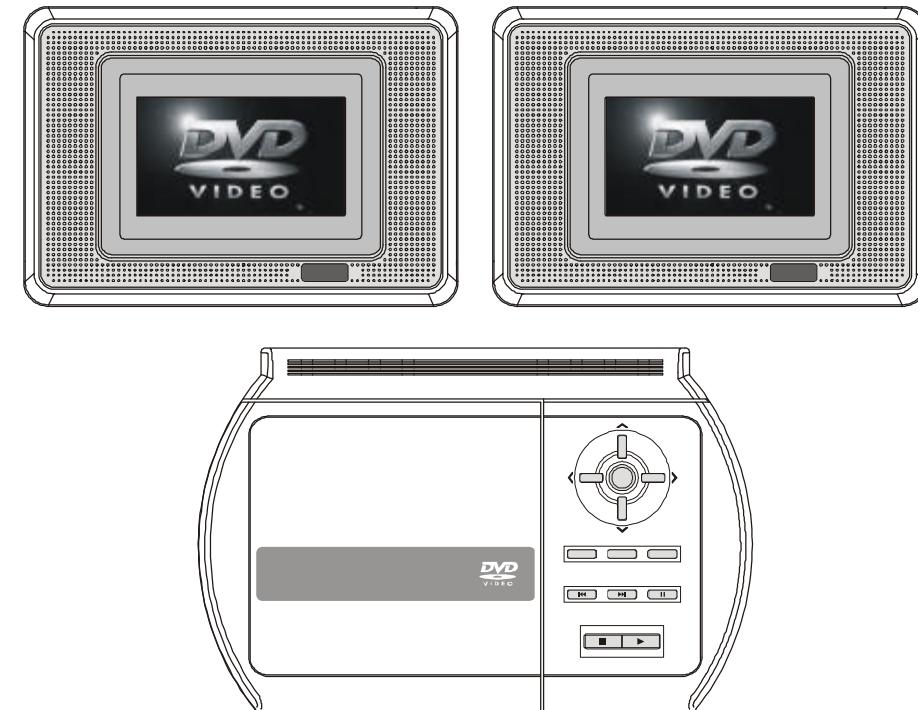


Service Manual

Dual LCD Screen Mobile DVD Theatre



PVS1950D

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PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety characteristics. These safety characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by  in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

PERFORMANCE SPECIFICATIONS

GENERAL TEST CONDITION					
Power Supply	: DC 12V				
Output Load	: 8ohm dummy speaker load				
	: 33ohm dummy headphone load				
Reference Output	: 50mW at speaker output				
	: 5mW 33ohm at headphone output				
Signal Source	: Audio input -- 1kHz 600 mV				
	DVD Test Disc				
	(TDV-500, TSD-4, MDVD-130, MDVD-151, MDVD-142)				
VIDEO SECTION					
	TEST ITEMS	UNIT	NOMINAL	LIMIT	
1	Signal Level (LT2-1) 75 Ω Terminate Oscilloscope 75% Color Bar	COMPOSITE S-Y S-C (BURST) COMPONENT-Y	V(pp) V(pp) V(pp) V(pp)	1.0 0.714 0.285 0.714	±0.2 ±0.2 ±0.05 ±0.2
2	Frequency Char. Composite (LT2-1, REF=0dB 0.5MHz, L156 VM700A Composite)	1.0/0.5MHz 2.0/0.5MHz 4.0/0.5MHz 4.75/0.5MHz 5.75/0.5MHz	dB dB dB dB dB	0 0 0 0 0	±2.0 ±2.0 ±2.5 ±2.5 +3-4
3	Frequency Char. S-Y (LT2-1, REF=0dB 0.5MHz, L156 VM700A S-Y)	1.0/0.5MHz 2.0/0.5MHz 4.0/0.5MHz 4.75/0.5MHz 5.75/0.5MHz	dB dB dB dB dB	0 0 0 0 0	±2.0 ±2.0 ±2.5 ±2.5 +3-4
7	Composite Vides-S/N (LT2-1) One Line Only L131 VM700A	100K-4.2MHz (SC TR ON)	dB	60	50
5	S-Y S/N (LT2-1 One Line Only)	100K-4.2MHz (SC TR ON)	dB	60	50
6	Color-AM Color-PM (One Line Only) (LT2-1, L131 VM700A)	100Hz-500kHz	dB		>50
7	Sub Carrier Frequency	NTSC PAL	MHz MHz	3.579545 4.433619	±161 ±200
Remarks:					
All Testing Under DVD Video Setup					
1. TV Shape : 4 : 3 Letter Box.					
2. Brightness : OFF.					
3. Edges: OFF.					

PERFORMANCE SPECIFICATIONS - CONTINUED

DVD AUDIO SECTION (LINE OUTPUT)				
	TEST ITEMS	UNIT	NOMINAL	LIMIT
1	Total Harmonic Distortion (LT2-1, 3-1 JIS-A Filter ON)	%	---	0.08
2	Output Level (LT2-1, 3-1)	V	1.5	±0.2
3	S/N (LT2-1, 3-20 JIS-A Filter ON)	dB	80	70
4	Channel Separation (LT2-1, 3-21.22 1kHz, JIS-A Filter ON)	(R & L) dB	---	70
5	Frequency Range (48kHz / 24BIT) (LT2-1. 3-1~19) (1kHz Ref O/P)	31Hz 499Hz 10kHz 22kHz dB	0 0 0 0	±3.0 ±1.0 ±1.0 ±1.0
6	Frequency Range (96kHz / 24BIT LT2-1, 6-1~12) (1kHz Ref O/P)	20Hz 400Hz 12.8kHz 20kHz dB	0 0 0 0	±3.0 ±3.0 ±3.0 ±3.0
7	Dynamic Range (JIS-A Filter ON) (LT2-1. 3-25)	dB	80	70
8	Digital Output Level (Vp-p) (LT2-1, 1-1, 75 Ω Terminate)	mV	500	±100
Remarks:				
1). Virtual Effect Off for All Testing .				
MAIN UNIT HEADPHONE OUTPUT SECTION				
	TEST ITEMS	UNIT	NOMINAL	LIMIT
1	Output Power Per Channel (10% THD) (TDV-500, 22-1)	1kHz mW	12	±3
2	Frequency Response (1kHz Ref O/P) (TDV-500, 22-1~4)	(L&R) 100Hz 20kHz dB	0 0	±3 ±3
3	Total Harmonic Distortion (1kHz. Ref O/P) (JIS-A Filter ON) (TDV-500, 22-1)	(L&R) %	0.3	0.8
4	Channel Unbalance (TDV-500, 22-1)	(L&R) 1kHz dB	1	±3
5	Minimum VOL Hum (TDV-500, 22-6)	mV	0.6	1.5
6	Maximum VOL Hum (TDV-500, 22-6)	mV	1	3
7	S/N (CCIR-ARM2k) (TDV-500, 22-1, 22-6)	(L&R) 1kHz dB	60	55
8	Channel Separation (JIS-A Filter ON) (TDV-500, 22-7, 22-9)	1kHz dB	45	40
Remarks:				
1). Virtual Effect Off for All Testing .				

PERFORMANCE SPECIFICATIONS - CONTINUED

AUDIO LINE INPUT SECTION							
	TEST ITEMS	UNIT	NOMINAL	LIMIT			
1	Audio Input Signal Level (Output 1% THD)	1kHz	V	2	1.5		
2	Frequency Response (1kHz Ref O/P)	100Hz 20kHz	dB	0 0	±6 ±3		
3	Total Harmonic Distortion (1kHz Ref O/P) (L & R)	%	0.5	0.8			
4	Channel Unbalance (Headphone)	1kHz	dB	1	±3		
5	S/N (CCIR-ARM2k)	1kHz	dB	60	55		
6	Channel Separation (Headphone)	1kHz	dB	45	40		
7	Level Matching	AUX IN DVD PCM	1kHz 1kHz	600mV -10dB	dB dB	0 0	0 ±3
8	10% THD Output Power (Audio I/P 1kHz 600mV)	(L & R)	W	0.5	0.35		
9	Minimum VOL Hum Maximum VOL Hum	(L & R) (L & R)	mV	1 5	3 10		
CD PLAYABILITY TEST							
1	Black Dot (MDVD-130)	μm		500 μm			
2	Finger Print (MDVD-130)	μm		Ø 65 μm			
3	Vertical Deviation (MDVD-151)	μm		600 μm P-P			
4	Eccentricity (MDVD-142)	μm		100 μm			
Remarks:							
1). Virtual Effect Off for All Testing .							

AMPLIFIER SECTION (MONITOR)						
	TEST ITEMS	UNIT	NOMINAL	LIMIT		
1	Output Power (10% THD) (TDV-500, 22-1)	1kHz	W	0.5	0.35	
2	Frequency Response (1kHz Ref O/P) (TDV-500, 22-1~4)	100Hz 20kHz	dB	0 0	±3 ±3	
3	Total Harmonic Distortion (1kHz. Ref O/P) (JIS-A Filter ON) (TDV-500, 22-1)	%	0.4	0.8		
4	Minimum VOL Hum (TDV-500, 22-6)	mV	0.6	1.5		
5	Minimum VOL Hum (TDV-500, 22-6)	mV	3	5		
6	S/N (CCIR-ARM2k) (TDV-500, 22-1, 22-6)	1kHz	dB	60	55	
HEADPHONE OUTPUT SECTION (MONITOR)						
1	Headphone 10% THD Output Power (TDV-500, 22-1)	1kHz	mW	12	±3	
2	Channel Unbalance (TDV-500, 22-1)	(L&R)	1kHz	dB	1	±3
3	Channel Separation (TDV-500, 22-7, 22-9)	1kHz	dB	45	40	
4	Cross Talk For Input (AUX/CD-ref) w/BPF	1kHz	dB	45	40	
Remarks:						
1). Virtual Effect Off for All Testing .						

ELECTRICAL PARTS LIST

Ref. No.	Description	Mfr's Part No.	Qty.
PCB			
DISPLAY PCB	PVS1950-01-01 155x45x1.0mm/4 (FR4) (COUNTCASH)	033-PV1950-101	1
COLOR & BRIGHTEN KNOB PCB	PVS1950-01-02 80x25x1.2mm/8 (94V0) (COUNTCASH)	033-PV1950-102	1
MAIN PCB	PVS1960S-02-01 173x180x1.2mm (FR4) (RICOH)	033-PV1960-504	1
POWER PCB	PVS1960S-01-02 (FR4) (RICOH)	033-PV1960-504	1
LED + REMOTE SENSOR PCB	PVS1960S-01-05 (FR4) (RICOH)	033-PV1960-504	1
KEY PCB	PVS166W-01-08 120x175x1.2mm/3 (94V0) (RICOH)	033-PV166W-100	1
REMOTE CONTROL SECTION			
	REMOTE CONTROL HANDSET, w/BATTERY, MOLD C.GREY 9C (FOR PVS1051/1610/1960)	043-R13232-040	1
TFT LCD DISPLAY SECTION			
RESISTORS [All are ±5% 1/16W (1/8W) tape & wheel resistors unless otherwise specified]			
R927A	CHIP RESISTOR 10 Kohm ±5% 1/16W (0603/1608) (PbF)	001-310352-016	1
R926A	CHIP RESISTOR 39 Kohm ±5% 1/16W (0603/1608) (PbF)	001-339352-016	1
INTEGRATED CIRCUIT			
U1	IC PVI-1004D (TFT-LSD CONTROLLER) (PRIME VIEW)	010-171004-002	1
SWITCH			
SW901	SLIDE SW 1P2T SSH-12-4403/SK12D07VG3NSA	025-120031-100	1
WIRE			
DRIVE BOARD TO DISPLAY	JP WIRE AWG22#UL1007 60mm BLACK CRIMPED w/RING TERMINAL YS22-RT TO YS22-RT	054-010060-091	1
MISCELLANEOUS			
	BACKLIGHT MODULE FOR 4.5" 16:9 (DI GUANG) #DGL-140CF-A/(REV) TFT LCD DISPLAY DC-DC, DC-AC PWR&DECODER MODULE (PW045XS2) AA-PVI45M-A,PVI 4.5" TFT LCD (PVS1950) TFT LCD DISPLAY 4.5" 16:9 PRIME VIEW #PW045XS2 (w/o BACKLIGHT MODULE) MINI DIN CBL9P MALEx2 UL20276FE.x2 SH.28x1C+26x7C L=2M#MD9P2M20-E (*FULL SH.) (PbF)	038-00B045-000 038-PVS195-000 147-000045-000 122-004020-208	1 1 1 1
MONITOR AMPLIFIER SECTION			
RESISTORS [All are ±5% 1/16W (1/8W) tape & wheel resistors unless otherwise specified]			
R918,919	RESISTOR 8.2 ohm ±5% 1/4W	001-082850-014	2
R905,906,913,959	CHIP RESISTOR 1 Kohm ±5% 1/16W (0603/1608) (PbF)	001-310252-016	4
R902,904,934,935	CHIP RESISTOR 10 Kohm ±5% 1/16W (0603/1608) (PbF)	001-310352-016	4
R916,917	CHIP RESISTOR 120 ohm ±5% 1/16W (0603/1608)	001-312152-016	2
R909,910	CHIP RESISTOR 150 ohm ±5% 1/16W (0603/1608)	001-315152-016	2
R960,961	CHIP RESISTOR 39 ohm ±5% 1/16W (0603/1608)	001-339052-016	2
R911	CHIP RESISTOR 470 ohm ±5% 1/16W (0603/1608) (PbF)	001-347152-016	1
R914,915	CHIP RESISTOR 4.7 ohm ±5% 1/16W (0603/1608)	001-347852-016	2
R901,903	CHIP RESISTOR 5.6 Kohm ±5% 1/16W (0603/1608)	001-356252-016	2
R912	CHIP RESISTOR 68 Kohm ±5% 1/16W (0603/1608)	001-368352-016	1
VR901,902,903	VR-C&M&GVO50KC&SH&D ROTARY VOLUME #RC1001GBX0A-HA1-062 (SOUNDWELL)	030-C10503-208	3
CAPACITORS			
C910,911,912	CHIP CAP 1 uF/10V +80-20% (0603/1608)	003-510582-010	3

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
C913,914	CHIP CAP 0.001 uF/50V ±10% (0603/1608) (MCH185C102KK/GRM39X7R102K50PT) (PbF)	003-510212-050	2
C915,916,939,940	CHIP CAP 0.1 uF/16V ±10% (0603/1608) (87-A10-260-08G) (C1608JB1C104K) (TDK) (PbF)	003-510412-016	4
C918,919	CHIP CAP 0.0022 uF/50V ±10% (0603/1608) (UMK107B222KZ-TM)	003-522212-050	2
C908	ELECT CAP 10 MFD/50V ±20% (5x11)	006-010000-50D	1
C909,941,942	ELECT CAP 100 MFD/16V ±20% (5x11) (PbF)	006-010100-16D	3
C906,907	*CdF ELECT CAP 47 MFD/16V ±20% (5x11) (PbF)	006-047000-16D	2
C904,905	ELECT CAP 470 MFD/10V ±20% (8x11.5)	006-047100-10D	2
C902	ELECT CAP 470 MFD/10V ±20% (SMALL SIZE) (8x9) (ESS477M1AF09RRSA/SMA10V471M)	006-147100-10D	1
TRANSISTORS			
Q901,902	TR NPNSS-T-RAD&SC-059 2SC2712Y(TE85L)/ 2SC5343S-Y/3DG2712Y (CHIP) T & W (G51411014100)	008-A02712-125	2
Q903	(F008-039060-000) CHIP TRANSISTOR MMBT3906/MMBT3906LT1 (T&W) (PbF)	008-A03906-000	1
INTEGRATED CIRCUIT			
IC901	IC UTC TDA2822 SMT SOP-8 DUAL LOW VOLTAGE POWR AMPLIFIER (PbF)	010-802822-002	1
DIODES			
D901,902,903,906	CHIP DIODE (SMT) LS4148(KT)/LL4148	011-044148-002	4
INDUCTORS			
L907	INDUCTOR 22 uH CEC-220K-708028 ±10% LAL03 TB 220K/ZHFAI03-220KT (CdF)	018-010226-000	1
WIRES			
JW2 TO JW3	JP WIRE AWG22#UL1007 3x3mm 40mm BLACK	051-273040-009	1
CN904	HSG (2mm) PEC 2001H-02 w/165mm RED,BLACK AWG28#UL1007 SLDG 5mm	136-F10216-500	1
MISCELLANEOUS			
HP901	H. JACK STEREO 3.5mm #MSJ-2000/CKX-3.5-25 HSJ2000-01-110 (8Z-CS1-604-01) (Cd FREE)	116-002000-352	1
JK901	MINI DIN SOCKET 9 PINS #2270-FMRC-09 (LINKTECH) (=119-000090-000)	119-002270-000	1
	SPK00001"008OHM0.5W MICRO SPK 28x6mm #R28D03PP-3(KAMII)/U28RZ0206G12N C8P13	131-108000-512	1
CN904	HEADER 2 PINS PEC #2001-WS-2 PITCH 2mm VERTICAL REPLACE:135-PHS020-020	135-2001WS-020	1
MONITOR CONTROL SECTION			
RESISTORS [All are ±5% 1/16W (1/8W) tape & wheel resistors unless otherwise specified]			
R940	RESISTOR 180 ohm, ±5%, 2W	001-018150-002	1
J2,3, R928,929A,963,964	CHIP RESISTOR 0 ohm ±5% 1/16W (0603/1608) (PbF)	001-300052-016	6
R937	CHIP RESISTOR 100 ohm ±5% 1/16W (0603/1608) (PbF)	001-310152-016	1
R924	CHIP RESISTOR 1 Kohm ±5% 1/16W (0603/1608) (PbF)	001-310252-016	1
R941	CHIP RESISTOR 1.2 Kohm ±5% 1/16W (0603/1608)	001-312252-016	1
R928A,932,933	CHIP RESISTOR 18 Kohm ±5% 1/16W (0603/1608)	001-318352-016	3
R939	CHIP RESISTOR 270 ohm ±5% 1/16W (0603/1608)	001-327152-016	1
R925,930,947,951	CHIP RESISTOR 4.7 Kohm ±5% 1/16W (0603/1608) (PbF)	001-347252-016	4
R938,942	CHIP RESISTOR 5.1 Kohm ±5% 1/16W (0603/1608)	001-351252-016	2

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
R944	CHIP RESISTOR 47 Kohm ±5% 1/16W (0603/1608) (MCR03EZHZ-473) (PbF)	001-347352-016	1
R946	CHIP RESISTOR 5.6 Kohm ±5% 1/16W (0603/1608)	001-356252-016	1
R953	CHIP RESISTOR 6.8 Kohm ±5% 1/16W (0603/1608)	001-368252-016	1
R948	CHIP RESISTOR 8.2 Kohm ±5% 1/16W (0603/1608) (PbF)	001-382252-016	1
R943	CHIP RESISTOR 820 Kohm ±5% 1/16W (0603/1608)	001-382452-016	1
CAPACITORS			
C929	CHIP CAP 0.001 uF/25V ±10% (0603/1608) (GRM39B102K50) (MURATA)	003-510212-025	1
C917,923,924,926,933,938	CHIP CAP 0.1 uF/16V +-10% (0603/1608) (87-A10-260-08G) (C1608JB1C104K) (TDK) (PbF)	003-510412-016	6
C928	CHIP CAP 0.022 uF/25V +-10% (0603/1608) (MCH182C223KK/GRM39X7R223K25PT)	003-522312-025	1
C937	ELECT CAP 10 MFD/50V ±20% (5x11)	006-010000-50D	1
C922	*CdF ELECT CAP 47 MFD/16V ±20% (5x11) (PbF)	006-047000-16D	1
C903,934	ELECT CAP 470 MFD/16V ±20% (8x11.5)	006-047101-16C	2
C930,931	ELECT CAP 470 MFD/10V ±20% (SMALL SIZE) (8x9) (ESS477M1AF09RRSA/SMA10V471M)	006-147100-10D	2
TRANSISTORS			
Q904	CHIP TRANSISTOR 2SB1184R -60V -3A (ROHM)	008-A01184-000	1
Q906	(F008-039040-000) CHIP TRANSISTOR MMBT3904/MMBT3904LT1/3DG3904M (T&W) (PbF)	008-A03904-000	1
INTEGRATED CIRCUIT			
IC902	IC D494CD PWM IC SOP-16 SMD (CHMC)	010-330494-000	1
DIODES			
DZ901	ZENER IN-5232B, 5.6V, 1/2W (ROHM)	011-010056-120	1
D904	SCHOTTKY BARRIEA RECTIFIER SS34 (CHIP) (DC)	011-020034-000	1
D905	CHIP DIODE (SMT) LS4148(KT)/LL4148	011-044148-002	1
INDUCTORS			
L906	POWER INDUCTOR 47 uH ±10% (COILS)	018-060476-200	1
L902,905	POWER INDUCTOR 4.7 uH ±20% (COILS)	018-060477-301	2
SWITCH			
SW902	SLIDE SW 2P2T SK22D07VG3 NS A ALE (MSC)	025-220031-101	1
WIRES			
CN905 TO DRIVE BOARD	HSG (2mm) JST PHR-04 TO 4P-SAN w/80mm, SH. WIRE 28#UL1533/1C JPx2 BK, RED 26#UL1007	136-F00408-000	1
CN901 TO DRIVE BOARD	HSG (2mm) PEC 2001H-06 TO 2003H-06 w/90mm FLAT CABLE RED,GREYx5 AWG28#UL2651	136-F10609-000	1
MISCELLANEOUS			
LED901	LED-R-3MM&-N-&&-&& #W03103RPD 3mm RED NORMAL BRIGHT	110-031030-003	1
SR901	REMOTE/CONTROL PHOTO RECEIVER ROHM/RPM7138-V4	111-007138-000	1
FS901	FUSE #MFH-PA-1 1A/125V 3.6x10mm TIME LAG w/PIGTAIL (UL/CSA/PSE) <JENN FENG>	124-010010-003	1
ACCESSORY SECTION			
MISCELLANEOUS			
	AV CABLE 3.5mm 4POLE PLUG TO RCA JACKx3 (FEMALE) w/140mm 3C BK#354P-RCAJ-014 (PbF)	122-004020-013	1
	APR-EI&UL&&&MA&& CAR PLUG CONNECTOR 12VDC:12VDC (CAT NO:KD-627+KD-555A)	133-030627-001	1

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
DVD MAIN MECHANISM SECTION			
RESISTORS [All are ±5% 1/16W (1/8W) tape & wheel resistors unless otherwise specified]			
R109,202	CHIP RESISTOR 0 ohm ±5% 1/16W (0603/1608) (PbF)	001-300052-016	2
R11	CHIP RESISTOR 1 Kohm ±5% 1/16W (0603/1608) (PbF)	001-310252-016	1
R8	CHIP RESISTOR 10 Kohm ±5% 1/16W (0603/1608) (PbF)	001-310352-016	1
R225	CHIP RESISTOR 1.2 Kohm +-5% 1/16W (0603/1608)	001-312252-016	1
R232	CHIP RESISTOR 2.7 Kohm ±5% 1/16W (0603/1608)	001-327252-016	1
R211	CHIP RESISTOR 3.3 Kohm ±5% 1/16W (0603/1608)	001-333252-016	1
R805,806	CHIP RESISTOR 39 Kohm ±5% 1/16W (0603/1608) (PbF)	001-339352-016	2
CAPACITORS			
J6 TO GND	(F003-010380-025) CERAMIC CAP 0.01u F/ 50V +80%-20%	003-010380-050	4
C169	CHIP CAP 0.022 uF/25V ±10% (0603/1608) (MCH182C223KK/GRM39X7R223K25PT)	003-522312-025	1
C12	CHIP CAP 0.0027 uF/50V ±10% (0603/1608) (UMK107B272KZ-TM)	003-527212-050	1
TRANSISTORS			
Q16,19,20	(F008-039040-000) CHIP TRANSISTOR MMBT3904/MMBT3904LT1/3DG3904M (T&W) (PbF)	008-A03904-000	3
WIRES			
	FFC CABLE 24P L=188mm PITCH:0.5mm UL2896 BLACK (CONDUCTOR AT DIFFERENT SIDE)	040-240188-051	1
	JP WIRE AWG22#UL1007 5x5mm 80mm BLACK	051-275080-009	1
MISCELLANEOUS			
	DVD-PTR-01-SAN&-N DVD MECHANISM #MSA10B (SANYO) (BALL CLAMP)	163-000010-000	1
KEY SECTION			
SWITCHES			
SW201,202,204,205,206,208, 209,210,211,212,214,215,216	TACT SWITCH 4P 5mm 100G #1102A-4 (=021-KHH901-000) (PbF)	021-110200-002	13
WIRE			
	FFC CABLE 10 PINS L=85mm PITCH=1mm SONY CHEMICALS #KKW9849-1A (8A-CKA-612-01)	040-100085-100	1
MISCELLANEOUS			
WH201	FFC CONNECTOR 10PINS P:1mm #D100-SRA-10U (HOR.) TOP CONTACT =135-052807-101 (CdF)	135-D100SR-100	1
AV SECTION			
RESISTORS [All are ±5% 1/16W (1/8W) tape & wheel resistors unless otherwise specified]			
R73,75,76	CHIP RESISTOR 0 ohm ±5% 1/16W (0603/1608) (PbF)	001-300052-016	3
R302,508,534,545,553,564	CHIP RESISTOR 10 ohm ±5% 1/16W (0603/1608)	001-310052-016	6
R91,516,546,554	CHIP RESISTOR 100 ohm ±5% 1/16W (0603/1608) (PbF)	001-310152-016	4
R51,507,509,533,535,803,804	CHIP RESISTOR 1 Kohm ±5% 1/16W (0603/1608) (PbF)	001-310252-016	7
R72,311,310	CHIP RESISTOR 10 Kohm ±5% 1/16W (0603/1608) (PbF)	001-310352-016	3
R537,544,552	CHIP RESISTOR 12 Kohm ±5% 1/16W (0603/1608)	001-312352-016	3

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
R561,562	CHIP RESISTOR 100 Kohm ±5% 1/16W (0603/1608) (PbF)	001-310452-016	2
R506,513,523,524	CHIP RESISTOR 15 Kohm ±5% 1/16W (0603/1608) (PbF)	001-315352-016	4
R563	CHIP RESISTOR 18 ohm ±5% 1/16W (0603/1608)	001-318052-016	1
R501,502,503,505,511,512,525, 526,527,528,531,532	CHIP RESISTOR 18 Kohm ±5% 1/16W (0603/1608)	001-318352-016	12
R815	CHIP RESISTOR 180 Kohm ±5% 1/16W (0603/1608)	001-318452-016	1
R811,812	CHIP RESISTOR 20 Kohm ±5% 1/16W (0603/1608) (PbF)	001-320352-016	2
R539,547	CHIP RESISTOR 22 ohm ±5% 1/16W (0603/1608)	001-322052-016	2
R541,549,558	CHIP RESISTOR 220 ohm ±5% 1/16W (0603/1608) (PbF)	001-322152-016	3
R62,560,813,814	CHIP RESISTOR 22 Kohm ±5% 1/16W (0603/1608)	001-322352-016	4
R807,808,809,810	CHIP RESISTOR 24 Kohm ±5% 1/16W (0603/1608) (PbF)	001-324352-016	4
R303,305	CHIP RESISTOR 270 ohm ±5% 1/16W (0603/1608)	001-327152-016	2
R100	CHIP RESISTOR 300 ohm ±5% 1/16W (0603/1608)	001-330152-016	1
R821,822	CHIP RESISTOR 33 ohm ±5% 1/16W (0603/1608)	001-333052-016	2
R538,542,550	CHIP RESISTOR 3.3 Kohm ±5% 1/16W (0603/1608)	001-333252-016	3
R536,801	CHIP RESISTOR 33 Kohm ±5% 1/16W (0603/1608)	001-333352-016	2
R543,551,555,805,806	CHIP RESISTOR 39 Kohm ±5% 1/16W (0603/1608) (PbF)	001-339352-016	5
R540,548,559	CHIP RESISTOR 47 ohm ±5% 1/16W (0603/1608)	001-347052-016	3
R308,309,518,556	CHIP RESISTOR 4.7 Kohm ±5% 1/16W (0603/1608) (PbF)	001-347252-016	4
R802	CHIP RESISTOR 47 Kohm ±5% 1/16W (0603/1608) (MCR03EZHJ-473) (PbF)	001-347352-016	1
R504,510,529,530	CHIP RESISTOR 56 Kohm ±5% 1/16W (0603/1608) (PbF)	001-356352-016	4
R514,515,521,522,565,566	CHIP RESISTOR 680 ohm ±5% 1/16W (0603/1608) (PbF)	001-368152-016	6
VR801	VR-C&M&GVO50KC&SH&D ROTARY VOLUME #RC1001GBX0A-HA1-062 (SOUNDWELL)	030-C10503-208	1
CAPACITORS			
C005,006	CERAMIC CAP 0.1 uF/16V +80%-20%	003-010480-016	2
C004,007	CERAMIC CAP 0.002 uF/50V +80%-20%	003-020280-050	2
C001,002,003	CERAMIC CAP 0.0022 uF/16V ±20% (EP050X222M-BB) (AXIAL TAPED 52mm)	003-222220-016	3
C5,512,525,533,535,537,691,806	CHIP CAP 0.1 uF/25V ±10% (0603/1608) (T&W) (MCH182C104KK/GRM39B104K25PT)	003-510412-025	8
C541,542,811,812	CHIP CAP 1 uF/10V +80-20% (0603/1608)	003-510582-010	4
C505,506,515,516	CHIP CAP 0.022 uF/25V ±10% (0603/1608) (MCH182C223KK/GRM39X7R223K25PT)	003-522312-025	4
C540	CHIP CAP 220 pF/50V ±5% NPO (0603/1608) (UMK107CH221JZ-T)	003-622152-050	1
C22,25	CHIP CAP 560 pF/50V ±5% NPO (0603/1608)	003-656152-050	2
C543	CHIP CAP 68 pF/50V ±5% NPO (0603/1608) (GRM39COG680J50PT/MCH185A680JK)	003-668052-050	1
C802	ELECT CAP 1 MFD/50V ±20% (SMALL SIZE) (4x7)	006-101000-50D	1
C201,503,504,509,519,520,526, 536,538,649	ELECT CAP 100 MFD/16V ±20% (SMALL SIZE) (6.3x7)	006-110100-16C	10
C810	ELECT CAP 470 MFD/10V ±20% (SMALL SIZE) (8x9) (ESS477M1AF09RRSA/SMA10V471M)	006-147100-10D	1

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
C501,502,507,508,513,514,517, 518,521	*CdF ELECT CAP 10 MFD/16V ±20% (SMALL SIZE) (MAD/4x5)	006-210000-16C	9
C511,524,530,803,804,805,809	ELECT CAP 220 MFD/10V ±20% (SMALL SIZE) (8x5)	006-222100-10D	7
C510,527,531,606,801	ELECT CAP 47 MED/16V ±20% (SMALL SIZE) (MAD/6.3x5)	006-247000-16C	5
C534	ELECT CAP 100 MFD/10V ±20% MA (STRAIGHT) (TAPING PITCH:2.5mm/6.3x5/87-010-555-04)	006-D1010A-10C	1
TRANSISTORS			
Q6,7,305,306,307,501,502,510, 511,512,514	(F008-039040-000) CHIP TRANSISTOR MMBT3904/ MMBT3904LT1/3DG3904M (T&W) (PbF)	008-A03904-000	11
INTEGRATED CIRCUITS			
IC501,502	ICAMP-OP-02CH-DUALV NJM4560M-TE1/3 DUAL OPERATIONAL AMPLIFIER (PbF)	010-274560-000	2
IC801	ICAMP-HEAD-ST-0.001W BH4453F	010-404453-000	1
DIODES			
D503	DIODE IN-4148 ROHM/TELEFUNKEN TAP**50 KEL(NS)T:52mm/NS(FAIRCHILD)/SEMTECH(PbF)	011-004148-000	1
INDUCTORS			
L501	*CdF INDUCTOR 100 uH /1128/CEC-101K ±10% LAL03 TB 101K/ZHFAI03-101KT	018-010014-000	1
L801	INDUCTOR 22uH CEC-220K-708028 ±10% LAL03 TB 220K/ZHFAI03-220KT (CdF)	018-010226-000	1
SWITCHES			
SW501,502	SLIDE SW 4P2T SK42D01GA5 NS A	025-420051-100	2
MISCELLANEOUS			
LED302	LED-R-2x5&-N-&&&-&& 6201DT/W25319RPD-O 2x5mm RED	110-062010-215	1
LED1	LED-G-2X5&-N-&&&-&& W25319GHC-113 2x5mm GREEN WAITRONY	110-253191-205	1
SN201	REMOTE/CONTROL PHOTO RECEIVER ROHM/RPM7138-V4	111-007138-000	1
JK801	H. JACK STEREO 3.5mm #MSJ-2000/CKX-3.5-25 HSJ2000-01-110 (8Z-CS1-604-01) (Cd FREE)	116-002000-352	1
JK502,504	HEADPHONE JACK DIA:3.5mm 7 PINS #HTJ-035-24BB (KUNMING)/CKX-3.5-15	116-073524-350	2
JK3	PHONE JACK 3.5mm STEREO TC38-091-11 (HONDA) BLACK (CdF)	118-010038-004	1
JK501,503	MINI DIN SOCKET 9 PINS #2270-FMRC-09 (LINKTECH) (=119-000090-000)	119-002270-000	2
ESD SECTION			
RESISTOR [All are ±5% 1/16W (1/8W) tape & wheel resistors unless otherwise specified]			
ESR1,2, R16	CHIP RESISTOR 0 ohm ±5% 1/16W (0603/1608) (PbF)	001-300052-016	3
CAPACITORS			
C62, ESC14,15,16,17,18,21,23, 24,25,26	CHIP CAP 0.001 uF/50V ±10% (0603/1608) (MCH185C102KK/GRM39X7R102K50PT) (PbF)	003-510212-050	11
ESC1,2,3,4,5,6,7,8,9,10,11,12,13, 19,20,22,27, R218	(F003-610112-050) CHIP CAP 100 pF/50V ±5% NPO (0603/1608)	003-610152-050	18
R63,64,65,66	CHIP CAP 4 pF/50V ±0.25% NPO (0603/1608) (GRM39C0G040C50PT)	003-640832-050	4
INDUCTORS			
ESB1,3,4	FERRITE BEAD INDUCTOR #PI0243NL R6H 5x3.6	032-100243-000	3

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
	CHIP FERRITE BEAD GZ1608Y102T(f) (0603/1608) (SUNLORD)	032-101608-015	1
MPEG+SERVO SECTION			
RESISTORS [All are ±5% 1/16W (1/8W) tape & wheel resistors unless otherwise specified]			
FB16	RESISTOR 1 ohm, ±5%, 1/4W	001-010850-014	1
R46,77,78,88,99,101,181,210,	CHIP RESISTOR 0 ohm ±5% 1/16W	001-300052-016	10
FB5,6	(0603/1608) (PbF)		
R71	CHIP RESISTOR 10 ohm ±5% 1/16W (0603/1608)	001-310052-016	1
R40,47,102	CHIP RESISTOR 1 Kohm ±5% 1/16W	001-310252-016	3
R150	(0603/1608) (PbF)		
R12,19,25,26,30,31,32,33,38,45, 54,55,136,138,190,195,200,201, 222,226,660	CHIP RESISTOR 10 Kohm ±1% 1/16W (0603/1608)	001-310312-016	1
R92,183	CHIP RESISTOR 100 Kohm ±5% 1/16W	001-310452-016	2
(0603/1608) (PbF)			
R199	CHIP RESISTOR 1 Mohm ±5% 1/16W (0603/1608)	001-310552-016	1
R132,133,134,135	CHIP RESISTOR 1 ohm ±5% 1/16W (0603/1608)	001-310852-016	4
R156,163,197	CHIP RESISTOR 11 Kohm ±5% 1/16W (0603/1608)	001-311352-016	3
R145	CHIP RESISTOR 12 Kohm ±1% 1/16W (0603/1608)	001-312312-016	1
R230,233	CHIP RESISTOR 1.3 Kohm ±5% 1/16W (0603/1608)	001-313252-016	2
R21	CHIP RESISTOR 13 Kohm ±5% 1/16W (0603/1608)	001-313352-016	1
R239	CHIP RESISTOR 150 ohm ±5% 1/16W (0603/1608)	001-315152-016	1
R36,43,85,86	CHIP RESISTOR 15 Kohm ±5% 1/16W	001-315352-016	4
(0603/1608) (PbF)			
R130,131	CHIP RESISTOR 22 ohm ±5% 1/16W (0603/1608)	001-322052-016	2
R193,194	CHIP RESISTOR 220 ohm ±5% 1/16W	001-322152-016	2
(0603/1608) (PbF)			
R80,249,340	CHIP RESISTOR 2.2 Kohm ±5% 1/16W (0603/1608)	001-322252-016	3
R42,49,196,198	CHIP RESISTOR 22 Kohm ±5% 1/16W (0603/1608)	001-322352-016	4
R3,6,9,10,79,161,162,246	CHIP RESISTOR 33 ohm ±5% 1/16W (0603/1608)	001-333052-016	8
R251	CHIP RESISTOR 330 ohm ±5% 1/16W (0603/1608)	001-333152-016	1
R22,23,37,44,208	CHIP RESISTOR 3.3 Kohm ±5% 1/16W (0603/1608)	001-333252-016	5
R164	CHIP RESISTOR 392 ohm ±1% 1/16W (0603/1608)	001-339112-016	1
R264,265	CHIP RESISTOR 470 ohm ±1% 1/16W	001-347112-016	2
(0603/1608) (MCR03MZSJ471)			
R94	CHIP RESISTOR 470 ohm ±5% 1/16W	001-347152-016	1
(0603/1608) (PbF)			
R4,5,7,7A,7B,7C,7D,13,15,17,27, 28,34,41,48,52,83,105,155,227, 661	CHIP RESISTOR 4.7 Kohm ±5% 1/16W	001-347252-016	21
R139	CHIP RESISTOR 47 Kohm ±5% 1/16W	001-347352-016	1
(0603/1608) (MCR03EZHZJ-473) (PbF)			
R247	CHIP RESISTOR 470 Kohm ±5% 1/16W (0603/1608)	001-347452-016	1
R153	CHIP RESISTOR 4.99 Kohm ±1% 1/16W (0603/1608)	001-349212-016	1
R1,2,119,127,223,224	CHIP RESISTOR 5.6 Kohm ±5% 1/16W (0603/1608)	001-356252-016	6
R137	CHIP RESISTOR 6.8 Kohm ±5% 1/16W (0603/1608)	001-368252-016	1
R671	CHIP RESISTOR 68 Kohm ±5% 1/16W (0603/1608)	001-368352-016	1
R96,97,98	CHIP RESISTOR 75 ohm ±1% 1/16W	001-375012-016	3
(0603/1608) (TSB#G5101104G105)			
R35	CHIP RESISTOR 909 ohm ±1% 1/16W (0603/1608)	001-390112-016	1
R252	CHIP RESISTOR 91 ohm ±5% 1/16W (0603/1608)	001-391052-016	1
R18	CHIP RESISTOR 9.1 Kohm ±5% 1/16W (0603/1608)	001-391252-016	1
R93	CHIP RESISTOR 91 Kohm ±5% 1/16W (0603/1608)	001-391352-016	1

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
CAPACITORS			
C66,69,72,75,167,168,170,228, 231,232,247,250	CHIP CAP 0.001 uF/50V ±10% (0603/1608) (MCH185C102KK/GRM39X7R102K50PT) (PbF)	003-510212-050	12
BC1,2,3,4,5,6,7,8,9,10,11,12,13, 14,15,16,17,18,19,20,21,22,23,24, 25,26,27,28,29,30,31,32,33,34,35, 36,37, C7,8,9,10,26,27,29,31,32, 33,34,35,39,54,57,58,99,129,150, 153,173,174,213,219	CHIP CAP 0.1 uF/16V ±10% (0603/1608) (87-A10-260-08G) (C1608JB1C104K) (TDK) (PbF)	003-510412-016	61
C141,142,143,144	CHIP CAP 0.0022 uF/50V ±10% (0603/1608) (UMK107B222KZ-TM)	003-522212-050	4
C11	CHIP CAP 0.0027 uF/50V ±10% (0603/1608) (UMK107B272KZ-TM)	003-527212-050	1
C240,242	CHIP CAP 0.027 uF/25V ±10% (0603/1608) (PbF)	003-527312-025	2
C166	CHIP CAP 0.033 uF/25V ±10% (0603/1608)	003-533312-025	1
C137	CHIP CAP 0.0047 uF/50V ±10% (0603/1608) (PbF)	003-547212-050	1
C255,257,258	CHIP CAP 0.0056 uF/50V ±10% (0603/1608)	003-556212-050	3
C136	CHIP CAP 0.0068 uF/50V ±10% (0603/1608)	003-568212-050	1
C81,82,149,154	(F003-610112-050) CHIP CAP 100 pF/50V ±5% NPO (0603/1608)	003-610152-050	4
C112,115,118	CHIP CAP 11 pF/50V ±5% NPO (0603/1608) (MCH185A110JK)	003-611052-050	3
C3,73	CHIP CAP 120 pF/50V ±5% (0603/1608) (UMK107CH121JZ-TM)	003-612152-050	2
C111,114,117	CHIP CAP 150 pF/50V ±5% NPO (0603/1608) (GRM39COG151J50PT/MCH185A151JK)	003-615152-050	3
C113,116,119	CHIP CAP 160 pF/50V ±5% NPO (0603/1608) (MCH185A161JK)	003-616152-050	3
C224,225	(F003-622051-050) CHIP CAP 22 pF/50V ±5% NPO (0603/1608) (GRM39C0G220J50PT)	003-622052-050	2
C1,172,188	CHIP CAP 220 pF/50V +-5% NPO (0603/1608) (UMK107CH221JZ-T)	003-622152-050	3
C138	CHIP CAP 33 pF/50V ±5% NPO (0603/1608) (GRM39COG330J50PT/MCH185A330JK) (PbF)	003-633052-050	1
C163	CHIP CAP 470 pF/50V ±5% NPO (0603/1608)	003-647152-050	1
C36,256	CHIP CAP 560 pF/50V ±5% NPO (0603/1608)	003-656152-050	2
C106	*CdF ELECT CAP 47 MFD/16V ±20% (5x11) (PbF)	006-047000-16D	1
C53,65,68,71,74,125	ELECT CAP 10 MFD/16V ±20% (SMALL SIZE) (SR/4x7)	006-110000-16C	6
C13,14,15,16,17	ELECT CAP 100 MFD/16V ±20% (SMALL SIZE) (6.3x7)	006-110100-16C	5
C124	ELECT CAP 100 MFD/25V ±20% (SMALL SIZE) (8x7)	006-110100-25C	1
C24	ELECT CAP 22 MFD/16V ±20% (SMALL SIZE) (SR/4x7)	006-122000-16C	1
C2,23,63,135,200,267	ELECT CAP 220 MFD/16V ±20% (SMALL SIZE) (8x9) (URS1C221/SMA16V221M)	006-122100-16C	6
C175,202,644	ELECT CAP 470 MFD/10V ±20% (SMALL SIZE) (8x9) (ESS477M1AF09RRSA/SMA10V471M)	006-147100-10D	3
C253	*CdF ELECT CAP 4.7 MFD/16V ±20% (SMALL SIZE) (MAD/4x5)	006-204000-16C	1
C4,6,52,107,127,128, BC38	ELECT CAP 47 MED/16V ±20% (SMALL SIZE) (MAD/6.3x5)	006-247000-16C	7

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
C28,146,147	ELECT CAP 100 MFD/10V ±20% MA (STRAIGHT) (TAPING PITCH:2.5mm/6.3x5/87-010-555-04)	006-D1010A-10C	3
TRANSISTORS			
Q17,18	CHIP TRANSISTOR 2SB1132R (89-211-323-08C)	008-A01132-001	2
Q1,3,4	(F008-039040-000) CHIP TRANSISTOR MMBT3904/ MMBT3904LT1/3DG3904M (T & W) (PbF)	008-A03904-000	3
Q9,13,609	(F008-039060-000) CHIP TRANSISTOR MMBT3906/MMBT3906LT1 (T&W) (PbF)	008-A03906-000	3
CRYSTAL			
Y2	CRYSTAL 27 MHz +-15ppm HC-49/U 3RD OVERTONE (PbF)	009-627000-009	1
INTEGRATED CIRCUITS			
U7	IC WM8728-EDS (WOLFSON)	010-038728-000	1
U10	ICAMP-OP-02CH-DUALV D4558 (SOP8) (PbF)	010-334558-001	1
U26	IC BA5954FP-E2/D5954 (PbF)	010-405954-000	1
U5	ICLOGIC SN74HCU04DR HEX INVERTERS (TI)	010-527404-001	1
U31	ICREGULA-P-&&V&&A LD1117S/IP1117L-TP/ RT9164(ST/INTERPION/RICHTEK) (PbF)	010-721117-000	1
U24	ICREGULA-P-3.3V LD1117S33C/IP1117-33/ MP-3.3/RT9164-33CG(ST/INTERPION/RICHTEK)	010-721117-001	1
U22	ICAMP-OP-&&CH-SINGV TL3472CD/R (PbF)	010-823472-000	1
U4	ICSPECIAL ZR36707 TQC (PbF)	010-893670-003	1
U15	ICMPEG ZR36762PQCG-W (PbF)	010-893676-006	1
U1,3	ICRAMD-16X001M EM636165TS-7 (ETRON)	045-D16001-202	2
U28	ICRAMF-01X008M 8M BIT(512Kx16) FLASH RAM SST39VF800A-70-4C-EK (0.25u)	045-F01008-202	1
DIODES			
D2,3,4,6,7,8,9,10,11,601,604,608	DIODE IN-4148 ROHM/TELEFUNKEN TAP**50 KEL(NS)T:52mm/NS(FAIRCHILD)/SEMTECH (PbF)	011-004148-000	12
ZD2	ZENER BZX55C3V3 3.3V, 1/2W	011-010033-121	1
R29	RECTIFIER IN-4001B/IN-4001(DC)	011-024001-000	1
D1,15,16	CHIP DIODE (SMT) LS4148(KT)/LL4148	011-044148-002	3
INDUCTORS			
L7,8	CHIP INDUCTOR 10 uH ±10% (0603/1608) SDFL1608S100KT(f) (SUNLORD) (PbF)	018-040015-204	2
L3,4,5	CHIP COIL 1.1 uH +-10% SDFL1608Q1R1KT/ ZHFCI1608B1R1KT (0603/1608) (TAPE & REEL)	018-040117-200	3
L9	C.COIL 2.7 uH +-10% TAPE&REEL LK2125 2R7K-T/CI201209-2R7K/SDFL2012Q2R7KT (PbF)	018-040277-001	1
FB8,9,25,28	FERRITE BEAD INDUCTOR #PI0243NL R6H 5x3.6	032-100243-000	4
L1, FB2,3,4,26,35	CHIP FERRITE BEAD GZ1608Y102T(f) (0603/1608) (SUNLORD)	032-101608-015	6
WIRES			
WH601	CONN PIN 12 PINS (3.5+43+3.5) PITCH:2mm AWG26#UL2651 GREY COLOR U-CUT 30mm	050-120050-202	1
J6	HSG (2mm) PEC 2001H-06 TO 2001H-06 w/80mm RED, BLACKx5 AWG28#UL1007	136-F10608-000	1
MISCELLANEOUS			
J6	(F135-2001WR-061) HEADER 6 PINS #A2001WR2-6P/2001-WR-6 P:2mm HORIZONTAL	135-2001WR-060	1
WHKEY2	FFC CONNECTOR 10 PINS PITCH:1mm #D100-SSA-10 VERTICAL/TOP CONTACT	135-D100SS-100	1
J8	FPC/FFC CONN 24 PINS P:0.5mm HORIZONTAL #S050-SRF-24U UPPER CONTACT REEL PACK	135-S050SR-240	1

ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
J14	PIN HEADER 7 PINS S40R20 PITCH:2mm SINGLE ROW RIGHT ANGLE	135-S40R20-070	1
POWER SECTION			
RESISTORS [All are ±5% 1/16W (1/8W) tape & wheel resistors unless otherwise specified]			
R652	RESISTOR 180 ohm ±5% 2W	001-018150-002	1
R668, FL601,602,614	CHIP RESISTOR 0 ohm ±5% 1/8W (1236/3216)	001-300051-018	4
R667	CHIP RESISTOR 10 ohm ±5% 1/8W (1206/3216)	001-310051-018	1
R664	CHIP RESISTOR 100 Kohm ±5% 1/16W (0603/1608) (PbF)	001-310452-016	1
R651	CHIP RESISTOR 1.2 Kohm ±5% 1/16W (0603/1608)	001-312252-016	1
R653	CHIP RESISTOR 27 Kohm ±5% 1/16W (0603/1608)	001-327352-016	1
R666	CHIP RESISTOR 330 ohm ±5% 1/16W (0603/1608)	001-333152-016	1
R659	CHIP RESISTOR 3.3 Kohm ±5% 1/16W (0603/1608)	001-333252-016	1
R654	CHIP RESISTOR 47 Kohm ±5% 1/16W (0603/1608) (MCR03EZHJ-473) (PbF)	001-347352-016	1
R656,657,658	CHIP RESISTOR 5.1 Kohm ±5% 1/16W (0603/1608)	001-351252-016	3
R662,663	CHIP RESISTOR 5.6 Kohm ±5% 1/16W (0603/1608)	001-356252-016	2
R655	CHIP RESISTOR 820 Kohm ±5% 1/16W (0603/1608)	001-382452-016	1
CAPACITORS			
C661	CHIP CAP 0.001 uF/50V ±10% (0603/1608) (MCH185C102KK/GRM39X7R102K50PT) (PbF)	003-510212-050	1
C601,603,607,611,616,680,681, 691,692,693	CHIP CAP 0.1 uF/25V ±10% (0603/1608) (T&W) (MCH182C104KK/GRM39B104K25PT)	003-510412-025	10
C605,620,621,622,689,699	CHIP CAP 1 uF/16V +80-20% (0805/2012) (EMK212F105ZG-T) (MCH213F105ZP)	003-510580-016	6
C623,624	CHIP CAP 10 uF/10V +80-20% (1206/3216)	003-510681-010	2
C602	CHIP CAP 10 uF/16V +80-20% (1210/3225)	003-510683-016	1
C662	CHIP CAP 0.022 uF/50V ±10% (0603/1608)	003-522312-050	1
C604,609,612,613,649	ELECT CAP 100 MFD/16V ±20% (SMALL SIZE) (6.3x7)	006-110100-16C	5
C617,619,625,639,640	ELECT CAP 220 MFD/16V ±20% (SMALL SIZE) (8x9) (URS1C221/SMA16V221M)	006-122100-16C	5
C610,618,626,638	ELECT CAP 470 MFD/10V ±20% (SMALL SIZE) (8x9) (ESS477M1AF09RRSA/SMA10V471M)	006-147100-10D	4
C608,628	ELECT CAP 47 MED/16V ±20% (SMALL SIZE) (MAD/6.3x5)	006-247000-16C	2
C627	ELECT CAP 100 MFD/10V ±20% MA (STRAIGHT) (TAPING PITCH:2.5mm/6.3x5/87-010-555-04)	006-D1010A-10C	1
TRANSISTORS			
Q662	TRLNPNPWR-TAP&TO-092 3DA8050/8050	008-680500-000	1
Q661	CHIP TRANSISTOR 2SB1184R -60V -3A (ROHM)	008-A01184-000	1
INTEGRATED CIRCUIT			
IC601	IC D494CD PWM IC SOP-16 SMD (CHMC)	010-330494-000	1
DIODES			
ZD602	ZENER 10V, 1/2W BL, TOS 05AZ10Z, HITACHI HZ11A3, ROHM MTZJ10 MTZJT-7210 C/D	011-010100-120	1
D602,603	SCHOTTKY BARRIUM RECTIFIER SS34 (CHIP) (DC)	011-020034-000	2
SWITCHES			
DOOR SW	MICRO SWITCH MQS-2	023-000002-000	1
SW601	SLIDE SW 1P2T SSH-12-4403/SK12D07VG3NSA	025-120031-100	1
INDUCTORS			
L604,606,608	POWER INDUCTOR 4.7 uH ±20% (COILS) CRCH-895-4R7M	018-060477-301	3

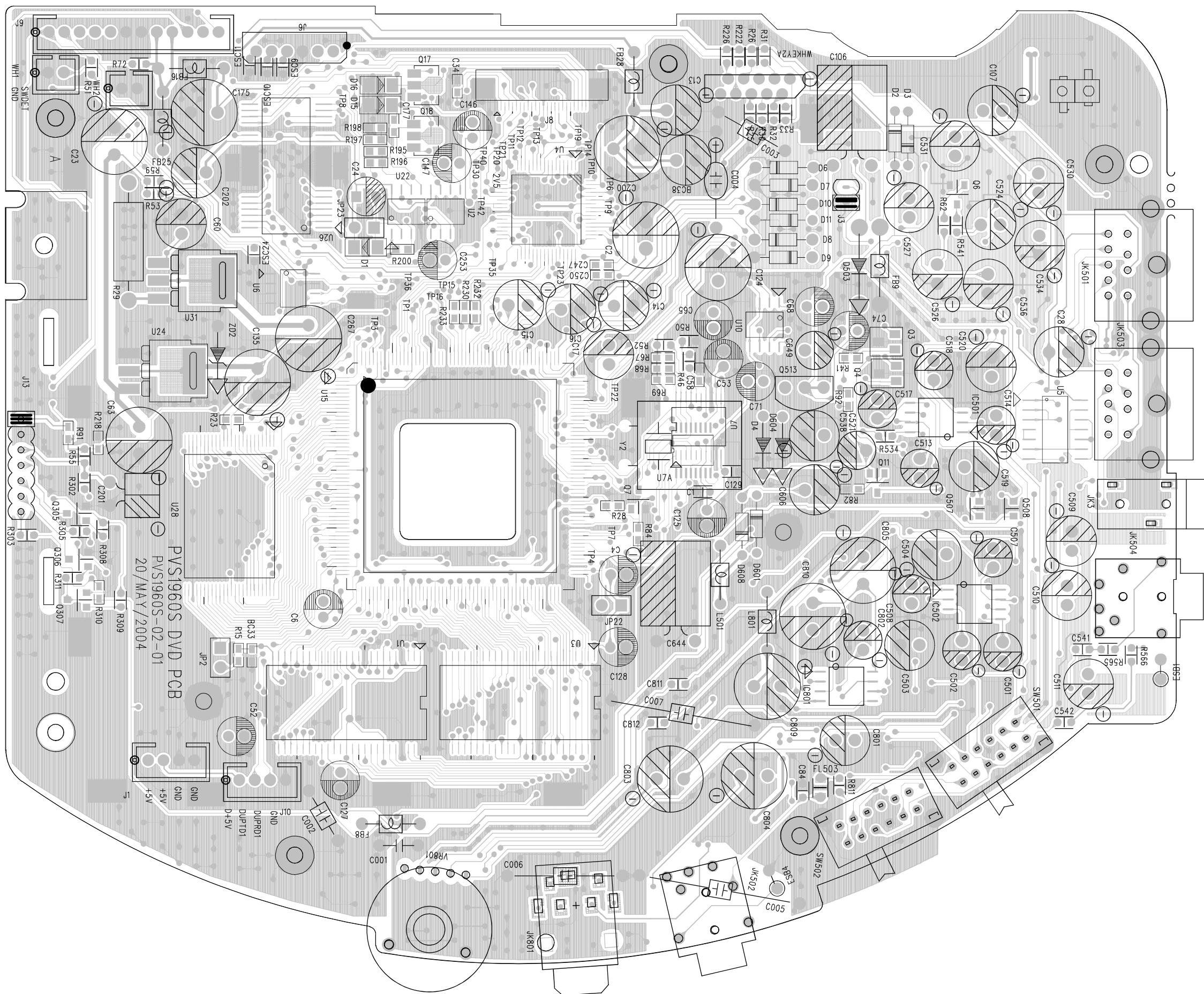
ELECTRICAL PARTS LIST - CONTINUED

Ref. No.	Description	Mfr's Part No.	Qty.
L605	POWER INDUCTOR(SMD) 56 uH ±20% ZHF SMD125-560MT	018-060566-300	1
FL603	EMC FILTER #ID-AL0706 [C5080306861(REV.02)] (ISHIKITA DENKI)	019-900706-000	1
WIRES			
	JP WIRE AWG22#1007 5x5mm 60mm BLACK HSG (2mm) PEC 2001H-02 w/120mm RED, BLACK AWG28#UL1007 SLDG:2.5mm	051-275060-009 136-F10212-001	1
MISCELLANEOUS			
JK601	DC JACK HTJ-020-05BZ SHAFT DIA:2.35mm BLK COLOUR #DS-241-C-001/DC-005D	120-12005B-000	1
F602	⚠ MICRO FUSE #275F1350 3.5A/125V FAST ACTING (UL/CUL) <DAS & SONS)	124-035010-002	1
F601	⚠ FUSE MFH-PA-4 (311-040-111) 4A/125V 3.6x10 TIME LAG w/PIGTAIL(UL/CSA/PSE) JENN FENG	124-040010-003	1
WH1	HEADER 2 PINS PEC #2001-WS-2 PITCH 2mm VERTICAL REPLACE:135-PHS020-020	135-2001WS-020	1
EMC SECTION			
RESISTORS [All are ±5% 1/16W (1/8W) tape & wheel resistors unless otherwise specified]			
FL606,608,610	CHIP RESISTOR 0 ohm ±5% 1/8W (1206/3216)	001-300051-018	3
FL801,802,804,806, R630	CHIP RESISTOR 0 ohm ±5% 1/16W (0603/1608) (PbF)	001-300052-016	5
R250	CHIP RESISTOR 75 ohm ±5% 1/16W (0603/1608)	001-375052-016	1
INDUCTORS			
FL5,6,9,503,504,505	CHIP FERRITE BEAD SZ2012K272T(f)	032-102012-000	6
FL501,502	CHIP FERRITE BEAD PZ3216E601-2R5T(f) @ 100MHZ (3216) (SUNLORD) (PbF)	032-103216-003	2

NOTES: ⚠ Symbol in parts list represent safety parts.

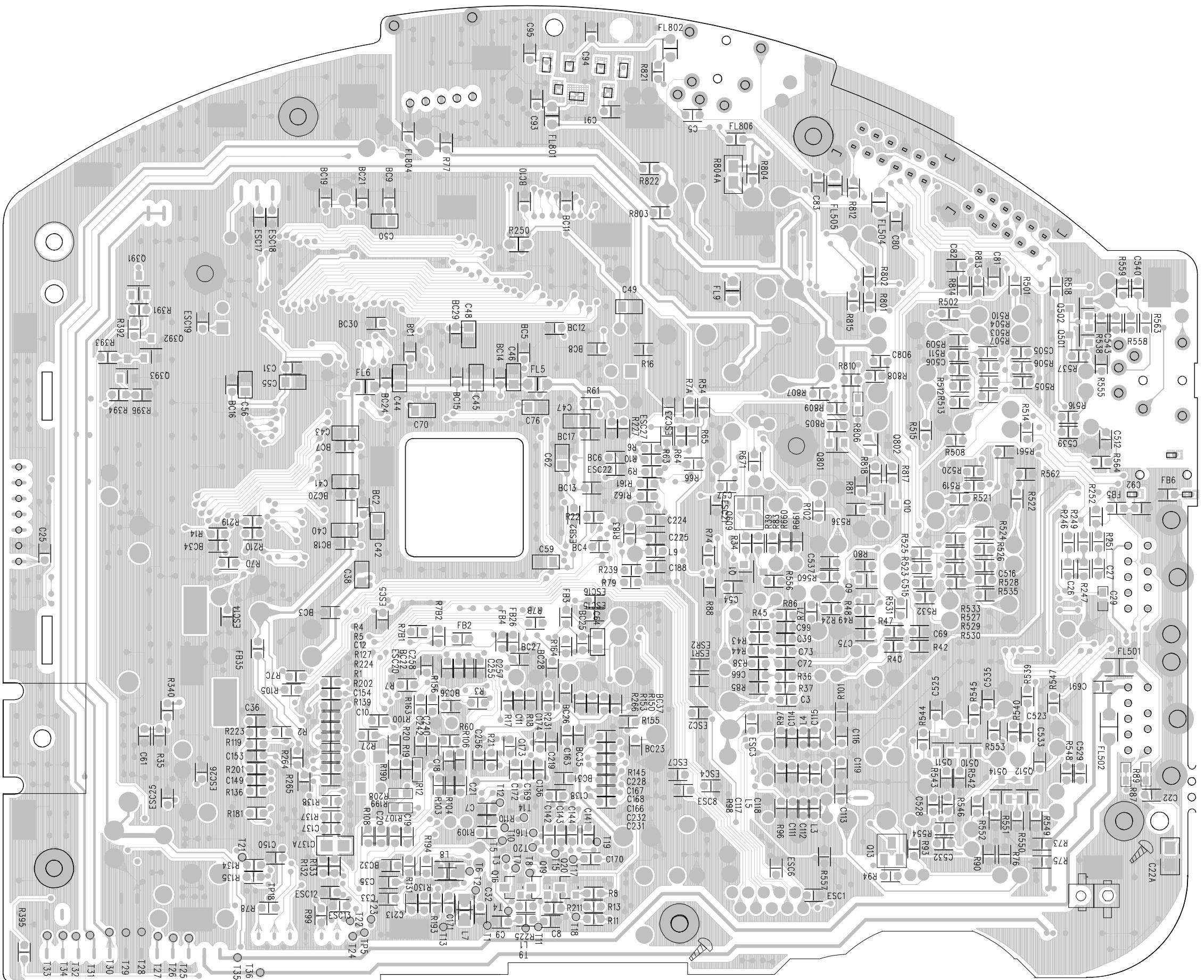
PRINTED CIRCUIT BOARDS

MAIN PCB (TOP VIEW)
PVS1960S-02-01



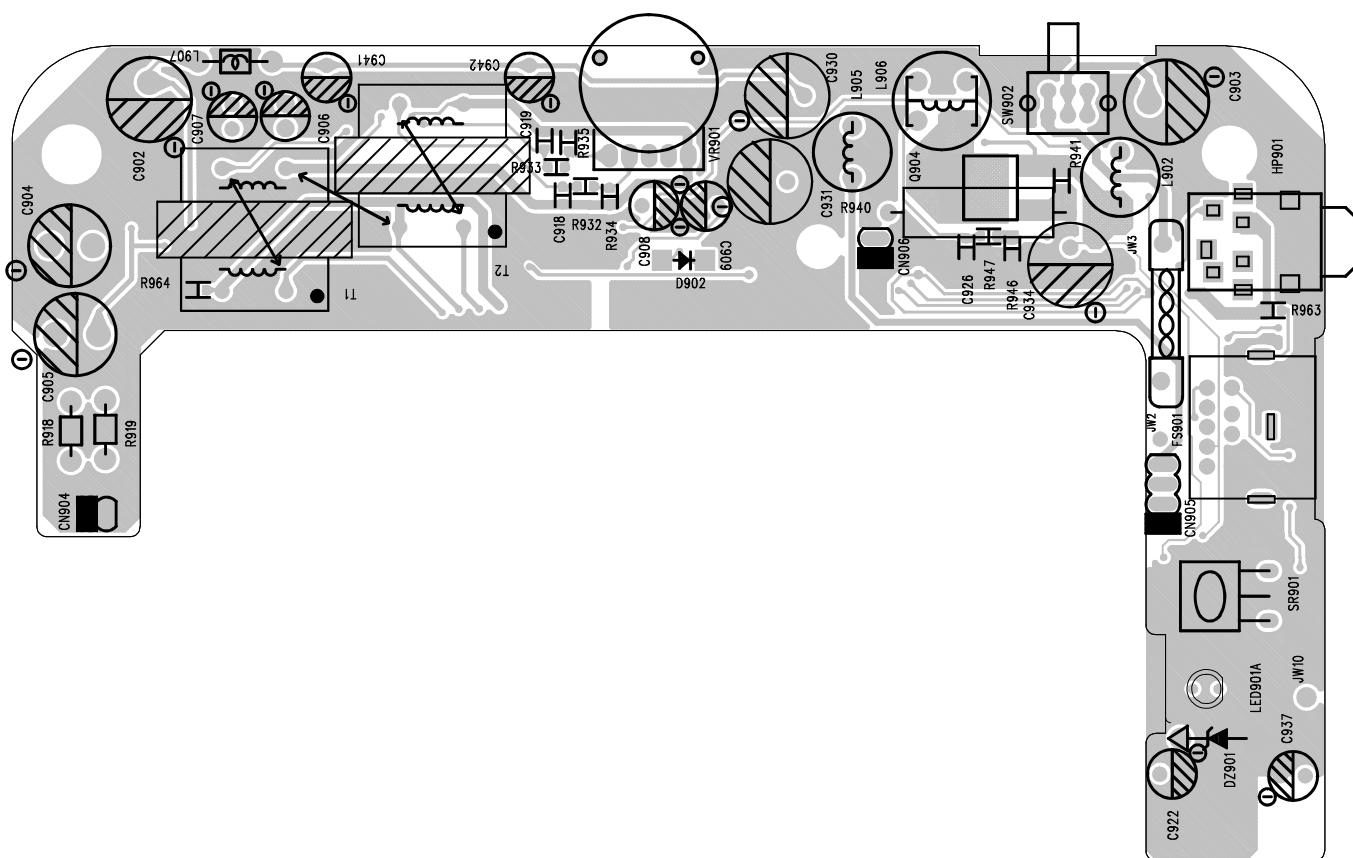
MAIN PCB (BOTTOM VIEW)

PVS1960S-02-01



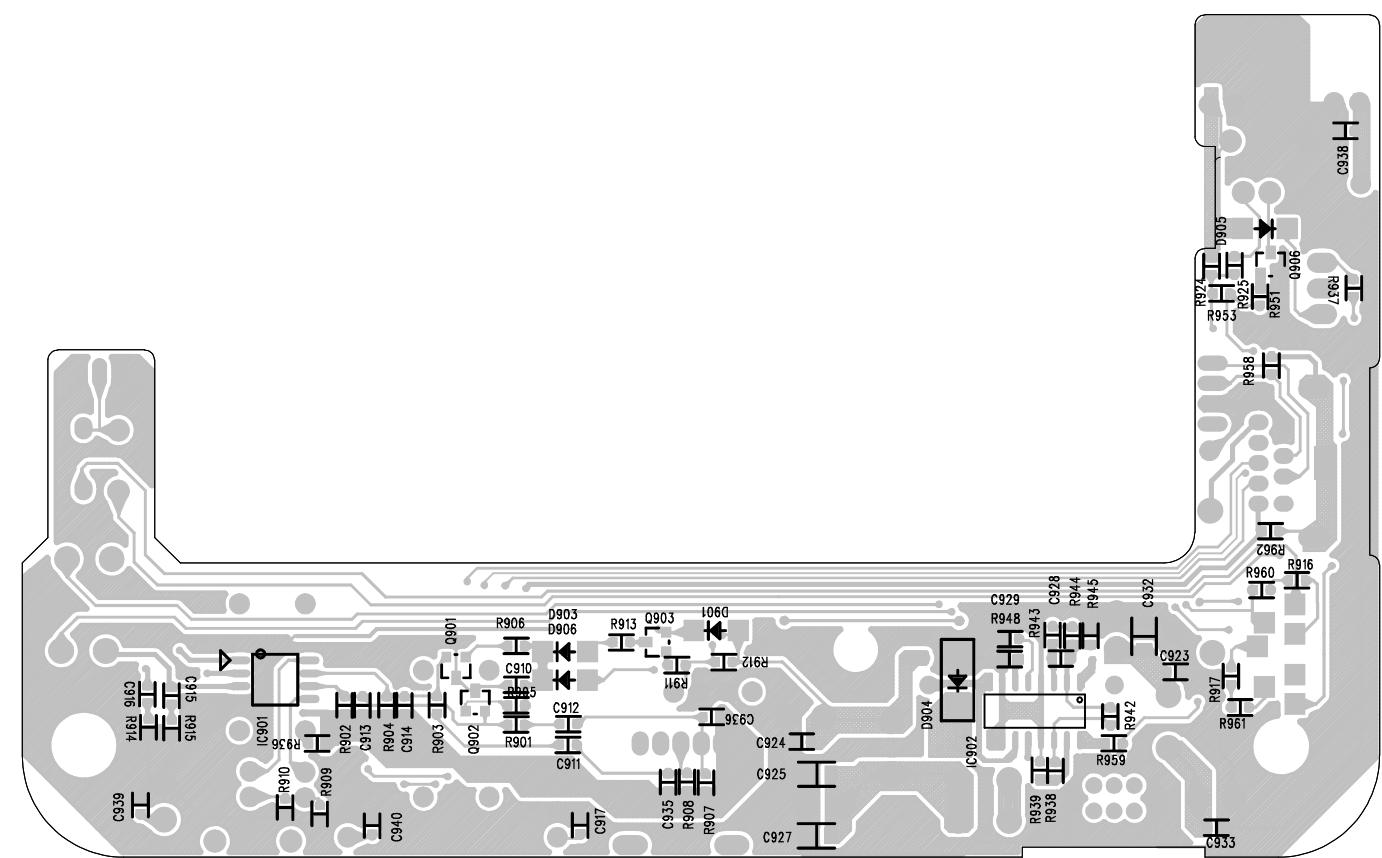
DISPLAY PCB (TOP VIEW)

PVS1950-01-01



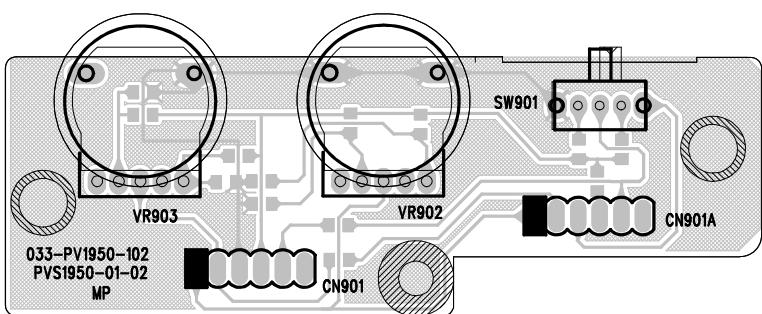
DISPLAY PCB (BOTTOM VIEW)

PVS1950-01-01



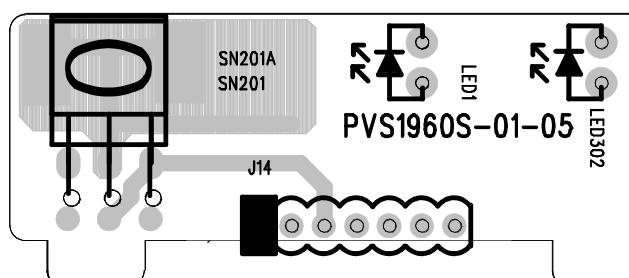
COLOR & BRIGHTEN KNOB PCB (TOP VIEW)

PVS1960-01-02



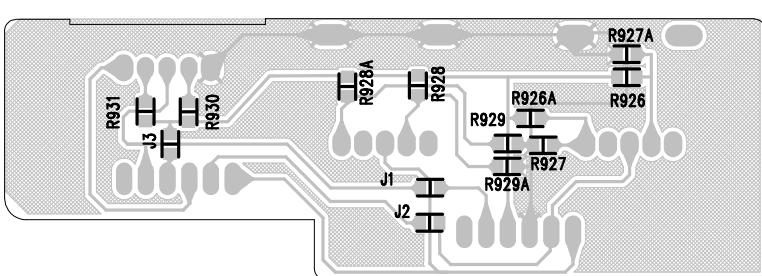
LED + REMOTE SENSOR PCB (TOP VIEW)

PVS1960S-01-05



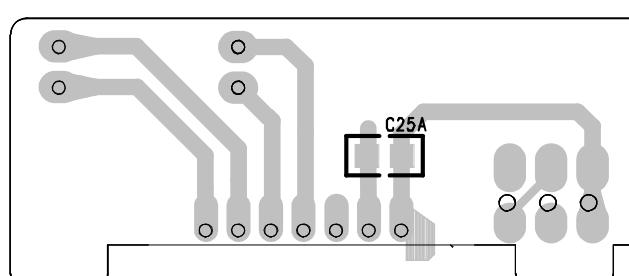
COLOR & BRIGHTEN KNOB PCB (BOTTOM VIEW)

PVS1960-01-02



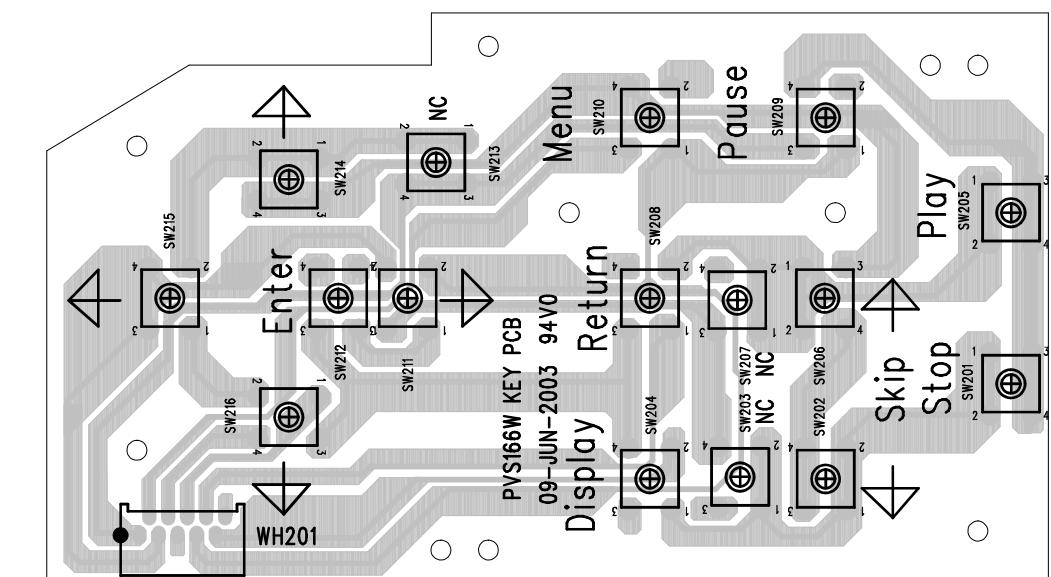
LED + REMOTE SENSOR PCB (BOTTOM VIEW)

PVS1960S-01-05



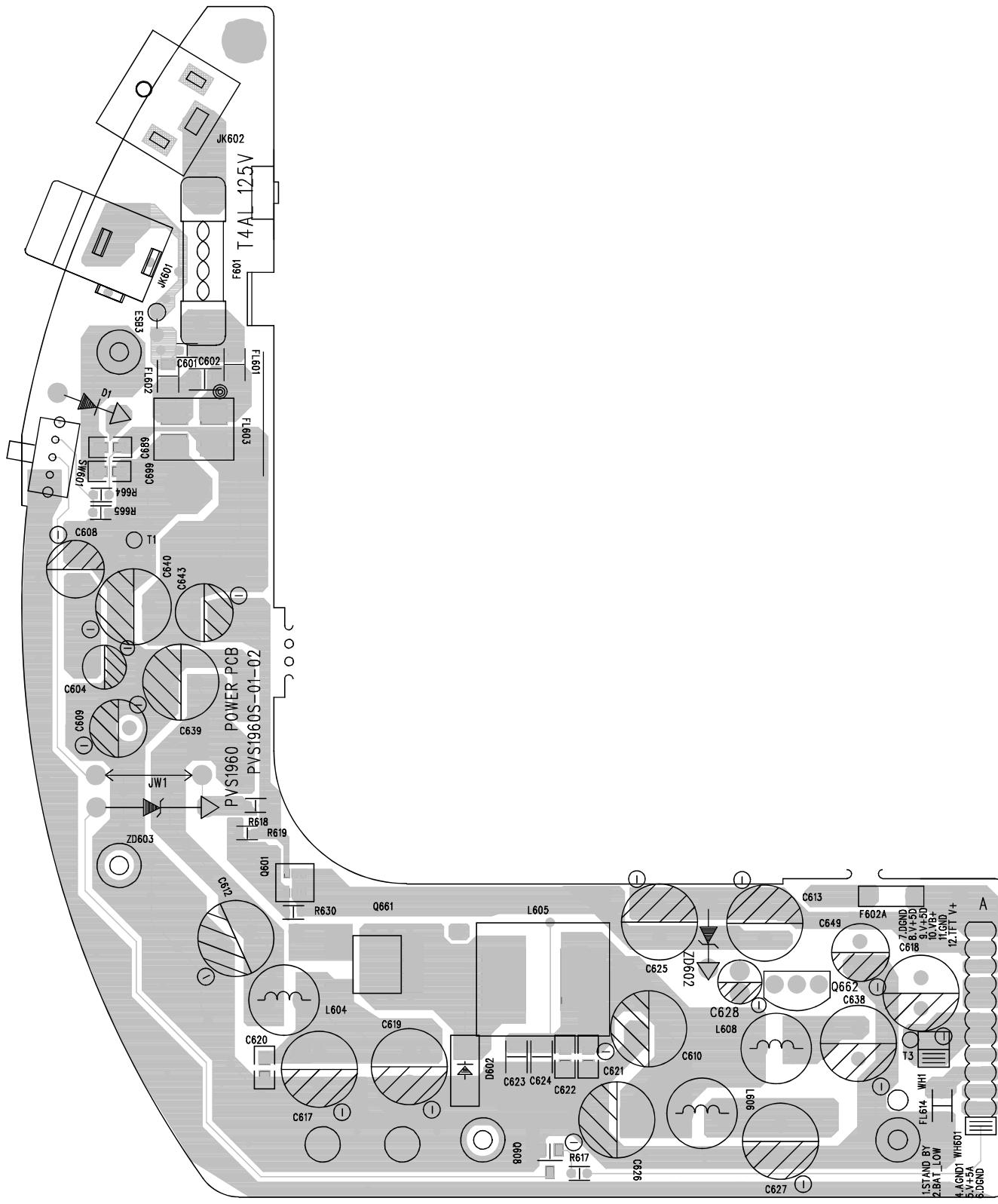
KEY PCB

PVS166W-01-08

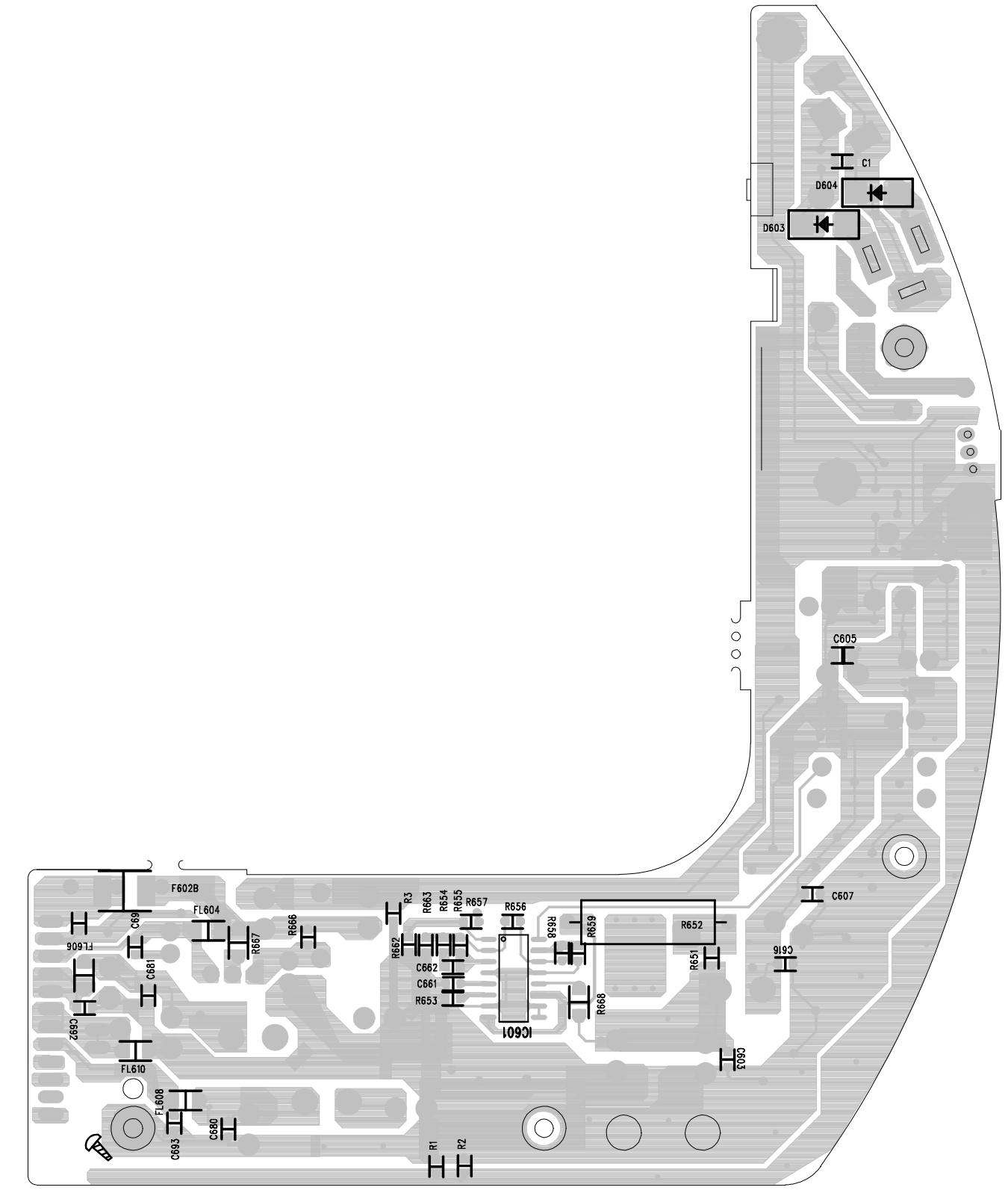


POWER PCB (TOP VIEW)

PVS1960S-01-02



POWER PCB (BOTTOM VIEW)
PVS1960S-01-02

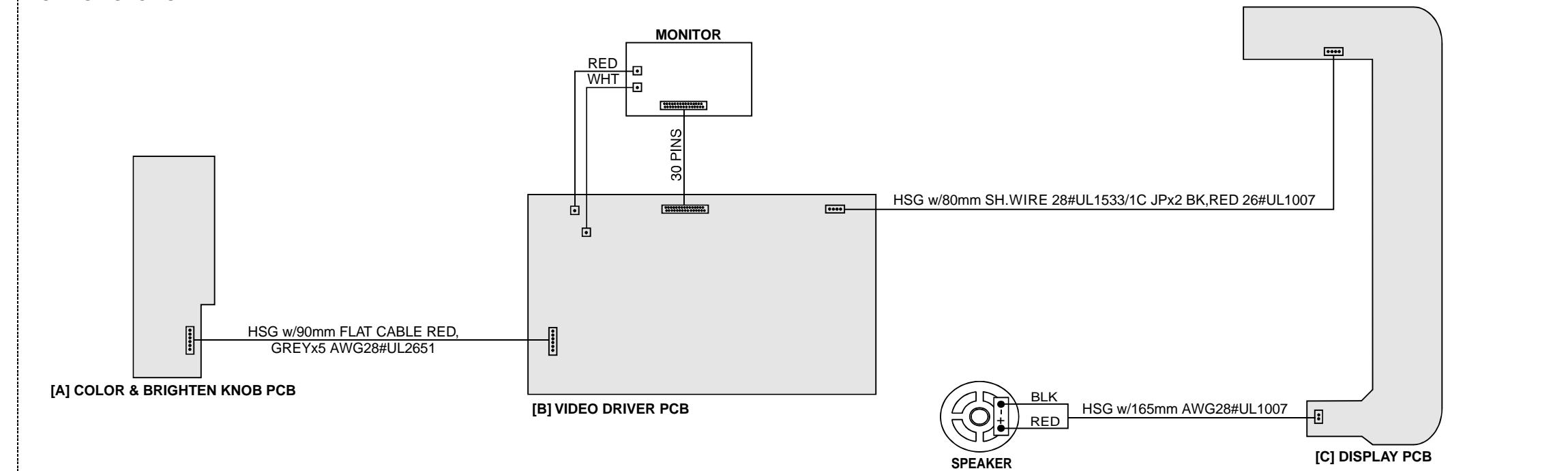


NOTES:

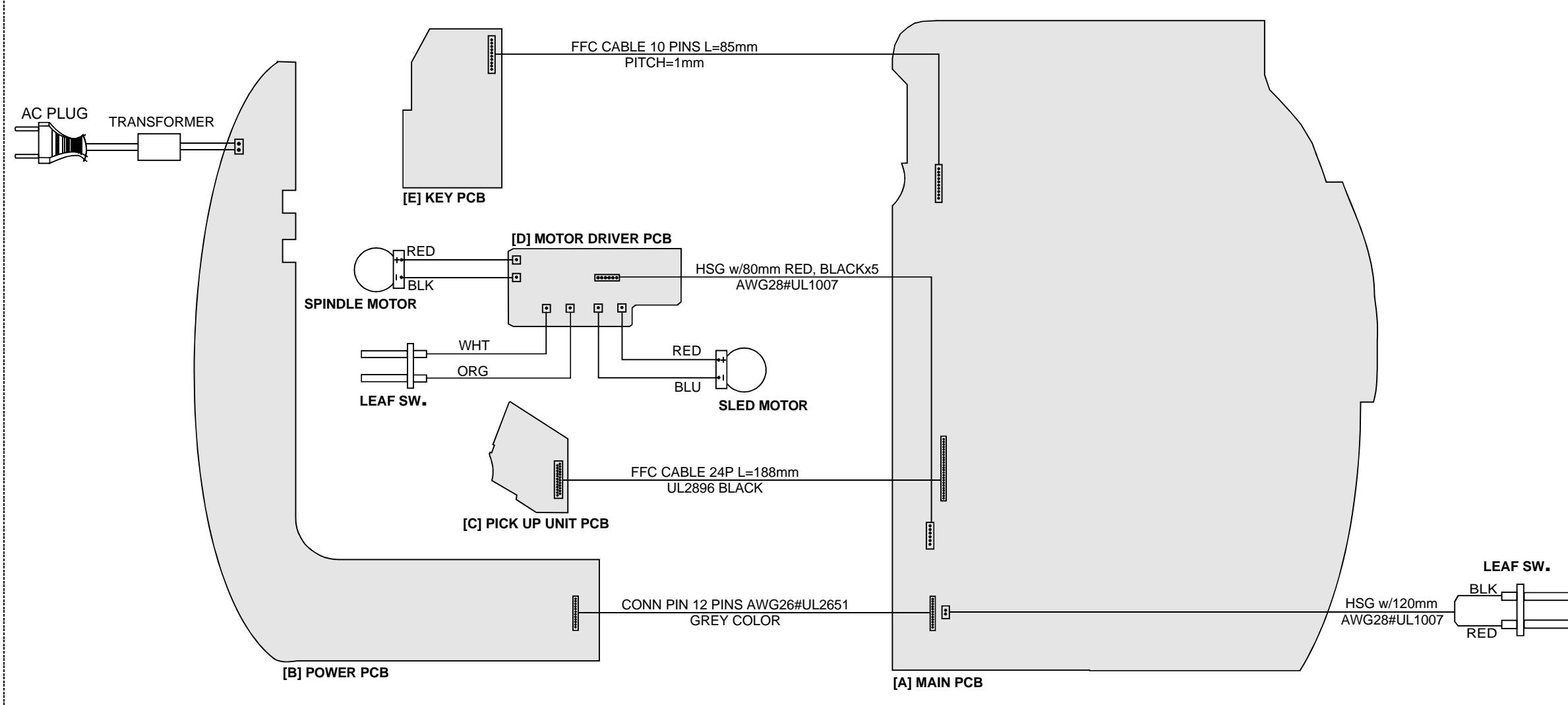
PCB Part No.: 033-PV1960-504 of this model are assembled and aligned in **FULL SET** and are supplied in **FULL SET** for serving.

WIRING DIAGRAM

MONITOR SECTION

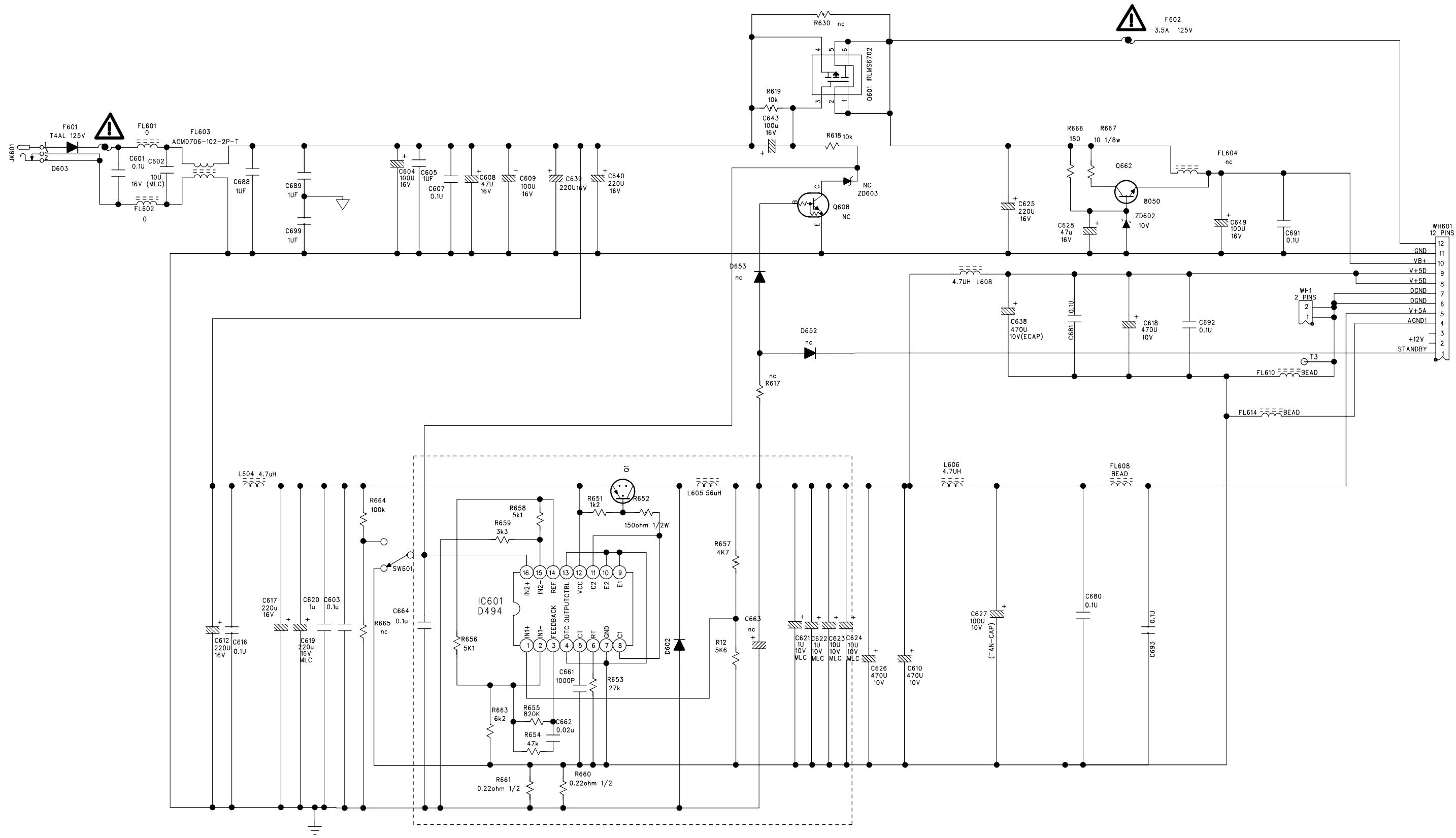


MAIN SECTION



SCHEMATIC DIAGRAMS

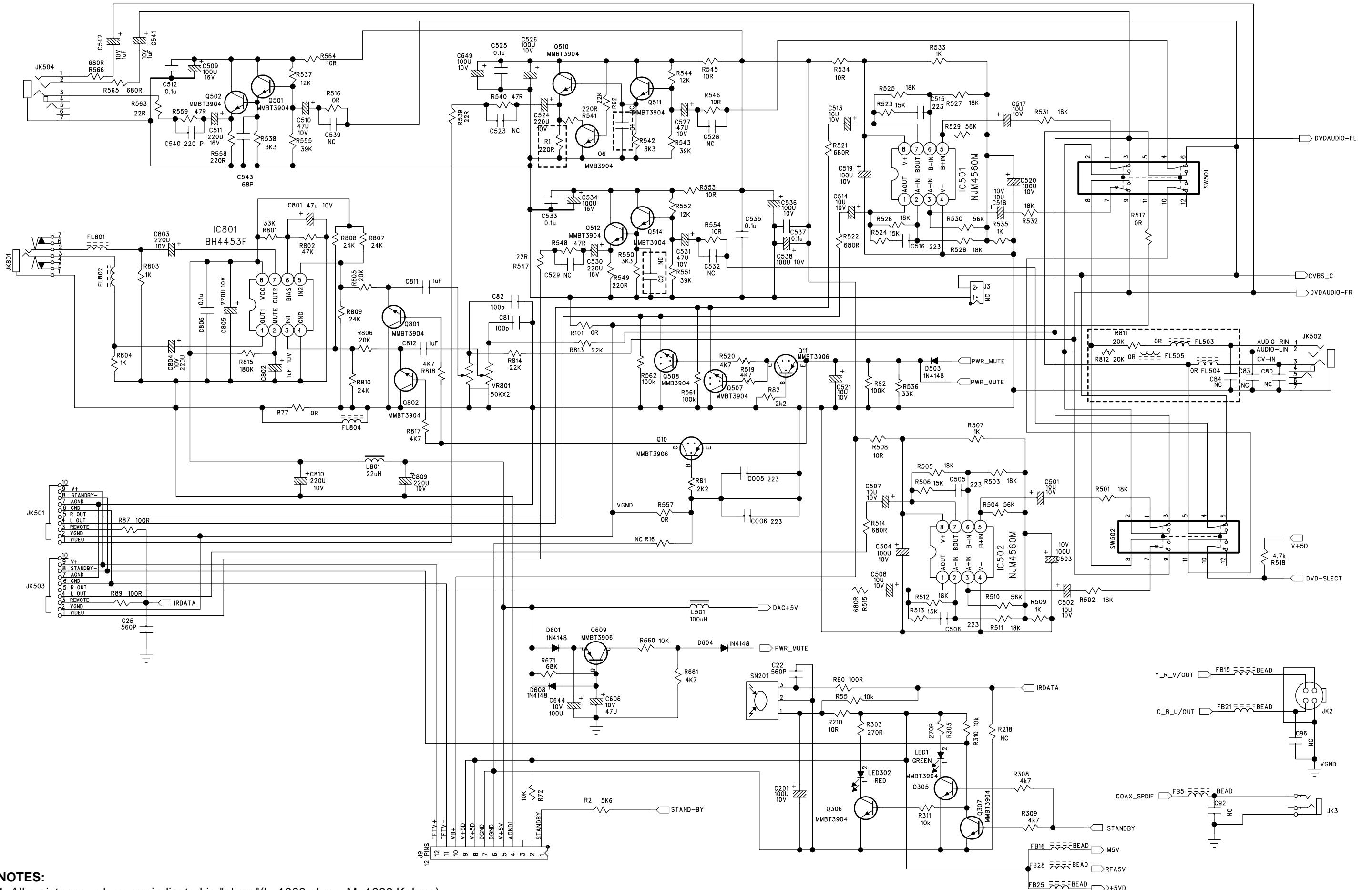
POWER SUPPLY SECTION



NOTES:

1. All resistance values are indicated in "ohms" ($k=1000$ ohms, $M=1000$ Kohms).
2. All capacitance values are indicated in " μF " ($p=10^6 \mu F$).

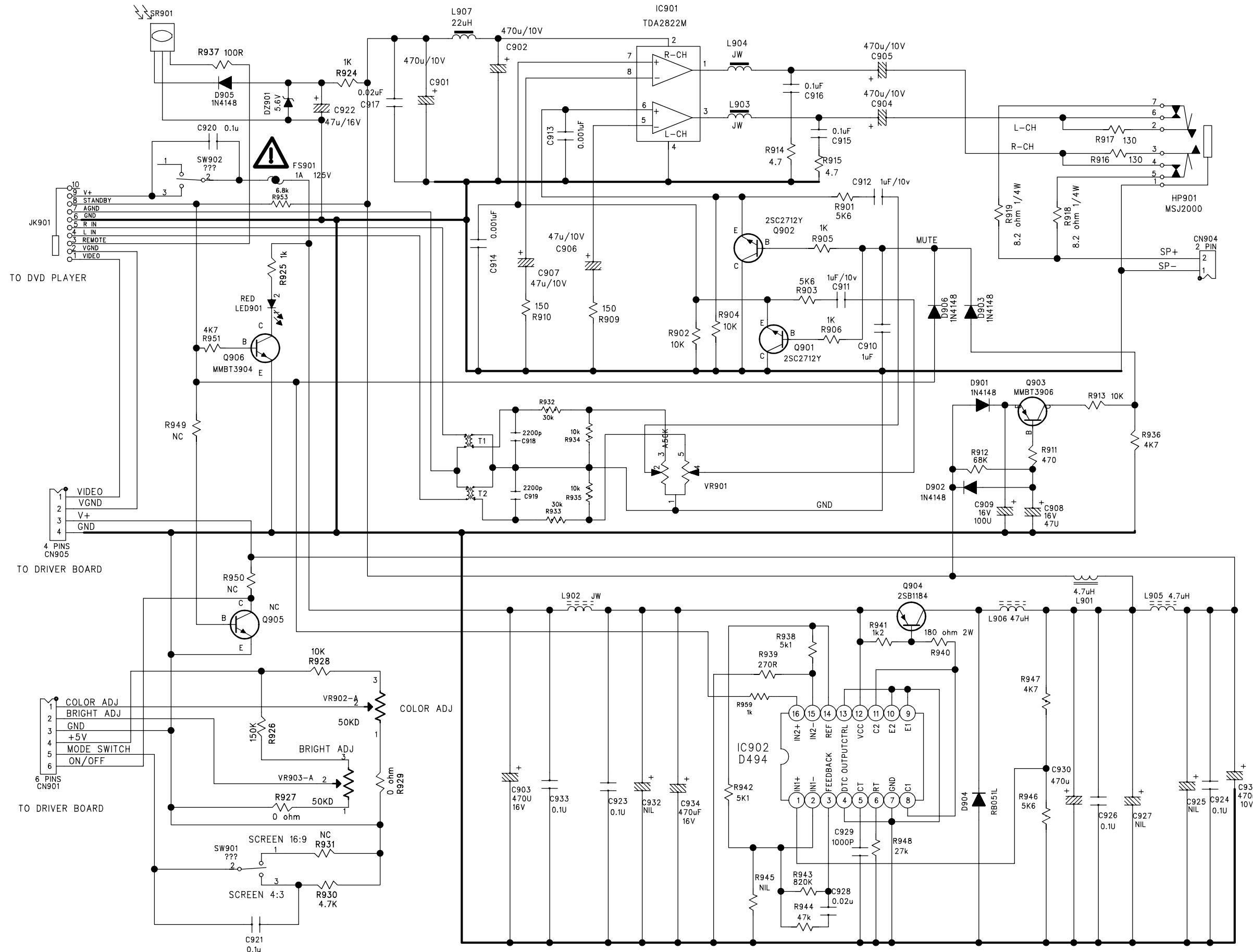
AV & AMPLIFIER SECTION



NOTES:

1. All resistance values are indicated in "ohms"(k=1000 ohms. M=1000 Kohms).
 2. All capacitance values are indicated in " μ F" ($p=10^{-6}\mu$ F).

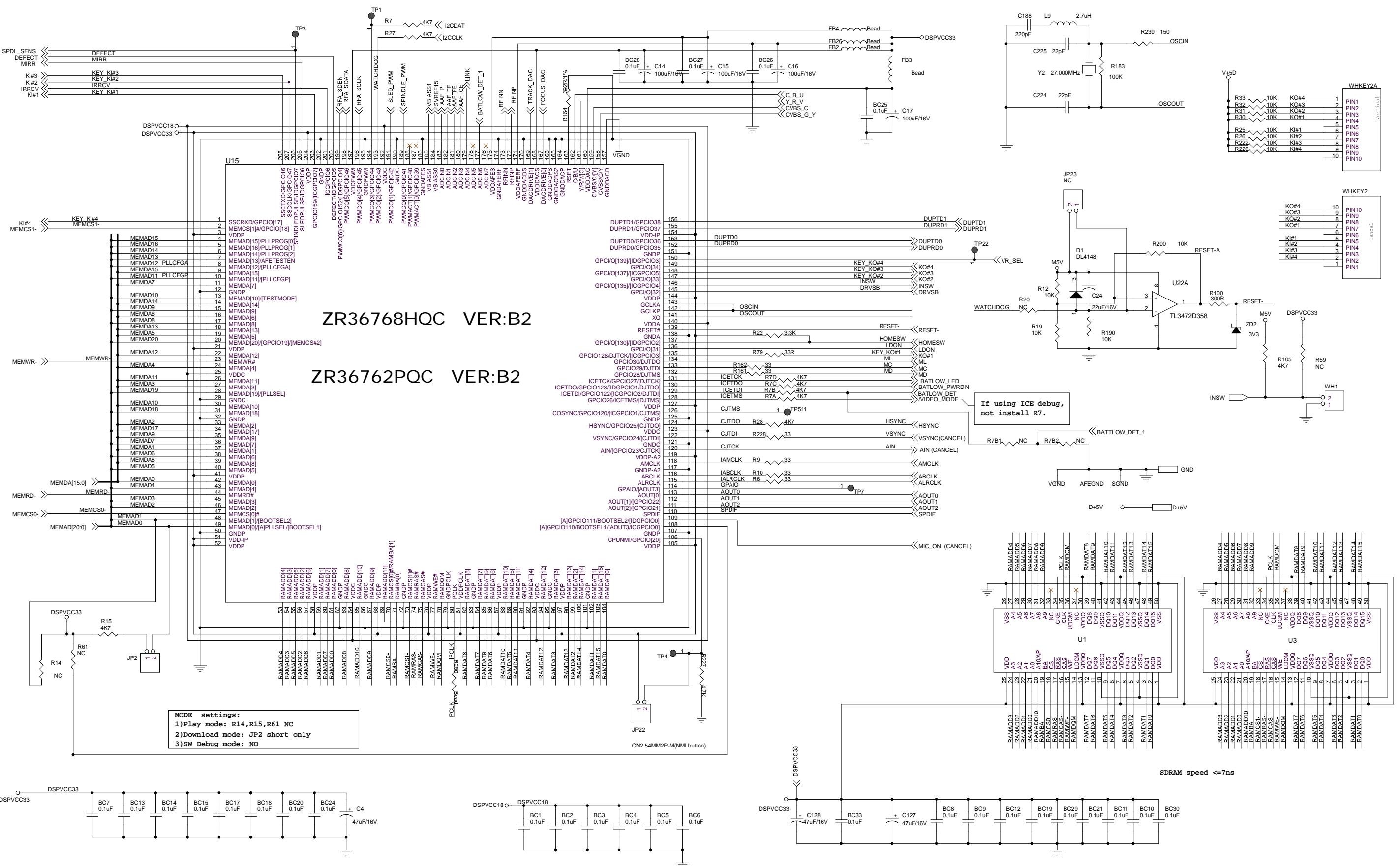
MONITOR SECTION



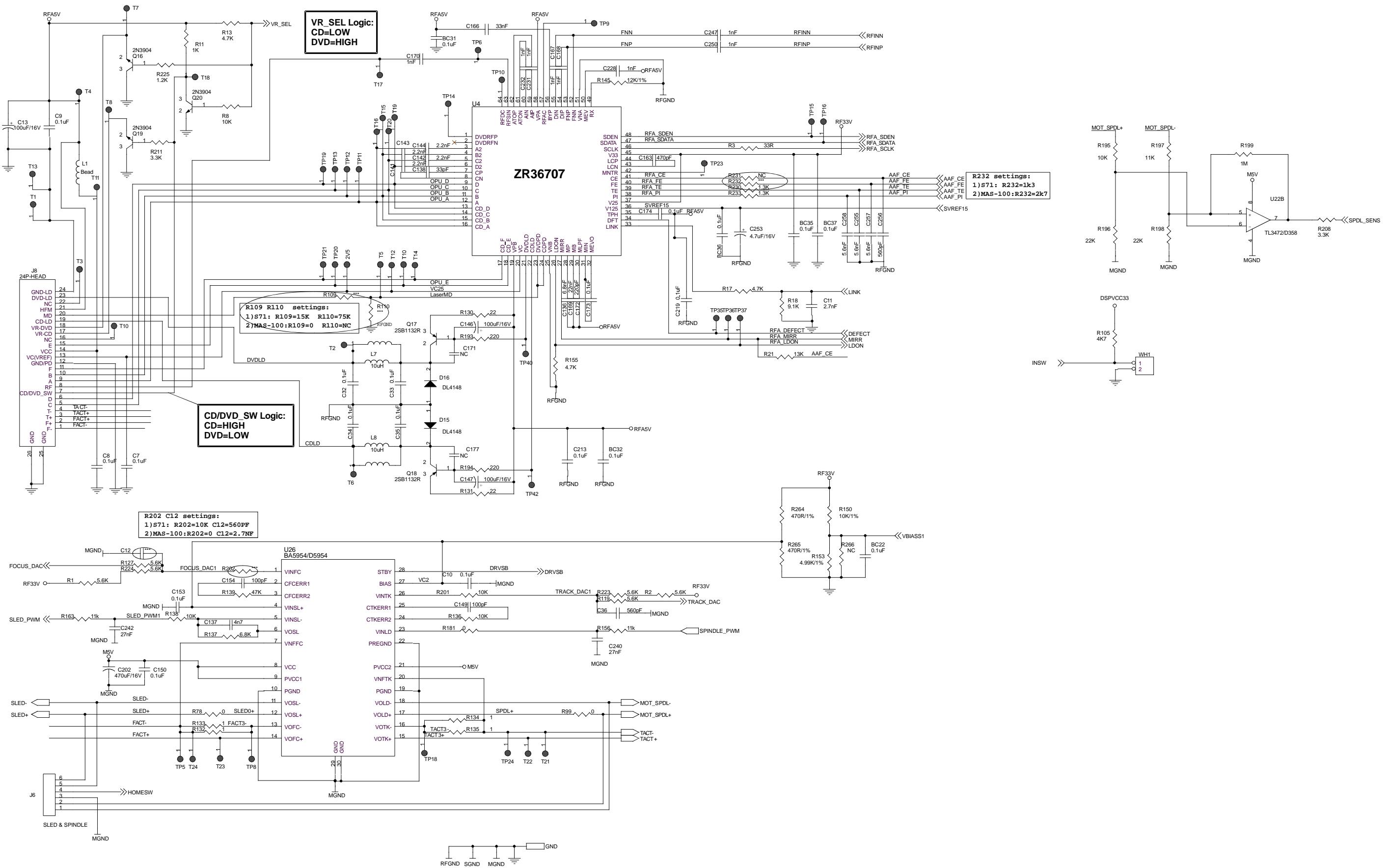
NOTES:

1. All resistance values are indicated in "ohms" ($k=1000$ ohms. $M=1000$ Kohms).
2. All capacitance values are indicated in " μF " ($p=10^6 \mu F$).

SDRAM SECTION



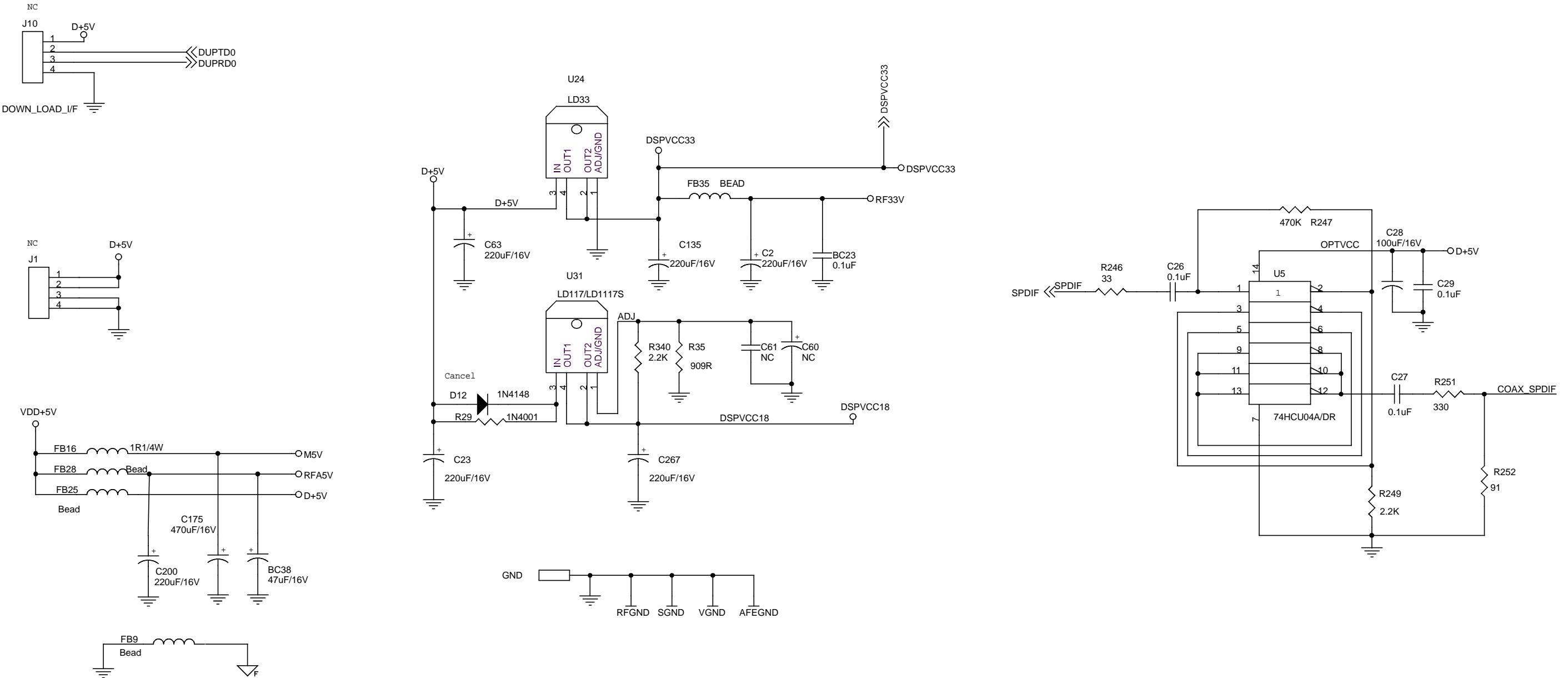
RF & DRIVER SECTION



NOTES:

1. All resistance values are indicated in "ohms" ($k=1000$ ohms. $M=1000$ Kohms).
 2. All capacitance values are indicated in " μF " ($p=10^{-6}$ μF).

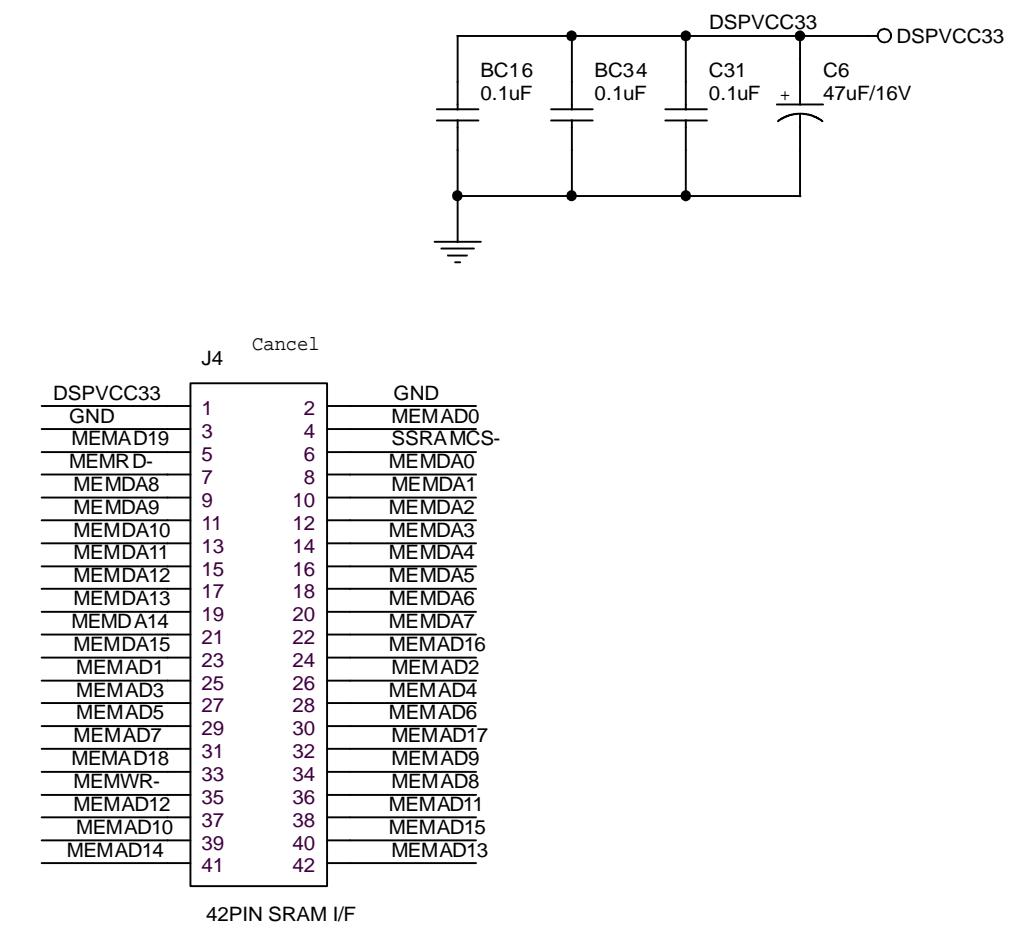
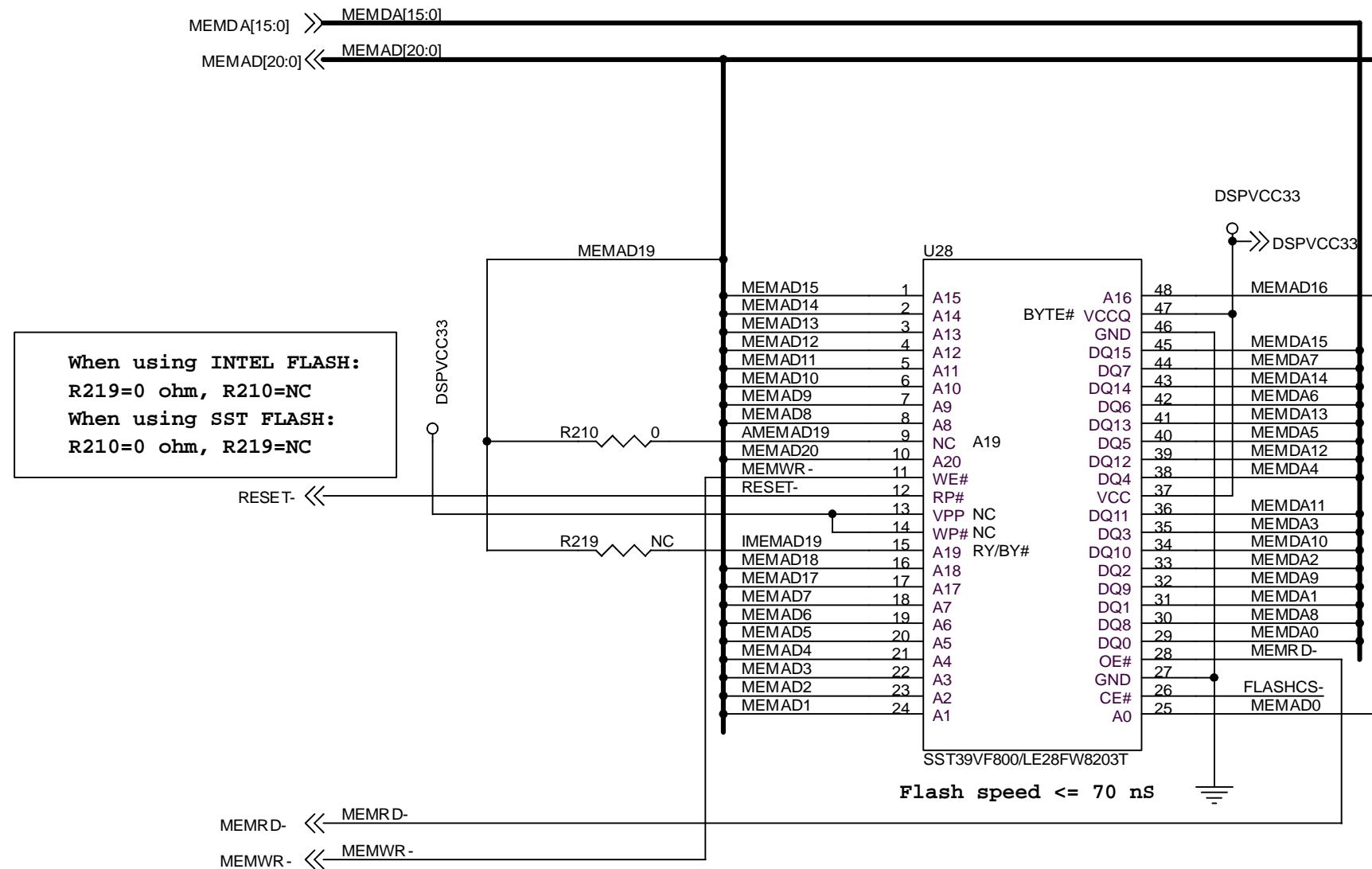
POWER & AV OUTPUT SECTION



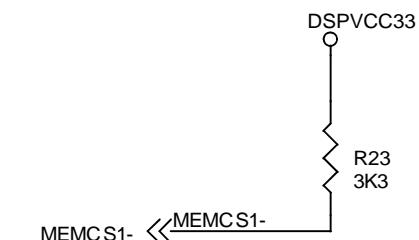
NOTES:

1. All resistance values are indicated in "ohms" ($k=1000$ ohms. $M=1000$ Kohms).
2. All capacitance values are indicated in " μF " ($p=10^6 \mu F$).

FLASH & SRAM I/F SECTION



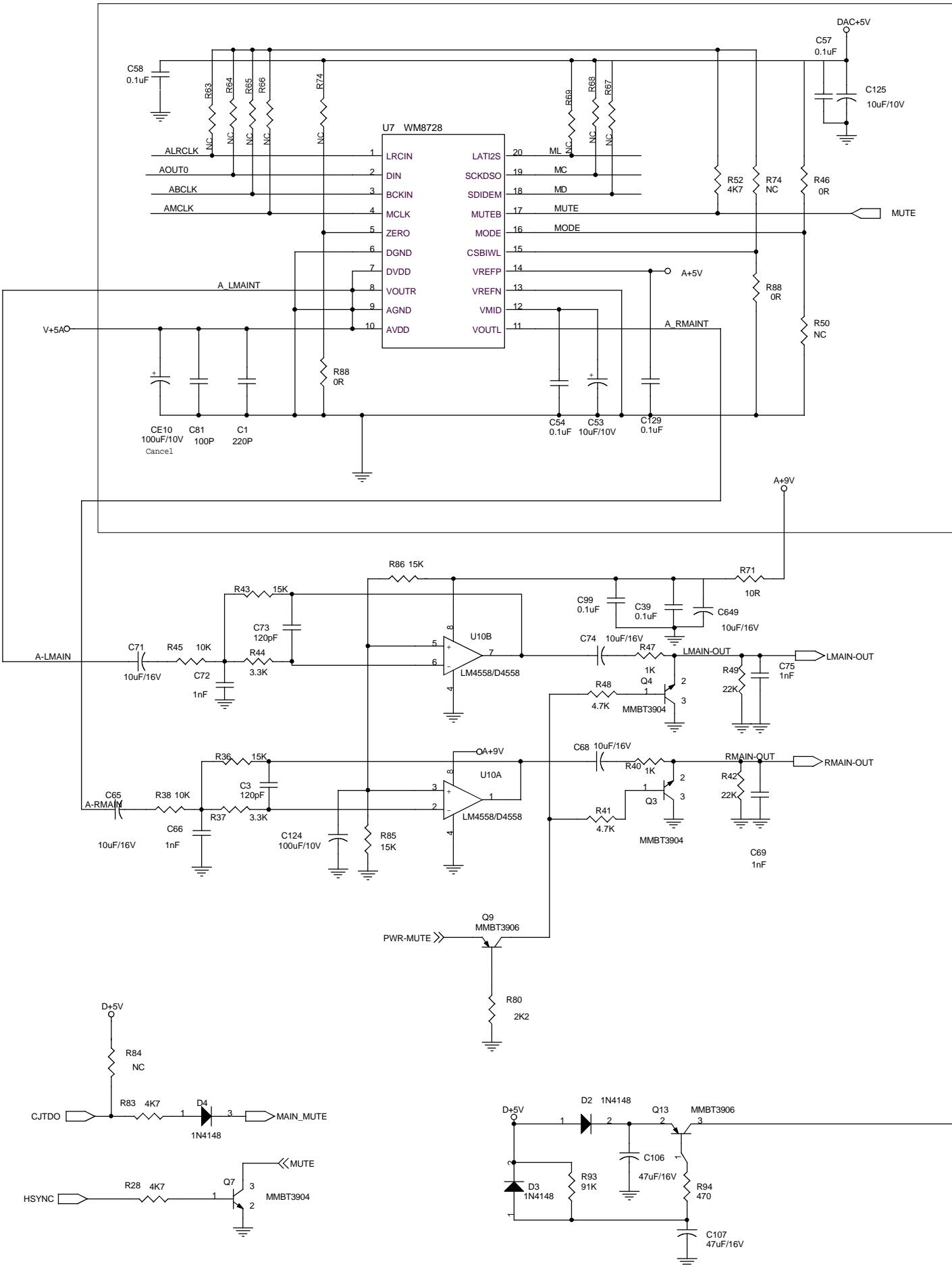
EXTERNAL SRAM PORT



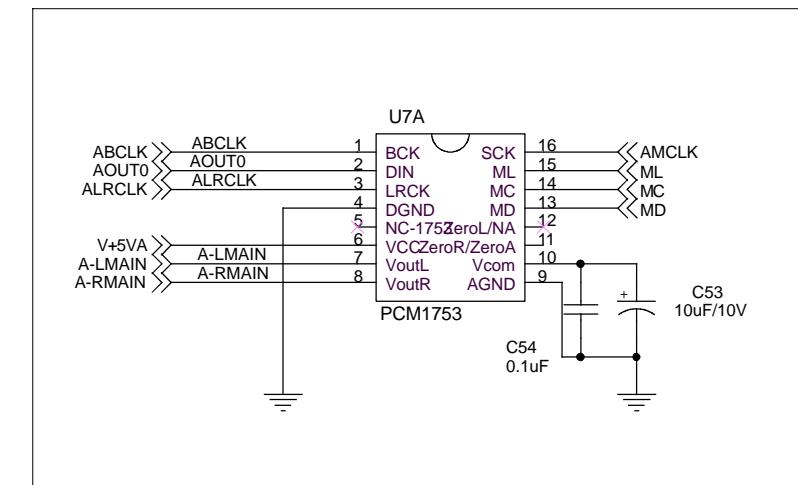
NOTES:

1. All resistance values are indicated in "ohms" (k=1000 ohms. M=1000 Kohms).
2. All capacitance values are indicated in "μF" (p=10⁻⁶ μF).

AUDIO & VIDEO SECTION



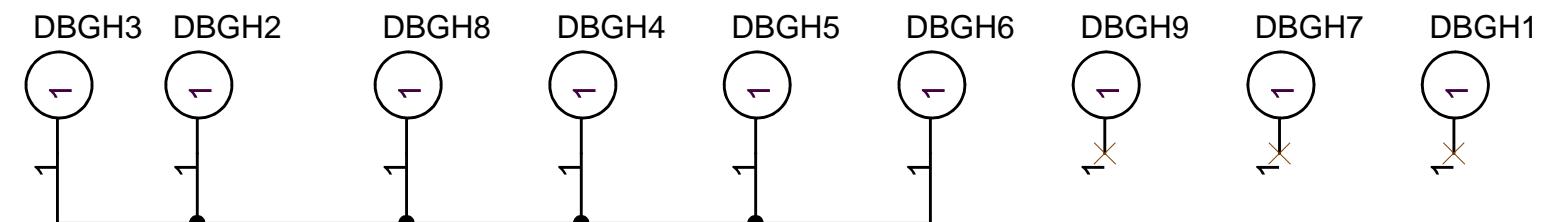
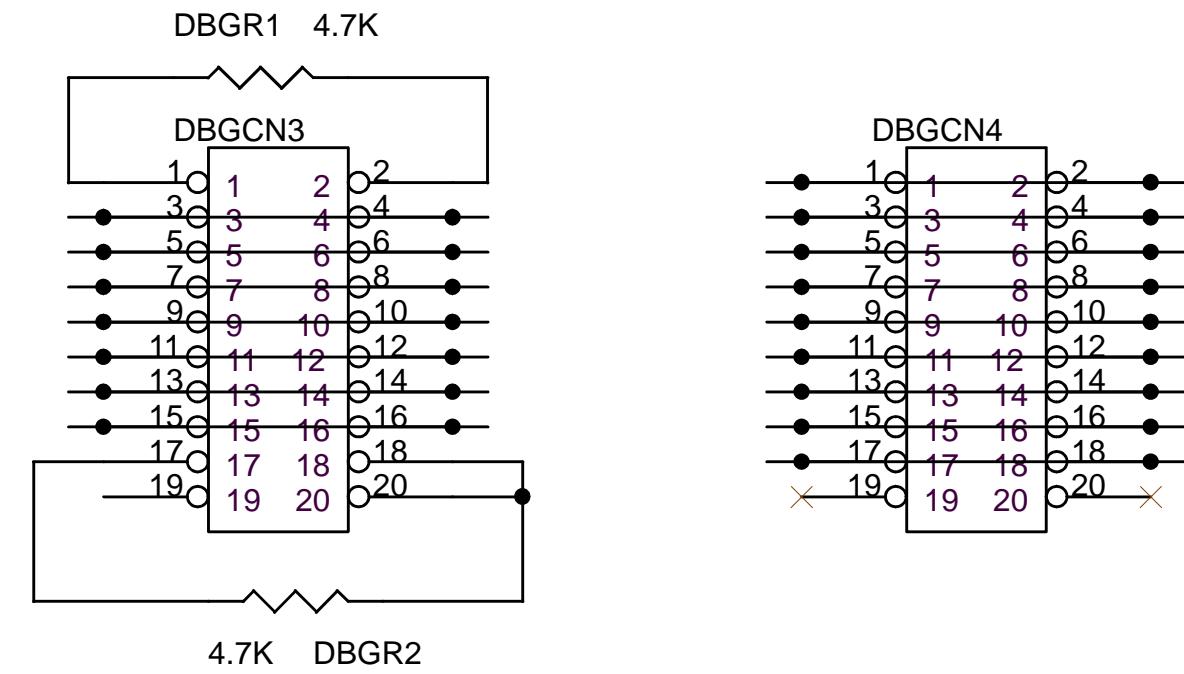
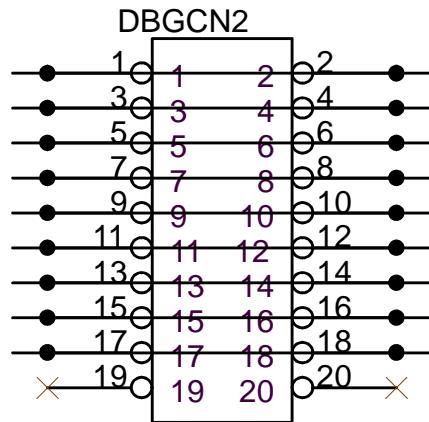
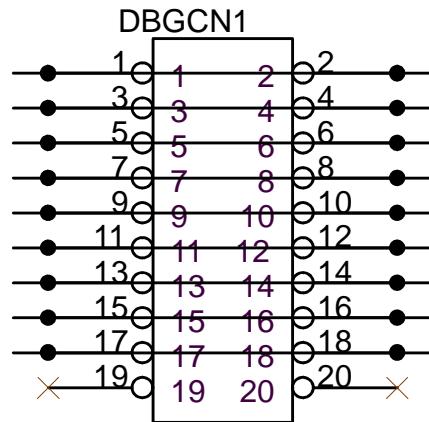
OPTIONAL WM8728 OR
PMC1753



NOTES:

1. All resistance values are indicated in "ohms" (k=1000 ohms. M=1000 Kohms).
2. All capacitance values are indicated in "μF" (p=10⁶ μF).

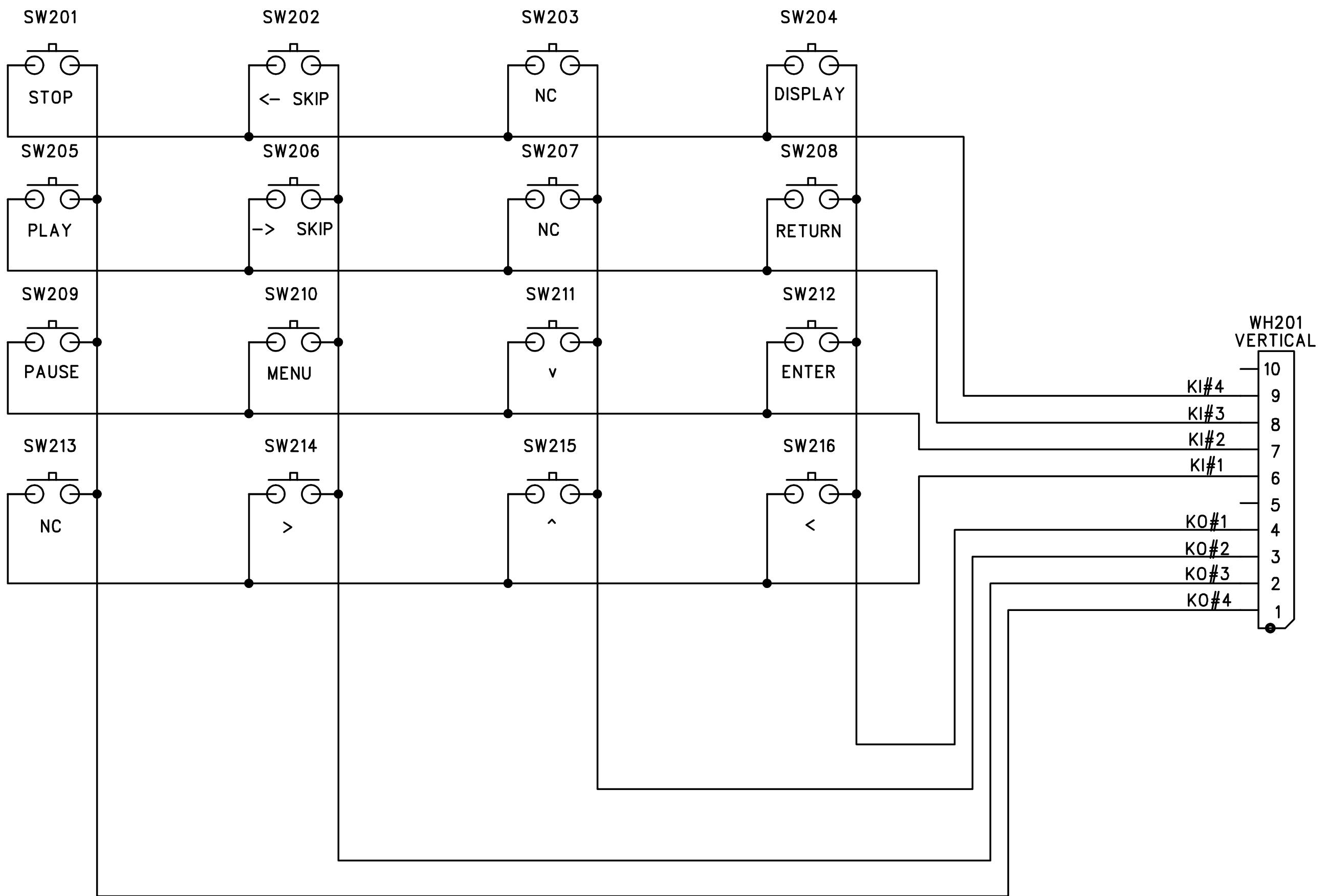
DEBUG SECTION



NOTES:

1. All resistance values are indicated in "ohms"(k=1000 ohms. M=1000 Kohms).
2. All capacitance values are indicated in " μF " ($p=10^6 \mu\text{F}$).

KEY SECTION



NOTES:

1. All resistance values are indicated in "ohms" ($k=1000$ ohms. $M=1000$ Kohms).
2. All capacitance values are indicated in " μF " ($p=10^6 \mu F$).

VOLTAGE CHART

THE MEASURED VALUE IS DC VOLTAGE

UNIT: V

AV SECTION

TEST CONDITION: DVD PLAY

IC501 (NJM4560M)

PIN'S NUMBER	1	2	3	4	5	6	7	8
DVD PLAY	1.61	1.61	1.59	0	1.59	1.60	1.60	3.20

IC502 (NJM4560M)

PIN'S NUMBER	1	2	3	4	5	6	7	8
DVD PLAY	1.60	1.60	1.59	0	1.58	1.60	1.65	3.30

IC601 (D494CD)

PIN'S NUMBER	1	2	3	4	5	6	7	8
DVD PLAY	2.72	2.72	2.80	0	1.40	3.66	0	8.56
PIN'S NUMBER	9	10	11	12	13	14	15	16
DVD PLAY	0	0	8.56	11.96	0	4.94	1.95	0

IC801 (BH4453F)

PIN'S NUMBER	1	2	3	4	5	6	7	8
DVD PLAY	3.65	2.35	2.43	0	2.42	2.22	3.59	4.88

IC901 (TDA2822)

PIN'S NUMBER	1	2	3	4	5	6	7	8
DVD PLAY	4.10	9.20	4.11	0	0.51	0	0	0.50

IC902 (D494CD)

PIN'S NUMBER	1	2	3	4	5	6	7	8
DVD PLAY	5.03	5.02	1.81	0	1.50	3.81	0	4.47
PIN'S NUMBER	9	10	11	12	13	14	15	16
DVD PLAY	0	0	4.45	11.61	0	5.05	0.24	0

TRANSISTOR	Q662(8050)			Q1(MMBT3904)		
	E	C	B	E	C	B
DVD PLAY	10.34	10.84	9.67	12.00	5.00	4.30

TRANSISTOR	Q306(MMBT3904)			Q305(MMBT3904)			Q307(MMBT3904)		
	E	C	B	E	C	B	E	C	B
STANDBY	0	0.18	0.71	0	3.44	0	0	1.98	0
POWER ON	0	3.58	0.10	0	0.17	0.70	0	0.10	0.47

MPEG+SERVO SECTION

TEST CONDITION: DVD PLAY

U1 (V54C316162VC/EM636165TS)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
DVD PLAY	3.30	1.45	0.70	0	0.77	0.75	3.30	2.10	0.82	0
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
DVD PLAY	0.78	0.90	3.30	0	3.19	3.23	3.16	3.08	0.52	1.74
PIN'S NUMBER	21	22	23	24	25	26	27	28	29	30
DVD PLAY	0	0	0.45	0	3.30	0	0.55	0.55	0.53	0.55
PIN'S NUMBER	31	32	33	34	35	36	37	38	39	40
DVD PLAY	0.26	0.30	0	3.30	1.73	0	0	3.30	1.45	1.23
PIN'S NUMBER	41	42	43	44	45	46	47	48	49	50
DVD PLAY	0	1.20	1.15	3.30	1.65	1.16	0	1.16	0.86	0

VOLTAGE CHART - CONTINUED

U3 (V54C316162VC/EM636165TS)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
DVD PLAY	3.30	1.45	0.70	0	0.77	0.75	3.30	2.10	0.82	0
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
DVD PLAY	0.78	0.90	3.30	0	3.19	3.23	3.16	3.08	0.52	1.74
PIN'S NUMBER	21	22	23	24	25	26	27	28	29	30
DVD PLAY	0	0	0.45	0	3.30	0	0.55	0.55	0.53	0.55
PIN'S NUMBER	31	32	33	34	35	36	37	38	39	40
DVD PLAY	0.26	0.30	0	3.30	1.73	0	0	3.30	1.45	1.23
PIN'S NUMBER	41	42	43	44	45	46	47	48	49	50
DVD PLAY	0	1.20	1.15	3.30	1.65	1.16	0	1.16	0.86	0

U4 (ZR36707TQC)

PIN'S NUMBER	1	2	3	4	5	6	7	8
DVD PLAY	0.98	0.99	2.5	2.5	2.5	2.5	3.56	3.58
PIN'S NUMBER	9	10	11	12	13	14	15	16
DVD PLAY	2.56	2.57	2.57	2.56	2.57	2.57	2.58	2.57
PIN'S NUMBER	17	18	19	20	21	22	23	24
DVD PLAY	2.64	2.64	4.97	2.5	4.95	3.69	0	0.18
PIN'S NUMBER	25	26	27	28	29	30	31	32
DVD PLAY	0	3.26	0	2.49	2.06	2.09	2.84	0.25
PIN'S NUMBER	33	34	35	36	37	38	39	40
DVD PLAY	0	0	3.36	1.69	3.31	1.71	1.69	1.72
PIN'S NUMBER	41	42	43	44	45	46	47	48
DVD PLAY	1.79	0.53	3.99	4.02	3.31	3.26	0	0

VOLTAGE CHART - CONTINUED

U15 (ZR36762PQCG)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
DVD PLAY	4.68	3.29	0	1.67	1.99	2.54	1.65	1.98	1.17	1.38
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
DVD PLAY	1.48	0	2.39	1.42	1.69	1.16	1.38	0.97	1.23	0
PIN'S NUMBER	21	22	23	24	25	26	27	28	29	30
DVD PLAY	3.29	1.09	3.29	1.28	1.7	1.57	1.51	0	0	1.05
PIN'S NUMBER	31	32	33	34	35	36	37	38	39	40
DVD PLAY	0	0	0.32	1.91	1.34	1.64	1.18	1.46	2.36	3.29
PIN'S NUMBER	41	42	43	44	45	46	47	48	49	50
DVD PLAY	1.3	2.15	3.15	2.37	2.14	3.15	3.29	3.14	0	3.29
PIN'S NUMBER	51	52	53	54	55	56	57	58	59	60
DVD PLAY	0	3.29	0.1	0.1	0.1	0.09	0.11	3.29	0.1	0.09
PIN'S NUMBER	61	62	63	64	65	66	67	68	69	70
DVD PLAY	0.11	0	0.11	1.71	2.51	0	0.09	3.29	0	3.26
PIN'S NUMBER	71	72	73	74	75	76	77	78	79	80
DVD PLAY	0.11	0	3.26	3.26	3.28	3.29	3.27	0	0	1.58
PIN'S NUMBER	81	82	83	84	85	86	87	88	89	90
DVD PLAY	3.29	1.5	0	0.75	1.59	0.92	3.29	1.14	1.17	0.94
PIN'S NUMBER	91	92	93	94	95	96	97	98	99	100
DVD PLAY	0	1.96	1.7	1.5	0	1.15	3.29	0.72	1.28	0
PIN'S NUMBER	101	102	103	104	105	106	107	108	109	110
DVD PLAY	0	1.55	1.1	1.43	3.29	0	0	0	3.29	0
PIN'S NUMBER	111	112	113	114	115	116	117	118	119	120
DVD PLAY	1.06	1.08	1.08	0	0	1.64	0	1.51	3.29	0
PIN'S NUMBER	121	122	123	124	125	126	127	128	129	130
DVD PLAY	0	0	0	0	0	0	3.29	3.29	0	3.41
PIN'S NUMBER	131	132	133	134	135	136	137	138	139	140
DVD PLAY	3.22	0	3.29	0	3.26	4.66	3.26	3.29	1.7	1.82
PIN'S NUMBER	141	142	143	144	145	146	147	148	149	150
DVD PLAY	1.48	1.49	3.29	0	0	0	0	0	3.29	0
PIN'S NUMBER	151	152	153	154	155	156	157	158	159	160
DVD PLAY	0	3.29	3.01	0	3.29	0	0.81	0.81	3.22	0.81
PIN'S NUMBER	161	162	163	164	165	166	167	168	169	170
DVD PLAY	1.28	1.25	0	0	0	0	0.71	3.24	0.82	0
PIN'S NUMBER	171	172	173	174	175	176	177	178	179	180
DVD PLAY	3.02	1.19	1.19	0	3.24	1.65	1.78	1.61	1.15	0.15
PIN'S NUMBER	181	182	183	184	185	186	187	188	189	190
DVD PLAY	1.74	1.1	1.72	1.69	1.1	0	0	0	0	0
PIN'S NUMBER	191	192	193	194	195	196	197	198	199	200
DVD PLAY	0	1.7	0	0	0	3.26	3.24	0.03	0.03	0.03
PIN'S NUMBER	201	202	203	204	205	206	207	208		
DVD PLAY	4.65	0	3.31	3.29	0	0.18	3.24	0.2		

U28 (SST39VF800A)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
DVD PLAY	0.70	0.50	0.60	0.70	0.60	2.80	0	2.82	0	0
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
DVD PLAY	3.20	3.30	0	0	0	0.40	0.70	2.50	2.30	0.40
PIN'S NUMBER	21	22	23	24	25	26	27	28	29	30
DVD PLAY	0.65	1.00	1.00	1.92	1.45	0	0	1.26	1.28	1.44
PIN'S NUMBER	31	32	33	34	35	36	37	38	39	40
DVD PLAY	1.58	0.64	1.50	1.22	1.25	1.08	3.30	0	0.74	0.71
PIN'S NUMBER	41	42	43	44	45	46	47	48		
DVD PLAY	0	1.04	0.81	2.04	1.70	0	3.30	0.19		

VOLTAGE CHART - CONTINUED

U26 (BA5954FP)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
DVD PLAY	1.70	2.31	2.42	1.63	1.63	1.62	2.46	4.75	4.72	0
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
DVD PLAY	2.41	2.36	2.48	2.25	2.38	2.36	3.09	1.68	0	2.35
PIN'S NUMBER	21	22	23	24	25	26	27	28		
DVD PLAY	4.74	0	1.86	2.24	2.26	1.63	1.63	3.22		

U31 (LD1117S)

PIN'S NUMBER	1	2	3	4
DVD PLAY	0.57	1.82	3.26	1.82

TFT LCD DISPLAY SECTION

TEST CONDITION: DVD PLAY

U1 (PVI-1004C/D)

PIN'S NUMBER	1	2	3	4	5	6	7	8
DVD PLAY	4.97	1.54	5.04	0.48	5.01	5.01	0	0.69
PIN'S NUMBER	9	10	11	12	13	14	15	16
DVD PLAY	4.99	2.54	2.53	2.50	0	5.04	4.67	4.96
PIN'S NUMBER	17	18	19	20	21	22	23	24
DVD PLAY	5.04	0.61	0.84	0.84	0	4.13	0	4.15
PIN'S NUMBER	25	26	27	28	29	30	31	32
DVD PLAY	4.14	4.14	4.19	4.17	4.19	4.12	3.33	5.04
PIN'S NUMBER	33	34	35	36	37	38	39	40
DVD PLAY	5.04	5.04	5.04	0	1.28	1.28	1.28	0
PIN'S NUMBER	41	42	43	44	45	46	47	48
DVD PLAY	0							

IC PINS DESCRIPTION AND IC BLOCK DIAGRAMS

U1 PVI-1004C/D PINS DESCRIPTION

NO.	Symbol	I/O	Description	Remark																																				
1	ivsync	I	vertical sync signal in composite sync mode (low active)																																					
2	ivy	I	vertical sync signal in separate sync mode (low active)																																					
3	ifrst	I	reset pin in ASIC 1) ifrst = "H" : Normal state 2) ifrst = "L" : Reset state																																					
4	icsy	I	select composite signal/horizontal signal 1) icomps = "H" : icsy is composite sync signal (high active) 2) icomps = "L" : icsy is horizontal sync signal (low active)																																					
5	icomps	I	select composite sync mode/separate sync mode 1) icomps = "H" : composite sync mode 2) icomps = "L" : separate sync mode	Note 1)																																				
6	iclkc	I	select PLL mode/external clock mode 1) iclkc = "H" : PLL mode 2) iclkc = "L" : external clock mode	Note 1)																																				
7	iomclk	I/O	input clock signal (external clock mode) 1) iclkc = "H" : This signal will be ground 2) iclkc = "L" : This signal will be external input terminal																																					
8	opsi	O	control decoder chip pin																																					
9	opsc	O	control DC-DC chip pin																																					
10	opols	O	polarity alternating signal for video																																					
11	opolc	O	polarity alternating signal for Vcom																																					
12	oblk	O	blanking control pin 1) oblk = "H" : blanking display (black) 2) oblk = "L" : normal display																																					
13	onpo	O	auto detect pin for NTSC/PAL 1) onpo = "H" : NTSC 2) onpo = "L" : PAL	Note 2)																																				
14	iohsy	I/O	input/output horizontal sync. signal (low active) 1) iclkc = "H" : This signal outputs horizontal sync. signal 2) iclkc = "L" : This signal will be external horizontal sync. Input.																																					
15	iovsy	I/O	input/output vertical sync. signal (low active) 1) iclkc = "H" : This signal outputs vertical sync. signal 2) iclkc = "L" : This signal will be external vertical sync. Input.																																					
16	HVDD	-	high voltage power (5.0V or 3.3V)	Note 3)																																				
17	imode1	I	select display mode (1440, 1200, 960 mode only)	Note 4)																																				
18	imode2	I	<table border="1"> <tr> <th>imode1</th> <th>imode2</th> <th>imode3</th> <th>Description</th> </tr> <tr> <td>L</td> <td>L</td> <td>L</td> <td>Full mode</td> </tr> <tr> <td>H</td> <td>L</td> <td>L</td> <td>Normal center mode</td> </tr> <tr> <td>L</td> <td>H</td> <td>L</td> <td>Normal wide mode</td> </tr> <tr> <td>H</td> <td>H</td> <td>L</td> <td>Zoom 1 mode</td> </tr> <tr> <td>L</td> <td>L</td> <td>H</td> <td>Zoom 2 mode</td> </tr> <tr> <td>H</td> <td>L</td> <td>H</td> <td>Normal left mode</td> </tr> <tr> <td>L</td> <td>H</td> <td>H</td> <td>Normal right mode</td> </tr> <tr> <td>H</td> <td>H</td> <td>H</td> <td>Zoom 3 mode</td> </tr> </table>	imode1	imode2	imode3	Description	L	L	L	Full mode	H	L	L	Normal center mode	L	H	L	Normal wide mode	H	H	L	Zoom 1 mode	L	L	H	Zoom 2 mode	H	L	H	Normal left mode	L	H	H	Normal right mode	H	H	H	Zoom 3 mode	
imode1	imode2	imode3	Description																																					
L	L	L	Full mode																																					
H	L	L	Normal center mode																																					
L	H	L	Normal wide mode																																					
H	H	L	Zoom 1 mode																																					
L	L	H	Zoom 2 mode																																					
H	L	H	Normal left mode																																					
L	H	H	Normal right mode																																					
H	H	H	Zoom 3 mode																																					
19	imode3	I																																						
20	ivpos1	I	select vertical start line	Note 1)																																				
21	ivpos2	I	<table border="1"> <tr> <th>ivpos2</th> <th>ivpos1</th> <th>NTSC</th> <th>PAL</th> </tr> <tr> <td>L</td> <td>L</td> <td>20</td> <td>26</td> </tr> <tr> <td>L</td> <td>H</td> <td>21</td> <td>28</td> </tr> <tr> <td>H</td> <td>L</td> <td>22</td> <td>30</td> </tr> <tr> <td>H</td> <td>H</td> <td>23</td> <td>31</td> </tr> </table>	ivpos2	ivpos1	NTSC	PAL	L	L	20	26	L	H	21	28	H	L	22	30	H	H	23	31																	
ivpos2	ivpos1	NTSC	PAL																																					
L	L	20	26																																					
L	H	21	28																																					
H	L	22	30																																					
H	H	23	31																																					
22	VSS	-																																						

U1 PVI-1004C/D PINS DESCRIPTION - CONTINUED

NO.	Symbol	I/O	Description					Remark	
23	ihpos1	I	select horizontal start point (iclkc = "L" only, ext clock mode)					Note 1)	
24	ihpos2	I	ivpos2	ivpos1	1440	1200	960	Note 5)	
			L	L	100	85	67		
			L	H	101	86	68		
			H	L	102	87	69		
			H	H	103	88	70		
25	iarea_sel	I	select display range 1) iarea_sel = "H" : The display range is 50.01us (NTSC) 2) iarea_sel = "L" : The display range is 48.00us (NTSC)					Note 1)	
26	iimode	I	select simultaneous mode/sequential mode 1) iimode = "H" : simultaneous mode(stripe arrangement) 2) iimode = "L" : sequential mode (delta arrangement)					Note 1)	
27	icpo_sel	I	select horizontal position adjust (iclkc = "H" only) 1) icpo_sel = "H" : hor. Position adjustment is normal 2) icpo_sel = "L" : hor. Position adjustment is more wide					Note 1)	
28	icph_sel	I	select ocpch1,2,3 phase (delta arrangement module only) 1) icph_sel = "H" : PVI's arrangement 2) icph_sel = "L" : another company's arrangement					Note 1) Note 6)	
29	iodd_sel	I	select falling edge of iovsy's position (NTSC, composite sync only) 1) iodd_sel = "H" : iovsy's phase difference is 1.5H (even field) 2) iodd_sel = "L" : iovsy's phase difference is 0.5H (even field)					Note 1)	
30	LVDD	-	low voltage power (3.3V only)						
31	ires3	I	select resolution mode					Note 4)	
32	ires2	I	ires1	ires2	ires3	resolution mode			
33	ires1	I	L	L	L	1200 * 234			
			H	L	L	-			
			L	H	L	-			
			H	H	L	240 * 234			
			L	L	H	480 * 234			
			H	L	H	960 * 234			
			L	H	H	720 * 234			
			H	H	H	1440 * 234			
34	iz_sel	I	select falling edge of iovsy's position (PAL mode only) 1) iz_sel = "H" : iovsy's phase difference is 0.5H (even field) 2) iz_sel = "L" : iovsy's phase difference is 1.5H (even field)					Note 4)	
35	itst1	I	select AC/DC test 1) itst1 = "H" : AC/DC test mode 2) itst1 = "L" : normal mode						
36	oeo3	O	output enable control signal for gate driver oeo1,2,3 = "H" : gate output = > Vee					Note 7)	
37	oeo2	O	1) oeo1 controls 1 4 7 10 ---- 238 lines 2) oeo2 controls 2 5 8 11 ---- 239 lines						
38	oeo1	O	3) oeo3 controls 3 6 9 12 ---- 240 lines						
39	VSS	-	Ground						
40	ostv2	O	gate driver start pulse 1) iund = "H" : ostv2 is in high impedance state 2) iund = "L" : ostv2 is output pin of start pulse					Note 7)	
41	ostv1	O	gate driver start pulse 1) iund = "H" : ostv1 is output pin of start pulse 2) iund = "L" : ostv1 is in high impedance state						
42	ocpv	O	gate driver shift clock						

U1 PVI-1004C/D PINS DESCRIPTION - CONTINUED

NO.	Symbol	I/O	Description	Remark
43	HVDD	-	high voltage power (5.0V or 3.3V)	Note 3)
44	iosci	I	input for clock oscillator circuit	
45	oosco	O	output for clock oscillator circuit	
46	VSS	-	Ground	
47	opda	O	output for phase comparative signal for PLL circuit	
48	osrst	O	reset source driver IC (active high)	
49	ocph1	O	source driver shift clock #1	
50	ocph2	O	source driver shift clock #2 1) iimode = "H" : ocph2 is always high signal (stripe arrangement) 2) iimode = "L" : ocph2 is shift clock (delta arrangement)	
51	ocph3	O	source driver shift clock #3 1) iimode = "H" : ocph3 is always low signal (stripe arrangement) 2) iimode = "L" : ocph3 is shift clock (delta arrangement)	
52	osth1	O	source driver start pulse 1) ilnr = "H" : osth1 is output pin of start pulse 2) ilnr = "L" : osth1 is in high impedance state	Note 8)
53	osth2	O	source driver start pulse 1) ilnr = "H" : osth2 is in high impedance state 2) ilnr = "L" : osth2 is output pin of start pulse	Note 8)
54	oq2h	O	pin of RGB output data order on no rotation mode 1) iimode = "H" : no use (low) 2) iimode = "L" : use (delta arrangement)	
55	LVDD	-	low voltage power (3.3V only)	
56	ooeh	O	output enable control signal for source driver 1) oeoh_sel = "H" : oeoh is active low 2) oeoh_sel = "L" : oeoh is active high	
57	ocpo	O	output for horizontal position adjustment	
58	VSS	-	Ground	
59	icpi	I	input for horizontal position adjustment	
60	iq2h_sel	I	select iq2h phase (delta arrangement only) 1) iq2h_sel = "H" : PVI's arrangement 2) iq2h_sel = "L" : another company's arrangement	Note 1) Note 6)
61	oeoh_sel	I	select perioto fo oeoh 1) oeoh_sel = "H" : oeoh is active low 2) oeoh_sel = "L" : oeoh is active high	Note 1)
62	ilnr	I	select left/right direction 1) ilnr = "H" : normal scan 2) ilnr = "L" : reverse scan	Note 1) Note 8)
63	iund	I	select up/down direction 1) iund = "H" : normal scan 2) iund = "L" : reverse scan	Note 1) Note 7)
64	inpp	I	select NTSC/PAL 1) ilnr = "H" : normal scan 2) ilnr = "L" : reverse scan	Note 1)

Note 1) Those pins are Normally pull-up

Note 2) If use auto detection, this pin must connect inpp

Note 3) If you want to use 5V's I/O signal, it must connect 5V's voltage,

otherwise, if you want to use 3.3V's I/O signal, it must connect 3.3V's voltage

Note 4) Those pins are Normally pull-down

Note 5) This count means No. of input clock from the falling edge of iohsy

Note 6) If you use another company's TFT LCD module, please contact PVI.

U1 PVI-1004C/D PINS DESCRIPTION - CONTINUED

Note 7) iund controls up/down direction

1) iund = "H" : ostv1 G(ooe1) G2(ooe2) G3(ooe3) G4(ooe1)
G5(ooe1) ---- G238(ooe1) G239(ooe2) G240(ooe3)
ostv2

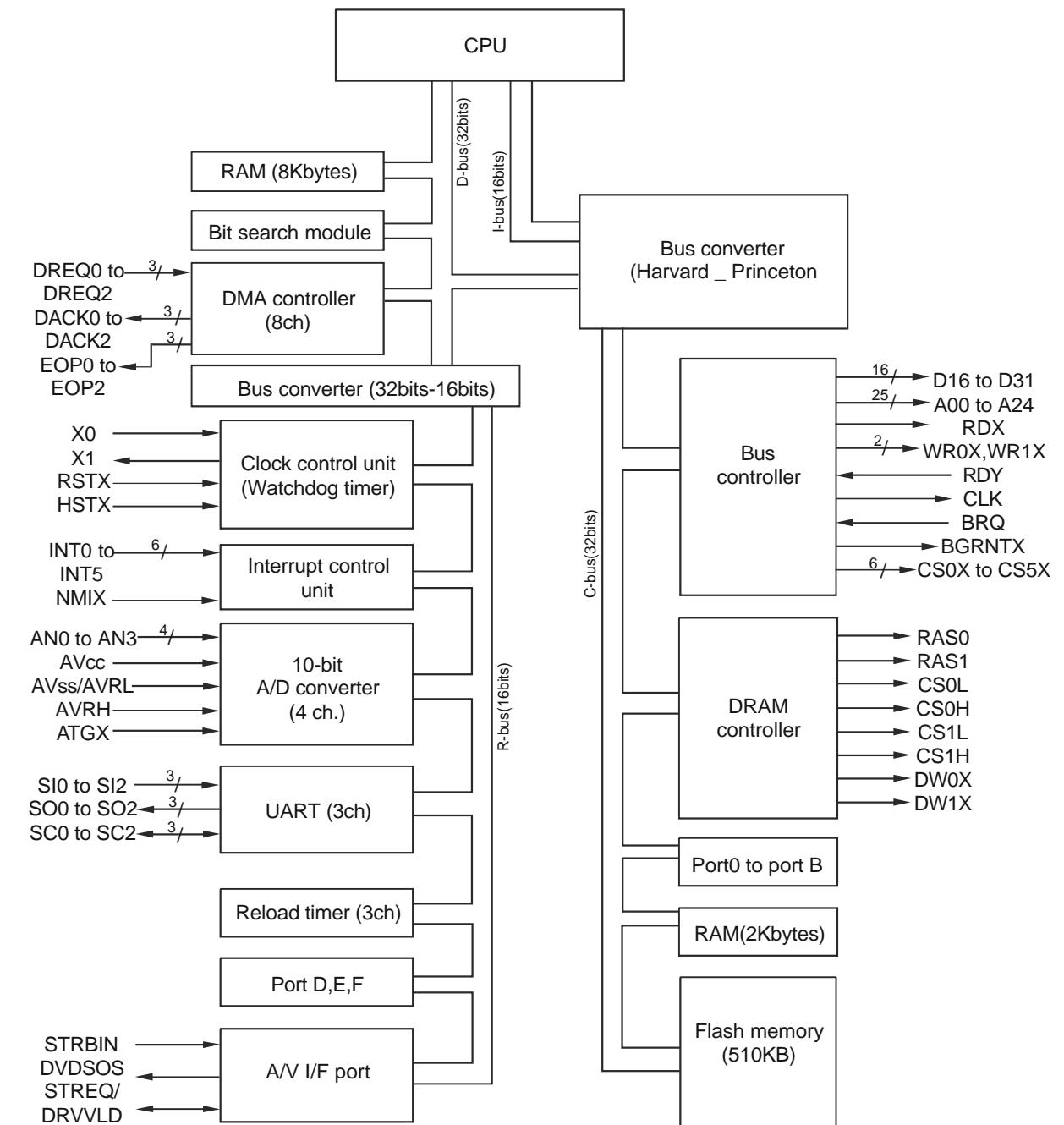
2) iund = "L" : ostv1 G(ooe1) G2(ooe2) G3(oo3) G4(ooe1)
G5(ooe1) ---- G238(ooe1) G239(ooe2) G240(ooe3)
ostv2

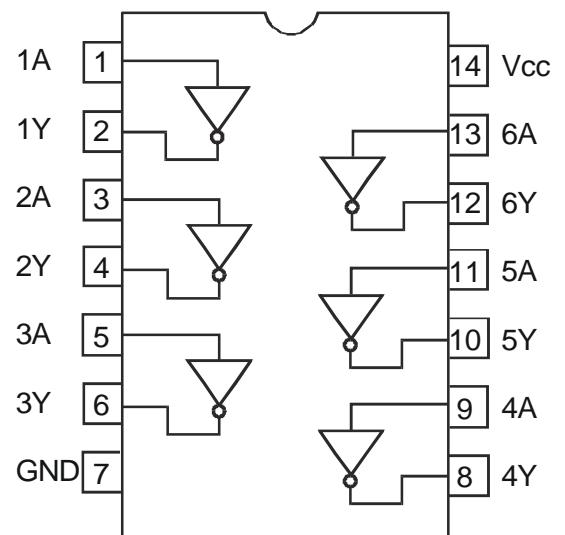
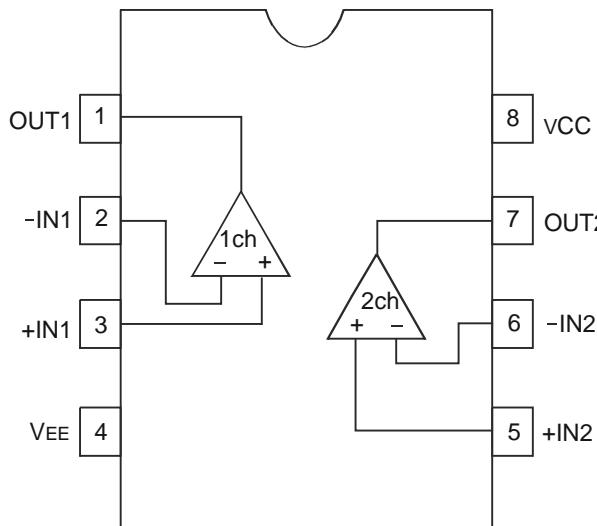
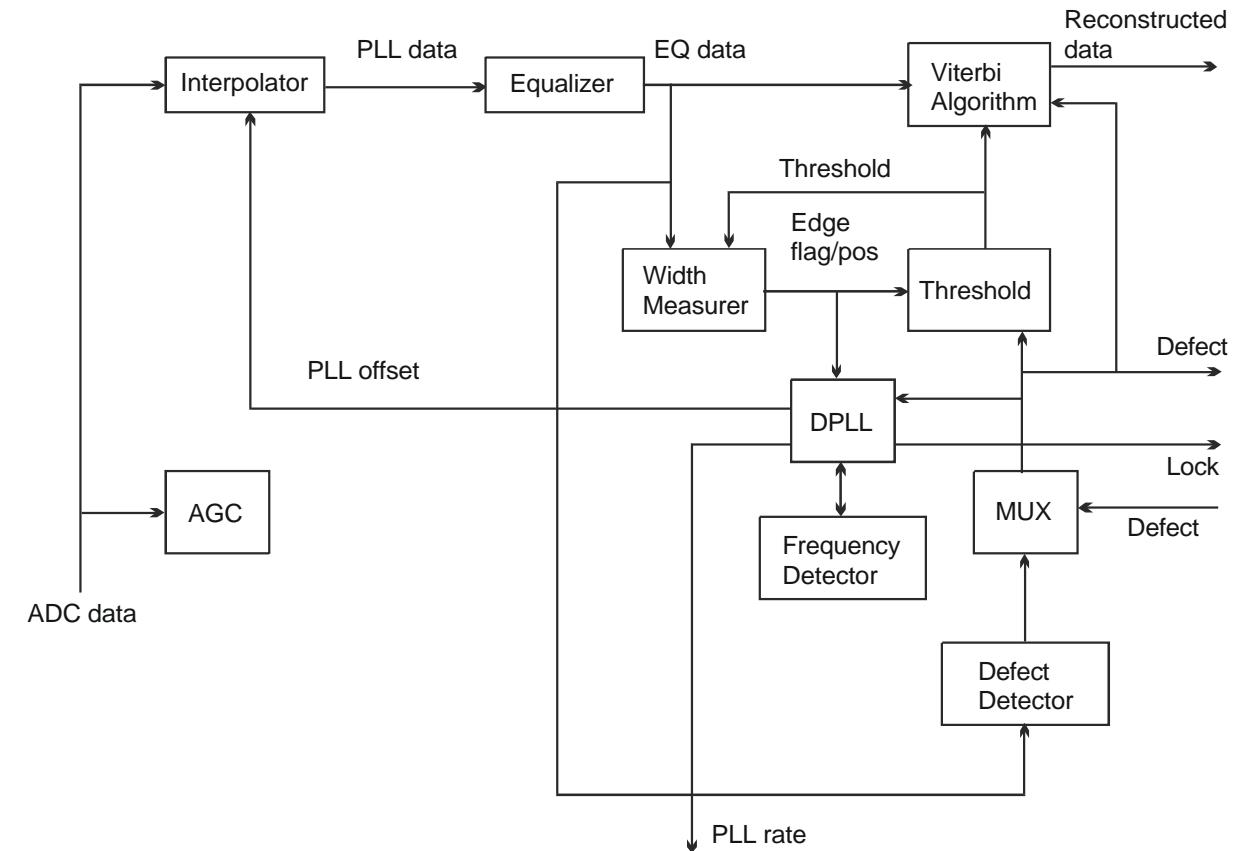
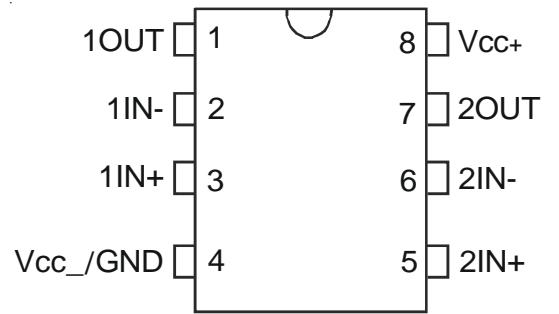
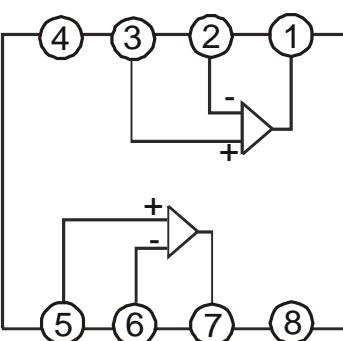
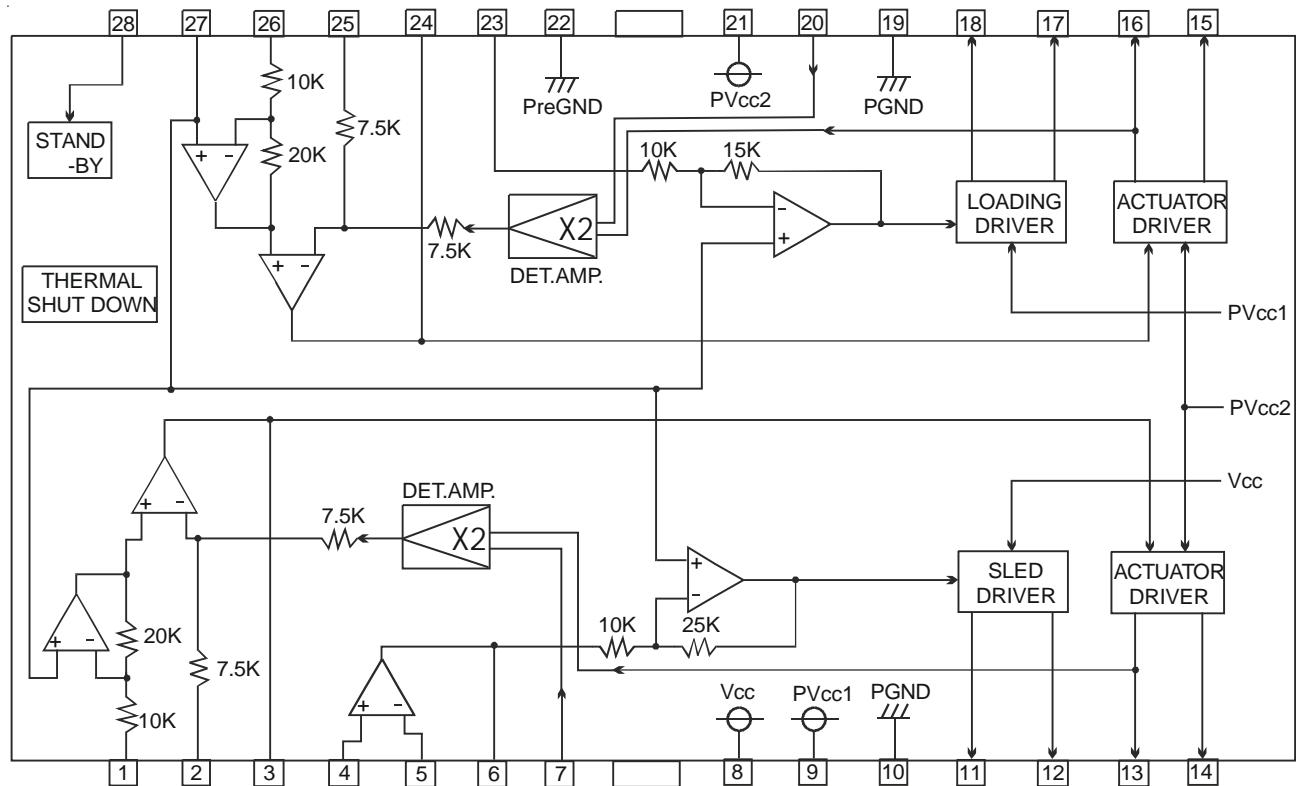
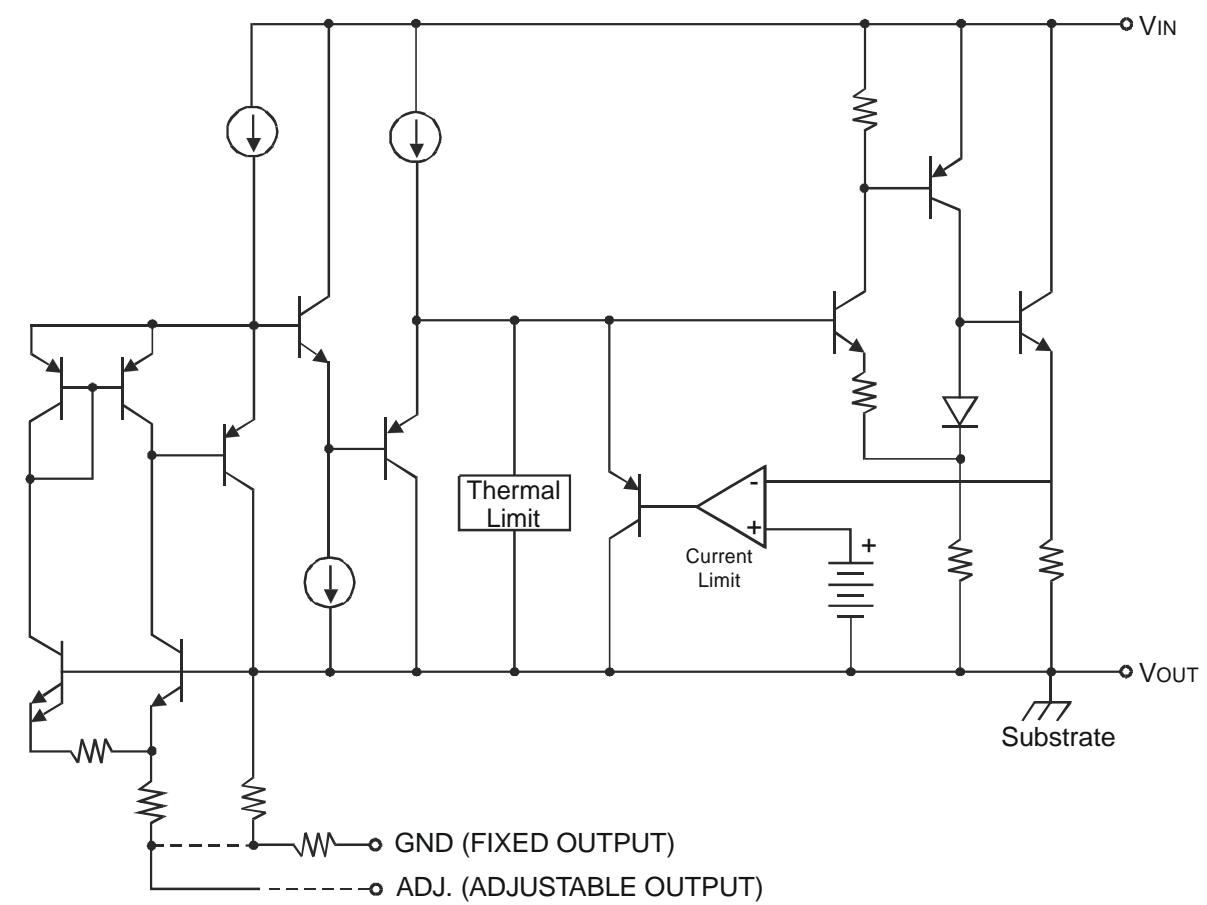
Note 8) ilnr controls left/right direction

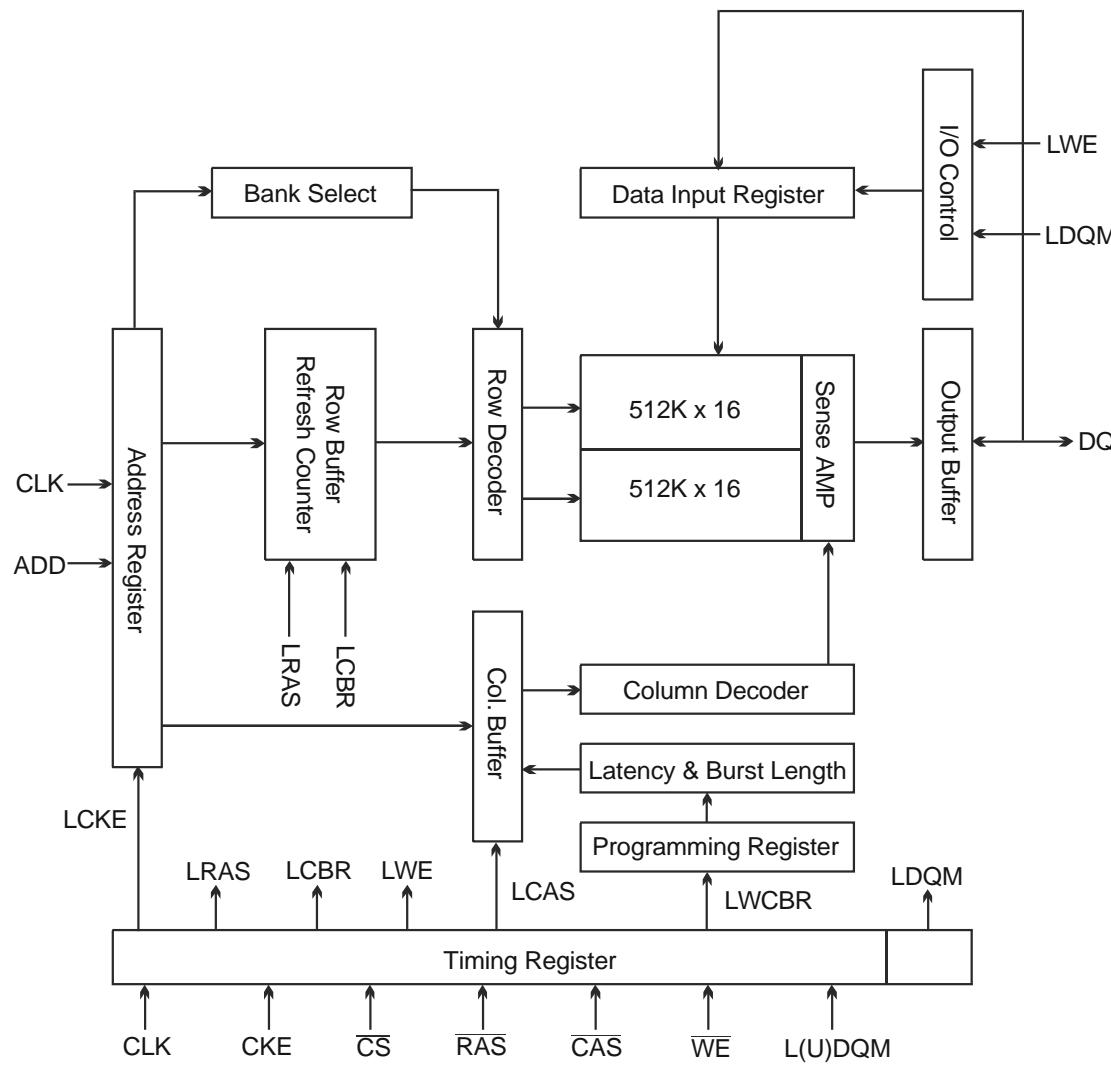
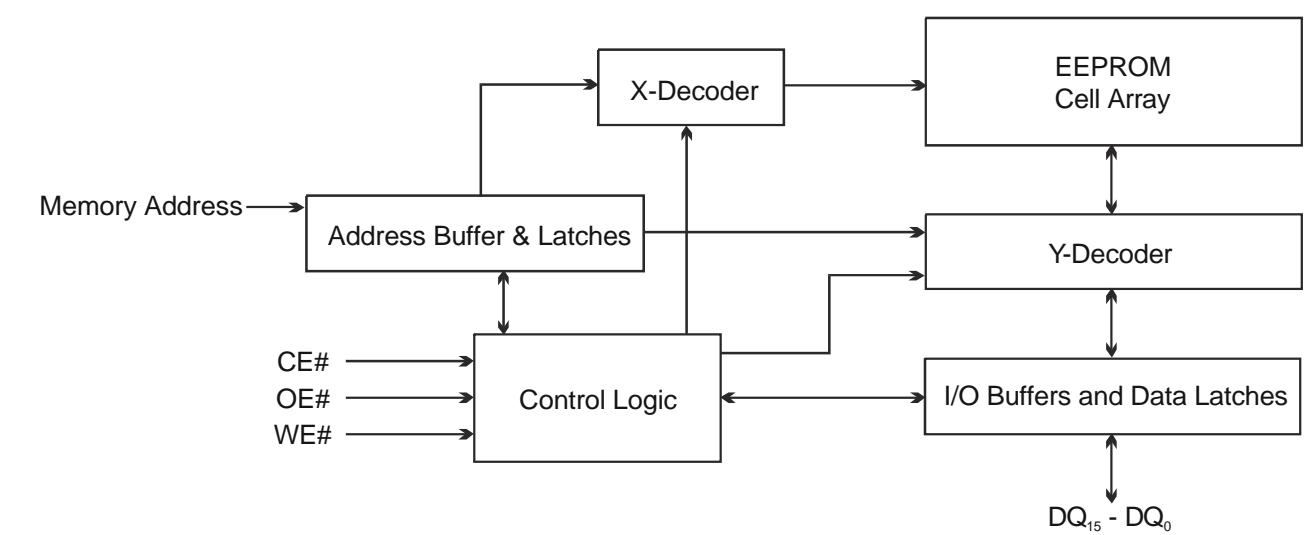
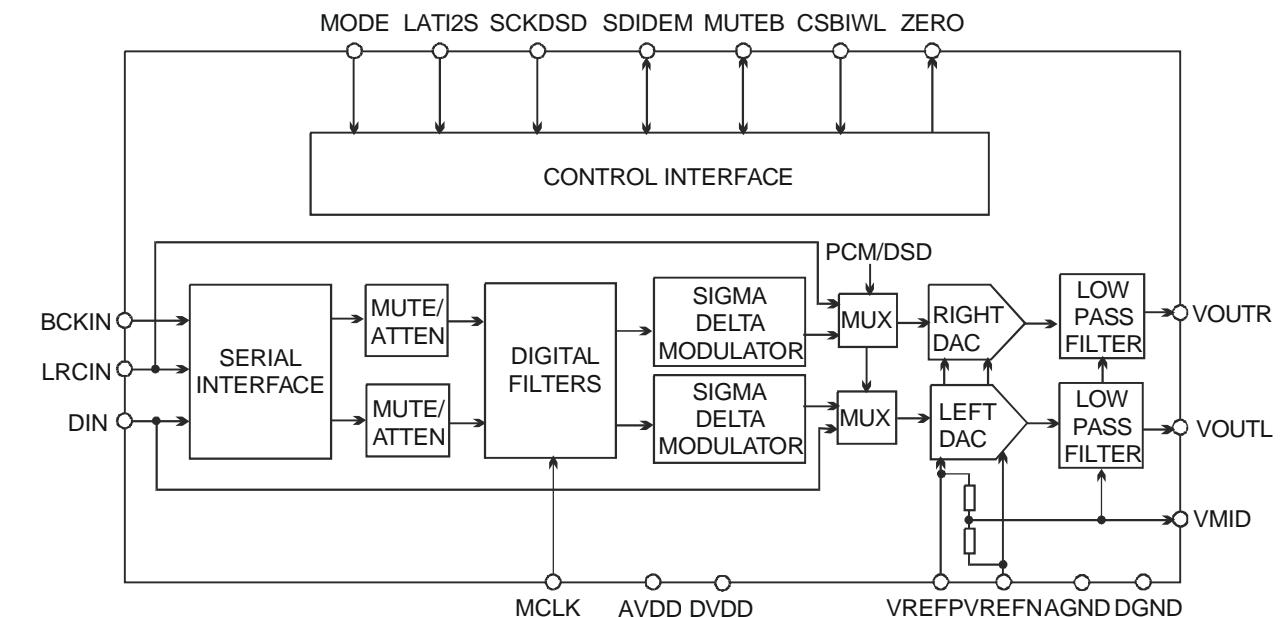
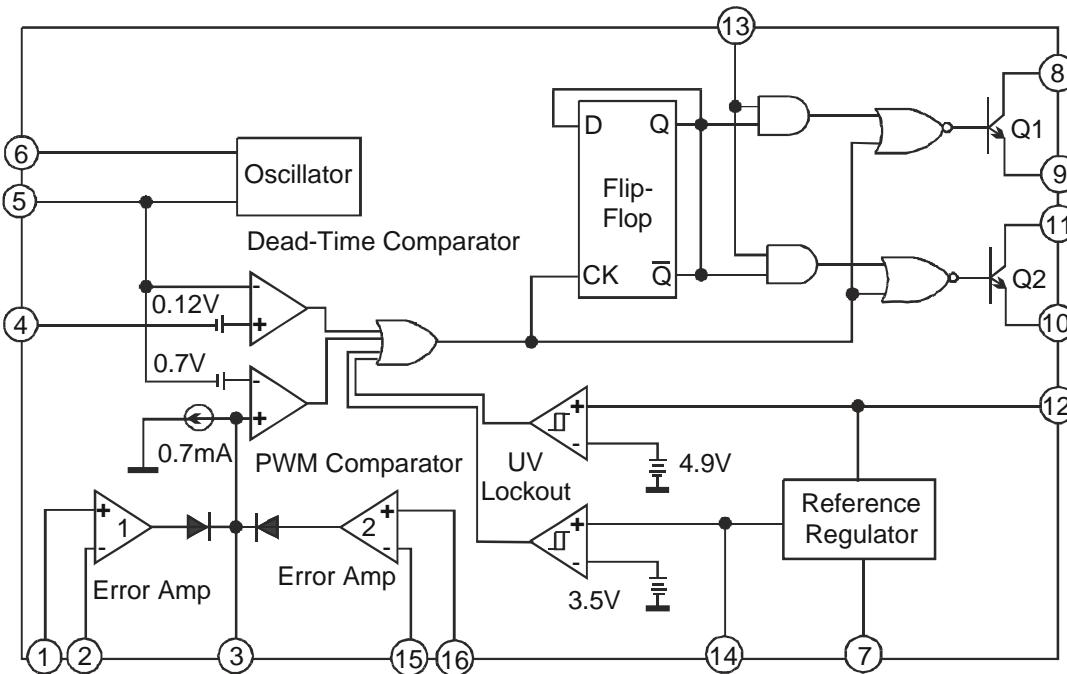
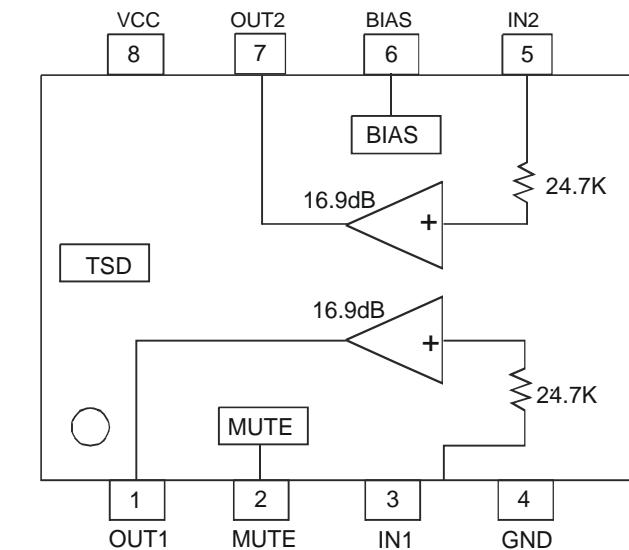
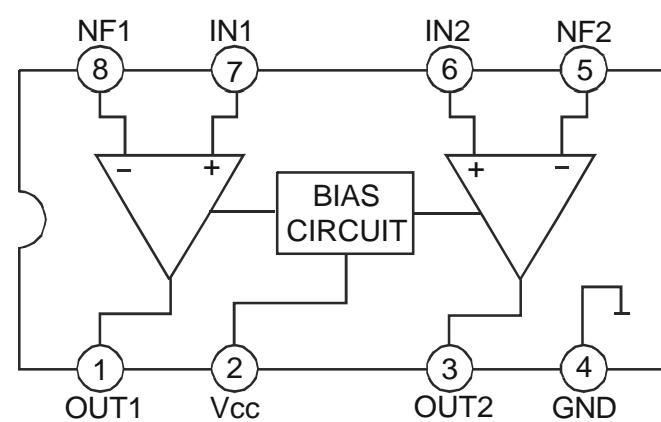
1) ilnr = "H" : osth1 ----- osth2

2) ilnr = "L" : osth1 ----- osth2

U4 ZR36707TQC

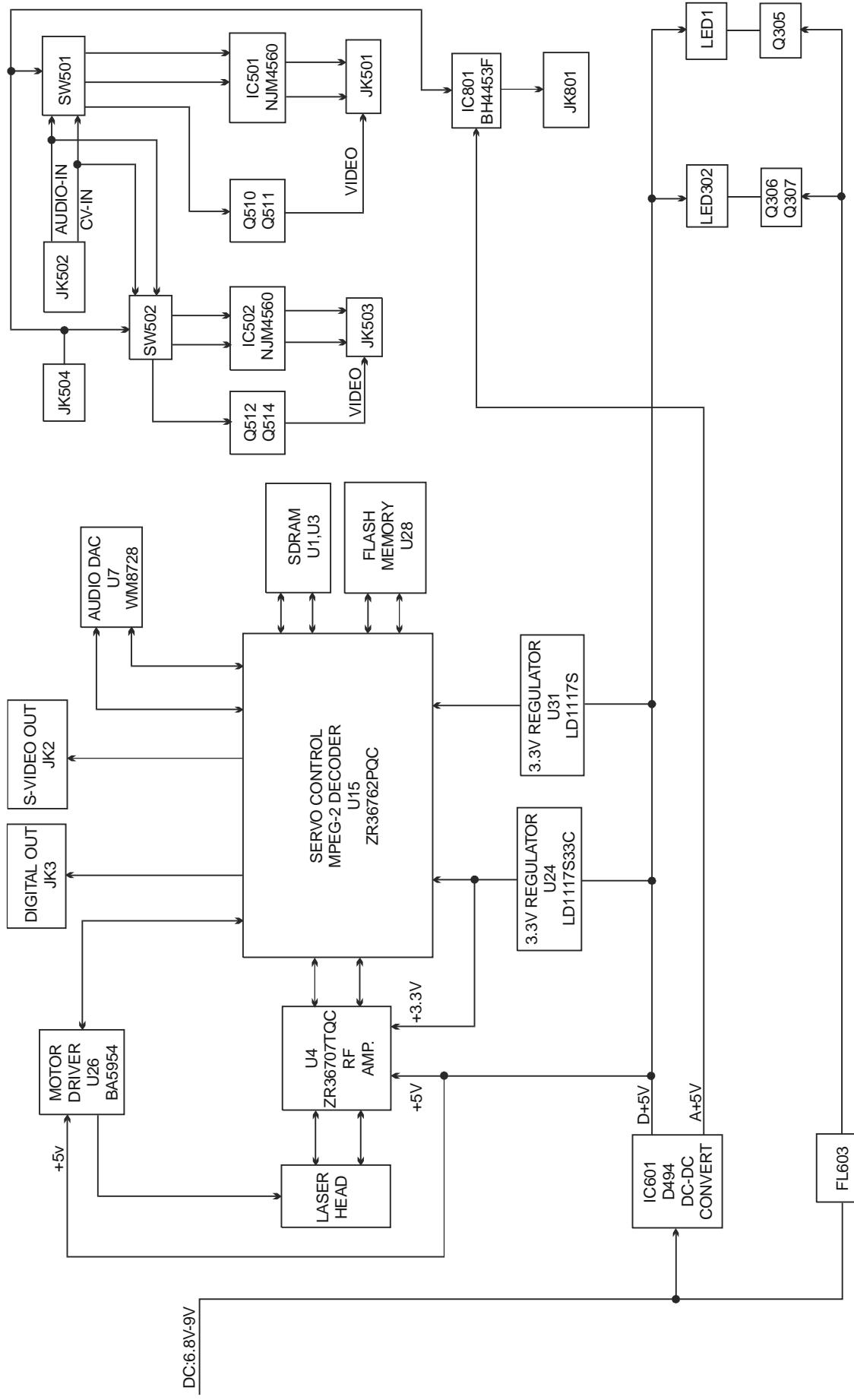


U5 SN74HCU04DR**U10 D4558/LM4558****U15 ZR36762PQCG****U22 TL3472CD/R****IC501, IC502 NJM4560M****U26 BA5954FP****U31 LD1117S
U24 LD1117S33C**

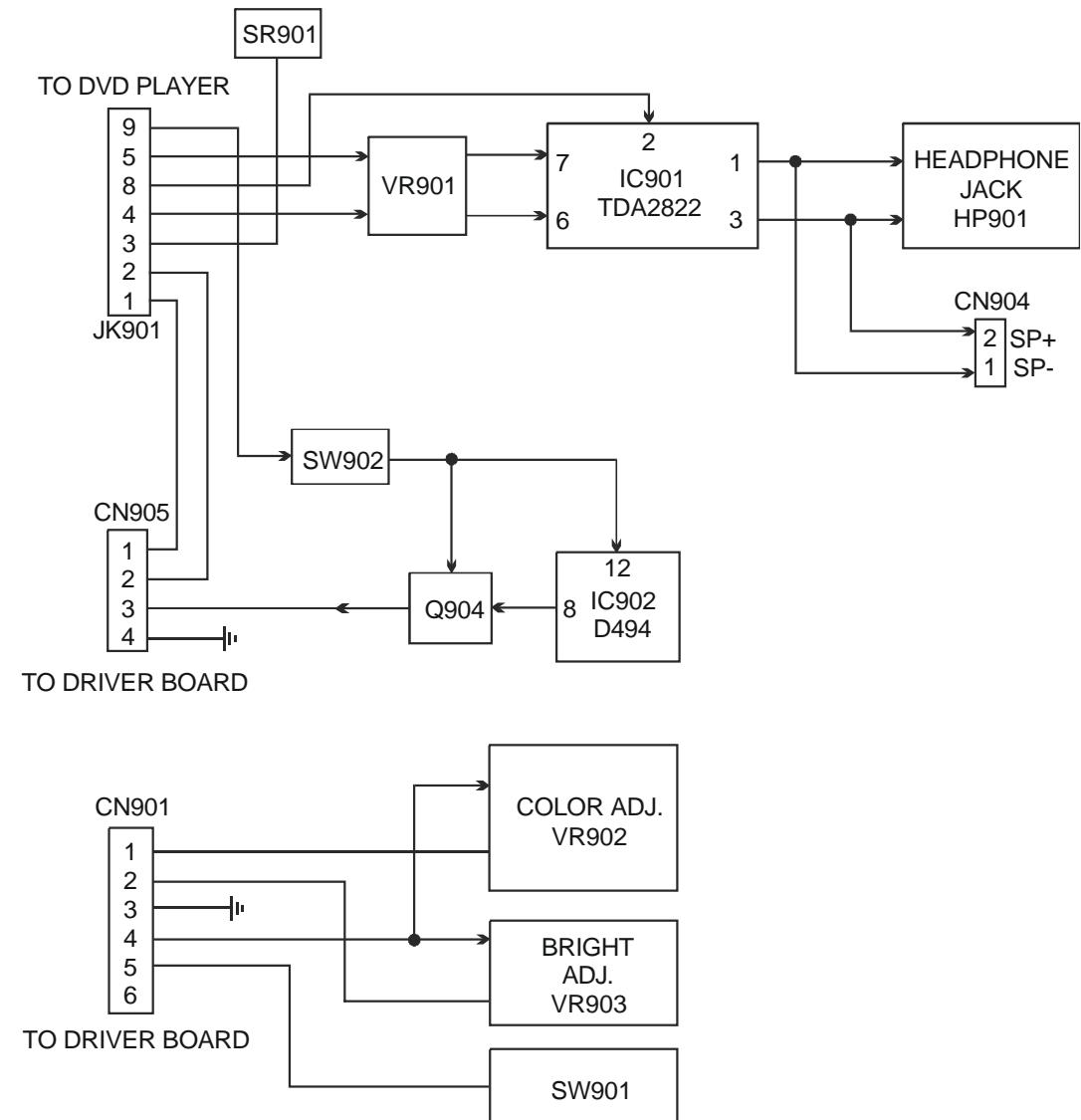
U1, U3 V54C316162VC/EM636165TS**U28 SST39VF800A****U7 WM8728-EDS****IC601, IC902 D494CD****IC801 BH4453F****IC901 TDA2822**

BLOCK DIAGRAMS

MPEG & CONTROL SECTION



MONITOR SECTION



EXPLODED DRAWING PARTS LIST

Ref. No.	Description	Mfr's Part No.	Qty.	
MONITOR SECTION				
1	LCD FRONT CABINET, MOLD COLOR (HIPS) CAV:1 w/SPY & PNT	500-195006-xxx	1	
2	SPK00001"008OHM00.5W MICRO SPEAKER #R28D03PP-3, #R28D03PP-3(KAMII)/U28RZ0206G12N C8P13	131-108000-512	1	
3	REMOTE SENSOR LENS, MOLD TRANS. BLUE (J33818C), (SAN) CAV:4	500-195016-001	1	
4	VR-C&M&GV050KC&SH&D ROTARY VOLUME, #RC1001GBX0A-HA1-062 (SOUNDWELL)	VR901,902,903	030-C10503-208	3
5	SLIDE KNOB, MOLD D.GREY(PMS426C) (ABS) CAV:2	510-196008-000	2	
6	DISPLAY PCB PVS1950-01-01	033-PV1950-101	1	
7	REMOTE SHIELDING, T=0.3mm E.G. STEEL (AH700083)	609-ST6142-000	1	
8	COLOL & BRIGHTEN KNOB PCB PVS1950-01-02	033-PV1950-102	1	
9	REMOTE SENSOR HOLDER, MOLDED BLACK, CAV:2 (ABS)	505-195015-000	1	
10	LCD FRAME SHAFT HOLDER, MOLDED D.GREY (426C), CAV.4 (ABS)	505-196011-000	2	
11	LCD FRAME, MOLD COLOR (ABS) CAV:1, w/SPY & PNT	500-195008-xxx	1	
12	LCD METAL FRAME, 111.6x69.4x6.4mm, T=0.2mm, SUS304 (HV380-420)	600-123A28-001	1	
13	BACKLIGHT MODULE FOR 4.5" 16:9 (DI GUANG), #DGL-140CF-A/(REV) TFT LCD DISPLAY	038-00B045-000	1	
14	LCD HOLDER, MOLD BLACK (ABS) CAV:2	505-195010-001	1	
15	DC-DC, DC-AC PWR&DECODER MODULE (PW045XS2), AA-PVI45M-A,PVI 4.5" TFT LCD (PVS1950)	038-PVS195-000	1	
16	LCD REAR COVER, MOLD BLACK (ABS) CAV:1	500-195009-000	1	
17	METAL SHAFT HOLDER, T=1mm E.G. STEEL	605-196043-000	2	
18	METAL SHAFT, DIA:3mm STAINLESS STEEL	603-196046-000	2	
19	LCD REAR CABINET, MOLD COLOR (HIPS) CAV:1, w/SPY, ENGRAVE	500-195007-xxx	1	
20	9 PIN JACK STOPPER FOR LCD, MOLD L.GREY (PMS428C), (ABS) CAV:4	509-195030-000	1	
21	STRING HOLDER, MOLD L.GR (PMS428C) (ABS) CAV:2, w/SPY	505-196025-xxx	1	
	SPEAKER BOX FELT 80x8x0.3mm, BLACK, (TSB#PM0005432010) (CdF)	1.25/SET	700-993856-000	1.25
	LCD SHIELDING PAPER, FELT PAPER 35x35mm 0.3mm THK FELT SCREW ST1.7x5mm PB BRASS BASED, (T#PM0021408010)	UNIT"PC"	700-P16657-000	1
	SCREW ST3x10mm BB HEAD V5.9-6.3 BRASS BASED	3/DIN JACK BRACKET	720-050170-050	3
	SCREW ST3x12mm, BB HEAD V5.9-6.3, BB BRASS BASED (P TYPE)	3/PCB	720-110300-100	9
	SCREW ST3x18mm BB BRASS BASED	5/LCD REAR COVER	720-110300-120	4
	SCREW 2x6mm FLAT HEAD T.T.S. (P TYPE), BLACK (DIA:4.2x0.8H)	1/STRING HOLDER	720-110300-180	8
	6/LCD HOLDER	4/LCD REAR COVER	722-060209-161	12
	2/METAL SHAFT HOLDER			
	LCD PROTECTION FILM, 108x4.5mm, T=0.1mm PET PLATE, w/3M467 SCREW M2.0x1.5mm FLAT HEAD DIA:3xTHK1.0m, NICKEL PLATED	1/LCD METAL FRAME	700-123A50-000	1
			721-060200-150	1
MAIN UNIT				
1	DISC LID, MOLD COLOR (5200HF) CAV:1, w/SPY & PNT	500-195005-xxx	1	
2	OPEN SPRING, SUS WIRE DIA:0.2mm SUS WIRE	561-P16627-000	1	
3	9 PIN JACK STOPPER FOR UNIT, MOLD BLACK (ABS), CAV:4, w/PNT	509-195050-xxx	1	
4	TOP CABINET, MOLD COLOR (5200HF) CAV:1, w/SPY & PNT	500-195001-xxx	1	

EXPLODED DRAWING PARTS LIST - CONTINUED

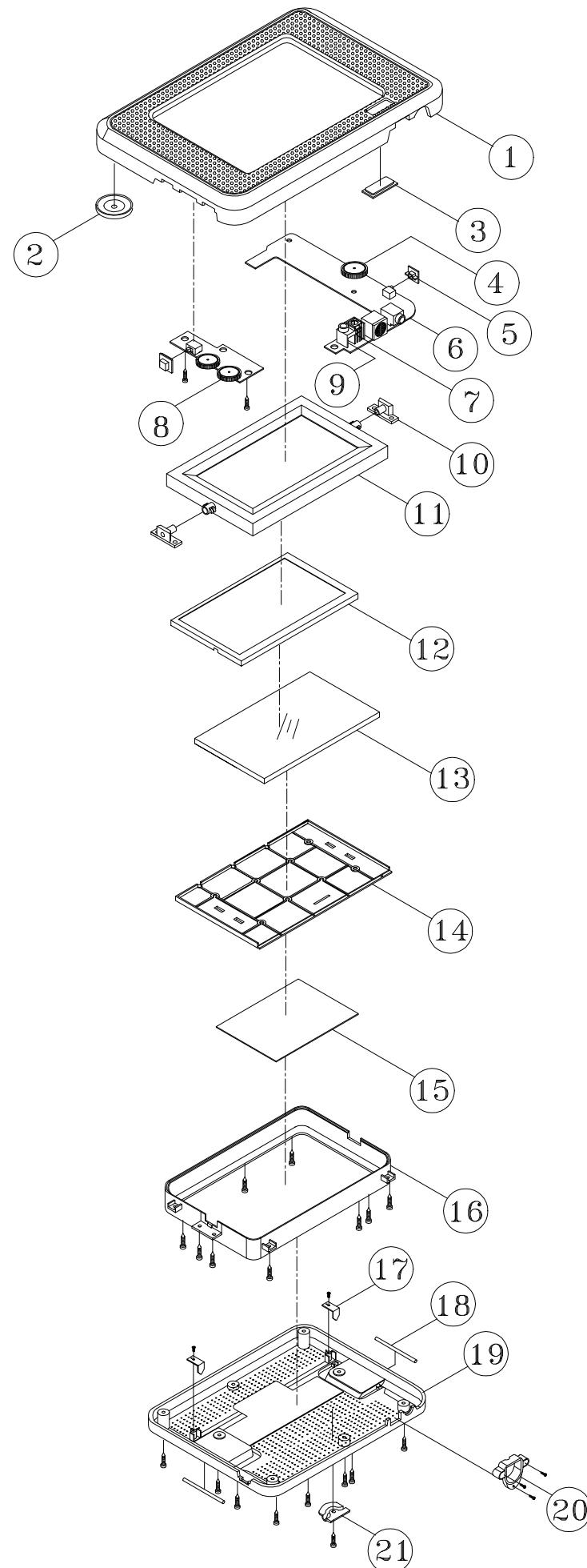
Ref. No.	Description	Mfr's Part No.	Qty.
5	CABINET LED LIGHT GUIDE, CAV.2 (GPPS)	509-P16622-000	1
6	REMOTE SENSOR LENS, MOLD TRANS. BLUE (J33818C), (PMMA) CAV.4	500-P16623-000	1
7	CONTROL KNOB SET (B), MOLD L.GREY(428C) (ABS 700), CAV:1, w/SPY	510-195014-xxx	1
8	CONTROL KNOB SET (A), MOLD L.GREY(428C) (ABS 700), CAV:1, w/SPY	510-195013-xxx	1
9	DISC DOOR HOLD PLATE, 0.5mm COPPER PLATE NI PLATED	650-P16607-000	1
10	MICRO SWITCH BRACKET, MOLD D.GREY(PMS426C), (ABS) CAV:1	505-P16636-001	1
11	MICRO SWITCH	DOOR SW 023-000002-000	1
12	DISC LID OPEN KNOB, MOLD D.GREY (PMS426C) CAV:1, (ABS 700)	510-P16617-001	1
13	DOOR OPEN SPRING, DIA:0.7 SPRING WIRE NICKEL PLATED	561-P17639-000	1
14	KEY PCB PVS166W-01-08	033-PV166W-100	1
15	DVD-PTR-01-SAN&-N DVD MECHANISM #MSA10B (SANYO), (BALL CLAMP)	163-000010-000	1
16	DVD CUSHION DV38-06 IIR HARDNESS 40+/-2 BLACK (TSB P/N: AH700051)	700-DV3806-000	4
17	POWER PCB PVS1960S-01-02	033-PV1960-504	1
18	AV SELECT SLIDE KNOB, MOLD D.GREY (PMS426C) CAV.1, (ABS 700)	510-P16614-001	2
19	VR-C&M&GV050KC&SH&D ROTARY VOLUME, #RC1001GBX0A-HA1-062 (SOUNDWELL)	VR801 030-C10503-208	1
20	MAIN PCB PVS1960S-02-01	033-PV1960-504	1
21	TRANS. HEATSINK (A), 0.8mm THK (SPCC STEEL) NI PLATED	613-P16656-000	2
22	LED + REMOTE SENSOR PCB PVS1960S-01-05	033-PV1960-504	1
23	REMOTE SHIELDING, T=0.3mm E.G. STEEL (AH700083)	1/REMOTE 609-ST6142-000	1
24	SHIELDING PLATE (E), 0.3mm TINNED PLATE	650-P16668-001	1
25	POWER KNOB, MOLD D.GREY(PMS426C) (ABS 700) CAV.1	510-P16612-001	1
26	BOTTOM CABINET, MOLD COLOR (HIPS 94V2) CAV:1, w/SPY	500-196013-xxx	1
27	BOTTOM COVER, 0.8 E.G. STEEL , w/SPY & PNT (w/AV OUT)	600-195051-xxx	1
28	RUBBER FOOT, 7.5x7.5x2mm THK (PORON HH48C), w/NITTO 500 TAPE	700-195020-000	2
	METAL WASHER DIA:2.1x6x0.3mm (STAINLESS STEEL)	2/KNOB TO MID. CAB. 532-202106-030	2
	PICKUP FFC CABLE PLATE, 78x10x0.5mm THK BLACK PVC SHEET	650-110167-000	1
	DVD MECHA PLATE (B), 101.5x72mm, 0.3mm THK, B GRADE PVC PLATE (BLACK)	650-P16645-001	1
	SHIELDING PLATE INSULATOR (C), 0.188mm THK POLYSTER FILM	650-P16671-000	1
	CONTROL PCB INSULATOR PLATE, 108.4x63mm, 0.188mm, THK POLYSTER FILM	650-P16673-000	1
	MSA10B MECHA MOTOR PLATE, 0.5mm THK, PVC PLATE (BLACK) 57x32mm	1/SET 650-P166A9-001	1
	MECHA SHIELDING PLATE, COPPER FOIL PAPER, 64.5x18mm	1/DVD MECHA. 650-P166B2-000	1
	RUBBER FOOT, 10x10x3mm THK (PORON HH48C), w/NITTO 500 TAPE (AH700079)	4/MAIN PCB 700-8CL164-000	4
	SPEAKER BOX FELT 80x8x0.3mm (TSB#PM0005432010), BLACK (CdF)	0.25/SET 700-993856-000	0.25
	CONDUCTIVE SPONGE, 8x9x7mm THK	UNIT"PC"	
	FOAM C4305, 14x14x9.5mm THK w/#9448 TAPE	700-P16670-000	2
	SCREW ST1.7x8mm PAB BRASS BASED	700-P17670-000	1
	SCREW ST2.6x10mm PWB WASHER HEAD W=9.5mm, w/CHORMATE PLATE	1/SW TO SW BKT 720-040260-102	4

EXPLODED DRAWING PARTS LIST - CONTINUED

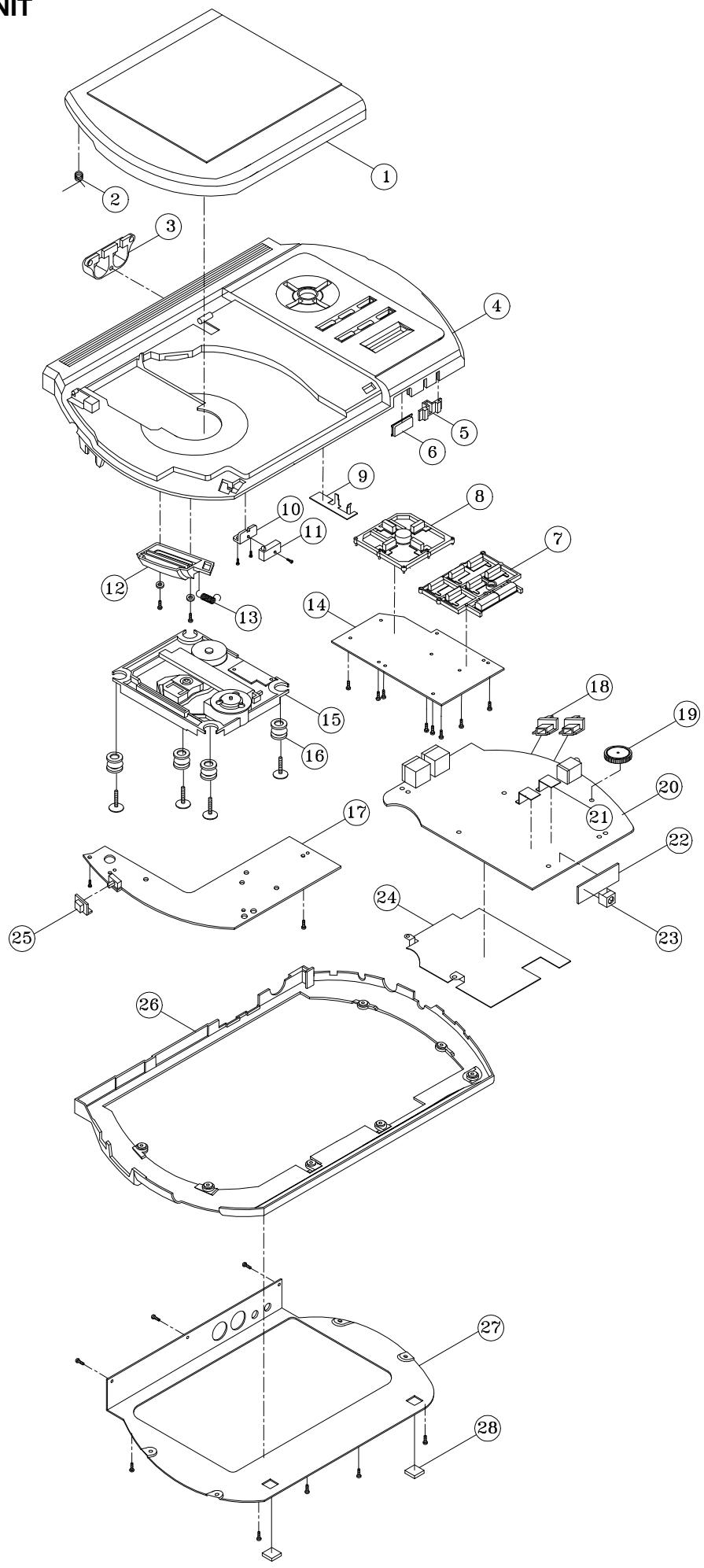
Ref. No.	Description	Mfr's Part No.	Qty.
	SCREW ST1.7x4mm PB	3/LID PLATE TO MID. CAB.	720-050170-040
	SCREW ST1.7x6mm PB BLACK H=0.8mm, (03PTTP1.7x6.0AB) (87-067-691-019)	2/SW BKT TO MID. BKT	722-020173-061
	SCREW 2x10mm FLAT HEAD T.T.S. (P TYPE) BLACK, (DIA:4.2x0.8H)	7/MID. CAB. TO BTM COVER	722-060209-101
	SCREW 2x6mm FLAT HEAD T.T.S. (P TYPE) BLACK, (DIA:4.2x0.8H)	2/POWER PCB TO MID. CAB. 2/MAIN PCB TO MID. CAB. 2/OPEN KNOB TO MID. CAB. 3/BTM COVER TO MID. CAB. 8/CTL PCB TO MID. CAB.	722-060209-161
	SCREW 2.6x6mm FLAT HEAD T.T.S. (B TYPE) BLACK, (BTTK 4408 2.6x6 AB)	3/DIN JACK BKT	722-060267-061
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EXPLODED DRAWINGS

MONITOR SECTION



MAIN UNIT



April, 2005