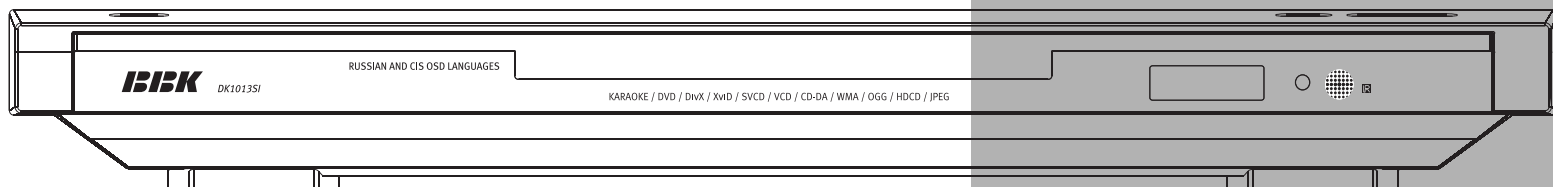


IBBK

DK1014SI(RU)

service manual



Catalog

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Caution :

Chapter One About Maintenance

1.1 Safety precautions

1.1.1 Power supply

When maintenance personnel are repairing DVD players, he should pay special attention to the power board with 220V AC and 330V DC which will cause hurt and damage to persons!

1.1.2 Precautions for antistatic

Movement and friction will both bring static electricity which causes serious damages to integrated IC. Though static charge is little, when a limited quantity of electric charge is added to large-scale integrated IC, as the capacitance is very small in the meantime, now the integrated IC is very much easy to be struck through by static electricity or the performance will decrease. Thus static electricity prevention is of extraordinary importance. The following are several measures to prevent static electricity:

1. Use a piece of electric conduction metal with the length of about 2 metres to insert into the earth, and Fetch the lead wire from the top of the surplus metal and connect to the required static electricity device. The length and depth of the metal embedded under the earth should be determined according to the wettability of the local soil. For humid places, it may be shorter, and longer and deeper for dry places. If possible, it can be distributed and layed in terms of “#” shape.
2. On operating table-board, the antistatic table cushion should be covered and grounded.
3. All devices and equipments should be placed on the antistatic table cushion and grounded.
4. Maintenance personnel should wear antistatic wrist ring which should be grounded.
5. Places around the operating position should also be covered with electric conduction cushion or Painted with antistatic paint.

1.1.3 Precautions for laser head

1. Do not stare at laser head directly, for laser emission will occur when laser head is working, which will Hurt your eyes!
2. Do not use wiping water or alcohol to clean laser head, and you may use cotton swab.

1.1.4 About placement position

1. Never place DVD player in positions with high temperature and humidity.
2. Avoid placing near high magnetic fields, such as loudspeaker or magnet.
3. Positions for placement should be stable and secure.

1.2 Maintenance method

1.2.1 Visualized method

Directly view whether abnormalities of collision, lack of element, joint welding, shedding welding, rosin joint, copper foil turning up, lead wire disconnection and elements burning up among pins of elements appear. Check power supply of the machine and then use hands to touch the casing of part of elements and check whether they are hot to judge the trouble spot. You should pay more attention when using this method to check in high voltage parts.

1.2.2 Electric resistance method

Set the multimeter in resistance position and test whether the numerical value of resistance of each point in the circuit has difference from the normal value to judge the trouble spot. But in the circuit the tested numerical value of resistance is not accurate, and the tested numerical value of integrated IC's pins can only be used for reference, so the elements should be broken down for test.

1.2.3 Voltage method

Voltage method is relatively convenient, quick and accurate. Set the multimeter in voltage position and test power supply voltage of the player and voltage of a certain point to judge the trouble spot according to the tested voltage variation.

1.2.4 Current method

Set the multimeter in current position and test current of the player of a certain point to judge the trouble spot. But when testing in current method, the multimeter should be series connected in the circuit, which makes this method too trivial and troublesome, so it is less frequently used in reality.

1.2.5 Cutting method

Cutting method should be combined with electric resistance method and voltage method to use. This method is mainly used in phenomena of short circuit and current leakage of the circuit. When cutting the input terminal voltage of a certain level, if voltage of the player rises again, it means that the trouble lies in this level.

1.2.6 Element substitution method

When some elements cannot be judged good or bad, substitution method may be adopted directly.

1.2.7 Comparison method

A same good PC board is usually used to test the correct voltage and waveform. Compared these data with those tested through fault PC board, the cause of troubles may be found.

Through the above maintenance method, theoretical knowledge and maintenance experience, all difficulties and troubles will be readily solved.

1.3 Required device for maintenance

- ◆ Digital oscillograph ($\geq 100\text{MHz}$)
- ◆ TV set
- ◆ SMD rework station
- ◆ Multimeter
- ◆ Soldering iron
- ◆ Pointed-nose pincers
- ◆ Cutting nippers
- ◆ Forceps
- ◆ Electric screw driver
- ◆ Terminal connecting cord
- ◆ Headphone
- ◆ Microphone

Chapter Two

Functions and Operation Instructions

2.1 Features

Compatible Disc Types

#Digital video playback: DVD-video, super VCD, VCD compatibility

#MPEG-4 standard support: compatibility with DivX3.11, DivX4, DivX5, DivX Pro, XviD compressed video files

#Digital audio playback: CD(CD-DA)and HDCD compatibility

#Fully compatible with compressed audio files such as MP3,WMA and OGG Vorbis formats

#Playback of DVD-Video, VCD, CD+G Karaoke discs

#Digital graphic albums playback: Kodak picture CD, JPEG compatibility

Audio

#192 kHz/24 bit Audio Digital/Analog converter

#Coaxial and optical outputs for Dolby Digital/DTS/LPCM digital audio

#Mixed audio output for amplifier and TV connection

#Digital multi-channel decoders, providing Dolby Digital/DTS audio stream playing

#Built-in Dolby Pro LogicII decoder makes available to convert stereo signal into multi-channel

#MIC input for karaoke function(only for models DV611SI,DV615SI,DV624SI ,DV626SI,DV628SI)

#Headphones output(only for models DV626SI,DV628SI)

Video

#Progressive Scan Output(Y Pb Pr) producing flicker-free and stable images

#Composite, component(Y Cb Cr), S-Video and RGB/SCART outputs for various types of Connections

#Capable of playing NTSC/PAL discs written in NTSC system

#Multiple dubbings, angles, subtitles support

#Sharpness,gamma, brightness, contrast, hue, saturation adjustment

Others

#Compatible disc types: CD-R/CD-RW,DVD-R/DVD-RW,DVD+R/DVD+RW

#USB interface to connect Mp3 player, flash card or digital camera

#KARAOKE+ system, expanding karaoke function

#Russia, CIs and Baltic States adaptation interface and filenames, ID3-tags and CD-Text support simplifies device operation

#"Memory" function enables to save the last position after stop playback

#"Q-Play" function provides direct playback and allows to skip commercial impossible to rewind

#"Virtual Keyboard" function provides more convenient DVD playback control

#"Browser" function provides easy access to playback control

#Automatic Screensaver function

#Parental control function to protect children from watching inappropriate discs

#Super wide range of operating power supplies (~110-250v,50/60 Hz), automatic short circuit protection



Fig.1.Delay of central channel=0



Fig.2.Small area Delay of central channel=L=(or) R=C

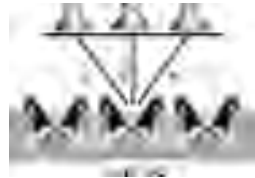
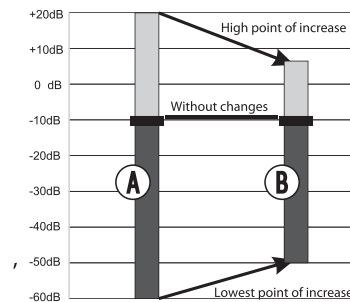


Fig.3.Small area Delay of central channel=0
L=R>C

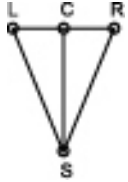
“Night” mode

The Dolby Digital system provides an extremely broad dynamic range of playback sound-from gentle to roaring. It creates the presence effect, especially while seeing motion pictures. However, at night a powerful sound with a broad dynamic range may give pleasure to you ,but disturb and annoy your family and neighbors. If you just decrease the volume, you will immediately notice that you ceased to hear, e, g, dialogues as clear as you do at normal volume, and such sound effects as rustle,

whisper etc. have merely disappeared. To avoid this, you just have to decrease the volume of “loud” sounds by simultaneously increasing the volume of “soft” sounds with the volume of “average” sounds left unchanged, i.e. Just decrease the dynamic range of sound accompaniment. Only Dolby Digital system provides for such a method of sound control. It uses the principle of compressing the acoustic signal’s dynamic range while recording; therefore, while playing an inverse transformation(volume expansion) takes place. This is called”night” mode. The regulation limits are restricted, however, to avoid distortions of resultant signal.



Principle of compressing the acoustic signal's dynamic range.

	Dolby Digital	Dolby Pro Logic surround
Rear channel	Stereo 20 Hz-20 kHz	Mono channel with limited frequency range(100Hz-7 kHz)
Low-frequency channel(subwoofer)	Available,20-120 Hz	N/a
Sound field distribution	Multivariate 	From left to right, from right to left, from front to rear, from rear to front 
Channels	6 independent channels, each reproducing its own signal at a time	4 segmented channels. Only one channel is decoded at a time.
Miscellaneous	Creates an optimum sound field with illusion of an equal distance from listener to each speaker.	The most cost-efficient way to ensure high-quality surround effect.
	Allows adjusting the decompression degree of sound information("night" mode).	Surround sound may be received from any signal source.

Miscellaneous	Possibility of programmable control of the decoder to transfer basses into low-frequency channel in systems equipped with broad-band speakers and a subwoofer.	Compatible with existing and future two-channel(stereo) formats.
	Undoubted progress in sound recording technology, especially important for program directors, film directors, sound engineers and actors.	Big progress in comparison with conventional stereo, the world's most popular surround format.

2.5 MISCELLANEOUS

2.5.1 Useful notes

#To extend the service life of your DVD player make pauses of not less than 30 seconds between switching off and repeatedly switching on the DVD player.

#Disconnect the DVD player from the wall outlet after shutdown.

#Some DVD player's functions may not be applied to some discs.

#Use supply sources of rated voltage, otherwise the DVD player may not function or be damaged.

#In case of the DVD player's occasional stops, please switch the power supply off and then on again.

2.5.2 Trouble shooting

Please check probable causes of malfunction before addressing the service center.

Sign of trouble	Cause of trouble	Actions to eliminate the trouble
No sound	1.Poor audio cable connection 2.Disc dirty or damaged. 3. Sound disabled by the MUTE button.	1.Make proper connection 2. Clean the disc 3. Press the MUTE button.
No image	1.Poor video cable connection. 2. Incorrect settings of your TV set. 3.The DVD player is in the progressive scan mode while your TV set does not support this mode.	1. Make proper connection. 2. Correct the setting of your TV set. 3. Place the DVD players in the interlaced scan mode through the DVD-receiver's menu.
Black and white image	1. Incorrect TV color system selected. 2. Color level on the TV set adjusted incorrectly.	1. Set the appropriate color system via the menu: SET UP>Image>TV scan. 2.Readjust the color system of your TV set
Discs cannot be read	1. Disc not inserted. 2.Disc inserted incorrectly. 3.Condensate on the DVD player's laser head.	1.Insert the disc. 2.Install the disc with the label side facing up. 3.Switch the DVD players on without disc for an hour.
Microphone does not operate	1.Microphone is unplugged. 2.Low level of the microphone's sound volume.	1.Connect the microphone. 2.Adjust the level of the microphone's sound volume.

Remote control does not operate	1.Remote control is incorrectly directed at the DVD players's screen. 2. Distance to the DVD players is in excess of 8 meters. 3.Run out batteries.	1.Use the remote control according to the manual. 2.Decrease the distance to the DVD players. 3.Replace both batteries.
Some functions do not work	1.Disc is recorded incorrectly. 2.Incorrect key sequence. 3.Static voltage on the DVD player's housing.	1.Wait 5-10 seconds and the DVD players will automatically return to normal state. 2.Repeat the operation one more time. 3.Switch the DVD players off for 1-2 minutes and then switch it on again.
Unstable image	1.Incorrect TV set settings.	1.Correct the TV set settings.

2.5.3 Specification

Supported formats	DVD-Video, Super VCD, VCD, MPEG-4, CD-DA, CD+G, HDCD, MP3, WMA, Kodak Picture CD, JPEG		
Data medium	CD-R, CD-RW, DVD-R, DVD+R, DVD-RW, DVD+RW		
Inputs	Microphone input(two microphone inputs for(DV611SI,DV624SI,DV626SI ,DV628SI models.one microphone inputs for DV610SI)		
Outputs	Audio outputs	Analog outputs:	Stereophonic output, 5.1CH output.
		Digital outputs:	Coaxial audio output, Optical output.
	Video outputs:	S-Video output, composite output, component Y Cb Cr output, progressive scanning Y Pb Pr output, RGB/SCART output.	
Video characteristics	Signal swing of composite video output:		1.0Vp-p(75 Ω)
	Signal swing of S-Video output:		1.0Vp-p(75 Ω)
	Signal swing of component video output:		C:0.286Vp-p(75 Ω) 1.0Vp-p(75 Ω)
			Cb/Cr:0.7Vp-p(75 Ω)
Audio characteristics	Frequency:		20-20000 Hz(± 1 db)
	Signal-to-noise ration:		> 100 db
Voltage range	~110-250V, 50/60 Hz		
Temperature requirement	5-35°C		
Moisture requirement	15-75%(not condensate)		

Model	Dimensions(mm)	Weight(kg)	Power consumption(watt)
DV610SI	350×195×41	1.9	14
DV625SI	430×195×38	2	
DK1013SI	380×195×41	2	

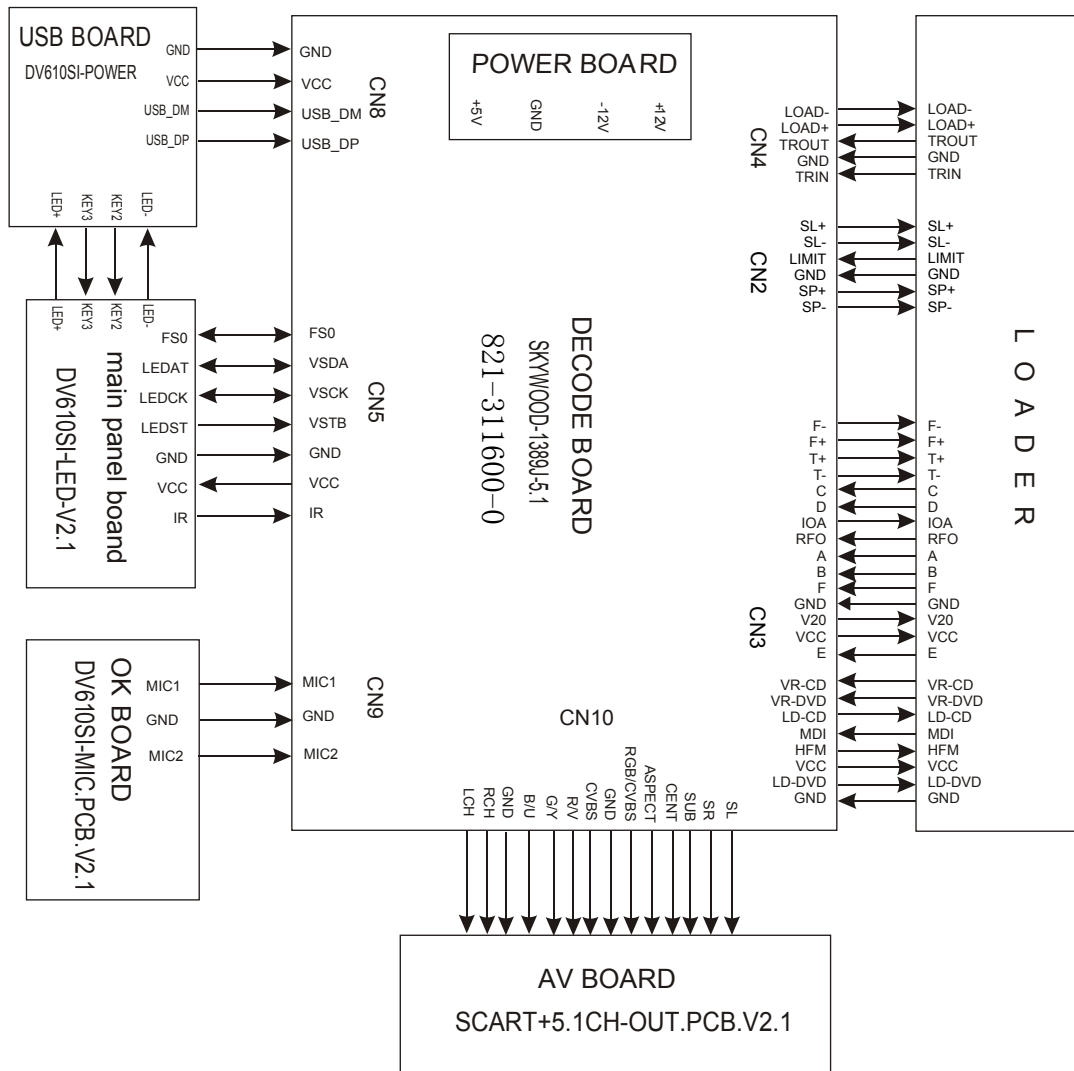
#We improve quality of our production permanently, that's why specification can change without notification.

#Some discs, recorded in any supported format on any compatible device, can't playback or can playback incorrect over peculiarity of their record.

Chapter Three Block Diagram

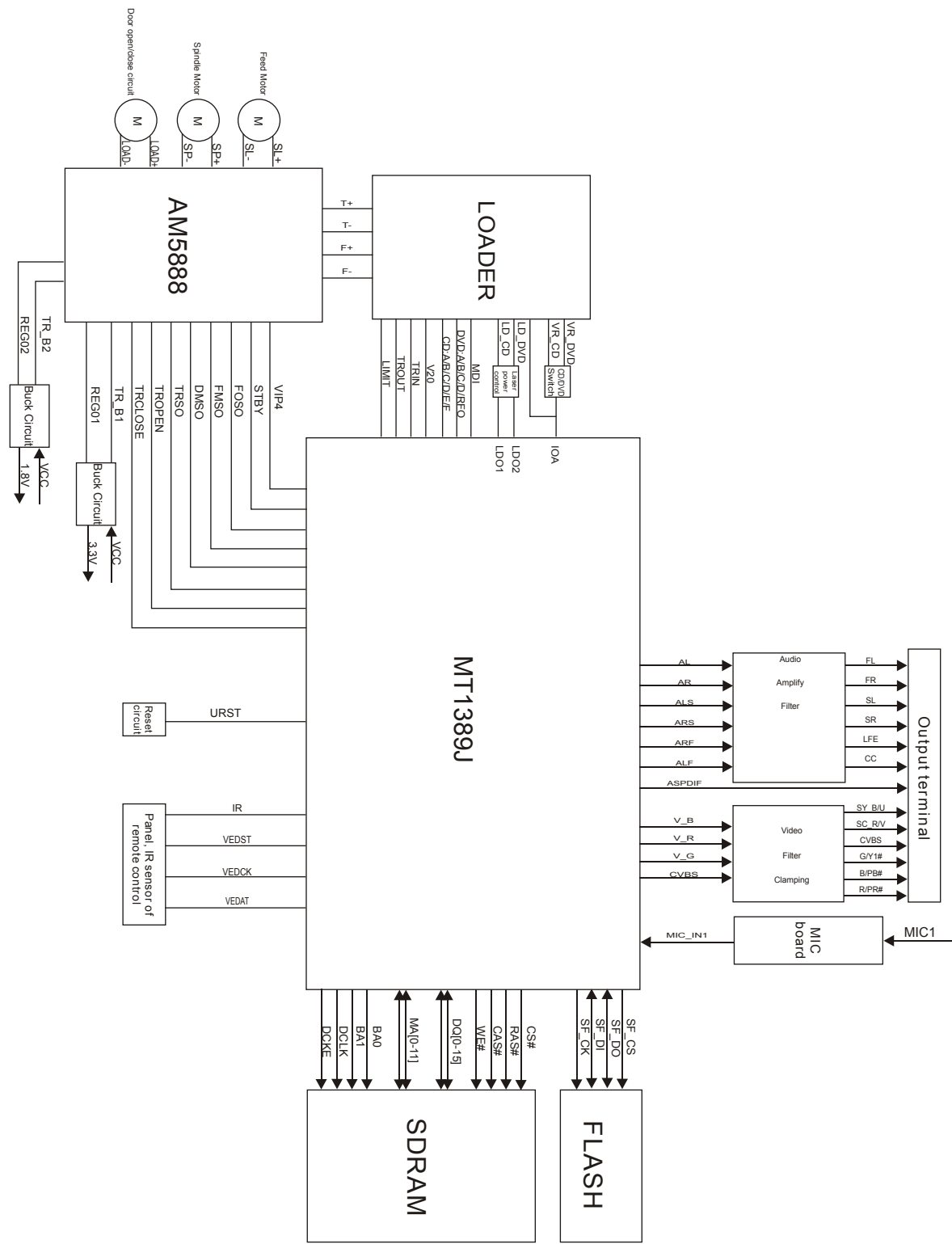
3.1 OVERALL WIRING DIAGRAM FOR PLAYER

Overall wiring diagram of player is shown in figure 3.1.1.



3.2 BLOCK DIAGRAM FOR PLAYER

Block diagram for player is shown in figure 3.2.1.



Chapter Four

Block Diagram of Unit Circuit

4.1 Servo Circuit

Servo system of this machine adopts SANYO loader and MTK decode scheme. And servo circuit is mainly composed of front signal processing, digital servo processing, digital signal processing chip MT1389 and driving chip AM5888. MT1389 is also main part of decode circuit. Block diagram of servo circuit is shown in figure 4.1.1.

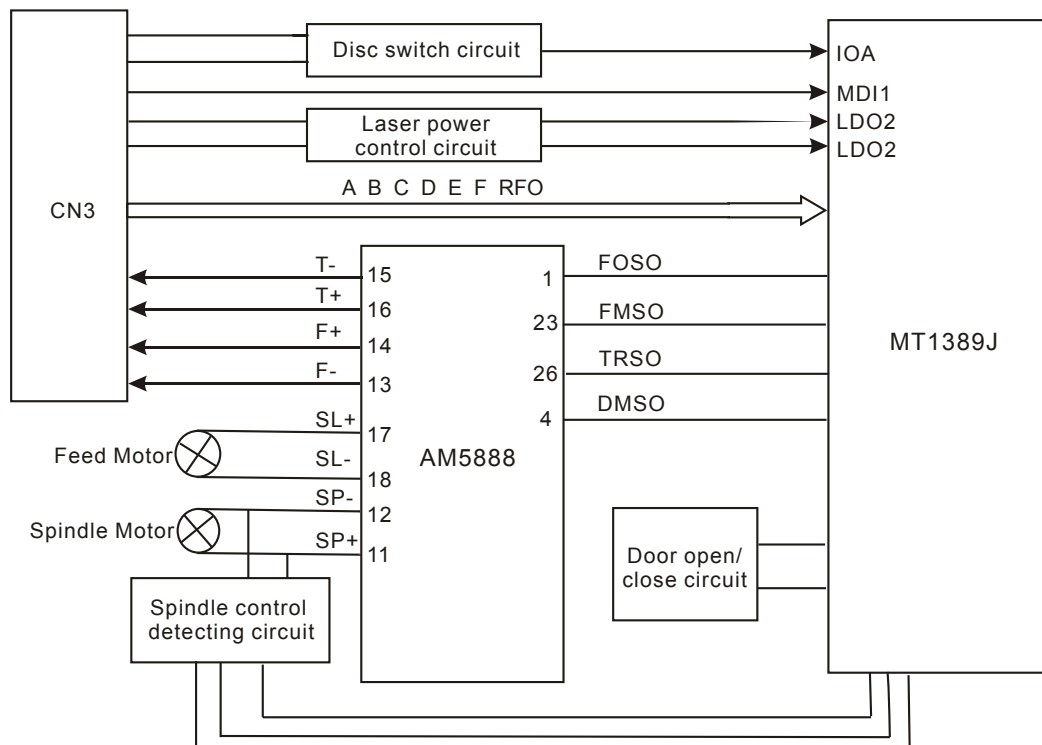


Figure 4.1.1 Block diagram of servo circuit

4.2 Decode Circuit

Decode circuit is mainly composed of MT1389J, SDRAM and FLASH. Block diagram of circuit is shown in figure 4.2.1.

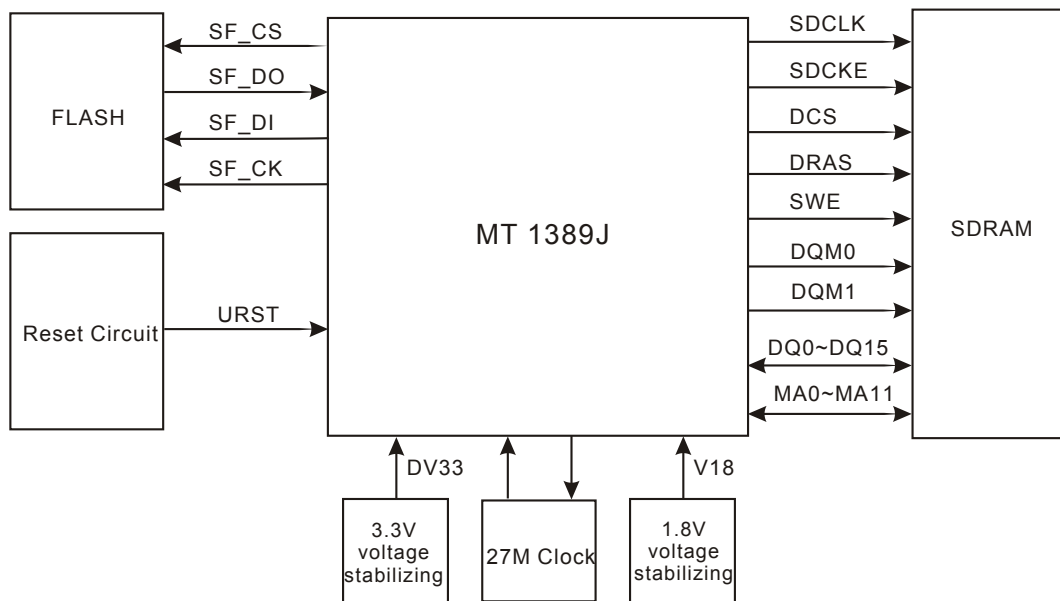


Figure 4.2.1 Block diagram of decode circuit

4.3 Video Circuit

MT1389J has video D/A converter circuit and video output has R/B/G, Y/Pb/Pr, Y/Cb/Cr, CVBS and Y/C output modes, in which R/B/G, Y/Pb/Pr, Y/Cb/Cr and Y/C can not output at the same time and need to be switched via software. CVBS is a separate output mode; four channel video signal is outputted to AV board by MT1389 after video filtering and clamping. Block diagram of video signal process is shown in figure 4.3.1.

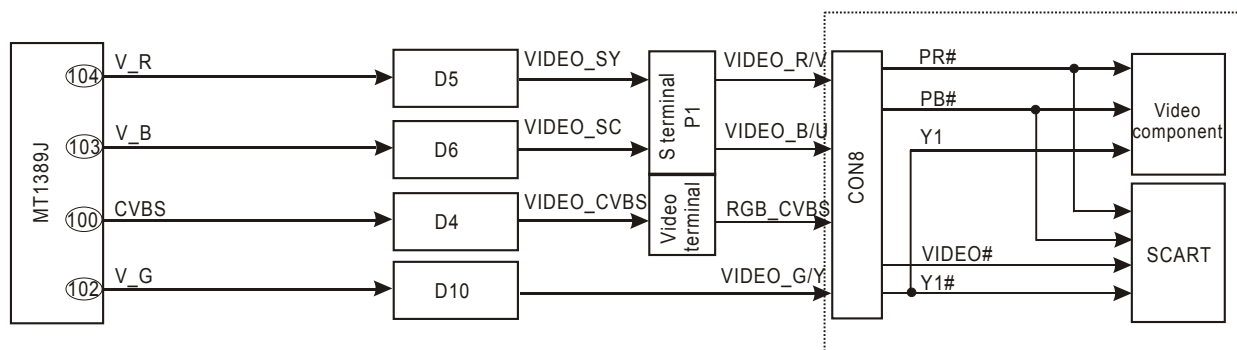


Figure 4.3.1 Block diagram of video signal process

4.4 Audio Circuit

Block diagram for audio circuit is shown in figure 4.4.1:

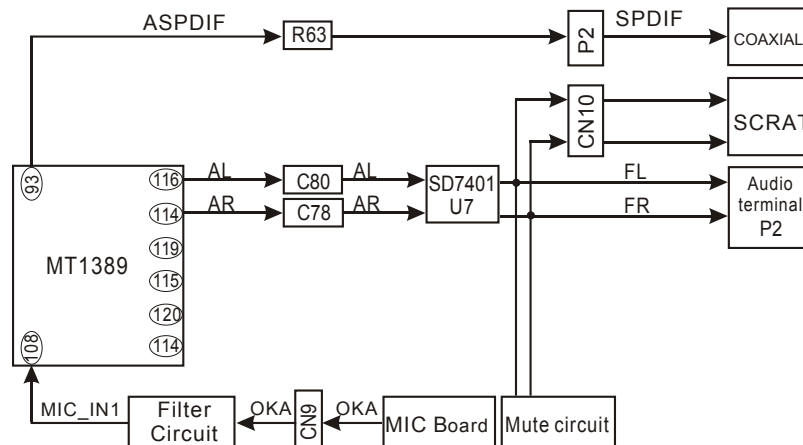


Figure 4.4.1 Block diagram of audio circuit

4.5 Power Circuit

1. Block diagram of power circuit is shown in figure 4.5.1.

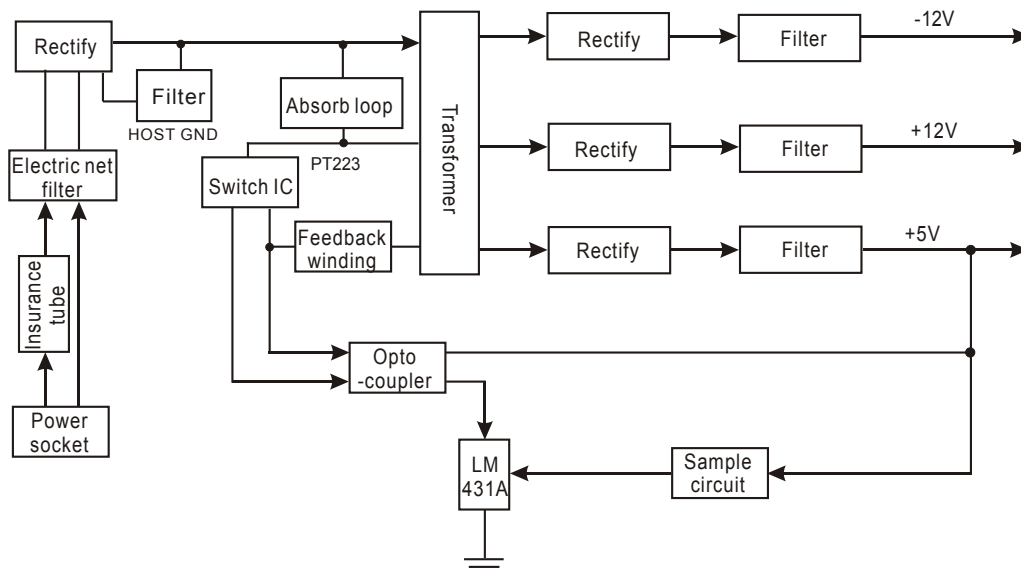
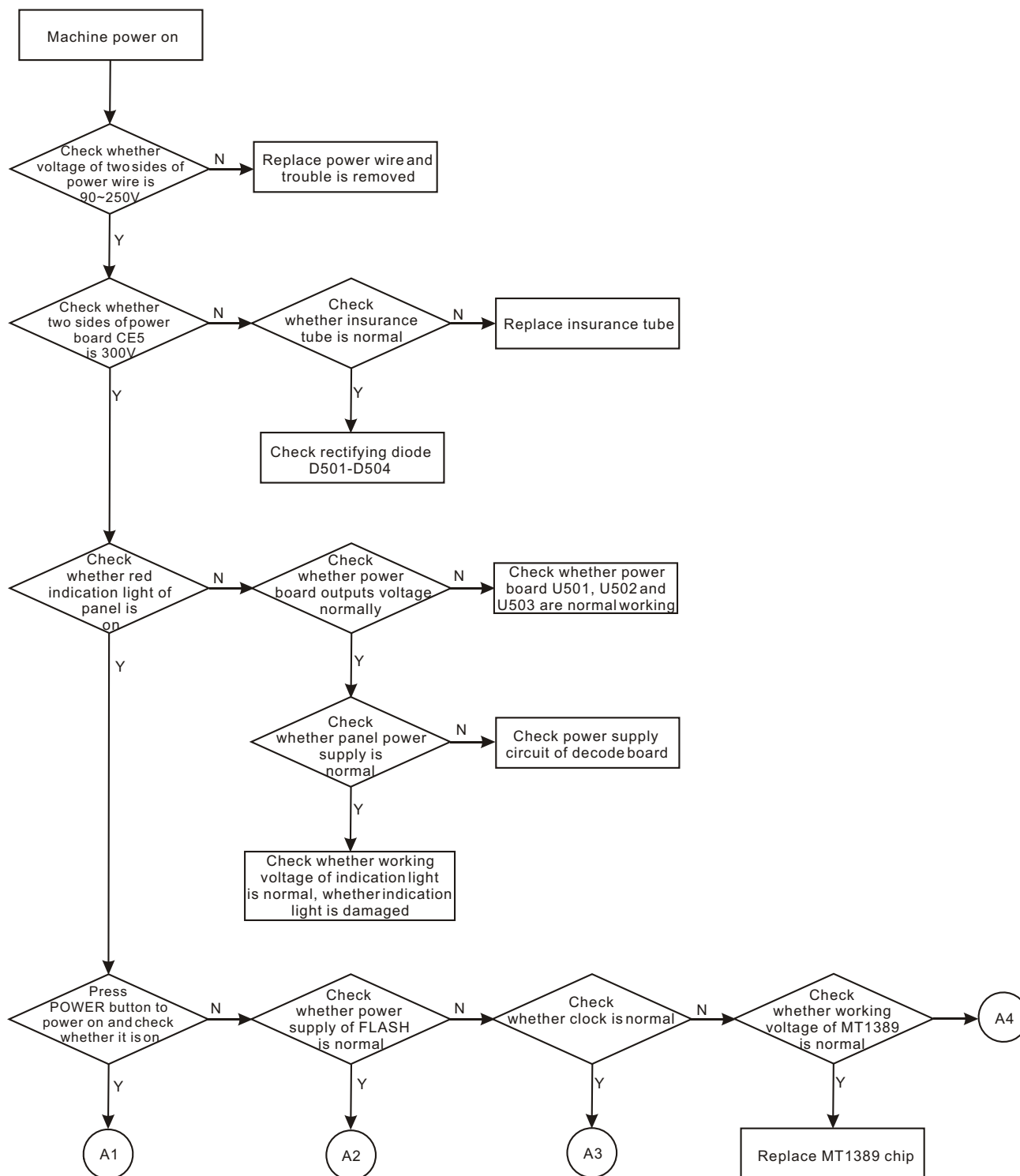
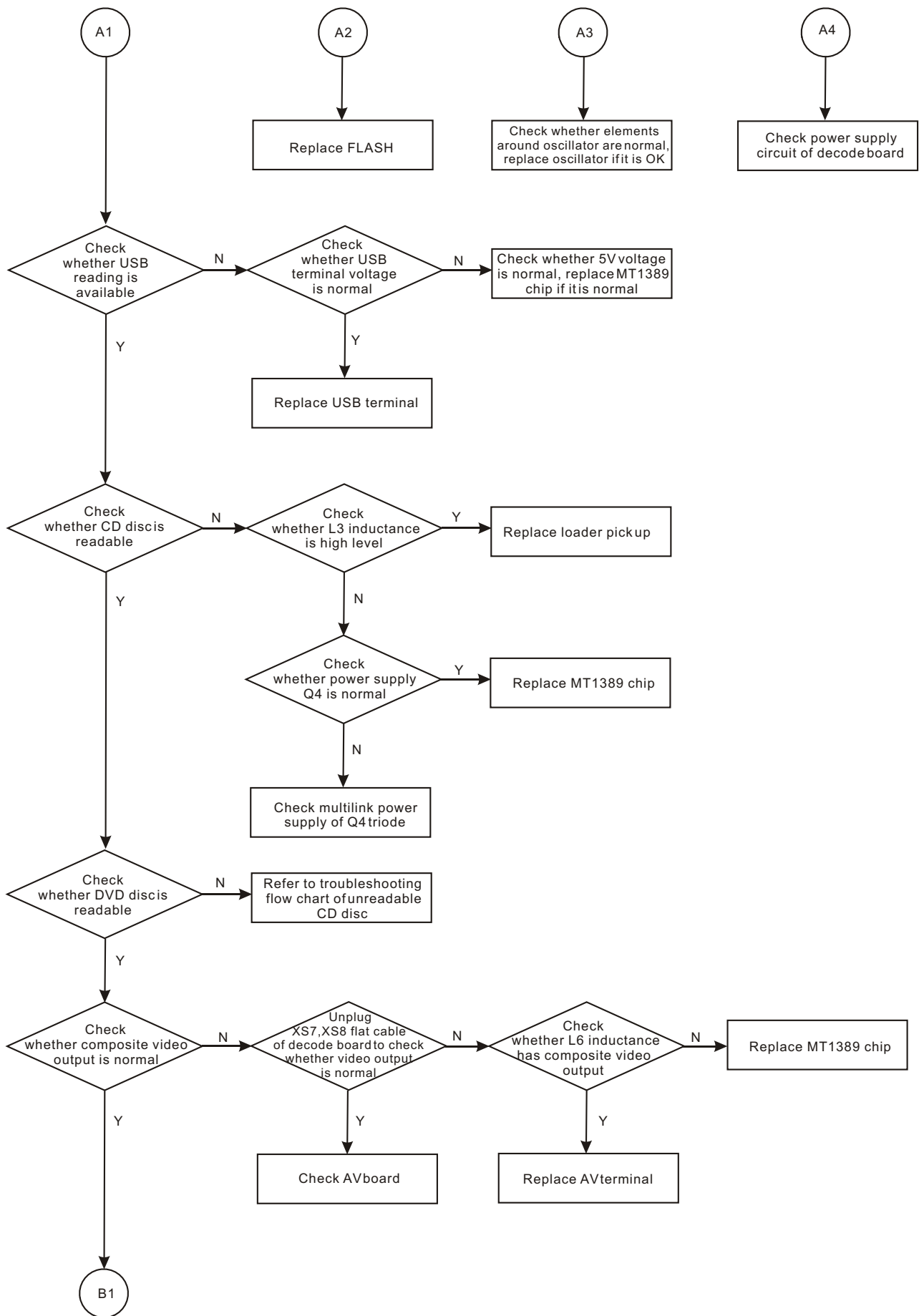


Figure 4.5.1 Block diagram of power circuit

Chapter Five Troubleshooting Flow Chart



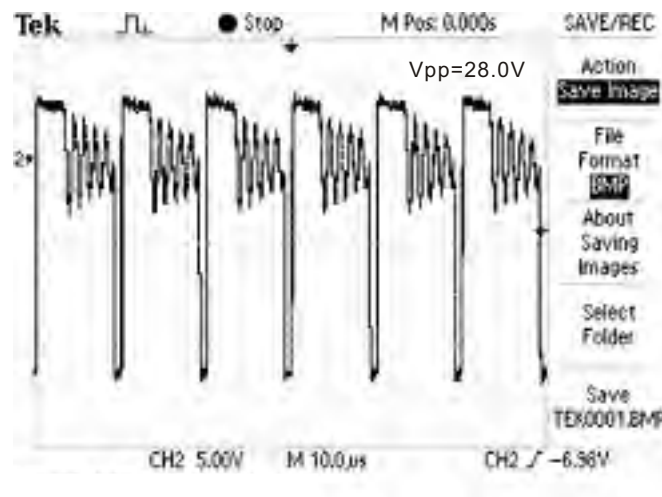




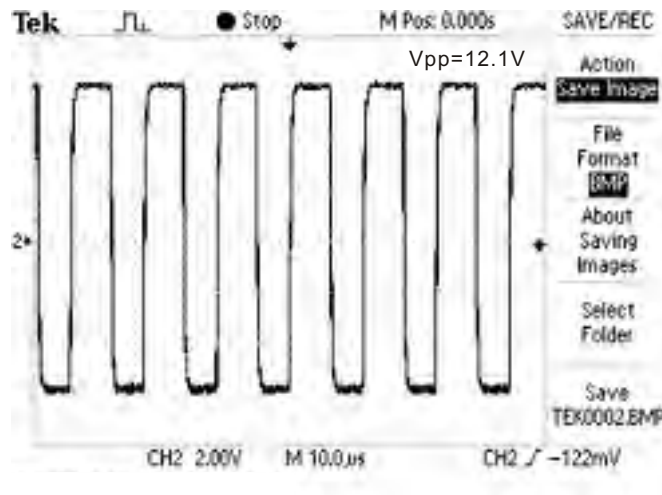
Chapter Six Waveform Diagram

This section collects signal waveform diagram of audio, video and each unit circuit with the purpose to help servicing personnel to judge where trouble lies in accurately and quickly to improve servicing skills. For the difference of oscillograph's type, model and tuner, a certain difference may exist, so the servicing personnel are expected to pay more attention to check in daily operation.

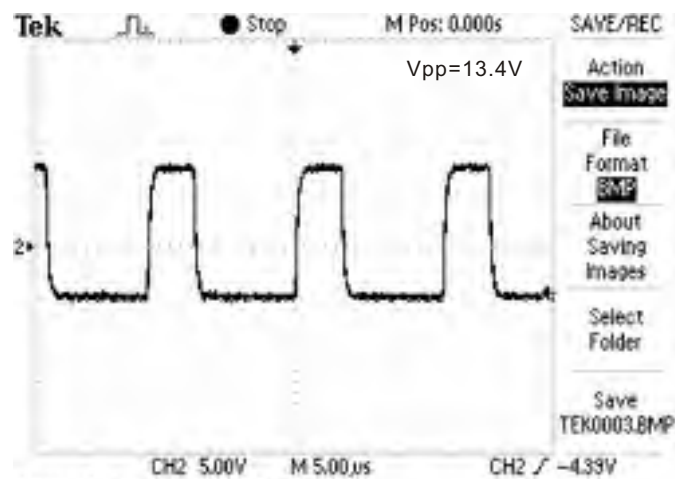
1. Waveform diagram for pulse DC of power board D510 anode.



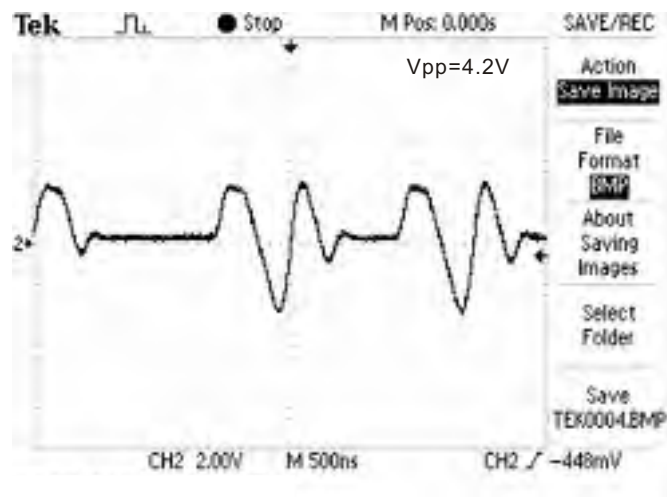
2. Waveform diagram for spindle signal DMO(when spindle has motion).



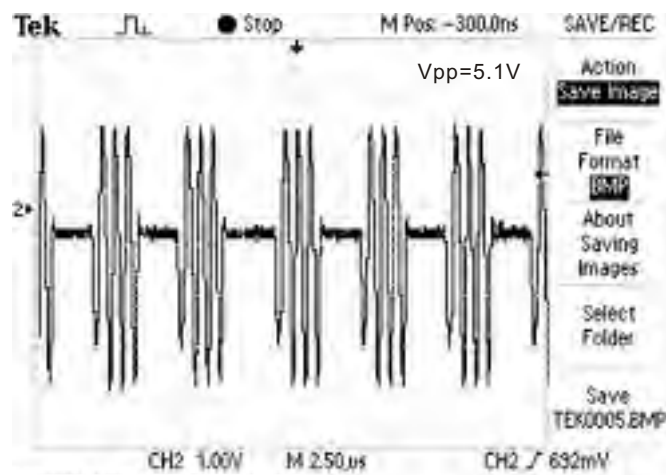
3. Waveform diagram for feed signal FMO(when pick up has feed motion).



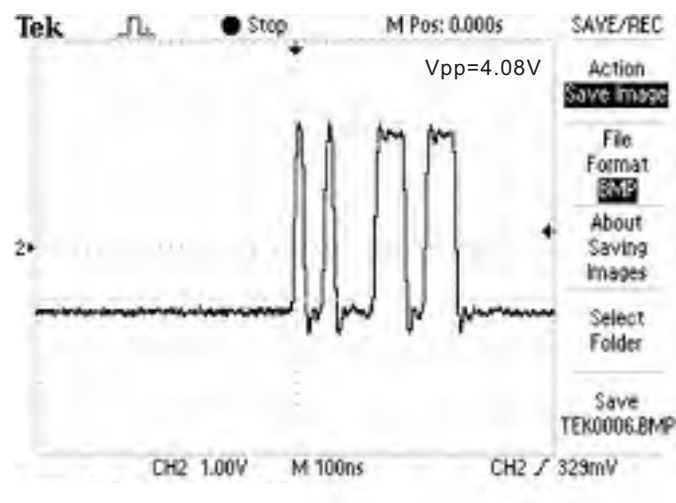
4. Waveform diagram for traction signal TRO(when pick up has traction motion).



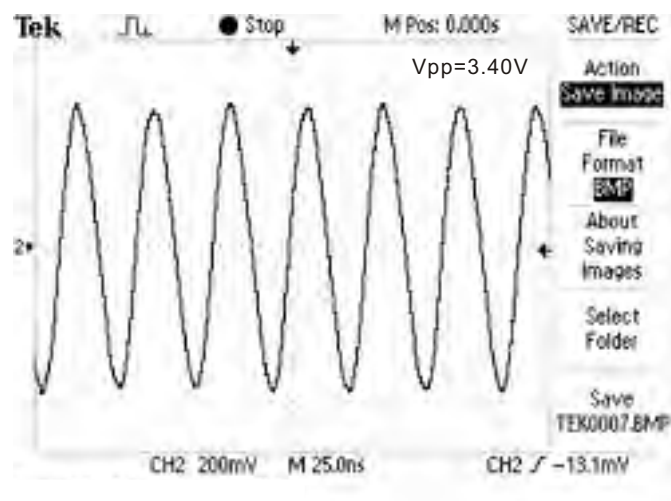
5. Waveform diagram for focus signal FOO(when pick up has focus motion).



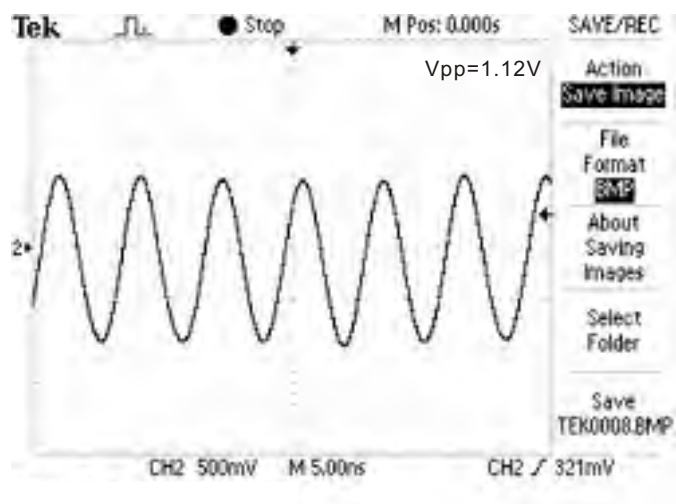
6.Waveform diagram for FLASH chip SF_DI(pin 5 of U5).



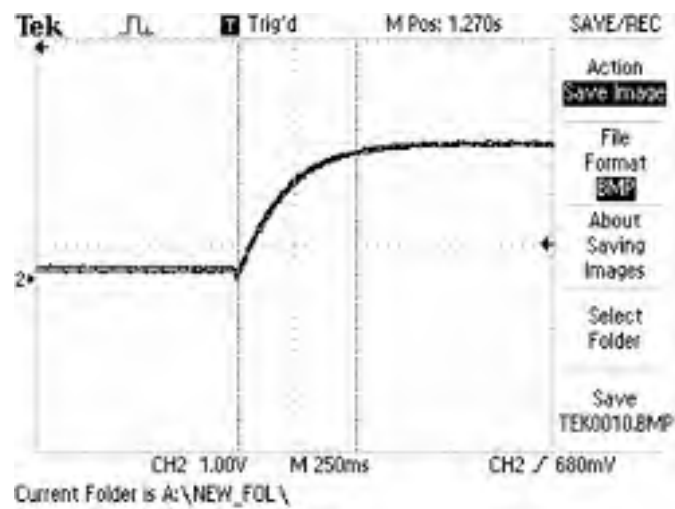
7.Waveform diagram for FLASH chip SF_CK(pin 6 of U5).



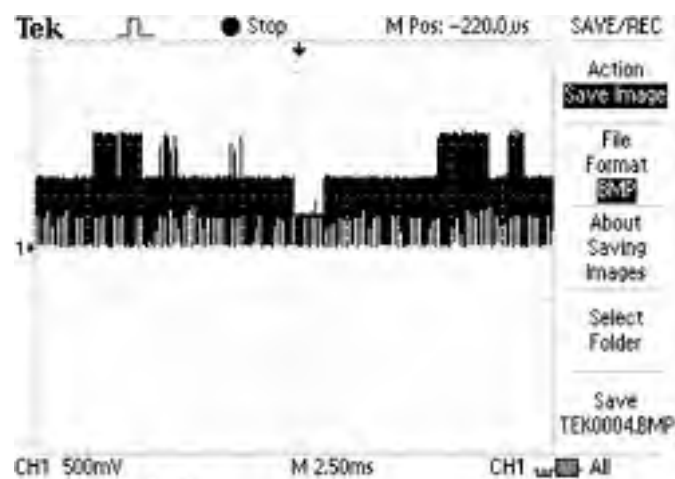
8.Waveform diagram for 27MHz clock (X1).



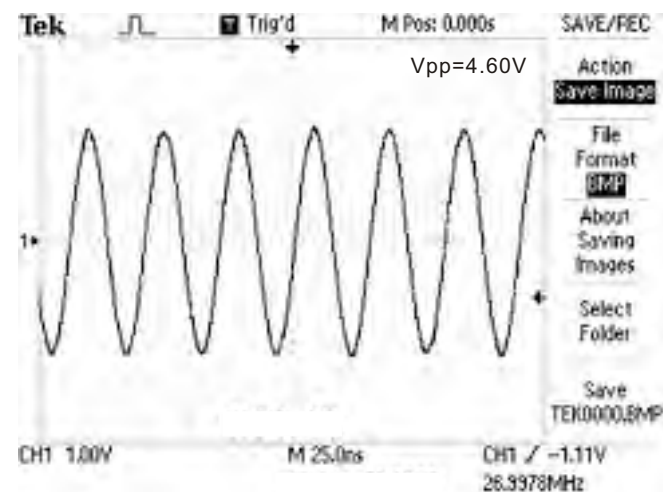
9. Reset signal URST waveform diagram.



10. Video signal waveform diagram.

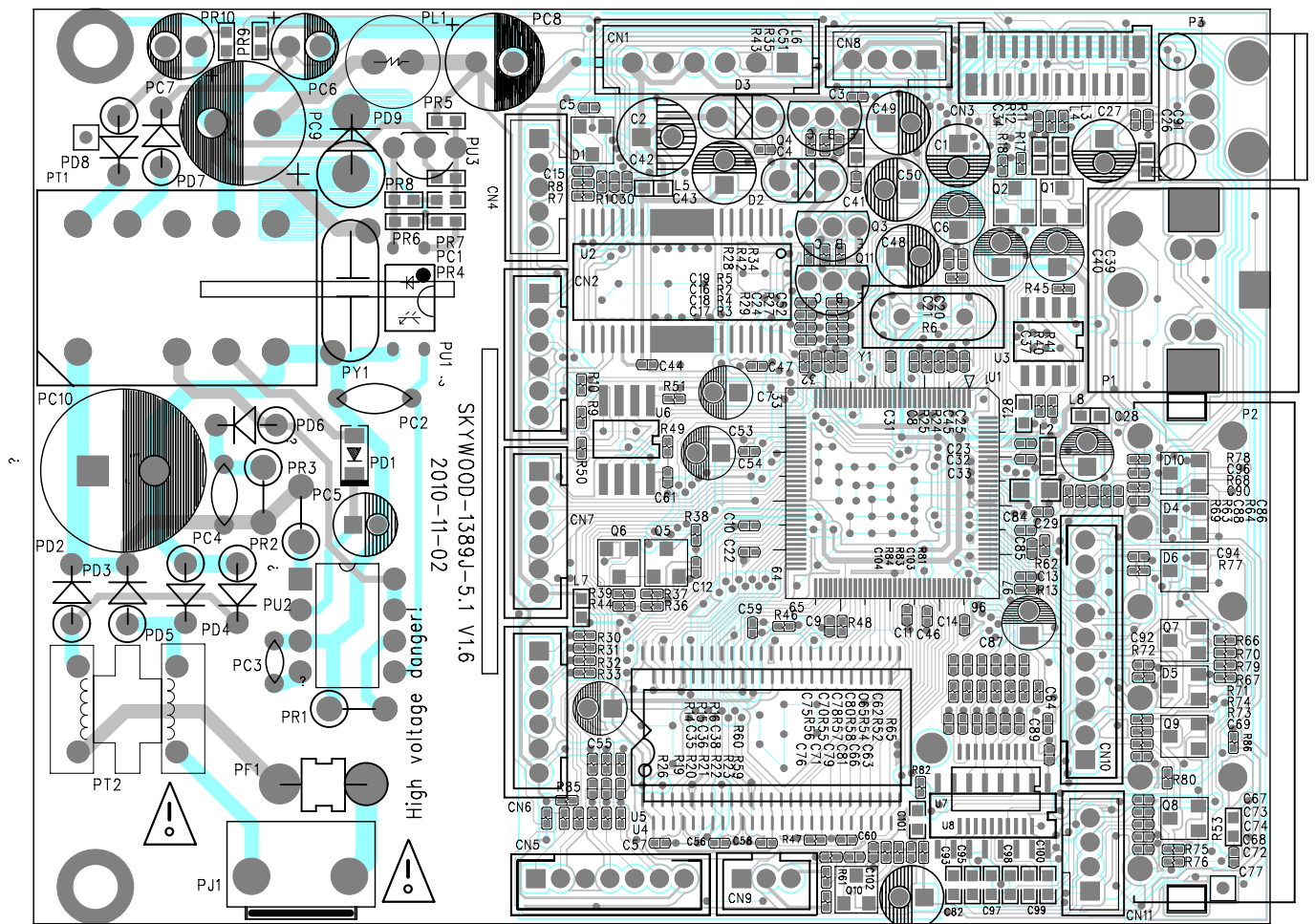


11. 1KHZ audio signal output waveform diagram(it is suggested to use test disc,if not,waveform tested will change at any time,which will affect your judgment).

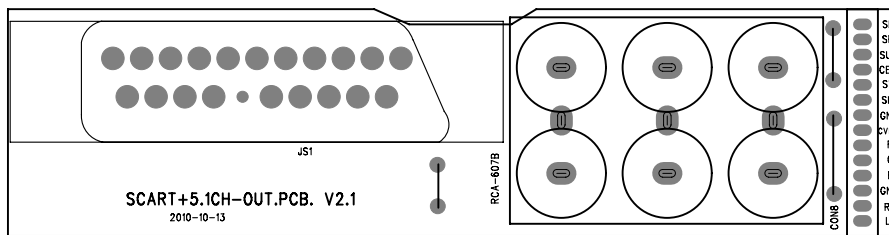


Chapter Seven PCB Board

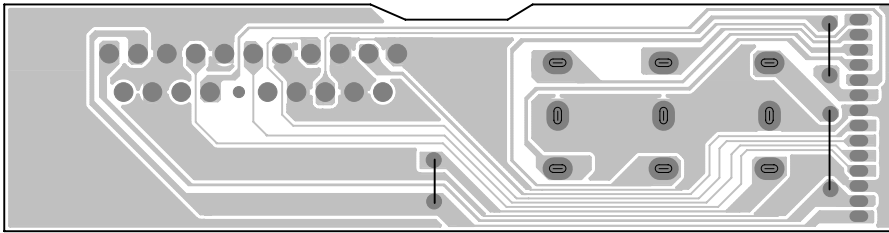
7.1 Surface layer of Decode Board



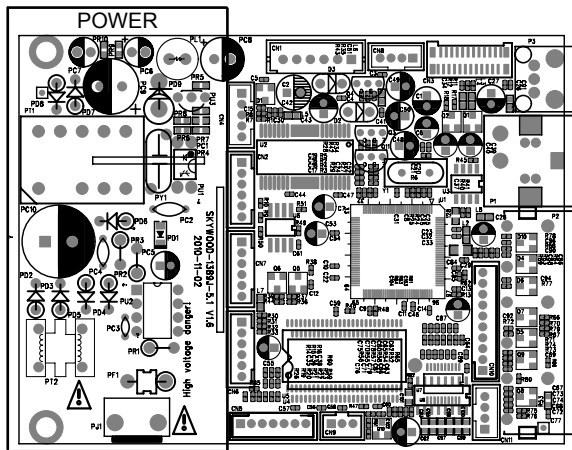
7.2 Surface layer of AV Board



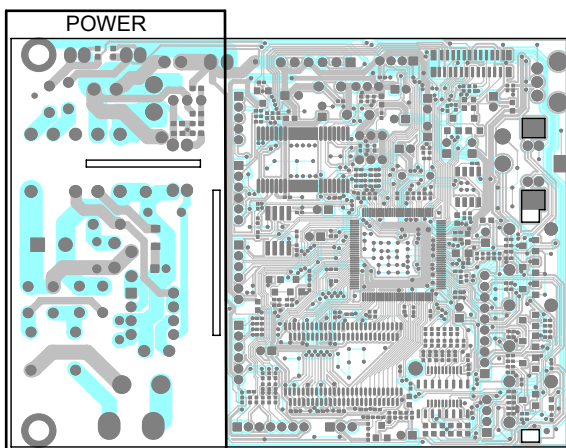
7.3 Bottom layer of AV Board



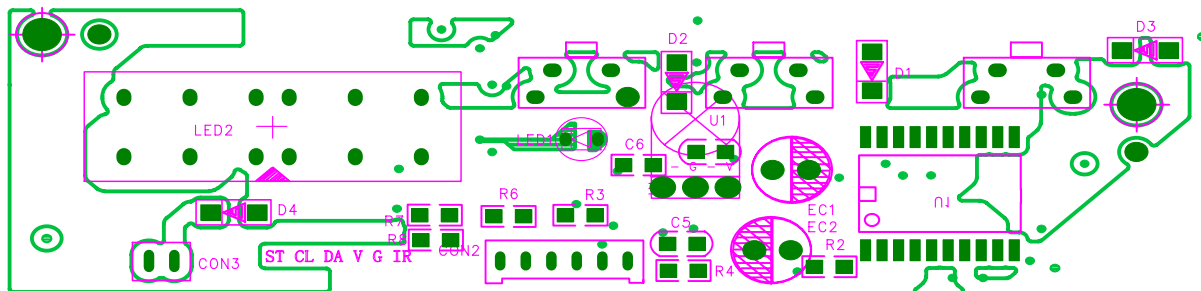
7.4 Surface layer of Power Board



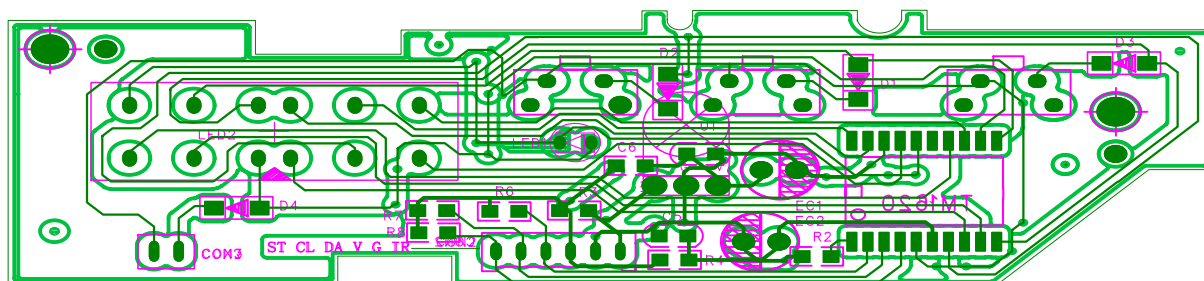
7.5 Bottom layer of Power Board



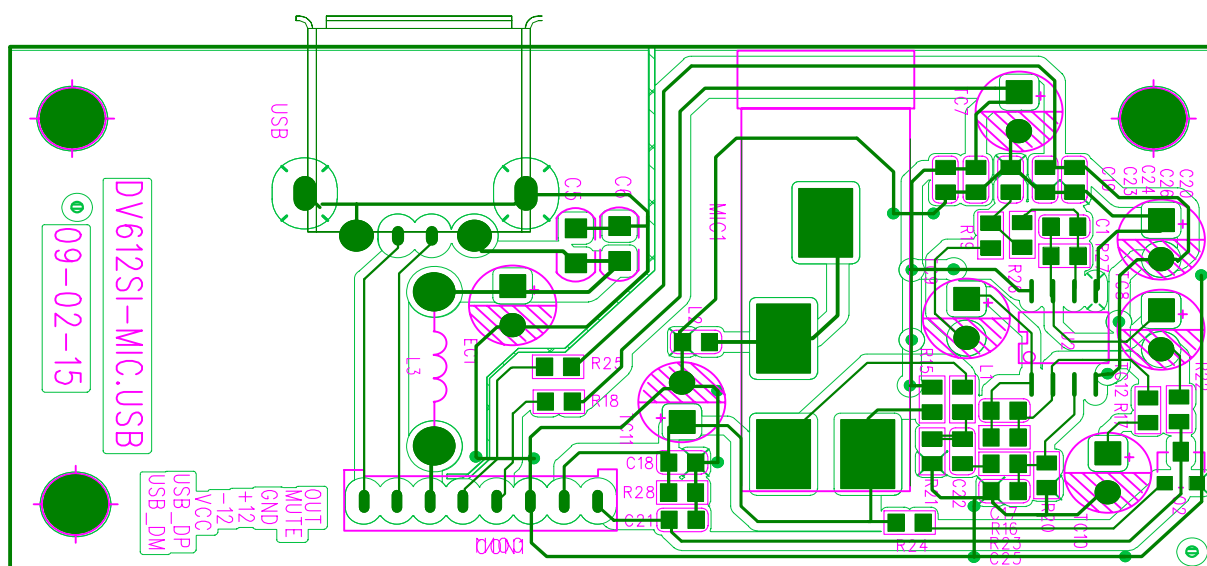
7.5 Surface layer of Main Panel (DK1011LED.PCB V2.0) 800-815X01-0



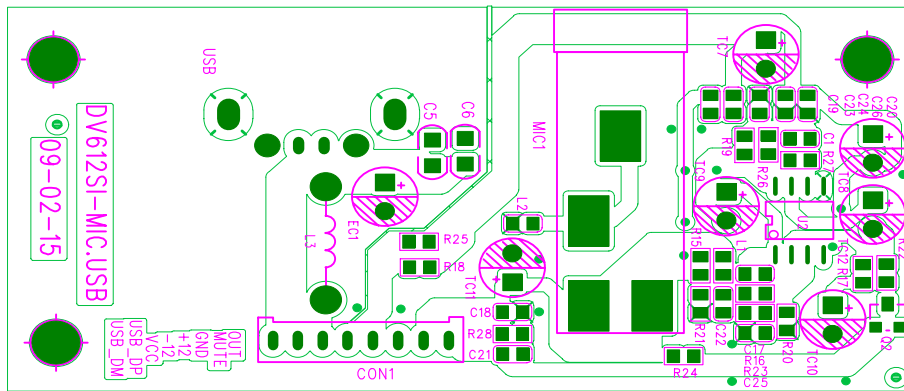
7.6 Bottom layer of Main Panel (DK1011LED.PCB V2.0) 800-815X01-0



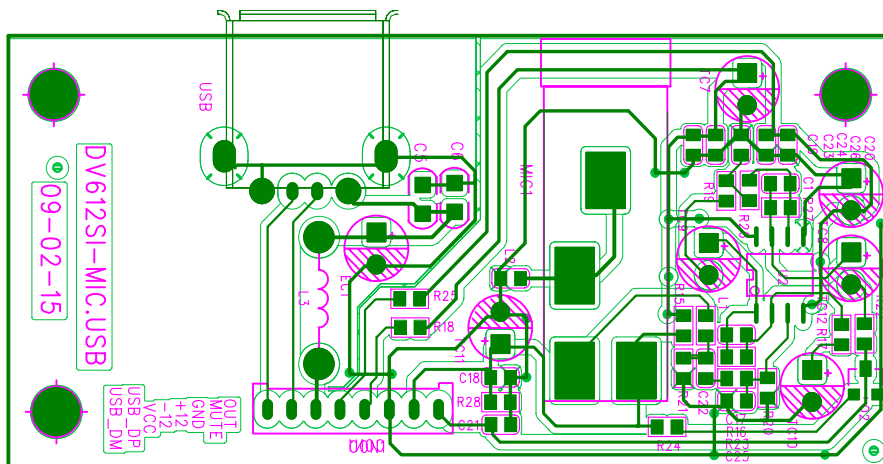
7.7 USB Board (DK1011-MIC.USB V2.0) 832-815X31-0



7.8 Surface layer of OK Board (DK1011-MIC.USB V2.0) 832-815X31-0



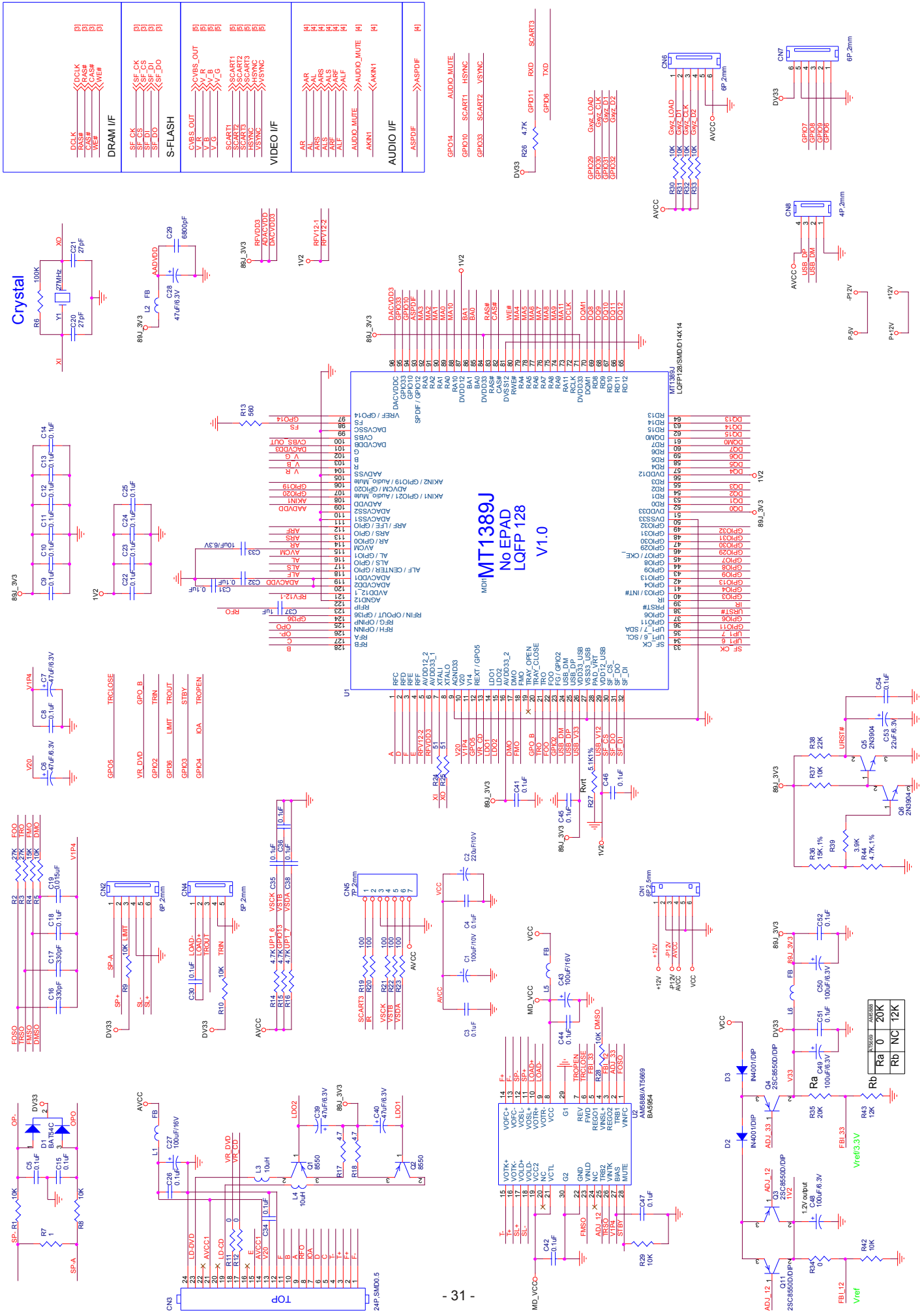
7.9 Bottom layer of OK Board (DK1011-MIC.USB V2.0) 832-815X31-0

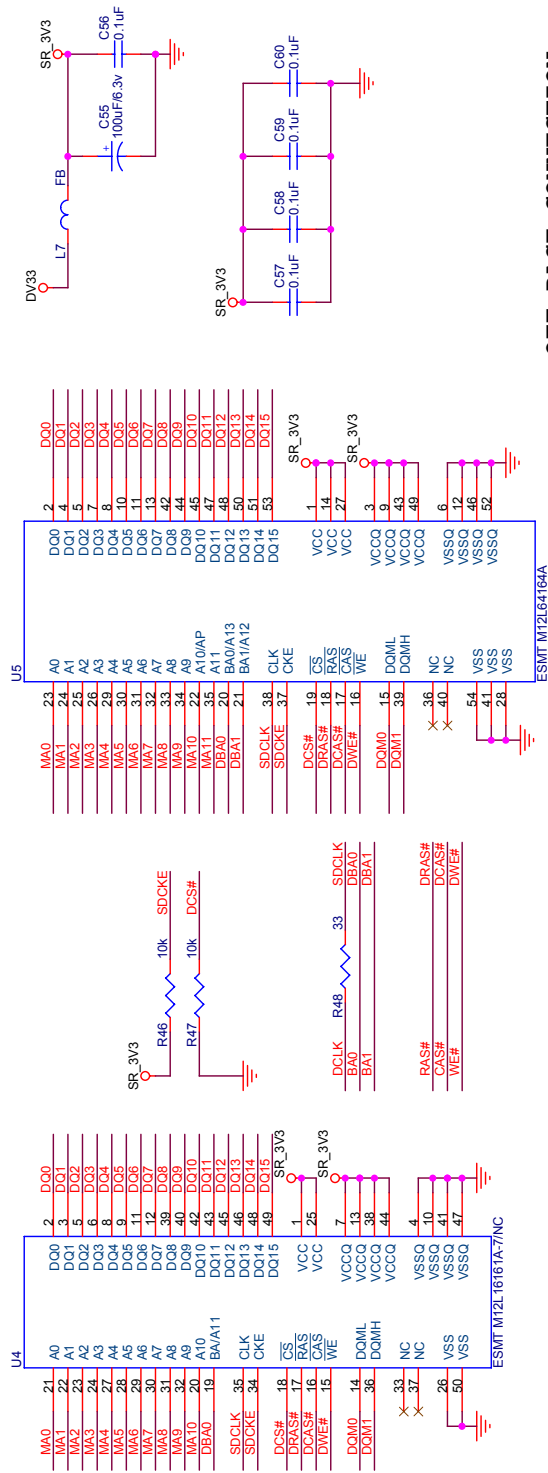


Chapter Eight Circuit Diagram

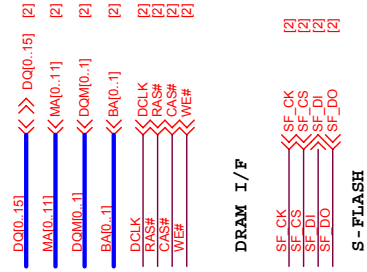
8.1 Decode Board

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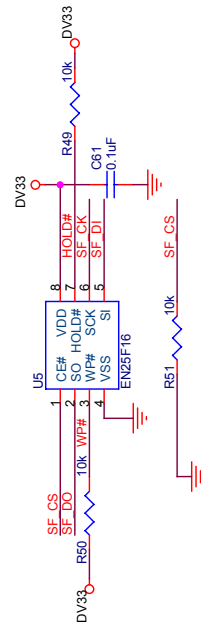


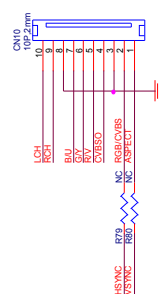
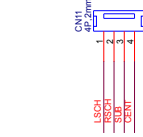
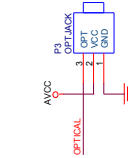
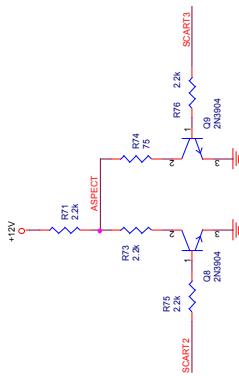
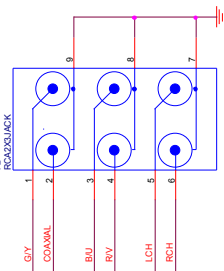


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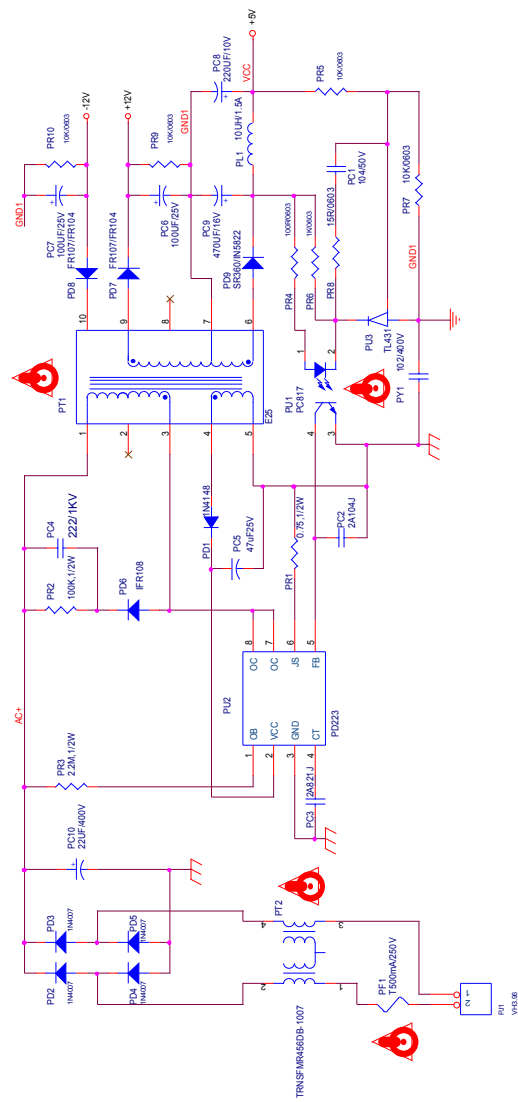


Serial Flash

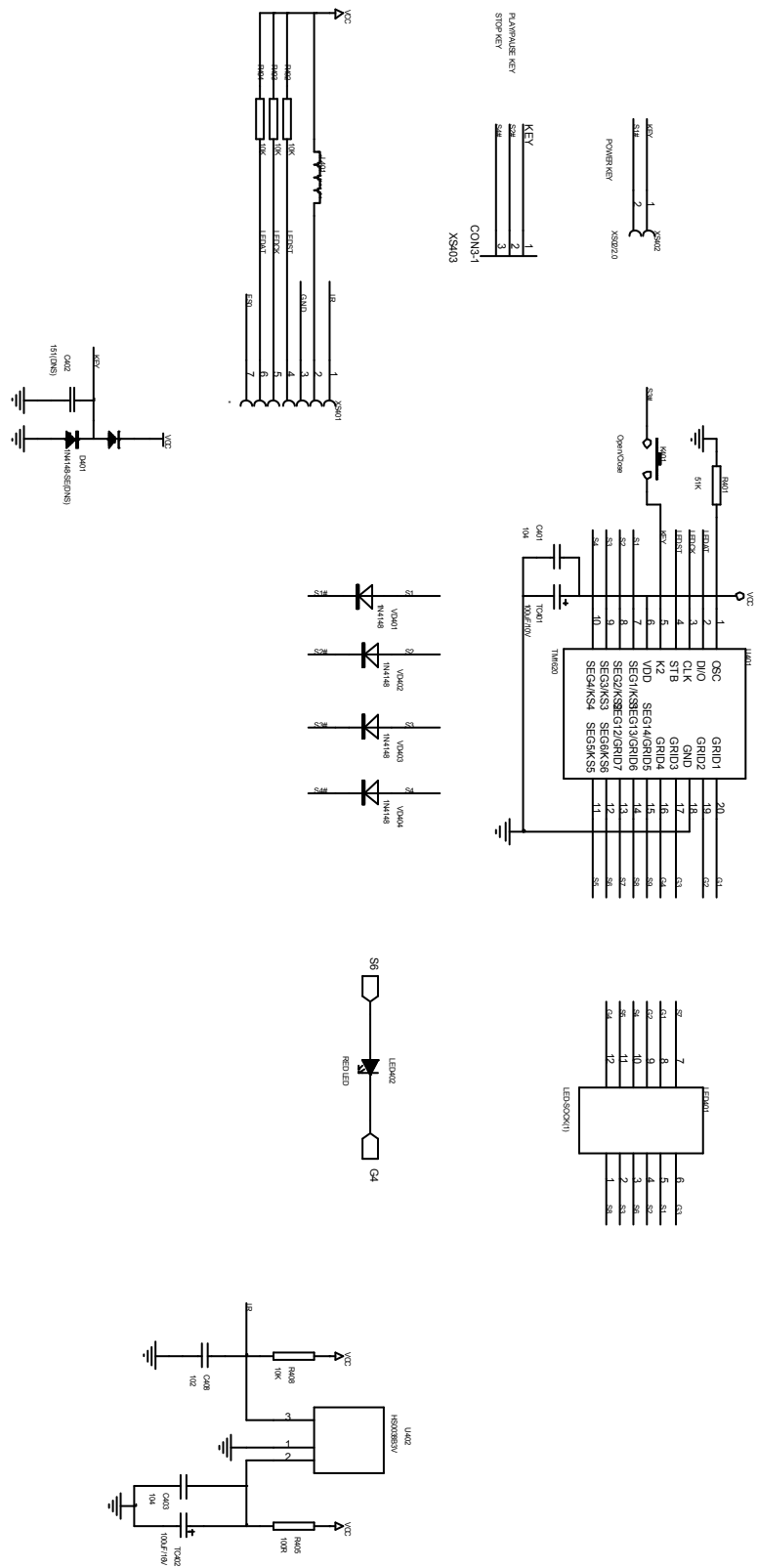


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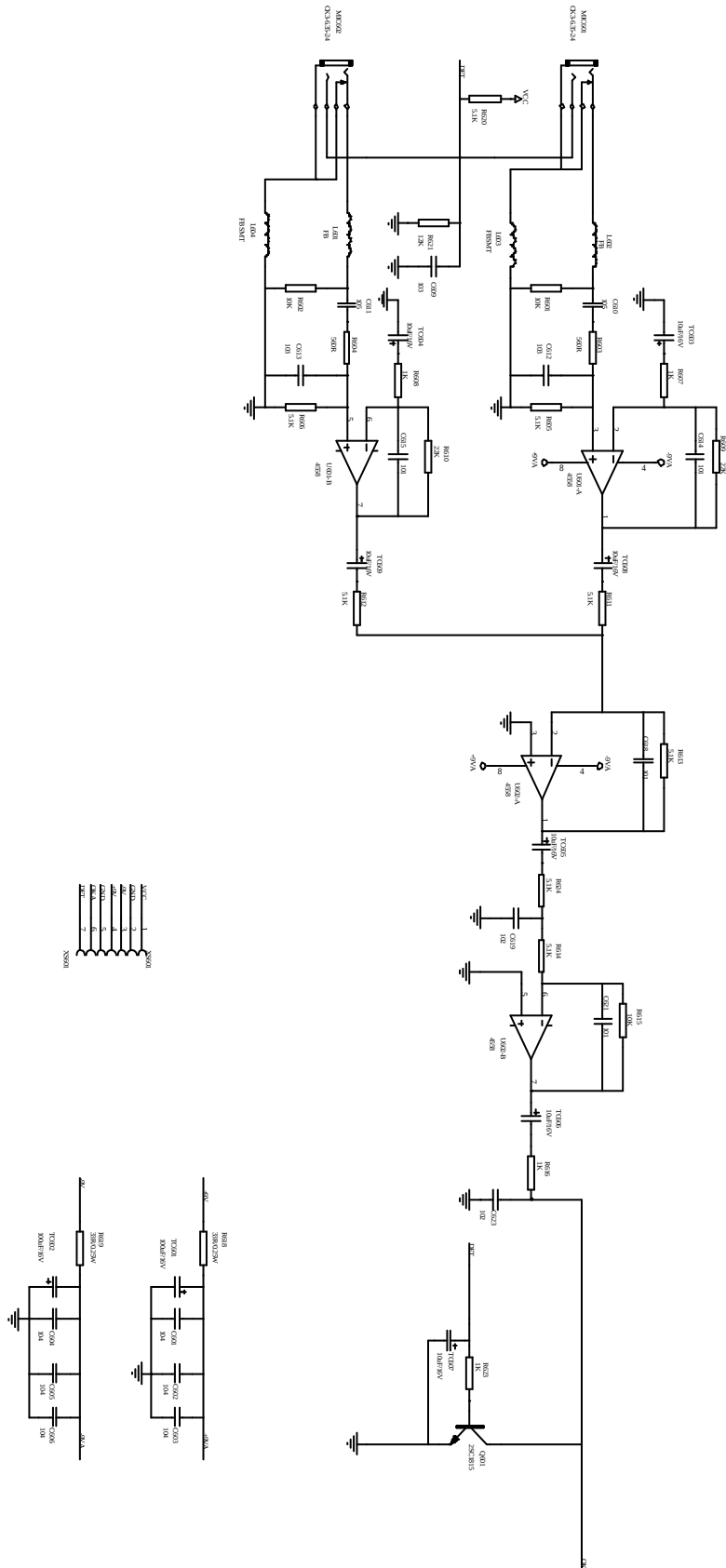
8.2 Power Board



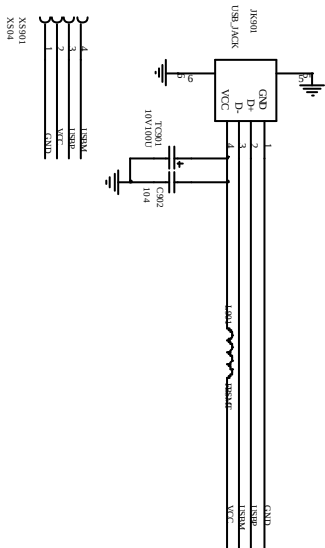
8.4 Main Panel (DV610-612SI-LED-V2.0)



8.5 OK Board (6DV511SI-2)4940956



8.6 USB Board (ADV612SI-0)4940953

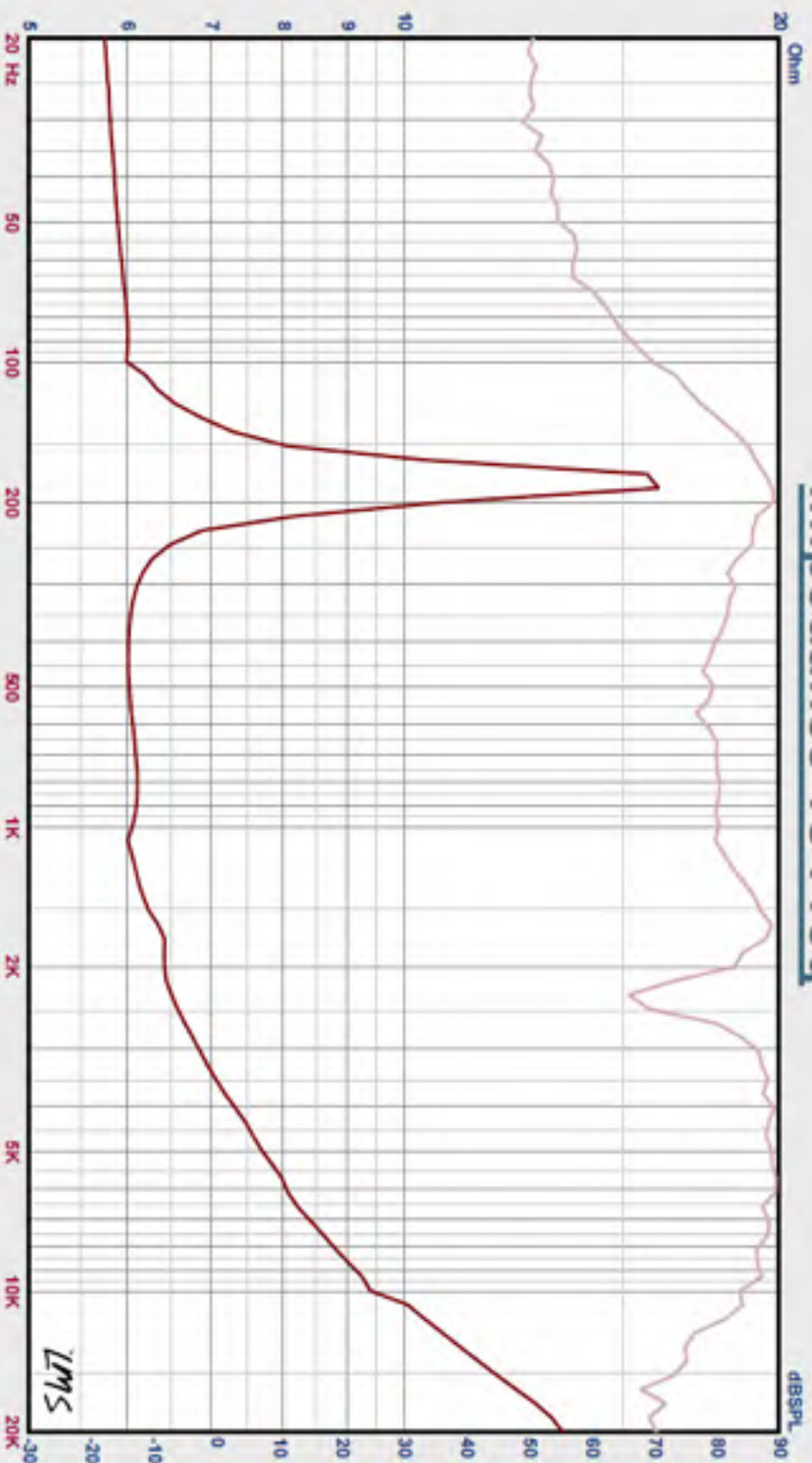


DK1011SI ACOUSTIC

SPEAKER SPECIFICATION

产品型号MODEL NO				样品编号SPEAKER NO	01040484
口 径SIZE		3"		规格SPEC	6 Ω 3W
序号	项目 DK1011SI SPK		规格		测试条件
1	标准阻抗RATEK IMP		6 Ω ± 15 %		AT: 1000 HZ 1.0V
	阻抗 RATEK IMP				
2	谐振频率 RESONANT FREQ		FO: 180 HZ±20 %		WITHOU BAFFLE
3	灵敏度 OUTPUT S.P.L		82 ± 3 dB 1M 1W		AT:200.500.1000.2000HZ
4	有效频宽 FREQ.RESPONSE		Fo- 20K HZ		.
5	标准功率 RATED POWER INPUT		3 W		
6	最大功率 MAX.POWER INPUT		5 W		
7	异常音 BUZZES RATTLES		MUST BE NORMAL		SIN WAVE 3.4 V
8	连续负荷 LOPAD TEST		AFTER TEST MEET7		PINK NOISE: 3 W 24HOURS
9	耐热试验 HEAT TEST		AFTER TEST MEET7		70℃ ± 2℃ 20～25 %R.H 16HOURS
10	耐湿试验HUMIDITY TEST		AFTER TEST MEET7		40℃ ± 2℃ 90～95 %R.H 96HOURS
11	耐寒试验 CILD TEST		AFTER TEST MEET7		-25℃ ± 2℃ 16HOURS
12	谐波失真 DISTONRTION		< 0.5 %MAX		RATED POWER INPUT
13	磁通密度FLUX DDENSITY		GAUSS		
14	极性POLAR		MUST BE 左+ 右-		Speaker must place upside-down,Terminal Faced the operator
15	音圈规格VOIU COIL SPEC		PL Ø13.28×5.6 Ω * Ø0.10		
16	重量WEIGHT				
17	磁铁规格MAGNET		(主) MAIN Ø36× Ø18×6 mm Y25 (副) MAIN Ø32× Ø18 ×6mm Y25		
18	落地试验DROP TEST		The speaker shall be fixed in sound box,packed with carton and dtopped from150cm height vertically.		

Impedance vs Freq



20: 3 * 60 3W 双端全桥喇叭 01040404

Map

Notes

Date Measured: Jan 1, 2003 Wed 1:10 am

LM5

4.5.0.351
二二-12-2005

Person:
Company:

Project:
File: CHT745 全桥. ltp

Dec 28, 2010
Wed 3:56 pm

LINEAR X
S Y S T E M S

产 品 资 料

3" 6Q 3W 双磁



单 位: mm

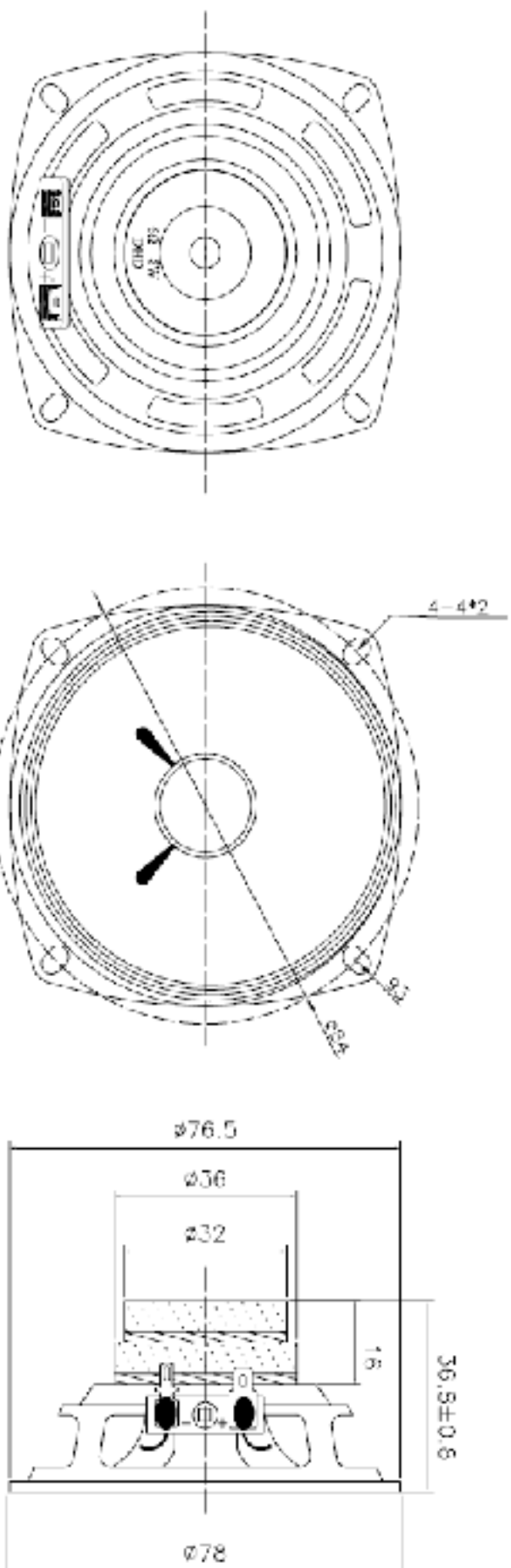
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版 本: Rev : 00 审 核:

页 码: Page: 1 of 1 批 注:

备注: ±0.2

生效日期: Date: 2010-05-19



SPEAKER SPECIFICATION

产品型号MODEL NO		AM5228	样品编号SPEAKER NO	01040483
口 径SIZE		3"	规格SPEC	4 Ω 3W
序号	项目	规格	测试条件	
1	标准阻抗RATEK IMP	4 Ω ±15 %	AT: 1000 HZ 1.0V	
	阻抗 RATEK IMP			
2	谐振频率 RESONANT FREQ	FO: 180HZ±20 %	WITHOU BAFFLE	
3	灵敏度 OUTPUT S.P.L	82 ±3 dB 1M 1W	AT:.200.500.1000.2000HZ	
4	有效频宽 FREQ.RESPONSE	Fo- 20K HZ	.	
5	标准功率 RATED POWER INPUT	3W		
6	最大功率 MAX.POWER INPUT	5W		
7	异常音 BUZZES RATTLES	MUST BE NORMAL	SIN WAVE 3.4V	
8	连续负荷 LOPAD TEST	AFTER TEST MEET7	PINK NOISE: 3W 24HOURS	
9	耐热试验 HEAT TEST	AFTER TEST MEET7	70℃ ±2℃ 20～25 %R.H 24HOURS	
10	耐湿试验HUMIDITY TEST	AFTER TEST MEET7	40℃ ±2℃ 90～95 %R.H 96HOURS	
11	耐寒试验 CILD TEST	AFTER TEST MEET7	-25℃ ±2℃ 16HOURS	
12	谐波失真 DISTONRTION	< 0.5 %MAX	RATED POWER INPUT	
13	磁通密度FLUX DDENSITY	GAUSS		
14	极性POLAR	MUST BE 左+ 右-	Speaker must place upside-down,Terminal Faced the operator	
15	音圈规格VOIU COIL SPEC	PL Ø13.28×3.6 Ω * Ø0.11		
16	重量WEIGHT			
17	磁铁规格MAGNET	(主) MAIN Ø36×Ø18×6 mm Y25 (副) MAIN Ø × Ø × mm Y25		
18	落地试验DROP TEST	The speaker shall be fixed in sound box,packed with carton and dtopped from150cm height vertically.		

Impedance vs Freq



Map

20: 3 * 4Q 3W 串联全桥喇叭 010404B3

Notes

Data Measured: Jan. 1, 2003 Wed 12:43 am

LM5

4.5, 0.351
二月-12-2005

Person:
Company:

Project:
File: CHT745 全桥.11b

Dec 29, 2010
Wed 3:49 pm

LINEARX
S Y S T E M S

产 品 资 料

3° 40 3W 单型



单 位: mm

编 号: No : 01040483

版 本: Rev : 00

页 码: Page: 1 of 1

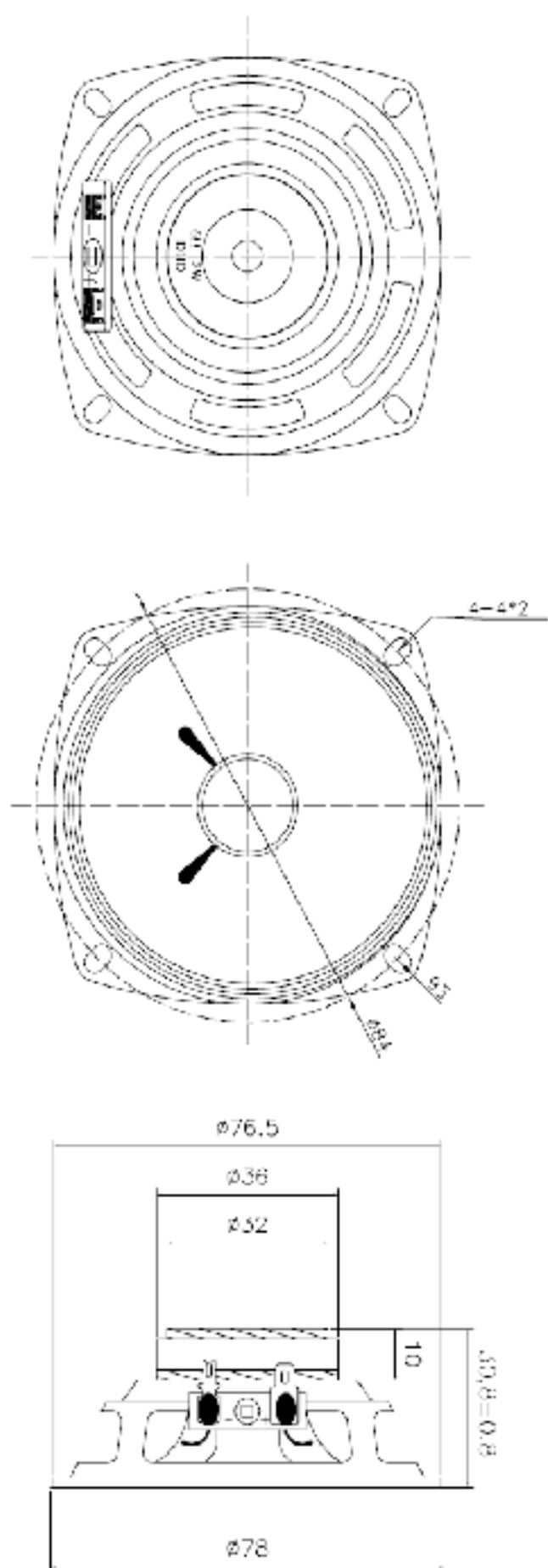
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绘 图:

审 核:

设 计:

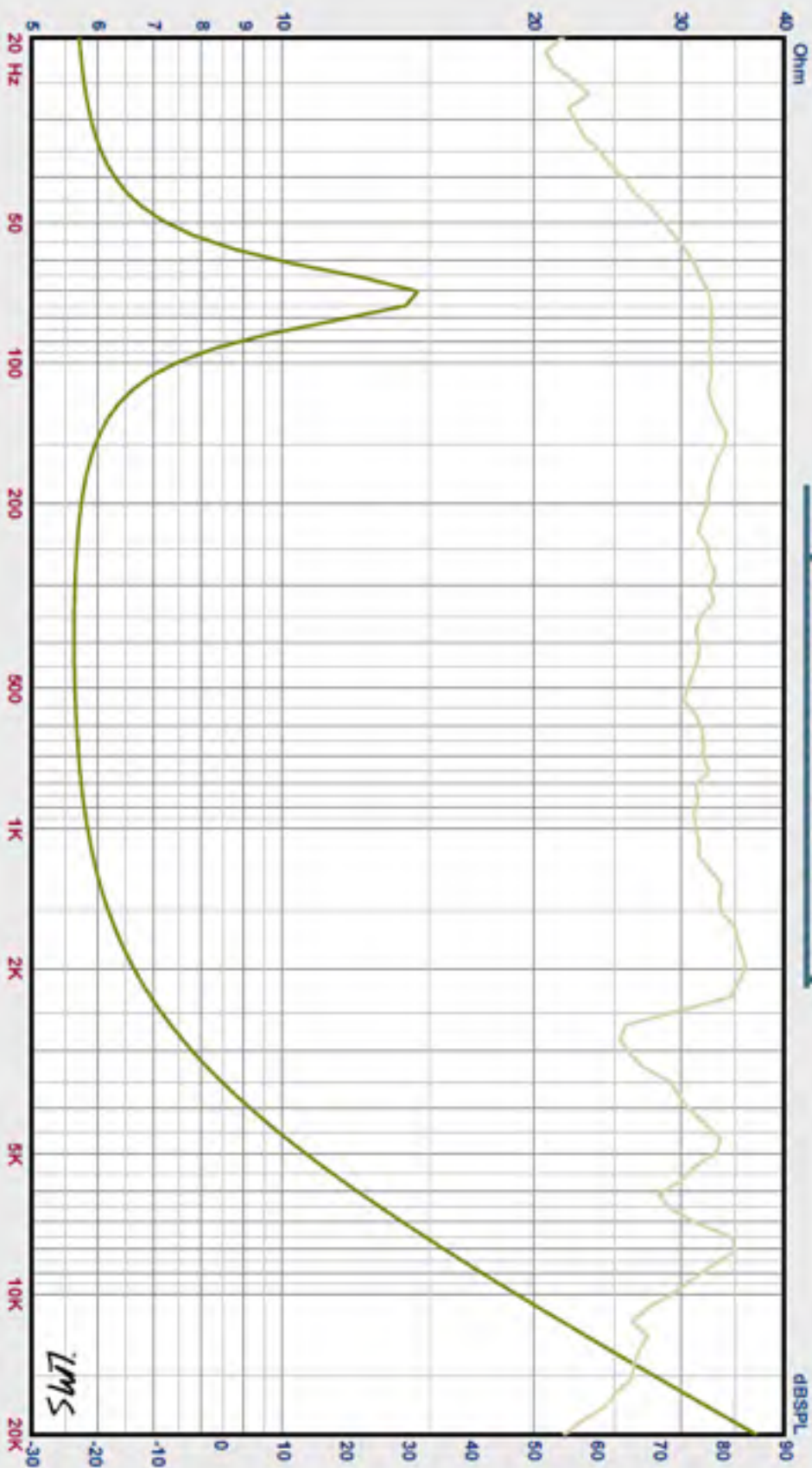
生效日期: Date: 2010-05-19



SPEAKER SPECIFICATION

产品型号MODEL NO		AR5228	样品编号SPEAKER NO	01040389
口 径SIZE		4"	规格SPEC	6Ω 10W
序号	项目	规格		测试条件
1	阻抗 RATEK IMP	6 Ω ±15 %		AT: 500HZ 1.0V
2	谐振频率 RESONANT FREQ	FO: 83HZ±20 %		WITHOU BAFFLE
3	灵敏度 OUTPUT S.P.L	78 ±3 dB 1M 1W		AT:300.400500.600.HZ
4	有效频宽 FREQ.RESPONSE	Fo- 2K		.
5	标准功率 RATED POWER INPUT	10W		
6	最大功率 MAX.POWER INPUT	20W		
7	异常音 BUZZES RATTLES	MUST BE NORMAL		SIN WAVE 7.7V
8	连续负荷 LOPAD TEST	AFTER TEST MEET7		PINK NOISE: 10W 24 HOURS
9	耐热试验 HEAT TEST	AFTER TEST MEET7		70℃ ±2℃ 20～25 %R.H 24 HOURS
10	耐湿试验HUMIDITY TEST	AFTER TEST MEET7		40℃ ±2℃ 90～95 %R.H 96 HOURS
11	耐寒试验 CILD TEST	AFTER TEST MEET7		-25℃ ±2℃ 16HOURS
12	谐波失真 DISTONRTION	< 0.5 %MAX		RATED POWER INPUT
13	磁通密度FLUX DDENSITY	GAUSS		
14	极性POLAR	MUST BE 左+ 右-		Speaker must place upside-down,Terminal Faced the operator
15	音圈规格VOIU COIL SPEC	AL Ø20.4*5.6 Ω *0.19		
16	重量WEIGHT			
17	磁铁规格MAGNET	(主)MAIN Ø60×Ø32*12mm Y25 (副)MAIN		
18	落地试验DROP TEST	The speaker shall be fixed in sound box,packed with carton and dtopped from150cm height vertically.		
APPROVAL BY:		CHECKED BY:		DRAWING BY:

Impedance vs Freq



Map

1B: 4" 6Ω 10W 单磁低音喇叭

Notes

Rev=5.600 Ohm Lev=280.937u H Fc=72.015 Hz Sd=5.281mm M7M4=5.000 g
 BL=3.028 T88 Qms=3.770 Qes=2.308 Qts=1.432 Ngs=0.036 % SPL=77.6 dB
 Vas=2.315 Ltr Cms=684.592u MN
 Mms=8.355 g Mmd=7.913 g

LM5

4.5.0.351
 二月-12-2005

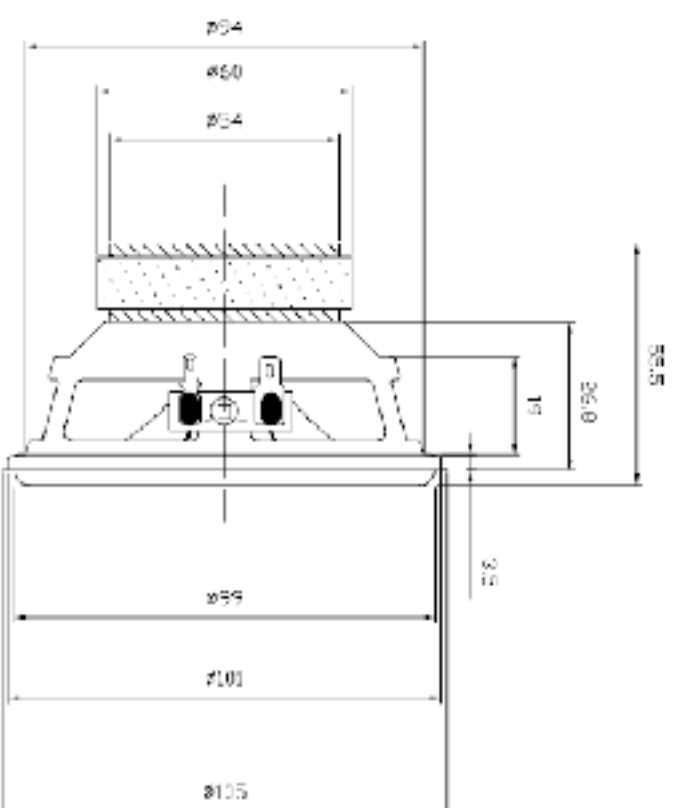
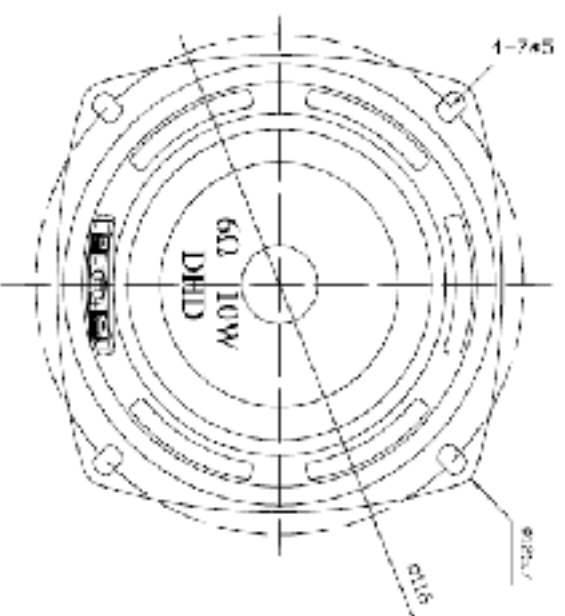
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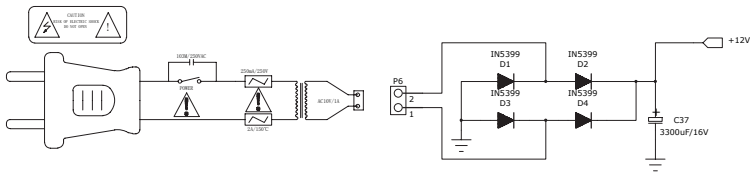
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 File: AMS221 4" 6Ω 15W 单磁低音喇叭平箱Lib

Dec 29, 2010
 Wed 4:34 pm

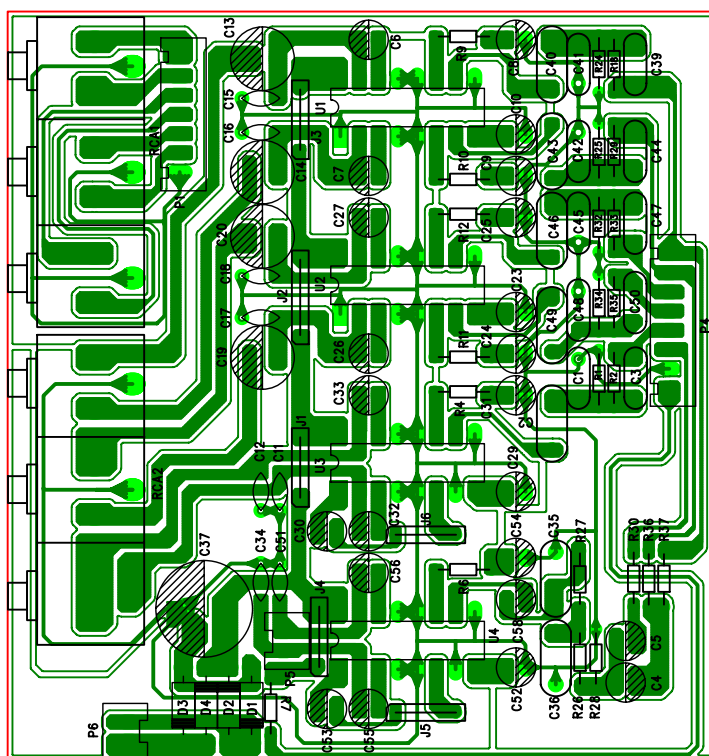
LINEAR X
 S V S T E M S

产 品 资 料 4" 6Q 10W 平磁 泡边平相低音喇叭	编 号: NO. 01040389 版 本: Rev : 00 页 码: Page: 1 of 1 单 位: mm 备注: ±0.2	审 核: 批 准: 生效日期: Date: 2010-6-26
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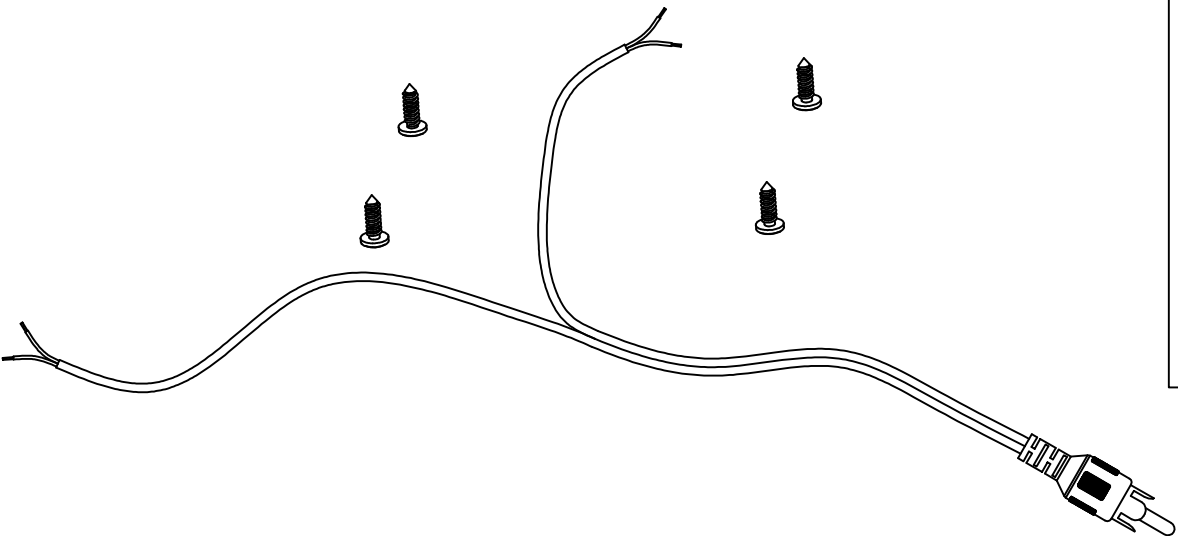
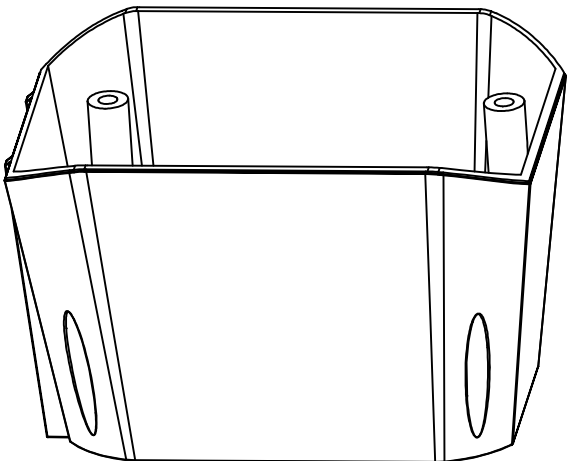
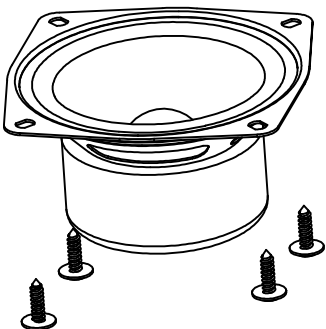
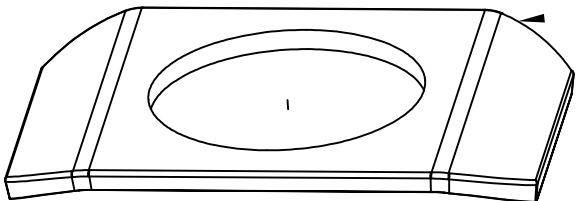
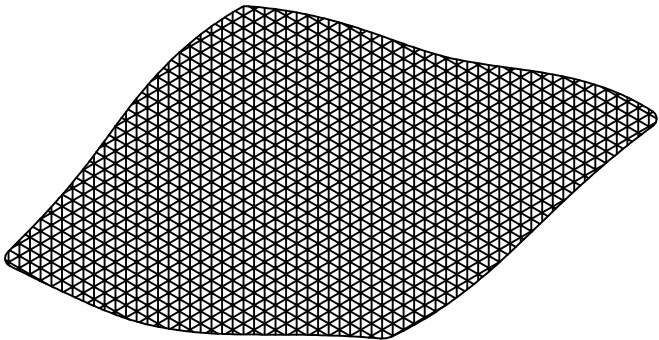
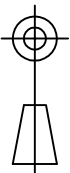




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产 品 资 料		编 号 : No : AM5228	绘 图 :
AM5228		版 本 : Rev : 00	审 核 :
副机爆炸图		页 码 : Page: 1 of 1	批 准 :
单 位 : mm		未注公差: ± 0.2	生效日期: Date: 2012-12-31



产 品 资 料 AM5228 主机爆炸图					
单 位: mm					
未注公差: ±0.2		编 号 : No : AM5228		绘 图 :	
		版 本 : Rev : 00		审 核 :	
		页 码 : Page: 1 of 1		批 准 :	
				生效日期: Date: 2010-12-31	

