

Service  
Service  
**Service**

**4200**



# Service Manual

Chassis name	Platform	Model name
4200	MSD6306	24PFH4200/96

<b>1.Product inforamtion.....</b>	<b>3</b>
<b>2.Connections overview.....</b>	<b>5</b>
<b>3.Mechanical Instructions.....</b>	<b>6</b>
Cable dressing (24" 4200 series).....	6
Assembly/Panel Removal .....	6
<b>4.Service Modes.....</b>	<b>10</b>
<b>5.Software upgrading and Panel Code.....</b>	<b>12</b>
<b>6.Circuit Descriptions.....</b>	<b>14</b>
<b>7.IC Data Sheet.....</b>	<b>20</b>
<b>8.Circuit Diagrams.....</b>	<b>22</b>
<b>9.Styling Sheet.....</b>	<b>31</b>
4200 series 24" .....	31

---

# 1. Product information

Product information is subject to change without notice.

For detailed product information, please visit [www.philips.com/support](http://www.philips.com/support)

---

## Display

### Type

Diagonal screen size

•24PFH4200/96: 24 inch

Display resolution

•1920\*1080p

---

### Input resolution

• 800 x 600p - 60 Hz

• 1024 x 768p - 60 Hz

• 1280 x 768p - 60 Hz

• 1360 x 765p - 60 Hz

• 1360 x 768p - 60 Hz

• 1280 x 1024p - 60 Hz

• 1920 x 1080p - 60 Hz23.5

Video formats

Resolution — Refresh rate

• 480i, 480p, 576i, 576p, 720p, 1080i, 1080p(24/25/30/50/60Hz)

Computer formats

Resolutions (amongst others)

• 720\*400@70HZ

• 640\*480@60HZ

• 800\*600@60HZ

• 1024\*768@60HZ

• 1360\*768@60HZ

• 1280\*720@60HZ

• 1280\*960@60HZ

• 1280\*1024@60HZ

• 1600\*900@60HZ

• 1920\*1080@60HZ

---

## Dimensions and Weights

• without TV stand:

Width 561 mm - Height 345 mm - Depth 42

mm - Weight 3.6 kg

• with TV stand:

Width 561 mm - Height 373 mm - Depth 156

mm - Weight 3.8 kg

---

## Connectivity

TV Side

• HDMI 1 in

• USB x 1

• Headphone x 1

• HDMI 2 in

Coaxial x 1

TV Rear

CVBS/Y Pb Pr : CVBS/Y Pb Pr, Audio L/R

Audio in: DVI

VGA x 1

• HDMI 2 in - MHL

• HDMI 3 in

---

## Sound

Output Power (10% THD) RMS	4W
Speaker configuration	2W+2W
Speaker system	2.0
Speaker type	built-in(normal)
Auto Volume Levelier / Auto Volume Levelier +	YES
Dolby Digital DecoderType	YES

---

## Multimedia

### Connections

- USB 2.0
- 

Music Playback Formats	MPEG-1,MPEG-2 (Layer I/II) MP3, AAC-LC, HE-AAC
------------------------	---

Picture Playback Formats	JPEG、BMP、PNG
--------------------------	--------------

---

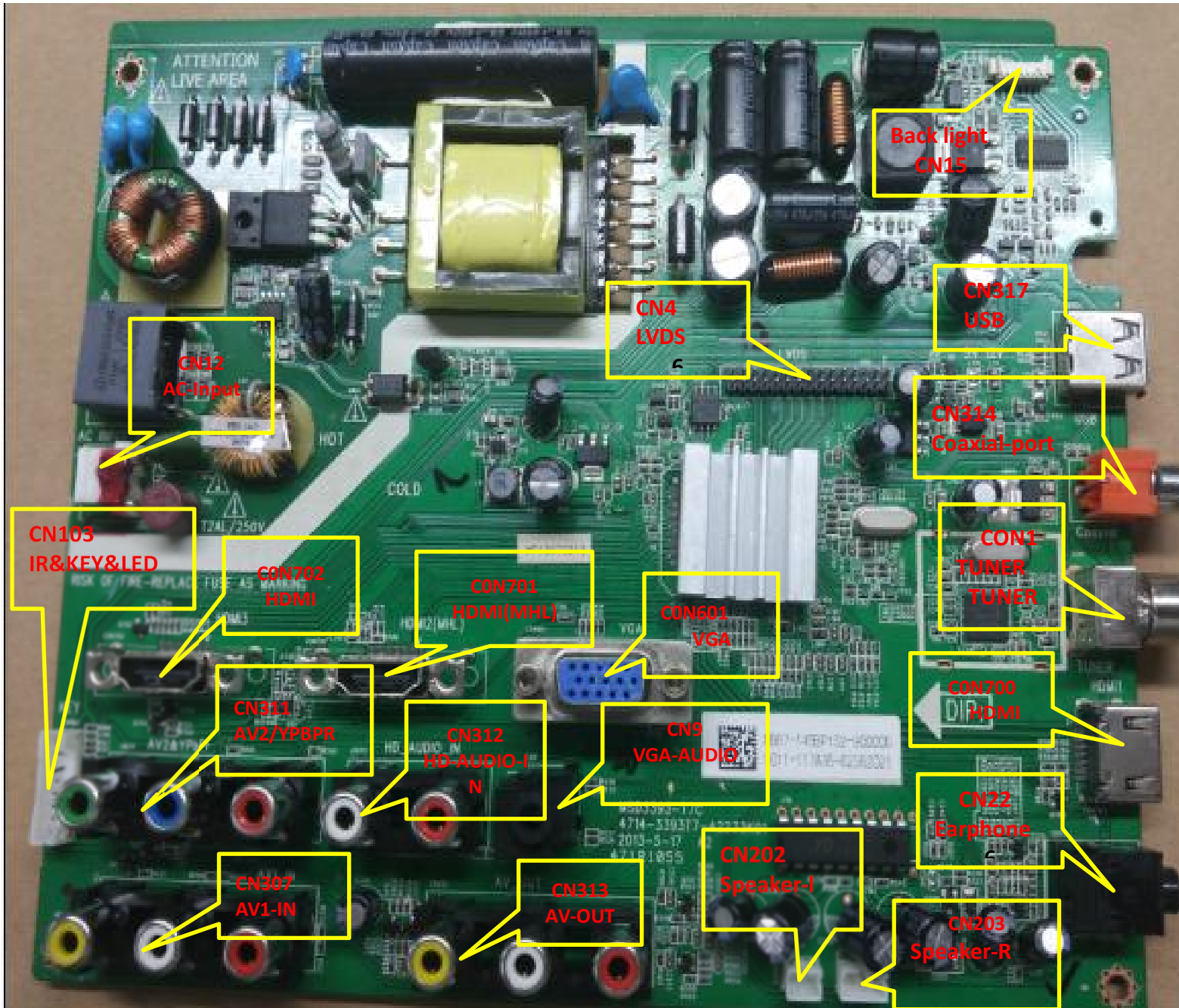
## Power

Product specifications are subject to change without notice. For more specification details of this product, see [www.philips.com/support](http://www.philips.com/support)

### Power

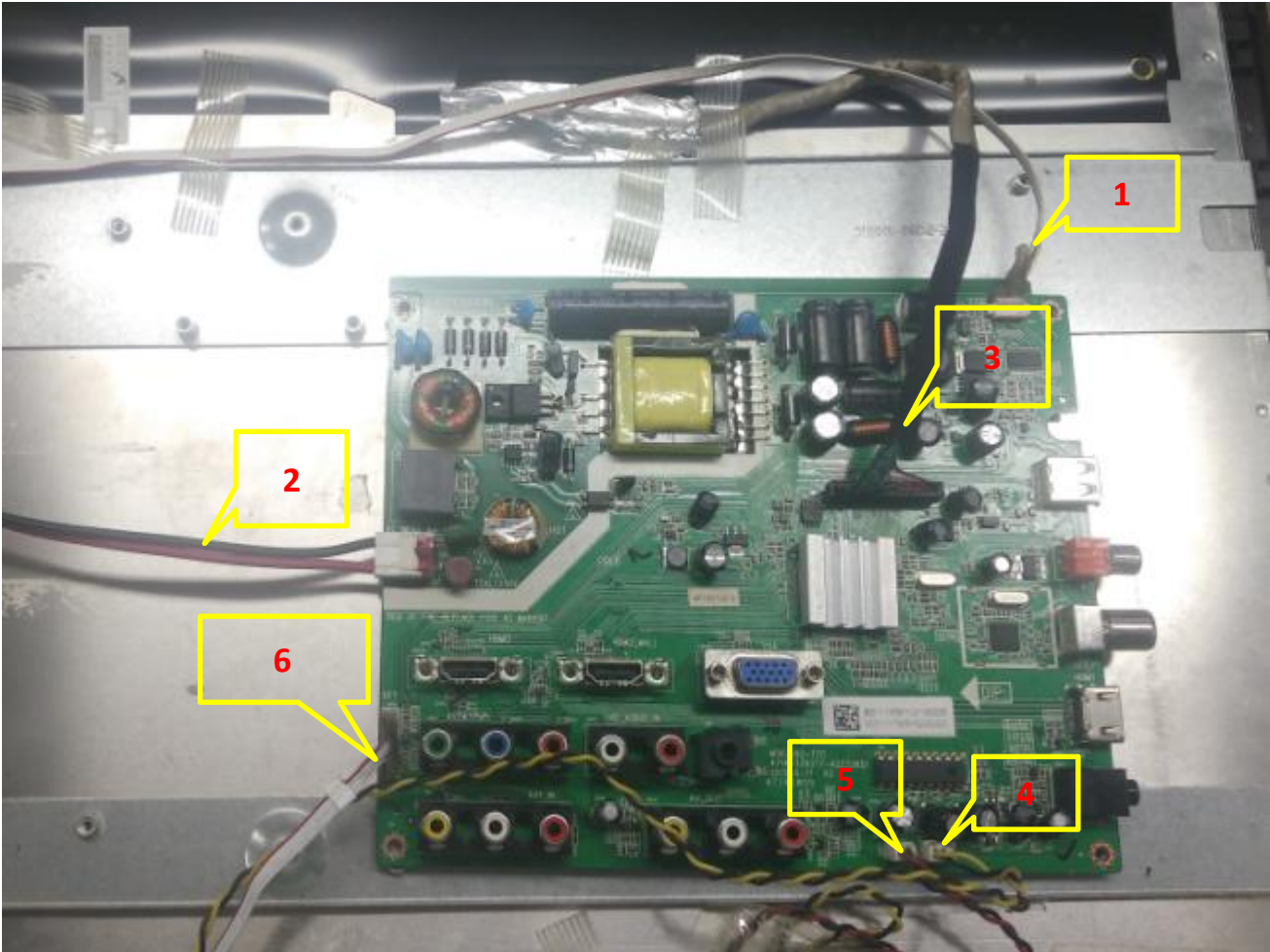
- Mains power : AC 100-240V 50/60Hz
- Standby Energy Consumption:≤0.5W
- Ambient temperature : 5°C to 40°C

## 2. Connections Overview



### 3. Mechanical Instructions

#### 3.1 Cable dressing



Serial no	part description	function
1	Backlight wire	Connect to CN15
2	Power wire	Connect to CN12
3	LVDS wire	CN14 to T-CON board
4	Speaker wire	CON203 to speaker (yellow black wire)
5	Speaker wire	C0N202 to speaker (red black wire)
6	two-terminal wire	CN103 to IR board&LED

Cable dressing(24” 4200 series)

#### 3.2 Assembly/Panel Removal

##### 3.2.1 Stand removal

1. Remove the fixation screws [1] 1pcs ,that secure the stand
2. Take the stand bracket out from the set.





### 3.2.2 KEY board & IR&LED

1. Unplug the connector from the SSB.  
**Caution:** be careful, as these are very fragile connectors!
2. Remove all the fixation screws (2) 2 pcs can remove the key board, then remove the same fixation screw (2) 1 pcs, Ir board and LED together, from the IR board control unit.  
 When defective, replace the whole unit

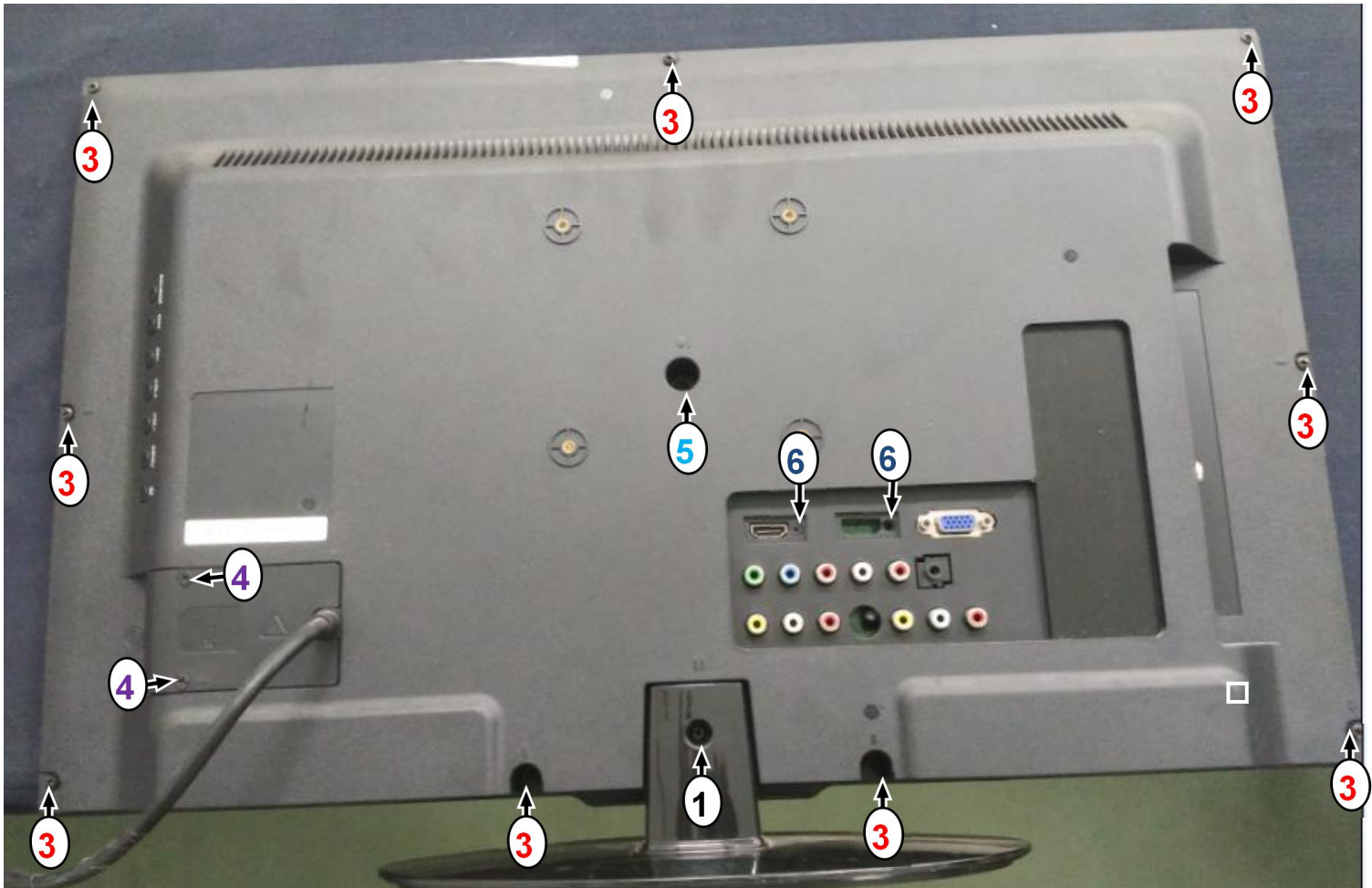




### 3.2.3 Rear Cover

**Warning:** Disconnect the mains power cord before removing the rear cover.

1. Remove fixation screws [3] [4] [5] and [6] that secure the back cover..
2. Gently lift the rear cover from the TV. Make sure that wires and cables are not damaged while lifting the rear cover from the set.
3. Remove fixation screws [3] [4] [5] and [6] that secure the back cover.unplug connectors ( for 24"24PFH4200/96 )





---

### 3.2.5 Power Supply Unit (PSU)

**Caution:** it is mandatory to remount all different screws at their original position during re-assembly. Failure to do so may result in damaging the PSU.

1. Gently unplug all connectors from the PSU.
1. Remove all fixation screws from the PSU.
3. The PSU can be taken out of the set now.

### 3.2.7 Speakers

1. Gently release the tapes that secure the speaker cables.
2. Unplug the speaker connector from the SSB
3. Take the speakers out.

When defective, replace the both units.

### 3.2.9 LCD Panel

3. Remove the SSB as described earlier.
2. Remove the PSU as described earlier.
3. Remove the keyboard control panel as described earlier.
4. Remove the stand bracket as described earlier.
5. Remove the IR/LED as described earlier.
6. Remove the fixations screws that fix the metal clamps to the front bezel. Take out those clamps.
7. Remove all other metal parts not belonging to the panel.
8. Lift the LCD Panel from the bezel.

When defective, replace the whole unit.

## 4. Service Modes

### Factory Mode

#### Purpose

- To perform extended alignments.

Primary menu	Secondary menu	Value,remark
ADC ADJUST	MDOE	VGA, YPBPR, Selection
	R-GAIN	Front-end gain adjustment
	G-GAIN	
	B-GAIN	
	R-OFFSET	Clamp level adjustment
	G-OFFSET	
	B-OFFSET	
	AUTO ADC	ADC automatically adjust
PICTURE MODE	Input Source	Source Selection
	MODE	Dynamic/Standard/Soft/User
	BRIGHTNESS	BRIGHTNESS
	CONTRAST	CONTRAST
	COLOR	COLOR
	SHARPNESS	SHARPNESS
	TINT	TINT
	Copy all	No function
W/B ADJUST	inputsource	Source Selection
	TEMPERATURE	Cool, Standard, Warm
	R-GAIN	White level adjustment
	G-GAIN	
	B-GAIN	
	R-OFFSET	Black level adjustment
	G-OFFSET	
	B-OFFSET	
	Copy all	No function
SSC SETTING	MIU Enable	DDR spectrum enable
	MIU0 Span	Exhibition frequently wide
	MIU Step	Spread spectrum step
	LVDS enable	LVDS spectrum enable
	LVDS Span	Exhibition frequently wide
	LVDS Step	Spread spectrum step
	LVDS swing	LVDS swing
Spectral set	2HOUR OFF	2hours power off enable
	WDT	Watch dog on/off
	White pattern	White pattern selection
	Restore user default	Factory reset
	PVR_RECORDALL	PVR Record on/off
	Power	Power mode selection
	Mirror	Mirror function selection
	Ageing mode	Ageing mode enable
VIF	Vif 1	Vif set
	Vif 2	Vif set
	Vif 3	Vif set
Qmap adjsut	PQ setting	
PEQ	PEQsetting	
OverScan	Overscan resolution	Reselution select
	Overscan hsize	Adjust overscan H size
	Overscan hposition	Adjust overscan H position
	Overscan vsize	Adjust overscan V size
	Overscan vposition	Adjust overscal V position
other	Test pattern	
	UART DEBUG	DEBUG ON/OFF
	HDMI CEC/ARC	CEC/ARC ON/OFF

	Backlight	Adjust backlight
CI+ key usb upgrade	CI+ key usb upgrade	
SW information	SW information	
Non-linear	MODE	Feature Selection
	OSD 0	Curve adjustment
	OSD 25	
	OSD 50	
	OSD 75	
	OSD 100	
Channel table1	KTC factory Frequecy table set	
CI factory setting	No function	
Channel table2	KTC factory Frequecy table set	
Channel dvbt	KTC factory Frequecy table set	

## 5. Software upgrading and Panel Code

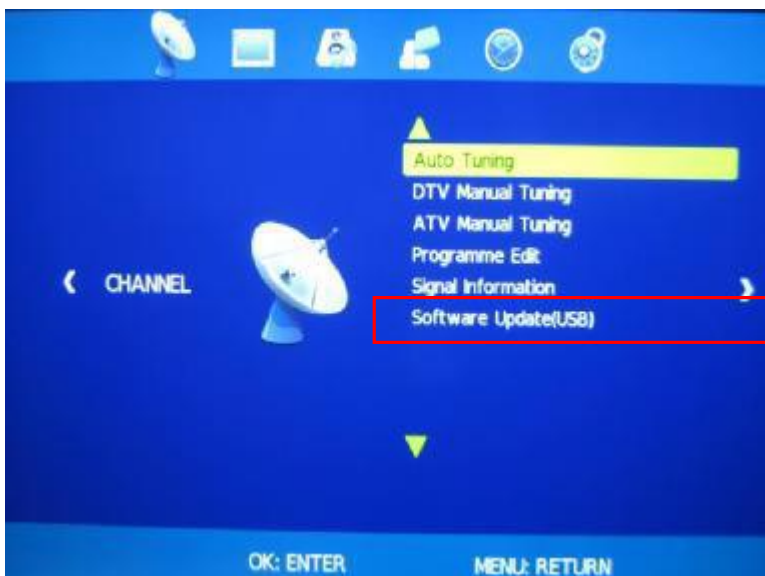
### 5.1 Software Upgrading

Operations and procedure of software upgrading:

- 1). Changed the file name to "MERGE.bin", then stored software in the FAT32 format blank U disk.
- 2). Insert USB flash disk into the USB upgrade port, upgrade the software according to the following the operating instructions:  
Select AIR or DTV signal source, press Menu key to pop up the main menu, then choose.



Select Software Update(USB), press right key or OK key to enter.



Software update menu will pop up when press confirm key, then select “Yes” to confirm:



The process of software updating:



Method 2 : Keep pressing VOL+ and CH+ keys on the machine panel, power on the machine, the standby light flashes quickly after about 5 seconds, standby light extinguish and turn into lighting after about a minute, means that the upgrade is completed.

5.1.4 Notice :

- ①. When the machine Upgrading (U disk light flash), do not remove U disk or switch off the power, otherwise it will destroy the software and lead can not upgrade.
- ②. The machine must be power off when inserted or pulled out U disk, to avoid U disk or damage the machine.

## 5.2 Panel Code

Press the following key sequence on a standard RC transmitter: “1999” directly followed by MENU, can see the panel type information from factory menu, see the Panel PN from the configuration table

CTN_ALT BOM#	Panel Type	Panel PN
24PFH4200/96	K236WL3-MA200-1	7422-236CMK-28000061-F



## 6. Circuit Descriptions

### 6.1 Introduction

The 4200 is covered by MSD6306 platform. The major deltas versus its predecessor support DVB-T, with also WIFI/multi-media, Video out

The MSD6306 chassis comes with the following stylings:

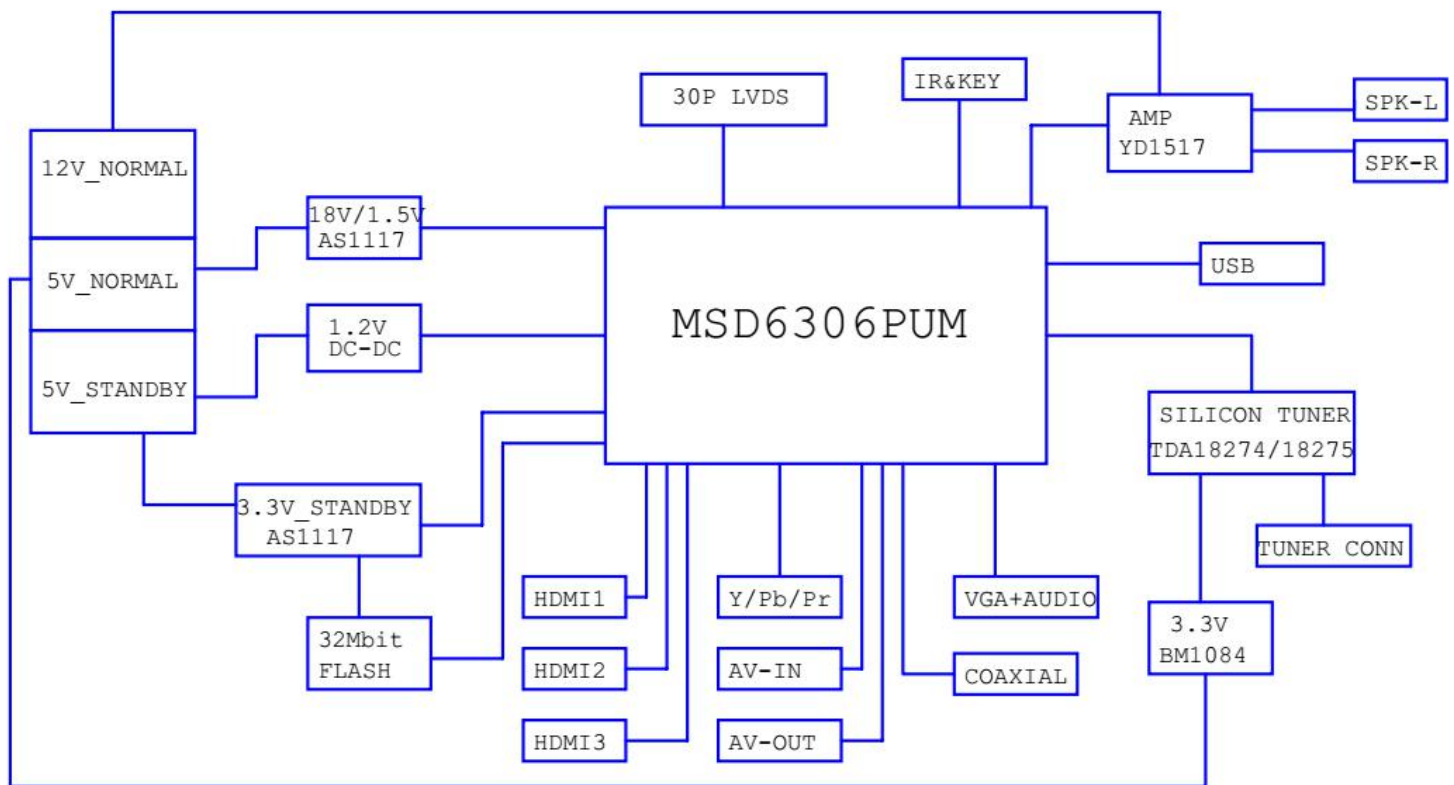
- Series 4200 24PFH4200/96

#### 6.1.1 Implementation

Key components of this chassis are:

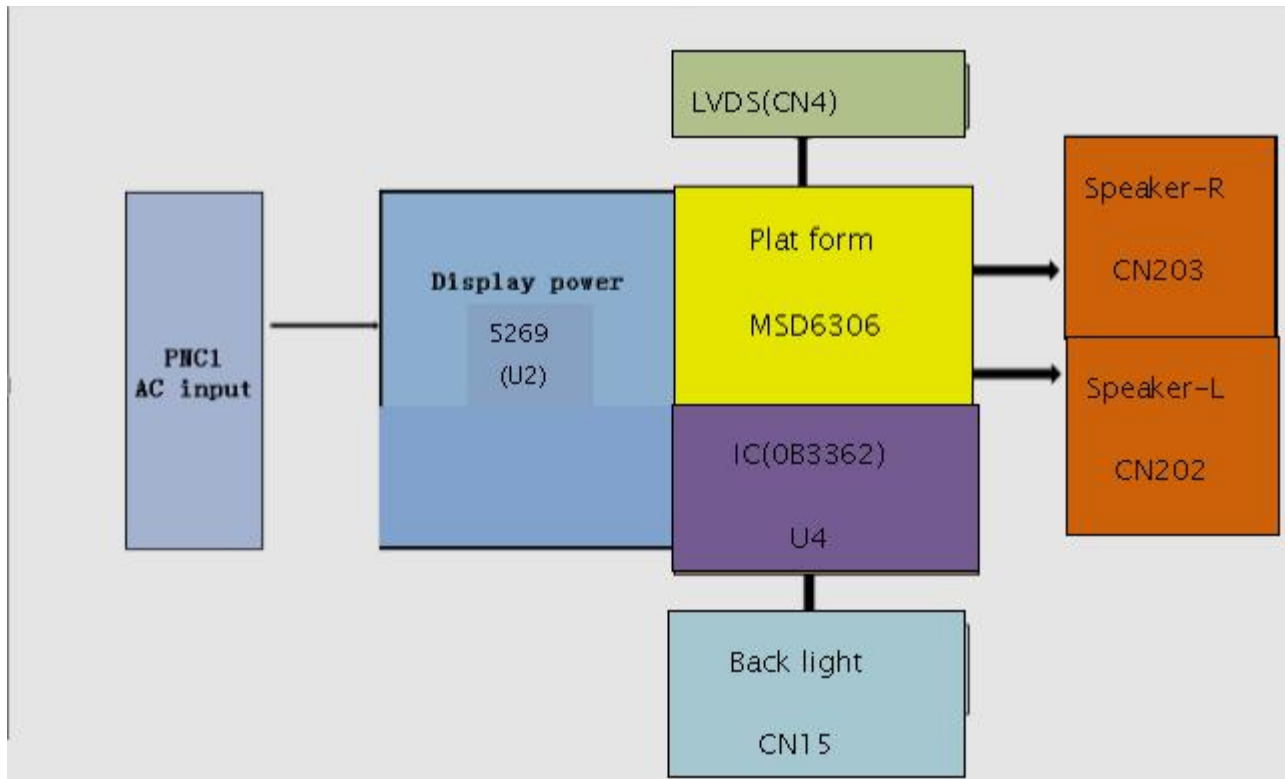
- TUNER POWER AS1117-33
- VDDC POWER
- MSD6306-T7
- 3.3V STANDBY AS1117 -33
- 64 Mbit SPI FLASH
- HDMI1 ARC
- HDMI2 MHL
- HDMI3 PORT

#### 6.1.2 Block diagram



## 6.2 Power Supply

Power architecture of this platform.



### 6.2.1 Power Supply Unit

All power supplies are a black box for Service. When defective, a new board must be ordered and the defective one must be returned, unless the main fuse of the board is broken. Always replace a defective fuse with one with the correct specifications! This part is available in the regular market.

Consult the Philips Service web portal for the order codes of the boards.

Important delta's with the platform are:

- New power architecture for LED backlight
- “Boost”-signal is now a PWM-signal + continuous variable

The control signals are:

- PS-ON
- Lamp “on/off”
- DIM (PWM) (not for PSDL)

In this manual, no detailed information is available because of design protection issues.

- +12 output (on-mode)
- +12V\_audio (audio AMP power)
- Output to the display; in case of
  - IPB: High voltage to the LCD panel
  - PSL and PSLS (LED-driver outputs)
  - PSDL (high frequent) AC-current.

### 6.2.2 Diversity

The diversity in power supply units is mainly determined by the diversity in displays.

The following displays can be distinguished:

- CCFL/EEFL backlight: power panel is conventional IPB
- LED backlight:
  - side-view LED without scanning: PSL power panel
  - side-view LED with scanning: PSLS power panel
  - direct-view LED without 2D-dimming: PSL power panel
  - direct-view LED with 2D-dimming: PSDL power panel.

**PSL** stands for **P**ower **S**upply with integrated **L**ED-drivers.

**PSLS** stands for a **P**ower **S**upply with integrated **L**ED-drivers with added **S**canning functionality (added microcontroller).

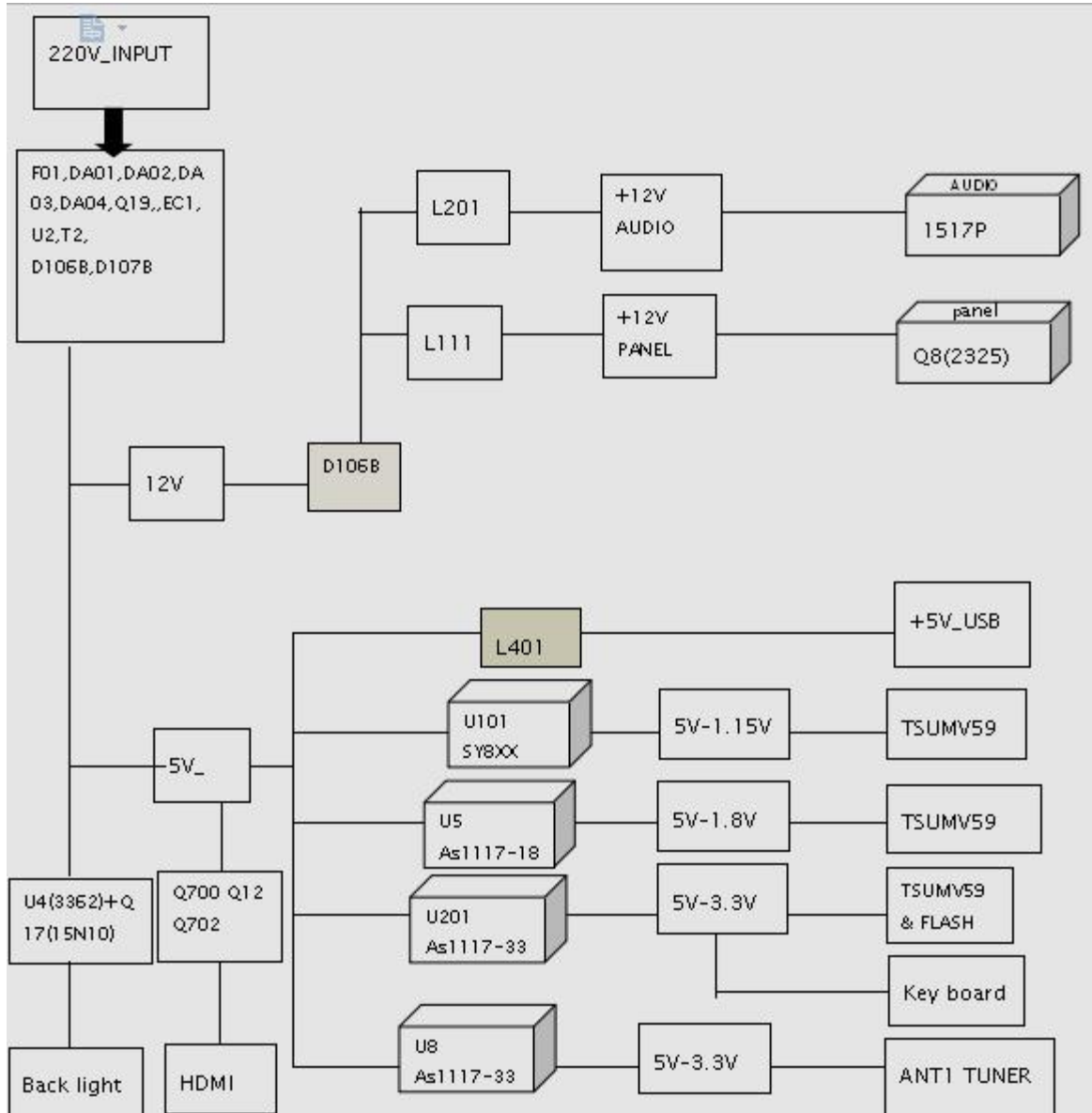
**PSDL** stands for a **P**ower **S**upply for **D**irect-view **L**ED backlight with 2D-dimming.

### 6.3 DC/DC Converters

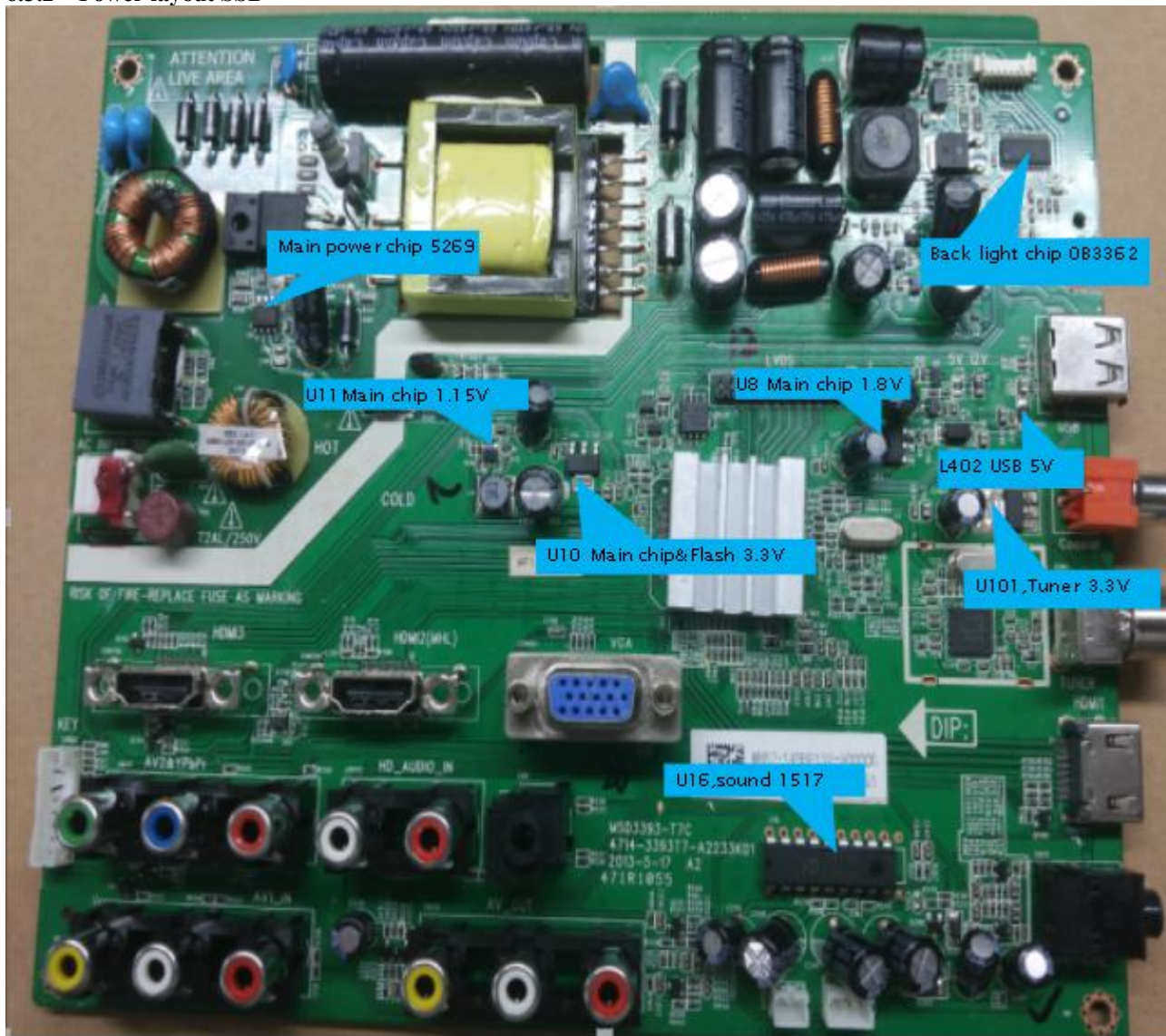
The on-board DC/DC converters deliver the following voltages(depending on set execution):

- +3V5-SB, permanent voltage for the Stand-by Power system
- +3V3-STANDBY, voltage for IR/Key board
- +12V, input from the power supply for the panel common(active mode)
- +12V, input from the power supply for LNB supply
- +3V3-FLASH, voltage for FLASH when TV on
- +3.3VA\_T2, +1.2V\_T2 voltage for Demodulator IC channel decoder
- TUNER\_3V3, supply voltage for tuner
- +5V-SW, input intermediate supply voltage for USB Power
- +12V-AUDIO1 for the AUDIO AMP
- +1.8V-Main chip

#### 6.3.1 Power tree



### 6.3.2 Power layout SSB



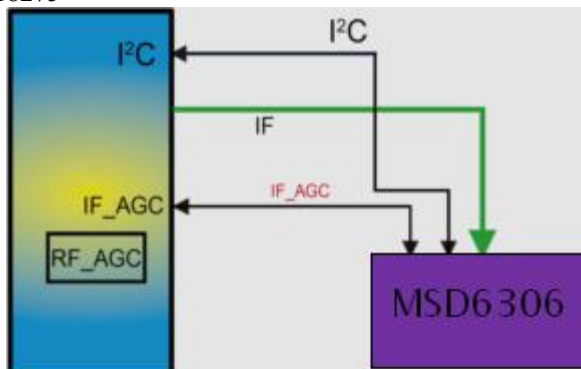
### 6.4 Front-End Analogue and DVB-C, DVB-T; reception

#### 6.4.1 DVB-C part

The Front-End for analogue tuner consist of the following key components:

- TUNER 18275
- SCALER MSD6306

Below find a block diagram of the front-end application for DVB-C part.18275+MSD6306



#### 6.4.2 DTB-T2 part

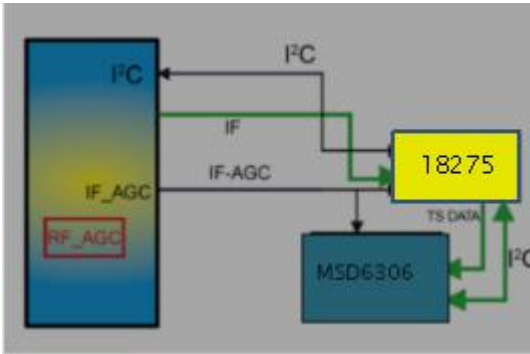
The Front-End for DVT part consist of the following key components:

- TUNER EUROPE 18275

• SCALER MSD6306

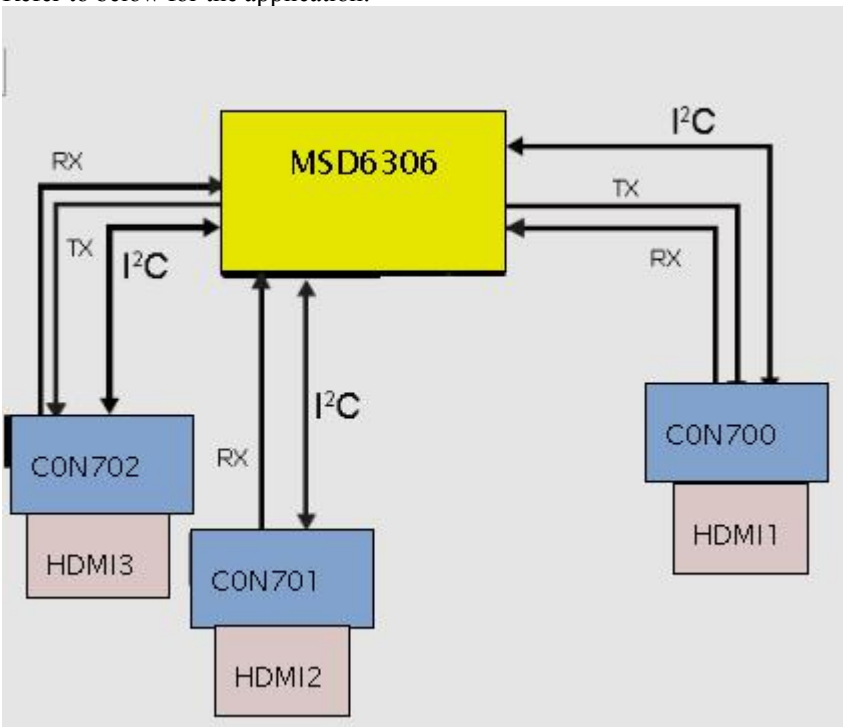
Below find a block diagram of the front-end application for DTV part.

18275



## 6.5 HDMI

Refer to below for the application.



The following HDMI connector can be used:

- HDMI 1: HDMI input ( TV digital interface support HDCP)
- HDMI 2: HDM IMHL input ( TV digital interface support)
- HDMI 3: HDMI input ( TV digital interface support HDCP)
- +5V detection mechanism
- Stable clock detection mechanism
- HPD control
- Sync detection
- TMDS output control
- CEC control
- ARC control
- MHL control

## 6.6 Video and Audio Processing - MSD6306

The MSD6306 is the main audio and video processor (or System-on-Chip) for this platform. It has the following features:

1. Worldwide multi-standard analog TV demodulator
2. PAL/SECAM/DVB-T/DVB-T2 /DVB-C demodulators
3. 1920\*1080@60Hz direct drive
4. Powerful CPU core
5. A transport de-multiplexer
7. A multi-standard video decoder
8. Rich format audio codec



- 
- 10. HDMI1.3receiver
  - 11. MHL input
  - 12. 2D converter
  - 14. PWM dimming (LED backlight)
  - 15. Two-link LVDS,
- ## 1 OVERVIEW

**The World-Leading Audio/Video Technology:** The The MSD6306 supports Full MPEG2/4/H.264 video decoder standards, and JPEG. The MSD6306 family consists of a DTV front-end demodulator, a backend decoder and a TV controller and offers high integration for advanced applications. It integrates a transport de-multiplexer, a high definition video decoder, an audio decoder, a -link LVDS transmitter, and a NTSC/PAL/SECAM TV decoder .The MSD6306 enables consumer electronics manufacturers to build high quality, low cost and feature-rich DTV. The MSD6306 also supports MediaTek MDDi™ de-interlace solution which can reach very smooth picture quality for motions. The special color processing technology provides a natural, deep colors and true studio quality video. Moreover, . The MSD6306 family has built-in high resolution and high-quality audio codec.

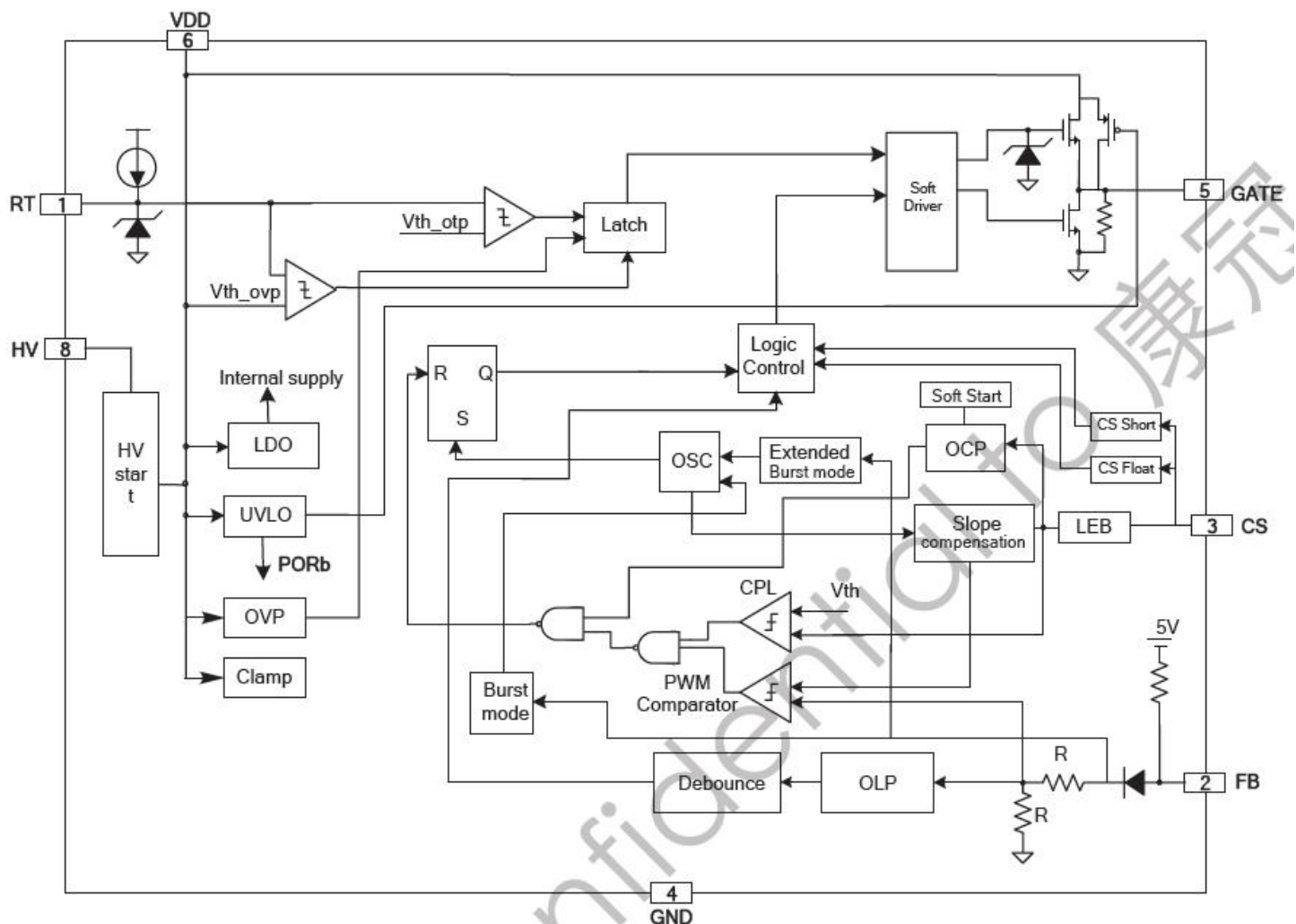
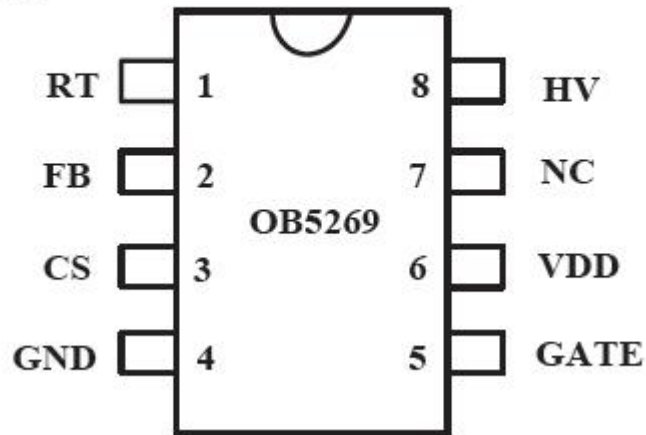
**Rich Features for High Value Products:**The MSD6306 family enables true single-chip experience. It integrates high-quality HDMI1.4, high speed VGA ADC, a-link LVDS, USB2.0 receiver , and ATSC/DVB-T/DVBC/DTMB/ISDB-T demodulators.

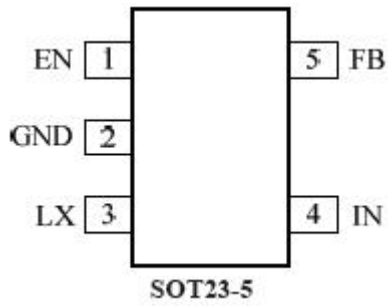
**All New FHD@60Hz Experience:**The MSD6306 family provides consumers with FHD 60Hz direct drive.

**WW Common Platform Capability:** The MSD6306 family supports ATSC, DVB-T, DVB-C, and ISDB-T demodulation functions. It reserves transport stream inputs for external demodulators for other countries or areas. TV maker can easily port the same UI to worldwide TV models. First-class adjacent and co-channel rejection capability grants excellent reception. Professional error-concealment provides stable, smooth and mosaic-free video quality.

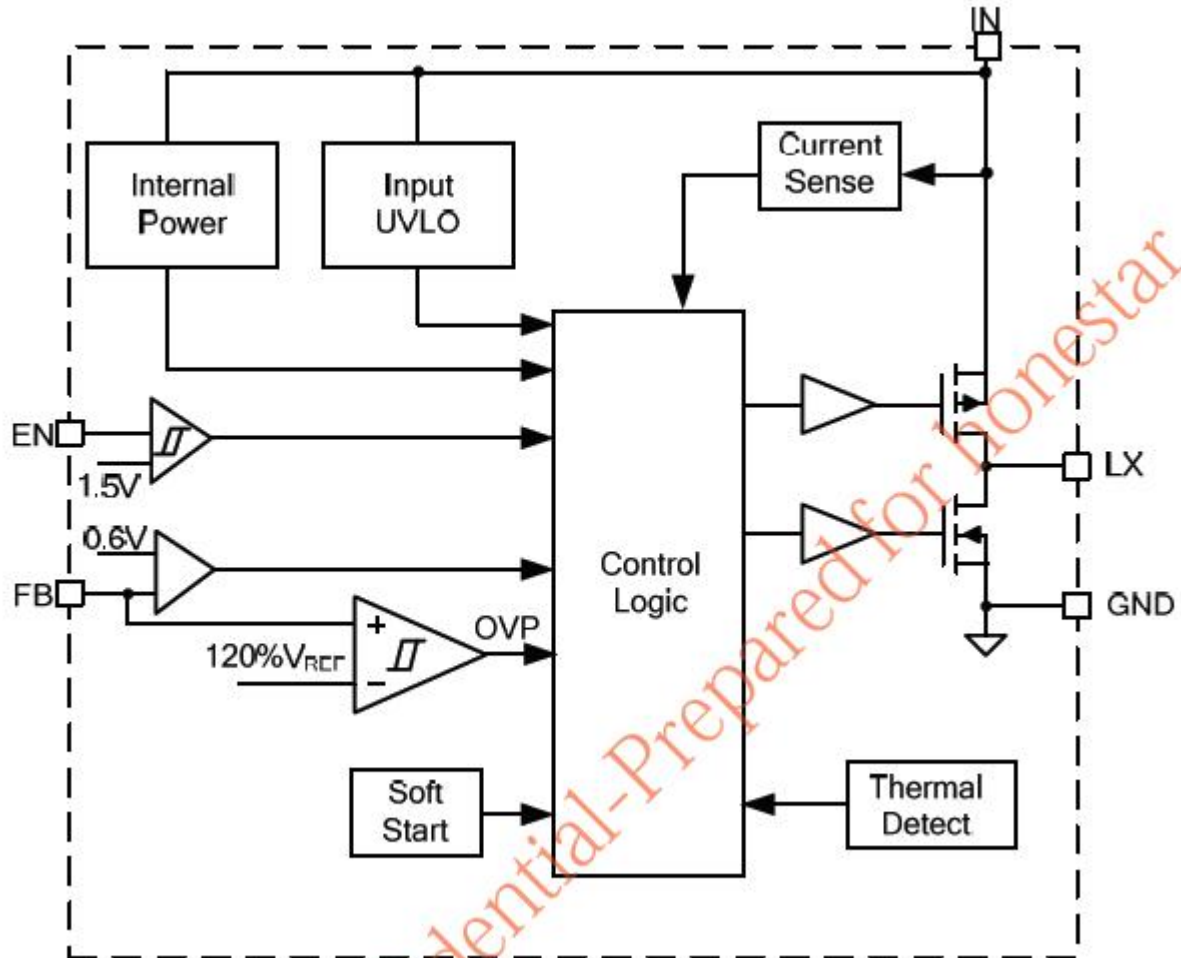
## 7. IC Data Sheets

## Pin Configuration





### Block Diagram



8. Circuit Diagrams

MSD3393 (ATSC) /MSD6306PUM (DVB-T) --T7C三合一板原理图

PAGE	Content
1	Index&History Rev
2	Block Diagram
3	System Power
4	MSD3393/MSD6306PUM
5	LVDS&Amplify
6	Video&VGA&USB
7	HDMI
8	Tuner

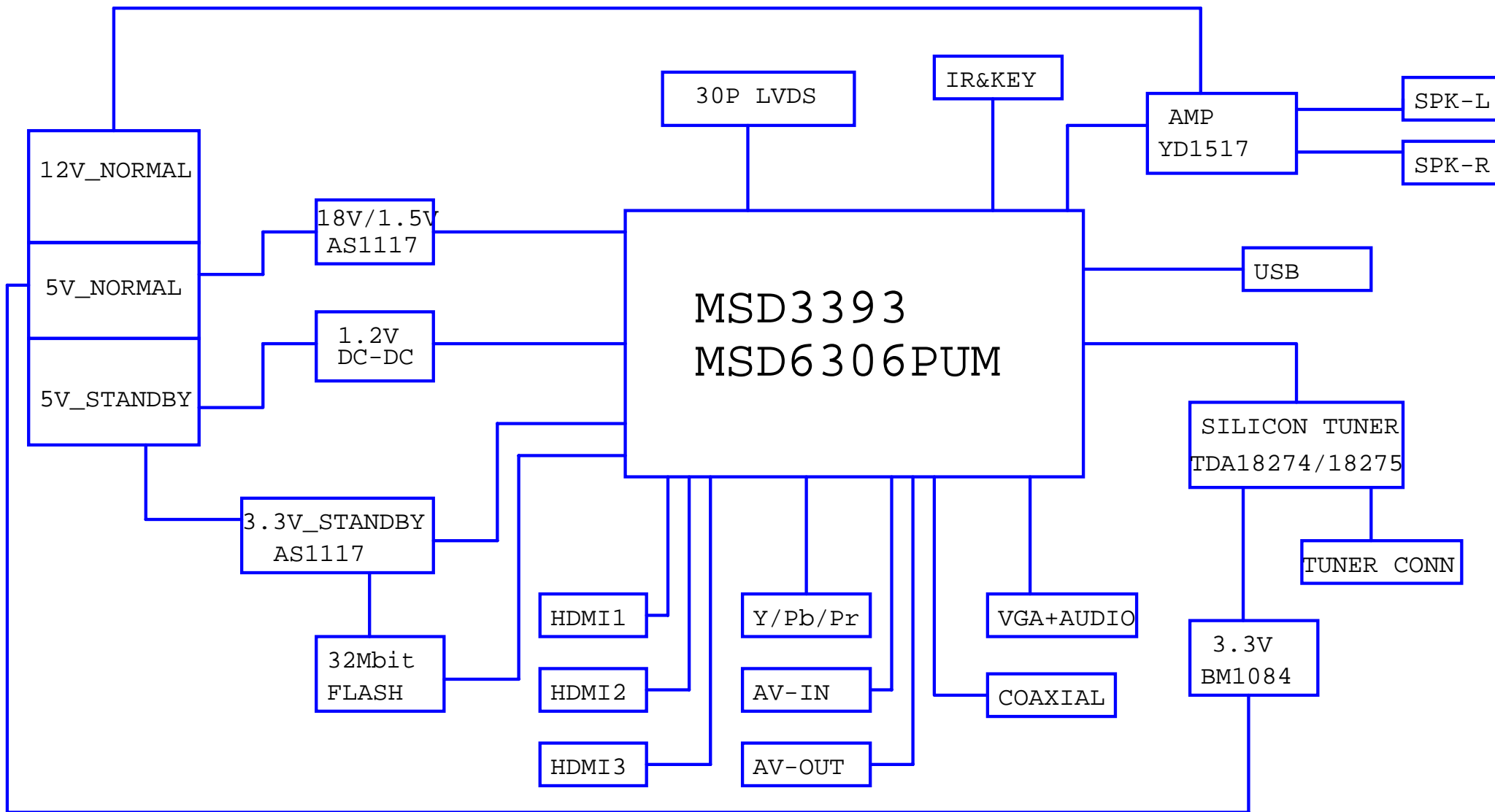
History Rev

DATE	Rev	Description	Author
06/20/2014	Ver:A1.0	First Version Release	ZHQING

本文档仅限中国深圳市康冠技术有限公司和被呈送方内部使用，未经书面许可请勿扩散到第三方。  
This document for ShenZhen KTC Technology CO., Ltd and presented party internal use only,  
Do not spread to third party without the written permission.

版权所有@深圳市康冠技术有限公司  
Copyright@ ShenZhen KTC Technology Co., LTD

KTC ISO9001.ISO14001体系文件			
文件名称: MSD6306PUM(台湾DVB-T)T7C三合一板原理图			
文件编号:	T4243	版本: 3.0	页数: 1 of 9
设计:	张志清	审核:	批准:
发行部门:	研发处	生效日期:	Monday, June 23, 2014

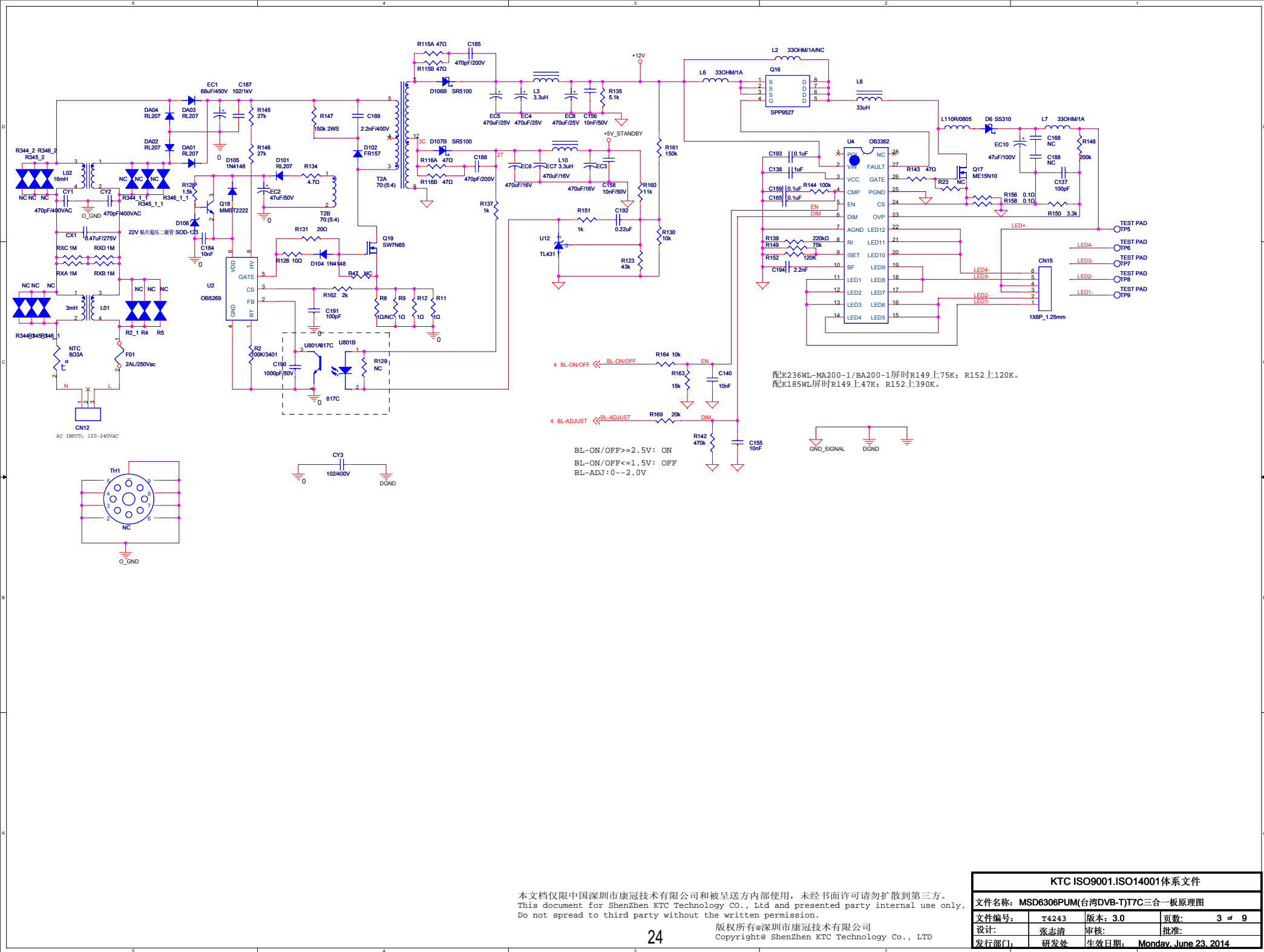


本文件仅限中国深圳市康冠技术有限公司和被呈送方内部使用，未经书面许可请勿扩散到第三方。  
This document for ShenZhen KTC Technology CO., Ltd and presented party internal use only,  
Do not spread to third party without the written permission.

版权所有@深圳市康冠技术有限公司  
Copyright@ ShenZhen KTC Technology Co., LTD

KTC ISO9001.ISO14001体系文件			
文件名称: MSD6306PUM(台湾DVB-T)T7C三合一板原理图			
文件编号:	T4243	版本: 3.0	页数: 2 of 9
设计:	张志清	审核:	批准:
发行部门:	研发处	生效日期:	Monday, June 23, 2014





本文档仅限中国深圳市康冠技术有限公司和被呈送方内部使用，未经书面许可请勿扩散到第三方。  
This document for ShenZhen KTC Technology CO., Ltd and presented party internal use only,  
Do not spread to third party without the written permission.

版权所有©深圳市康冠技术有限公司  
Copyright© ShenZhen KTC Technology Co., LTD

KTC ISO9001.ISO14001体系文件			
文件名称: MSD6306PUM(台湾DVB-T)7TC三合一板原理图			
文件编号:	T4243	版本: 3.0	页数: 3 of 9
设计:	张志清	审核:	批准:
发行部门:	研发处	生效日期:	Monday, June 23, 2014



8	HDMIO-RX0P	HDMIO-RO0P
8	HDMIO-RX0N	HDMIO-RO0N
8	HDMIO-RX1P	HDMIO-RO1P
8	HDMIO-RX1N	HDMIO-RO1N
8	HDMIO-RX2P	HDMIO-RO2P
8	HDMIO-RX2N	HDMIO-RO2N
8	HDMIO-CLKN	HDMIO-CLKN
8	HDMIO-CLKP	HDMIO-CLKP
8	HDMIO-SCL	HDMIO-SCLP
8	HDMIO-SDA	HDMIO-SDAP
8	HDMIO-HP0N	HDMIO-HP0N
8	HDM1-RX0P	HDM1-RO0P
8	HDM1-RX0N	HDM1-RO0N
8	HDM1-RX1P	HDM1-RO1P
8	HDM1-RX1N	HDM1-RO1N
8	HDM1-RX2P	HDM1-RO2P
8	HDM1-RX2N	HDM1-RO2N
8	HDM1-CLKN	HDM1-CLKN
8	HDM1-CLKP	HDM1-CLKP
8	HDM1-SCL	HDM1-SCLP
8	HDM1-SDA	HDM1-SDAP
8	HDM1-HP0N	HDM1-HP0N
8	HDM2-RX0P	HDM2-RO0P
8	HDM2-RX0N	HDM2-RO0N
8	HDM2-RX1P	HDM2-RO1P
8	HDM2-RX1N	HDM2-RO1N
8	HDM2-RX2P	HDM2-RO2P
8	HDM2-RX2N	HDM2-RO2N
8	HDM2-CLKN	HDM2-CLKN
8	HDM2-CLKP	HDM2-CLKP
8	HDM2-SCL	HDM2-SCLP
8	HDM2-SDA	HDM2-SDAP
8	HDM2-HP0N	HDM2-HP0N
8	MHL_CABLE-DET	MHL_CABLE-DET
8	HDMI-ARC	HDMI-ARC
8	HDMI-CEC	HDMI-CEC

7	VGA-Rin	R102	33R C100	47nF	RGB0 R+
		R103	75R C101	47nF	RGB0 G+
7	VGA-Gin	R104	33R C102	47nF	RGB0 B+
		R105	33R C103	47nF	RGB0 B+
7	VGA_HSYN			47nF	VGA_HSYN
7	VGA_VSYN			47nF	VGA_VSYN
7	YPdR_PR	R107	33R C105	47nF	RGB1 R+
		R108	75R C106	47nF	RGB1 G+
7	YPdR_Y	R109	33R C107	47nF	RGB1 G+
7	YPdR_PB	R110	33R C108	47nF	RGB1 B+
		R111	GR C109	1nF	RGB1 S0

7	AV2	150R	CVBS1+	R114	150R	CVBS1+	R112, R114:
							ATSC:33R
7	AV1	150R	CVBS0+	R112	150R	CVBS0+	DVB-T:150R
7	CVBS1_OUT	150R	CVBS1 OUT	R113	150R	CVBS1 OUT	R113:
							ATSC:75R
							DVB-T:180R

7	VGA_IN_L	⏏	VGA_IN_L	C124	2.2uF	LINEIN_L0
7	VGA_IN_R	⏏	VGA_IN_R	C123	2.2uF	LINEIN_R0
7	HD_LIN	⏏	HD_LIN	C117	2.2uF	LINEIN_L1
7	HD_RIN	⏏	HD_RIN	C118	2.2uF	LINEIN_R1
7	AV1-Lin	⏏	AV1-Lin	C112	2.2uF	LINEIN_L4
7	AV1-Rin	⏏	AV1-Rin	C114	2.2uF	LINEIN_R4

9 IFP >> C157 0.1uF VIFP  
9 IFN >> C160 0.1uF VIFM

7 USB1\_D- <<< USB1\_D-  
7 USB1\_D+ <<< USB1\_D+  
7 SPDIF\_OUT <<< SPDIF\_OUT

MUST pull high to 5V5TS

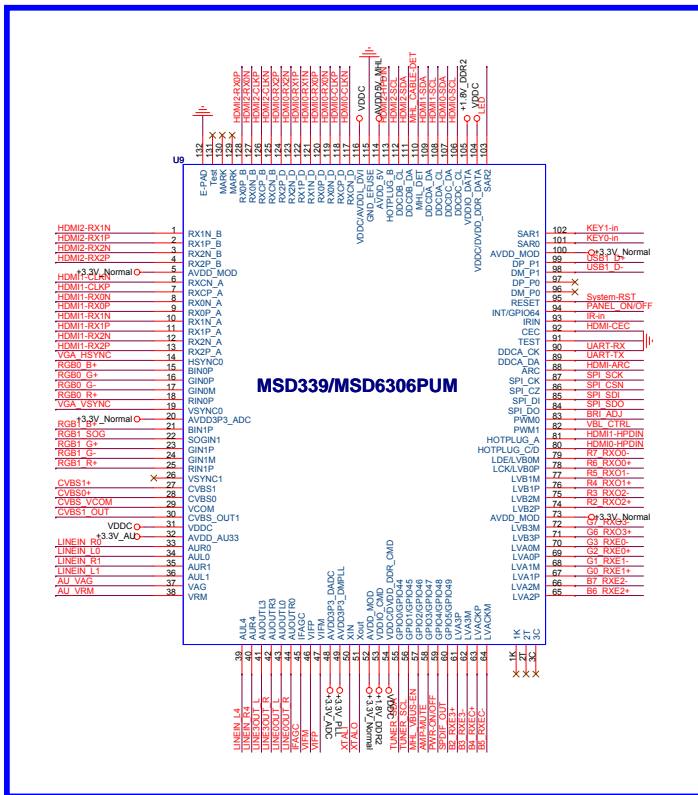
ISP AND VGA EDID

UART\_TX R136 100R

UART\_RX R140 100R

UART\_TX 7

UART\_RX 7

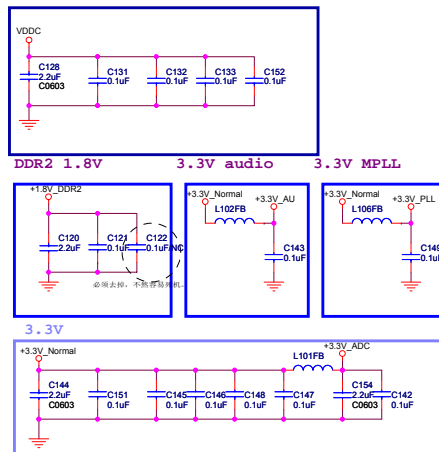


	ATSC	DVB-T
U9	MSD3393	MSD6306PUM

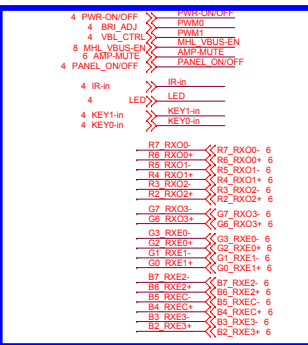
`{IPAD_PWM1, PAD_PWM0}`  
**B51\_NO\_EJ 4'h00**

PWM1 R165 4.7K  
 PWM0 R166 4.7K

\_\_\_\_\_



Close to Mstar IC



文件编号:	T4243	版本: 3.0	页数: 5 of 9
设计:	张志清	审核:	批准:
发行部门:	研发处	生效日期:	Monday, June 23, 2014

版权所有©深圳市康冠技术有限公司  
Copyright© ShenZhen KTC Technology Co., LTD

Diagram illustrating the pin connections for a 30-pin connector (CN4, 30PIN/2.0mm) to a Panel\_VCC signal.

The connector pins are numbered 1 through 30. The connections are as follows:

Pin	Signal	Pin	Signal
1	GND	11	B3 RXE3+
2	GND	12	B4 RXE4+
3	GND	13	B5 RXE5+
4	VCC	14	B6 RXE6+
5	VCC	15	B7 RXE7+
6	VCC	16	B8 RXE8+
7	VCC	17	B9 RXE9+
8	VCC	18	B10 RXE10+
9	VCC	19	B11 RXE11+
10	VCC	20	B12 RXE12+
11	VCC	21	B13 RXE13+
12	VCC	22	B14 RXE14+
13	VCC	23	B15 RXE15+
14	VCC	24	B16 RXE16+
15	VCC	25	B17 RXE17+
16	VCC	26	B18 RXE18+
17	VCC	27	B19 RXE19+
18	VCC	28	B20 RXE20+
19	VCC	29	B21 RXE21+
20	VCC	30	B22 RXE22+
21	VCC		
22	VCC		
23	VCC		
24	VCC		
25	VCC		
26	VCC		
27	VCC		
28	VCC		
29	VCC		
30	VCC		

The diagram also shows a connection from the Panel\_VCC signal to the connector pins 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30.

# EARPHONE OUT

HP/BLUE

AGND

AGND

AGND

HP MUTE

E AMP-L

E AMP-R

R215 47k

C224 1nF

R216 47k

C226 1nF

C206 10uF

C207 10uF

Q22

10k

2k

12V\_NORMAL

OP\_VCC

R225 100R

C202 0.1uF

R217 0R/NC

R214 510R

R224 47K

R204 47K

C201 100uF/16V 0R/NC

R208 0.1uF

R211 10K

R209 2K

C205 2.2uF

R213 47R

R210 47K

Q202

3904

5 LINEOUT\_APMR

5 LINEOUT\_APL

E AMP-R

E AMP-L

R205 10K

R206 2K

C204 2.2uF

R223 2K

R207 10K

R208 47R

R212 47R

R218 47R

R219 47R

R220 47R

R221 47R

R222 47R

R223 47R

R224 47R

R225 47R

R226 47R

R227 47R

R228 47R

R229 47R

R230 47R

R231 47R

R232 47R

R233 47R

R234 47R

R235 47R

R236 47R

R237 47R

R238 47R

R239 47R

R240 47R

R241 47R

R242 47R

R243 47R

R244 47R

R245 47R

R246 47R

R247 47R

R248 47R

R249 47R

R250 47R

R251 47R

R252 47R

R253 47R

R254 47R

R255 47R

R256 47R

R257 47R

R258 47R

R259 47R

R260 47R

R261 47R

R262 47R

R263 47R

R264 47R

R265 47R

R266 47R

R267 47R

R268 47R

R269 47R

R270 47R

R271 47R

R272 47R

R273 47R

R274 47R

R275 47R

R276 47R

R277 47R

R278 47R

R279 47R

R280 47R

R281 47R

R282 47R

R283 47R

R284 47R

R285 47R

R286 47R

R287 47R

R288 47R

R289 47R

R290 47R

R291 47R

R292 47R

R293 47R

R294 47R

R295 47R

R296 47R

R297 47R

R298 47R

R299 47R

R300 47R

R301 47R

R302 47R

R303 47R

R304 47R

R305 47R

R306 47R

R307 47R

R308 47R

R309 47R

R310 47R

R311 47R

R312 47R

R313 47R

R314 47R

R315 47R

R316 47R

R317 47R

R318 47R

R319 47R

R320 47R

R321 47R

R322 47R

R323 47R

R324 47R

R325 47R

R326 47R

R327 47R

R328 47R

R329 47R

R330 47R

R331 47R

R332 47R

R333 47R

R334 47R

R335 47R

R336 47R

R337 47R

R338 47R

R339 47R

R340 47R

R341 47R

R342 47R

R343 47R

R344 47R

R345 47R

R346 47R

R347 47R

R348 47R

R349 47R

R350 47R

R351 47R

R352 47R

R353 47R

R354 47R

R355 47R

R356 47R

R357 47R

R358 47R

R359 47R

R360 47R

R361 47R

R362 47R

R363 47R

R364 47R

R365 47R

R366 47R

R367 47R

R368 47R

R369 47R

R370 47R

R371 47R

R372 47R

R373 47R

R374 47R

R375 47R

R376 47R

R377 47R

R378 47R

R379 47R

R380 47R

R381 47R

R382 47R

R383 47R

R384 47R

R385 47R

R386 47R

R387 47R

R388 47R

R389 47R

R390 47R

R391 47R

R392 47R

R393 47R

R394 47R

R395 47R

R396 47R

R397 47R

R398 47R

R399 47R

R400 47R

R401 47R

R402 47R

R403 47R

R404 47R

R405 47R

R406 47R

R407 47R

R408 47R

R409 47R

R410 47R

R411 47R

R412 47R

R413 47R

R414 47R

R415 47R

R416 47R

R417 47R

R418 47R

R419 47R

R420 47R

R421 47R

R422 47R

R423 47R

R424 47R

R425 47R

R426 47R

R427 47R

R428 47R

R429 47R

R430 47R

R431 47R

R432 47R

R433 47R

R434 47R

R435 47R

R436 47R

R437 47R

R438 47R

R439 47R

R440 47R

R441 47R

R442 47R

R443 47R

R444 47R

R445 47R

R446 47R

R447 47R

R448 47R

R449 47R

R450 47R

R451 47R

R452 47R

R453 47R

R454 47R

R455 47R

R456 47R

R457 47R

R458 47R

R459 47R

R460 47R

R461 47R

R462 47R

R463 47R

R464 47R

R465 47R

R466 47R

R467 47R

R468 47R

R469 47R

R470 47R

R471 47R

R472 47R

R473 47R

R474 47R

R475 47R

R476 47R

R477 47R

R478 47R

R479 47R

R480 47R

R481 47R

R482 47R

R483 47R

R484 47R

R485 47R

R486 47R

R487 47R

R488 47R

R489 47R

R490 47R

R491 47R

R492 47R

R493 47R

R494 47R

R495 47R

R496 47R

R497 47R

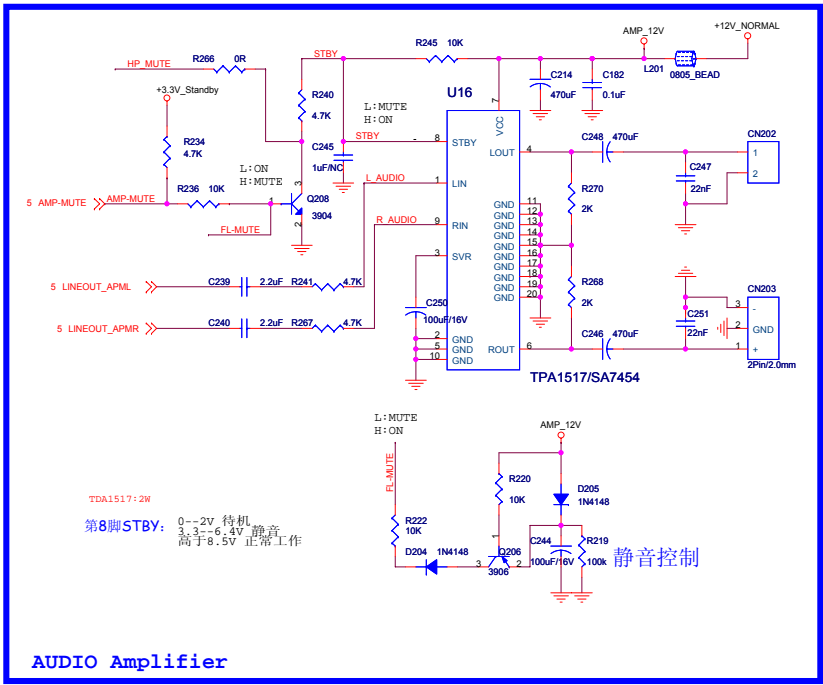
R498 47R

R499 47R

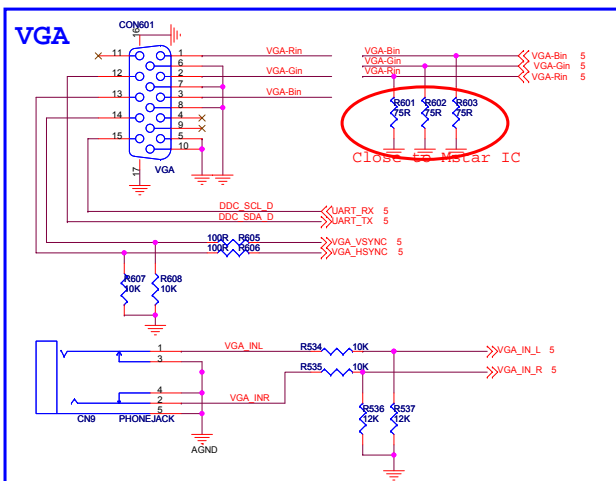
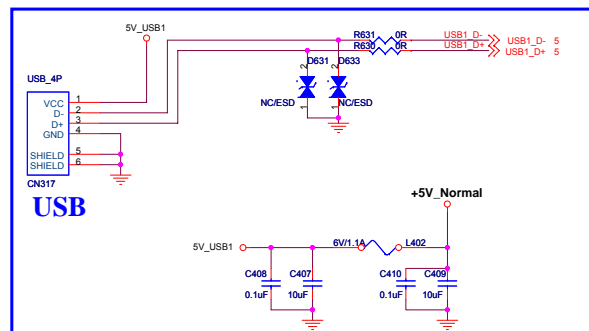
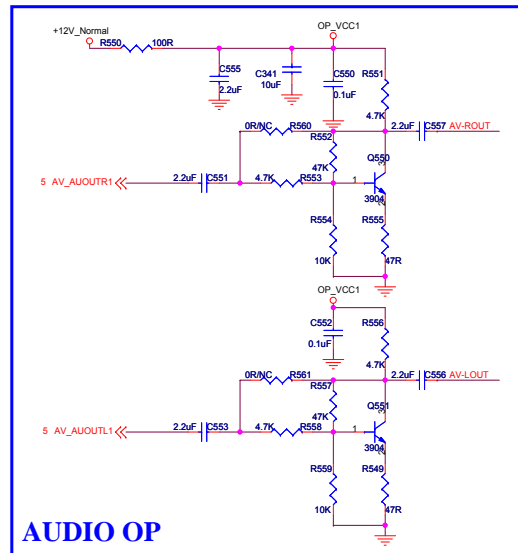
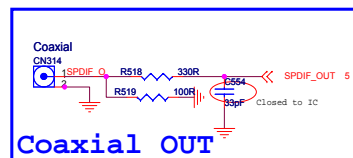
R500 47R

R501 47R

R502 47R

<

KTC ISO9001.ISO14001体系文件			
文件名称: MSD6306PUM(台湾DVB-T)T7C三合一板原理图			
文件编号:	T4243	版本: 3.0	页数: 6 of 9
设计:	张清浩	审核:	批准:
发行部门:	研发处	生效日期:	Monday, June 23, 2014



Copyright@ Shenzhen KTC Technology Co., LTD

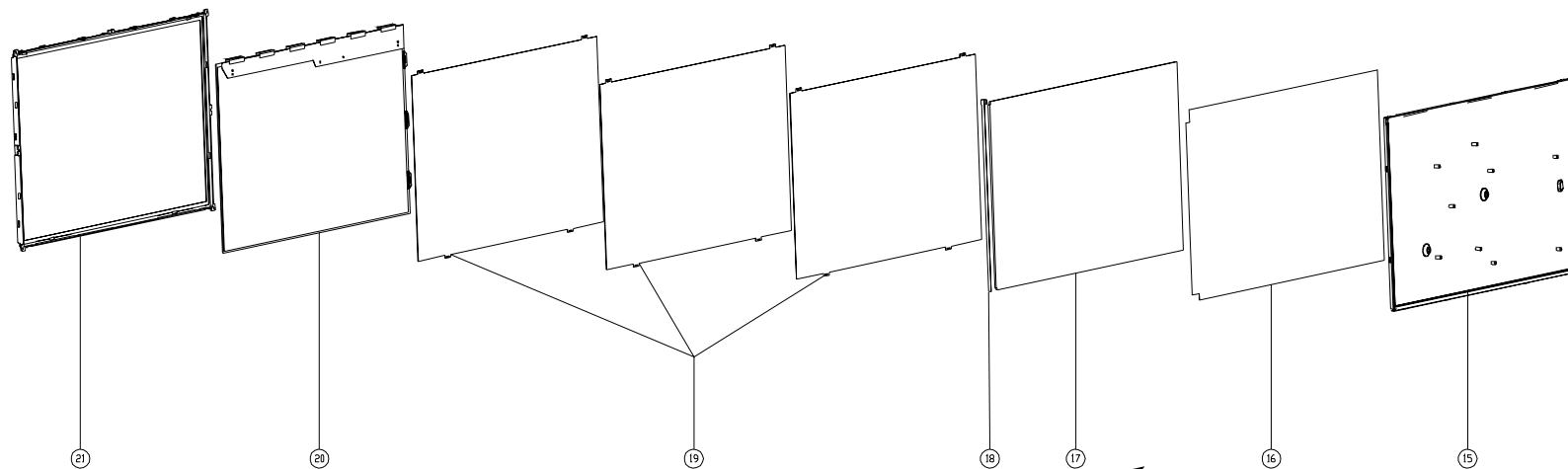






# 9. Styling Sheet 4200 series 24"

REV.	ECN.	NO.	APPD.	DATE



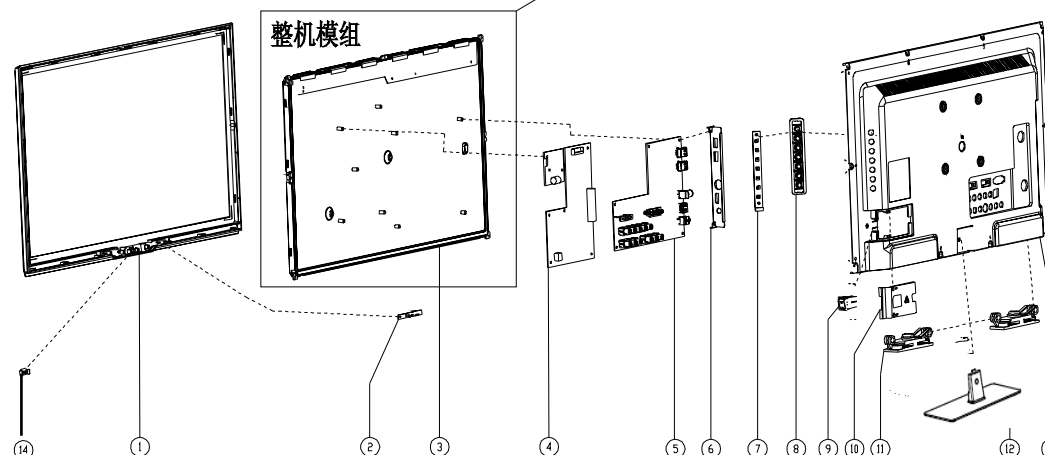
21	模组中框	Mid frame	70Z1-24L31F-1144M011	1
20	玻璃基板	Glassboard	7432-236CM4-2800M011-F	1
19	扩散片	Diffuser	7823-K236WL-0120Z013	3
18	灯条	LCM Light	9044-114P12-23601011	1
17	导光板	LCM light board	7811-K236WL-00300083	1
16	反射膜	Reflector plate	7821-K236WL-0225Z023	1
15	背板	Back plate	71Z2-24L31F-11060061	1

Detail for Module

14	/	/	/	
13	后壳	Back cover	7002-24L31F-14600001	1
12	底座	Base	7003-24L31F-2U700003	1
11	喇叭	Speaker	7711-288285-02000011	2
10	电源线盖	Cover plate for wire	7057-24L31F-44B01111	1
9	开关	Switch	6264-250008-13210001	1
8	排钮	Button array	7030-420L31-4U711101	1
7	按键板组件	Key board	9014-112L31-00001011	1
6	侧IO挡板	Hardware baffle plate-Side	7111-24L31F-41120K01	1
5	主板	Mainboard	9011-117B35-62261011	1
4	电源板	Powerboard	With in mainboard	1
3	背光屏	Panel	7422-236CMK-28000061-F	1
2	遥控接收板组件	Remote control receive board	9015-112L31-61034091	1
1	前框	Surface frame	7001-24L33F-04B00103	1

Detail for whole structure

No.	Name	Vender PN	QTY
-----	------	-----------	-----



X.± .200	X.*± 0.050	24L33F爆炸图		<div>KTC® 深圳市康冠技术有限公司 SHENZHEN KTC TECHNOLOGY CO., Ltd</div>					
.X± .100	.X*± 0.010	24L33F Explosive View							
.XX± .01	.XX*± 0.005	料号  批准  审核  施画  李讲	材质	日期 2014.03.25					
.XXX± .005	.XXX*± 0.002		日期						
THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF KANGTE COMPUTER CO. LTD. AND SHALL NOT BE REPRODUCED, COPIED OR USED IN ANY MANNER WITHOUT THE PRIOR WRITTEN CONSENT OF KANGTE COMPUTER CO. LTD.			Q'TY			UNIT	SCALE	SHEET	REV.
			MM			1:1	1/1		A