LCD TELEVISION





CONTENTS

Safety precautions	1
Alignment instructions	3
Method of software upgrading	6
Working principle analysis	12
Block diagram	13
IC block diagram	14
Wiring diagram	19
Troubleshooting guide	20
Schematic diagram	23
APPENDIX-A: Assembly list	
APPENDIX-B: Exploded View	

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 dagame.

- 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 °C
	Scope for storage	-20 ~ +60 °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

PM5518 (video signal generator) VG-849 (VGA signal generator) CA210 (white balancer)

2 Alignment flow-chart

The alignment flow-chart is shown as fig-1

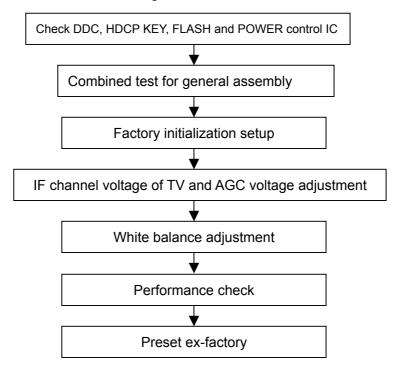


Fig-1 adjustment flow-chart

3 Unit adjustments

Connect all the boards according to wiring diagram, connect with power and observe the display. Method for entering factory menu: press "INPUT", "2", "5", "8" and "0" in turn to enter factory menu; press "CH+" and "CH-" to select adjustment items and press "VOL+" and "VOL-" to adjust value items, press "MENU" continuously to exit.

3.1 Initialization

Enter factory menu, select "OPTION" and "HOTEL OPTION" sub-menu, adjustment of items to see table1.

Itania - Desert - Des		
Items	Preset	Introduce
HOTEL	0	1: HOTEL OPTION of factory menu is optional
		0: HOTEL OPTION of factory menu is not optional
LOGO	1	1: display LOGO in no signal or turn on
		0: no LOGO display
ADC PRESCALE	00A	Adjust according different power consumption
SIF PRESCALE	000	Adjust according different power consumption

Table1 sub-menu adjustment

BACK LIGHT	28	Adjust according different screen
ALL COLOR	1	1: white balance of each channel auto offset based on the HDMI white
		balance
		0: white balance of each channel adjust the offset base separately
ISP	0	0: no unit upgrade on the assembly line
		1: unit upgrade on the assembly line
NO STANDY	00	01: turn on; 00: memory function of turn on; 10: standby
INIT VOLUME	0-100	Volume of turn on
INIT CHANNEL	1-200	Channel of turn on
INIT SRC	Source	Source of turn on
EEPROM-MEMORAY	>	EEPROM Initialization (operate when EEPROM data chaos)
RECALL		

3.2 Adjustment for AFT voltage and AGC voltage of IF channel in TV

3.2.1 IF AFC adjustment

Disconnect J401(B face), input 38.9MHz PAL signal of 80dB from J401 near the socket, Adjust L404 to value 0.9V of TP402. Enter factory menu, adjust TDA4470 from BG to LL, input 33.9MHz SECAM signal of 80dB, adjust RP402 to value 0.9V of TP402, then wed J401.

3.2.2 IF AGC adjustment

Input 184.25MHz RF signal of 60DB from RF terminal, adjust RP401 to value 4V of TP404 and there should be no obvious snowy picture. Increase the signal to 90DBV and it should be display normally and no obvious noise.

- 3.3 White balance adjustment
- 3.3.1 white balance adjustment of HDMI
- a. Input VG-848 signal from HDMI: TIMING854(800* 600/60Hz) and eighth level gray-scale signal of PAT920. Use color analyzer CA210 to adjust white balance.
 - b. Enter submenu of COLOR TEMP., Select 9300k of color temperature
- c. Fixed value of B GAIN, adjust R GAIN and G GAIN, let the color coordinate of the seventh level be 285 and 293. Fixed value of B OFF, adjust R OFF and G OFF, let the color coordinate of second level be 285 and 293 and the brightness be about 3nit-10nit. Adjustment R GAIN, G GAIN, R OFF and G OFF repeatedly until the value of the two levels gray-scale be 285 and 293.
- 3.3.2 VGA/YPBPR/AV white balance check and correct
- a. Input VG-848 signal of VGA: TIMING854(800* 600/60Hz) (PATIERN:CROSS) and auto adjust to full screen, then input PAT948 black/white signal, enter factory menu ADC ADJ, select AUTOTUNE and wait for OK display. Input PAT920(8 gray levels), check if the white balance is normal, if not, set ALL COLOR to 0 and fine adjust according the method of 3.3.1
- b. connect VG-848 signal of YPBPR to YPBPR terminal and input TIMING972(1080i/60HZ) color bar of PAT908(include black/white bar), Enter submenu of ADC ADJ, Select AUTOTUNE and wait for OK display. Input PAT920(8 gray levels), check if the white balance is normal, if not, set ALL COLOR to 0 and fine adjust according the method of 3.3.2
- c. Input AV signal(PM5518, 8 gray levels) to VIDEO terminal, check if the white balance is normal, if not, set ALL COLOR to 0 and fine adjust according the method of 3.3.2

Note: it can't set back to 1 once ALL COLOR changes to 0.

4 Software upgrade

When software upgrading please enter factory menu first, enter ISP of OPTION, set ISP to 1 and you can begin to upgrade. After upgrade finished, it needs to set ISP back to 0. If the picture can't display when upgrading, it needs to web J1 of 01S board. Please disconnect J1 again after upgrading.

5 Performance check

5.1 TV function

Enter searching menu \rightarrow auto search, connect RF-TV terminal with central signal source and check if the picture is normal, if there are channels be skipped. Check TXT and parental control.

5.2 AV/S, YpbPr terminals

Input AV/S, YPbPr/YCbCr HD signal, check if it is normal.

5.3 VGA terminal

Insert VGA terminal, input VGA format signal of 640X480@60 Hz and check if the display is normal.

5.4 HDMI terminal

Insert HDMI terminal, input signal of 640 X 480@60 Hz signal and check if the display is normal.

5.5 check sound channel

Check the speaker and headphone of each channel.

5.6 RS232 terminal

Insert earphone to COM terminal and check if the long-distance control function is normal.

5.7 other function check

Check the turn on/turn off timer, asleep timer, picture/sound mode, OSD, freeze/mute, stereo, ect.

5.8 presetting before ex-factory

Item	Setting
PICTURE MODE	STANDARD
COLOR MODE	NORMAL
NR	WEAK
ZOOM	FULL
SOUND MODE	STANDARD
AVC	OFF

Item	Setting
BALANCE	50
VOLUME	50
SLEEP TIMER	OFF
TTX LANGUAGE	WEST
BLUE SCREEN	OFF

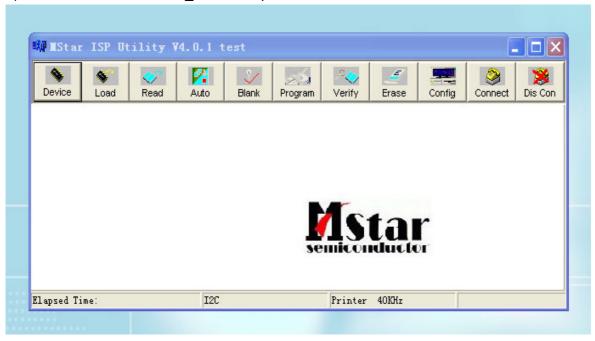
Item	Setting
OSD LANGUAGE	English
OSD HPOSITION	50
OSD VPOSITION	50
OSD HALFTONE	50
OSD DURATION	15

Method of software upgrading

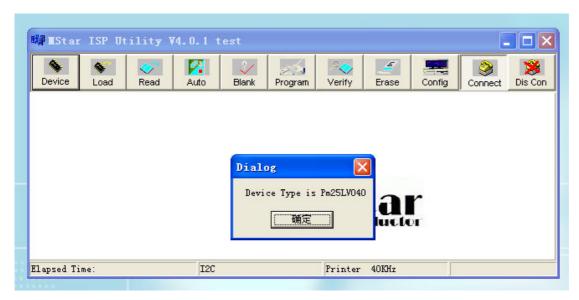
- 1. The tools and software demanded
- 1) Please confirm that PC has the software of ISP_TOOL and install the parallel interface drive program Port95nt.
- 2) ISP_TOOL icon is bellow:



- 3) One serial cable (25 pins) and one VGA cable (15 pins), the serial cable connects the PC and the upgrade instrument, the VGA cable connects the TV and the upgrade instrument.
- 2. The steps for upgrading software
- 1) Please confirm that the connection wires and the upgrade instrument are connected well before the software written and then power on the TV.
- 2) Double click the icon ISP_TOOL to open it:

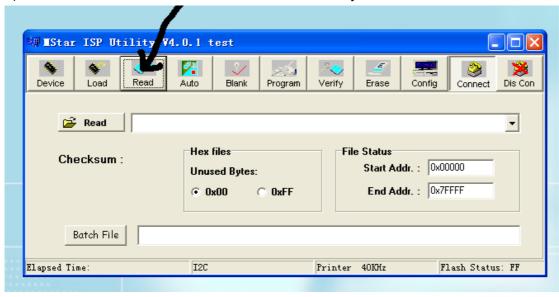


3) Press "Connect" to connect TV, if the connection is done successfully as shown below, then press "enter".

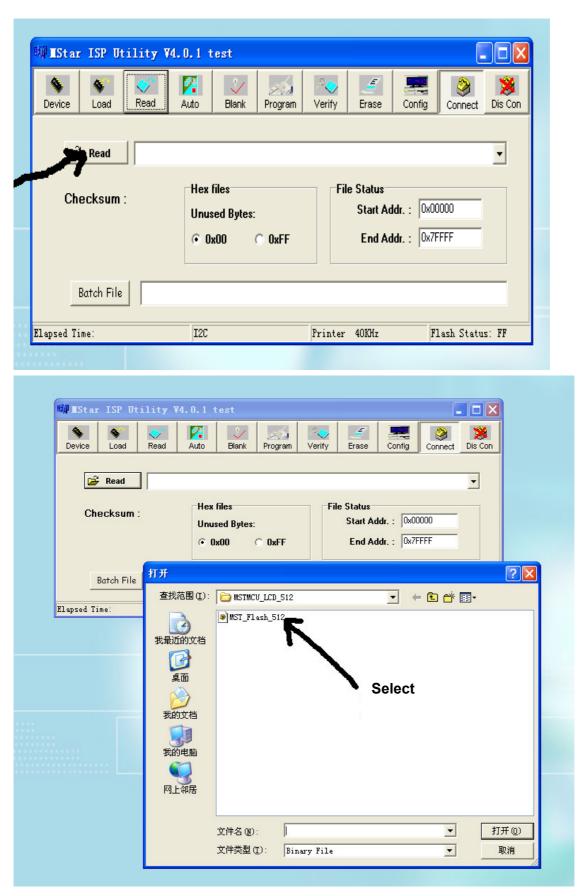


Note: if it appears error, check the connection wires and check if ISP item of the factory menu is set to 1, if not, please set it to 1.

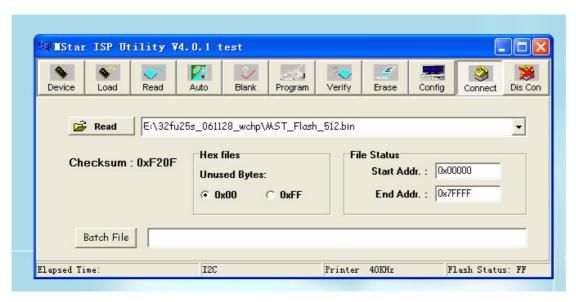
4) After connection is done, it needs to read the Binary document. Press "Read" as shown below:



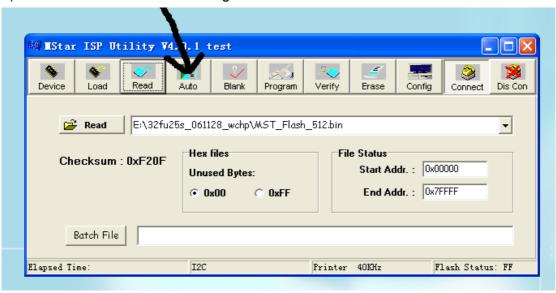
5) Search the document needed to write in the "Read" check box.

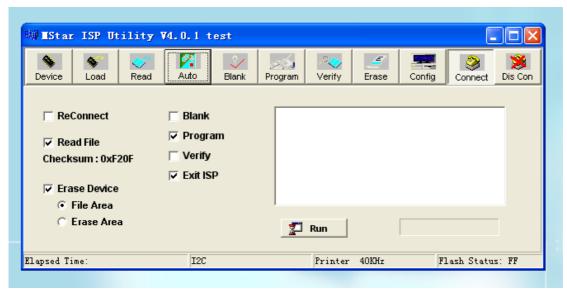


6) Select the document then the window will appear as shown below:



7) Press "Auto" to select the writing function.

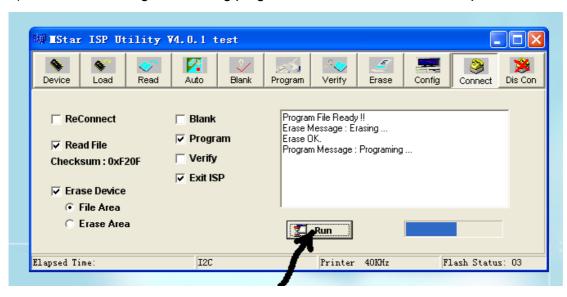




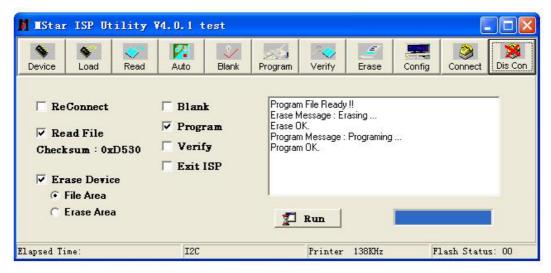
Select the items shown in the picture above:

(a) Read File

- (b) Program
- (c) Exit ISP
- (d) Erase Device
- (e) File Area
- 8) Press "Run" to begin the writing program, wait till the blue bar is complete.



After writing, it will display OK:

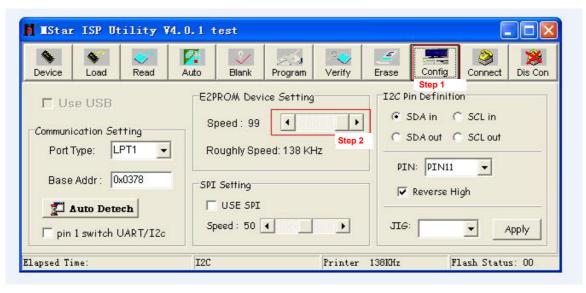


If there is error appeared (shown as below), press "Run" again to rewrite the program till it is success.



Note1: keep the connection well and don't cut off the power during the writing process.

Note2: the writing speed can be adjusted as shown below. Select "Config" then adjust Speed BAR, the value is bigger the speed is faster. But it is easier to appear error when increase the speed, so it need to select a suitable speed according the PC.



Working principle analysis of the unit

The RF signal received by antenna will be sent to tuner TUN401, then IF signal will be obtained through high amplifier and mixed frequency, through pre-intermediate amplified by V408, then it will be sent to acoustic surface-wave Z407 to do IF filter and get better IF characteristics, then it will be sent to N404 (TDA4470) to do intermediate amplification, phase-locked loop VCO and synchronous wave detection to get video signal TV-V; after pre-intermediate amplification IF will also be sent to acoustic surface-wave Z406 to do filter at the same time, then it will be sent to N404 to do intermediate amplification and output the second sound intermediate frequency signal (TV-SIF).

The TV-V signal output from TDA4470 together with TV-SIF will be sent to main IC NS4(MST9E88L).

Video signals of AV1/S, VGA, YPbPr and HDMI will be sent to MST9E88L, too.

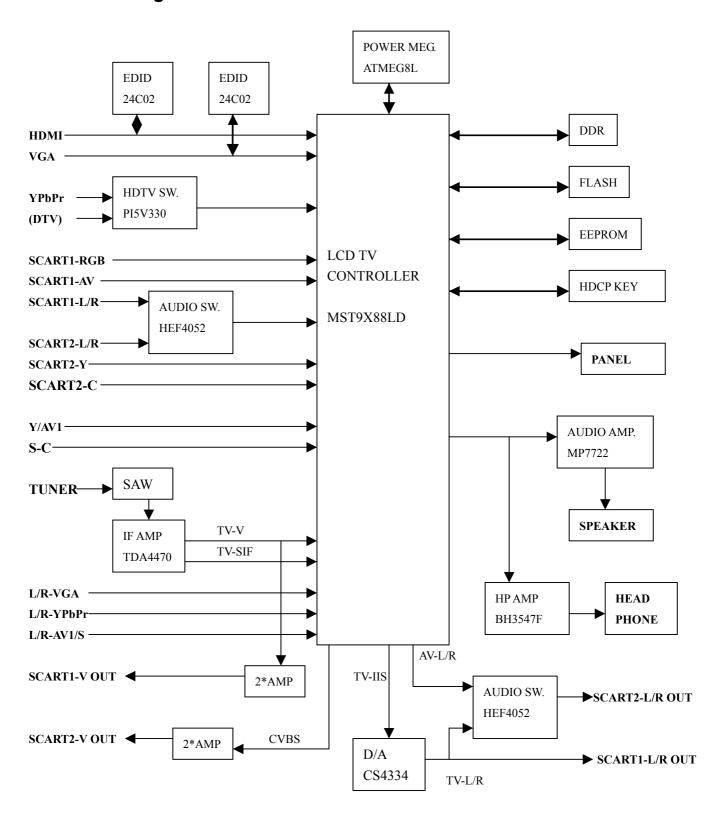
Video RGB of SCART1 and S-Y, S-C of SCART2 will still be sent to MST9E88L, and the audio signal of them via audio switch N302(HEF4052BT) selection after also sent to MST9E88L.

The main IC NS4(MST9E88L) is a high performance and fully integrated IC, which can realize HDMI processing, video demodulating, video switch selection, A/D and D/A conversion, interlace/de-interlace processing, modes conversion, OSD and low-voltage differential output, ect. And it also has functions of audio selection, processing and MCU.

The video signal via MST9E88L processing, output 4 pairs differential signal and 1 pair clock signal for LCD panel display. TV-V output from TDA4470 via double video amplifying, it will be sent to SCART1 for AV-OUT. AV processed by MST9E88L via double video amplifying will be sent to SCART2 for AV-OUT, too.

Audio signal via MST9E88L processing will be sent to sound amplifier N405 (MP7722DF) amplifying to speaker. The audio also sent to earphone amplifier N406(BH3547F) amplifying to earphone. TV audio signal will be sent to D/A converter NS6(DS4344) through I2S bus converting to analog audio signal TV-L/R, then sent to SCART1 for AV-OUT. At the same time, TV-L/R together with AV-L/R processed by MST9E88L will be sent to audio switch NS8(HEF4052BT), after selecting to SCART2 for AV-OUT.

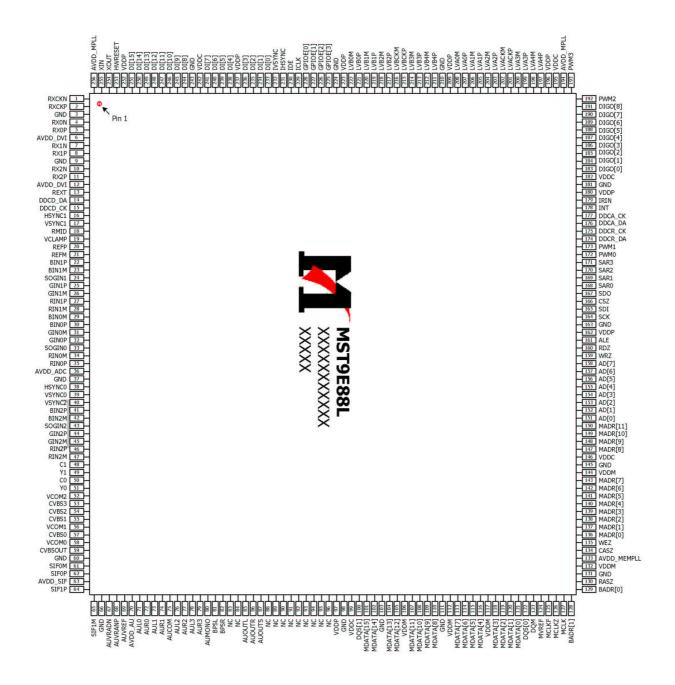
Block diagram



IC block diagram

1. MST9E88L

The MST9E88L is a high performance and fully integrated IC for multi-function LCD monitor/TV with resolutions up to SXGA/WXGA. It is configured with an integrated triple-ADC/PLL, an integrated DVI/HDCP/HDMI receiver, a multi-standard TV video and audio decoder, a video de-interlacer, a scaling engine, the MStarACE-3 color engine, an on-screen display controller, an 8-bit MCU and a built-in output panel interface. With external frame buffer, 3-D video decoding and processing are fulfilled for high-quality TV applications. To further reduce system costs, the MST9E88L also integrates intelligent power management control capability for green-mode requirements and spread-spectrum support for EMI management.



2. MP7722DF

The MP7722 is a stereo 20W Class D Audio Amplifier. It is one of MPS'second generation of fully integrated audio amplifiers which dramatically reduces solution size by integrating the following: $180 \text{m}\Omega$ power MOSFETs

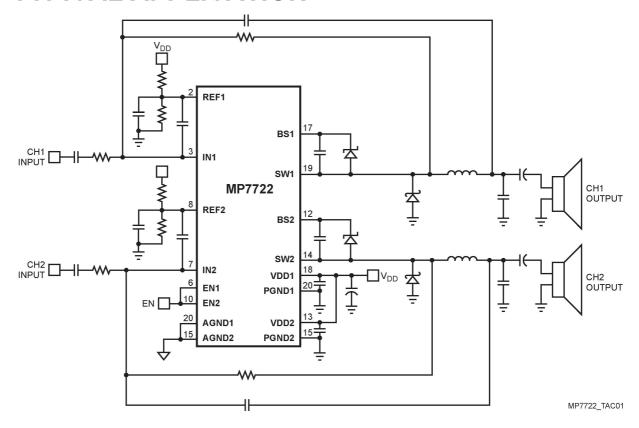
Startup / Shutdown pop elimination

Short circuit protection

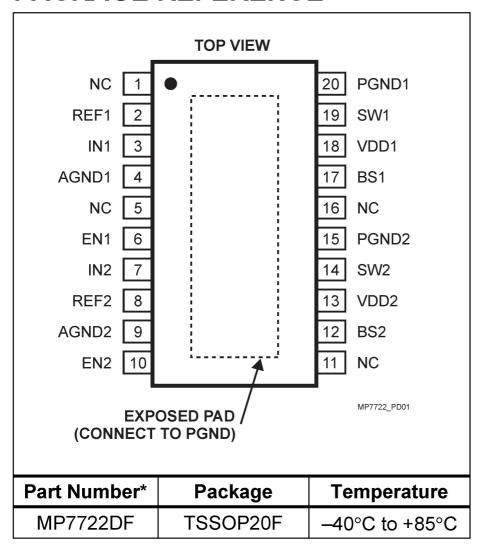
Mute / Standby

The MP7722 utilizes a single ended output structure capable of delivering 2 x 20W into 4Ω speakers. MPS Class D Audio Amplifiers exhibit the high fidelity of a Class A/B amplifier at efficiencies greater than 90%. The circuit is based on the MPS' proprietary variable frequency topology that delivers low distortion, fast response time and operates on a single power supply.

TYPICAL APPLICATION



PACKAGE REFERENCE



3. TDA4470

The TDA4470 is an integrated bipolar circuit for multi-standard video/sound IF(VIF/SIF) signal processing in TV/VCR and multimedia applications. The circuit processed all TV video IF signals with negative modulation (e.g., B/G standard), positive modulation (e.g., L standard) and the AM, FM/NICAM sound IF signals.

Block Diagram

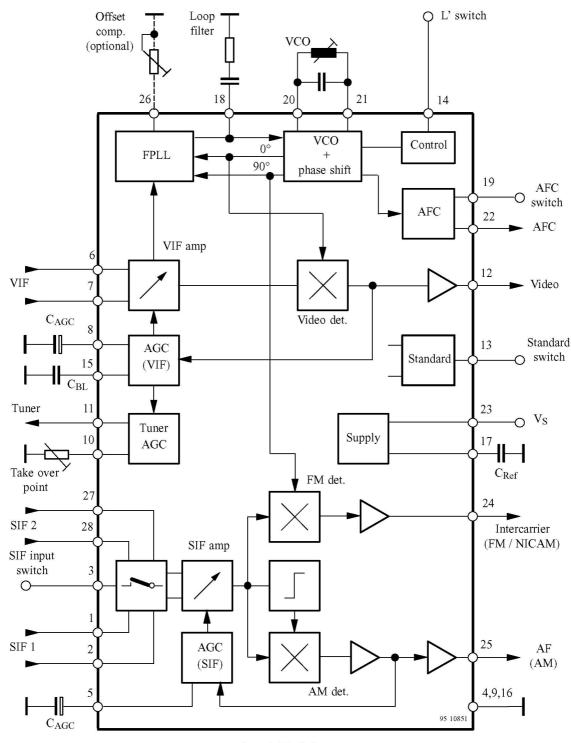


Figure 1. Block diagram

Pin Description

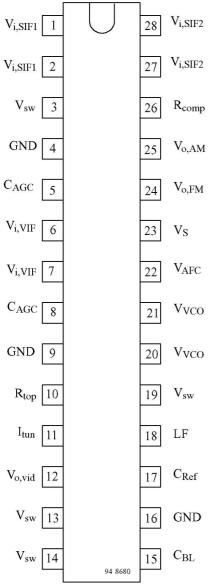
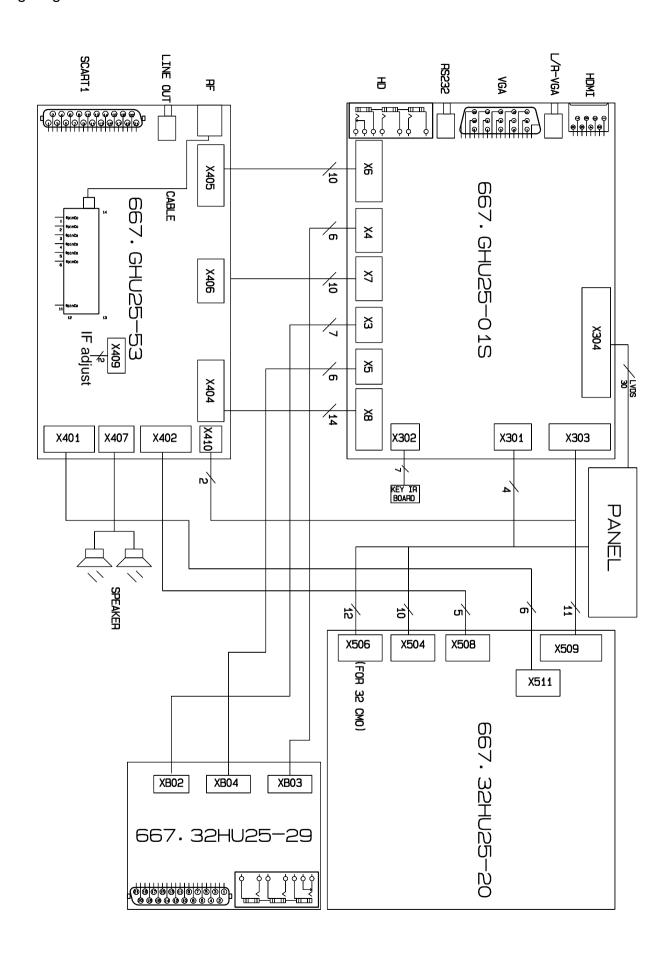


Figure 2	Pinning
Figure 2.	Pinning

	~	
Pin	Symbol	Function
1, 2	V _i , _{SIF1}	SIF1 input (symmetrical)
3	V_{sw}	Input selector switch
4, 9, 16	GND	Ground
5	C_{AGC}	SIF-AGC (time constant)
6, 7	V _{i, VIF}	VIF input (symmetrical)
8	C_{AGC}	VIF-AGC (time constant)
10	R _{top}	Take over point, tuner AGC
11	I _{tun}	Tuner AGC output current
12	V _{o,vid}	Video output
13	V_{SW}	Standard switch
14	V_{SW}	L' switch
15	C _{bl}	Black level capacitor
17	C_{ref}	Internal reference voltage
18	LF	Loop filter
19	V_{sw}	AFC switch
20, 21	V_{VCO}	VCO circuit
22	V _{AFC}	AFC output
23	$V_{\rm S}$	Supply voltage
24	V _O , _{FM}	Intercarrier output
25	V _{O, AM}	AF output – AM sound
26	R _{comp}	Offset compensation
27, 28	V _{i, SIF2}	SIF 2 input (symmetrical)



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):

iii / iiitoiiiia (oigiiai)i	
Picture is out of focus or jumping	Bad status in signal receivingPoor 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	Possibly due to interference from automobile, train, high
bright spots	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	Check if interfered by other equipment and if interfered
on the screen	possibly by the equipment like transmitting antenna,
	non-professional radio station and cellular phone.

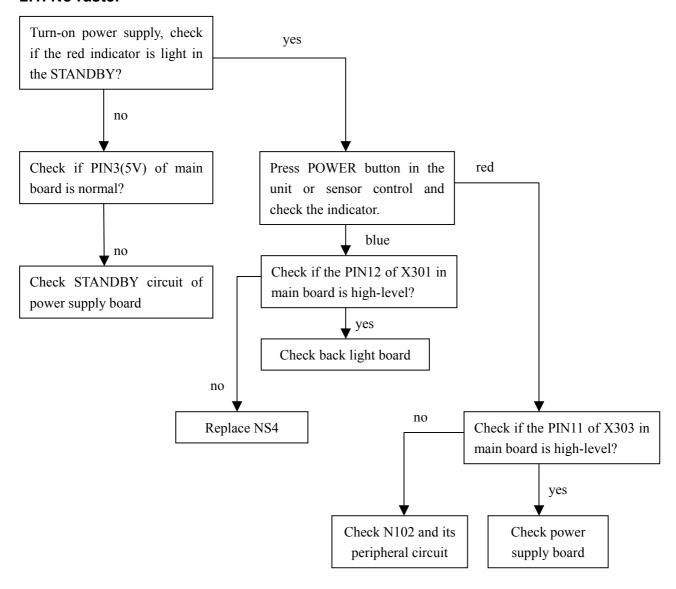
1.2 TV set:

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	Check if all the picture setups have been corrected.	
tone		
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	

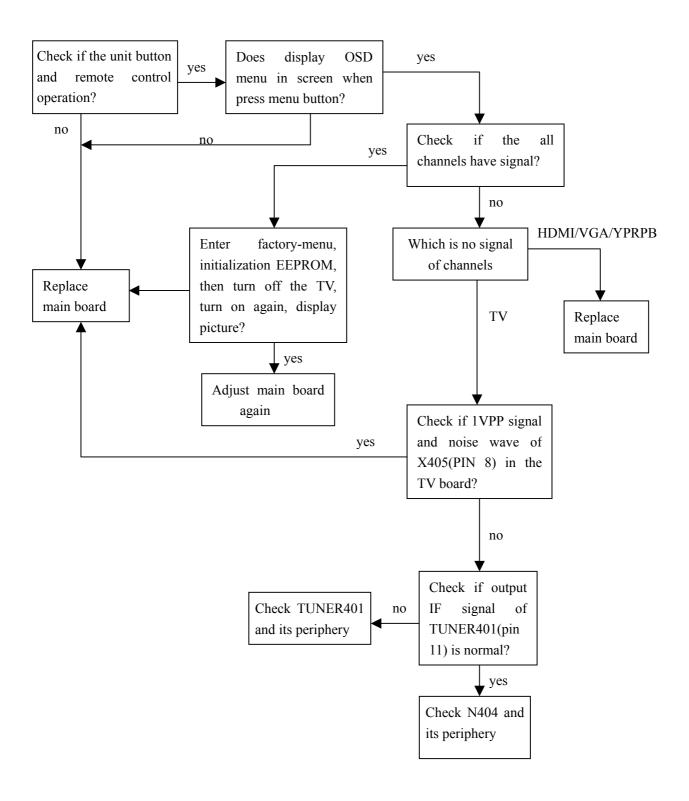
	signal types.
Picture too bright and there is	Check if the contrast setting is too high.
distortion in the brightest area	 Possibly the output quality of DVD broadcaster is set too
	high.
	It maybe also due to improper terminal connection of the
	video frequency signal in a certain position of the system.
Picture is whitish or too bright in the	Check if the setting for the brightness is too high
darkest area of the picture	 Possibly the brightness grade of DVD player (broadcaster)
	is set too high.
No picture or signal produced from	Check if the cable is disconnected.
the displayer if "XXX in search"	Check if it's connected to the proper terminal or if the input
appears.	mode is correct.
There appears an indication -	Check if the TV set can receive input signal. The signal is
"outside the receivable scope)	not correctly identified and VGA format is beyond the
	specified scope.
Remote control cannot work	Check if the batteries are installed in the reverse order.
properly	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	Check if the antenna cable is correctly connected, or if it
hash.	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	When being played or in pause VHS picture search tape
tape, there are lines at the top or	sometimes can't provide stable picture, which may lead to
bottom of the picture.	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. Troubleshooting guide

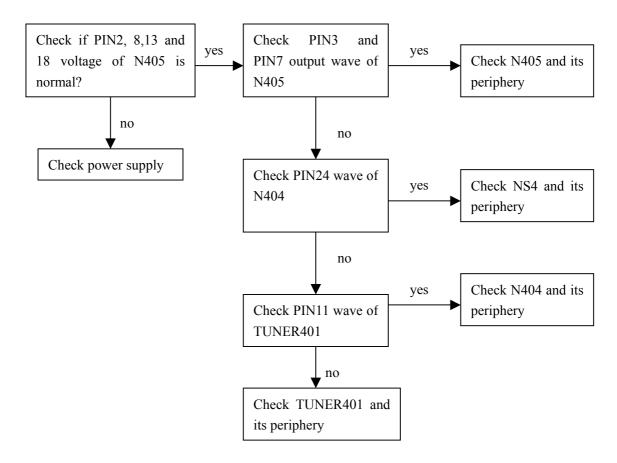
2.1. No raster



2.2. Raster, but no picture



2.3.no sound

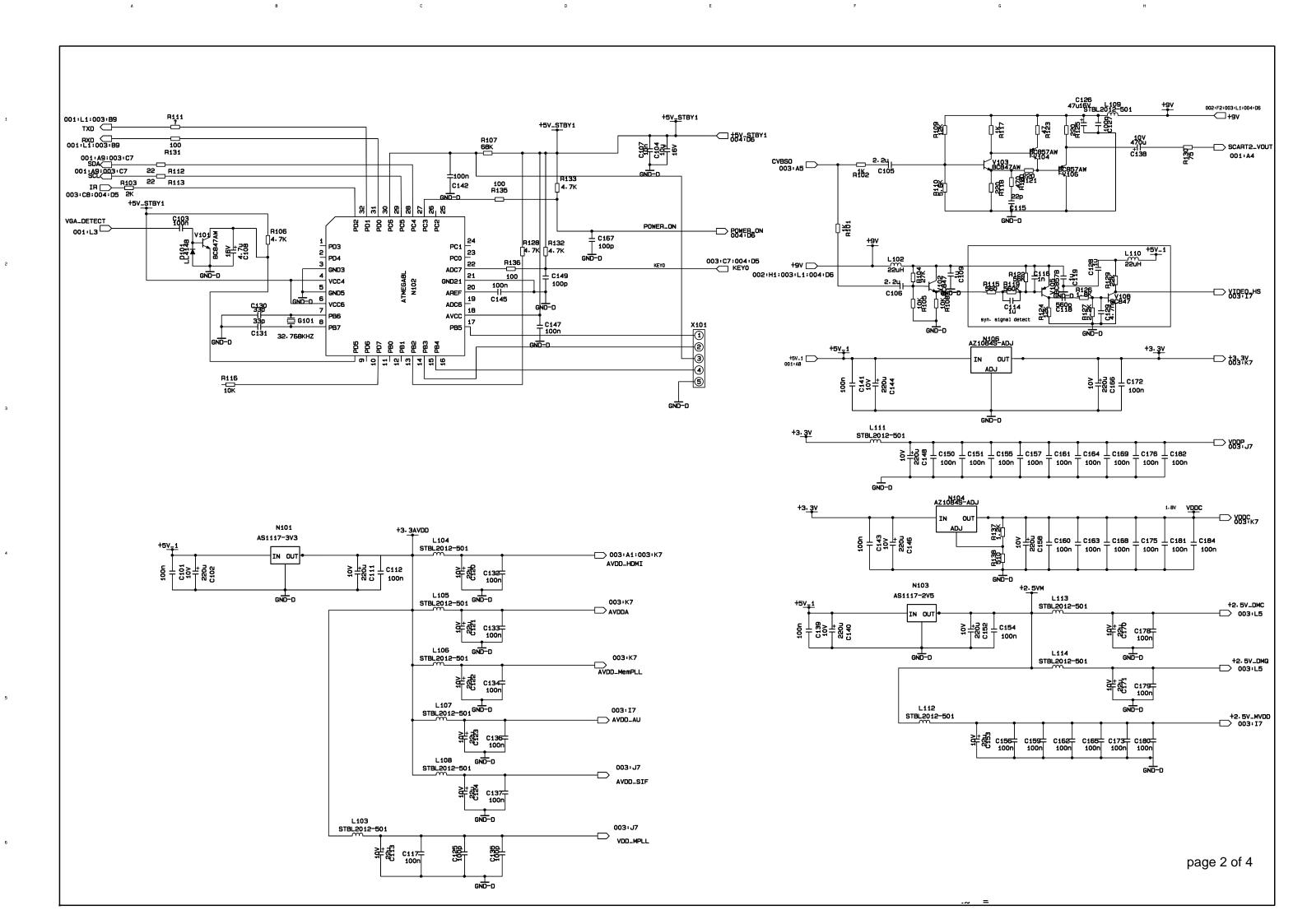


9 9 9 YPbPr_R - -9 6 9 903 A5 9 6 9 X9 HDR-F15S-3 PESD5VOL4US 75 R22 V3 BCB47AN R7 330 * * * * RESDENDE AUG R38 4.7K SCARTS VOUT C21 100n SCARTE ROUT SCART2_LOUT ___ VCLK 7 6 R34 100 SDA 5 R33 100 003:CB SCART2-IN CONNECT TO SCART2 BOARD 003:A4 Y/AV1 003:A4 S_C SCART2_R 003:A5 VGA_L SCART2_L (* * * * * 003: A5 VGA_R 003: I8 HPDCTRL 003:A2
HDMI_SCL
003:A2
HDMI_SDA 100-104 1-101-104 ₩3:06 W_SIF — R65 4-7K ₹ # evo-o AMP_ROUT AMP_ROUT AMP_LOUT AMP_LOUT ___ CONNECT TO ANALOG BOARD SCART1_ROUT ____ SCARTI LOUT 002:F3 +5V_1 +5V_1 GND-D SC_FS GND-D 003:18 r SC_FSW 003:A4 SC_FSW -003:08 IF_AFT page 1 of 4 003:L3 S1 ____ 002:A1:003:C7 SDA 002:A1:003:C7 SCL

G

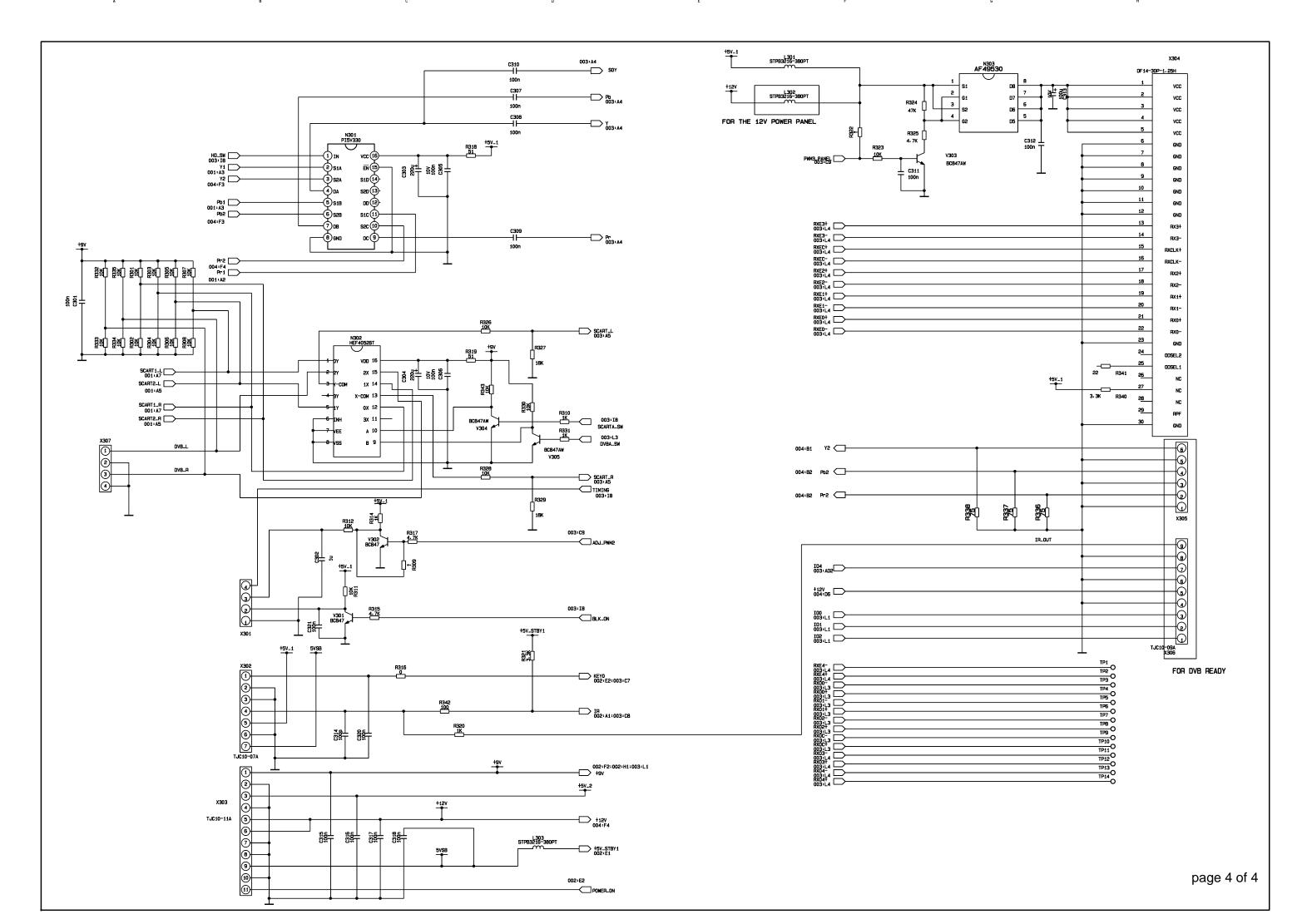
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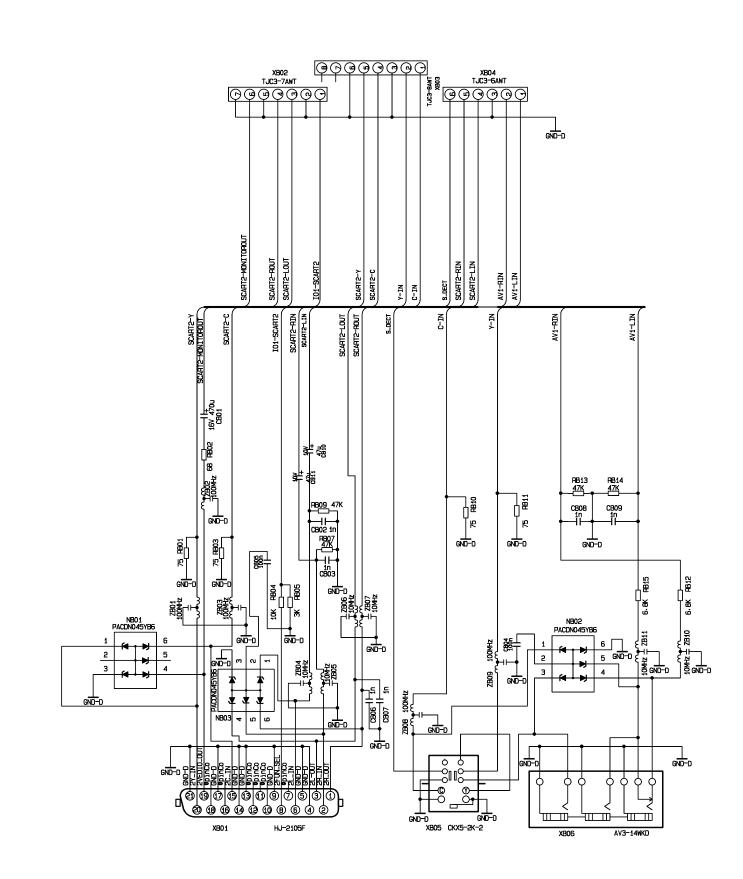


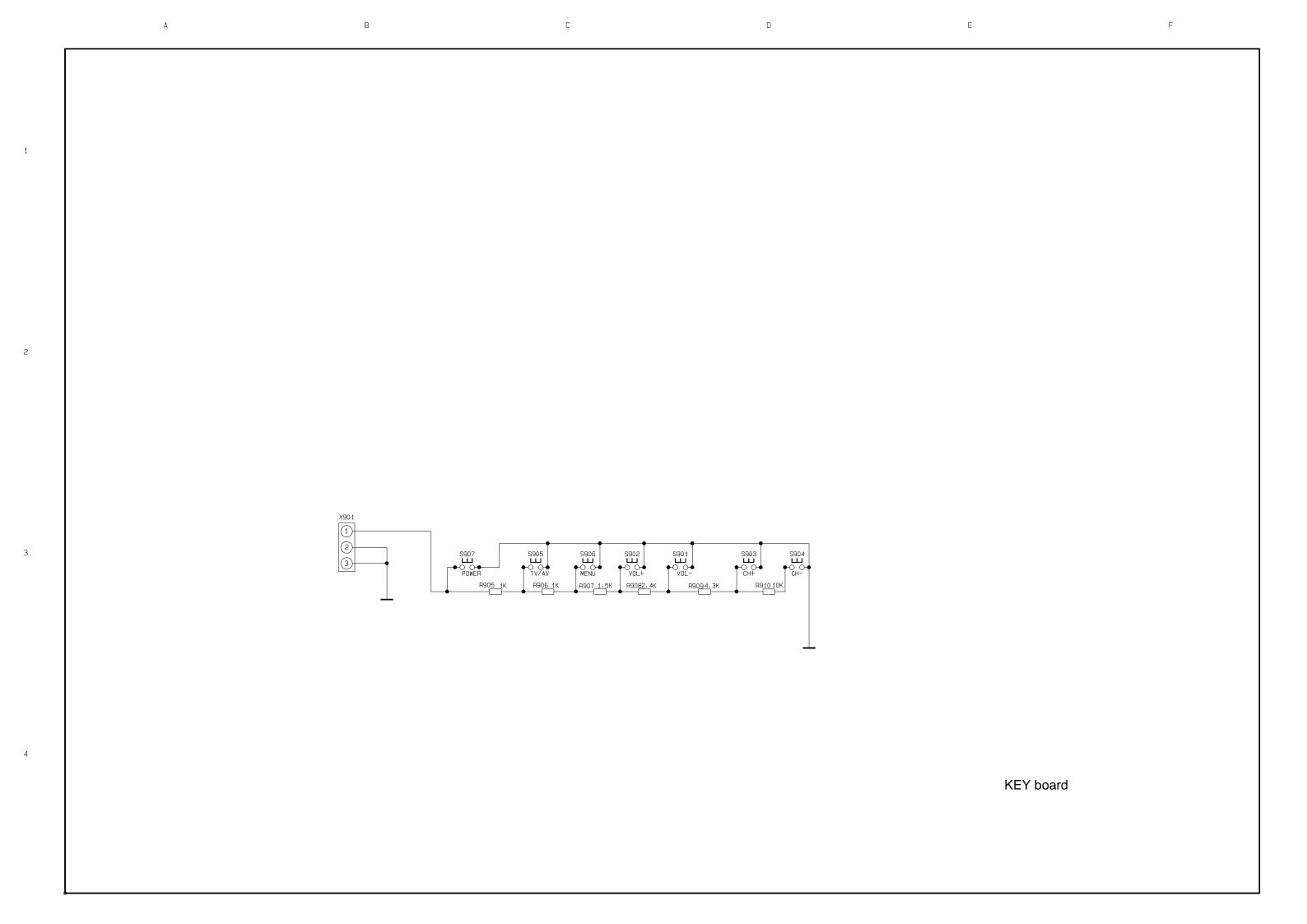
S_DECT IO4 SCART1_SW1 SWO 0 0 +<u>3. 3</u>v +3.3V 85. 13.3v +3<u>.</u> 3V ž D¥ +2.5V_MVDD 001:A5 S_DECT __-HS67 +9V 002 F2:002 H1:004 D6 255 254 類類類類 2x 15 88 학 수 5 88 누 AVDD -AVDD-DVI AVDD-DVI 002:D4:003:K7 AVDD_HDMI 001:L7 RX0-001:L7 RX1-001:L7 RX1+ 001:L7 RX1+ 001:L7 RX2-001:L5 RXC-001:L6 RXC-—11∓ €574 DI 15
DI 14/AISD3
DI 13/AISD2
DI 12/AISD1
DI 10/AISD8
DI 19/AIWS
DI 19/AIWS
DI 19/AIWS
DI 10/AISD8
DI 10/AIWSD8
DI 1 5 1Y 6 INH 7 VEE 8 VSS 0X 12 16V ||+ ct2745 AVDD-3X 11 MS_A A 10 8 9 CS4344 SCART2_ROUT
001:A4
SCART1_ROUT
001:A7 C\$7,2 16√ 001:L6 HDMI_SDA P\$#3 SDIN AOUTR HDMI_SCL SDIN ADUTR
DEM/SCLKVA
B
LRCK GND
A
MCLK ADUTL
5 55.2 C\$7,3 100n | CS52 001:L3 HSYNC_IN VQ FILT+ +3, 3V :L3 VSYNC_IN C 47 ___RS23 85 001:L2 S0G __ 004:03 001:48 001:49 001:49 001:49 001:L1 R BINOM BINOP GINOM GINOP SOGINO RINOM RINOP HSYNCO VSYNCO 29 30 31 32 33 34 35 38 39 LBOM LB1M LB1M LB2M LB2P LBCKM LB2SM LB3P LB4P LA0M LA0M LA0M LA2M LA2M LA2M LA2M LA2M LA2M LA3P LA3P LA3P LA3P LA3P LA3P LA3P 001:A6 SCB 001:A6 SCG __ SC_SDG __ 001:A7 100n | CS35 100n | CS34 001:A6 SCR VSYNC2 BIN2P BIN2M SOGIN2 GIN2P GIN2M RIN2P RIN2M NS4 47 ___ RS29 004:D1 S0Y 004:D1 MST9X88LD 004:D2 Pr -100n | CS38 ## RIN2M
C1
001:A5 S_C 001:A5 Y/AV1 SCART2_C SCART2_Y 001:A5 001:A6 SCART1_VIN [001:A6 TV_IN [10n | CS25 10n | CS26 100n | CS27 10n | CS28 100n | CS29 MD103056MMD110130MMD110130MMD110130MMD110130MMD110130MMD110MMD1110MMD110MMD110MMD110MMD110MMD110MMD110MMD110MMD110MMD110MMD110MMD110MMD10MMD110MMD +2.5V_MVDD +2.5V_DMQ 002:F1 CVBS0 -+2.5Y_DMC 2. 2u CS42 2. 2u CS43 2. 2u CS45 2. 2u CS46 2. 2u CS47 2. 2u CS47 2. 2u CS48 2. 2u CS50 2. 2u CS50 2. 2u CS50 AULO
AURO
AUL1
AUCOM
AUL2
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AUOUTT
AUOUTS 257 257 +2.5V_DMQ __ +2.5V_DMQ GND-D________10 001:A6 AV1_L 001:A6 AV1_R 004:D2 SCART_L 004:D3 SCART_R 23 RAS 22 CAS 21 WE 24 CS 003:J1 LOUT ()-003:J2 ROUT ()-AMP_LOUT ()-AMP_ROUT ()-001:A7 20 47 16 51 UDM LDQS UDQS 001·A7 SIFOM SIFOP SIF1P SIF1M 100n L CS86 ŢŸŦġĬĖ ◯─ DS2 LL4148 VSS34 VSS48 VSS66 VSS012 VSS052 VSS058 VSS064 AUVRADN AUVRADP AUVREF 16 VCC 15 GND 14 T10UT ## 75 SS SBA1 26 27 BA1 RS3 100 VDDP □ VDDC ___ AVDD_HDMI ____ T20UT RS4 +3.3v 99.3<u>i</u> AVSS_SIF AVSS_SIF SPI-DI SPI-CK SPI-CK SPI-CK RS5 GONDOM GO GNDA GNDA GNDA 100 RS10 +5V_1 100 RS11 103 131 145 145 181 243 **₩** 400 800 - CECH 6665 66475 +3.3V □── SDA 🔷 001:A9:002:A1 SCL SCL 002:E2:004:05
001:AB SCLFS 22:R37
001:AB IF-AFT 001:A4
IR 002:A1:004:05
002:A1:004:05 +3<u>.</u> 3V TXDO SCARTA_SW 004:D3 XS1 JY-3541L-01-p30 VDD 7 HOLD# 6 SCK 5 1 CE# SO WP# VSS 004:D4 TIMING 004:D4 BLK_ON RXDO 24032 001:L6 HPDCTRL TXDO 1 NC1 NC2 E2 Vss 1 NC1 2 NC2 3 E2 Vss Vcc 7 7 6 100 RS42 SCL 5 100 RS43 SDA CS3 | CS4 | 47p 001:AB 001:L1:002:A1 TXD < page 3of 4 RXD 🗀 001:L1:002:A1 004:D4 ADJ_PWN2 < 004 F1 PWM3_PANEL

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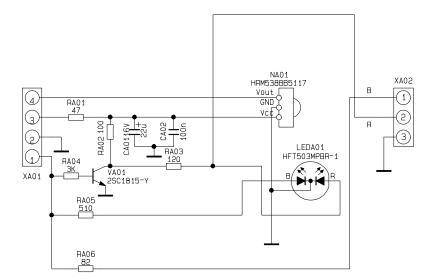


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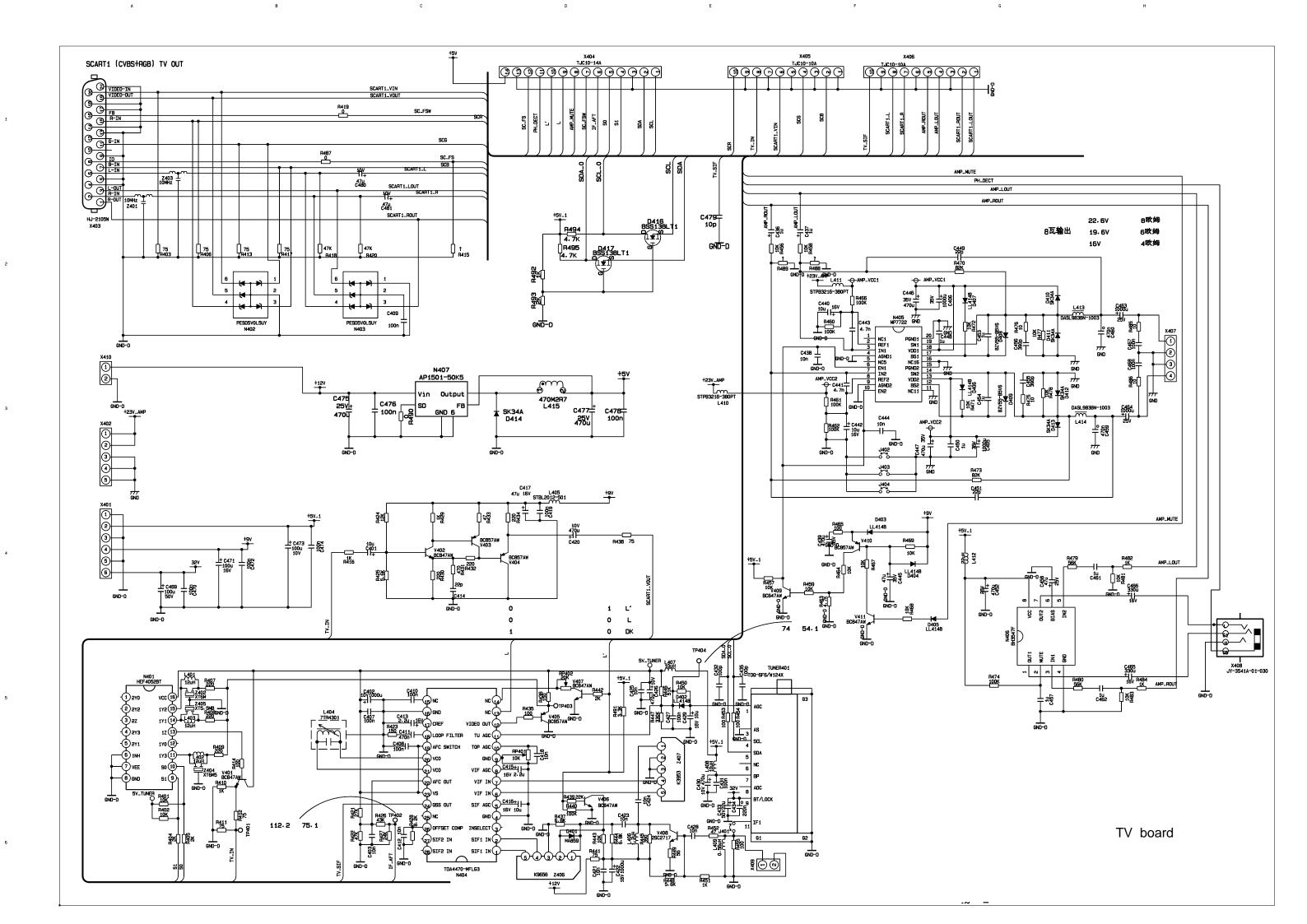


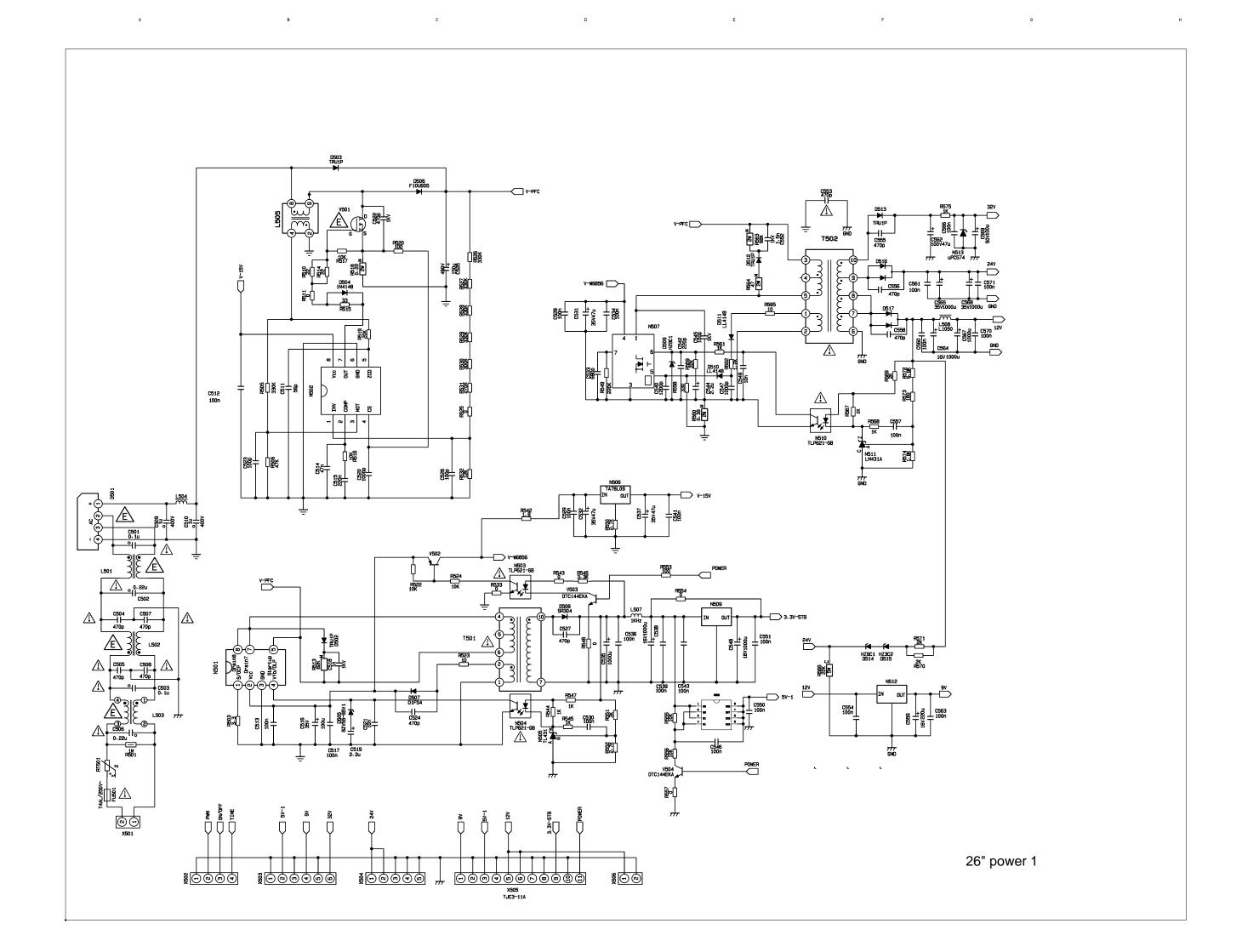


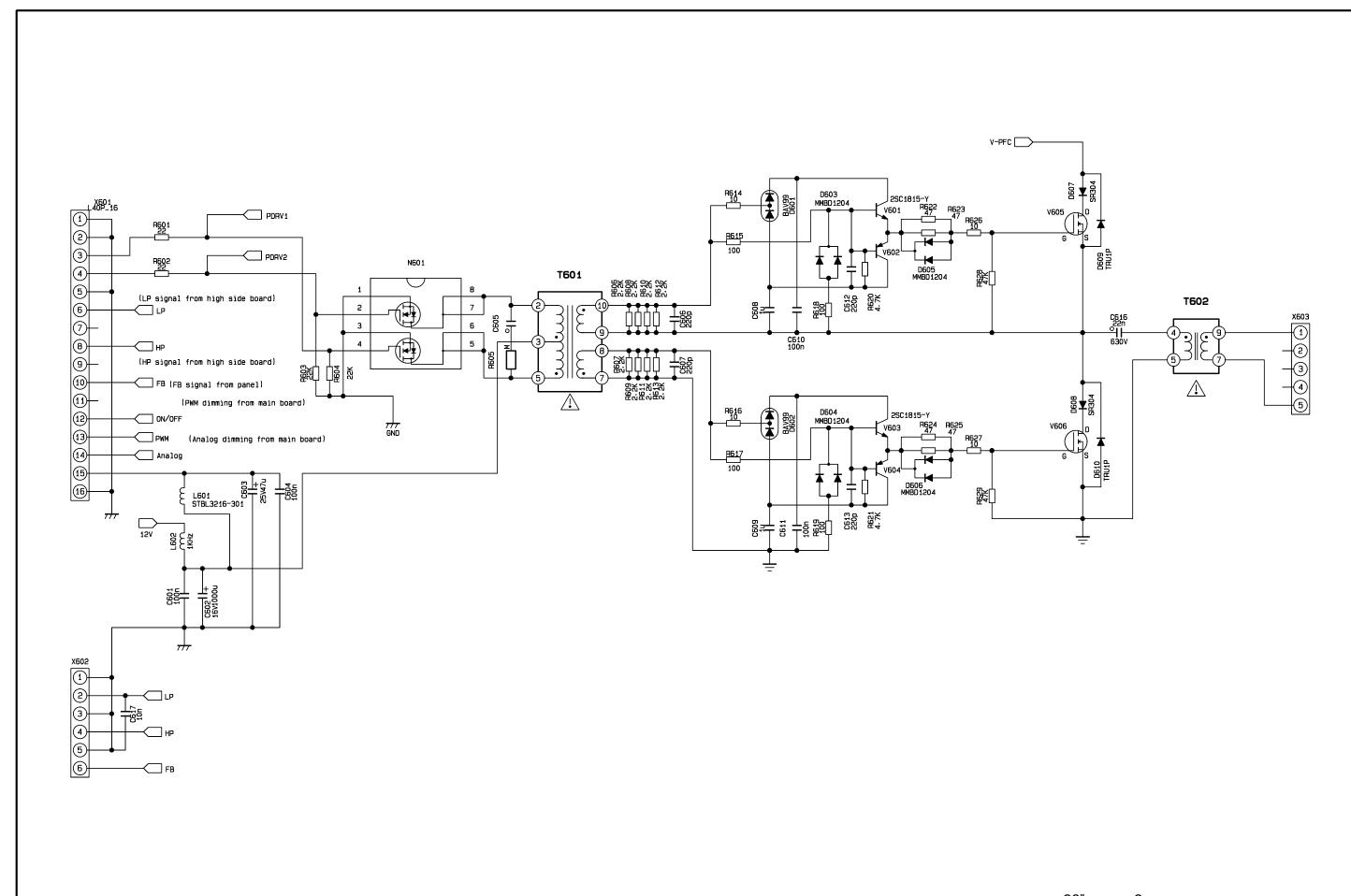
A C D E

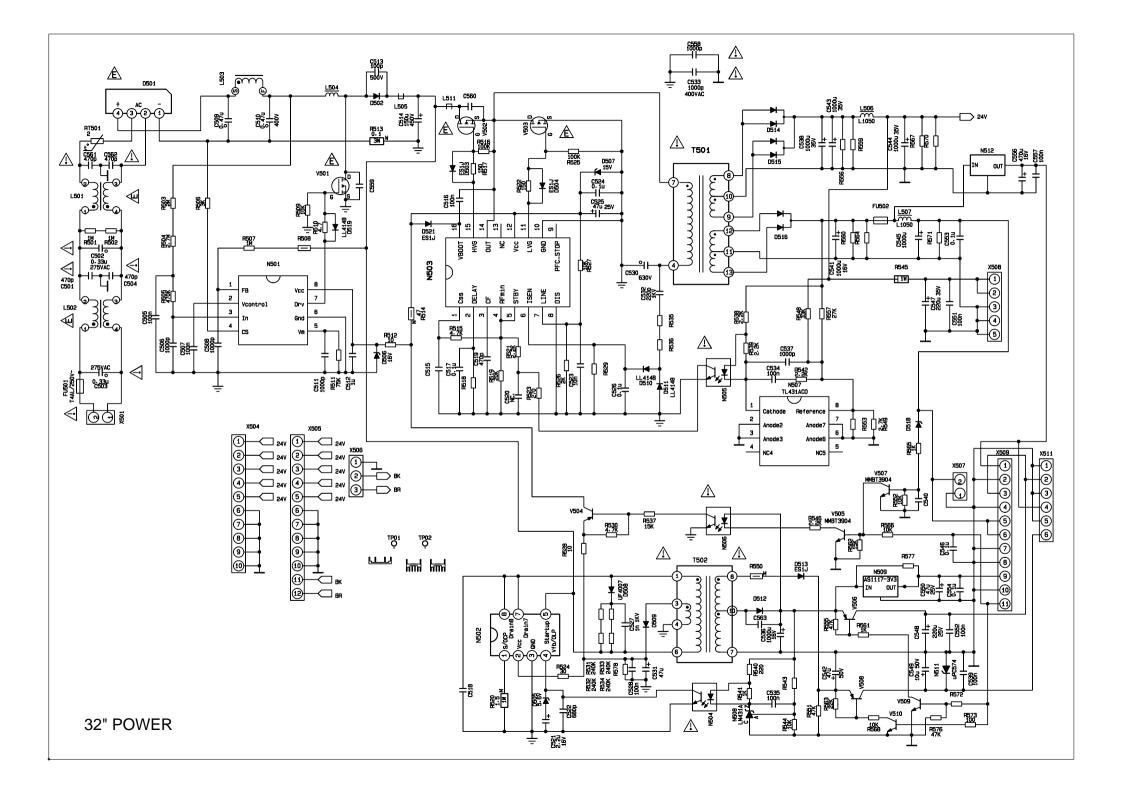


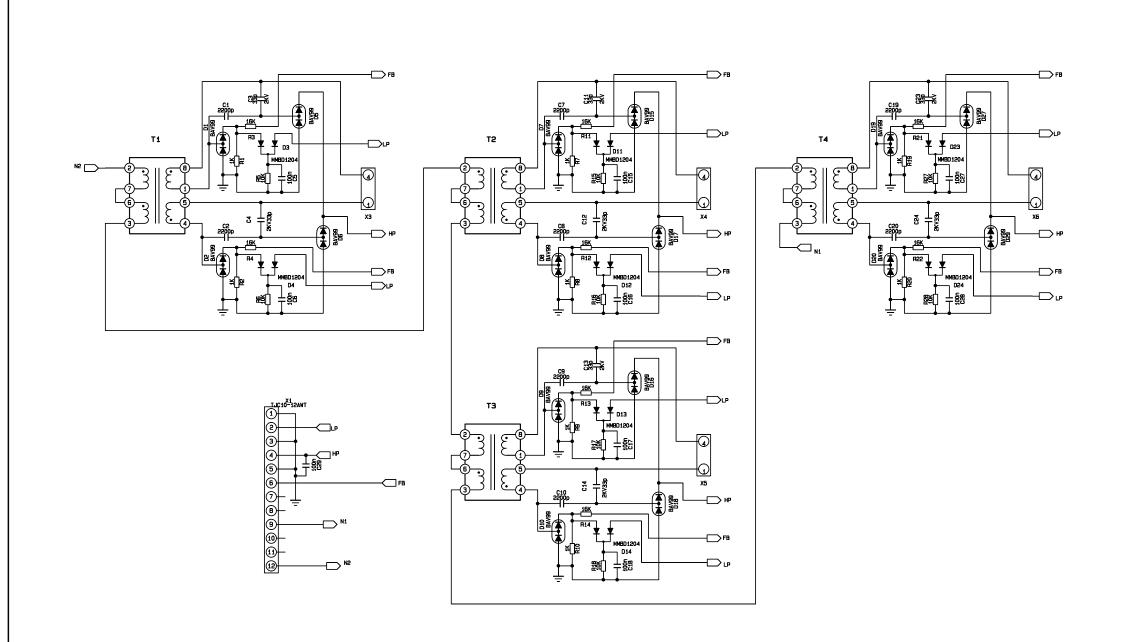
IR receiver board

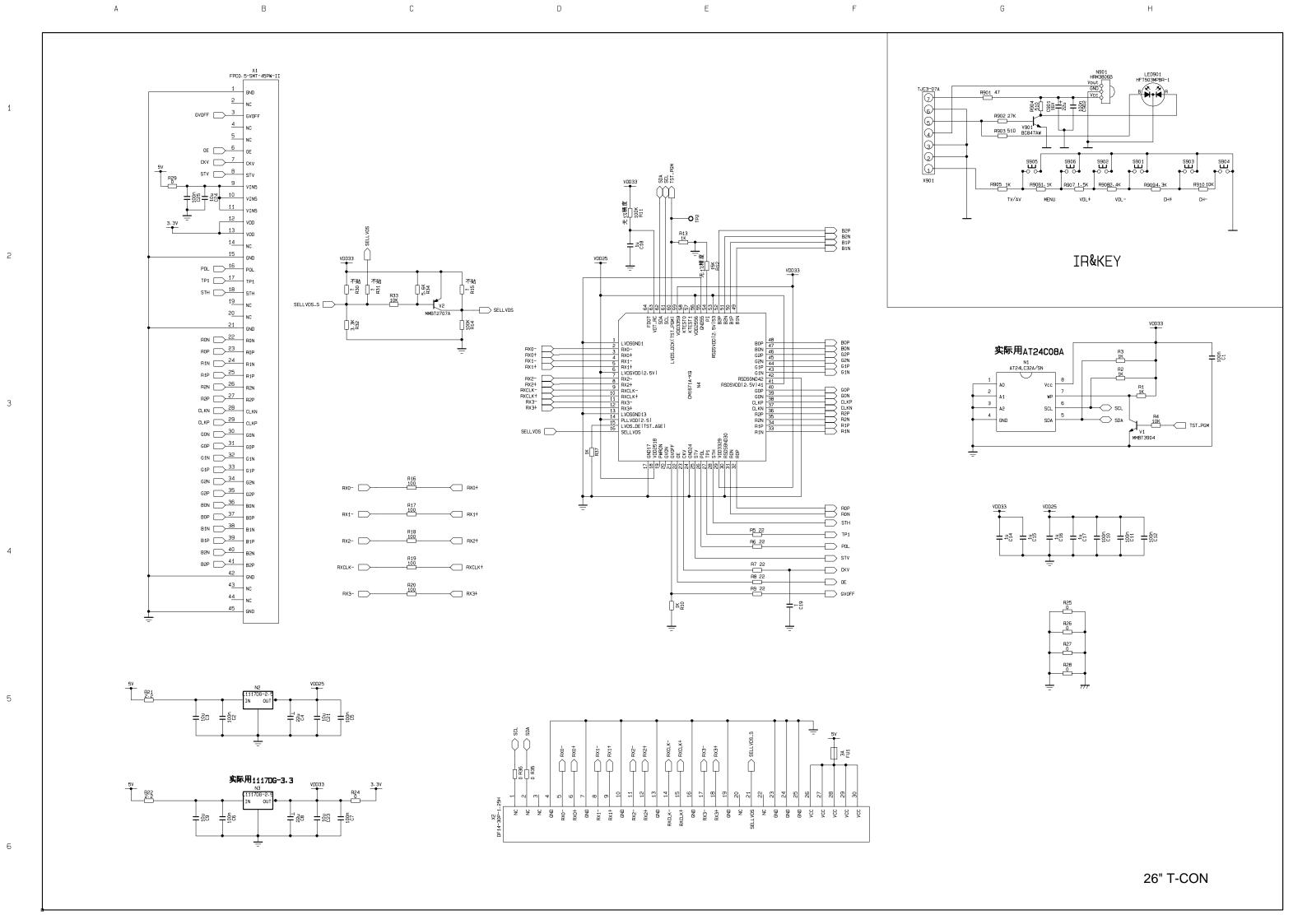










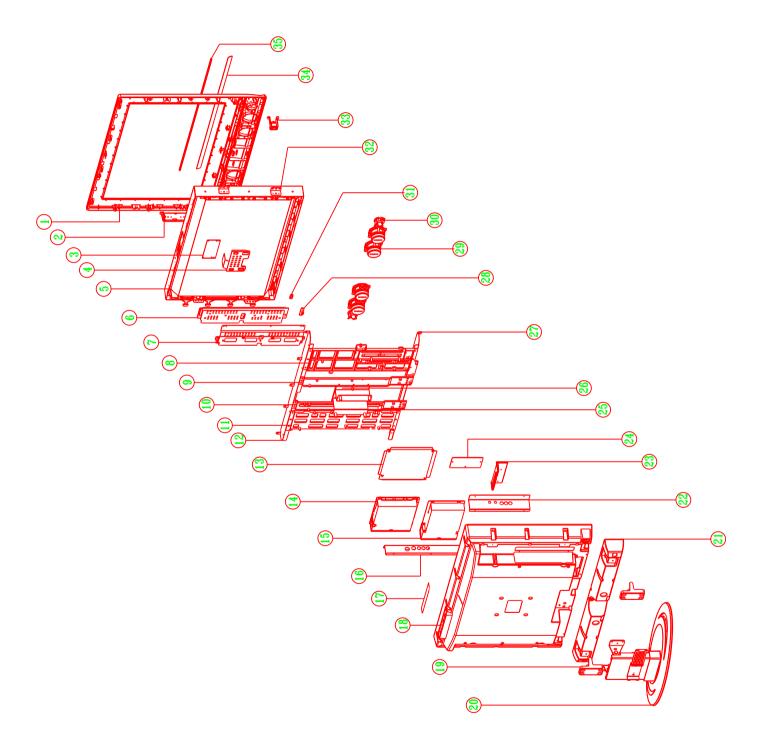


APPENDIX-A: Main assembly 9226HU3613

NAME	NO.	MAIN	COMPONENT AND IT'S NO.
Analog board	6HU0495310	N404 N405	TDA4470MFL (5274470001) MP7722DF (5277722001)
Main board	6HU0700150	NS4	MST9E88L (5270988002)
IR board	6HA00809A0		
Interface conncetion board	6HU0112910		
Key board	6HU0150510		
T-CON board	6HU0122610		
Backlight baord	6HU0121410		
Power board	6HU0122010		
Remote control	6010Y03512	RC-Y35-0	<u> </u>
Panel	5203265502	V260B1-L0	02

APPENDIX-A: Main assembly 9232HU3630

NAME	NO.	MAIN COMPONENT AND IT'S NO.	
Analog board	6HU0495310	N404	TDA4470MFL (5274470001)
		N405	MP7722DF (5277722001)
Main board	6HU0490120	NS4	MST9E88L (5270988002)
IR board	6HU0340910		
Interface conncetion board	6HU0264610		
Key board	6HU02505A0		
Power board	6HU0212010		
Remote control	6010Y03512	RC-Y35-0K	
Panel	5203325903	LK315T3LZ	<u></u>

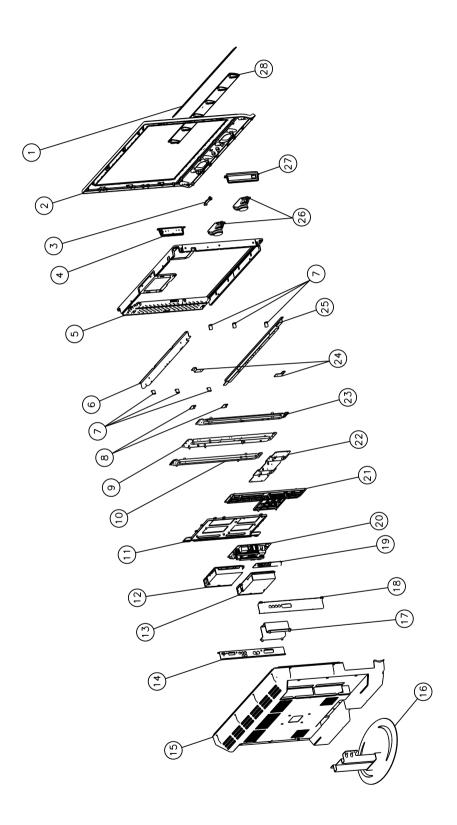


PART LIST OF EXPLODED VIEW

NO.	DESCRIPTION	
1	front cabinet	
2	key board	
3	T-COM board	
4	T-COM board shielding cover	
5	panel	
6	backlight board	
7	backlight board shielding cover	
8	power board frame	
9	panel frame	
10	panel frame	
11	main board frame	
12	panel fixed bracket	
13	power board	
14	main board	
15	analog board	
16	AV baffle	
17	key board baffle	
18	back cabinet	
19	speaker connection	
20	stand assy	
21	speaker back cover	
22	AV baffle	
23	power socket	
24	interface connection board	
25	wall mounting bracket	
26	wall mounting connection	
27	panel fixed bracket	
28	IR board	
29	speaker	
30	speaker	
31	light conductor column	
32	panel connection bracket	
33	power swtich bracket	
34	acryl decorative piece	
35	decorative bar	

Note: Design and specifications are subject to change without notice.

APPENDIX-B: Exploded view (LC-32X36)



PART LIST OF EXPLODED VIEW

NO.	PART NO.	DESCRIPTION
1	585A423030	decorative board
2	5QG36L2010	front cabinet
3		IR board
4		key board
5		panel
6	58A004160E	panel frame
7	58A0071400	panel fixed bracket
8	58A0057700	power board bracket
9	58A0C40700	panel frame
10	58A0A4060B	panel frame
11	574G18801C	main board frame
12		main board
13		analog board
14	5810A5071A	AV baffle
15	5HG36LK010	back cabinet
16	6151085600	stand
17	58A004100A	wall mounting bracket
18	581AA59810	AV baffle
19		interface connection board
20		power board
21	58B0033410	connection frame
22	58A004100A	stand bracket
23	58A0D4080A	panel frame
24	58A0041100	connection piece
25	58A004170C	panel frame
26	5500806004	speaker
27	58B0A33210	side AV bracket
28	615CA82420	speaker net

Note: design and specifications are subject to change without notice.