

DVD27/230

SERVICE MANUAL



harman/kardon®

Power for the Digital Revolution®

MODEL NAME : ☐ DVD27 ☐ DVD27/230

MP Release

Description : Characteristics Specification of **Analog Audio L / R (2CH.)**

Test Disc : TDV-540A (ABEX) , YEDS7 (Sony)

Test Conditions : 10kΩ Load Terminated , Must to be connect AP GND with set chassis.

AC Input : For USA (120V/60Hz) , For Europe (230V/50Hz)

Test Measuerment : **CASCADE SYS-2522 (A.P)**

1.ANALOG AUDIO OUTPUT

Serial No. :

Measurement Item			Limit	Normal	TEST DISC
Output Level [Vrms]		L		2.02	YEDS7 (SONY) TRACK 1
1KHz 0dB Playback		R		2.02	
Level difference [Vrms]			< 0.2	0	
F/ response [dB] Reference 1KHz 0dB BW : 10Hz~500KHz Filter : None	2 0 Hz	L	0 ± 1.0	-0.01	YEDS7 (SONY) TRACK 2
		R		-0.01	
	100 Hz	L	0 ± 1.0	-0.01	YEDS7 (SONY) TRACK 4
		R		-0.01	
	10 KHz	L	0 ± 1.0	-0.03	YEDS7 (SONY) TRACK 10
		R		-0.03	
	2 0 KHz	L	0 ± 1.0	-0.14	YEDS7 (SONY) TRACK 13
		R		-0.14	
	4 4 KHz	L	0 ± 1.5	-1.05	TDV-540A (ABEX) T4,C16 AU3
		R		-1.05	
Emphasis Characteristic[dB] Ref.1kHz 0dB BW : 22Hz~22KHz	5 KHz	L	-4.53±1.0	-4.55	YEDS7 (SONY) TRACK 40
		R		-4.55	
	1 6 KHz	L	-9.04 ± 1.0	-9.03	YEDS7 (SONY) TRACK 41
		R		-9.03	
S/N [dB]		L	> 105	-120.8	YEDS7 (SONY) TRACK 23
22~22KHz Aweighted		R		-120.8	
Channel Separation [dB]		L → R	> 95	-120.5	YEDS7 (SONY) TRACK 30 , 34
1KHz 0dB Playback 1KHz Bandpass		R → L		-120.5	
Linearity [dB]		L	-89.5±3	-89.5	YEDS7 (SONY) TRACK 22
-90dB playback BW : 22Hz~22KHz		R		-89.5	
T.H.D [%]		L	< 0.005	0.0015	YEDS7 (SONY) TRACK 1
1KHz 0dB Playback BW : 22Hz~22KHz		R		0.0015	
Dynamic Range [dB]		L	> 90	97.7	YEDS7 (SONY) TRACK 20
CD-DA 1KHz -60dB 20KHz AES17		R		97.7	
T.H.D [%]		L	< 0.005	0.001	TDV-540A (ABEX) T3, C1
D V D 9 6 k BW : 22Hz~22KHz		R		0.001	
Dynamic Range [dB]		L	> 90	104.3	TDV-540A (ABEX) T3, C2
D V D 9 6 k BW : 20KHz AES17		R		104.3	
T.H.D [%]		L	< 0.005	0.001	TDV-540A (ABEX) T2, C1 , AU2
D V D 48 k BW : 22Hz~22KHz		R		0.001	
Dynamic Range [dB]		L	> 90	105.3	TDV-540A (ABEX) T2, C2 , AU2
D V D 48 k 20KHz AES17		R		105.3	

2. DIGITAL OUT

1) OPTICAL OUT (BW : 50Hz~100KHz) Peak to Peak

JITTER	44.1KHz (mUI)		< 50mUI	7.2	Normal 44.1KHz CD Playback
JITTER	96KHz (mUI)		< 50mUI	13.6	Normal 96KHz DVD Playback

2) COAXIAL OUT

Output Level [mV] Peak to Peak Level at 75ohm load terminated		500+50 (mV)	525	Normal CD or DVD Playback
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MODEL NAME : ☐ DVD27 ☐ DVD27/230

MP Release

Description : Characteristics Specification of **Video**

Test Disc : TDV-540A (ABEX) , MDVD-111 (TEAC) Serial NO.:

Test Conditions : 75Ω Load Terminated

AC Input : For USA (120V/60Hz) , For Europe (230V/50Hz)

Test Measuerment : VM-700T

1. Video Level Test (75Ω Terminated)

Measurement Item		Limit	Norminal	Test Disc
Video output [V]	Composite	1.0V ± 0.1V	1.02	MDVD-111 TITLE2,CHAPTER1 100% Color BAR
	S-Video Y	1.0V ± 0.1V	1.02	
	S-Video C	286mV ± 30mV	290	
	Component Y	1.0V ± 0.1V	1.03	
	Component Pb	700mV ± 70mV	680	
	Component Pr	700mV ± 70mV	680	
	Scart CVBS	1.0V ± 0.1V	1.02	
	Scart Red	700mV ± 70mV	720	
	Scart Green	700mV ± 70mV	720	
	Scart Blue	700mV ± 70mV	720	

**** Pb/Pr & RGB Video Level check before please setting the Black Level off in the setup menu ****

2. Video S/N Raito Test (75Ω Terminated)

Measurement Item		Limit	Norminal	Test Disc
Video SNR [dB] 100KHz~4.2MHz Use SC Trap	Composite	≥ 65.0 dB	-73.5	TDV-540A TITLE2,CHAPTER4 50% White Color
	S-Video Y	≥ 65.0 dB	-73.9	
	Component Y	≥ 65.0 dB	-73.1	
	Component Pb	≥ 65.0 dB	-73.7	
	Component Pr	≥ 65.0 dB	-73.7	

3. Chroma Signal AM.PM Test (75Ω Terminated)

Measurement Item		Limit	Norminal	Test Disc
Chroma AM [dB] 10KHz~500KHz	Composite Chroma	≥ 65.0 dB	-74.1	TDV-540A TITLE2,CHAPTER17 100% Magenta Color
	S-Video Chroma	≥ 65.0 dB	-74.1	
Chroma PM [dB] 10KHz~500KHz	Composite Chroma	≥ 60.0 dB	-65.3	
	S-Video Chroma	≥ 60.0 dB	-65.3	

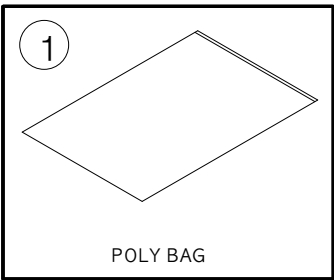
4. Video Frequency Respoens (75Ω Terminated)

Measurement Item		Limit	Norminal	Test Disc
Composite [dB]	0.5MHz 0dB Ref.	0		MDVD-111 TITLE2,CHAPTER8 100% Multi Brust
	1MHz	0dB ± 2dB	0.11	
	2MHz	0dB ± 2dB	0.11	
	3MHz	0dB ± 2dB	0.37	
	4MHz	0dB ± 2dB	0.66	
	5.8MHz	0dB ± 3dB	1.02	

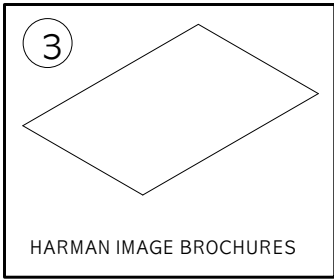
Measurement Item		Limit	Norminal	Test Disc
S-Video Y [dB]	0.5MHz 0dB Ref.	0		MDVD-111 TITLE2,CHAPTER8 100% Multi Brust
	1MHz	0dB ± 2dB	0.03	
	2MHz	0dB ± 2dB	0.04	
	3MHz	0dB ± 2dB	0.27	
	4MHz	0dB ± 2dB	0.53	
	5.8MHz	0dB ± 3dB	0.83	

Measurement Item		Limit	Norminal	Test Disc
Component Y [dB] Interace Mode	0.5MHz 0dB Ref.	0		MDVD-111 TITLE2,CHAPTER8 100% Multi Brust
	1MHz	0dB ± 2dB	0.04	
	2MHz	0dB ± 2dB	0.08	
	3MHz	0dB ± 2dB	0.08	
	4MHz	0dB ± 2dB	0.17	
	5.8MHz	0dB ± 3dB	0.83	

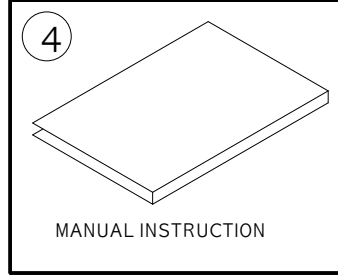
1. Instruction manual ass'y - Accessories



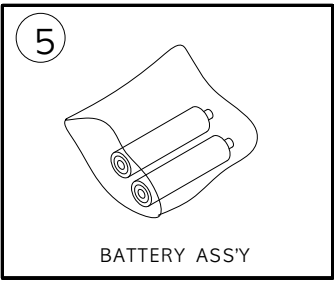
POLY BAG



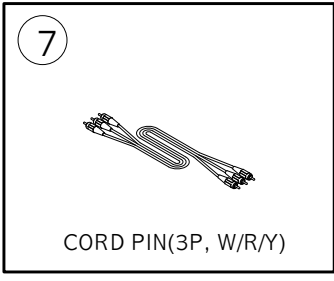
HARMAN IMAGE BROCHURES



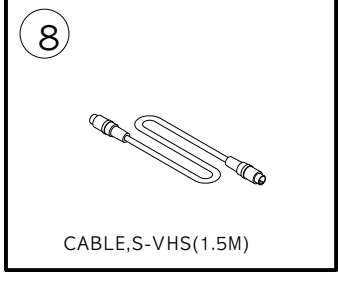
MANUAL INSTRUCTION



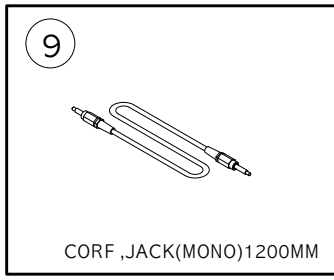
BATTERY ASS'Y



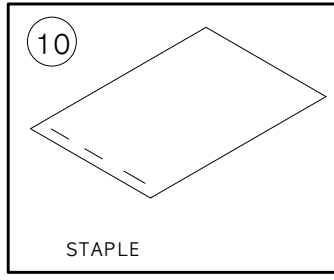
CORD PIN(3P, W/R/Y)



CABLE,S-VHS(1.5M)



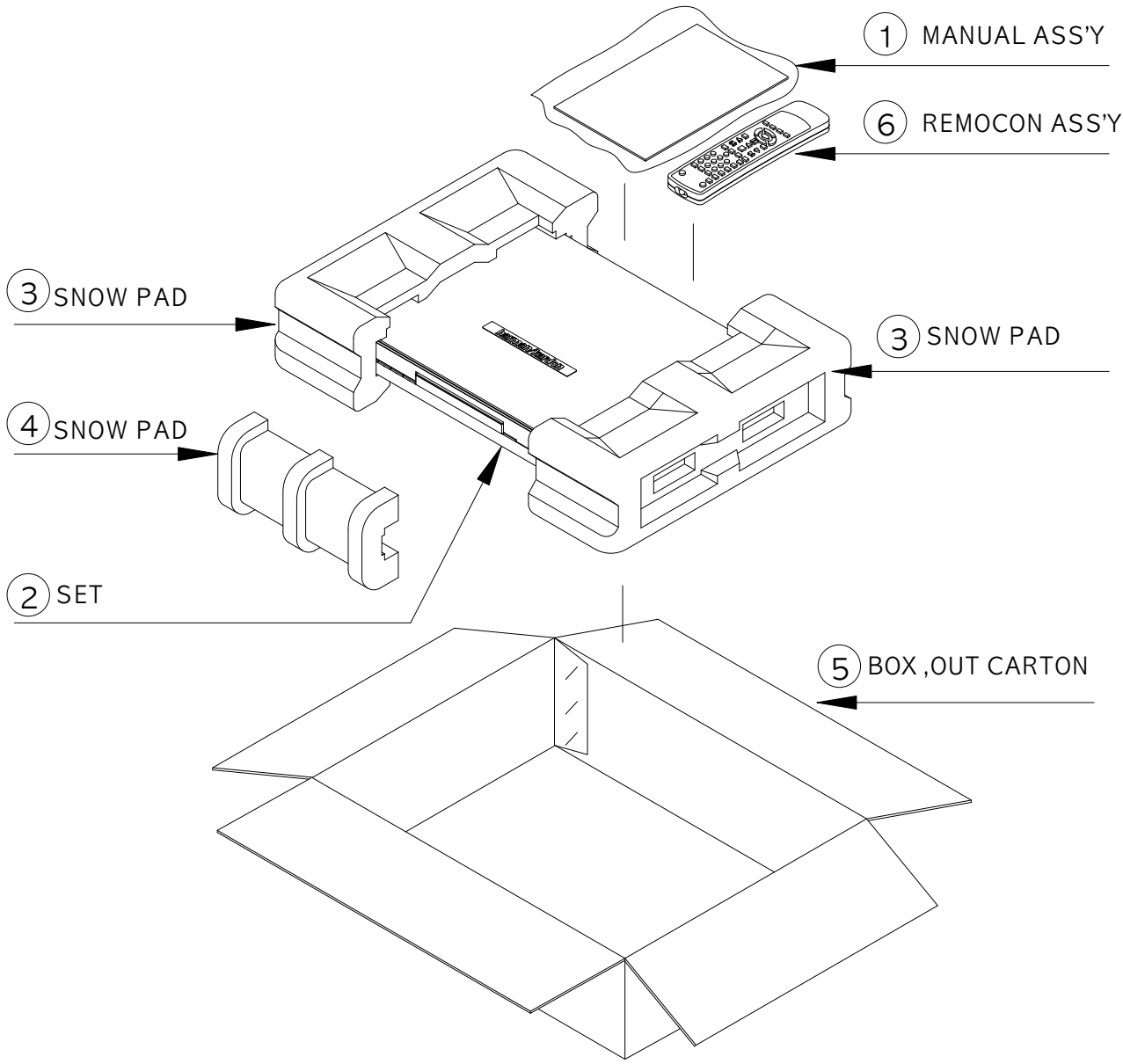
CORF ,JACK(MONO)1200MM



STAPLE

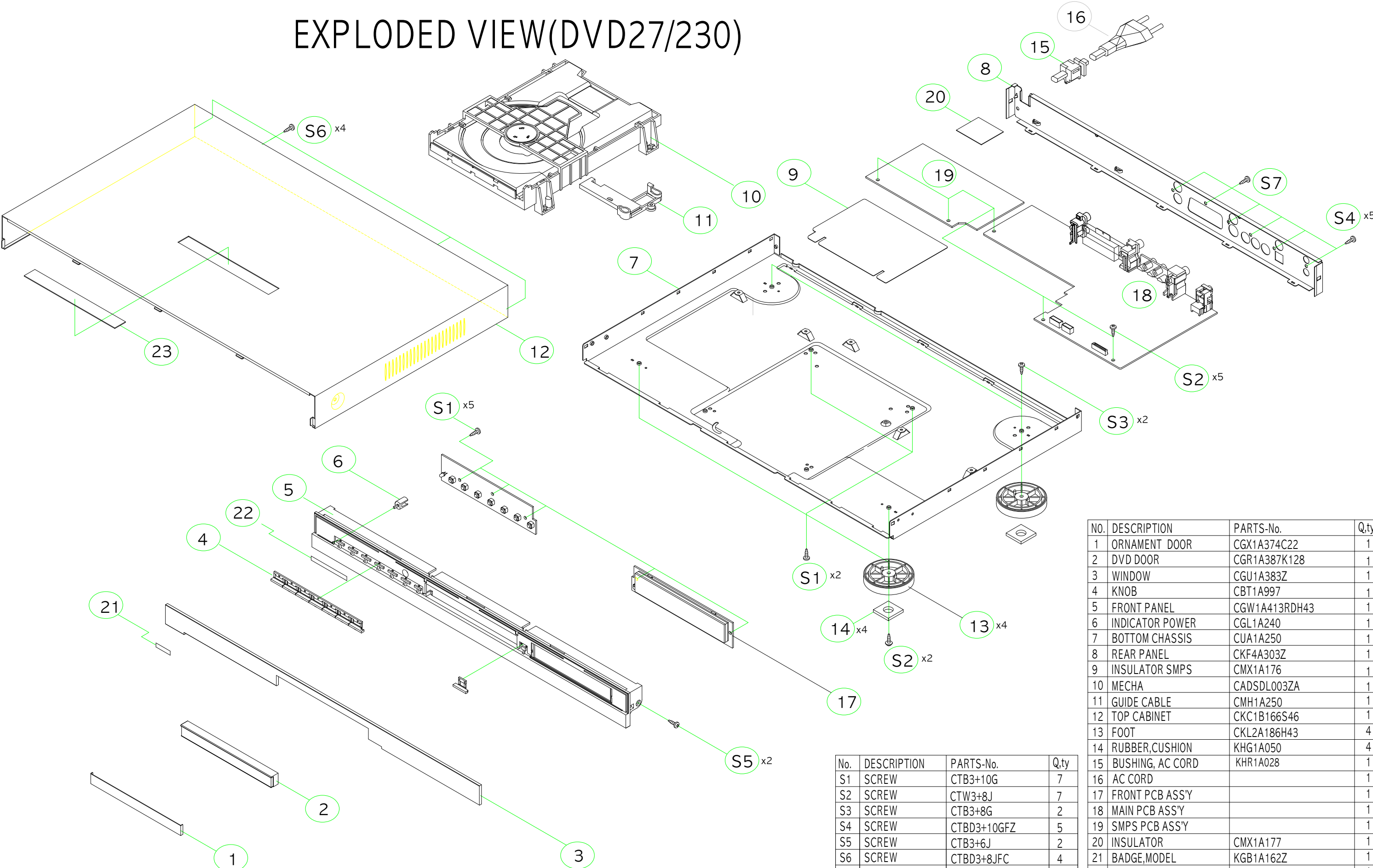
NO	DESCRIPTION	PARTS NO.	Q.ty
1	POLY BAG	CPB1061Y	1
2			
3	HARMAN IMAGE BROCHURES	HQE1A273Z	1
4	INSTRUCTION MANUAL	CQX1A1051Z	1
5	BATTERY	HABAAAM1.5V	2
6			
7	CORD,PIN(3P,W/R/Y)	CJS4S004Z	1
8	CABLE,S-VHS(1.5M)	CJS0I006Z	1
9	CORD,JACK(MONO)1200MM	CJS9D002Z	1
10	STAPLE	KPL0905	3

2. Package Drawing



NO	DESCRIPTION	PARTS NO.	Q.ty
1	MANUAL ASS'Y	CQXDVD27	1
2	SET	DVD27/230SET	1
3	SNOW,PAD	CPS1A714	2
4	SNOW,PAD	CPS1A715	1
5	BOX,OUT CARTON	CPG1A798W	1
6	REMOCON ASS'Y	CARTDVD27	1
7			

EXPLODED VIEW(DVD27/230)



NO.	DESCRIPTION	PARTS-No.	Q.ty
1	ORNAMENT DOOR	CGX1A374C22	1
2	DVD DOOR	CGR1A387K128	1
3	WINDOW	CGU1A383Z	1
4	KNOB	CBT1A997	1
5	FRONT PANEL	CGW1A413RDH43	1
6	INDICATOR POWER	CGL1A240	1
7	BOTTOM CHASSIS	CUA1A250	1
8	REAR PANEL	CKF4A303Z	1
9	INSULATOR SMPS	CMX1A176	1
10	MECHA	CADSDL003ZA	1
11	GUIDE CABLE	CMH1A250	1
12	TOP CABINET	CKC1B166S46	1
13	FOOT	CKL2A186H43	4
14	RUBBER,CUSHION	KHG1A050	4
15	BUSHING, AC CORD	KHR1A028	1
16	AC CORD		1
17	FRONT PCB ASS'Y		1
18	MAIN PCB ASS'Y		1
19	SMPS PCB ASS'Y		1
20	INSULATOR	CMX1A177	1
21	BADGE,MODEL	KGB1A162Z	1
22	BADGE,FRONT	KGB1A158Z	1
23	TOP BADGE ASS'Y	CGX1A375ZA	1

No.	DESCRIPTION	PARTS-No.	Q.ty
S1	SCREW	CTB3+10G	7
S2	SCREW	CTW3+8J	7
S3	SCREW	CTB3+8G	2
S4	SCREW	CTBD3+10GFZ	5
S5	SCREW	CTB3+6J	2
S6	SCREW	CTBD3+8JFC	4
S7	SCREW	CHD1A055	1

DVD27 SMPS PCB ASS'Y

Ref#	Part Number	Description 1	Description 2	Qty
PCB	COP11840B	DVD27 SMPS PCB ASS'Y	DVD27 SMPS	1
C905	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V ZF	1
C906	CCKT1H101KB	CAP , CERAMIC	100PF 50V KB	1
C907	CCEA1HH100T	CAP , ELECT		1
C908	CCEA1HH470T	CAP , ELECT		1
C910	CCEA1HH1R0T	CAP , ELECT		1
C921	CCEA1EH331T	CAP , ELECT		1
C922	CCEA1HH0R1T	CAP , ELECT		1
C923	CCEA1EH331T	CAP , ELECT		1
C924	CCEA1VH101T	CAP , ELECT	100UF 50V	1
C925	CCEA1EH331T	CAP , ELECT		1
C926	HCQI1H102JZT	CAP , MYLAR	1000PF 50V J	1
C927	CCEA1HH470T	CAP , ELECT		1
C928	CCEA1HH470T	CAP , ELECT		1
C929	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V ZF	1
C931	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V ZF	1
C935	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V ZF	1
D906	HVDMTZJ12BT	DIODE , ZENER	12V 1/2W	1
D907	HVD1N4148T	DIODE	1N4148	1
D909	HVDMTZJ24BT	DIODE , ZENER	24V T77	1
D910	HVD1N4148T	DIODE	1N4148	1
D911	HVD1N4148T	DIODE	1N4148	1
D912	HVDMTZJ5.1BT	DIODE , ZENER		1
D913	C3A206	WIRE , COPPER	SN95/PB5 , 0.6	1
D925	HVD1N4148T	DIODE	1N4148	1
D926	HVDMTZJ12BT	DIODE , ZENER	12V 1/2W	1
D928	HVDMTZJ5.1BT	DIODE , ZENER		1
FH91	KJCFC5S	HOLDER , FUSE		1
FH92	KJCFC5S	HOLDER , FUSE		1
IC92	HVIKIA431BAT	I.C , REGULATOR	KIA431B	1
J901	C3A206	WIRE , COPPER	SN95/PB5 , 0.6	1
J910	C3A206	WIRE , COPPER	SN95/PB5 , 0.6	1
J915	C3A206	WIRE , COPPER	SN95/PB5 , 0.6	1
J916	C3A206	WIRE , COPPER	SN95/PB5 , 0.6	1
J921	C3A206	WIRE , COPPER	SN95/PB5 , 0.6	1
J922	C3A206	WIRE , COPPER	SN95/PB5 , 0.6	1
J925	C3A206	WIRE , COPPER	SN95/PB5 , 0.6	1
L903	CLZ9Z040Z	COIL , CHOKE(6.8UH)	DR 6.5*7.5	1
L905	CLZ9Z040Z	COIL , CHOKE(6.8UH)	DR 6.5*7.5	1
NT91	KRT10D9MSFT	THERMISTER		1
Q904	HVTKTC3198YT	T.R		1
Q905	HVTKTA1273YT	TR NORMAL KTA1273/PNP/TO-92L		1
Q906	HVTKSC1008YT	T.R	KSC1008Y	1
Q907	HVTKRC102MT	T.R	KRC102M	1
Q908	HVTKRA102MT	T.R	KRA102M	1
Q909	HVTKSC1008YT	T.R	KSC1008Y	1
Q910	HVTKSC1008YT	T.R	KSC1008Y	1
Q912	HVDMCR100-6ZL1G	SCR (ON SEMI)		1
R901	KROS1TJ105V	RES , METAL FILM (1/2W , 1M OHM)		1
R903	CRD25TJ754T	RES		1
R904	CRD25TJ754T	RES		1
R905	CRD20TJ222T	RES , CARBON	2.2K OHM 1/5W J	1
R607	CRD25TJ123T	RES , CARBON		1
R906	CRD20TJ101T	RES , CARBON	100 OHM 1/5W J	1
R907	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
R909	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
R910	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
R911	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
R912	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
R913	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
R914	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	1
R920	CRD20TJ101T	RES , CARBON	100 OHM 1/5W J	1
R921	CRD20TJ222T	RES , CARBON	2.2K OHM 1/5W J	1
R607	CRD25TJ123T	RES , CARBON		1
R922	CRD20TF3481T	RES , CARBON		1
R923	CRD20TF3001T	RES , CARBON	3K 1/5W F	1
R924	CRD20TJ101T	RES , CARBON	100 OHM 1/5W J	1
R925	CRD25TJ101T	RES , CARBON		1
R926	CRD20TJ101T	RES , CARBON	100 OHM 1/5W J	1
R928	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
R929	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
R930	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1

DVD27 SMPS PCB ASS'Y

Ref#	Part Number	Description 1	Description 2	Qty
R933	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
R940	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
CN91	KJP02KA060ZY	WAFER	7.92MM(YUNHO)	1
CN92	CJP12GA19ZY	WAFER		1
C901	HCQF2E104KZE	CAP , POLYPROPYLENE FILM		1
C902	HCQF2E104KZE	CAP , POLYPROPYLENE FILM		1
C903	CCET400VKRH470K	CAP , ELECT(400V/47uF)	KOSHIN KRH SERI	1
C904	CCKT3A222KBL	CAP , CERAMIC	EKR3A222K05FK5	1
C920	CCEA1EH102T	CAP , ELECT		1
C930	CCKDHS222ME	CAP , CERAMIC (400V Y-CAP)	SDE2G222M10FF7	1
C932	CCKDHS102ME	CAP , CERAMIC (400V Y-CAP)	SDE2G102M10FF7	1
C933	CCKDHS102ME	CAP , CERAMIC (400V Y-CAP)	SDE2G102M10FF7	1
D901	HVD1N4007T	DIODE		1
D902	HVD1N4007T	DIODE		1
D903	HVD1N4007T	DIODE		1
D904	HVD1N4007T	DIODE		1
D905	HVDUF4007T	DIODE , SCHOTTKY	UF4007	1
D908	HVD1N4007T	DIODE		1
D920	HVD31DQ06H	DIODE	31DQ06-FC5	1
D921	HVDUF4007T	DIODE , SCHOTTKY	UF4007	1
D922	HVD1N4937T	DIODE , RECTIFIERS	1N4937(600V/1A)	1
D923	HVD1N4937T	DIODE , RECTIFIERS	1N4937(600V/1A)	1
D924	HVDSF26T	DIODE , SUPER FAST		1
IC91	BVISG6848DZ	IC,PWM	SG6848DZ	1
LF91	CLZ9Z060Y	LINE FILTER	CLZ9Z060Y	1
PC91	HVIPC17L1CB	I.C , PHOTO COUPLER		1
Q902	BVICEF04N6	FET , CEF04N6		1
Q903	HVTKSB1151Y	T.R	KSB1151Y	1
R902	KRG1SANJ104H	RES,METAL OXIDE FILM		1
R908	KRW1PJ1R5V	RES, WIRE WOUND	1W 1.5(J) NON-I	1
R927	KRDS1TJ681V	RES , CARBON	680OHM 1/2W J	1
T901	CLT9Z018ZE	TRANSFORMER (DVD 27)	EER2828H	1
F901	KBA2C2000TLEY	FUSE	EUR (2A/250V)	1

DVD27/230 MAIN + FRONT PCB ASS'Y

Ref#	Part Number	Description 1	Description 2	Qty
PCB	COP11841B-1	DVD27/230 FRONT VFD PCB ASS'Y	DVD27	1
PCB	COP11841B-2	DVD27/230 FRONT KEY PCB ASS'Y	DVD27	1
PCB	COP11841B-3	DVD27/230 MAIN PCB ASS'Y	DVD27	1
C100	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C101	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C102	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C103	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C104	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C106	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C115	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C117	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C120	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C122	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C146	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C156	HCUS1H330JA	CAP , CHIP		1
C157	HCUS1H330JA	CAP , CHIP		1
C158	HCUS1H330JA	CAP , CHIP		1
C159	HCUS1H562KC	CAPACITOR		1
C160	HCUS1H562KC	CAPACITOR		1
C161	HCUS1H562KC	CAPACITOR		1
C162	HCUS1H561JA	CAP , CHIP		1
C163	HCUS1H471JA	CAP , CHIP		1
C164	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C165	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C166	HCUS1H102KC	CAP , CHIP		1
C167	HCUS1H102KC	CAP , CHIP		1
C168	HCUS1H102KC	CAP , CHIP		1
C169	HCUS1H102KC	CAP , CHIP		1
C170	HCUS1H102KC	CAP , CHIP		1
C172	HCUS1H102KC	CAP , CHIP		1
C173	HCUS1H102KC	CAP , CHIP		1
C174	HCUS1E333KC	CAP , CHIP		1
C175	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C176	HCUS1H102KC	CAP , CHIP		1
C178	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C179	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1

DVD27/230 MAIN + FRONT PCB ASS'Y

Ref#	Part Number	Description 1	Description 2	Qty
C180	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C181	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C183	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C185	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C186	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C187	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C188	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C189	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C190	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C191	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C192	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C193	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C194	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C195	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C196	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C197	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C200	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C201	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C204	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C205	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C207	HCUS1H272KC	CAP , CHIP		1
C208	HCUS1H102KC	CAP , CHIP		1
C209	HCUS1H273KC	CAP,CERAMIC 0.027uF	ROHM 0.027UF	1
C210	HCUS1H102KC	CAP , CHIP		1
C214	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C215	HCUS1H561JA	CAP , CHIP		1
C217	HCUS1H273KC	CAP,CERAMIC 0.027uF	ROHM 0.027UF	1
C218	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C220	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C222	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C225	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C227	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C228	HCUS1H222KC	CAP , CHIP		1
C229	HCUS1H222KC	CAP , CHIP		1
C230	HCUS1H222KC	CAP , CHIP		1
C231	HCUS1H222KC	CAP , CHIP		1
C232	HCUS1H330JA	CAP , CHIP		1
C240	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C242	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C245	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C247	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C249	HCUS1H150JA	CAP CHIP	1608 SIZE	1
C250	HCUS1H150JA	CAP CHIP	1608 SIZE	1
C252	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C253	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C254	HCUS1H272KC	CAP , CHIP		1
C255	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C256	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C257	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C260	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C261	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C262	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C263	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C266	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C267	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C277	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C281	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C282	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C283	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C284	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C285	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C295	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C303	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C304	HCSHB21A220B	CAP , TANTAL B2 SIZE		1
C305	HCSHB21A220B	CAP , TANTAL B2 SIZE		1
C306	HCSHB21A220B	CAP , TANTAL B2 SIZE		1
C307	HCSHB21A220B	CAP , TANTAL B2 SIZE		1
C308	HCSHB21A220B	CAP , TANTAL B2 SIZE		1
C310	HCUS1H102KC	CAP , CHIP		1
C311	HCUS1H560JA	CAP , CHIP		1
C312	HCUS1H102KC	CAP , CHIP		1
C313	HCUS1H102KC	CAP , CHIP		1

DVD27/230 MAIN + FRONT PCB ASS'Y

Ref#	Part Number	Description 1	Description 2	Qty
C336	HCUS1H682KB	CAP, CERAMIC, 1608 (PHILIPS)	06032R682K9B20D	1
C337	HCUS1H223KC	CAP , CHIP		1
C338	HCUS1H221JA	CAP , CHIP		1
C339	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C346	HCUS1H7R0DT	CAP, CHIP 1608		1
C380	HCUS1H150JA	CAP CHIP	1608 SIZE	1
C401	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C402	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C403	HCUS1H102KC	CAP , CHIP		1
C405	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C406	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C408	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C429	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C430	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
C431	HCUS1H221JA	CAP , CHIP		1
C432	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C511	HCUS1H151JA	CAP , CHIP , 150PF JA	1608 SIZE	1
C531	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C533	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C552	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C553	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C555	HCUS1H150JA	CAP CHIP	1608 SIZE	1
C556	HCUS1H150JA	CAP CHIP	1608 SIZE	1
C581	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C593	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C594	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C602	HCQI1H332JZT	CAP , MYLAR	3300PF 50V J	1
C605	HCQI1H332JZT	CAP , MYLAR	3300PF 50V J	1
C607	HCQI1H332JZT	CAP , MYLAR	3300PF 50V J	1
C608	HCQI1H332JZT	CAP , MYLAR	3300PF 50V J	1
C609	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C621	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C624	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C636	HCUS1H561JA	CAP , CHIP		1
C637	HCUS1H561JA	CAP , CHIP		1
C638	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C640	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C646	HCUS1H561JA	CAP , CHIP		1
C647	HCUS1H561JA	CAP , CHIP		1
C663	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C809	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C810	HCUS1H510JA	CAP , CHIP , 51PF JA	1608 SIZE	1
C812	HCUS1H101JA	CAP , CHIP		1
C817	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C819	HCUS1H101JA	CAP , CHIP		1
C820	HCUS1H101JA	CAP , CHIP		1
C822	HCUS1H510JA	CAP , CHIP , 51PF JA	1608 SIZE	1
C823	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C828	HCUS1H220JA	CAP , CHIP		1
C830	HCUS1H150JA	CAP CHIP	1608 SIZE	1
C831	HCUS1H150JA	CAP CHIP	1608 SIZE	1
C832	HCSHB21A220B	CAP , TANTAL B2 SIZE		1
C834	HCUS1E104ZF	CAP , CHIP , 0.1UF ZF	1608 SIZE	1
C881	HCUS1H150JA	CAP CHIP	1608 SIZE	1
D101	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11	1
D102	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11	1
D501	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11	1
D502	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11	1
D511	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11	1
D601	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11	1
D602	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11	1
D603	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11	1
D612	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11	1
D613	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11	1
IC10	HVIZR36778	IC,MPEG (ZORAN)		1
IC11	HVILM1117S-3V3	I.C , REGULATOR (3.3V)	1117S-3.3V	1
IC12	HVILM1117S-1V8	I.C , REGULATOR (1.8V)	LM1117-1V8	1
IC15	HVIAT24C08N10SC	I.C EEPROM Basic settings	AT24C08N10SC2.7	1
IC20	HVITL3472IDR	IC,OP AMP 8-SOIC (TI)		1
IC21	HVIM29W160ET70N	IC,16M FLASH (ST) firmware	M29W160ET-70N6	1
IC22	HVIM12L64164A7T	IC, 64M SDRAM (4X16)		1
IC23	HVIAM5888SLF	IC,Motor Driver(AMtek,Pb free)	AM5888S L/F	1

DVD27/230 MAIN + FRONT PCB ASS'Y

Ref#	Part Number	Description 1	Description 2	Qty
IC24	HVIZR36707	IC,RF (ZORAN)		1
IC41	BVIBH7862FS	IC , 6CH VIDEO DRIVER	ROHM (BH7862FS)	1
IC42	HVIBA7660FS	IC , R.G.B DRIVER	BA7660FS	1
IC43	HVICS4392KZZ	I.C , DAC		1
IC45	HVIST72F324K2	IC,FLASH (ST) front mcu		1
IC47	HVITC74HCT7007F	I.C	TC74HC7007AFEL	1
IC51	HVILM1117S-5.0	IC REGULATOR/SOT-223		1
IC52	HVINJM2068MDTE1	I.C , OP AMP	NJM2068MD-TE1	1
IC60	HVIPT6315LQ	I.C VFD DRIVER	PT6315	1
L101	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L102	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L103	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L104	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L105	HLQ06E100KRZ	INDUCTOR , CHIP	3225 SIZE	1
L106	HLQ06E100KRZ	INDUCTOR , CHIP	3225 SIZE	1
L107	HLQ06E100KRZ	INDUCTOR , CHIP	3225 SIZE	1
L109	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L110	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L111	HLZ9R006Z	BEAD , CHIP		1
L112	HLZ9R006Z	BEAD , CHIP		1
L113	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L114	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L115	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L116	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L117	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L120	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L121	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L518	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L519	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L520	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L522	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L523	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L611	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L612	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L613	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L801	HLQ08ER68KRZ	CHIP FERRITE INDUCTOR	2012-R68UH	1
L802	HLQ08E1R8KRZ	CHIP , COIL (1.8UH)	2012	1
L803	HLQ08E1R8KRZ	CHIP , COIL (1.8UH)	2012	1
L804	HLQ09E8R2KRZ	CHIP , COIL		1
L805	HLQ08ER68KRZ	CHIP FERRITE INDUCTOR	2012-R68UH	1
L806	HLQ08ER39KRZ	CHIP FERRITE INDUCTOR	2012-R39UH	1
L807	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	1
L809	HLQ09E8R2KRZ	CHIP , COIL		1
L884	HLQ08E1R8KRZ	CHIP , COIL (1.8UH)	2012	1
Q105	HVTKTA1664YP	tr		1
Q106	HVTKTA1664YP	tr		1
Q108	HVT2N3904SP	TR, CHIP (KEC)	2N3904S-RTK/PS	1
Q109	HVT2N3904SP	TR, CHIP (KEC)	2N3904S-RTK/PS	1
Q110	HVT2N3904SP	TR, CHIP (KEC)	2N3904S-RTK/PS	1
Q315	HVTKRC107S	TR , CHIP		1
Q316	HVTKTA1504SYRTK	T.R , CHIP	KTA1504S Y RTK	1
Q404	HVT2N3904SP	TR, CHIP (KEC)	2N3904S-RTK/PS	1
Q405	HVTKRC107S	TR , CHIP		1
Q406	HVTKTA1504SYRTK	T.R , CHIP	KTA1504S Y RTK	1
Q407	HVTKRC107S	TR , CHIP		1
Q408	HVTKRA107ST	T.R , CHIP	KRA107S	1
Q501	HVTKTA1504SYRTK	T.R , CHIP	KTA1504S Y RTK	1
Q502	HVTKTC3875SYRTK	T.R , CHIP	KTC3875S Y RTK	1
Q604	HVTKRA107ST	T.R , CHIP	KRA107S	1
Q606	HVTKRA107ST	T.R , CHIP	KRA107S	1
Q607	HVTKRA107ST	T.R , CHIP	KRA107S	1
Q608	HVTKRC107S	TR , CHIP		1
Q610	HVTKRA107ST	T.R , CHIP	KRA107S	1
Q613	HVTKTD1304T	T.R , CHIP (MUTE)	KTD1304	1
Q614	HVTKTD1304T	T.R , CHIP (MUTE)	KTD1304	1
Q615	HVTKRA107ST	T.R , CHIP	KRA107S	1
Q616	HVTKRC107S	TR , CHIP		1
Q801	HVTKRC107S	TR , CHIP		1
Q802	HVTKRC107S	TR , CHIP		1
Q803	HVTKTA1504SYRTK	T.R , CHIP	KTA1504S Y RTK	1
Q804	HVTKTA1504SYRTK	T.R , CHIP	KTA1504S Y RTK	1
Q805	HVTKTD1304T	T.R , CHIP (MUTE)	KTD1304	1

DVD27/230 MAIN + FRONT PCB ASS'Y

Ref#	Part Number	Description 1	Description 2	Qty
Q806	HVTKRA107ST	T.R , CHIP	KRA107S	1
Q821	HVTKTA1504SYRTK	T.R , CHIP	KTA1504S Y RTK	1
R100	CRJ10DJ472T	RES , CHIP	1608 SIZE	1
R101	CRJ10DF4700T	RES, CHIP 470 OHM/1608/1%		1
R102	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R103	CRJ10DJ330T	RES , CHIP	1608 SIZE	1
R104	CRJ10DJ330T	RES , CHIP	1608 SIZE	1
R106	CRJ10DJ101T	RES , CHIP	1608 SIZE	1
R112	CRJ10DJ202T	RES , CHIP		1
R113	CRJ10DJ202T	RES , CHIP		1
R114	CRJ10DJ121T	RES , CHIP	1608 SIZE	1
R115	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R116	CRJ10DJ121T	RES , CHIP	1608 SIZE	1
R117	CRJ10DJ121T	RES , CHIP	1608 SIZE	1
R118	CRJ10DJ103T	RES , CHIP	1608 SIZE	1
R123	CRJ10DJ101T	RES , CHIP	1608 SIZE	1
R124	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R125	CRJ10DJ113T	RES, CHIP	1608 SIZE	1
R128	CRJ10DJ121T	RES , CHIP	1608 SIZE	1
R133	CRJ10DF3920T	RES. CHIP (392R 1%)	1608 SIZE	1
R134	CRJ10DJ103T	RES , CHIP	1608 SIZE	1
R135	CRJ10DJ100T	RES , CHIP	1608 SIZE	1
R136	CRJ10DJ221T	RES , CHIP	1608 SIZE	1
R137	CRJ10DJ221T	RES , CHIP	1608 SIZE	1
R138	CRJ10DJ100T	RES , CHIP	1608 SIZE	1
R139	CRJ10DJ472T	RES , CHIP	1608 SIZE	1
R140	CRJ10DJ133T	RES , CHIP		1
R145	CRJ10DJ151T	RES, CHIP	1608 SIZE	1
R146	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R147	CRJ10DJ104T	RES , CHIP	1608 SIZE	1
R148	CRJ10DJ151T	RES, CHIP	1608 SIZE	1
R152	CRJ10DJ101T	RES , CHIP	1608 SIZE	1
R153	CRJ10DJ101T	RES , CHIP	1608 SIZE	1
R154	CRJ10DJ101T	RES , CHIP	1608 SIZE	1
R155	CRJ10DJ101T	RES , CHIP	1608 SIZE	1
R157	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R159	CRJ10DJ472T	RES , CHIP	1608 SIZE	1
R160	CRJ10DJ330T	RES , CHIP	1608 SIZE	1
R162	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
R163	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
R164	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
R165	CRJ10DJ330T	RES , CHIP	1608 SIZE	1
R166	CRJ10DJ330T	RES , CHIP	1608 SIZE	1
R167	CRJ10DJ330T	RES , CHIP	1608 SIZE	1
R168	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
R169	CRJ10DJ750T	RES , CHIP	1608 SIZE	1
R170	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
R171	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
R172	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
R173	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
R174	CRJ10DJ472T	RES , CHIP	1608 SIZE	1
R175	CRJ10DJ912T	RES,CHIP(1/10W) 9.1K OHM J	9.1K OHM/1608	1
R176	CRJ10DJ132T	RES , CHIP	1608 SIZE	1
R177	CRJ10DJ132T	RES , CHIP	1608 SIZE	1
R178	CRJ10DJ272T	RES , CHIP		1
R180	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R181	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R182	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R183	CRJ10DF1202T	RES, CHIP 1%		1
R184	CRJ10DJ471T	RES , CHIP	1608 SIZE	1
R185	CRJ10DJ332T	RES , CHIP	1608 SIZE	1
R186	CRJ10DJ332T	RES , CHIP	1608 SIZE	1
R187	CRJ10DJ332T	RES , CHIP	1608 SIZE	1
R188	CRJ10DJ113T	RES, CHIP	1608 SIZE	1
R189	CRJ10DJ105T	RES , CHIP	1608 SIZE	1
R190	CRJ10DJ223T	RES , CHIP	1608 SIZE	1
R191	CRJ10DJ223T	RES , CHIP	1608 SIZE	1
R192	CRJ10DJ103T	RES , CHIP	1608 SIZE	1
R193	CRJ10DJ332T	RES , CHIP	1608 SIZE	1
R195	CRJ10DJ101T	RES , CHIP	1608 SIZE	1
R201	CRJ10DJ472T	RES , CHIP	1608 SIZE	1
R202	CRJ10DJ622T	RES , CHIP		1

DVD27/230 MAIN + FRONT PCB ASS'Y

Ref#	Part Number	Description 1	Description 2	Qty
R203	CRJ10DJ562T	RES , CHIP	1608 SIZE	1
R204	CRJ10DJ562T	RES , CHIP	1608 SIZE	1
R205	CRJ10DJ562T	RES , CHIP	1608 SIZE	1
R206	CRJ10DJ103T	RES , CHIP	1608 SIZE	1
R207	CRJ10DF4700T	RES, CHIP 470 OHM/1608/1%		1
R209	CRJ10DF1002T	RES , CHIP	10K /1/10W/F	1
R210	CRJ10DF1002T	RES , CHIP	10K /1/10W/F	1
R211	CRJ10DF1002T	RES , CHIP	10K /1/10W/F	1
R219	CRJ10DJ273T	RES , CHIP		1
R220	CRJ10DJ562T	RES , CHIP	1608 SIZE	1
R221	CRJ10DJ562T	RES , CHIP	1608 SIZE	1
R222	CRJ10DJ562T	RES , CHIP	1608 SIZE	1
R230	CRJ10DJ472T	RES , CHIP	1608 SIZE	1
R231	CRJ10DJ472T	RES , CHIP	1608 SIZE	1
R241	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%	1
R243	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%	1
R244	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%	1
R265	CRJ10DJ472T	RES , CHIP	1608 SIZE	1
R284	CRJ10DJ472T	RES , CHIP	1608 SIZE	1
R285	CRJ10DJ472T	RES , CHIP	1608 SIZE	1
R287	CRJ10DJ113T	RES, CHIP	1608 SIZE	1
R301	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R302	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R377	CRJ10DJ221T	RES , CHIP	1608 SIZE	1
R407	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R408	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R409	CRJ10DJ100T	RES , CHIP	1608 SIZE	1
R410	CRJ10DJ103T	RES , CHIP	1608 SIZE	1
R411	CRJ10DJ681T	RES, CHIP	1608 SIZE	1
R412	CRJ10DJ681T	RES, CHIP	1608 SIZE	1
R413	CRJ10DJ821T	RES, CHIP	1608 SIZE	1
R414	CRJ10DJ122T	RES , CHIP	1608 SIZE	1
R415	CRJ10DJ152T	RES , CHIP	1608 SIZE	1
R416	CRJ10DJ222T	RES , CHIP	1608 SIZE	1
R417	CRJ10DJ332T	RES , CHIP	1608 SIZE	1
R418	CRJ10DJ472T	RES , CHIP	1608 SIZE	1
R419	CRJ10DJ221T	RES , CHIP	1608 SIZE	1
R420	CRJ10DJ750T	RES , CHIP	1608 SIZE	1
R421	CRJ10DJ680T	RES , CHIP		1
R422	CRJ10DJ121T	RES , CHIP	1608 SIZE	1
R423	CRJ10DJ820T	RES , CHIP	1608 SIZE	1
R424	CRJ10DJ4R7T	RES , CHIP	1608 SIZE	1
R425	CRJ10DJ332T	RES , CHIP	1608 SIZE	1
R431	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R432	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R433	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R434	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R435	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R436	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R503	CRJ10DJ103T	RES , CHIP	1608 SIZE	1
R504	CRJ10DJ473T	RES , CHIP	1608 SIZE	1
R505	CRJ10DJ470T	RES , CHIP	1608 SIZE	1
R506	CRJ10DJ271T	RES , CHIP	1608 SIZE	1
R511	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R512	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R513	CRJ10DJ103T	RES , CHIP	1608 SIZE	1
R514	CRJ10DJ100T	RES , CHIP	1608 SIZE	1
R515	CRJ10DJ103T	RES , CHIP	1608 SIZE	1
R516	CRJ10DJ103T	RES , CHIP	1608 SIZE	1
R517	CRJ10DJ103T	RES , CHIP	1608 SIZE	1
R518	CRJ10DJ103T	RES , CHIP	1608 SIZE	1
R519	CRJ10DJ473T	RES , CHIP	1608 SIZE	1
R522	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R533	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R544	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R549	CRJ10DJ104T	RES , CHIP	1608 SIZE	1
R552	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R553	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R561	CRJ10DJ473T	RES , CHIP	1608 SIZE	1
R564	CRJ10DJ472T	RES , CHIP	1608 SIZE	1
R593	CRJ10DJ330T	RES , CHIP	1608 SIZE	1
R619	CRJ10DJ101T	RES , CHIP	1608 SIZE	1

DVD27/230 MAIN + FRONT PCB ASS'Y

Ref#	Part Number	Description 1	Description 2	Qty
R633	CRJ10DJ272T	RES , CHIP		1
R634	CRJ10DJ272T	RES , CHIP		1
R635	CRJ10DJ512T	RES , CHIP	1608 SIZE	1
R636	CRJ10DF4990T	RES, CHIP 499 OHM/1608/1%		1
R637	CRJ10DF4990T	RES, CHIP 499 OHM/1608/1%		1
R639	CRJ10DJ561T	RES , CHIP		1
R640	CRJ10DJ472T	RES , CHIP	1608 SIZE	1
R641	CRJ10DJ224T	RES , CHIP		1
R642	CRJ10DJ224T	RES , CHIP		1
R643	CRJ10DJ472T	RES , CHIP	1608 SIZE	1
R644	CRJ10DJ272T	RES , CHIP		1
R645	CRJ10DJ272T	RES , CHIP		1
R646	CRJ10DJ152T	RES , CHIP	1608 SIZE	1
R647	CRJ10DJ152T	RES , CHIP	1608 SIZE	1
R649	CRJ10DJ561T	RES , CHIP		1
R650	CRJ10DJ473T	RES , CHIP	1608 SIZE	1
R653	CRJ10DJ512T	RES , CHIP	1608 SIZE	1
R654	CRJ10DF4990T	RES, CHIP 499 OHM/1608/1%		1
R655	CRJ10DF4990T	RES, CHIP 499 OHM/1608/1%		1
R660	CRJ10DJ152T	RES , CHIP	1608 SIZE	1
R662	CRJ10DJ512T	RES , CHIP	1608 SIZE	1
R663	CRJ10DJ512T	RES , CHIP	1608 SIZE	1
R665	CRJ10DJ152T	RES , CHIP	1608 SIZE	1
R726	CRJ10DJ474T	RES, CHIP	1608 SIZE	1
R727	CRJ10DJ221T	RES , CHIP	1608 SIZE	1
R728	CRJ10DJ223T	RES , CHIP	1608 SIZE	1
R729	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R730	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R733	CRJ10DJ222T	RES , CHIP	1608 SIZE	1
R734	CRJ10DJ222T	RES , CHIP	1608 SIZE	1
R739	CRJ10DJ224T	RES , CHIP		1
R740	CRJ10DJ224T	RES , CHIP		1
R801	CRJ10DJ820T	RES , CHIP	1608 SIZE	1
R802	CRJ10DJ820T	RES , CHIP	1608 SIZE	1
R803	CRJ10DJ820T	RES , CHIP	1608 SIZE	1
R804	CRJ10DJ823T	RES , CHIP		1
R806	CRJ10DJ680T	RES , CHIP		1
R807	CRJ10DJ680T	RES , CHIP		1
R808	CRJ10DJ680T	RES , CHIP		1
R809	CRJ10DJ680T	RES , CHIP		1
R810	CRJ10DJ471T	RES , CHIP	1608 SIZE	1
R811	CRJ10DJ471T	RES , CHIP	1608 SIZE	1
R812	CRJ10DJ102T	RES , CHIP	1608 SIZE	1
R813	CRJ10DJ821T	RES, CHIP	1608 SIZE	1
R814	CRJ10DJ750T	RES , CHIP	1608 SIZE	1
R815	CRJ10DJ181T	RES , CHIP	1608 SIZE	1
R816	CRJ10DJ390T	RES, CHIP	1608 SIZE	1
R817	CRJ10DJ750T	RES , CHIP	1608 SIZE	1
R818	CRJ10DJ750T	RES , CHIP	1608 SIZE	1
R821	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R823	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	1
R824	CRJ10DJ680T	RES , CHIP		1
R825	CRJ10DJ101T	RES , CHIP	1608 SIZE	1
R826	CRJ10DJ222T	RES , CHIP	1608 SIZE	1
R827	CRJ10DJ221T	RES , CHIP	1608 SIZE	1
R828	CRJ18AJ221T	RES , CHIP		1
R829	CRJ10DJ104T	RES , CHIP	1608 SIZE	1
R830	CRJ10DJ390T	RES, CHIP	1608 SIZE	1
R831	CRJ10DJ620T	RES , CHIP		1
R832	CRJ10DJ102T	RES , CHIP	1608 SIZE	1
R878	CRJ10DJ104T	RES , CHIP	1608 SIZE	1
R879	CRJ10DJ101T	RES , CHIP	1608 SIZE	1
R880	CRJ10DJ221T	RES , CHIP	1608 SIZE	1
R895	CRJ10DJ221T	RES , CHIP	1608 SIZE	1
R896	CRJ10DJ620T	RES , CHIP		1
X101	HOX27000E180S	CRYSTAL , CHIP(27MHZ,SMD)	HC-49/US	1
C105	CCEA1CH470T	CAP , ELECT	47UF 16V	1
C116	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C118	CCEA1AH471T	CAP , ELECT	470UF 10V	1
C119	CCEA1AH471T	CAP , ELECT	470UF 10V	1
C121	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C137	CCEA1CH470T	CAP , ELECT	47UF 16V	1

DVD27/230 MAIN + FRONT PCB ASS'Y

Ref#	Part Number	Description 1	Description 2	Qty
C155	CCEA1CH470T	CAP , ELECT	47UF 16V	1
C177	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C182	CCEA1CH470T	CAP , ELECT	47UF 16V	1
C184	CCEA1CH470T	CAP , ELECT	47UF 16V	1
C202	CCEA1CH470T	CAP , ELECT	47UF 16V	1
C203	CCEA1CH470T	CAP , ELECT	47UF 16V	1
C206	CCEA1CH470T	CAP , ELECT	47UF 16V	1
C213	CCEA1CH221T	CAP , ELECT		1
C219	CCEA1CH470T	CAP , ELECT	47UF 16V	1
C221	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C223	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C224	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C226	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C233	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C241	CCEA1CH470T	CAP , ELECT	47UF 16V	1
C251	CCEA1CH470T	CAP , ELECT	47UF 16V	1
C258	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	1
C301	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C302	CCEA1CH221T	CAP , ELECT		1
C404	CCEA1CKS470T	CAP , ELECT	47UF/16V	1
C433	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C504	CCEA1EH221T	CAP , ELECT	220UF 25V	1
C508	CCEA1EH221T	CAP , ELECT	220UF 25V	1
C510	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	1
C530	CCEA1CH221T	CAP , ELECT		1
C532	CCEA1CH221T	CAP , ELECT		1
C548	CCEA1CH221T	CAP , ELECT		1
C549	CCEA1CH221T	CAP , ELECT		1
C561	CCEA1CH100T	CAP , ELECT		1
C562	CCEA1HH1R0T	CAP , ELECT		1
C582	CCEA1CH470T	CAP , ELECT	47UF 16V	1
C620	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C623	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C648	CCEA1HH100T	CAP , ELECT		1
C649	CCEA1HH100T	CAP , ELECT		1
C650	CCEA1HH100T	CAP , ELECT		1
C651	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C652	CCEA1HH100T	CAP , ELECT		1
C667	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C668	CCEA1CH100T	CAP , ELECT		1
C669	CCEA1HH100T	CAP , ELECT		1
C674	CCEA1CH100T	CAP , ELECT		1
C675	CCEA1CH100T	CAP , ELECT		1
C733	CCEA1HH3R3T	CAP , ELECT		1
C795	CCEA1CH221T	CAP , ELECT		1
C801	CCEA1AH331T	CAP , ELECT		1
C802	CCEA1AH331T	CAP , ELECT		1
C803	CCEA1CH220T	CAP , ELECT		1
C804	CCEA1CH101T	CAP , ELECT	100UF 16V	1
C805	CCEA0JH102T	CAP , ELECT	1000UF 6.3V	1
C811	CCEA1AH331T	CAP , ELECT		1
C813	CCEA1AH331T	CAP , ELECT		1
C815	CCEA1AH331T	CAP , ELECT		1
C818	CCEA1AH331T	CAP , ELECT		1
C825	CCEA1HH100T	CAP , ELECT		1
C826	CCEA1CH470T	CAP , ELECT	47UF 16V	1
C827	CCEA1CH470T	CAP , ELECT	47UF 16V	1
C829	CCEA1AH471T	CAP , ELECT	470UF 10V	1
C835	CCEA1CH221T	CAP , ELECT		1
C882	CCEA1AH471T	CAP , ELECT	470UF 10V	1
C891	CCEA1AH471T	CAP , ELECT	470UF 10V	1
IC50	HVIKA79L08AZT	REGULATOR, -8V	KA79LXXAZTA	1
Q605	HVTKSA916YT	T.R		1
S401	HST1A020ZT	SW , TACT		1
S402	HST1A020ZT	SW , TACT		1
S403	HST1A020ZT	SW , TACT		1
S404	HST1A020ZT	SW , TACT		1
S405	HST1A020ZT	SW , TACT		1
S406	HST1A020ZT	SW , TACT		1
S407	HST1A020ZT	SW , TACT		1
S408	HST1A020ZT	SW , TACT		1
BN01	CWB1C912060EN	WIRE ASS'Y		1

DVD27/230 MAIN + FRONT PCB ASS'Y

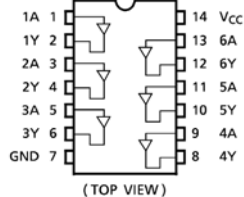
Ref#	Part Number	Description 1	Description 2	Qty
BN07	CWB1A906190EN	WIRE ASS'Y		1
CN03	CJP07GA01ZY	WAFER, STRAIGHT, 7PIN		1
CN04	CJP15GA117ZY	WAFER , CARD CABLE		1
CN05	CJP15GB113ZY	WAFER		1
CN07	CJP06GA19ZY	WAFER, STRAIGHT, 6PIN		1
CN12	CJP05GA19ZY	WAFER, STRAIGHT, 5PIN		1
CN13	CJP06GA19ZY	WAFER, STRAIGHT, 6PIN		1
D103	KVD1N4003ST	DIODE	1N4003	1
D104	KVD1N4003ST	DIODE	1N4003	1
D105	KVD1N4003ST	DIODE	1N4003	1
D106	KVD1N4003ST	DIODE	1N4003	1
D112	HVDMTZJ30BT	DIODE , ZENER		1
D401	CVD50BOBBWGA	L.E.D , 2 COLOR (ORG , BLUE)	TOL-50BOBBWGA	1
ET02	CMC1A111	PLATE , EARTH		1
F401	HFL11BT242GNK	F.I.P	11-BT-242GNK (F	1
IC46	BVIKP1010B	IC, PHOTO COUPLER		1
IC49	HVIKIA7808API	REGULATOR, +8V	KIA7808 (KEC)	1
IC61	HRVKSM603TH2	REMOCON SENSER CN	KSM-603TH2	1
JK02	CJJ4N067Z	2P, JACK	RCA-201DAG-01	1
JK03	CJJ4S043Z	JACK , BOARD		1
JK04	CJJ9N003Z	JACK , (S-VIDEO+VHS)		1
JK05	CJJ6K003Z	JACK, SCART	CS-1071PB	1
JK06	HJS9U008Z	Optical+Coaxial Jack (Gold Plate)	YKC22-0732N	1
JK08	HJJ1D002Z	JACK, HOSIDEN	SR7400	1
R673	CRD25TJ681T	RES , CARBON		1
X501	HOX08000E160C	CRYSTAL		1

TROUBLESHOOTING GUIDE

TROUBLESHOOTING GUIDE

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Unit does not turn on	No AC power	Check AC power plug and make certain any switched outlet is turned on.
Disc does not play	- Disc loaded improperly - Incorrect disc type - Invalid Region Code - Rating is above parental preset	- Load disc label-side up; align the disc with the guides and place it in its proper position. - Check to see that disc is CD, CD-R, CD-RW, VCD, MP3, WMA, JPEG, DVD-R, DVD-RW, DVD+R, DVD+RW (standard conforming) or DVD-Video; other types will not play. - Use Region 1 or Open Region (0) disc only. - Enter password to override or change rating settings (see page 18).
No picture	- Intermittent connections - Wrong input - Progressive Scan output selected - Video Off feature active	- Check all video connections. - Check input selection of TV or receiver. - Use Progressive Scan mode only with compatible TV. If needed, press the Progressive Scan/Interlaced Button 18 to toggle to the correct mode. - Press Video Off Button 16 to reactivate video circuitry (see page 20).
No sound	- Intermittent connections - Incorrect digital audio selection - DVD disc is in fast or slow mode - Surround receiver not compatible with 96kHz PCM audio	- Check all audio connections. - Check digital audio settings. - There is no audio playback on DVD discs during fast or slow modes. - Use analog audio outputs.
Picture is distorted or jumps during fast forward or reverse play	MPEG-2 decoding	It is a normal artifact of DVD playback for pictures to jump or show some distortion during rapid play.
Some remote buttons do not operate during DVD play; prohibited symbol  appears (see below)	Function not permitted at this time	With most discs, some functions are not permitted at certain times (e.g., Track Skip) or at all (e.g., direct audio track selection).
The OSD menu is in a foreign language	Incorrect OSD language	Change the display language selection (see page 18).
The  symbol appears	Requested function not available at this time	Certain functions may be disabled by the DVD itself during passages of a disc.
Picture is displayed in the wrong aspect ratio	Incorrect match of aspect ratio settings to disc	Change aspect ratio settings (see page 19).
Remote control inoperative	- Weak batteries - Sensor is blocked	- Change both batteries. - Clear path to sensor or use optional outboard remote sensor.
Disc will not copy to VCR	Copy protection	Many DVDs are encoded with copy protection to prevent copying to VCR.
Password not accepted.	Incorrect password being used or password has been forgotten.	Stop play of disc. Press and hold the Clear Button 4 until the display blinks. This resets the password and all settings to their defaults.

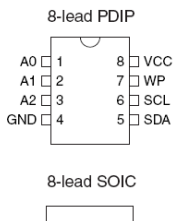
IC47 TC74HCT7007



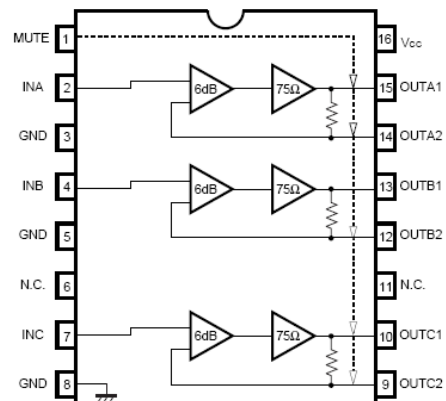
IC 15 AT2408A

Table 1. Pin Configurations

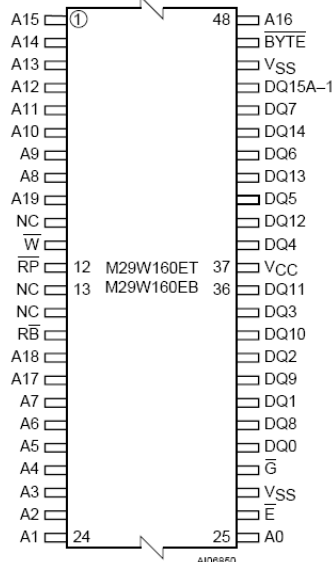
Pin Name	Function
A0 – A2	Address Inputs
SDA	Serial Data
SCL	Serial Clock Input
WP	Write Protect
NC	No Connect



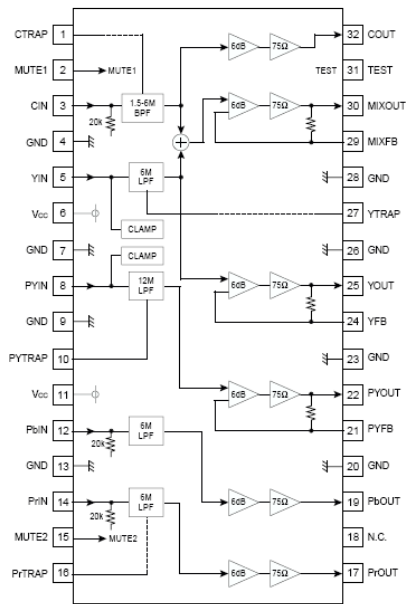
IC 42 BA7660FS



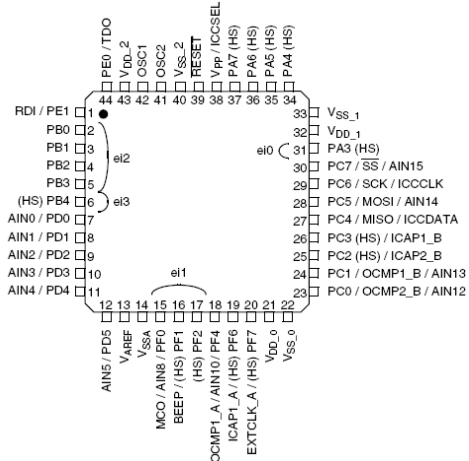
IC 21 M29W160ET



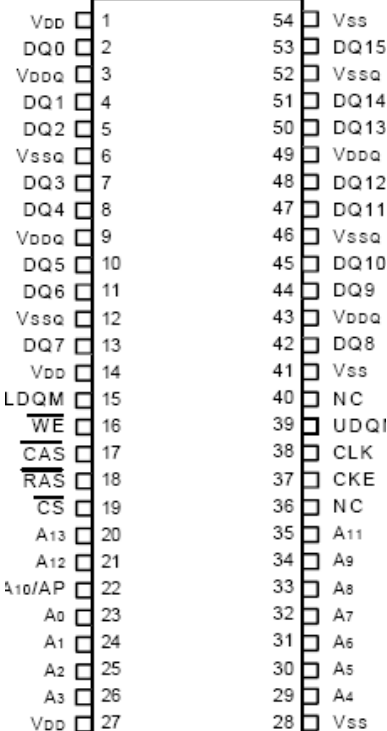
IC 41 BH7862FS



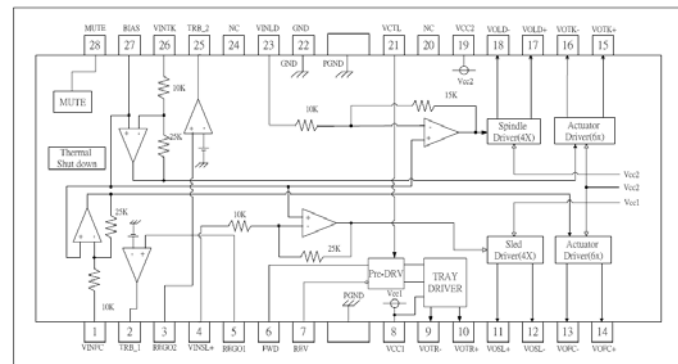
IC 45 ST72F324KR



IC22 ML12L64164A-7T

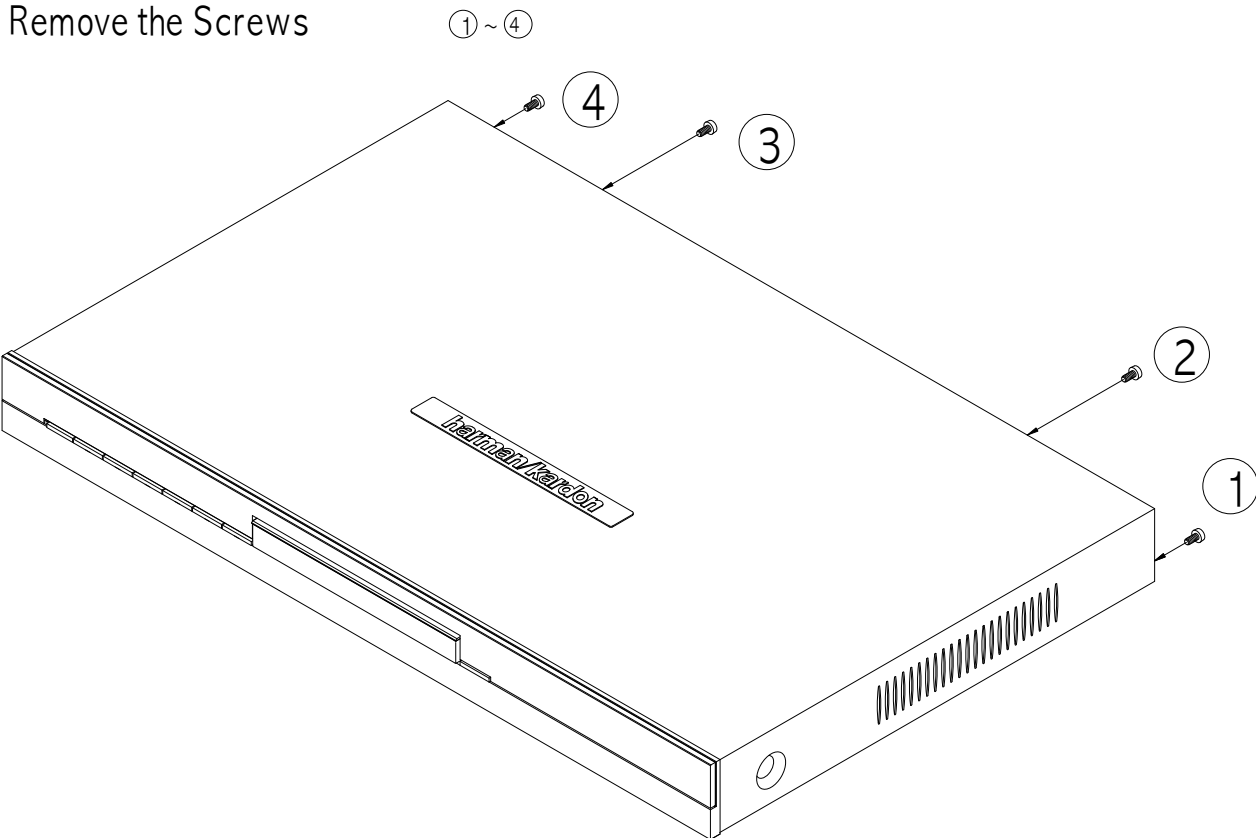


IC 23 AM5888S

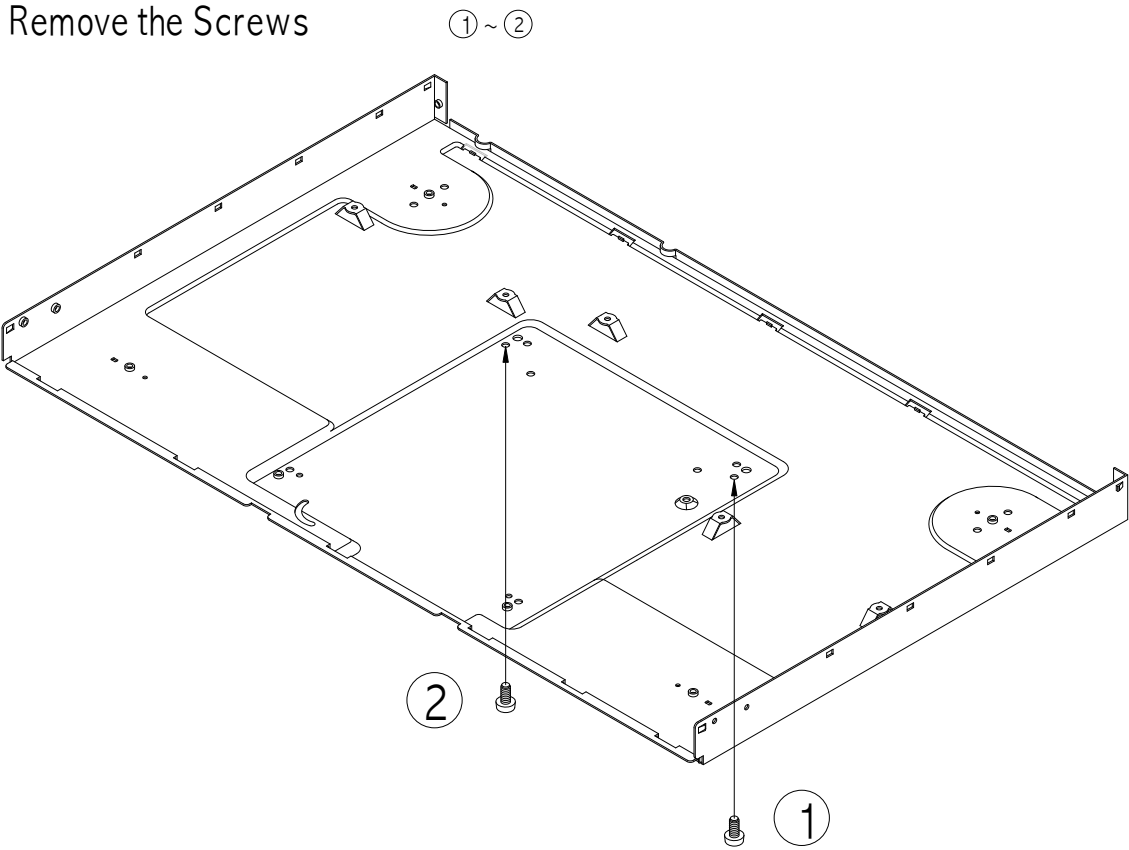


IC PIN OUT

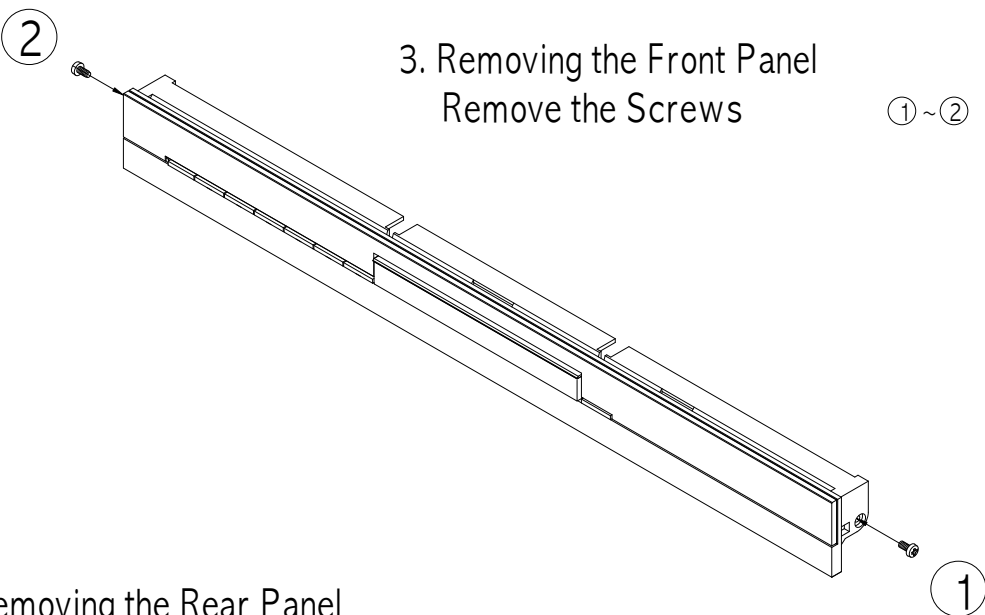
1. Removing the Top Cabinet
Remove the Screws



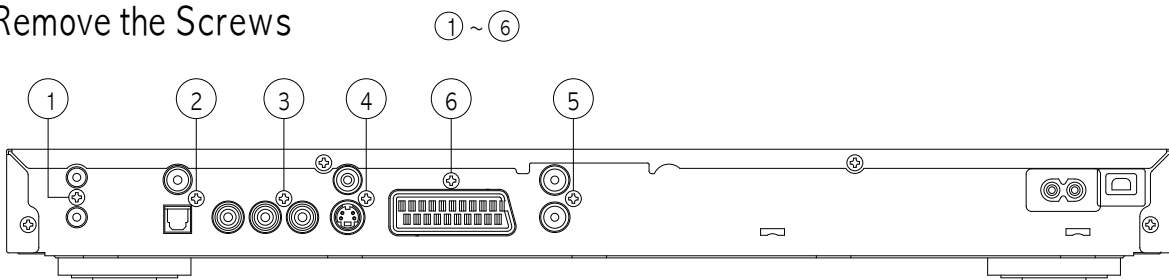
2. Removing the Bottom Chassis
Remove the Screws



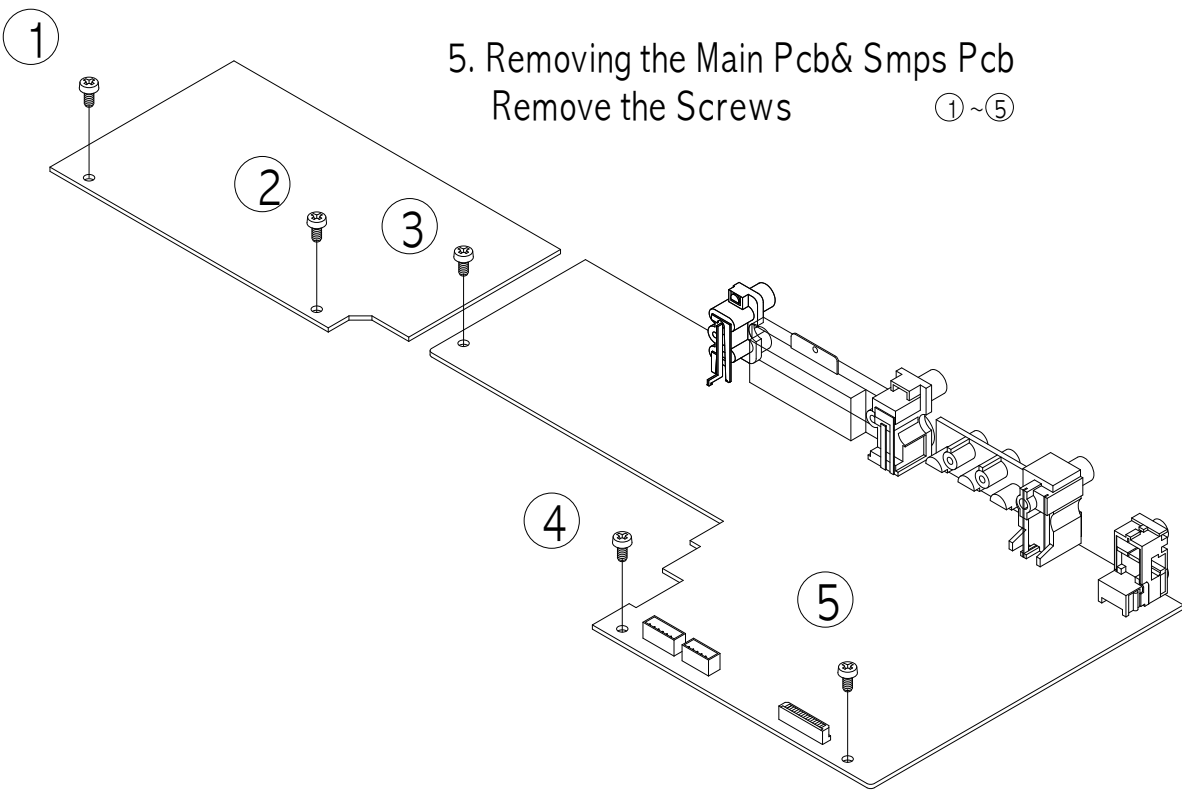
3. Removing the Front Panel
Remove the Screws



4. Removing the Rear Panel
Remove the Screws



5. Removing the Main Pcb & Smpps Pcb
Remove the Screws



6

5

4

3

2

1

PIN DISCIPTION

CN92<--->BN01

1	VF(-)
2	VF(+)
3	PWR_CTL
4	Vp
5	U+5V
6	-12V
7	GND
8	GND
9	+12V
10	VCC(+5V)
11	GND
12	GND

CN11

1	F-
2	F+
3	T+
4	T-
5	C
6	D
7	CD-DVD/SW
8	RF
9	A
10	B
11	F
12	GND/PD
13	VC(VREF)
14	VCC
15	E

CN04<--->CN05

1	+3.3V CTL
2	VFD_CLK
3	VFD_DATA
4	VFD_STB
5	Vx(-27V)
6	Vf+
7	Vf-
8	KEY#1
9	KEY#2
10	U+5V
11	STRANBY LED
12	VCCSW
13	REMOTE OUT
14	GND
15	GND

CN12

1	LOAD-
2	LOAD+
3	IN SW
4	GND
5	OUT SW

CN03

1	U+5V
2	GND
3	DATA
4	CLK
5	SE/VPP
6	RST
7	OSC1

CN13

1	SPDL-
2	SPDL+
3	GND
4	HOME SW
5	SLED-
6	SLED+

MAIN BOARD / AV Board
CUP11841-3

MECHANISM ASS'Y

M.P

200"

CN92

BN01

SMPS BOARD
CUP11840Z

CN91

AC100~230V
50/60Hz

CN11

CN13

CN12

CN04

CN03

UPDATE

CN07

BN07

CUP11841-2

FRONT BOARD-1 (KEY PARTS)

CUP11841-1

FRONT BOARD-2 (VFD PARTS)

Harman Consumer Group International

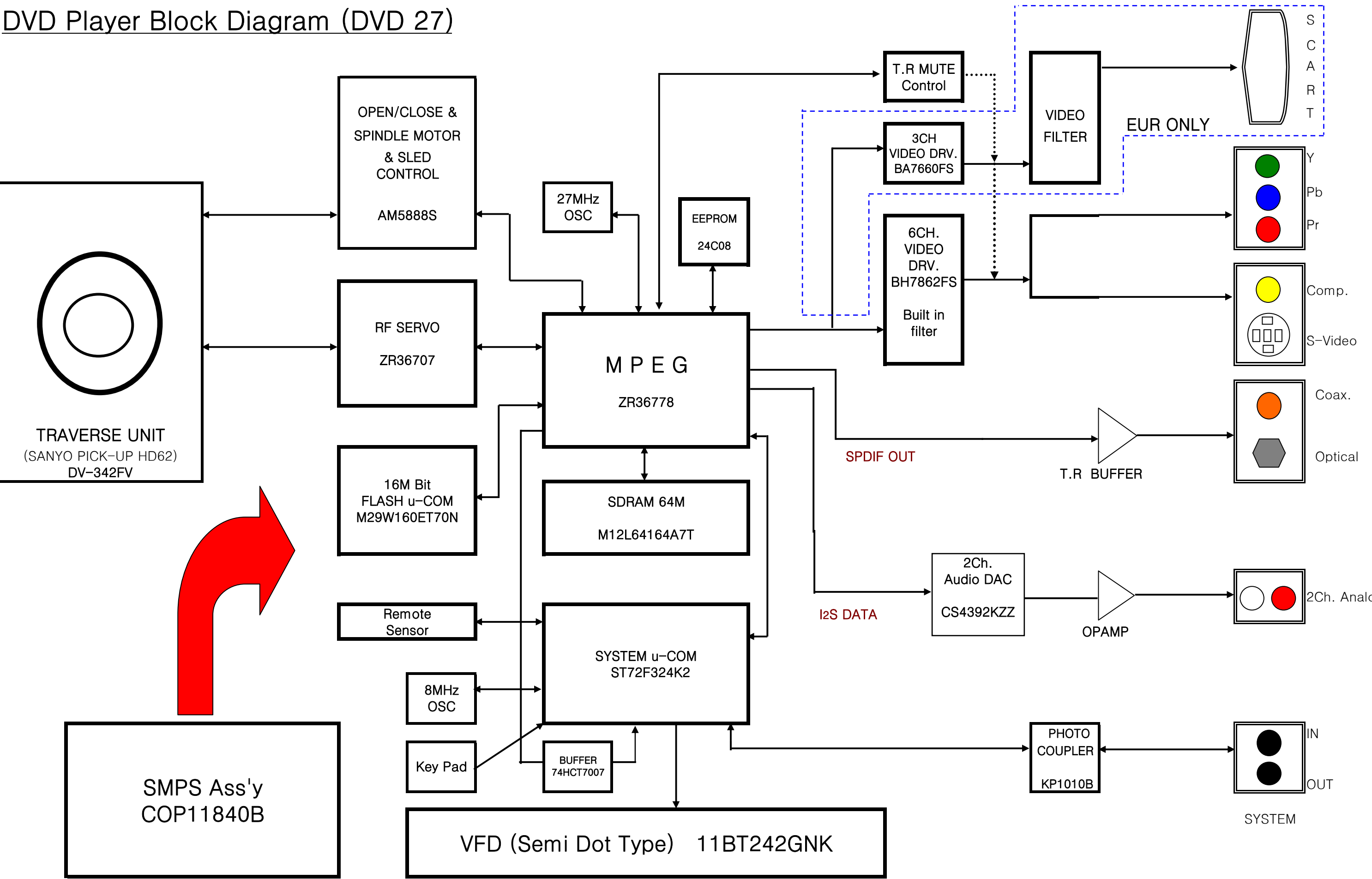
REVISION	2	4	6
1	3	5	7

WIRING DIAGRAM

SHEET A

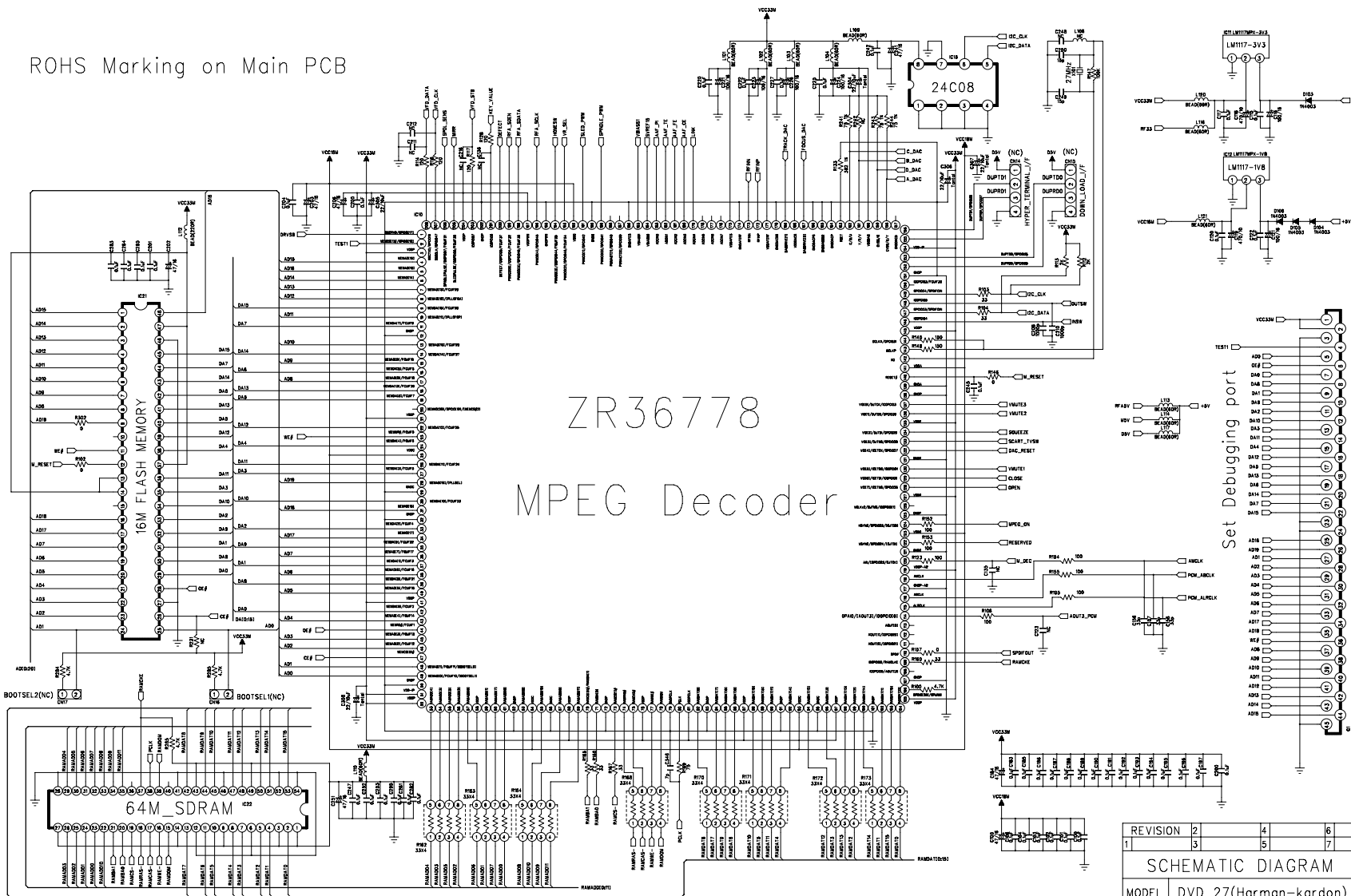
DESIGN	DVD 27		
DESIGN	CHECK	APPROVE	
S.H. LEE	J.H. PARK	H.W. LEE	
2005.11.01	2005.11.01	2005.11.01	11841WCMZ

DVD Player Block Diagram (DVD 27)

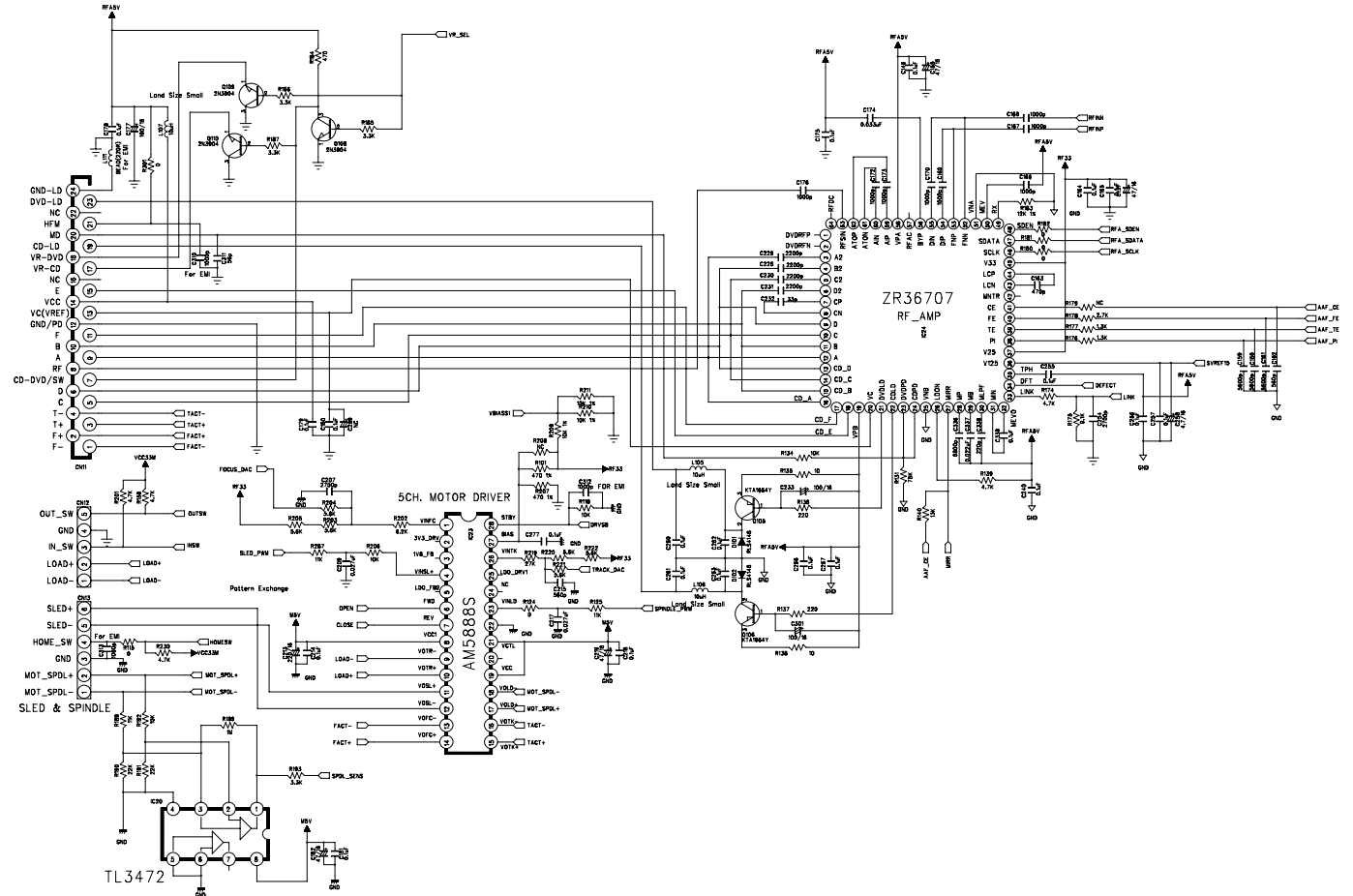


ROHS Marking on Main PCB

ZR36778
MPEG Decoder

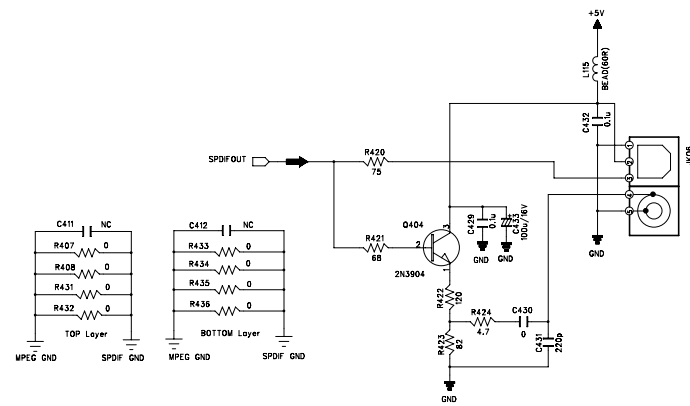


TO MECHANISM PICK-UP PART



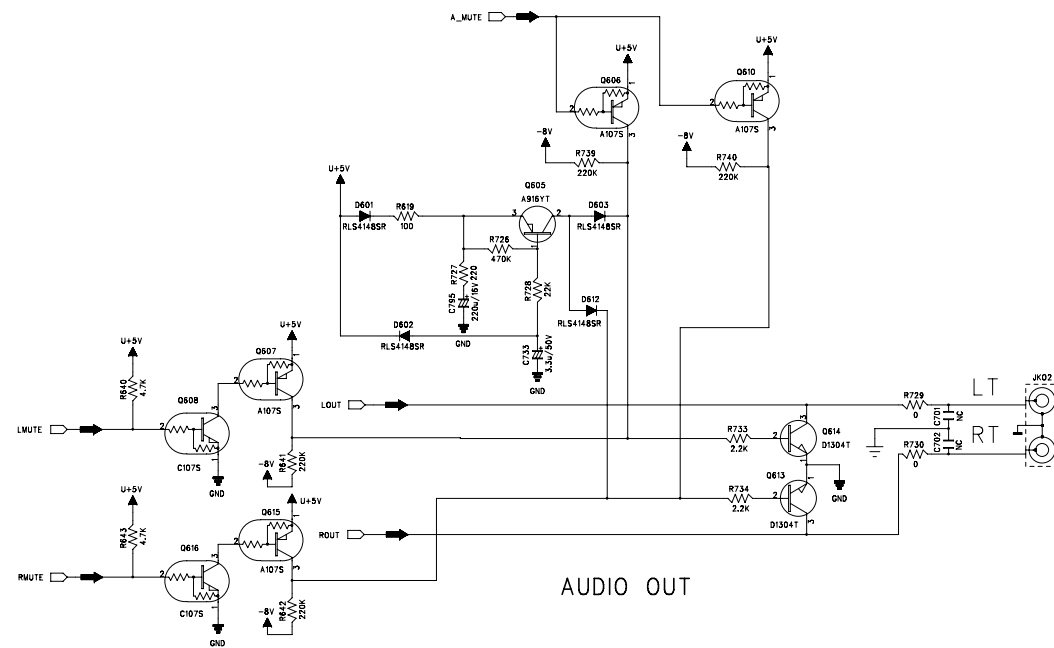
REVISION	2	4	6	
1	3	5	7	
SCHEMATIC DIAGRAM				SHEET
MODEL	DVD 27 (Harman-kardon)			2/4
DESIGN	CHECK	APPROVE	DRAWING NO	
S.H. LEE	J.H. PARK	H.W. LEE	SERVO PART	
05.7.25	05.7.25	05.7.25		

D



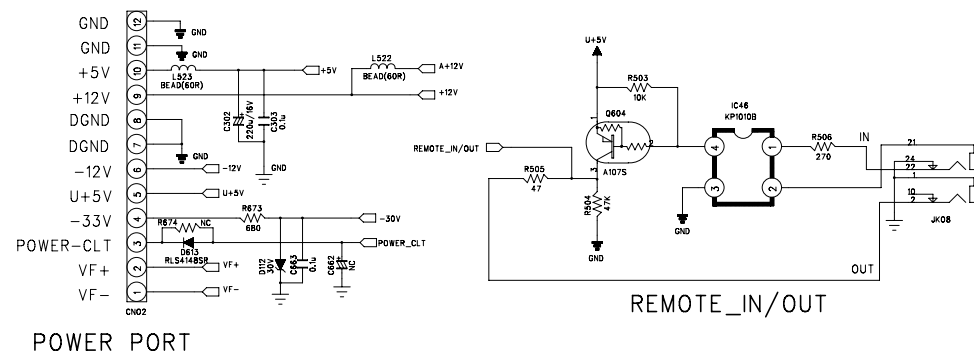
SPDIF OUT

C

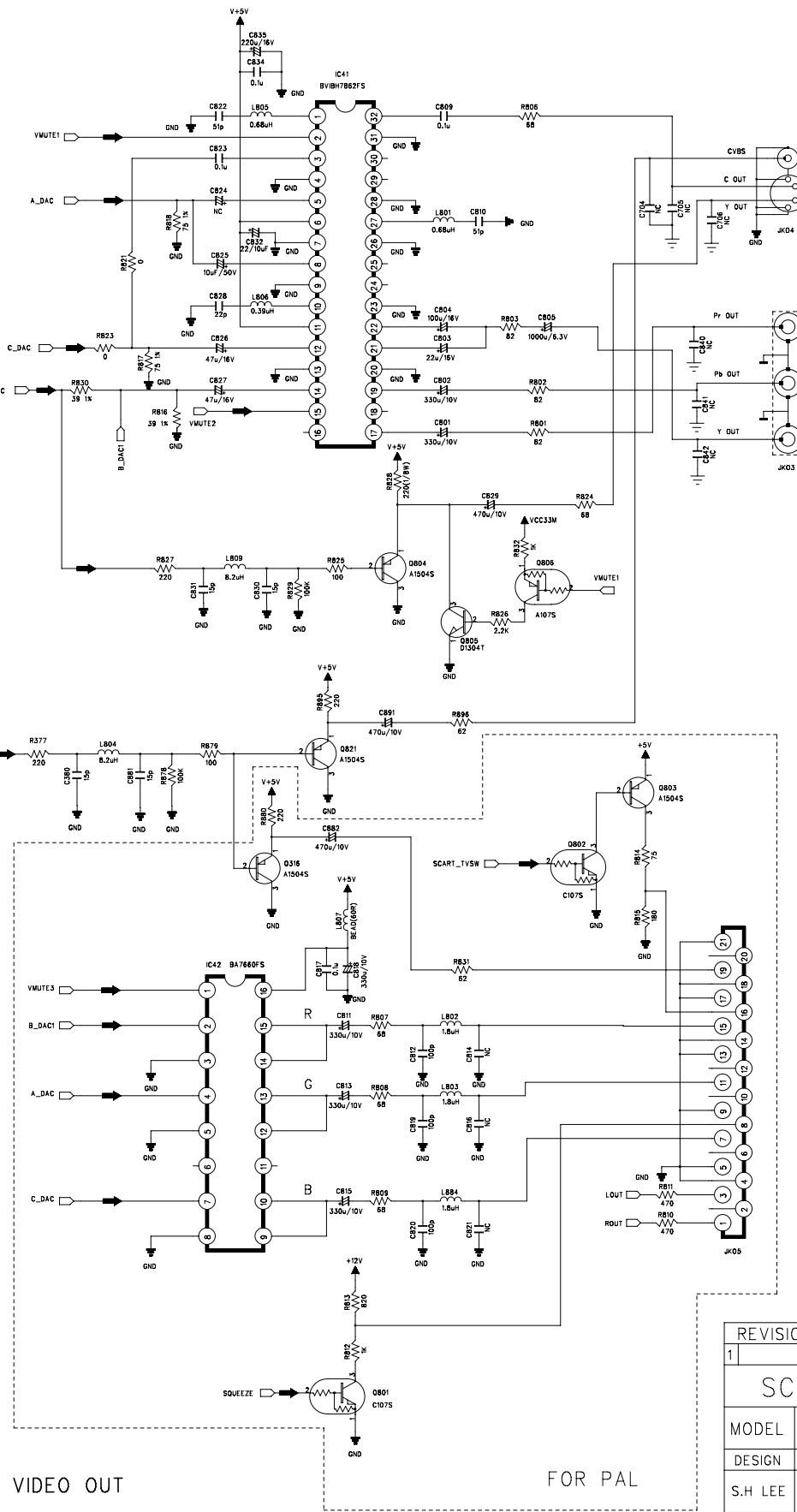


AUDIO OUT

A



POWER PORT

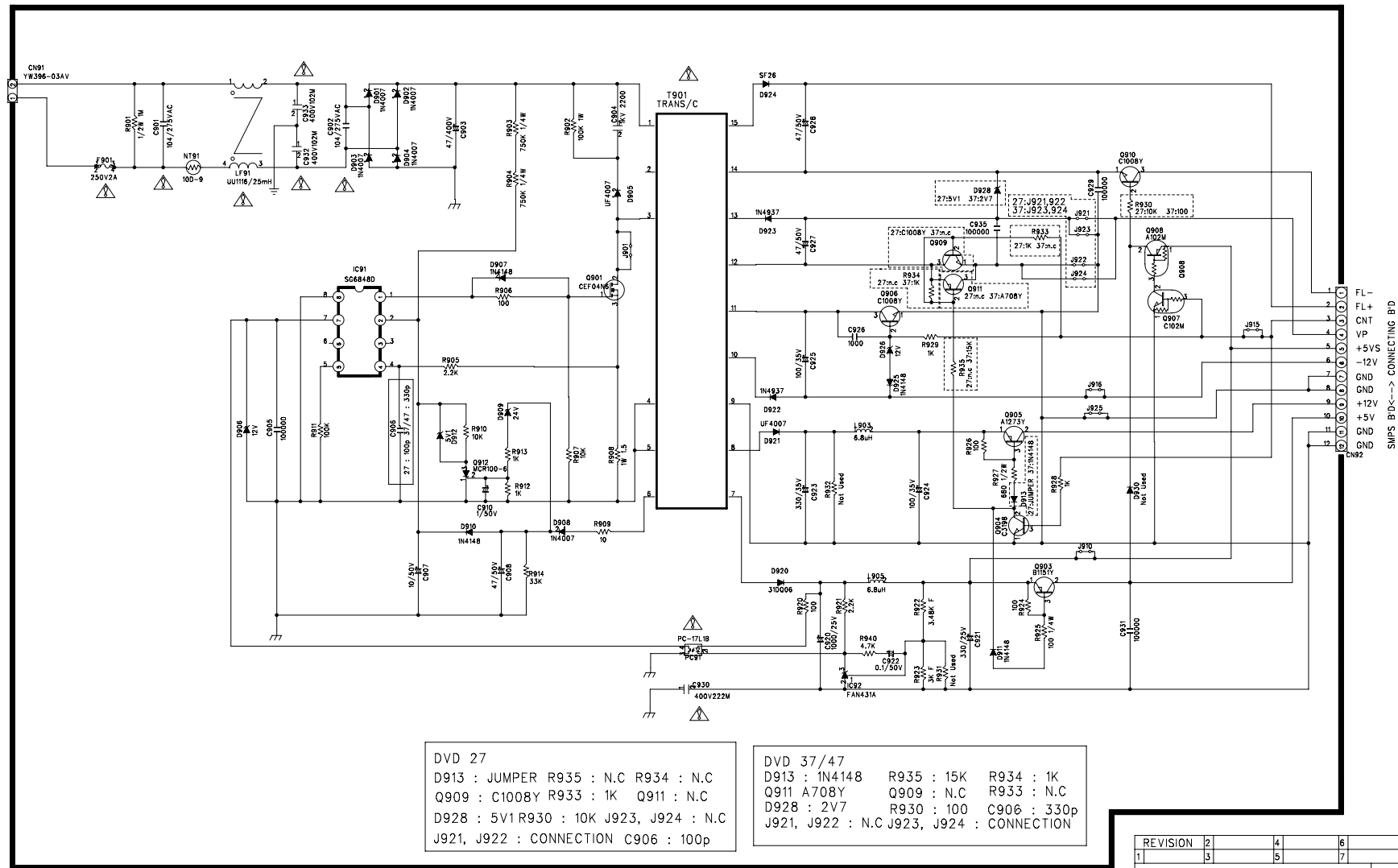


VIDEO OUT

FOR PAL

REVISION	2	4	6
1	3	5	7
SCHEMATIC DIAGRAM			
MODEL	DVD 27 (Harman-kardon)		
DESIGN	CHECK	APPROVE	DRAWING NO
S.H LEE	J.H PARK	H.W LEE	AUDIO / VIDEO OUT PART

A



••IMPORTANT SAFETY NOTICE.
 COMPONENTS IDENTIFIED BY MARK HAVE SPECIAL CHARACTERISTICS.
 IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS.
 USE ONLY MANUFACTURER'S SPECIFIED PARTS.

••THE UNIT OF RESISTANCE IS OHM.
 K=1000 OHM, M=1000 KOHM

••THE UNIT OF CAPACITANCE IS MICROFARAD (uF)
 1pF = 10⁻⁶ uF

••THIS SCHEMATIC DIAGRAM MAY MODIFIED AT ANYTIME
 WITH THE IMPROVEMENT OF PERFORMANCE



REVISION	2	4	6
1	3	5	7
SCHEMATIC DIAGRAM			
MODEL	DVD 27/37/47		
DESIGN	CHECK	APPROVE	DRAWING NO
		H.W.Lee	1840SCMZ
05.11.23	05.11.23	05.11.23	(SMPs)