. The gain selection s are 15.3, 21.2, 27.2 and 31.8 dB.

The outputs are fully pr otected aga inst short s t o GND, VCC, and outp ut-output sh orts. A fault terminal allows short-circuit fault reporting and automatic recovery. Thermal protection ensures that the maximum junction temperature is not exceeded.

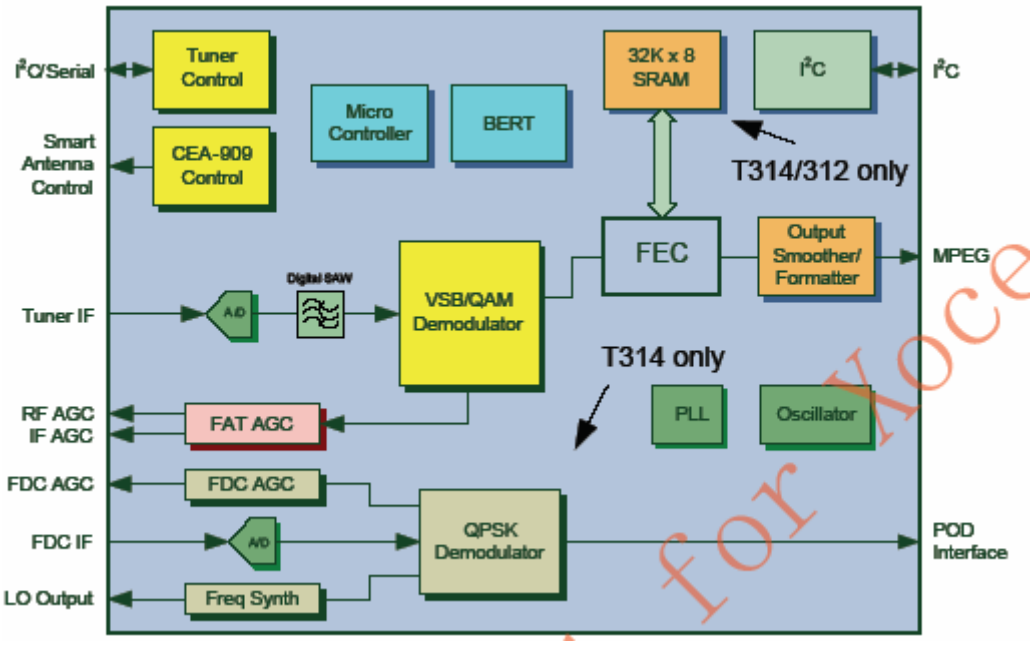
Block diagram of TPA3008D2:



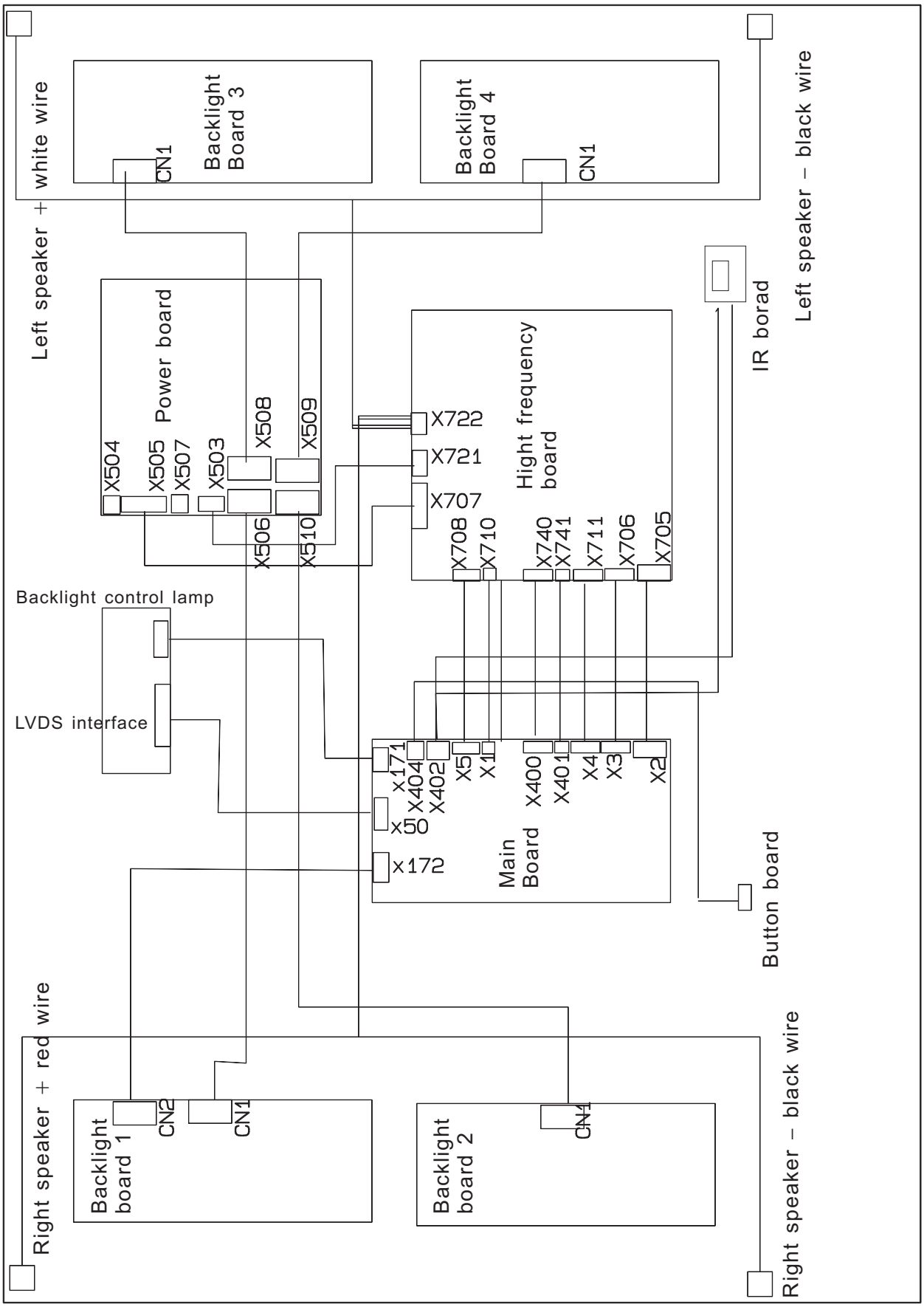
9. T312

Function: VSB/64QAM/256QAM demodulator, demodulate 44MHZ digital IF single into TS stream and sent to video decoder PW2000.

L723 and C941make up into 44MHZ lowpass of cut-off frequency. L=330NH, C=39PF.



Wiring diagram



Trouble shooting

1. Fault clearance

Before servicing please check to find the possible causes of the troubles according to the table below.

1.1 Antenna (signal):

Picture is out of focus or jumping	● Bad status in signal receiving ● Poor signal ● Check if there are failures with the electrical connector or the antenna. ● Check if the antenna is properly connected.
Fringe in picture	● Check if the antenna is correctly oriented. ● Maybe there is electric wave reflected from hilltop or building.
Picture is interfered by stripe shaped bright spots	● Possibly due to interference from automobile, train, high voltage transmission line, neon lamp etc. ● Maybe there is interference between antenna and power supply line. Please try to separate them in a longer distance. ● Maybe the shielded-layer of signal wire is not connected properly to the connector.
There appear streaks or light color on the screen	● Check if interfered by other equipment and if interfered possibly by the equipment like transmitting antenna, non-professional radio station and cellular phone.

1.2 TV set:

Symptoms	Possible cause
Unable to switch the power on	● Check to see if the power plug has been inserted properly into the socket.
No picture and sound	● Check to see if the power supply of liquid crystal TV has been switched on. (As can be indicated by the red LED at the front of the TV set) ● See if it's receiving the signal that is transmitted from other source than the station ● Check if it's connected to the wrong terminal or if the input mode is correct. ● Check if the signal cable connection between video frequency source and the liquid crystal TV set is correct.
Deterioration of color phase or color tone	● Check if all the picture setups have been corrected.
Screen position or size is not proper	● Check is the screen position and size is correctly set up.
Picture is twisted and deformed	● Check to see if the picture-frame ratio is properly set up.
Picture color changed or colorless	● Check the "Component" or "RGB" settings of the liquid crystal TV set and make proper adjustment according to the

	signal types.
Picture too bright and there is distortion in the brightest area	● Check if the contrast setting is too high. ● Possibly the output quality of DVD broadcaster is set too high. ● It maybe also due to improper terminal connection of the video frequency signal in a certain position of the system.
Picture is whitish or too bright in the darkest area of the picture	● Check if the setting for the brightness is too high ● Possibly the brightness grade of DVD player (broadcaster) is set too high.
No picture or signal produced from the displayer if “XXX in search” appears.	● Check if the cable is disconnected. ● Check if it’s connected to the proper terminal or if the input mode is correct.
There appears an indication - “outside the receivable scope)	● Check if the TV set can receive input signal. The signal is not correctly identified and VGA format is beyond the specified scope.
Remote control cannot work properly	● Check if the batteries are installed in the reverse order. ● Check if the battery is effective. ● Check the distance or angle from the monitor. ● Check if there is any obstruct between the remote control and the TV set. ● Check if the remote control signal- receiving window is exposed to strong fluorescence.
No picture and sound, but only hash.	● Check if the antenna cable is correctly connected, or if it has received the video signal correctly.
Blur picture	● Check if the antenna cable is correctly connected. ● Of if it has received the right video signal.
No sound	● Check if the “mute” audio frequency setting is selected. ● Check if the sound volume is set to minimum. ● Make sure the earphone is not connected. ● Check if the cable connection is loose.
When playing VHS picture search tape, there are lines at the top or bottom of the picture.	● When being played or in pause VHS picture search tape sometimes can’t provide stable picture, which may lead to incorrect display of the liquid crystal TV, In this case please press “auto” key on the remote control so as to enable the liquid crystal TV set to recheck the signal and then to display correct picture signal

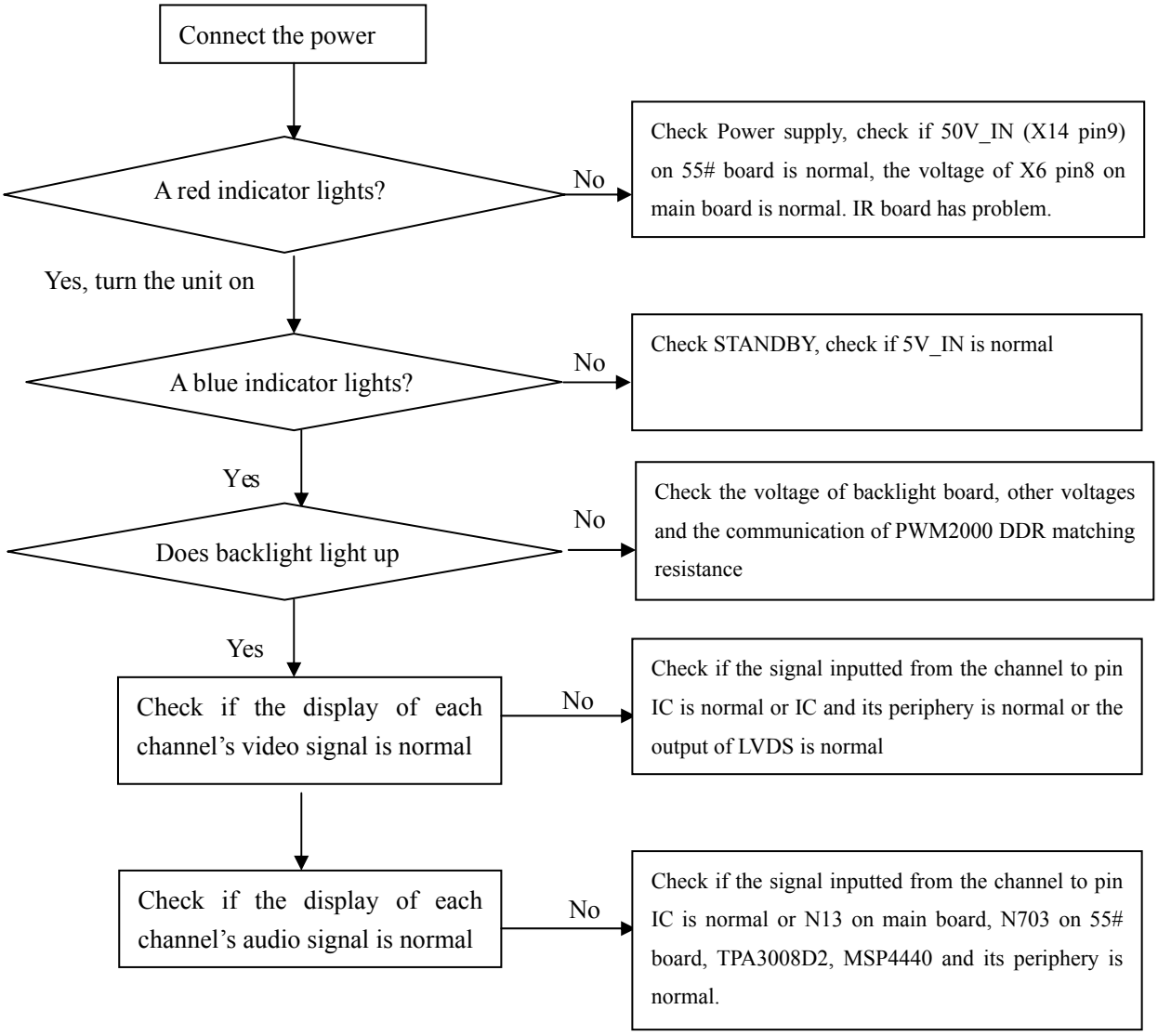
2. Identification criteria for the bright spot and dark spot of the LCD screen

<table>
<tr><td rowspan="2">Category</td><td rowspan="2">Crite ria</td><td colspan="5">Quantity allowed</td><td colspan="5">Distance between two spots</td></tr>
<tr><td>15"</td><td>20"</td><td>22"</td><td>30"</td><td>40"</td><td>15"</td><td>20"</td><td>22"</td><td>30"</td><td>40"</td></tr>
<tr><td rowspan="3">Bright spot</td><td>One single spot</td><td>≤5</td><td>≤2</td><td>≤5</td><td>≤2</td><td>≤3</td><td rowspan="6">≥15mm</td><td colspan="4" rowspan="3">≥15mm</td></tr>
<tr><td>Two neighboring spots</td><td>≤2</td><td>≤1</td><td>≤2</td><td>≤1</td><td>≤1</td></tr>
<tr><td>Total No.</td><td>≤5</td><td>≤2</td><td>≤5</td><td>≤2</td><td>≤3</td></tr>
<tr><td rowspan="3">Dark spots</td><td>One single spot</td><td>≤6</td><td>≤7</td><td>≤5</td><td>≤4</td><td>≤10</td><td rowspan="3">≥10mm</td><td colspan="3" rowspan="3">≥5mm</td></tr>
<tr><td>Two neighboring spots</td><td>≤2</td><td>≤2</td><td>≤2</td><td>≤1</td><td>≤5</td></tr>
<tr><td>Total No.</td><td>≤6</td><td>≤7</td><td>≤5</td><td>≤4</td><td>≤10</td></tr>
<tr><td colspan="2">Total defected point</td><td>≤8</td><td>≤7</td><td>≤5</td><td>≤4</td><td>/</td><td colspan="4"></td></tr>
</table>

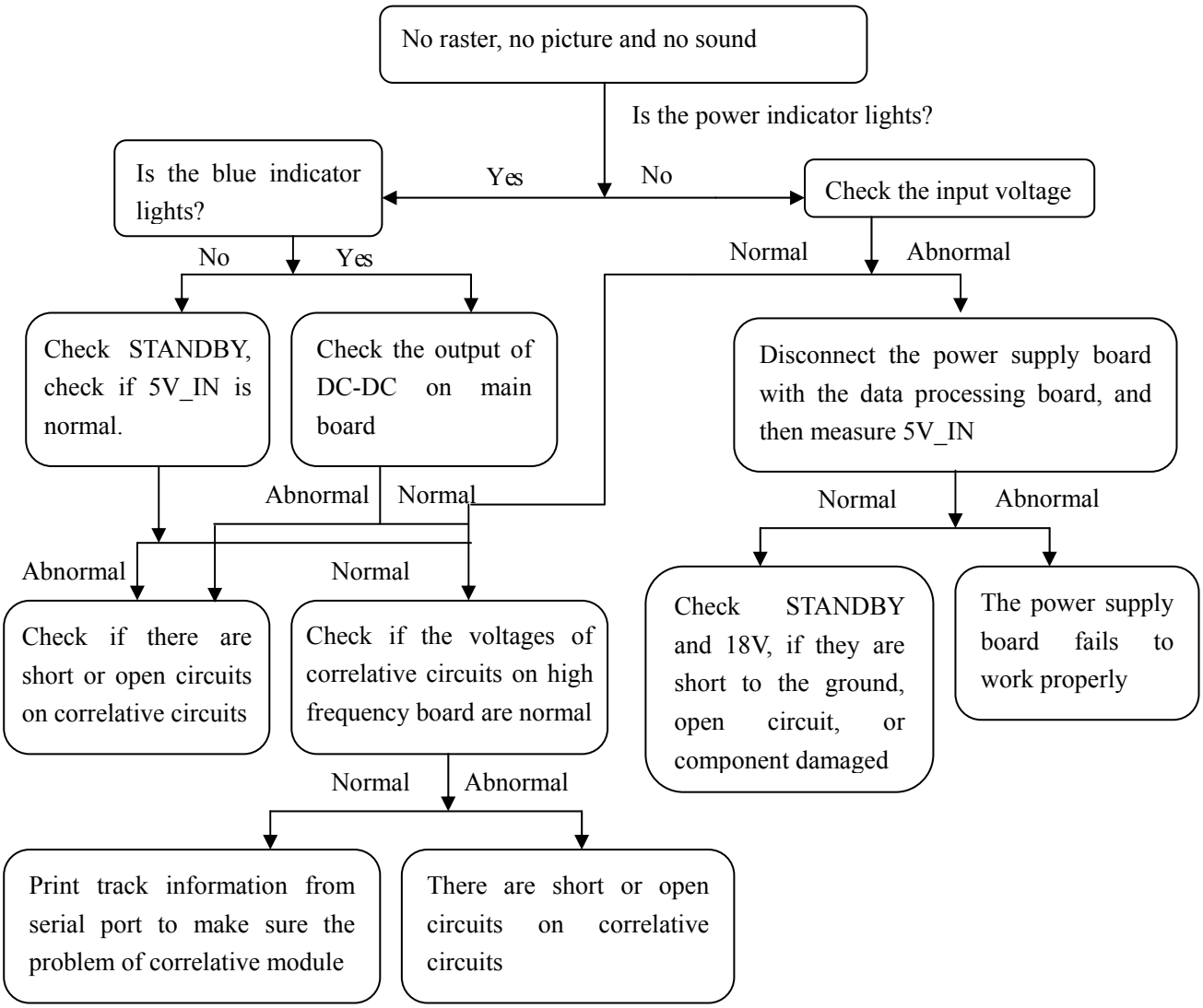
Notes:

1. Definition of defected point (bright spot, dark spot): It is identified as a defected point if its area exceeds 1/2 of a single picture element (R, G, B).
2. Definition of bright spot: It is identified as a bright spot if it is bright in the state of dark field and its bright size remains unchanged
3. Definition of dark spot: It is identified as a dark spot if it is dark in the state of white field and its dark size remains unchanged
4. Definition of two neighboring points: Defects of a group of picture elements (RB, RG, GB).

3. Troubleshooting guide



3.1 No raster, no picture and no sound



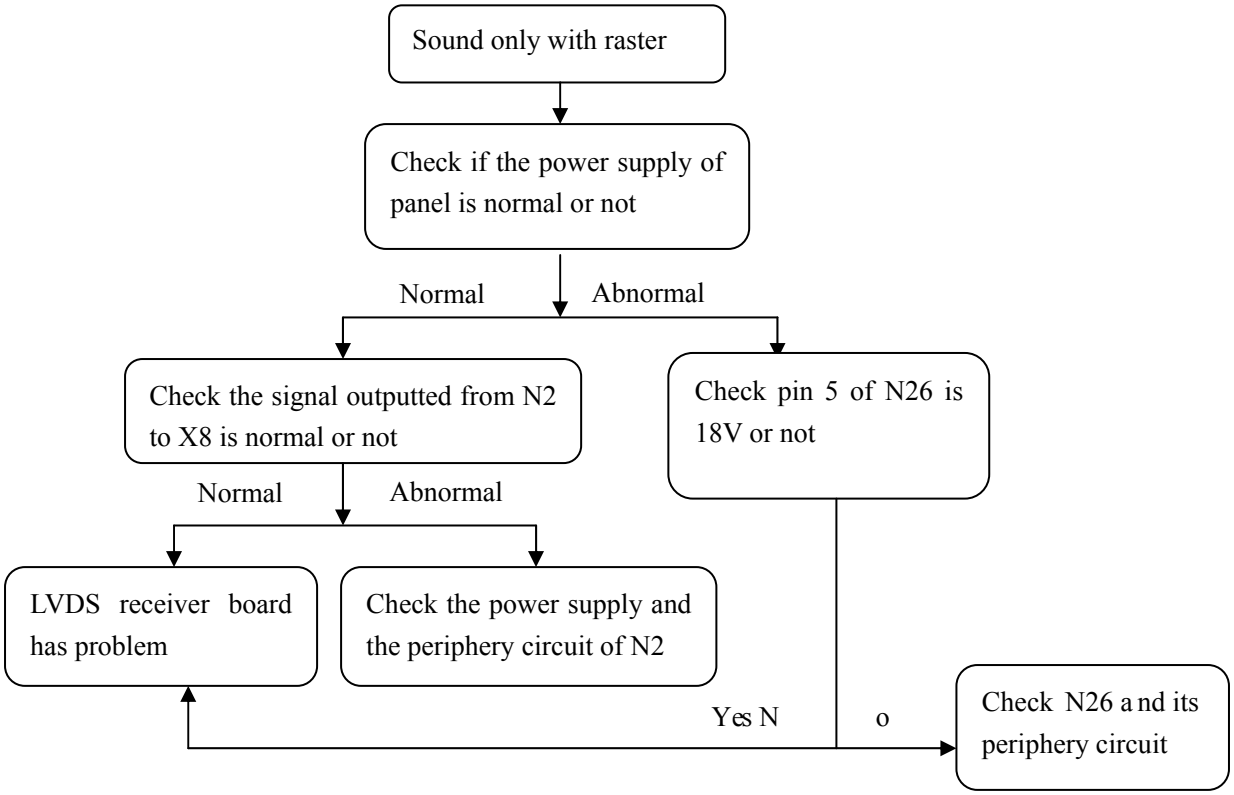
Note: The soldering quality of resistor rows between N30, N31, N32, N33 and N3 is very important, if it has problem, DDR may fail to work properly.

3.2 No picture but with sound (blue screen and OSD appear)

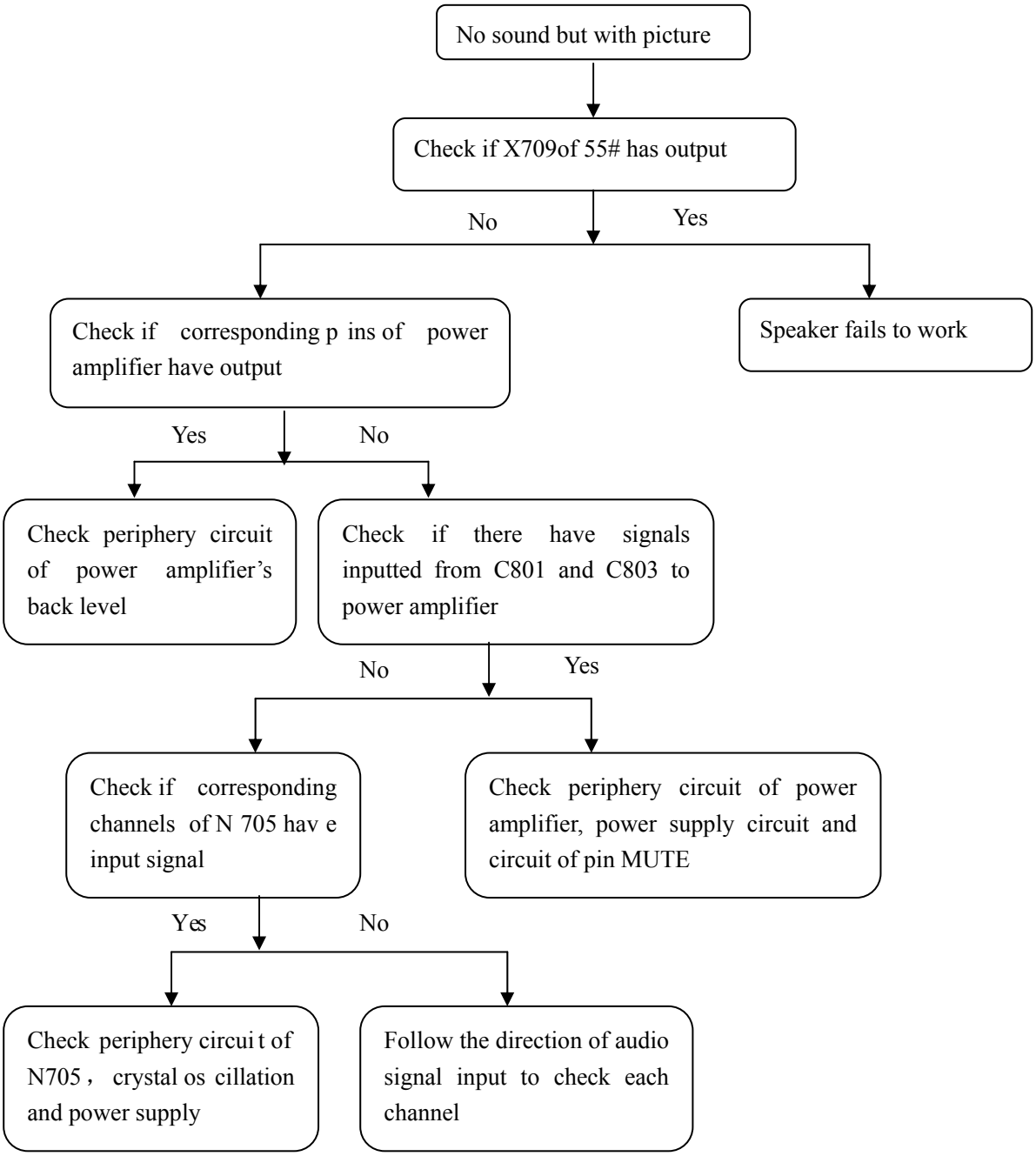
The I2C communication of EEPROM N35 made a mistake.

Note: Please refer to checking procedure (5) to get the methods for checking the phenomenon of no picture but with sound of HDMI channel

3.3 No picture but with sound (only backlight lights up)

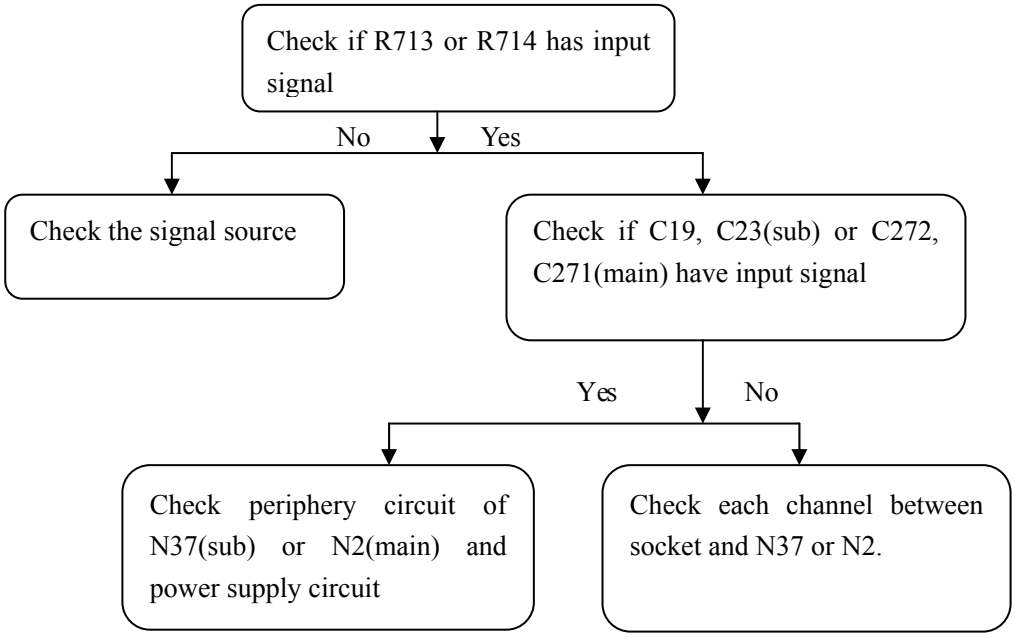


3.4 No sound but with picture

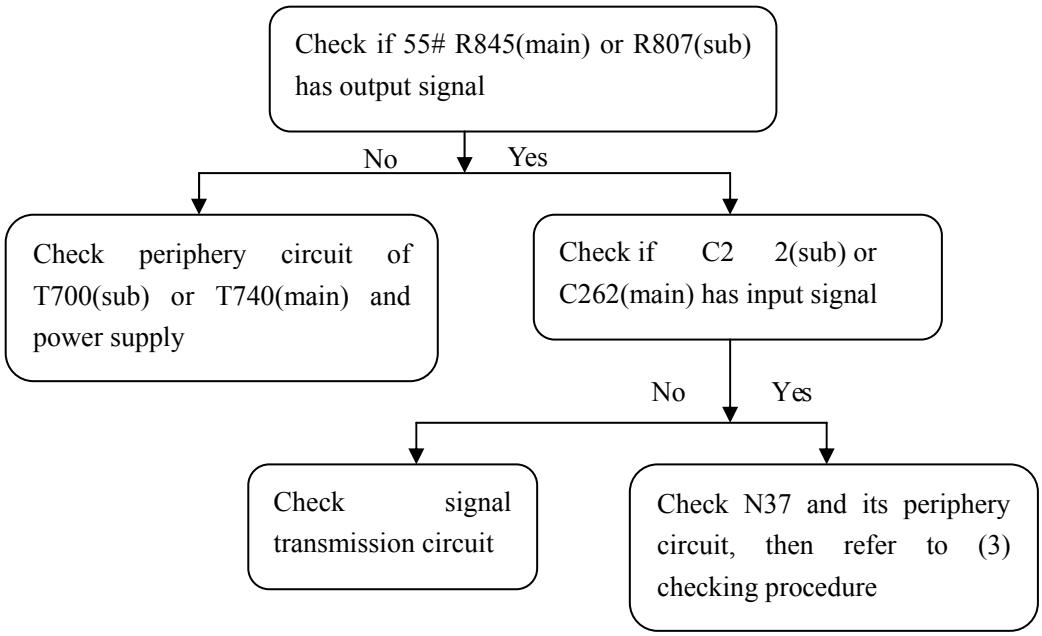


3.5 A certain channel fails to work properly

a) AV/S-terminal with no picture

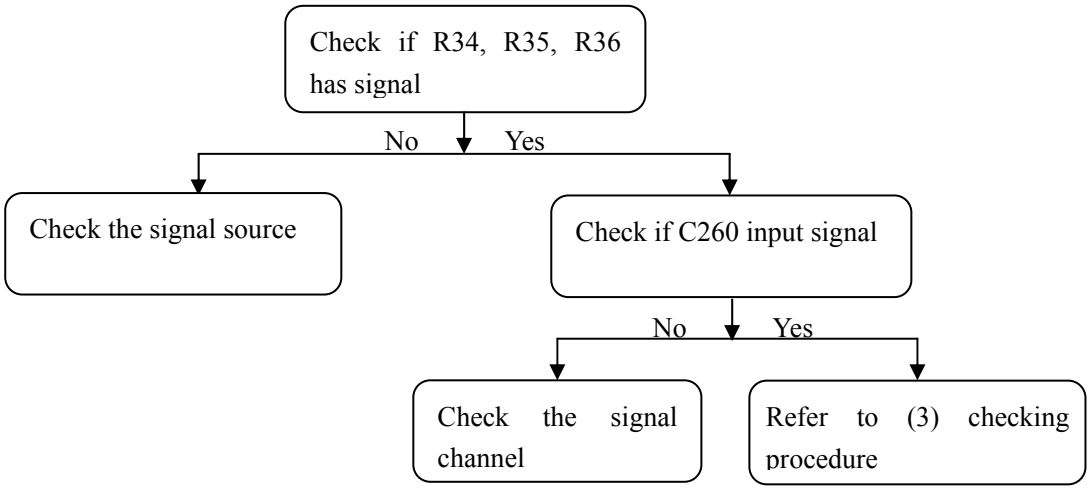


b) TV with no picture

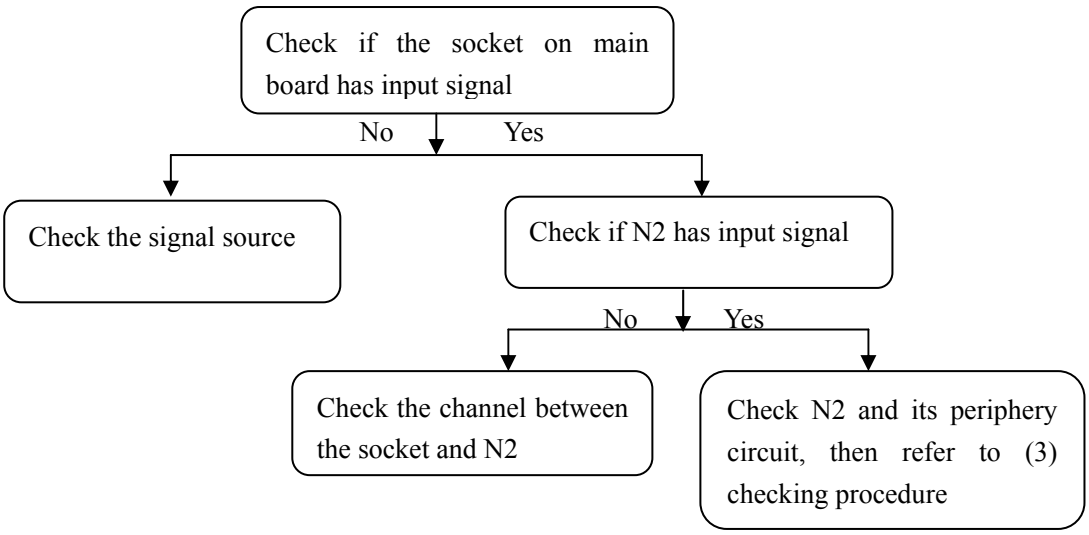


Note: “main” means main channel; “sub” means sub-channel.

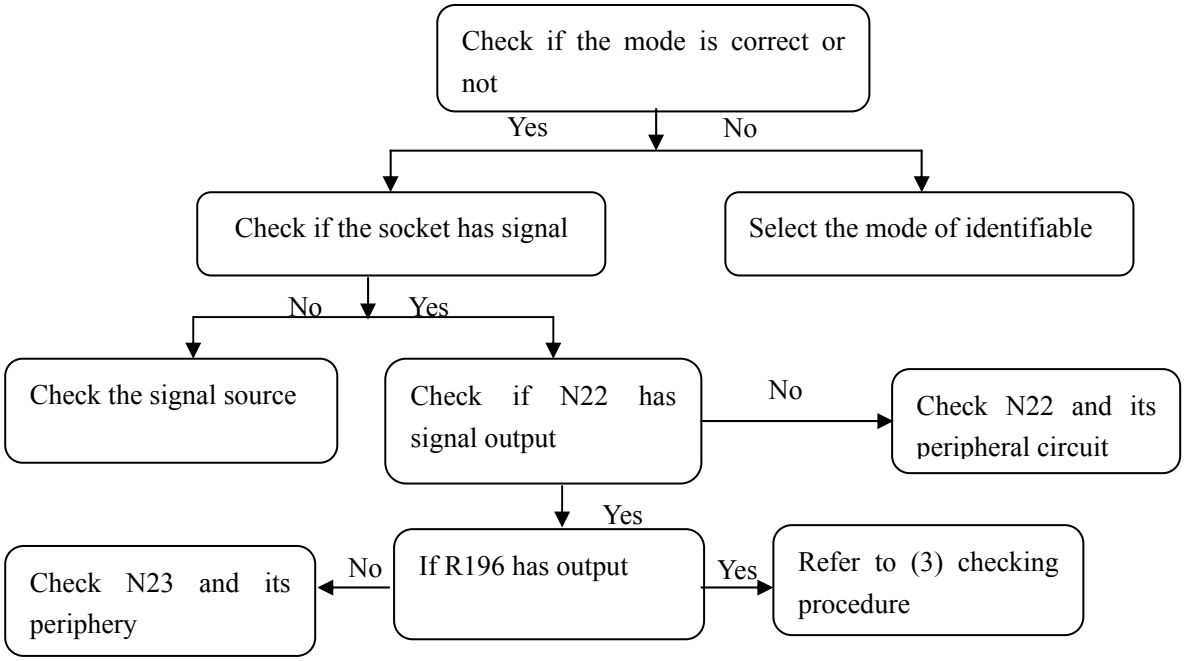
c) D_Sub with no picture



d) YPbPr with no picture

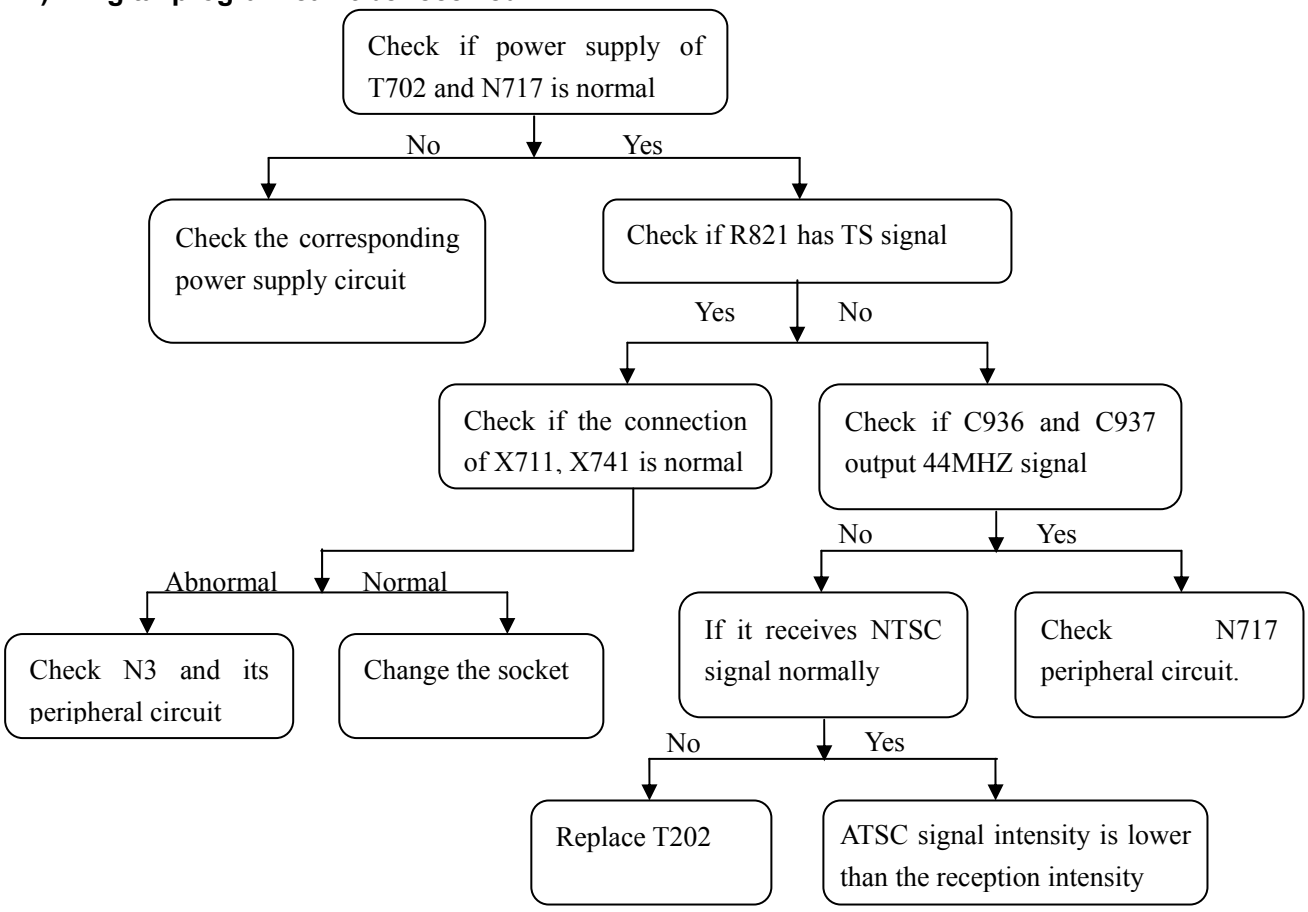


e) HDMI with no picture



Note: in order to display HDMI picture properly (especially when use the DVD with HDCP information), first make sure to flash write N16 and N171G(EDID chip of HDMI) accurately.

f) Digital program can't be received



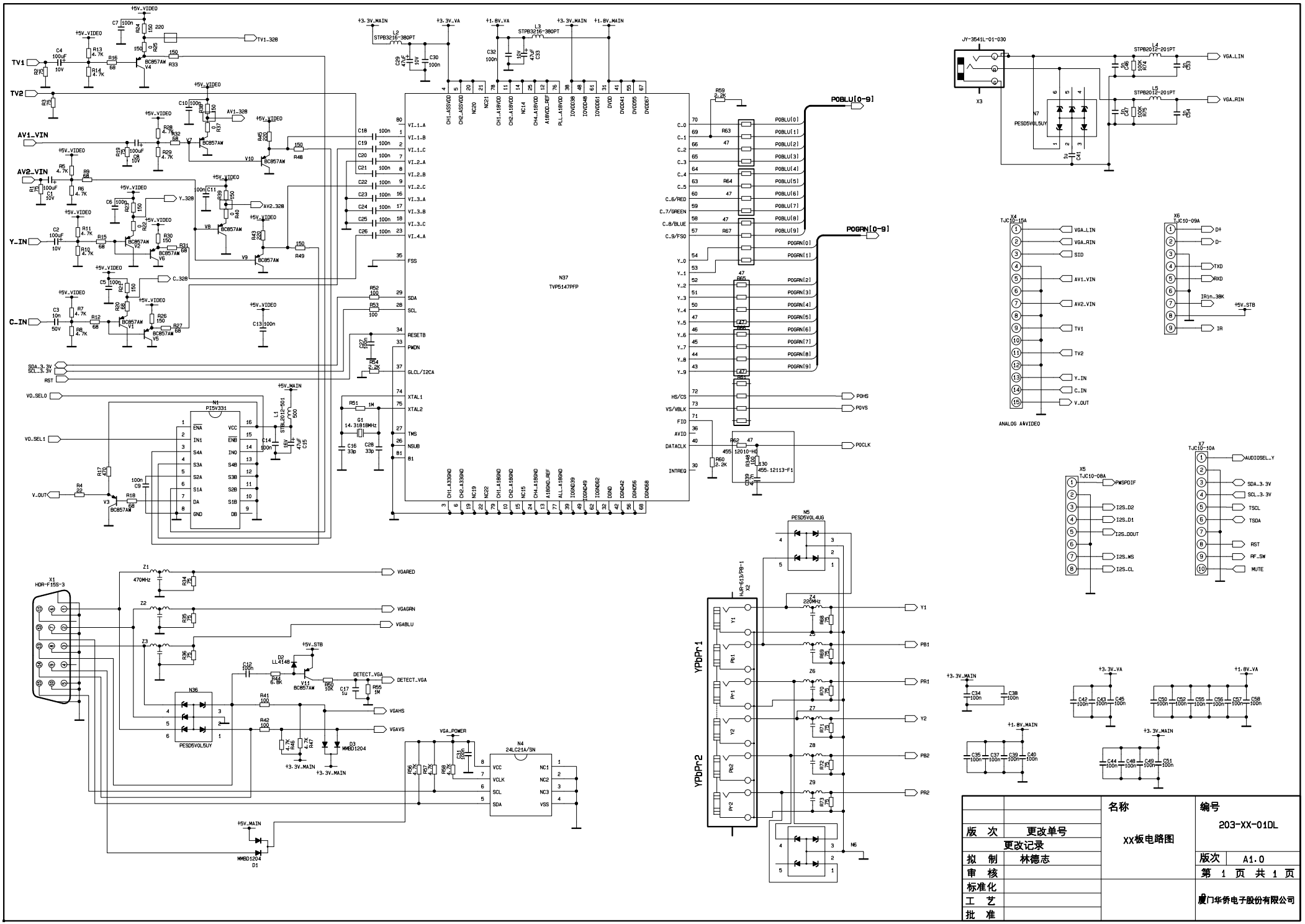
g) HDMI with no sound

Check if R187 3pins output square-wave, and check if G4 outputs signal normally.

3.5 Abnormal picture

a) A certain differential wire pair of LVDS of X50 (RX0+/-, RX1+/-, RX2+/-, RX3+/-) is abnormal, which may lead to lack of color or color splash.

b) The DDR matching resistor row of N2 is rosin joint, which may lead to lack of color or color splash.



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拟 制	林德志		
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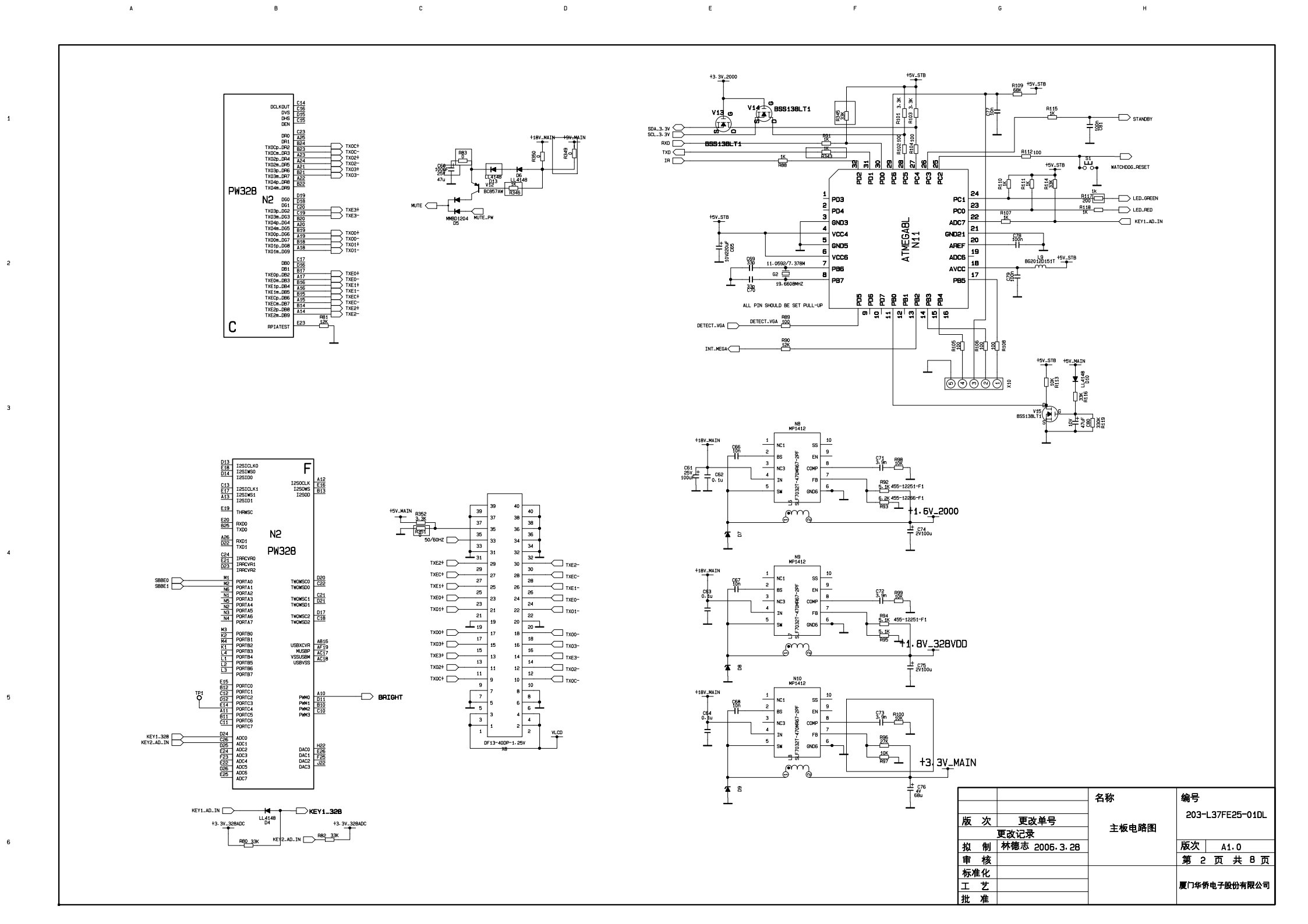
标准化			
工 艺			厦门华侨电子股份有限公司
批 准			



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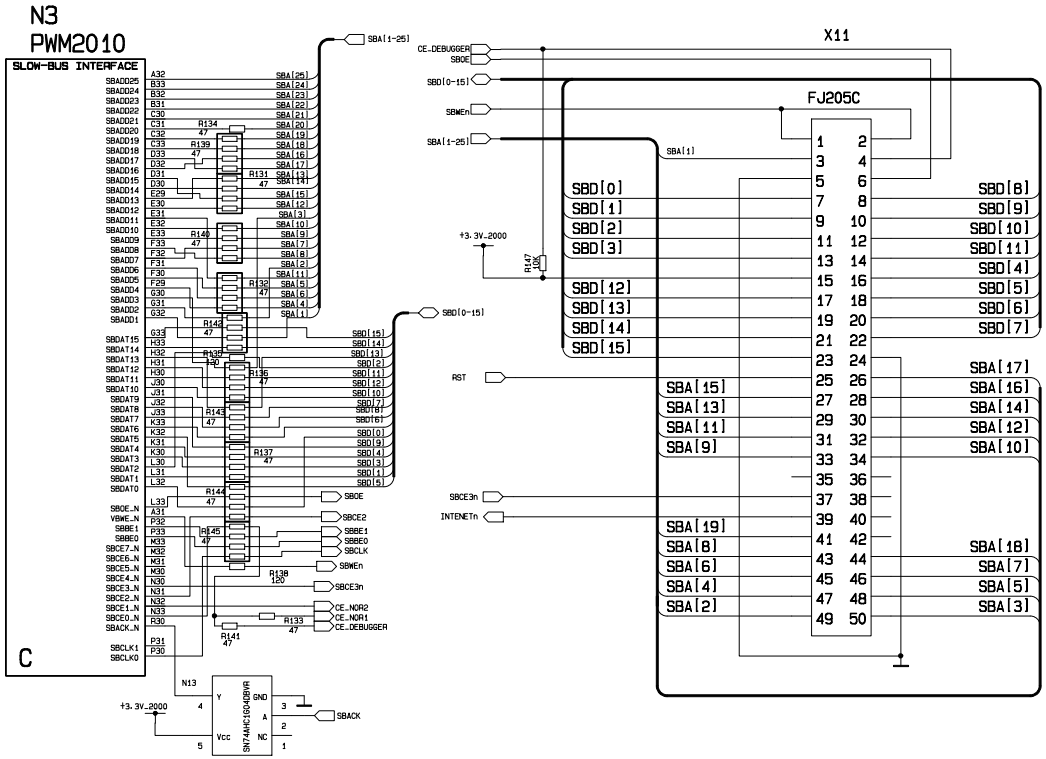

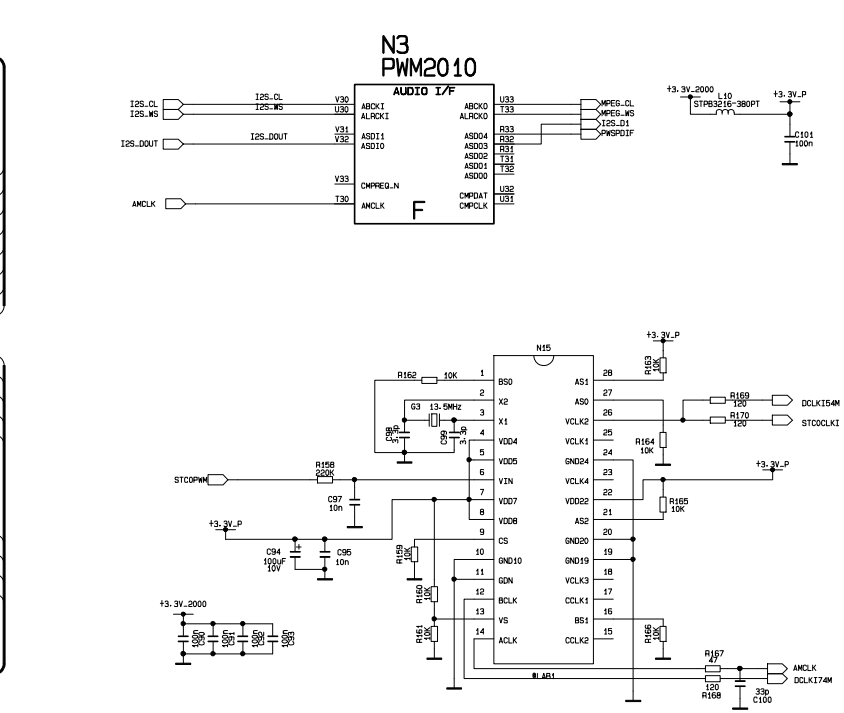

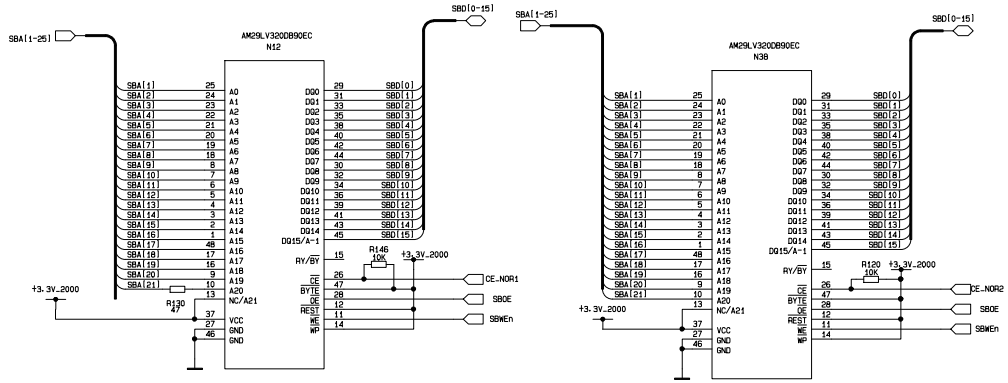

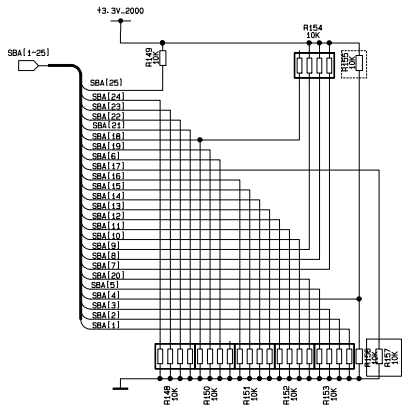

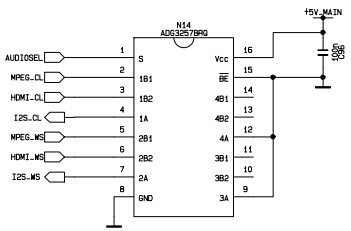

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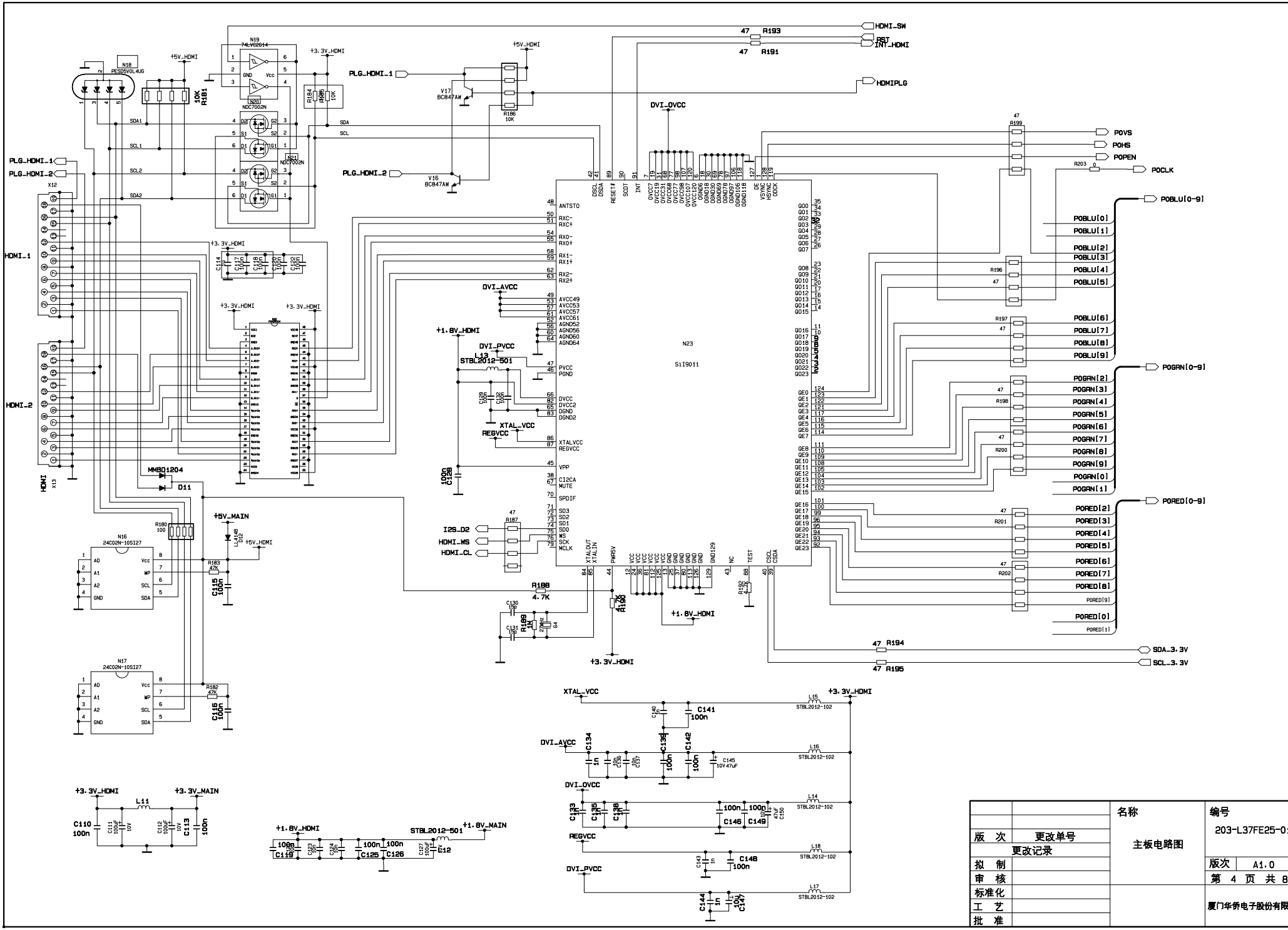

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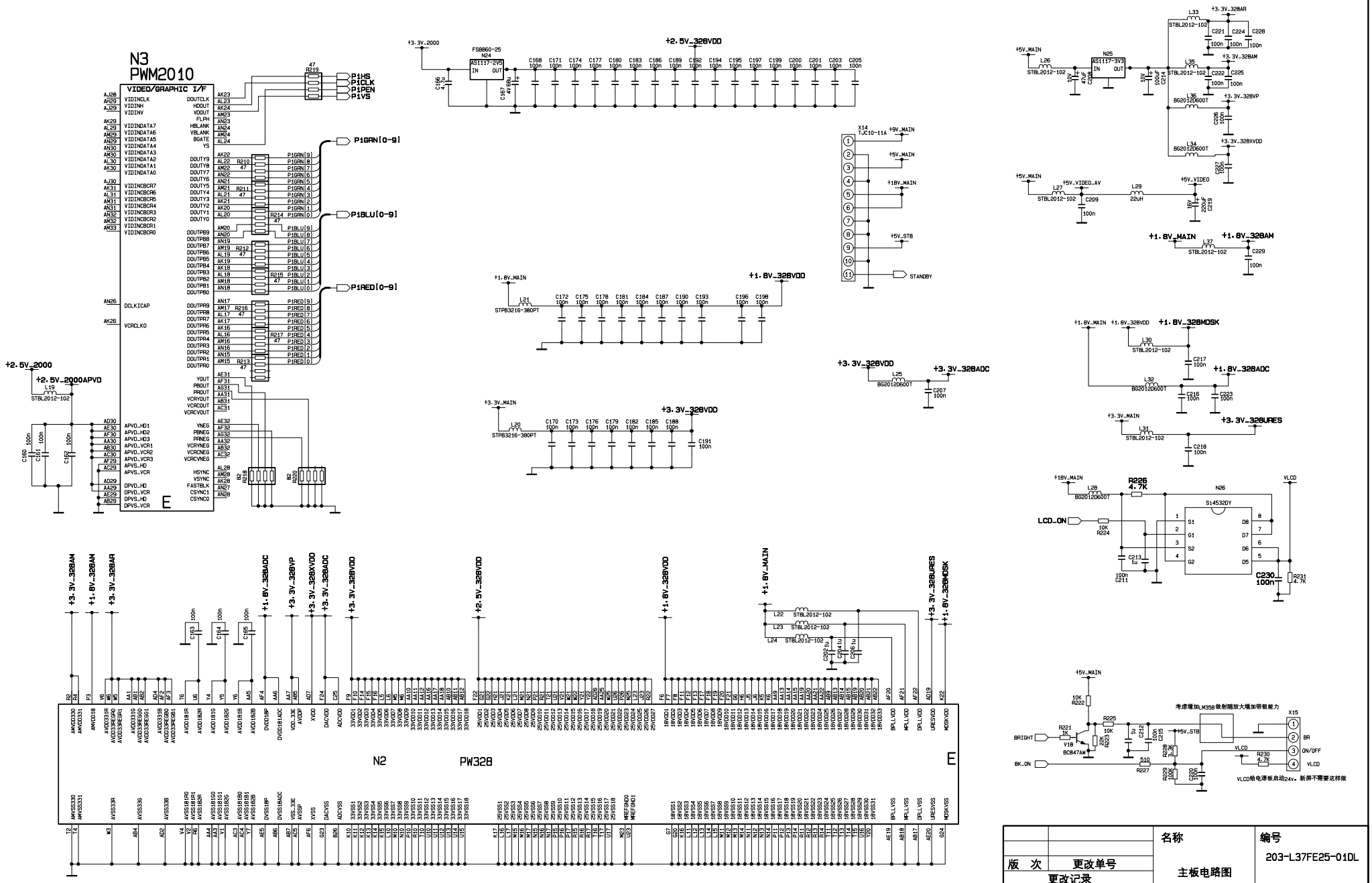

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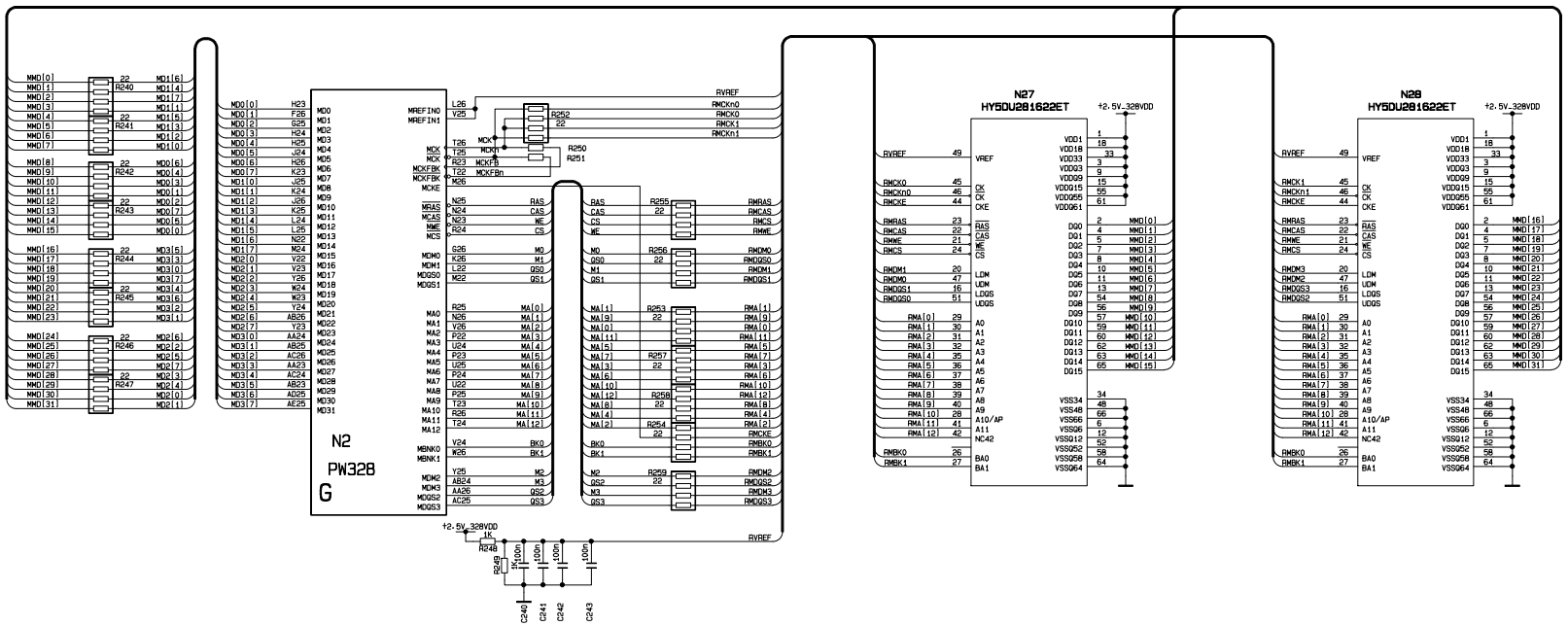

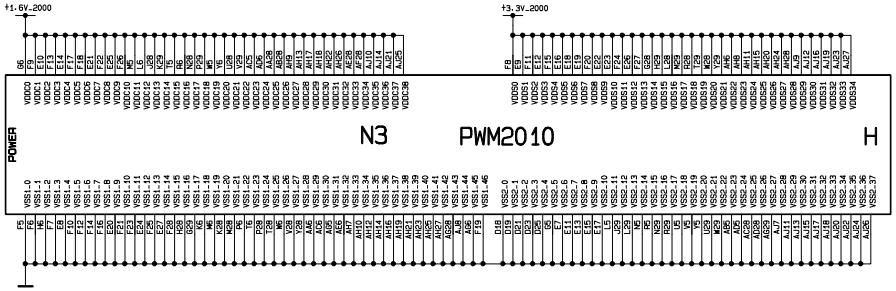

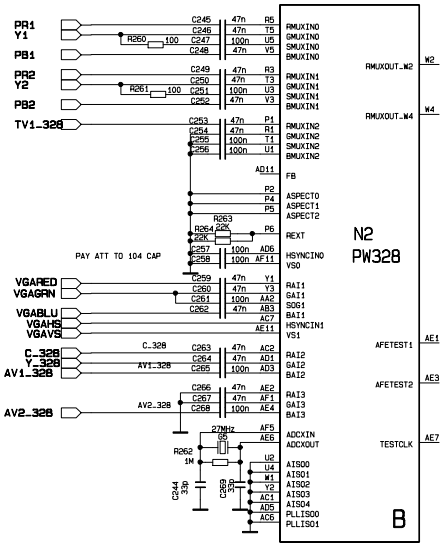

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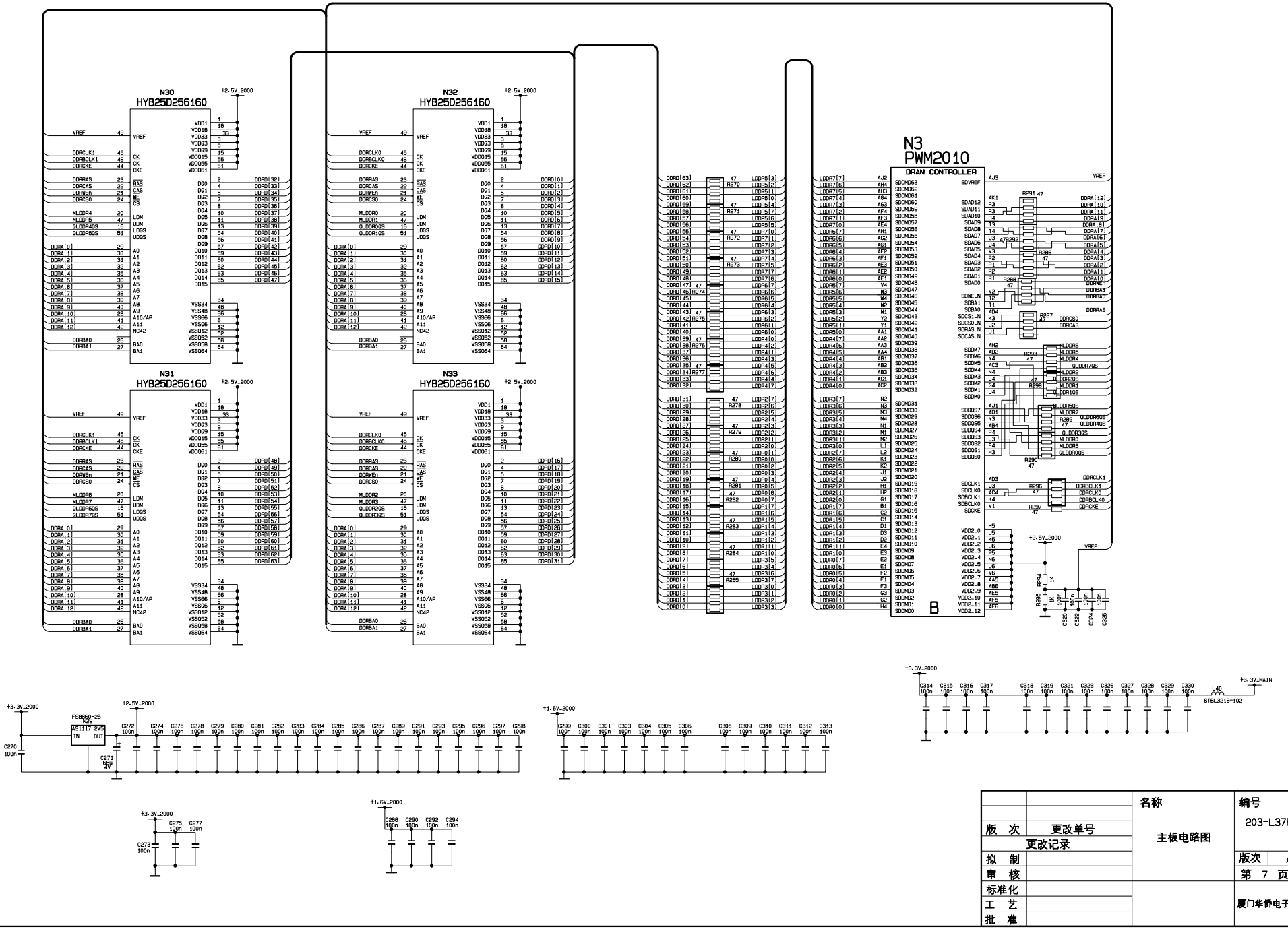

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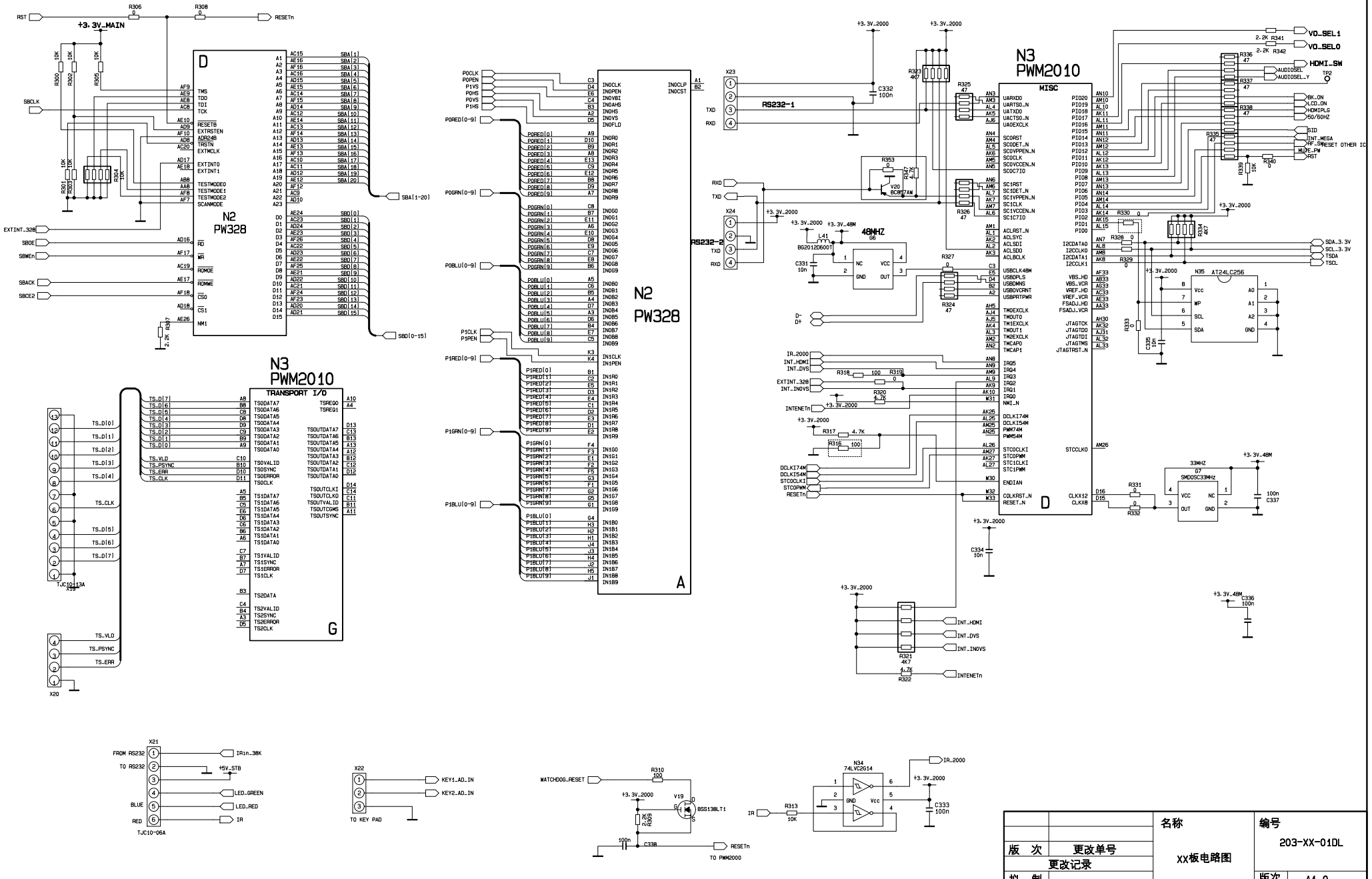

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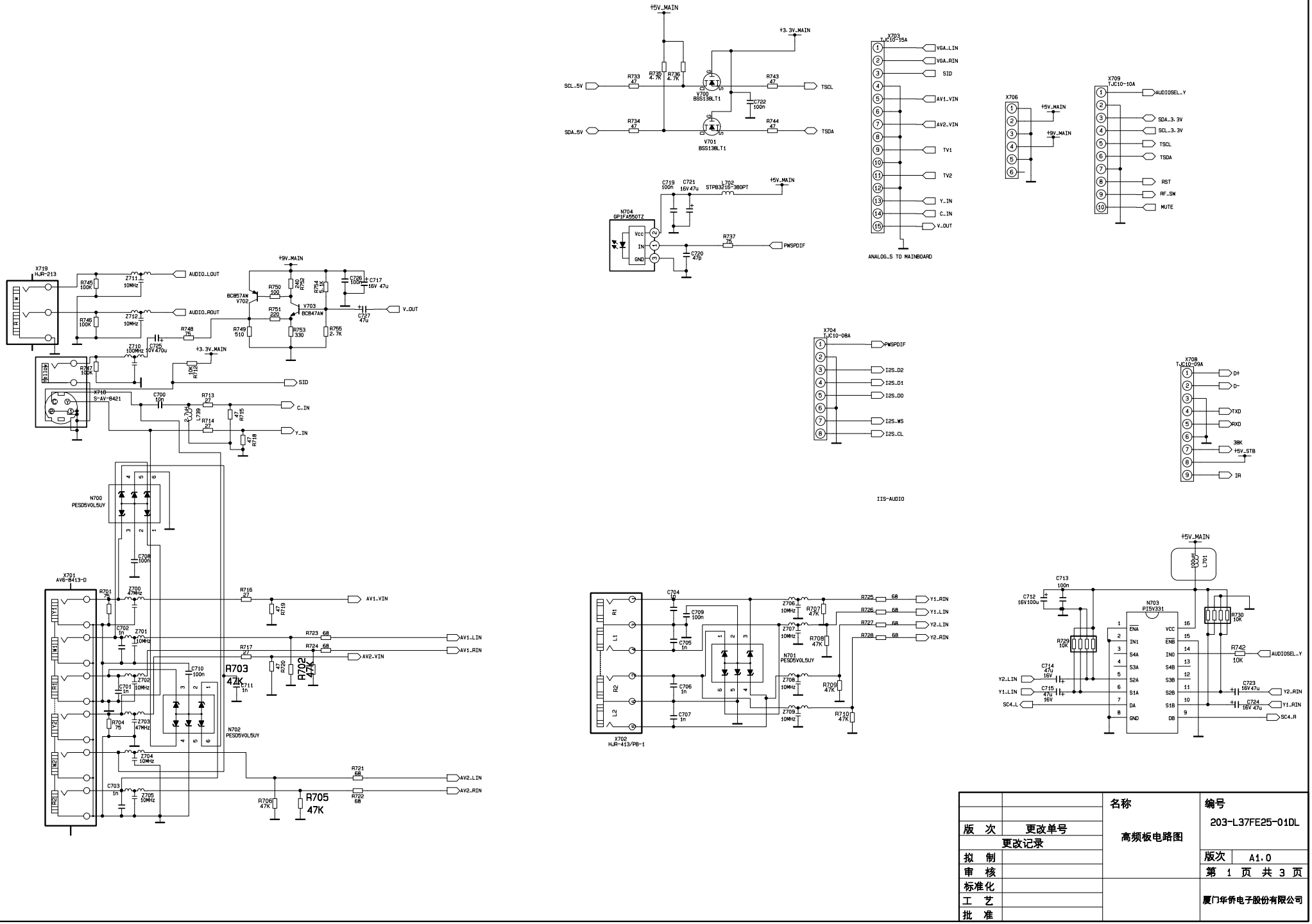

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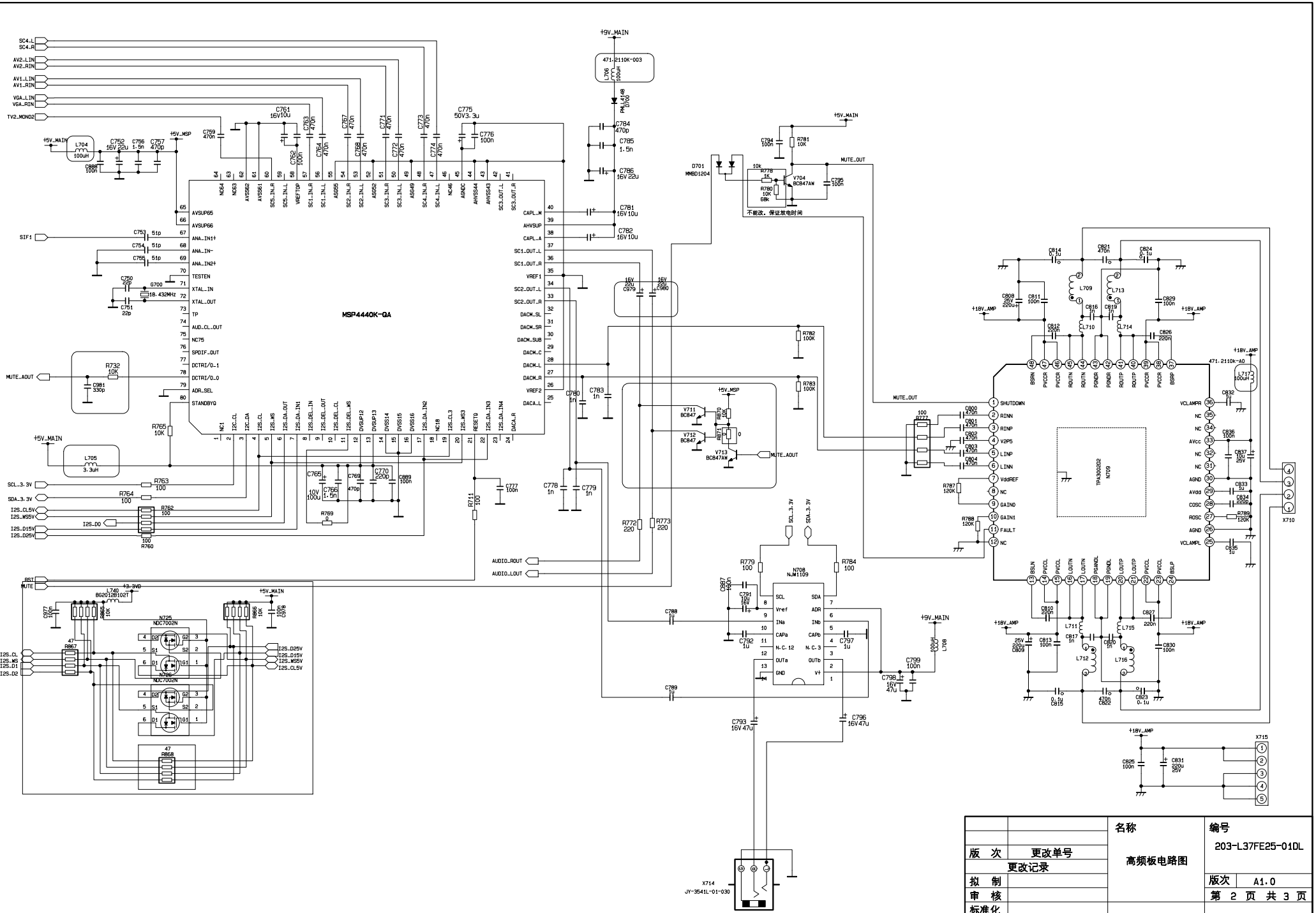

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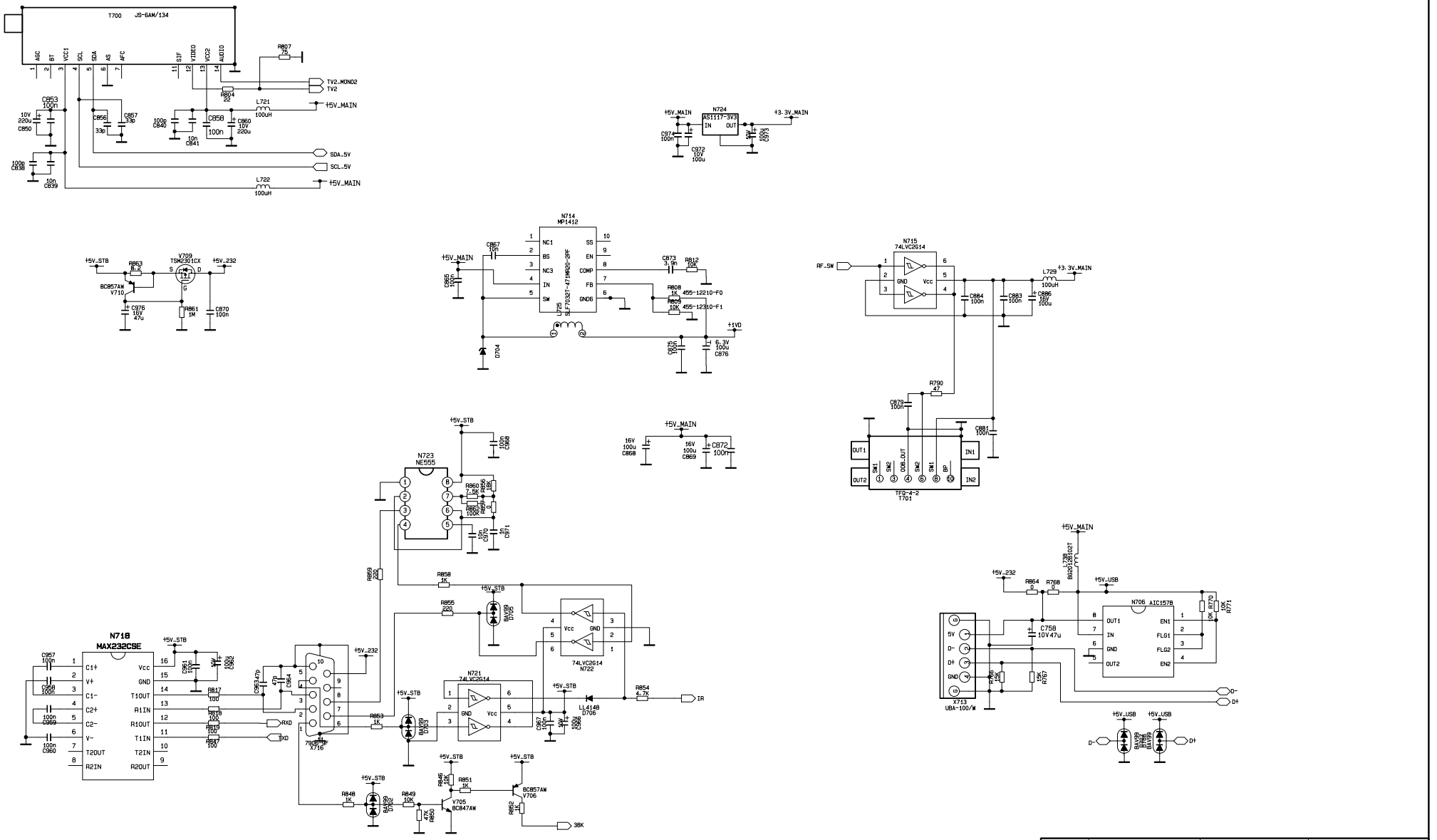

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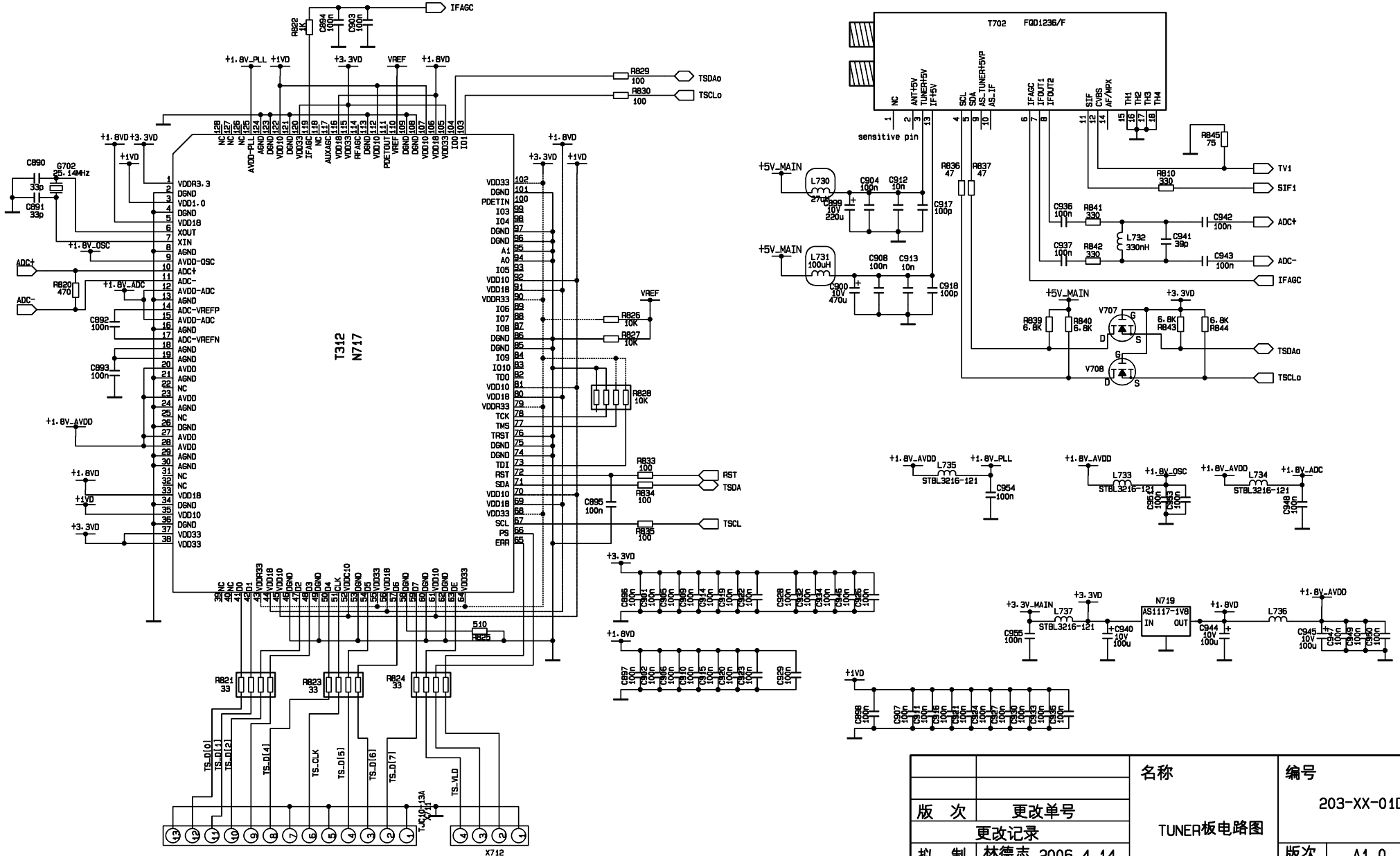

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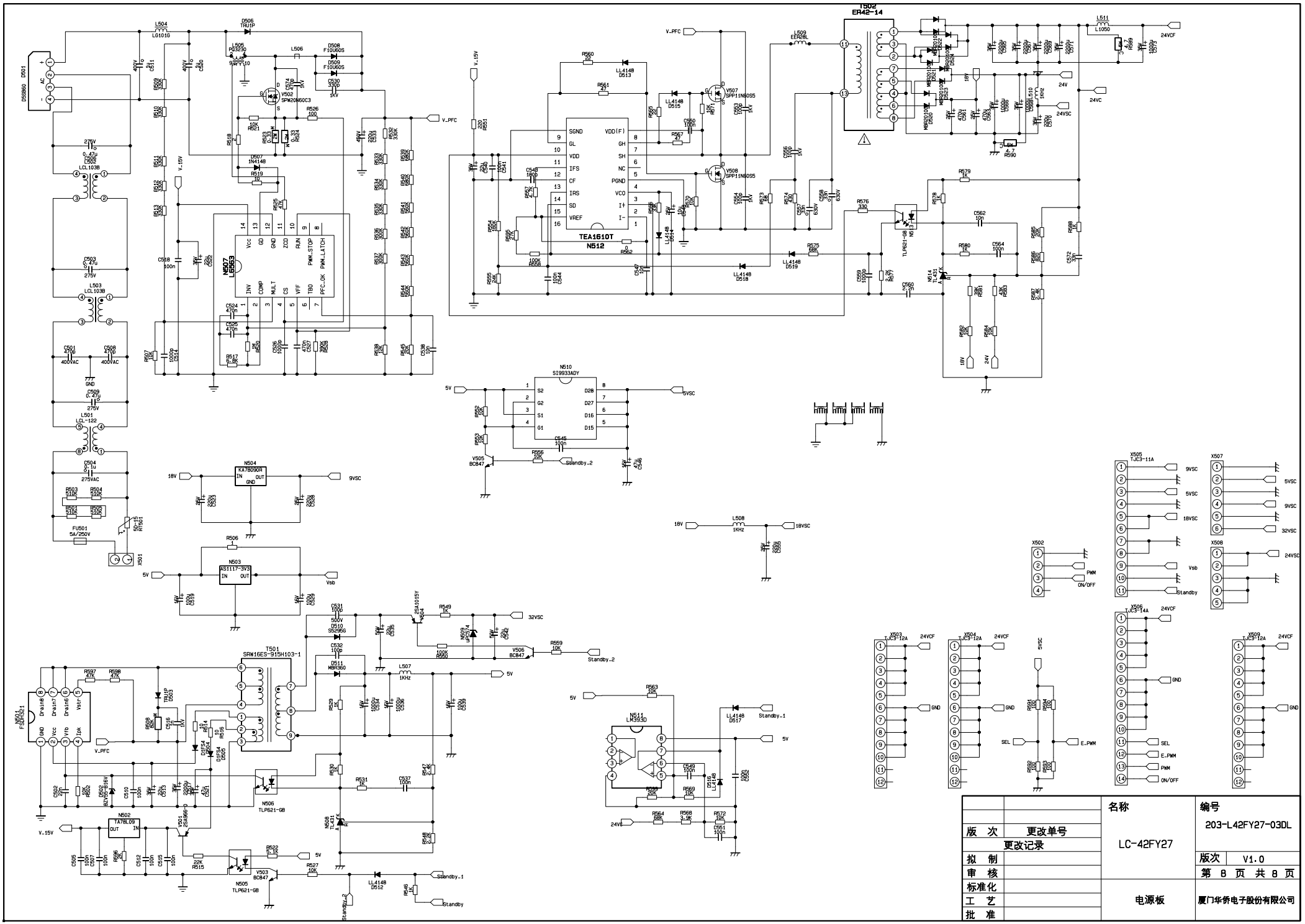

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审 核			
标准化		电源板	厦门华侨电子股份有限公司
工 艺			
批 准			

APPENDIX-A: Main assembly

NAME	NO.	MAIN COMPONENT AND it'S NO.	
High frequency board	667.47FE27-55	N705 N709 N717	MSP4440G (353.444 00-20) TPA3008D2 (353.3008 0-10) T312 (353.03120-10)
Main board	667.3FE27-01	N37 N2 N3 N23	TVP5147M1 (353.51470-30) PW328 (35 3.03280-30) PMW2000 (353.20000-10) SiI9011M (353.90 110-10)
Keypad board	667.42FE32-05		
IR board	667.42FE32-09		
Power supply board	667.42FE17-20		
Remote control	301.D42FB6-06	RC-D06	
Panel 335.42	022-00	V420H1-L05	