



DSS-867S

Confidential

(Car DVD Loader with MPEG-4 ASP Video Decoder)

To. _____

Part No :

Car DVD Loader Specifications

MODEL : DSS-867S



BUYER :

Checked by _____ Date _____

Approved by _____ Date _____

SUPPLIER : DVS Korea Co., Ltd.

Issued by Mr. Seok Jun Lim

Approved by Mr. Young Woo Lee

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H/W version : V.0.1
Player version :

Front End version :
MPEG version :

DVS Korea Co., Ltd.



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1. INTRODUCTION

This document describes the features of DSS-867S Car DVD Loader

- DSS-867S reads DVD, CD discs and MPEG-4/DivX ASP Video decoder (Divx 3.11, 4.x, 5.x, Divx Pro).
- DSS-867S reads digital data stored on DVD and CD discs such as DVD-Video, DVD-R/RW, DVD+R/RW, Video CD, SVCD, CD-R/RW, CD-Audio, JPEG, MP3, OGG(OPTIONAL), and Kodak Picture CD.
- DSS-867S supports Progressive Scan, DVD-Audio, EMD(External Memory Device). Please see Functional Option table for MPEG version on Page 19.
- DSS-867S supports the Memory Card such as CF(Compact Flash), SD(Secure Digital Memory), SM(Smart Media), MS(Memory Stick : SONY), MMC(Multi Media Card), MD(Micro Drive),. User can access the Memory Card through the Card Reader. But USB Stick(Memory) could not be fully supported (compatibility) however the firmware can be upgraded to solve the problems in any case. SD card can be supported directed via 28pin AV interface.
- Maximum storage capacity is 4.7Gbytes and 17.08Gbytes for single layer/single side and dual layer/double side disc respectively.
- DSS-867S reads digital data stored on DVD at 2 times(from 1.5X to 2.2X) faster than reference speed(ZCAV), on CD at 4 times(from 4.0X to 7.0X) faster than reference speed(ZCAV).
- Slim slot in DVD Mechanism.
- Load/Eject 8cm & 12cm discs.
- Last Position memory
- Double Disc Insertion Prevention
- Software configurable Region Code.
- Excellent electronic anti-vibration servo system
- Auto-reload disc @ customer-selectable time
- Support ID3 TAG with MP3 Playback
- Firmware upgradable using CD-R/RW disc or Serial download
- Music slide show function (MP3 playback and JPEG slide show)



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2. FEATURES

2-1. Mechanism

Slim Dimensional DVD mechanism(W x H x D : 144.0 x 17.6 x 130.7)

Optical Pick-up drive for DVD and CD discs.

Roller loading and eject system

Detect Disc present using photointerrupter(sensor detect)

8cm disc support without adaptor

Double Disc Insertion Prevention

2-2. Integrated PCB

Using the one chip solution(CD/DVD frontend and backend solution with host processor.

Shock memory

DVD-Video	:	1902Kbytes(about	2.5 sec)
VCD, SVCD	:	1902Kbytes(about	5 sec)
CD-DA, HDCD	:	4364Kbytes(about	22 sec)
Data(MP3,WMA,OGG(OPTIONAL))	:	1706Kbytes(about	12 sec)
Data(MPEG)	:	1706Kbytes(about	12 sec)

2-3. Interface

8V / 5V / 3.3V power supply

CVBS Video output

Y/C(S-Video) output

RGB Video output (optional)

UART(RxD,TxD and REQUEST) control interface

SPDIF digital audio output

Left Justified bus digital audio output(Optional : I²S bus digital audio output)

I²S bus digital audio input(tbd: Optional)

Down mixed analog output Lt/Rt(output level : 1.5Vrms)

RS-232C external MICOM interface.

Support Video Display Output(NTSC/PAL)



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2-4. MultiRead

Capability to read

DVD Video (Single/Double layer), DVD-Audio (Optional)
DVD±R, DVD±RW, VIDEO CD, HDCD
CD Digital Audio, CD TEXT, CD-Recordable, CD-ReWritable
MP3 Playback(ID3 TAG), WMA,
CD layer of Hybrid SACD, SVCD, OGG(OPTIONAL)
MPEG-4/Divx ASP

2-5. MP3 file system structure

DSS-867S supports MP3 playback recorded in CD and DVD Recodable/Rewriterable discs.

DSS-867S supports MP3 file system structure as follows.

Folder depth : 5	No. of File at Each folder : 200
Total folder : 200	Total files : 4,000
Multi-sessions : 43	

- ※ Supportive MP3 file system structure is subject to change for improvements.
- ※ Last memory function will start the song played back last time from the beginning.

2-6. MPEG 4 Video support

All DivX 3.11 movies on 1 CD, anything under 1Mbps average bitrate.

All DivX 4 content.

DivX 5 content with no GMC and no Q-pel.

DivX video created for Video on Demand

DivX video created on a DivX Certified encoding device

AC3 and MP3 audio in DivX video both CBR and VBR

DivX 3.11 moves on 2 CDs(high bitrates)

Xvid content

ADPCM audio, PCM audio, OGG(OPTIONAL) vorbis audio

AVI files with bad audio/video intereaving

Post processing(De-blocking/De-ringing)

Subtitle be must "SMI" type



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3. SPECIFICATIONS

3-1. Measuring condition

according IEC68-1 part 5.3 standard conditions at DSS-867S unless otherwise stated

Temperature	15°C to 35°C
Rel.humidity	45% to 75%
Air pressure	860 mbar to 1060 mbar
Rate voltage	8.0V power / 5.0V power / 3.3V power
Test disc	TCD-792A, TDV-520C (clean and undamaged)

3-2. Mechanical dimensions (mm)

W x H x D : 144.0 x 17.6 x 130.7

* Refer to the APPENDIX 6 for details.

3-3. Weight (g)

450g (Typical)

3-2. Access time

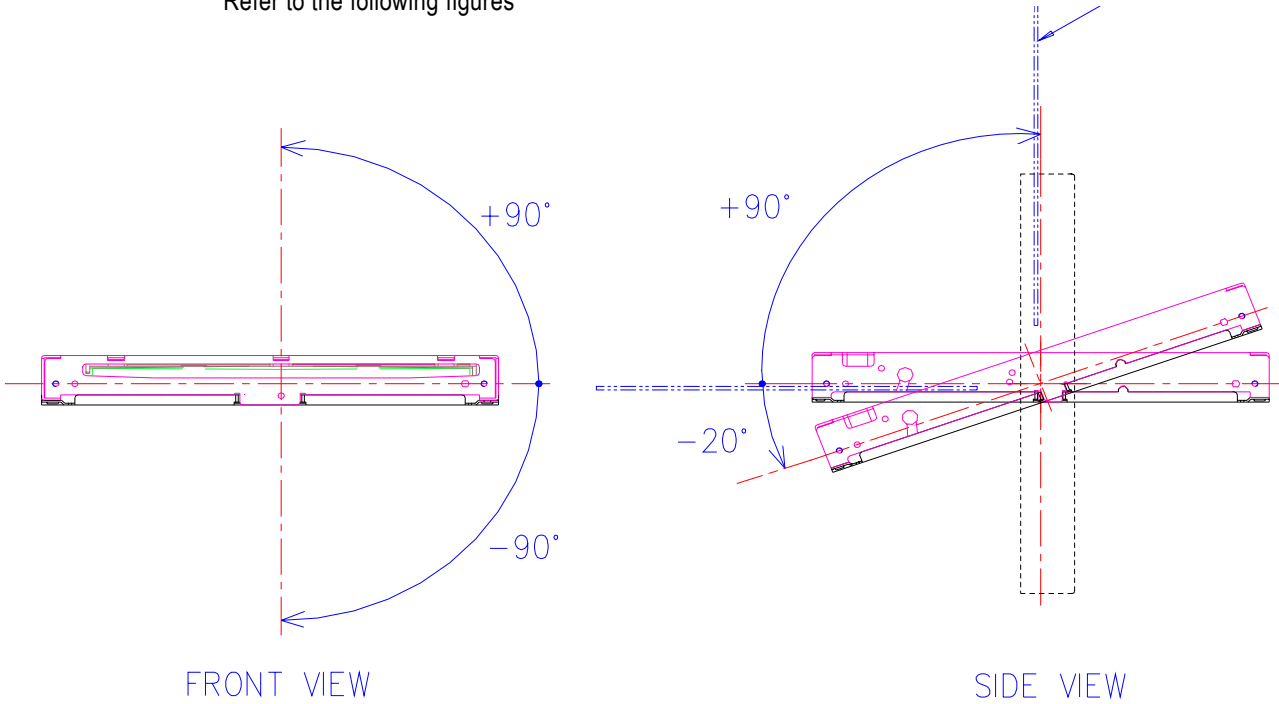
No	Term	Test DISC	Specification			Unit
			Min	Typ	Max	
1	Load to Play	DVD(TDV-520C)		12	18	Sec
2	Stand By to Play	DVD(TDV-520C)		6	9	Sec
3	Play to Eject	DVD(TDV-520C)		6	8	sec

3-3. Operation forces

No	Term	Test DISC	Specification			Unit
			Min	Typ	Max	
1	Pull-in force Force to start loading	DVD(TDV-520C)	0.4	0.9	2	N
2	Eject force Disc out force 30mm from the slot	DVD(TDV-520C)	0.5	4	7	N

3-4. Operating angle

Refer to the following figures



3-5. Environmental Conditions

3-5-1. Temperature

- | | |
|---------------------------|---------------|
| (1) Operating Temperature | -20°C to 70°C |
| (2) Storage Temperature | -30°C to 85°C |

3-5-2. Humidity

- | | |
|------------------------|-----------------------------------------|
| (1) Operating Humidity | 0% to 80% |
| (2) Storage Humidity | 0% to 90% |
| (3) Condensation | No condensation of the conditions above |



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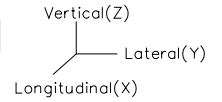
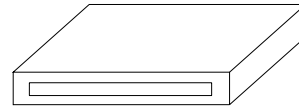
(Car DVD Loader with MPEG-4 ASP Video Decoder)

3-5-3. Vibration

(1) Operating

No sound skip

Z direction:



1.5G(14.7m/s²) from 10Hz to 30Hz

0.8G(7.84m/s²) from 30Hz to 150Hz (Sweep 10-150-10Hz, 1cycle 8min)

(2) Non-Operating

No damage, No unrecoverable error

10-200 Hz sine sweep rate in 1 octave/min

2G in X, Y and Z directions

30 min/axis

3-5-4. Shock

(1) Non-Operating

No damage, No unrecoverable error

10 msec half-sine wave

50G(490m/s²) 1 time in each direction

3-6. Mechanical noise

Position the sound level meter at 200mm above the top of the device.

Play	40dB or less
Insert / Eject	65dB or less
Search(Track/Chapter)	50dB or less
Initialization	50dB or less

3-7. Life Time

Continuos Operation	B10 life 5,300 hours
Eject/Loading Mechanism	10,000 cycles / Measuring condition
Random Seek	1,000,000 times / Measuring condition



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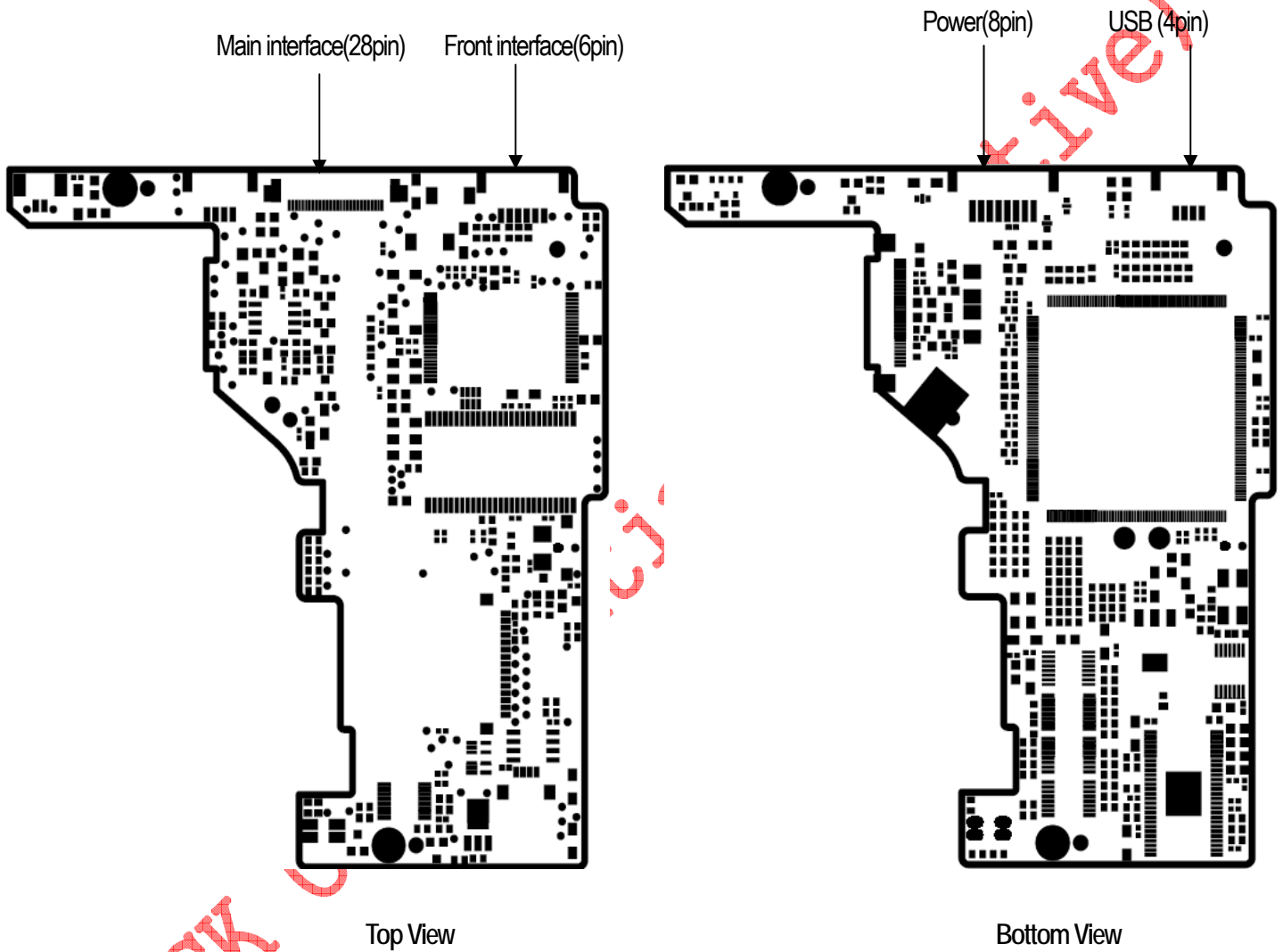
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4. ELECTRICAL SPECIFICATIONS

4-1 Connection

Position





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Power connector

Connector type: MOLEX 53780-0890

No	Name	Description	Remark
1	+8V	Motor(Sled & Loading) VCC +8V	
2	M-GND	MOTOR GND	
3	D-GND	Digital GND	
4	+5V	Analog VCC +5V	
5	All 3.3V	All 3.3V input(for using DISC_in)	
6	A-GND	AUDIO GND	
7	+3.3V	Digital VCC +3.3V	
8	+3.3V	Digital VCC +3.3V	

Front I/F connector

Connector type:MOLEX 53780-0690

No	Name	Description	Remark
1	IR	IR Receive data input	
2	D-GND	Digital GND	
3	VDATAIN	VFD Data input	Normal GPIO port
4	VDATAOUT	VFD Data output	Normal GPIO port
5	VCLK	VFD Clock	
6	VSTB	VFD Strobe	

USB I/F connector(tbd:Optional)

Connector type : MOLEX 53780-0490

No	Name	Description	Remark
1	USB_VBUS	USB_V BUS(Power)	
2	USBM	USBM(USB data)	
3	USBP	USBP(USB data)	
4	D-GND	Digital GND	



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Main Interface connector

Connector type : MOLEX 52689-2893

No	Name	Mode 1	Mode 2	Mode 3	Mode 4
1	SPDIF	SPDIF out	SD DATA0	SPDIF out	SPDIF out
2	BCK	GPIO_2	SD DATA1	BIT CLOCK	GPIO_2
3	A-GND	AUDIO GND	AUDIO GND	AUDIO GND	AUDIO GND
4	DATA0	USBP	USBP	I2S DATA0 OUT	USBP
5	DATA1	USBM	USBM	I2S DATA1 OUT	USBM
6	DISC_IN	DISC_IN	DISC_IN	DISC_IN	DISC_IN
7	DATA2	GPIO_7	SD DATA2	I2S DATA2 OUT	GPIO_7
8	LRCLK	GPIO_8	SD DATA3	LR CLOCK	IR INPUT
9	A-GND	AUDIO GND	AUDIO GND	AUDIO GND	AUDIO GND
10	TXD	UART TXD(out)	UART TXD(out)	UART TXD(out)	UART TXD(out)
11	RXD	UART RXD(in)	UART RXD(in)	UART RXD(in)	UART RXD(in)
12	SREQ	SREQ	SD DETECT	SREQ	SREQ
13	ROUT	Analog Rout	Analog Rout	Analog Rout	Analog Rout
14	LOUT	Analog Lout	Analog Lout	Analog Lout	Analog Lout
15	A-GND	AUDIO GND	AUDIO GND	AUDIO GND	AUDIO GND
16	VDAC0	SUPER VIDEO_C	SUPER VIDEO_C	SUPER VIDEO_C	SUPER VIDEO_C
17	A-GND	AUDIO GND	AUDIO GND	AUDIO GND	AUDIO GND
18	VDAC1	SUPER VIDEO_Y	SD CLK	AD DATA INPUT	SUPER VIDEO_Y
19	A-GND	AUDIO GND	AUDIO GND	AUDIO GND	AUDIO GND
20	VDAC2	CVBS VIDEO	CVBS VIDEO	CVBS VIDEO	CVBS VIDEO
21	A-GND	AUDIO GND	AUDIO GND	AUDIO GND	AUDIO GND
22	RESET_IN	Reset in signal	Reset in signal	Reset in signal	Reset in signal
23	B(Pb)	Video output (B(Pb))	Video output (B(Pb))	Video output (B(Pb))	Video output (B(Pb))
24	A-GND	AUDIO GND	AUDIO GND	AUDIO GND	AUDIO GND
25	R(Pr)	Video output (R(Pr))	Video output (R(Pr))	Video output (R(Pr))	Video output (R(Pr))
26	G(Y)	Video output (G(Y))	Video output (G(Y))	Video output (G(Y))	Video output (G(Y))
27	A-GND	AUDIO GND	AUDIO GND	AUDIO GND	AUDIO GND
28	MCLK	MUTE_OUT	SD CMD	MASTER CLOCK	MUTE_OUT

** Mode1, Mode2, Mode3, Mode4 is selected by F/W. All the H/W is same.

** For using normal GPIO port from 28pin connector, it must need pull up resistor(about 10 k Ω with 3.3Volt line)



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4-2 Power supply

4.2.1 Voltage

Description	Min	Typ	Max	Unit
+8V	+7.5	+8.0	+8.5	V
Ripple Vlotage	--	--	200	mVpp
+5V(Analog)	+4.5	+5.0	+5.5	V
Ripple Vlotage	--	--	100	mVpp
+3.3V(Digital)	+3.1	+3.3	+3.6	V
Ripple Vlotage	--	--	50	mVpp

4.2.2 Current

Description	Min	Typ(Play)	Max	Unit	Remark
+8V	0.050	0.050	0.700	A	Load/eject
+5V(Analog)	0.080	0.220	0.400	A	Load/eject
+3.3V(Digital)	0.450	0.570	0.850	A	Load/eject
All +3.3V	0.06	0.08	0.10	A	

4.2.3 Video output

CVBS Video output

※ Used reference A/V Board

Description	Output voltage(peak to peak)	Output impedance	Remark
CVBS	1Vp-p	75Ω	±5%

S-Video output

※ Used reference A/V Board

Description	Output voltage(peak to peak)	Output impedance	Remark
Y	1Vp-p	75Ω	±5%
C	0.286Vp-p	75Ω	±5%

Component Video output

※ Used reference A/V Board

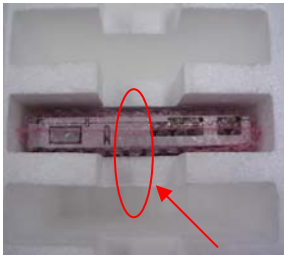
Description	Output voltage(peak to peak)	Output impedance	Remark
Y	1Vp-p	75Ω	±5%
Pb	0.7Vp-p	75Ω	±5%
Pr	0.7Vp-p	75Ω	±5%

4.2.4 Digital Audio output

Description		Min	Max
Voh	Voltage output high	2.4V	3.6V
Vol	Voltage output low	0V	0.4V
Cin	Input capacitance		10pF

5. HANDLING

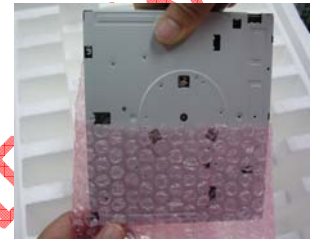
- 1) The DVD - Loader will be packed ESD protected.
- 2) Transporting the DVD - Loader always is without medium.
- 3) When carrying the DVD-loader, be sure to carry it without DISC(DVD, CD)
- 4) When pulling out from packing, please refer to the following picture.



<When pulling out from the cushion>



<When pulling out from the bag>



- 5) Handling the DVD - Loader must be carefully handled and not be taken in contact with dust, oil, grease or other contamination.

- 6) Not touching red color area marked part(the top side, the bottom side) as the following picture.



<The Top side>



<The Bottom side>

- 7) The screws for mounting the DVD - Loader into the set has to be screwed by reference to the mechanical drawing. When using other screws, it may cause damages of mechanism.

- 8) Holding the DVD - Loader as it is shown below.





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6. AUDIO PERFORMANCE

Test Equipment: Audio Precision System TWO

No	Item	Disc	Signal	Subject	Limit	Unit	Remark
1	Output Level	Dolby Test Disc	1KHz 0dB	Lout Rout	2.0 V± 0.2V	V	Remark1
2	Frequency Response	Dolby Test Disc	20Hz -20dB	Lout Rout	0±3dB	dB	
			1KHz -20dB		0		
			10KHz -20dB		0±3dB		
			20KHz -20dB		0±3dB		
3	T.H.D	Dolby Test Disc	1KHz 0dB	Lout Rout	0.05%↓	%	20KHz LP.F
4	Signal to Noise Ratio	Dolby Test Disc	1KHz 0dB	Lout Rout	85dB↑	dB	A-WEIGHT Filter
5	Dynamic Range	Dolby Test Disc	1KHz 0dB	Lout Rout	80dB↑	dB	A-WEIGHT Filter
6	Channel Separation	Dolby Test Disc	1KHz 0dB	Lout Rout	80dB↑	dB	A-WEIGHT Filter

※ Used reference A/V Board

※ Remark1 : Audio output level is

Only DSS-867S Output is 1.5Vrms

Using reference A/V Board, Output level is 2.0Vrms.



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7. VIDEO PERFORMANCE

7-1. Composite Video of DVD(NTSC)

Test Equipment:VM700

No	Item	Disc	Signal	Subject	Limit	Unit	Remark
1	Output Level	TDV540	75% SMPTE Colorbar(2T1C)		140±7	IRE	
2	Sync Level	TDV540	75% SMPTE Colorbar(2T1C)		40±4	IRE	
3	Burst Level	TDV540	75% SMPTE Colorbar(2T1C)		40±4	IRE	
4	Freq Response	TDV540	Multi Burst 60%(2T12C)	0.5MHz	REF	dB	
				1.0MHz	0±2	dB	
				2.0MHz	0±2	dB	
				3.0MHz	0±2	dB	
				3.5MHz	-1±3	dB	
				4.1MHz	-3±5	dB	
5	Luminance Signal to Noise	TDV540	WHITE 100% Flat Field(2T6C)		60↑	dBrms	
6	DPDG	TDV540	AUTO TEST MATRIX(2T12C) (5 STEP)	DP	10deg max	deg	
				DG	10 % max	%	
7	Chrominance Signal to Noise	TDV540	Magent(COLOR) 100% Flat Field (2T17C)	AM	59	dBrms	
				PM	49	dBrms	
8	Chrom Phase (Colorbar)	TDV540	75% SMPTE Colorbar(2T1C)	Yellow	167.1±5	degree	
				Cyan	283.5±5	degree	
				Green	240.7±5	degree	
				Magenta	60.7±5	degree	
				Red	103.5±4	degree	
				Blue	347.1±5	degree	
9	Chrom Magnitude (Colorbar)	TDV540	75% SMPTE Colorbar(2T1C)	Yellow	62.1±5	IRE	
				Cyan	87.7±5	IRE	
				Green	81.9±5	IRE	
				Magenta	81.9±5	IRE	
				Red	87.7±5	IRE	
				Blue	62.1±5	IRE	
10	Chrom Illumination (Colorbar)	TDV540	75% SMPTE Colorbar(2T1C)	Yellow	69.0±5	IRE	
				Cyan	56.1±5	IRE	
				Green	48.2±5	IRE	
				Magenta	36.2±4	IRE	
				Red	28.2±3	IRE	
				Blue	15.4±3	IRE	
11	Burst Freq	TDV540	ANY Title & Chapter	3.579545Hz	±100	Hz	

※ Used reference A/V Board



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7-2. Super(Y+C) Video of DVD(NTSC)

Test Equipment: VM700

No	Item	Disc	Signal	Subject	Limit	Unit	Remark
1	Output Level	TDV540	75% SMPTE Colorbar(2T1C)		140±7	IRE	
2	Freq Response	TDV540	Multi Burst 60%(2T12C)	0.5MHz	REF	dB	
				1.0MHz	0±2	dB	
				2.0MHz	0±2	dB	
				3.0MHz	0±2	dB	
				3.5MHz	-0.5±3	dB	
				4.1MHz	-3±5	dB	
3	Luminance Signal to Noise	TDV540	WHITE 100% Flat Field(2T6C)		60↑	dBrms	
4	Chrominance Signal to Noise	TDV540	Magent(COLOR) 100% Flat Field (2T17C)	AM	59	dBrms	
				PM	49	dBrms	
5	Chrom Phase (Colorbar)	TDV540	75% SMPTE Colorbar(2T1C)	Yellow	167.1±5	degree	
				Cyan	283.5±5	degree	
				Green	240.7±5	degree	
				Magenta	60.7±5	degree	
				Red	103.5±4	degree	
				Blue	347.1±5	degree	
6	Chrom Magnitude (Colorbar)	TDV540	75% SMPTE Colorbar(2T1C)	Yellow	62.1±5	IRE	
				Cyan	87.7±5	IRE	
				Green	81.9±5	IRE	
				Magenta	81.9±5	IRE	
				Red	87.7±5	IRE	
				Blue	62.1±5	IRE	
7	Chrom Illumination (Colorbar)	TDV540	75% SMPTE Colorbar(2T1C)	Yellow	69.0±5	IRE	
				Cyan	56.1±5	IRE	
				Green	48.2±5	IRE	
				Magenta	36.2±4	IRE	
				Red	28.2±3	IRE	
				Blue	15.4±3	IRE	
8	Burst Freq	TDV540	ANY Title & Chapter	3.579545Hz	±100	Hz	

※ Used reference A/V Board



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7-3. Component Video of DVD(NTSC)

Test Equipment:VM700

No	Item	Disc	Signal	Subject	Limit	Unit	Remark
1	Parade	TDV540	75% SMPTE Colorbar(2T1C)	Y	77±6	IRE	
				Pb	72.8±5	IRE	
				Pr	72.8±5	IRE	
2	Y LEVEL	TDV540	75% SMPTE Colorbar(2T1C)	Yellow	66.45±4	IRE	
				Cyan	52.57±4	IRE	
				Green	44.02±4	IRE	
				Magenta	30.97±4	IRE	
				Red	22.42±4	IRE	
				Blue	8.55±4	IRE	
3	Pb LEVEL	TDV540	75% SMPTE Colorbar(2T1C)	Yellow	-37.45±4	IRE	
				Cyan	12.65±4	IRE	
				Green	-24.84±4	IRE	
				Magenta	24.84±4	IRE	
				Red	-12.65±4	IRE	
				Blue	37.49±4	IRE	
4	Pr LEVEL	TDV540	75% SMPTE Colorbar(2T1C)	Yellow	6.1±4	IRE	
				Cyan	-36.74±4	IRE	
				Green	-30.81±4	IRE	
				Magenta	31.4±4	IRE	
				Red	37.5±4	IRE	
				Blue	-6.09±4	IRE	

※ Used reference A/V Board



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Appendix 1. Key-Components List

Items	Model No.	Maker	Location
PUH(Pick-Up Head)	HPD66	SHARP	Japan
Spindle Motor	MSDS-P016A	LG Inotek	Korea
Sled(Feed) Motor	FFK30WD.	Mabuchi	Japan
	PNN13.	Matsushita	Japan
Loading Motor	FFN30VB.	Mabuchi	Japan
	MIN10.	Matsushita	Japan
Actuator & Sled & Loading Drive Spindle Motor Drive	BD7996	ROHM	Japan
RF Amp & Servo DSP/MPEG	MT1389HD	Mediatek	Taiwan
X-TAL	27MHz ATS 5ppm	Sunny	Korea
FLASH MEMORY	ES29LV160D(E)	EXCEL	Korea
	MX29LV160C(D)T	MXIC	Taiwan
	M28W160DT	ST	EU
	S29AL016D	SPANSION	Japan
DRAM 1MB*16B*4BANK,64M	CS56A64163NIR7	CHIPLUS	Taiwan
	GLT5640L16EP-7TC	G-Link	Taiwan
	HY57V641620ETP-6	HYNIX	China
Tantal-chip	TSM1A106ASSR	PARTSNIC	Korea
	TAJA106M010R	AVX	Japan

※ Functional Option table for MPEG version

HD version

MPEG Ver	Dolby	MPEG4	WMA/OGG(OPTIONAL)	DVD-Audio(option)	EMD
DE	0	0	0/0	0	0

- EMD(External Memory Device) means the Memory Card such as CF, SD, MC, MS, MMC, MD.



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(Car DVD Loader with MPEG-4 ASP Video Decoder)

Appendix 2. Test discs and specification

CD-DA

NO	Term	Test Disc		Specification			Unit
		Name	Location	Min	Typ	Max	
1	Scartch	TCD-721R	TNO 4	0.8			mm
2	Eccentric	TCD-712	TNO 1	140			um
3	Black band	TCD-725A	TNO 9	0.8			mm
4	Interruption	TCD-725A	TNO 4	0.8			mm
5	Finger Print	TCD-725A	TNO 13	65			um

CD-Video

NO	Term	Test Disc		Specification			Unit
		Name	Location	Min	Typ	Max	
1	Scartch	TVD-621	TNO 4	0.8			mm
2	Eccentric	TVD-612	TNO 1	140			um
3	Black band	TVD-625	TNO 9	0.7			mm
4	Finger Print	TVD-625	TNO 13	65			um

DVD Single layer

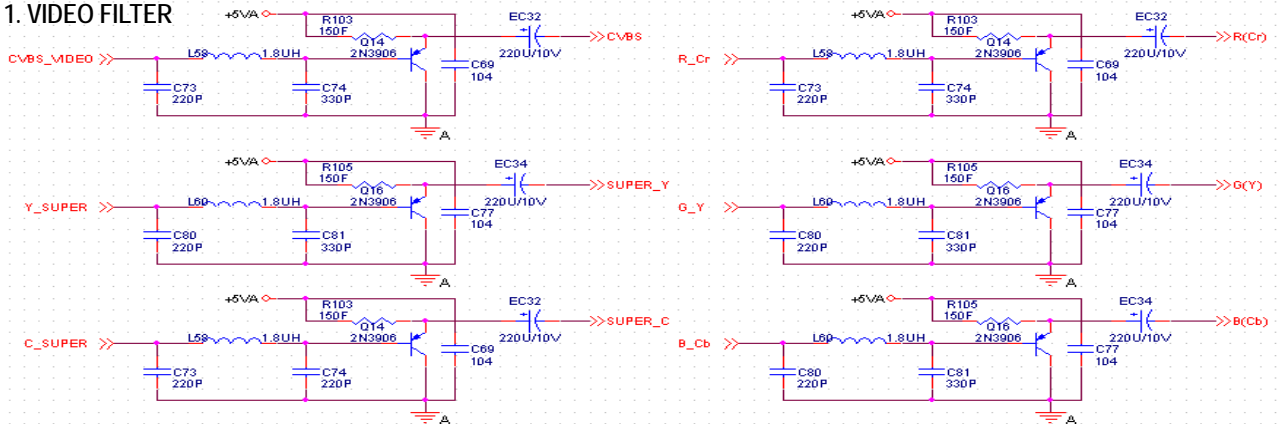
NO	Term	Test Disc		Specification			Unit
		Name	Location	Min	Typ	Max	
1	Scartch	TDV-521	TNO 10	2.0			mm
2	Eccentric	SVD3725	TNO 1	210			um
3	Vertical	TDV-532	TNO 16	0.6			mm
4	Black band	TDV-525	TNO 11	1.0			mm
5	Finger Print	TDV-525	TNO 13	65			um

DVD Dual layer

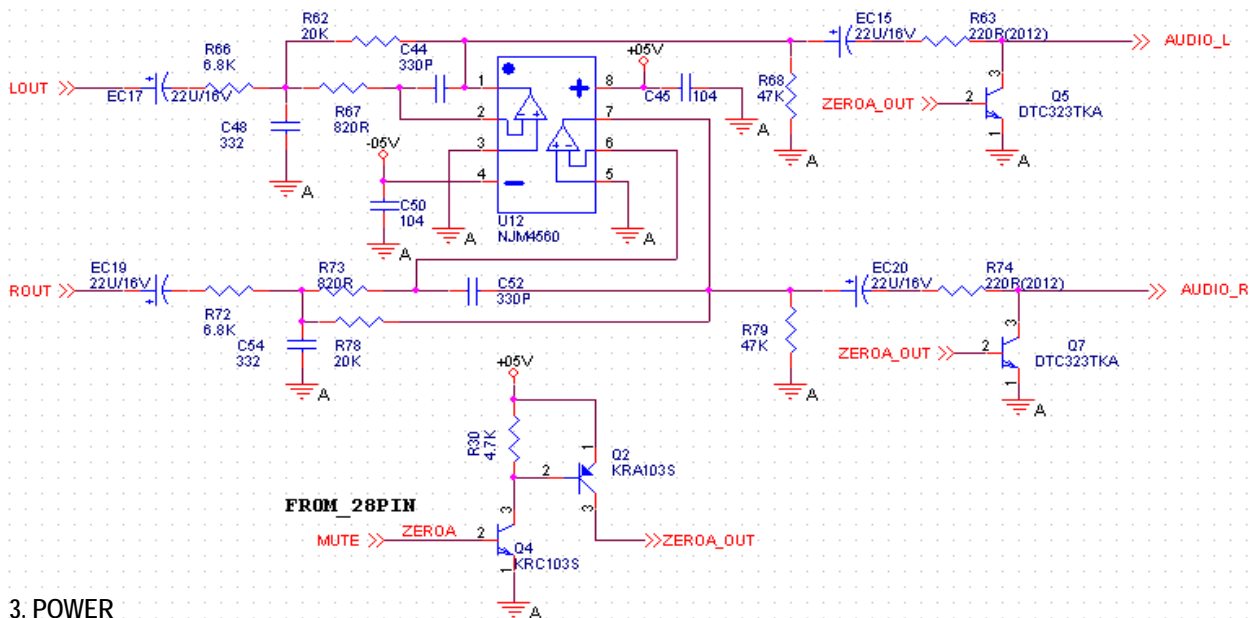
NO	Term	Test Disc		Specification			Unit
		Name	Location	Min	Typ	Max	
1	Scartch	TDV-541	TNO 8	1.6			mm
2	Eccentric	TDV-553	TNO 1	100			um
3	Vertical	TDV-562	TNO 16	0.6			mm
4	Black band	TDV-545	TNO 9	0.8			mm
5	Finger Print	TDV-545	TNO 13	65			um

Appendix 3. Audio & Video Filter

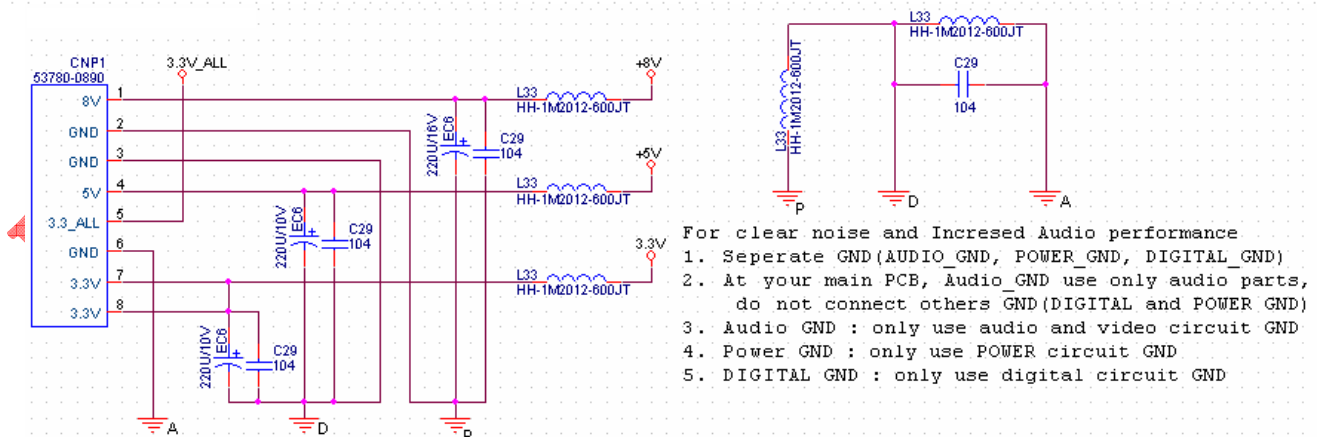
1. VIDEO FILTER



2. AUDIO FILTER



3. POWER





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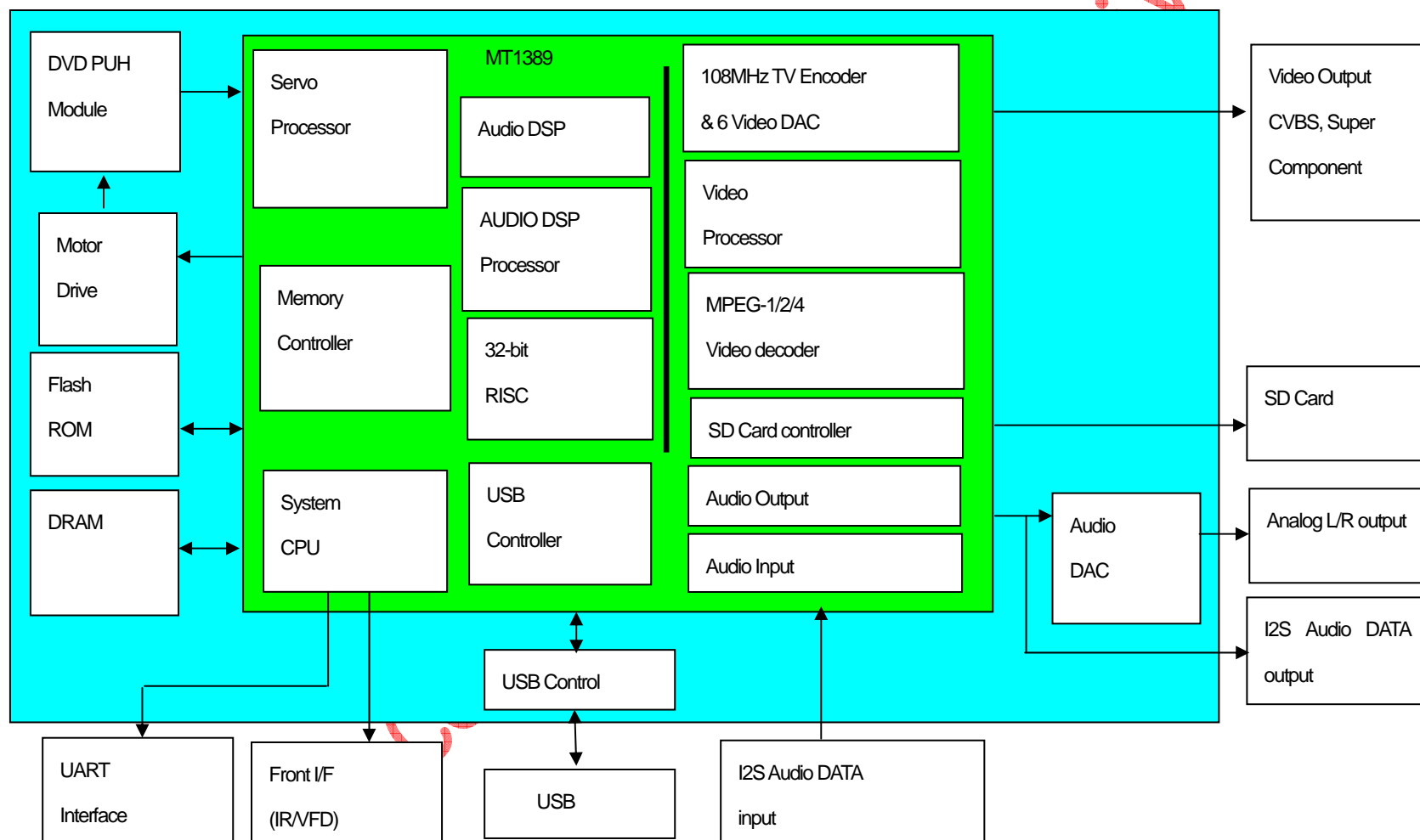
(Car DVD Loader with MPEG-4 ASP Video Decoder)

Appendix 4. Supporting USB Media

※ Supporting USB Media

NO	Model Maker	Model Name	Memory	Pass/Fail	Remark
1	Transcend	TS1GJF120	1Gbyte	Pass	
2		ONE Memory	1Gbyte	Pass	
3	IPIA	U2X	1Gbyte	Pass	
4	Innotech	Soquri 2.0	1Gbyte	Pass	
5	ASTONE		1Gbyte	Pass	
6		Curzer-mini	128Mbyte	Pass	
7	Kingston	(DataTrevener II)	512Mbyte	Pass	
8		Q-STIK-256	256Mbyte	Pass	
9	ScanDisk		128Mbyte	Pass	
10	Gaya Solution	Han II Drive	1Gbyte	Pass	
11	Imation	swing	512Mbyte	Pass	
12	Sandisk	CRUZER mini	256Mbyte	Pass	
13	LG	X TICK Slide	128Mbyte	Pass	
14	TRANSEND	JetFlash 120 2.0 1G	1Gbyte	Pass	
15	TRANSEND	JetFlash 2.0 1G (D&M)	1Gbyte	Pass	
16	Sandisk	Cruzer Micro USB 2.0 128M	128Mbyte	Pass	
17	JUNGSOFT	NEXDISK	256Mbyte	Pass	
18	BMKT	MEMORIVE SLIM USB	2Gbyte	Pass	
19	BMKT	MEMORIVE SLIM USB	512Mbyte	Pass	
20	TRANSEND	JetFlash 110 1GB	1Gbyte	Pass	
21	MEMORIVE	MEMORIVE PRO +	128Mbyte	Pass	
22	LG	LG USB 2.0 Mirror 1GB	1Gbyte	Pass	
23	Esys	USB MEMORY BAR USB Device	256Mbyte	Pass	
24	FM Semiconductor	FM Semiconductor memorette swing 2GB	2Gbyte	Pass	
25	ZYRUS	ZYRUS NEXTIK ZYNT-SM5 white	2Gbyte	Pass	
26	Sandisk	Sandisk CRUZER MICRO 2.0 USB	2Gbyte	Pass	
27	JungLip Elec	X-FILE DRIVE (JMD-2048N)	2Gbyte	Pass	
28	Innotech	USB MEMORY Innotech iLIAD black	256Mbyte	Pass	
29	billionton	Mini SD 2GB	2Gbyte	Pass	SD card(use CARD READER)
30	T-PRO	SD-memory card	128Mbyte	Pass	SD card(use CARD READER)
31	Canon	FC-32M	32M	Pass	CF card(use CARD READER)
32	Zeronblue	ZST-001	20Gbyte	Pass	USB HDD
33	Zeronblue	ZBH-250	20Gbyte	Pass	USB HDD
34	COSY	CR541		Pass	CF card(use CARD READER)
35	Apple computer	ipod shuffle	512Mbyte	Pass	
36	Apple computer	ipod nano	1Gbyte	Pass	
37	Apple computer	ipod mini	4Gbyte	Pass	

Appendix 5. DSS-867S Block Diagram



(Car DVD Loader with MPEG-4 ASP Video decoder)

Appendix 6. Mechanical Dimensions

