



TFT-LCD TV

Chassis
SP15UO

Model
LN-R1550
LN-15S51B

SERVICE Manual

TFT-LCD TV



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4 Alignments and Adjustments

4-1 General Alignment Instruction

1. Usually, a color LCD-TV needs only slight touch-up adjustment upon installation.
Check the basic characteristics such as height, horizontal and vertical sync.
2. Use the specified test equipment or its equivalent.
3. Correct impedance matching is essential.
4. Avoid overload. Excessive signal from a sweep generator might overload the front-end of the TV.
When inserting signal markers, do not allow the marker generator to distort test result.
5. Connect the TV only to an DC power source with voltage and frequency as specified on the backcover nameplate.
6. Do not attempt to connect or disconnect any wire while the TV is turned on.
Make sure that the power cord is disconnected before replacing any parts.
7. To protect against shock hazard, use an isolation transform.

4-2 Factory Mode Adjustments

4-2-1 Entering Factory Mode

1. To enter “Service Mode” Press the remote -control keys in this sequence :

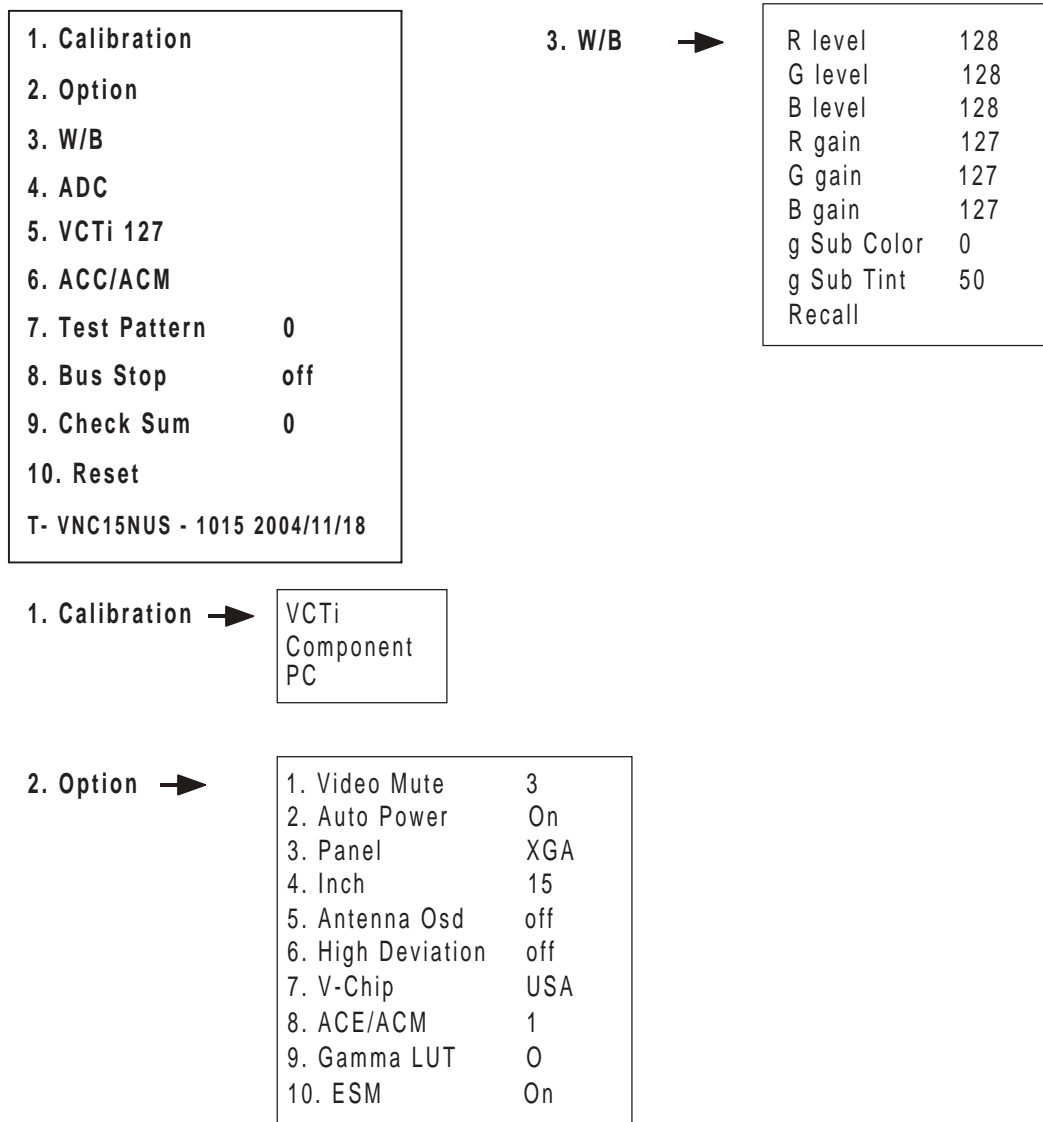
- If you do not have Factory remote - control



- If you have Factory remote - control



4-2-2 Factory Mode Tree (U.S. Only)



4. ADC ➡

VCTi	Compenent	PC
R offset 53	R offset 113	R offset 66
G offset 43	G offset 85	G offset 63
B offset 47	B offset 83	B offset 51
R gain 0 125	R gain 0 207	R gain 0 54
R gain 1 1	R gain 1 1	R gain 1 1
G gain 0 122	G gain 0 31	G gain 0 62
G gain 1 1	G gain 1 1	G gain 1 1
B gain 0 134	B gain 0 205	B gain 0 66
B gain 1 1	B gain 1 1	B gain 1 1

5. VCT ➡

R Drive	255	RF AGC	0	CR_I_DATA	3
G Drive	255	Vpeaking	6	DRX_CR_AMP_TH	32
B Drive	255	CTI Gain	3	MOD_RET_CNT	100
Sub Contrast	44	CTI Coring	5	VCR_CNT	5
Sub Bright	0	LMIXOFS	6	VID_AMP_BS	40
Sub Sharp	15	AGCADJ1	32	CR_P	2
Sub Color	0	LTI Gain	15	THRSEL	0
Sub Tint	50	SLLTHDV	0	SLLTHDVP	1
Sub Coring	5	CR_P_DATA	14	SLLTHD_RF3CH	1
				SLLTHD_ETC	1

6. ACE/ ACM ➡

Y Max D	7	Up Start	150
Y Scl Thr	80	Low Sn Th	0
Y Scl A	4	Up Sn Thr	0
Y Scl B	5	Y Min	16
A Ctrl	1	Y Max	240
A SnsIp	8	Ym Div SIp	128
T Dixel	13	Fr Age	1
Lower End	90	Fr App	1
Mid Start	60	Esm Ctrl	125
Mid End	170		

4 Alignments and Adjustments

7. Test Pattern (Test Pattern of VCTi)

- | |
|--------------|
| 1) VCTi |
| 2) Toshiba |
| 3) Gray Bar |
| 4) Gray |
| 5) Green |
| 6) Color Bar |
| 7) Cross |

8. Bus Stop

- Bus stop is used data communication.

9. Chcek Sum

- Display the current check sum size of the MICOM.

10. Reset

- Initializes the data in the MICOM.

11. T-VNC15NUS-1015 2004/11/18

- Display the MICOM program version.

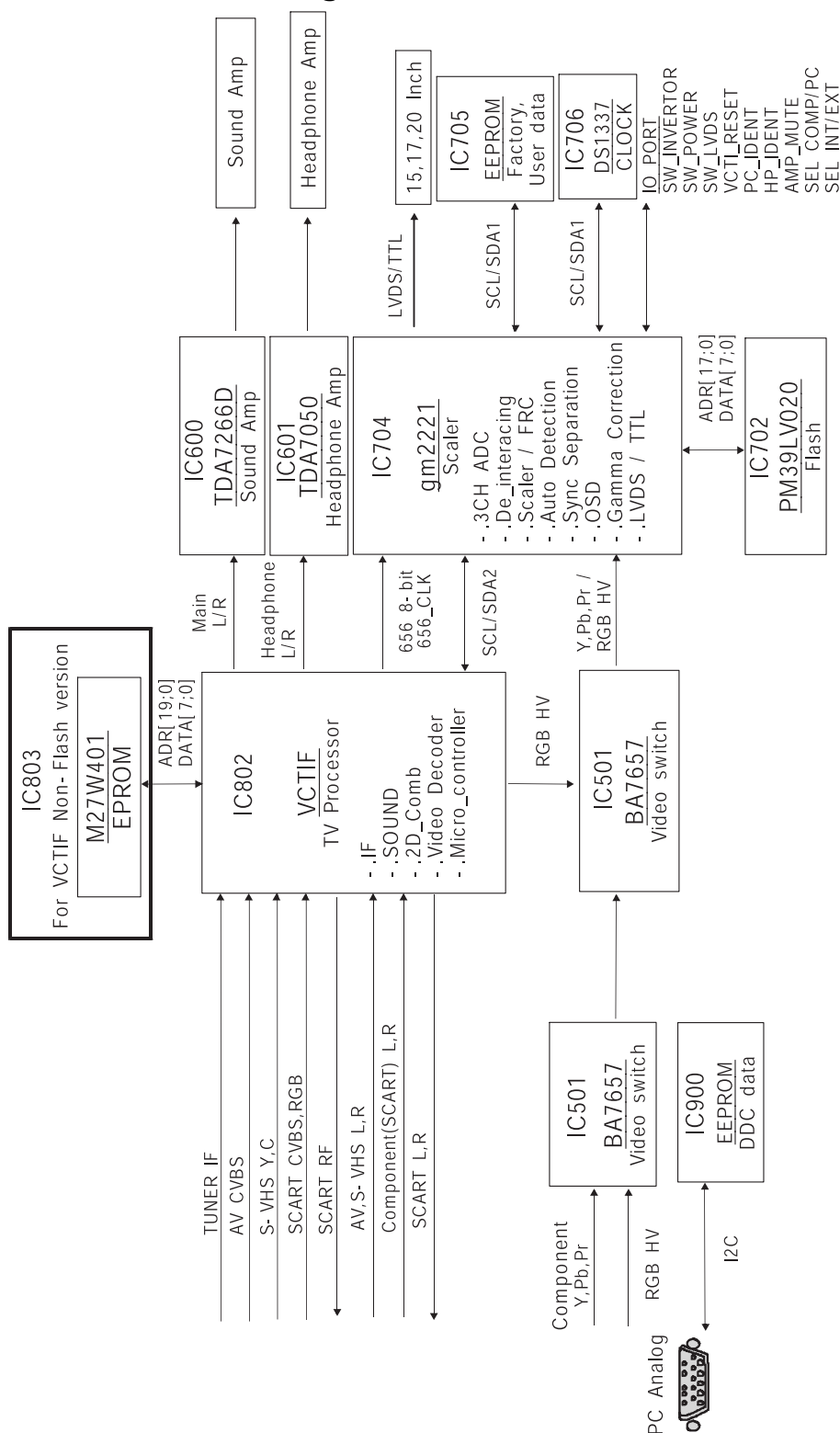
4-2-3 White Balance

High	Low
260, 260	260, 260
x, y	x, y

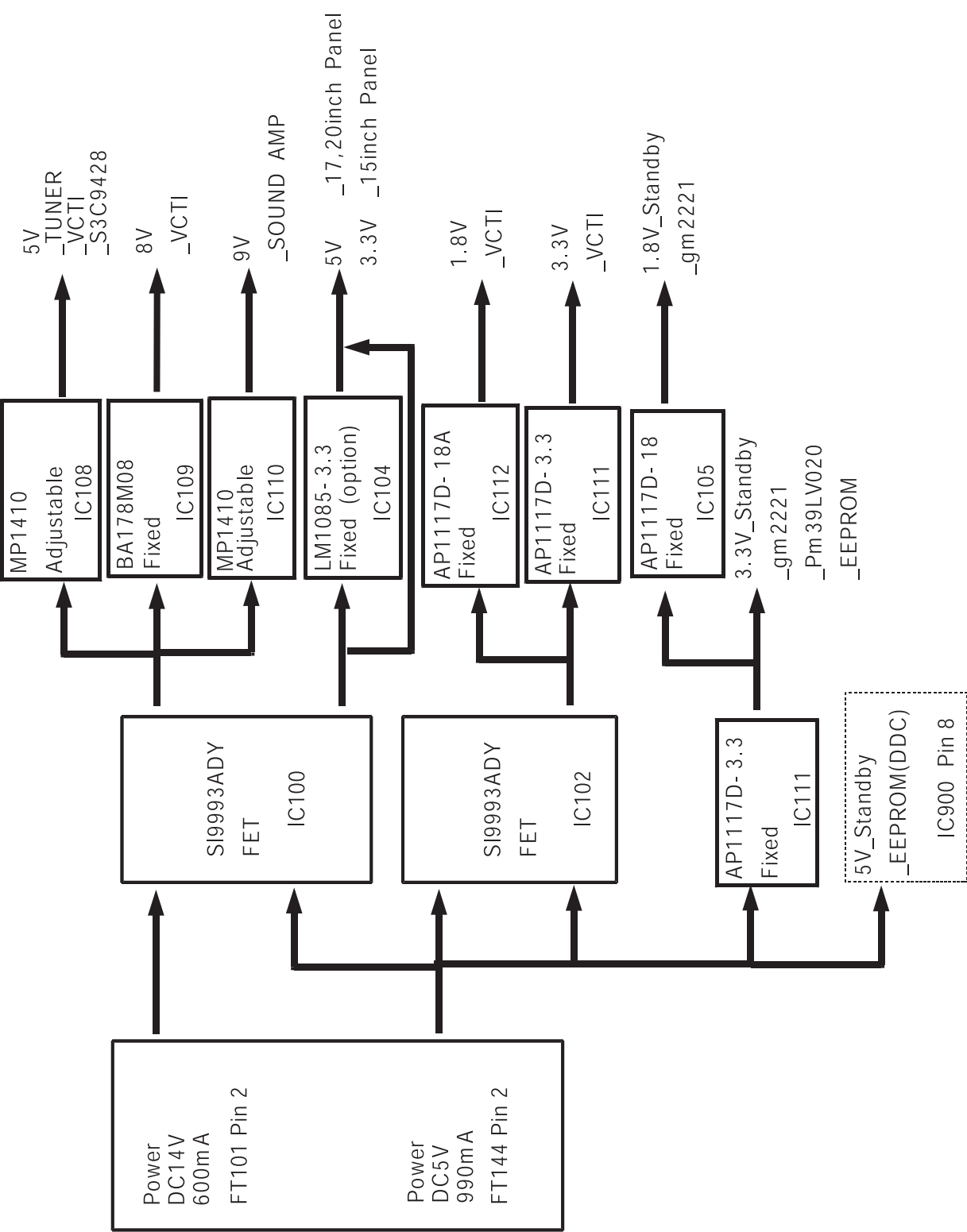
8 Block Diagram

- This Document can not be used without Samsung's authorization.

8-1 Signal Path Block Diagram



8-2 Input Power Block Diagram



3 Disassembly and Reassembly

This section of the service manual describes the disassembly and reassembly procedures for the LN-R1550 TFT-LCD TV.

WARNING: This monitor contains electrostatically sensitive devices. Use caution when handling these components.

3-1 Disassembly

- Cautions:**
1. Disconnect the monitor from the power source before disassembly.
 2. Follow these directions carefully; never use any metal instrument except provided jig to separate the cabinet.

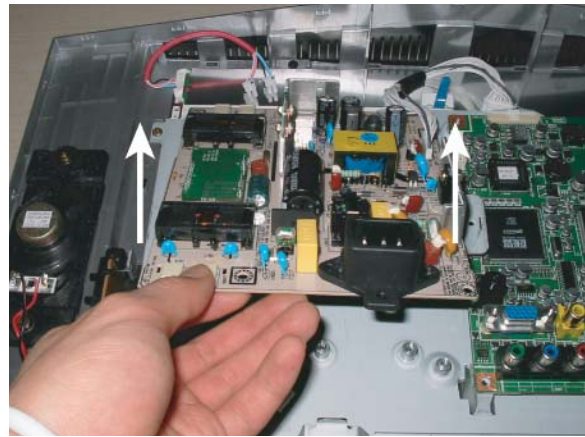


1. Place monitor face down on cushioned table.
Remove 6 screws from the rear cover and lift up the rear cover.



2. Disconnect Lamp wire, LVDS cable and Speaker cable.

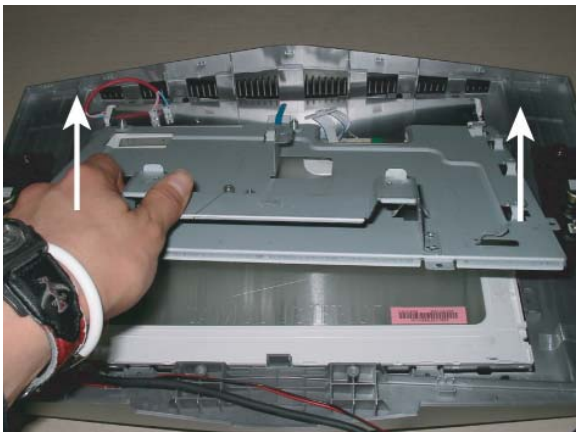
3 Disassembly and Reassembly



3. Remove 11 screws from the boards and lift up the boards.



4. Remove 6 screws from the shield PCB.



5. Lift up the shield PCB and lift up the LCD panel.

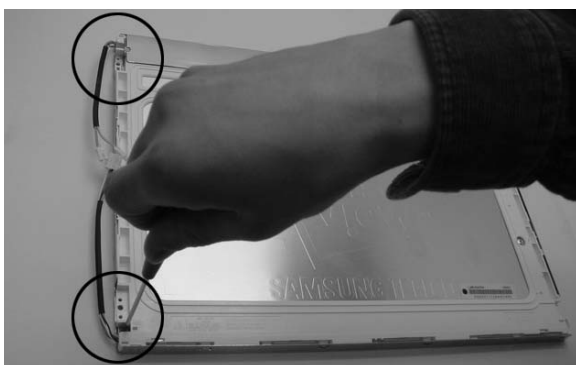
3 Disassembly and Reassembly



3-2 Replacement Order of Lamp Assemblies

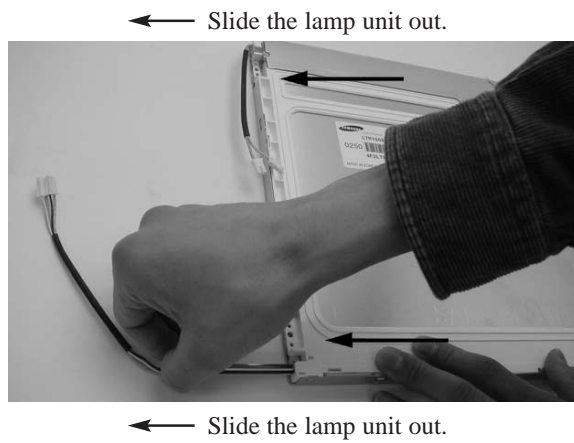


1. After confirm there is nothing on the desk, turn the LCD module over and put it on a flat desk set to the ground.



2. Remove 2 screws for the lamp unit.

3 Disassembly and Reassembly



3. Slide the lamp unit out. Please take out the lamp unit from the LCD module.



4. Please fix the new lamp units on the LCD module : opposite process 2 and 3.

3-3 Reassembly

Reassembly procedures are in the reverse order of disassembly procedures.

7 Electrical Parts List

-You can search for updated part codes through ITSELF web site.

URL : <http://itself.sec.samsung.co.kr/>

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
0		LN15S51BX/XAX	LN-15S51B,SP15U,15,LCD-TV,MEXICO	0	
0.1	M0001	BN90-00710A	ASSY COVER FRONT;SP15UO	1	S.NA
..2	T0003	BN96-01864A	ASSY COVER P-FRONT;SP15UO,ABS,V0,GR70,SV	1	
...3	M0081	6003-000275	SCREW-TAPTITE;BH,+,B,M3,L10,BLK ,SWCH101	2	S.NA
...3	M0081	6003-000275	SCREW-TAPTITE;BH,+,B,M3,L10,BLK ,SWCH101	1	S.NA
...3	M0081	6003-000275	SCREW-TAPTITE;BH,+,B,M3,L10,BLK ,SWCH101	2	S.NA
...3	M0081	6003-001467	SCREW-TAPTITE;PWH,+,B,M3,L10,ZPC(YEL)	4	S.NA
...3	M2893	BN39-00613B	LEAD CONNECTOR;SPARTA,UL1061#28,UL/CSA,1	1	
...3	T0750	BN63-01742A	COVER-MASK;SP15UO,HIPS,V0,BK500,BKM1143	1	S.NA
...3	M0112	BN63-01743A	COVER-FRONT;SP15,ABS,V0,GR70,SV012P	1	S.NA
...3	T0057	BN64-00031A	BADGE-BRAND;RB15AS,AL,T1.4,6.3,40.1,SILI	1	S.NA
...3	M0007	BN64-00330A	KNOB-FUNCTION;SPARTA,ABS,HB,BK07,HI-GLOS	1	S.NA
...3	T0175	BN96-01690A	ASSY SPEAKER P;16OHM,LEFT,3W,250MM,SPART	1	
...3	M0145	BN96-01883A	ASSY BOARD P-FUNCTION;SPARTA,CT5000-3240	1	
...3	T0714	BN96-01884A	ASSY BOARD P-IR;SPARTA,CT5000-3250,IR BO	1	
...3	T0175	BN96-01891A	ASSY SPEAKER P;16ohm,Right,3W,550mm,Spar	1	
...3	T0382	BP61-00509C	HOLDER-CARE;PJT,ACRYL-FOAM,T0.25,W20.0mm	0.28	S.NA
...3	T0299	BN64-00370A	WINDOW-RMC LED;SP20UO,ACRYL,DIFFUSIVE	1	S.NA
...3	T0069	AA60-00091D	SPACER-FELT,-,FELT,200X10,-,BLK,T0.35,	2	
...3	T0069	AA60-00091K	SPACER-FELT,-,FELT,330X10,-,BLK,T0.35,	2	S.NA
...3	T0069	AA60-00171F	SPACER-FELT;50L2,FELT,350,T0.5,5	2	S.NA
0.1	M0002	BN90-00712A	ASSY COVER REAR;SP15UO	1	S.NA
..2	M0081	6003-000275	SCREW-TAPTITE;BH,+,B,M3,L10,BLK ,SWCH101	2	S.NA
..2	M0013	BN96-01865A	ASSY COVER P-REAR;SP15UO,HIPS V0,GR86	1	
...3	M0081	6003-000275	SCREW-TAPTITE;BH,+,B,M3,L10,BLK ,SWCH101	1	S.NA
...3	M0114	BN61-01576A	HOLDER-WIRE;SP20,HIPS,V0,GR86	1	S.NA
...3		BN63-01178H	COVER-INLAY;SPUO,PC SHEET,T0.5,SPARTA	1	S.NA
...3	M0006	BN63-01744A	COVER-REAR;SP15UO,HIPS,V0,GR86	1	S.NA
...3	T0069	AA63-60001E	SPACER-FELT,-,FELT,-,-,BLK,0.5,-,55X15	2	S.NA
...3	T0069	AA63-60131J	SPACER-FELT;54J9,62J9,FELT,-,-,-,T0.5,	1	S.NA
...3	T0067	BP60-00061Q	SPACER-SCREEN;SP20UO,SPONGE,35,T2.0,20,E	2	S.NA
0.1	M0216	BN90-00713A	ASSY STAND;SP15	1	S.NA
..2	M0081	6003-001324	SCREW-TAPTITE;BH,+,B,M4,L16,NI PLT,SWRCH	4	S.NA
..2	M0045	BN96-01867A	ASSY STAND P-SET;SPARTA 15,HIPS,HB,GR86,	1	
...3	M0081	6003-000275	SCREW-TAPTITE;BH,+,B,M3,L10,BLK ,SWCH101	4	S.NA
...3	M0081	6003-001001	SCREW-TAPTITE;FH,+,B,M3,L8,ZPC(BLK),SWRC	5	S.NA
...3		BN61-01595A	BRACKET-STAND BOTTOM;SP15UO,SECC,T1.0	1	S.NA
...3	M0111	BN63-01794A	COVER-STAND;SP15,HIPS,T2.5,HB,GR86,SV012	1	S.NA
...3		BN63-01795A	COVER-STAND SUB;SP15,ABS,T2.5,HB,GR86,SV	1	S.NA
...3		BN64-00333A	KNOB-LOCKING;SPARTA,ABS,HB,GR86,SVM3012	1	S.NA
...3	T0132	BN73-60002C	RUBBER FOOT;VENICE 15",RUBBER,DIA 14,1.0	4	S.NA
...3		BN96-01866A	ASSY HINGE P-SIMPLE;SP15UO	1	S.NA
0.1		BN91-00567K	ASSY LCD-S3;ES15/MB15,S3	1	S.NA
..2	M0019	BN07-00111A	LCD;LTM150XH-L06,CZB,6BIT FRC,331.6*254.	1	
0.1	M0017	BN91-00843C	ASSY CHASSIS-S3/DH;LNR1550X/XAA,SEA	1	S.NA
..2	M0014	BN94-00661C	ASSY PCB MAIN-CP;LNR1550X/XAA	1	
...3	T0245	0202-001366	SOLDER-WIRE FLUX,-,RS60S,D1.2,63Sn/37Pb,	0.03	S.NA
...3	X702	2801-003959	CRYSTAL-UNIT;0.032768MHz,20ppm,28-AAY,12	1	
...3	FT800	2904-001196	FILTER-SAW AV;44MHZ,SIP5K,ST,16.2DB,-,42	1	
...3	CN908	3701-001294	CONNECTOR-DSUB;15P,3R,FEMALE,STRAIGHT,AU	1	
...3	CN906	3705-001329	CONNECTOR-COAXIAL;NT(F),ADAPTOR,-,75ohm,	1	
...3	CN906	3711-004712	CONNECTOR-HEADER;BOX,9P,1R,2mm,STRAIGHT,	1	
...3	CN900	3722-000158	JACK-PIN;1P,3.4mm,SN,YEL,-	1	
...3	CN909	3722-001061	JACK-PHONE;1P,3.6PI,AG,BLK,N	1	
...3	CN903	3722-001734	JACK-VHS;4P,-,SN,BLK,-	1	

7 Electrical Parts List

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
...3	CN913	3722-001846	JACK-PIN;2P,8.3MM,AU,WHT/RED,-	1	S.N.A
...3	CN901	3722-002143	JACK-PIN;5P,NI,GRN/BLU/RED/WHT/RED,STRAI	1	
...3		BN97-00511C	ASSY SMD-S3;LNR1550X/XAA	1	
....4	D200	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D600	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D701	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D702	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D800	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D908	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D909	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D910	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D912	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D913	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D915	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D948	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D949	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D951	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D952	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D953	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D954	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D955	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D956	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D957	0401-001056	DIODE-SWITCHING;MMBD4148SE,100V,200MA,SO	1	
....4	D101	0402-000553	DIODE-RECTIFIER;SS24,40V,2.0A,DO-214AA	1	
....4	D102	0402-000553	DIODE-RECTIFIER;SS24,40V,2.0A,DO-214AA	1	
....4	D904	0403-000579	DIODE-ZENER;BZX84C5V1,4.8-5.4V,200MW,SOT	1	
....4	D916	0403-000579	DIODE-ZENER;BZX84C5V1,4.8-5.4V,200MW,SOT	1	
....4	D917	0403-000579	DIODE-ZENER;BZX84C5V1,4.8-5.4V,200MW,SOT	1	
....4	D918	0403-000579	DIODE-ZENER;BZX84C5V1,4.8-5.4V,200MW,SOT	1	
....4	D919	0403-000579	DIODE-ZENER;BZX84C5V1,4.8-5.4V,200MW,SOT	1	
....4	D920	0403-000579	DIODE-ZENER;BZX84C5V1,4.8-5.4V,200MW,SOT	1	
....4	D928	0403-000579	DIODE-ZENER;BZX84C5V1,4.8-5.4V,200MW,SOT	1	
....4	D950	0403-000579	DIODE-ZENER;BZX84C5V1,4.8-5.4V,200MW,SOT	1	
....4	D944	0403-001048	DIODE-ZENER;BZX84C16,15.3-17.1V,225mW,SO	1	
....4	D603	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D604	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D900	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D901	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D902	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D903	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D905	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D906	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D911	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D914	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D921	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D922	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D923	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D924	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D925	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D926	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D927	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D930	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D932	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D934	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D936	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D940	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D941	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D942	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D945	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D946	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D947	0403-001052	DIODE-ZENER;RD8.2MB,7.7-8.7V,200MW,SOT-2	1	
....4	D201	0403-001425	DIODE-ZENER;BZX84C33,31-35V,350MW,SOT-23	1	
....4	D602	0403-001435	DIODE-ZENER;QZX363C5V6,5.32-5.88V,200MW,	1	
....4	D601	0407-000123	DIODE-ARRAY;DAN202K,80V,100MA,CA2-3,SOT-	1	
....4	D907	0407-000123	DIODE-ARRAY;DAN202K,80V,100MA,CA2-3,SOT-	1	
....4	Q801	0501-000280	TR-SMALL SIGNAL;KSA1182,PNP,150mW,SOT-23	1	
....4	Q802	0501-000280	TR-SMALL SIGNAL;KSA1182,PNP,150mW,SOT-23	1	

7 Electrical Parts List

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	Q803	0501-000280	TR-SMALL SIGNAL;KSA1182,PNP,150mW,SOT-23	1	
....4	Q804	0501-000280	TR-SMALL SIGNAL;KSA1182,PNP,150mW,SOT-23	1	
....4	Q200	0501-000342	TR-SMALL SIGNAL;KSC1623-Y,NPN,200mW,SOT-	1	
....4	Q600	0501-000342	TR-SMALL SIGNAL;KSC1623-Y,NPN,200mW,SOT-	1	
....4	Q601	0501-000342	TR-SMALL SIGNAL;KSC1623-Y,NPN,200mW,SOT-	1	
....4	Q602	0501-000342	TR-SMALL SIGNAL;KSC1623-Y,NPN,200mW,SOT-	1	
....4	Q603	0501-000342	TR-SMALL SIGNAL;KSC1623-Y,NPN,200mW,SOT-	1	
....4	Q800	0501-000342	TR-SMALL SIGNAL;KSC1623-Y,NPN,200mW,SOT-	1	
....4	Q902	0501-000342	TR-SMALL SIGNAL;KSC1623-Y,NPN,200mW,SOT-	1	
....4	Q809	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	1	
....4	Q100	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	
....4	Q101	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	
....4	Q104	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	
....4	Q805	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	
....4	Q810	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	
....4	Q900	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	
....4	Q901	0501-002080	TR-SMALL SIGNAL;2SC2412K,NPN,200mW,SC-59	1	
....4	Q409	0505-000110	FET-SILICON;2N7002,N,60V,115mA,7.5ohm,0.	1	
....4	Q409	0505-000110	FET-SILICON;2N7002,N,60V,115mA,7.5ohm,0.	1	
....4	Q409	0505-001170	FET-SILICON;SI9933ADY-T1,P,-20V,3.4A,0.0	1	
....4	Q409	0505-001170	FET-SILICON;SI9933ADY-T1,P,-20V,3.4A,0.0	1	
....4	IC104	0801-002267	IC-CMOS LOGIC;74LCX14,-,SOIC,14P,150MIL,	1	
....4	IC104	0801-002716	IC-CMOS LOGIC;74LCX157,MULTIPLEXER,SOIC,	1	
....4	IC105	0909-001036	IC-REAL TIME CLOCK;DS1337S+T&R,-,SO,8P,1	1	
....4	IC106	1001-001082	IC-VIDEO SWITCH;BA7657F,-,SOP,24P,300MIL	1	
....4	IC106	1001-001082	IC-VIDEO SWITCH;BA7657F,-,SOP,24P,300MIL	1	
....4	IC109	1003-001713	IC-LCD CONTROLLER;GM2221,PQFP,208P,-,-,-	1	
....4	IC112	1103-000129	IC-EEPROM;24C02,256x8,SOP,8P,5x4mm,4.5/5	1	
....4	IC112	1103-001314	IC-EEPROM;24C16,2Kx8,SOP,8P,5x4mm,2.7/5.	1	
....4	IC112	1103-001314	IC-EEPROM;24C16,2Kx8,SOP,8P,5x4mm,2.7/5.	1	
....4	T0085	1201-001495	IC-AUDIO AMP;7050,SOP,8P,150MIL,DUAL,26D	1	
....4	T0085	1201-001980	IC-AUDIO AMP;TDA7266D,SO,20P,16X11.1MM,-	1	
....4	T0087	1203-001816	IC-POSIFIXED REG.;78M08,TO-252,3P,-,PLA	1	
....4	IC300	1203-001824	IC-VOL. DETECTOR;7042,SOT-89,3P,-,PLASTI	1	
....4	T0087	1203-002708	IC-POSIFIXED REG.;1085,TO-263,3P,340MIL	1	
....4	T0087	1203-002842	IC-POSIFIXED REG.;AP1117D-33A,TO-252,3P	1	
....4	T0087	1203-002842	IC-POSIFIXED REG.;AP1117D-33A,TO-252,3P	1	
....4	T0087	1203-002844	IC-POSIFIXED REG.;AP1117D-18A,TO-252-3L	1	
....4	T0087	1203-002844	IC-POSIFIXED REG.;AP1117D-18A,TO-252-3L	1	
....4	IC108	1203-003015	IC-DC/DC CONVERTER;MP1410ES,SOIC,8P,4.9x	1	
....4	IC110	1203-003015	IC-DC/DC CONVERTER;MP1410ES,SOIC,8P,4.9x	1	
....4	R738	2007-000052	R-CHIP;10Kohm,1%,1/10W,TP,1608	1	
....4	R739	2007-000052	R-CHIP;10Kohm,1%,1/10W,TP,1608	1	
....4	R8126	2007-000052	R-CHIP;10Kohm,1%,1/10W,TP,1608	1	
....4	R915	2007-000052	R-CHIP;10Kohm,1%,1/10W,TP,1608	1	
....4	R916	2007-000052	R-CHIP;10Kohm,1%,1/10W,TP,1608	1	
....4	R205	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R207	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R208	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R209	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R311	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R701	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R734	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R781	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R803	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R8104	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R8105	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R837	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R841	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R842	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R845	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R850	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R851	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R856	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R857	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R859	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	
....4	R860	2007-000070	R-CHIP;0ohm,5%,1/10W,TP,1608	1	

7 Electrical Parts List

[illegible]

7 Electrical Parts List

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	R952	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	
....4	R954	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	
....4	R955	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	
....4	R956	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	
....4	R957	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	
....4	R958	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	
....4	R959	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	
....4	R960	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	
....4	R961	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	
....4	R962	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	
....4	R963	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	
....4	R964	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	
....4	R970	2007-000074	R-CHIP;100ohm,5%,1/10W,TP,1608	1	
....4	R940	2007-000075	R-CHIP;220ohm,5%,1/10W,TP,1608	1	
....4	R942	2007-000075	R-CHIP;220ohm,5%,1/10W,TP,1608	1	
....4	R200	2007-000076	R-CHIP;330ohm,5%,1/10W,TP,1608	1	
....4	R312	2007-000076	R-CHIP;330ohm,5%,1/10W,TP,1608	1	
....4	R520	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	
....4	R521	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	
....4	R522	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	
....4	R526	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	
....4	R527	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	
....4	R528	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	
....4	R802	2007-000077	R-CHIP;470ohm,5%,1/10W,TP,1608	1	
....4	R604	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	
....4	R611	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	
....4	R619	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	
....4	R623	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	
....4	R725	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	
....4	R839	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	
....4	R864	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	
....4	R913	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	
....4	R927	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	
....4	R928	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	
....4	R931	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	
....4	R932	2007-000078	R-CHIP;1Kohm,5%,1/10W,TP,1608	1	
....4	R511	2007-000080	R-CHIP;2Kohm,5%,1/10W,TP,1608	1	
....4	R512	2007-000080	R-CHIP;2Kohm,5%,1/10W,TP,1608	1	
....4	R624	2007-000081	R-CHIP;2.7Kohm,5%,1/10W,TP,1608	1	
....4	R625	2007-000081	R-CHIP;2.7Kohm,5%,1/10W,TP,1608	1	
....4	R858	2007-000081	R-CHIP;2.7Kohm,5%,1/10W,TP,1608	1	
....4	R949	2007-000081	R-CHIP;2.7Kohm,5%,1/10W,TP,1608	1	
....4	R8017	2007-000082	R-CHIP;3.3Kohm,5%,1/10W,TP,1608	1	
....4	R8106	2007-000082	R-CHIP;3.3Kohm,5%,1/10W,TP,1608	1	
....4	R934	2007-000082	R-CHIP;3.3Kohm,5%,1/10W,TP,1608	1	
....4	R600	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	
....4	R601	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	
....4	R607	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	
....4	R609	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	
....4	R800	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	
....4	R801	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	
....4	R8119	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	
....4	R8120	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	
....4	R855	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	
....4	R914	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	
....4	R924	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	
....4	R929	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	
....4	R930	2007-000084	R-CHIP;4.7Kohm,5%,1/10W,TP,1608	1	
....4	R852	2007-000087	R-CHIP;6.8Kohm,5%,1/10W,TP,1608	1	
....4	R853	2007-000087	R-CHIP;6.8Kohm,5%,1/10W,TP,1608	1	
....4	R114	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R128	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R165	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R174	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R515	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R516	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R605	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	

7 Electrical Parts List

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	R606	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R608	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R610	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R614	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R615	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R704	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R706	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R713	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R742	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R745	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R746	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R747	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R748	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R749	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R8121	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R8143	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R8144	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R821	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R879	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R933	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R944	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R965	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R966	2007-000090	R-CHIP;10Kohm,5%,1/10W,TP,1608	1	
....4	R612	2007-000093	R-CHIP;20Kohm,5%,1/10W,TP,1608	1	
....4	R613	2007-000093	R-CHIP;20Kohm,5%,1/10W,TP,1608	1	
....4	R616	2007-000093	R-CHIP;20Kohm,5%,1/10W,TP,1608	1	
....4	R202	2007-000094	R-CHIP;22Kohm,5%,1/10W,TP,1608	1	
....4	R513	2007-000100	R-CHIP;68Kohm,5%,1/10W,TP,1608	1	
....4	R514	2007-000100	R-CHIP;68Kohm,5%,1/10W,TP,1608	1	
....4	R116	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	
....4	R120	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	
....4	R121	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	
....4	R127	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	
....4	R201	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	
....4	R211	2007-000102	R-CHIP;100Kohm,5%,1/10W,TP,1608	1	
....4	R617	2007-000103	R-CHIP;120Kohm,5%,1/10W,TP,1608	1	
....4	R509	2007-000107	R-CHIP;470Kohm,5%,1/10W,TP,1608	1	
....4	R510	2007-000107	R-CHIP;470Kohm,5%,1/10W,TP,1608	1	
....4	R838	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	
....4	R843	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	
....4	R854	2007-000113	R-CHIP;33ohm,5%,1/10W,TP,1608	1	
....4	R8109	2007-000121	R-CHIP;820ohm,5%,1/10W,TP,1608	1	
....4	R896	2007-000234	R-CHIP;1.3Kohm,5%,1/10W,TP,1608	1	
....4	R773	2007-000239	R-CHIP;1.5Kohm,1%,1/10W,TP,1608	1	
....4	R774	2007-000239	R-CHIP;1.5Kohm,1%,1/10W,TP,1608	1	
....4	R620	2007-000309	R-CHIP;10ohm,5%,1/10W,TP,1608	1	
....4	R621	2007-000309	R-CHIP;10ohm,5%,1/10W,TP,1608	1	
....4	R827	2007-000309	R-CHIP;10ohm,5%,1/10W,TP,1608	1	
....4	R830	2007-000309	R-CHIP;10ohm,5%,1/10W,TP,1608	1	
....4	R833	2007-000309	R-CHIP;10ohm,5%,1/10W,TP,1608	1	
....4	R732	2007-000402	R-CHIP;150ohm,5%,1/10W,TP,1608	1	
....4	R733	2007-000402	R-CHIP;150ohm,5%,1/10W,TP,1608	1	
....4	R740	2007-000402	R-CHIP;150ohm,5%,1/10W,TP,1608	1	
....4	R817	2007-000402	R-CHIP;150ohm,5%,1/10W,TP,1608	1	
....4	R818	2007-000402	R-CHIP;150ohm,5%,1/10W,TP,1608	1	
....4	R819	2007-000402	R-CHIP;150ohm,5%,1/10W,TP,1608	1	
....4	R836	2007-000402	R-CHIP;150ohm,5%,1/10W,TP,1608	1	
....4	R840	2007-000402	R-CHIP;150ohm,5%,1/10W,TP,1608	1	
....4	R849	2007-000402	R-CHIP;150ohm,5%,1/10W,TP,1608	1	
....4	R897	2007-000402	R-CHIP;150ohm,5%,1/10W,TP,1608	1	
....4	R925	2007-000402	R-CHIP;150ohm,5%,1/10W,TP,1608	1	
....4	R808	2007-000458	R-CHIP;18Kohm,5%,1/10W,TP,1608	1	
....4	R828	2007-000539	R-CHIP;200ohm,5%,1/10W,TP,1608	1	
....4	R831	2007-000539	R-CHIP;200ohm,5%,1/10W,TP,1608	1	
....4	R834	2007-000539	R-CHIP;200ohm,5%,1/10W,TP,1608	1	
....4	R926	2007-000570	R-CHIP;220OHM,1%,1/10W,TP,1608	1	
....4	R737	2007-000608	R-CHIP;240ohm,5%,1/10W,TP,1608	1	

7 Electrical Parts List

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	R826	2007-000643	R-CHIP;270ohm,5%,1/10W,TP,1608	1	
....4	R829	2007-000643	R-CHIP;270ohm,5%,1/10W,TP,1608	1	
....4	R832	2007-000643	R-CHIP;270ohm,5%,1/10W,TP,1608	1	
....4	R899	2007-000659	R-CHIP;27ohm,5%,1/10W,TP,1608	1	
....4	R169	2007-000708	R-CHIP;3.9Kohm,1%,1/10W,TP,1608	1	
....4	R8102	2007-000882	R-CHIP;4.7ohm,5%,1/10W,TP,1608	1	
....4	R171	2007-000910	R-CHIP;43Kohm,1%,1/10W,TP,1608	1	
....4	R115	2007-000939	R-CHIP;47Kohm,1%,1/10W,TP,1608	1	
....4	R168	2007-000965	R-CHIP;5.1Kohm,5%,1/10W,TP,1608	1	
....4	R172	2007-000965	R-CHIP;5.1Kohm,5%,1/10W,TP,1608	1	
....4	R8101	2007-001002	R-CHIP;510ohm,5%,1/10W,TP,1608	1	
....4	R618	2007-001044	R-CHIP;56ohm,5%,1/10W,TP,1608	1	
....4	R622	2007-001044	R-CHIP;56ohm,5%,1/10W,TP,1608	1	
....4	R173	2007-001068	R-CHIP;6.8Kohm,1%,1/10W,TP,1608	1	
....4	R8100	2007-001134	R-CHIP;68ohm,5%,1/10W,TP,1608	1	
....4	R735	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	
....4	R736	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	
....4	R741	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	
....4	R888	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	
....4	R902	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	
....4	R903	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	
....4	R904	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	
....4	R917	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	
....4	R918	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	
....4	R919	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	
....4	R946	2007-001164	R-CHIP;75ohm,1%,1/10W,TP,1608	1	
....4	R906	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	
....4	R908	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	
....4	R909	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	
....4	R945	2007-001167	R-CHIP;75ohm,5%,1/10W,TP,1608	1	
....4	R210	2007-001179	R-CHIP;8.2Kohm,5%,1/10W,TP,1608	1	
....4	R167	2007-007004	R-CHIP;12Kohm,1%,1/10W,TP,1608	1	
....4	RA701	2011-000002	R-NET;22OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	
....4	RA702	2011-000002	R-NET;22OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	
....4	RA703	2011-000002	R-NET;22OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	
....4	RA704	2011-000002	R-NET;22OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	
....4	RA705	2011-000002	R-NET;22OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	
....4	RA706	2011-000002	R-NET;22OHM,5%,1/16W,L,CHIP,8P,TP,3216	1	
....4	RA800	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	
....4	RA808	2011-000881	R-NET;33ohm,5%,1/16W,L,CHIP,8P,TP,3.2x1.	1	
....4	C540	2203-000041	C-CER,CHIP;0.01NF,0.25PF,50V,C0G,TP,1608	1	
....4	C541	2203-000041	C-CER,CHIP;0.01NF,0.25PF,50V,C0G,TP,1608	1	
....4	C542	2203-000041	C-CER,CHIP;0.01NF,0.25PF,50V,C0G,TP,1608	1	
....4	C543	2203-000041	C-CER,CHIP;0.01NF,0.25PF,50V,C0G,TP,1608	1	
....4	C544	2203-000041	C-CER,CHIP;0.01NF,0.25PF,50V,C0G,TP,1608	1	
....4	C545	2203-000041	C-CER,CHIP;0.01NF,0.25PF,50V,C0G,TP,1608	1	
....4	C119	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	
....4	C120	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	
....4	C132	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	
....4	C286	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	
....4	C314	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	
....4	C316	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	
....4	C318	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	
....4	C334	2203-000140	C-CER,CHIP;1.5nF,10%,50V,X7R,1608	1	
....4	C107	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C117	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C118	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C143	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C163	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C175	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C176	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C179	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C183	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C190	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C203	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C217	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C607	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	

7 Electrical Parts List

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	C609	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C615	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C620	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C745	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C754	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C766	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C769	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C802	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C808	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C810	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C817	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C818	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C822	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C823	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C824	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C825	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C827	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C828	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C829	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C839	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C910	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C918	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C919	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C920	2203-000189	C-CER,CHIP;100nF,+80-20%,25V,Y5V,1608	1	
....4	C182	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	
....4	C189	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	
....4	C208	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	
....4	C209	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	
....4	C922	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	
....4	C933	2203-000236	C-CER,CHIP;0.1nF,5%,50V,C0G,1608	1	
....4	C180	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C181	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C187	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C188	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C200	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C205	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C212	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C500	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C502	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C743	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C744	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C750	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C755	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C756	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C757	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C758	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C809	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C811	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C812	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C846	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C936	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C938	2203-000257	C-CER,CHIP;10nF,10%,50V,X7R,1608	1	
....4	C202	2203-000491	C-CER,CHIP;2.2nF,10%,50V,X7R,TP,1608,-	1	
....4	C611	2203-000491	C-CER,CHIP;2.2nF,10%,50V,X7R,TP,1608,-	1	
....4	C612	2203-000491	C-CER,CHIP;2.2nF,10%,50V,X7R,TP,1608,-	1	
....4	C804	2203-000626	C-CER,CHIP;0.022nF,5%,50V,C0G,1608	1	
....4	C805	2203-000626	C-CER,CHIP;0.022nF,5%,50V,C0G,1608	1	
....4	C909	2203-000697	C-CER,CHIP;0.002NF,0.25PF,50V,C0G,TP,160	1	
....4	C915	2203-000697	C-CER,CHIP;0.002NF,0.25PF,50V,C0G,TP,160	1	
....4	C916	2203-000697	C-CER,CHIP;0.002NF,0.25PF,50V,C0G,TP,160	1	
....4	C917	2203-000697	C-CER,CHIP;0.002NF,0.25PF,50V,C0G,TP,160	1	
....4	C236	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	
....4	C237	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	
....4	C900	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	
....4	C901	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	
....4	C907	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	
....4	C908	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	

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Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	C911	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	
....4	C913	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	
....4	C931	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	
....4	C932	2203-000783	C-CER,CHIP;0.33nF,5%,50V,C0G,1608	1	
....4	C902	2203-000815	C-CER,CHIP;0.033nF,5%,50V,C0G,1608	1	
....4	C903	2203-000815	C-CER,CHIP;0.033nF,5%,50V,C0G,1608	1	
....4	C904	2203-000815	C-CER,CHIP;0.033nF,5%,50V,C0G,1608	1	
....4	C905	2203-000815	C-CER,CHIP;0.033nF,5%,50V,C0G,1608	1	
....4	C906	2203-000815	C-CER,CHIP;0.033nF,5%,50V,C0G,1608	1	
....4	C934	2203-000815	C-CER,CHIP;0.033nF,5%,50V,C0G,1608	1	
....4	C204	2203-000888	C-CER,CHIP;4.7nF,10%,50V,X7R,1608	1	
....4	C207	2203-000972	C-CER,CHIP;47nF,10%,16V,X7R,TP,1608	1	
....4	C813	2203-001052	C-CER,CHIP;0.56nF,10%,50V,X7R,TP,1608	1	
....4	C814	2203-001052	C-CER,CHIP;0.56nF,10%,50V,X7R,TP,1608	1	
....4	C816	2203-001052	C-CER,CHIP;0.56nF,10%,50V,X7R,TP,1608	1	
....4	C727	2203-001086	C-CER,CHIP;0.0050nF,0.25pF,50V,NP0,1608	1	
....4	C728	2203-001086	C-CER,CHIP;0.0050nF,0.25pF,50V,NP0,1608	1	
....4	C614	2203-001402	C-CER,CHIP;220nF,+80-20%,16V,Y5V,TP,1608	1	
....4	C617	2203-001402	C-CER,CHIP;220nF,+80-20%,16V,Y5V,TP,1608	1	
....4	C618	2203-001402	C-CER,CHIP;220nF,+80-20%,16V,Y5V,TP,1608	1	
....4	C621	2203-001402	C-CER,CHIP;220nF,+80-20%,16V,Y5V,TP,1608	1	
....4	C206	2203-001607	C-CER,CHIP;0.22nF,5%,50V,NP0,-,1608	1	
....4	C616	2203-001652	C-CER,CHIP;470nF,+80-20%,16V,Y5V,1608	1	
....4	C619	2203-001652	C-CER,CHIP;470nF,+80-20%,16V,Y5V,1608	1	
....4	C121	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,TP,1608	1	
....4	C131	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,TP,1608	1	
....4	C287	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,TP,1608	1	
....4	C315	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,TP,1608	1	
....4	C317	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,TP,1608	1	
....4	C319	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,TP,1608	1	
....4	C335	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,TP,1608	1	
....4	C337	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,TP,1608	1	
....4	C520	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,TP,1608	1	
....4	C521	2203-001656	C-CER,CHIP;0.47nF,5%,50V,NP0,TP,1608	1	
....4	C228	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C235	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C524	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C525	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C526	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C527	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C528	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C529	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C530	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C531	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C532	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C533	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C534	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C535	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C704	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C705	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C706	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C707	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C709	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C710	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C711	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C713	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C716	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C718	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C719	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C720	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C721	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C722	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C724	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C725	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C726	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C729	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C730	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	

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Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	C731	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C732	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C733	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C734	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C735	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C736	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C737	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C738	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C739	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C740	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C741	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C742	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C747	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C749	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C759	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C760	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C764	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C768	2203-005005	C-CER,CHIP;100nF,10%,16V,X7R,1608	1	
....4	C600	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	
....4	C603	2203-005065	C-CER,CHIP;1000nF,+80-20%,10V,Y5V,1608	1	
....4	C714	2203-005194	C-CER,CHIP;0.22nF,10%,50V,X7R,1608	1	
....4	C715	2203-005194	C-CER,CHIP;0.22nF,10%,50V,X7R,1608	1	
....4	C748	2203-005194	C-CER,CHIP;0.22nF,10%,50V,X7R,1608	1	
....4	C751	2203-005194	C-CER,CHIP;0.22nF,10%,50V,X7R,1608	1	
....4	C752	2203-005194	C-CER,CHIP;0.22nF,10%,50V,X7R,1608	1	
....4	C753	2203-005194	C-CER,CHIP;0.22nF,10%,50V,X7R,1608	1	
....4	C601	2203-006036	C-CER,CHIP;680nF,+80-20%,16V,Y5V,TP,1608	1	
....4	C602	2203-006036	C-CER,CHIP;680nF,+80-20%,16V,Y5V,TP,1608	1	
....4	C306	2402-000108	C-AL,SMD;10uF,20%,16V,WT,TP,4.3x4.3x5.4	1	
....4	C837	2402-000108	C-AL,SMD;10uF,20%,16V,WT,TP,4.3x4.3x5.4	1	
....4	C605	2402-000135	C-AL,SMD;22uF,20%,16V,GP,TP,5.3x5.3x5.4	1	
....4	C610	2402-000135	C-AL,SMD;22uF,20%,16V,GP,TP,5.3x5.3x5.4	1	
....4	C835	2402-000135	C-AL,SMD;22uF,20%,16V,GP,TP,5.3x5.3x5.4	1	
....4	C836	2402-000135	C-AL,SMD;22uF,20%,16V,GP,TP,5.3x5.3x5.4	1	
....4	C935	2402-000135	C-AL,SMD;22uF,20%,16V,GP,TP,5.3x5.3x5.4	1	
....4	C937	2402-000135	C-AL,SMD;22uF,20%,16V,GP,TP,5.3x5.3x5.4	1	
....4	C834	2402-000144	C-AL,SMD;3.3uF,20%,50V,GP,TP,4.3x4.3x5.4	1	
....4	C101	2402-000170	C-AL,SMD;1uF,20%,50V,GP,TP,4.3x4.3x5.4	1	
....4	C102	2402-000170	C-AL,SMD;1uF,20%,50V,GP,TP,4.3x4.3x5.4	1	
....4	C115	2402-000170	C-AL,SMD;1uF,20%,50V,GP,TP,4.3x4.3x5.4	1	
....4	C213	2402-000170	C-AL,SMD;1uF,20%,50V,GP,TP,4.3x4.3x5.4	1	
....4	C305	2402-000170	C-AL,SMD;1uF,20%,50V,GP,TP,4.3x4.3x5.4	1	
....4	C847	2402-000170	C-AL,SMD;1uF,20%,50V,GP,TP,4.3x4.3x5.4	1	
....4	C921	2402-000170	C-AL,SMD;1uF,20%,50V,GP,TP,4.3x4.3x5.4	1	
....4	C116	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C122	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C123	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C124	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C125	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C126	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C127	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C128	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C129	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C130	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C508	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C509	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C510	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C511	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C512	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C513	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C514	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C515	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C516	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C517	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C518	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C519	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	
....4	C838	2402-000176	C-AL,SMD;10uF,20%,16V,GP,TP,4.3x4.3x5.4	1	

7 Electrical Parts List

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	C833	2402-001006	C-AL,SMD;4.7uF,20%,25V,GP,TP,3.6x6.3x3.	1	
....4	C840	2402-001006	C-AL,SMD;4.7uF,20%,25V,GP,TP,3.6x6.3x3.	1	
....4	C841	2402-001006	C-AL,SMD;4.7uF,20%,25V,GP,TP,3.6x6.3x3.	1	
....4	C842	2402-001006	C-AL,SMD;4.7uF,20%,25V,GP,TP,3.6x6.3x3.	1	
....4	C843	2402-001006	C-AL,SMD;4.7uF,20%,25V,GP,TP,3.6x6.3x3.	1	
....4	C844	2402-001006	C-AL,SMD;4.7uF,20%,25V,GP,TP,3.6x6.3x3.	1	
....4	C845	2402-001006	C-AL,SMD;4.7uF,20%,25V,GP,TP,3.6x6.3x3.	1	
....4	C109	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	1	
....4	C111	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	1	
....4	C112	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	1	
....4	C113	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	1	
....4	C178	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	1	
....4	C201	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	1	
....4	C210	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	1	
....4	C606	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	1	
....4	C608	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	1	
....4	C613	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	1	
....4	C622	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	1	
....4	C712	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	1	
....4	C800	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	1	
....4	C184	2402-001044	C-AL,SMD;100UF,20%,25V,GP,TP,8.3X8.3X6.3	1	
....4	C191	2402-001044	C-AL,SMD;100UF,20%,25V,GP,TP,8.3X8.3X6.3	1	
....4	C193	2402-001070	C-AL,SMD;470uF,20%,16V,GP,TP,10x10.2,-	1	
....4	C110	2402-001081	C-AL,SMD;100uF,20%,25V,WT,TP,8.3x8.3x10	1	
....4	C100	2402-001086	C-AL,SMD;100UF,20%,16V,WT,TP,6.6X6.6X5.3	1	
....4	C114	2402-001086	C-AL,SMD;100UF,20%,16V,WT,TP,6.6X6.6X5.3	1	
....4	C604	2402-001086	C-AL,SMD;100UF,20%,16V,WT,TP,6.6X6.6X5.3	1	
....4	C765	2402-001086	C-AL,SMD;100UF,20%,16V,WT,TP,6.6X6.6X5.3	1	
....4	C623	2402-001155	C-AL,SMD;47UF,20%,16V,WT,TP,6.3X5.2MM	1	
....4	C522	2409-001049	C-ORGANIC;47UF,20%,6.3V,FX,TP,5X5.9MM,-	1	
....4	C523	2409-001049	C-ORGANIC;47UF,20%,6.3V,FX,TP,5X5.9MM,-	1	
....4	C717	2409-001049	C-ORGANIC;47UF,20%,6.3V,FX,TP,5X5.9MM,-	1	
....4	C723	2409-001049	C-ORGANIC;47UF,20%,6.3V,FX,TP,5X5.9MM,-	1	
....4	C194	2409-001051	C-ORGANIC;82UF,20%,6.3V,WT,TP,6.3*5.9MM,	1	
....4	C708	2409-001051	C-ORGANIC;82UF,20%,6.3V,WT,TP,6.3*5.9MM,	1	
....4	C185	2409-001065	C-ORGANIC;82UF,20%,16V,WT,TP,8X6.9MM,-	1	
....4	C192	2409-001065	C-ORGANIC;82UF,20%,16V,WT,TP,8X6.9MM,-	1	
....4	T0052	2703-000185	INDUCTOR-SMD;3.3uH,10%,2012	1	
....4	T0052	2703-000185	INDUCTOR-SMD;3.3uH,10%,2012	1	
....4	T0052	2703-000185	INDUCTOR-SMD;3.3uH,10%,2012	1	
....4	T0052	2703-000185	INDUCTOR-SMD;3.3uH,10%,2012	1	
....4	T0052	2703-000185	INDUCTOR-SMD;3.3uH,10%,2012	1	
....4	T0052	2703-000185	INDUCTOR-SMD;3.3uH,10%,2012	1	
....4	T0052	2703-000185	INDUCTOR-SMD;3.3uH,10%,2012	1	
....4	T0052	2703-000185	INDUCTOR-SMD;3.3uH,10%,2012	1	
....4	T0052	2703-000185	INDUCTOR-SMD;3.3uH,10%,2012	1	
....4	T0052	2703-000222	INDUCTOR-SMD;560nH,10%,2012	1	
....4	T0052	2703-000392	INDUCTOR-SMD;10uH,5%,4532	1	
....4	T0052	2703-000398	INDUCTOR-SMD;10uH,10%,3225	1	
....4	T0052	2703-000398	INDUCTOR-SMD;10uH,10%,3225	1	
....4	T0052	2703-000417	INDUCTOR-SMD;220uH,5%,3225	1	
....4	T0052	2703-001426	INDUCTOR-SMD;680uH,20%,7070	1	
....4	T0052	2703-001778	INDUCTOR-SMD;3.3uH,20%,3225	1	
....4	T0052	2703-002327	INDUCTOR-SMD;3.9uH,5%,3225	1	
....4	X701	2801-003667	CRYSTAL-SMD;14.31818MHz,30ppm,28-AAN,16,	1	
....4	X800	2801-004004	CRYSTAL-SMD;20.25MHz,20ppm,28-AAN,13pF,2	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	1	

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Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3,2x	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3,2x	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3,2x	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3,2x	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3,2x	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3,2x	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3,2x	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3,2x	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3,2x	1	
....4	F103	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3,2x	1	
....4	T0568	3301-001145	BEAD-SMD;60OHM,4516,6000,TP,70OHM/45MHZ,	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60OHM,4516,6000,TP,70OHM/45MHZ,	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60OHM,4516,6000,TP,70OHM/45MHZ,	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60OHM,4516,6000,TP,70OHM/45MHZ,	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60OHM,4516,6000,TP,70OHM/45MHZ,	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60OHM,4516,6000,TP,70OHM/45MHZ,	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60OHM,4516,6000,TP,70OHM/45MHZ,	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60OHM,4516,6000,TP,70OHM/45MHZ,	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60OHM,4516,6000,TP,70OHM/45MHZ,	1	S.N.A
....4	T0568	3301-001145	BEAD-SMD;60OHM,4516,6000,TP,70OHM/45MHZ,	1	S.N.A
....4	CN906	3711-002046	CONNECTOR-HEADER;BOX,12P,1R,1.25mm,SMD-S	1	
....4	CN906	3711-005291	CONNECTOR-HEADER;BOX,2P,1R,2MM,SMD-A,SN,	1	
....4	CN906	3711-005292	CONNECTOR-HEADER;BOX,3P,1R,2MM,SMD-A,SN,	1	
....4	CN906	3711-005471	CONNECTOR-HEADER;BOX,12P,1R,1.25mm,SMD-A	1	
....4	CN906	3711-005472	CONNECTOR-HEADER;BOX,20P,1R,1.25mm,SMD-A	1	
....4	T0010	BN27-00009A	COIL CHOKE;SMD 12X12X6,EOS,33UH,15%,-,0.	1	
....4	T0010	BN27-00009A	COIL CHOKE;SMD 12X12X6,EOS,33UH,15%,-,0.	1	
....4	T0077	BN41-00449C	PCB MAIN;VE15UO/EO/KO,FR4,4,MP1.1,1.6,VE	1	S.N.A
....4	M0018	BN97-00354V	ASSY MICOM;VE15UO/VE20UO/VC17UO	1	
....5	T0119	BN09-00005A	IC MICOM;VCT4862-XM C7,144,3.3V,NTSC On	1	S.N.A
....4	CIS5	0202-001375	SOLDER-CREAM;RMA-20-21L,S63,-,Sn63/Pb36.	1.1	S.N.A
....4	M0018	BN97-00354U	ASSY MICOM;VE15UO	1	
....5	IC115	1107-001495	IC-FLASH MEMORY;AT49BV002AN-70J1,256Kx8B	1	
....3	CIS3	BN40-00069A	TUNER;TECH1840PG31A(S),TECH1840PG31A(S),	1	
0.1	M0112	BN91-00845A	ASSY SHIELD;LNR1550X/XAA	1	S.N.A
.2	M0081	6003-000275	SCREW-TAPTITE;BH,+,B,M3,L10,BLK ,SWCH101	2	S.N.A
.2	M0081	6003-000275	SCREW-TAPTITE;BH,+,B,M3,L10,BLK ,SWCH101	6	S.N.A
.2	M0174	BN44-00112A	IP BOARD;IP-31.6W(13V,5V),VENICE,1.5MA-3	1	
.2	T0081	BN61-01234A	HOLDER-INVERTER;MATISSE,ABS V0,BK07	2	S.N.A
.2		BN96-01875A	ASSY SHIELD P-PANEL;SP15S5,SECC,T1.0	1	S.N.A
.3	T0514	BN61-01597A	BRACKET-SUPPORT;SP15UO,SECC,T1.0	1	S.N.A
.3	M0125	BN63-01740A	SHIELD-PANEL;LN15S51B,SECC,T1.0,CMO	1	S.N.A
.2	M2893	BN39-00537B	LEAD CONNECTOR;SPARTA,UL1061#28,20P,100m	1	
.2	M0081	6003-000115	SCREW-TAPTITE;BH,+,B,M3,L6,ZPC(BLK),SWRC	4	S.N.A
.2	M0081	6003-000115	SCREW-TAPTITE;BH,+,B,M3,L6,ZPC(BLK),SWRC	5	S.N.A
.2	M0162	6502-000121	CABLE CLAMP;DAMC-101,D7-8,L19,SCP-1,NTR	1	S.N.A
0.1	M0019	BN92-00920B	ASSY LABEL;MU15EO	1	S.N.A
0.1	M0045	BN92-01316P	ASSY ACCESSORY;LN15S51BX/XAX,SP15UO	1	S.N.A
.2	T0074	BN59-00429A	REMOCON;TM79,Single Micom,34,EX,NT,EX,VE	1	
.2		BN68-00797A	MANUAL-01,WARRANT CARD;SAMEX BASIC ALL,M	1	S.N.A
.2	M0045	BN96-00619U	ASSY ACCESSORY;MU15UO	1	
.3	T0524	6902-000110	BAG PE;LDPE,T0.05,L356,W240,TRP,28,2,PE	1	S.N.A
.3	T0268	3903-000085	CBF-POWER CORD;DT,US,BP3/YES,I(IEC C13/C	1	
.2	M0045	BN96-01905J	ASSY ACCESSORY;LN15S51BX/XAX,SP15UO,SP20	1	S.N.A
.3	T0524	6902-000110	BAG PE;LDPE,T0.05,L356,W240,TRP,28,2,PE	1	S.N.A
.3	M0284	BN68-00816B	MANUAL USERS-02;LN-R2050,SAMSUNG,E/S/P,N	1	S.N.A
.3	ACCESSORY	BP68-00515A	MANUAL-REGISTRATION CARD;PRC CARD,SAMSUN	1	S.N.A
.2	T0610	AA68-03242F	MANUAL-SAFETY GUIDE;All Model,SAMSUNG,En	1	S.N.A
.3		BN96-02016A	ASSY BRACKET P-WALL;15S5	1	S.N.A
.3	CIS	6902-000128	BAG ZIPPER;LDPE,T0.05,L150,W200,TRP,8,2,	1	S.N.A
.3	T0101	BN61-01162A	BRACKET-WALL;VE15,SECC,2.0	1	

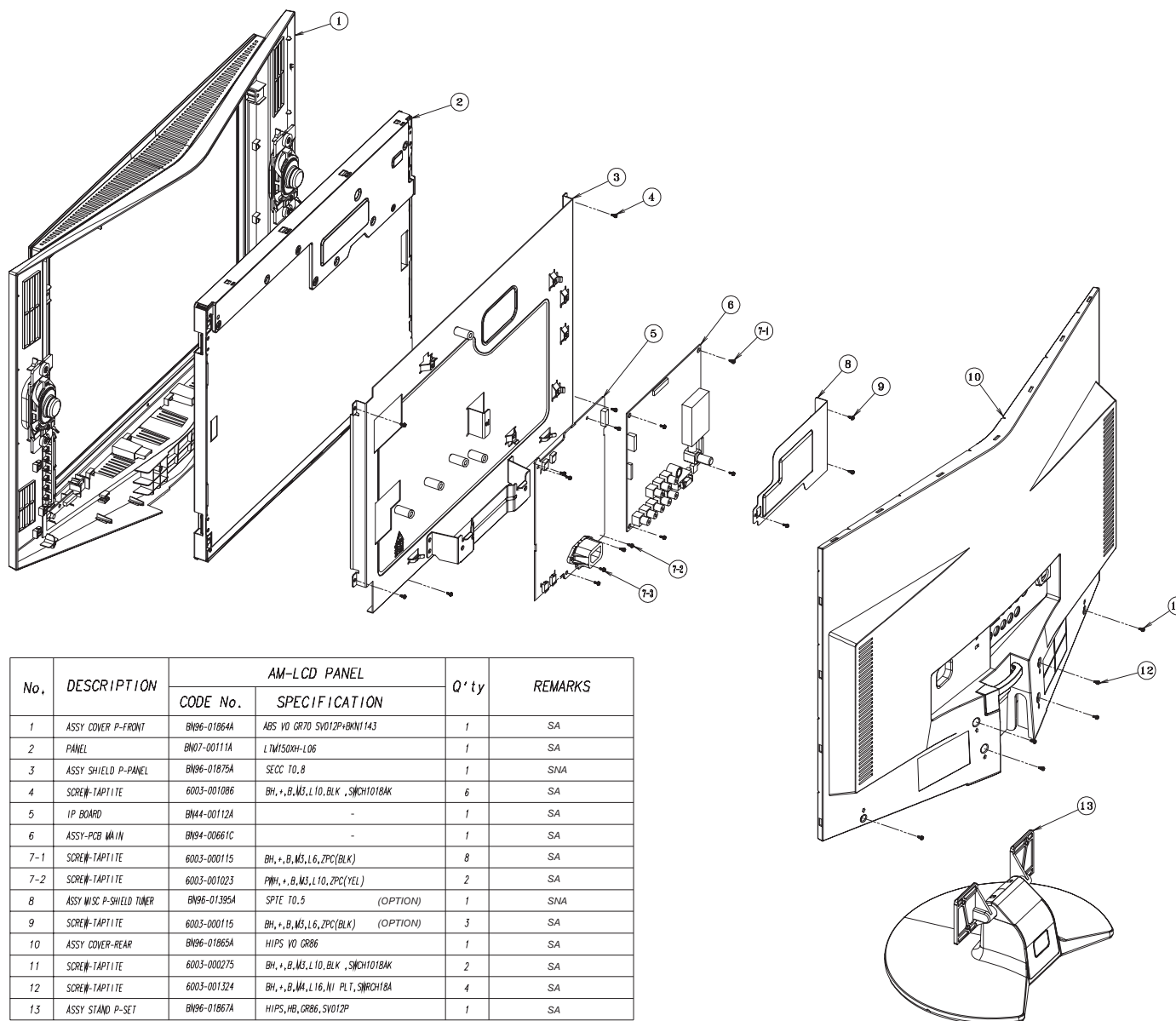
7 Electrical Parts List

Level	Loc. No.	Code No.	Description & Specification	Q'ty	SA/SNA
...3	M0596	BN68-00850A	MANUAL USERS-00;SP15EO,SAMSUNG,E,ALL,Art	1	S.N.A
...3	M0596	BN68-00850C	MANUAL USERS-00;SP15/20EO,SAMSUNG,E,ALL,	1	S.N.A
...3	M0132	BN96-01272A	ASSY MISC P-SCREW;VE15UO	1	S.N.A
0.1	M0003	BN92-01319G	ASSY BOX;LN15S51BX/XAX,SP15UO	1	S.N.A
..2	M0120	BH75-10529A	UNIT-HANDLE PACKING:LXA410TLMU,PE,-,WHIT	1	S.N.A
...3	M0103	BN72-60001A	LEVER-TOP;LSD210TL,PE-LD,WHITE,TFT_LCD	1	S.N.A
...3	M0102	BN72-60002A	LEVER-BOTTOM;LSD210TL,PE-LD,WHITE,TFT-LC	1	S.N.A
..2	BOX	BN69-00986A	BOX-00,SET;SP15UO,SW4,YEL,A1,L565*W443"H	1.01	S.N.A
0.1	M0113	BN92-01320A	ASSY P/MATERIAL;SP15	1	S.N.A
..2	T0376	6902-000379	BAG AIR;LDPE,T0.2,W1000,L1800,TRP,-,---	0.002	S.N.A
..2	T0524	6902-000520	BAG PE;HDPE/NITRON(DOUBLE),T0.015/T0.5(D	1	S.N.A
..2	P/M	6902-000604	BAG WRAPPING;LDPE,T0.02,W500,L10000,TRP,	1.1	S.N.A

6 Exploded View and Parts List

- You can search for updated part codes through ITSELF web site.

URL : <http://itself.sec.samsung.co.kr>

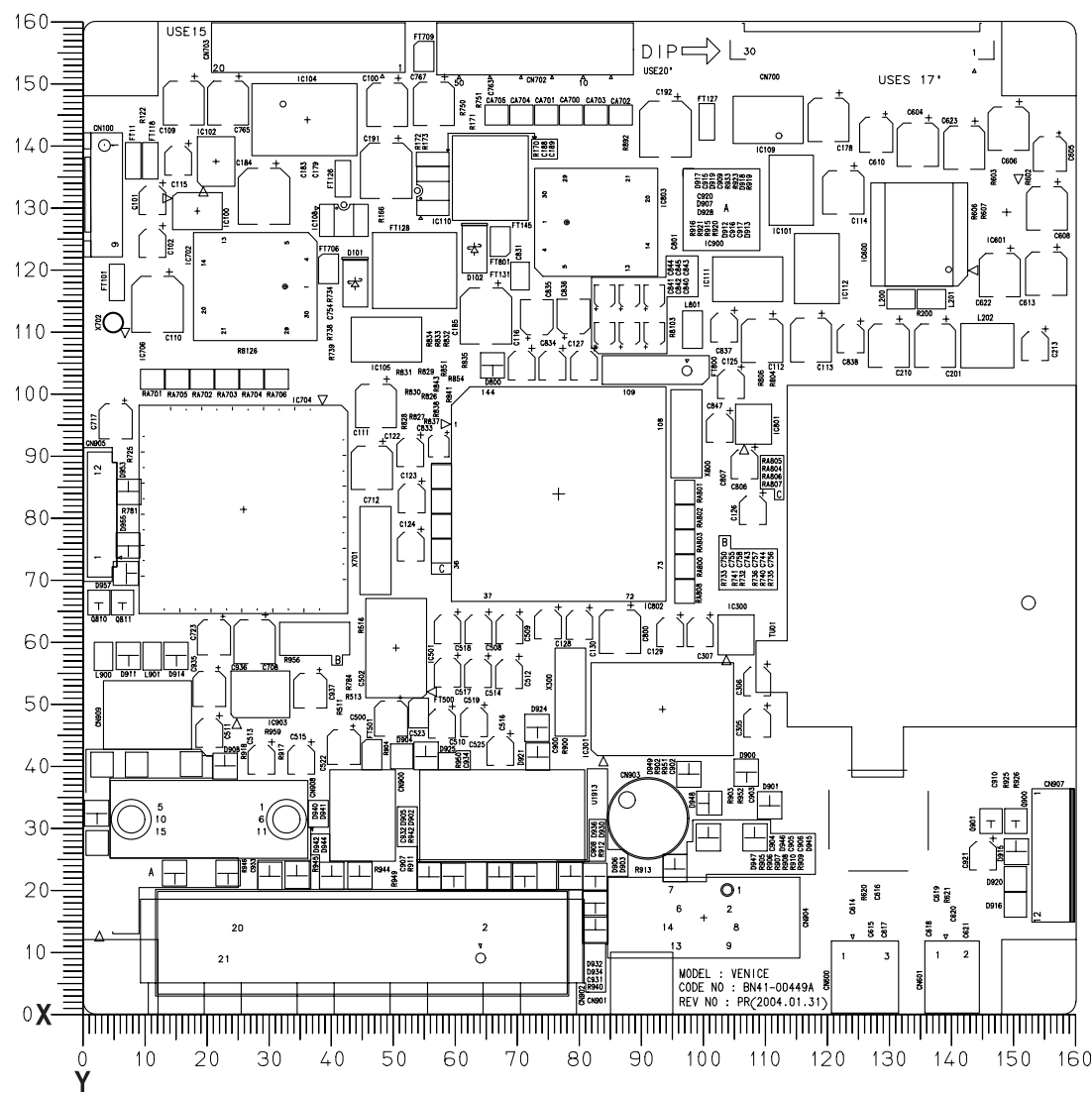


No.	DESCRIPTION	AM-LCD PANEL		Q'ty	REMARKS
		CODE No.	SPECIFICATION		
1	ASSY COVER P-FRONT	BN96-01864A	ABS VO CR70 SV012P+BKN1143	1	SA
2	PANEL	BN07-00111A	LTM150XH-L06	1	SA
3	ASSY SHIELD P-PANEL	BN96-01875A	SECC T0.8	1	SNA
4	SCREW-TAPTITE	6003-001086	BH,+,B,M3,L10,BLK,SJCH1018AK	6	SA
5	IP BOARD	BN44-00112A	-	1	SA
6	ASSY-PCB MAIN	BN94-00661C	-	1	SA
7-1	SCREW-TAPTITE	6003-000115	BH,+,B,M3,L6,ZPC(BLK)	8	SA
7-2	SCREW-TAPTITE	6003-001023	PMH,+,B,M3,L10,ZPC(YEL)	2	SA
8	ASSY MISC P-SHIELD TUNER	BN96-01395A	SPTE T0.5 (OPTION)	1	SNA
9	SCREW-TAPTITE	6003-000115	BH,+,B,M3,L6,ZPC(BLK) (OPTION)	3	SA
10	ASSY COVER-REAR	BN96-01865A	HIPS VO CR86	1	SA
11	SCREW-TAPTITE	6003-000275	BH,+,B,M3,L10,BLK,SJCH1018AK	2	SA
12	SCREW-TAPTITE	6003-001324	BH,+,B,M4,L16,N1 PLT,SJCH118A	4	SA
13	ASSY STAND P-SET	BN96-01867A	HIPS,HB,CR86,SV012P	1	SA

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10 PCB Layout

10-1 Main PCB Layout



Loc. No.	Description	X	Y	Loc. No.	Description	X	Y
DIODE				D953	DIODE-SWITCHING	7.3	84.2
D101	DIODE-RECTIFIER	43.8	117.7	D954	DIODE-SWITCHING	3.1	79.0
D102	DIODE-RECTIFIER	63.0	123.2	D955	DIODE-SWITCHING	7.3	75.4
D200	DIODE-SWITCHING	152.7	110.7	D956	DIODE-SWITCHING	3.1	73.5
D201	DIODE-ZENER	141.4	86.4	D957	DIODE-SWITCHING	6.9	71.1
D600	DIODE-SWITCHING	124.7	140.2	IC			
D601	DIODE-ARRAY	143.6	142.7	IC100	FET-SILICON	18.4	129.4
D602	DIODE-ZENER	149.8	144.8	IC101	IC-VOLTAGE REGULATOR	114.1	132.7
D603	DIODE-ZENER	155.0	116.3	IC102	FET-SILICON	21.4	137.4
D604	DIODE-ZENER	148.1	116.2	IC104	IC-POSIFIXED REG.	36.1	144.1
D701	DIODE-SWITCHING	20.9	88.5	IC105	IC-VOLTAGE REGULATOR	48.9	108.7
D702	DIODE-SWITCHING	45.4	81.9	IC108	IC-DC/DC CONVERTER	42.0	127.9
D800	DIODE-SWITCHING	66.0	104.5	IC109	IC-POSIFIXED REG.	109.9	144.1
D900	DIODE-ZENER	106.9	39.0	IC110	IC-DC/DC CONVERTER	56.3	132.7
D901	DIODE-ZENER	110.6	33.5	IC111	IC-VOLTAGE REGULATOR	107.0	118.4
D902	DIODE-ZENER	59.7	22.2	IC112	IC-VOLTAGE REGULATOR	118.2	120.1
D903	DIODE-ZENER	82.5	22.2	IC500	IC-VIDEO SWITCH	43.8	49.1
D904	DIODE-ZENER	51.3	41.5	IC501	IC-VIDEO SWITCH	50.4	59.0
D905	DIODE-ZENER	55.7	22.1	IC600	IC-AUDIO AMP	134.7	125.6
D906	DIODE-ZENER	78.5	22.2	IC601	IC-AUDIO AMP	148.8	129.2
D907	DIODE-ARRAY	2.2	32.3	IC702	SOCKET-IC	27.7	117.2
D908	DIODE-SWITCHING	22.8	40.0	IC703	IC-FLASH MEMORY	0.0	0.0
D909	DIODE-SWITCHING	25.5	40.4	IC704	IC	25.8	81.3
D910	DIODE-SWITCHING	31.9	40.4	IC705	IC-EEPROM	32.4	84.9
D911	DIODE-ZENER	7.3	57.8	IC706	IC-REAL TIME CLOCK	4.8	104.4
D912	DIODE-SWITCHING	14.8	22.7	IC801	IC-VOL. DETECTOR	108.1	94.5
D913	DIODE-SWITCHING	23.4	22.7	IC802	IC-SIGNAL PROCESSOR	76.6	83.8
D914	DIODE-ZENER	15.0	57.8	IC803	SOCKET-IC	82.7	127.6
D915	DIODE-SWITCHING	150.3	26.2	IC805	IC-EEPROM	72.7	80.7
D916	DIODE-ZENER	150.2	17.6	IC900	IC-EEPROM	4.5	18.0
D917	DIODE-ZENER	3.0	40.2	IC902	IC-CMOS LOGIC	28.8	51.4
D918	DIODE-ZENER	17.4	40.3	IC903	IC-CMOS LOGIC	28.6	51.5
D919	DIODE-ZENER	8.6	40.2	TRANSISTOR			
D920	DIODE-ZENER	150.2	21.8	Q100	TR-SMALL SIGNAL	14.9	119.9
D921	DIODE-ZENER	73.2	41.4	Q101	TR-SMALL SIGNAL	14.4	128.1
D922	DIODE-ZENER	73.2	43.7	Q104	TR-SMALL SIGNAL	16.6	132.9
D923	DIODE-ZENER	73.3	48.5	Q200	TR-SMALL SIGNAL	139.3	106.3
D924	DIODE-ZENER	73.2	46.2	Q600	TR-SMALL SIGNAL	156.3	138.1
D925	DIODE-ZENER	55.2	41.5	Q601	TR-SMALL SIGNAL	150.5	140.8
D926	DIODE-ZENER	111.2	33.7	Q602	TR-SMALL SIGNAL	139.5	142.7
D927	DIODE-ZENER	103.2	38.3	Q603	TR-SMALL SIGNAL	129.3	140.2
D928	DIODE-ZENER	2.2	27.6	Q800	TR-SMALL SIGNAL	87.6	62.0
D930	DIODE-ZENER	71.2	22.2	Q801	TR-SMALL SIGNAL	91.5	62.2
D932	DIODE-ZENER	82.5	17.9	Q802	TR-SMALL SIGNAL	53.1	97.5
D934	DIODE-ZENER	82.5	13.6	Q803	TR-SMALL SIGNAL	53.1	101.4
D936	DIODE-ZENER	67.0	22.1	Q804	TR-SMALL SIGNAL	57.1	106.5
D940	DIODE-ZENER	30.0	22.2	Q805	TR-SMALL SIGNAL	62.6	104.5
D941	DIODE-ZENER	34.4	22.3	Q806	FET-SILICON	25.4	77.8
D942	DIODE-ZENER	40.0	22.2	Q807	FET-SILICON	25.4	73.6
D944	DIODE-ZENER	44.5	22.2	Q809	TR-SMALL SIGNAL	131.7	99.7
D945	DIODE-ZENER	108.2	28.4	Q810	FET-SILICON	2.5	66.3
D946	DIODE-ZENER	100.7	28.4	Q811	FET-SILICON	6.3	66.3
D947	DIODE-ZENER	95.3	23.4	Q900	TR-SMALL SIGNAL	150.3	31.1
D948	DIODE-SWITCHING	100.8	33.9	Q901	TR-SMALL SIGNAL	146.3	31.1
D949	DIODE-SWITCHING	97.6	38.7	Q902	TR-SMALL SIGNAL	150.4	25.9
D950	DIODE-ZENER	154.3	25.9				
D951	DIODE-SWITCHING	4.2	87.9				
D952	DIODE-SWITCHING	3.1	83.4				

Memo

1 Precautions

Follow these safety, servicing and ESD precautions to prevent damage and to protect against potential hazards such as electrical shock.

1-1 Safety Precautions

1-1-1 Warnings

1. For continued safety, do not attempt to modify the circuit board.
2. Disconnect the AC power and DC Power Jack before servicing.

1-1-2 Servicing the LCD Monitor

1. When servicing the LCD_TV Disconnect the AC line cord from the AC outlet.
2. It is essential that service technicians have an accurate voltage meter available at all times. Check the calibration of this meter periodically.

1-1-3 Fire and Shock Hazard

Before returning the LCD_TV to the user, perform the following safety checks:

1. Inspect each lead dress to make certain that the leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the LCD_TV.
2. Inspect all protective devices such as nonmetallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacitor networks, mechanical insulators, etc.
3. Leakage Current Hot Check (Figure 1-1):
WARNING: Do not use an isolation transformer during this test.

Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, *Leakage Current for Appliances*), and Underwriters Laboratories (UL Publication UL1410, 59.7).

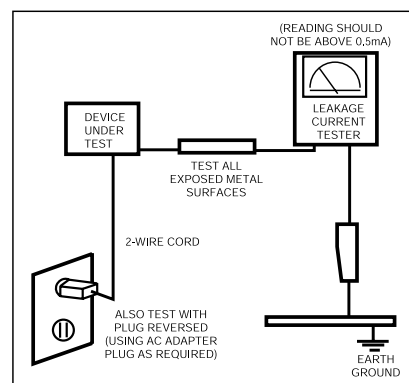


Figure 1-1. Leakage Current Test Circuit

4. With the unit completely reassembled, plug the AC line cord directly into a 120V AC outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including: metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

1-1-4 Product Safety Notices

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection. The protection they give may not be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by \triangle on schematics and parts lists. A substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire and / or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate.

1 Precautions

1-2 Servicing Precautions

WARNING: An electrolytic capacitor installed with the wrong polarity might explode.

Caution: Before servicing units covered by this service manual, read and follow the Safety Precautions section of this manual.

Note: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions, always follow the safety precautions.

1-2-1 General Servicing Precautions

1. Always unplug the unit's AC power cord from the AC power source and disconnect the DC Power Jack before attempting to:
(a) remove or reinstall any component or assembly, (b) disconnect PCB plugs or connectors, (c) connect a test component in parallel with an electrolytic capacitor.
2. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring is sometimes clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.
3. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the area around the serviced part has not been damaged.
4. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).
5. Insulation Checking Procedure: Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500 V) to the blades of the AC plug.
The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.
6. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

1-3 Electrostatically Sensitive Devices (ESD) Precautions

Some semiconductor (solid state) devices can be easily damaged by static electricity. Such components are commonly called Electrostatically Sensitive Devices (ESD). Examples of typical ESD are integrated circuits and some field-effect transistors. The following techniques will reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. To avoid a shock hazard, be sure to remove the wrist strap before applying power to the monitor.
2. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of an electrostatic charge.
3. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESDs.
4. Use only a grounded-tip soldering iron to solder or desolder ESDs.
5. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ESDs.
6. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.
7. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
Caution: Be sure no power is applied to the chassis or circuit and observe all other safety precautions.
8. Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting your foot from a carpeted floor can generate enough static electricity to damage an ESD.

2 Product Specifications

2-1 Specifications

Item	Description	
LCD Panel	TFT-LCD panel, RGB vertical stripe, normally white, 15-Inch viewable, 0.297 mm pixel pitch	
Scanning Frequency	Horizontal : 30 kHz ~ 69 kHz (Automatic) Vertical : 50 Hz ~ 75 Hz (Automatic)	
Display Colors	16.2 Million colors	
Maximum Resolution	Horizontal : 1024 Pixels Vertical : 768 Pixels	
Input Video Signal	Analog 0.7 Vp-p \pm 5% positive at 75 Ω , internally terminated	
Input Sync Signal	Type : Seperate H/V Level : TTL level	
Active Display Horizontal/Vertical	304.1 mm / 228.1 mm	
AC power voltage & Frequency	AC 120V, ~ 60 Hz	
Power Consumption	40 W	
Dimensions(W x D x H) Set	19.52 x 6.69 x 14.13 Inches (496 X 170 X 359 mm)(After installation of Stand) 19.52 x 3.22x 13.11 Inches (496 X 82 X 333 mm)(Without Stand) 19.52 x 5.51 x 15.19 Inches(496 X 140 X 386 mm)(Folding Stand)	
Package	22.71 x 17.91 x 7.87 Inches (577 X 455 X 200 mm)(Folding Stand)	
Weight Set / Package	4.0 Kg (8.8 lbs) / 6.2 Kg (13.6 lbs)	
Environmental Considerations	Operating Temperature : 50 °F ~ 104 °F (10 °C ~ 40 °C) Operating Humidity : 10 % ~ 80 % Storage Temperature : -4 °F ~ 113 °F (-20 °C ~ 45 °C) Storage Humidity : 5 % ~ 95 %	
TV System	Tunning	Frequency Synthesize
	System	NTSC-M
	Sound	MONO, STEREO, SAP
Antena Input	75 Ω , Coaxial Cable	
Sound Characteristic	– MAX Internal speaker Output : Right => 2.5W Left => 2.5W	
	– Headphone Out: 10mW max (3.50 Stereo Jack 32) – Output Frequency : RF => 80 Hz ~ 15 kHz at -3dB A/V => 80 Hz ~ 20 kHz at -3dB	

2-2 Pin Assignments

2-2-1 DVD

RCA Green	Y
	GND
RCA Blue	Pb (Cb)
	GND
RCA Red	Pr (Cr)
	GND
RCA White	Audio L
	GND
RCA Red	Audio R
	GND

2-2-2 S-Video

Pin	Separate
1	GND
2	Y
3	C
4	GND
5	GND

2-2-3 A/V

RCA Yellow	CVBS
RCA White	Audio L
	GND
RCA Red	Audio R
	GND

2-2-4 D-SUB

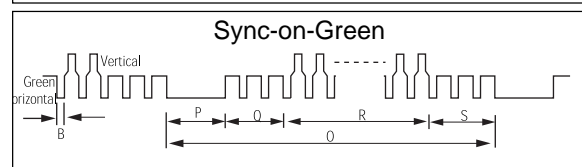
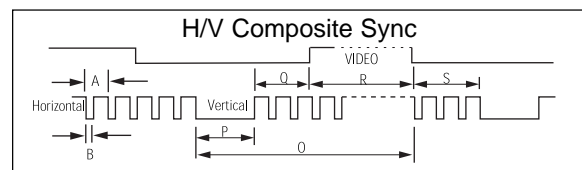
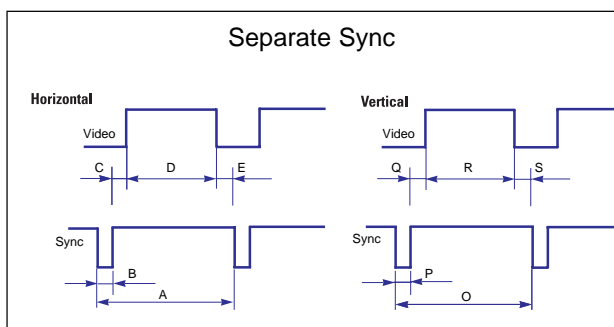
Pin	Separate
1	Red
2	Green
3	Blue
4	GND
5	GND (DDC Return)
6	GND-Red
7	GND-Green
8	GND-Blue
9	No Connection
10	GND-Sync / Self Test
11	GND
12	DDC Data
13	H - Sync
14	V - Sync
15	DDC Clock

2-3 Timing Chart

This section of the service manual describes the timing that the computer industry recognizes as standard for computer-generated video signals.

Table 2-1 Timing Chart

Mode Timing	IBM		VESA			
	VGA2/ 70 Hz 720 x 400	VGA3/ 60 Hz 640 x 480	640/75 Hz, 60Hz, 72Hz 640 x 480	800/75 Hz, 56Hz, 60Hz, 72Hz 800 x 600	1024/60Hz 1024 x 768	1024/75Hz 1024 x 768
fH (KHz)	31.469	31.469	37.500	46.875	48.363	60.023
A μ sec	31.777	31.778	26.667	21.333	20.677	16.660
B μ sec	3.813	3.813	2.032	1.616	2.092	1.219
C μ sec	1.589	1.589	3.810	3.232	2.462	2.235
D μ sec	26.058	26.058	20.317	16.162	15.754	13.003
E μ sec	0.318	0.318	0.508	0.323	0.369	0.203
fV (Hz)	70.087	59.940	75.000	75.000	60.004	75.029
O msec	14.268	16.683	13.333	13.333	16.666	13.328
P msec	0.064	0.064	0.080	0.064	0.124	0.050
Q msec	0.858	0.794	0.427	0.448	0.600	0.466
R msec	13.155	15.761	12.800	12.800	15.880	12.795
S msec	0.191	0.064	0.027	0.021	0.062	0.017
Clock Freq. (MHz)	28.322	25.175	31.500	49.500	75.000	78.750
Polarity H.Sync	Negative	Negative	Negative	Positive	Negative	Positive
V.Sync	Positive	Negative	Negative	Positive	Negative	Positive
Remark	Separate	Separate	Separate	Separate	Separate	Separate



A : Line time total	B : Horizontal sync width	O : Frame time total	P : Vertical sync width
C : Back porch	D : Active time	Q : Back porch	R : Active time
E : Front porch		S : Front porch	

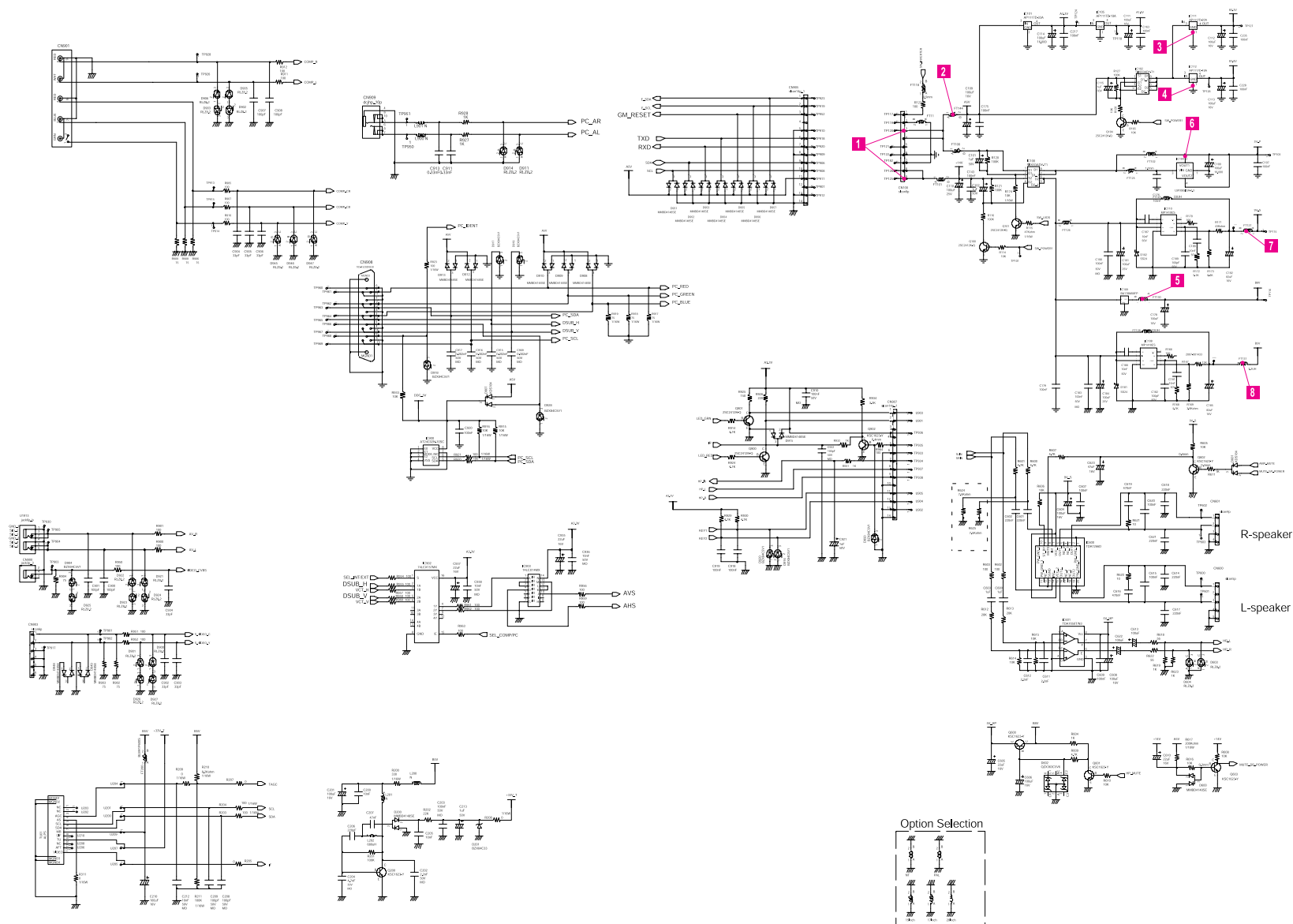
2 Product Specifications

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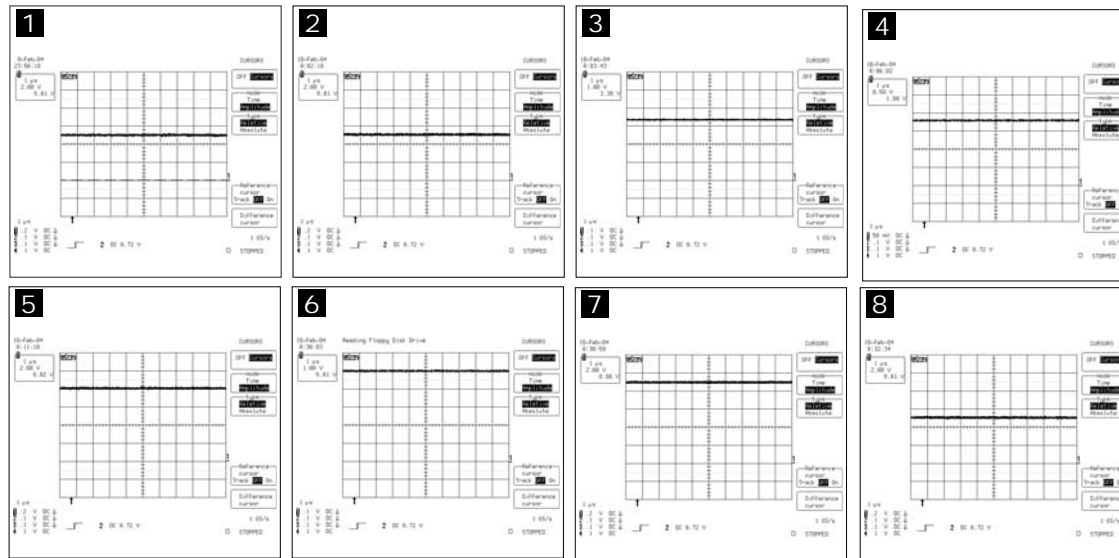
11 Schematic Diagrams

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11-1 Input Power Sound Schematic Diagram

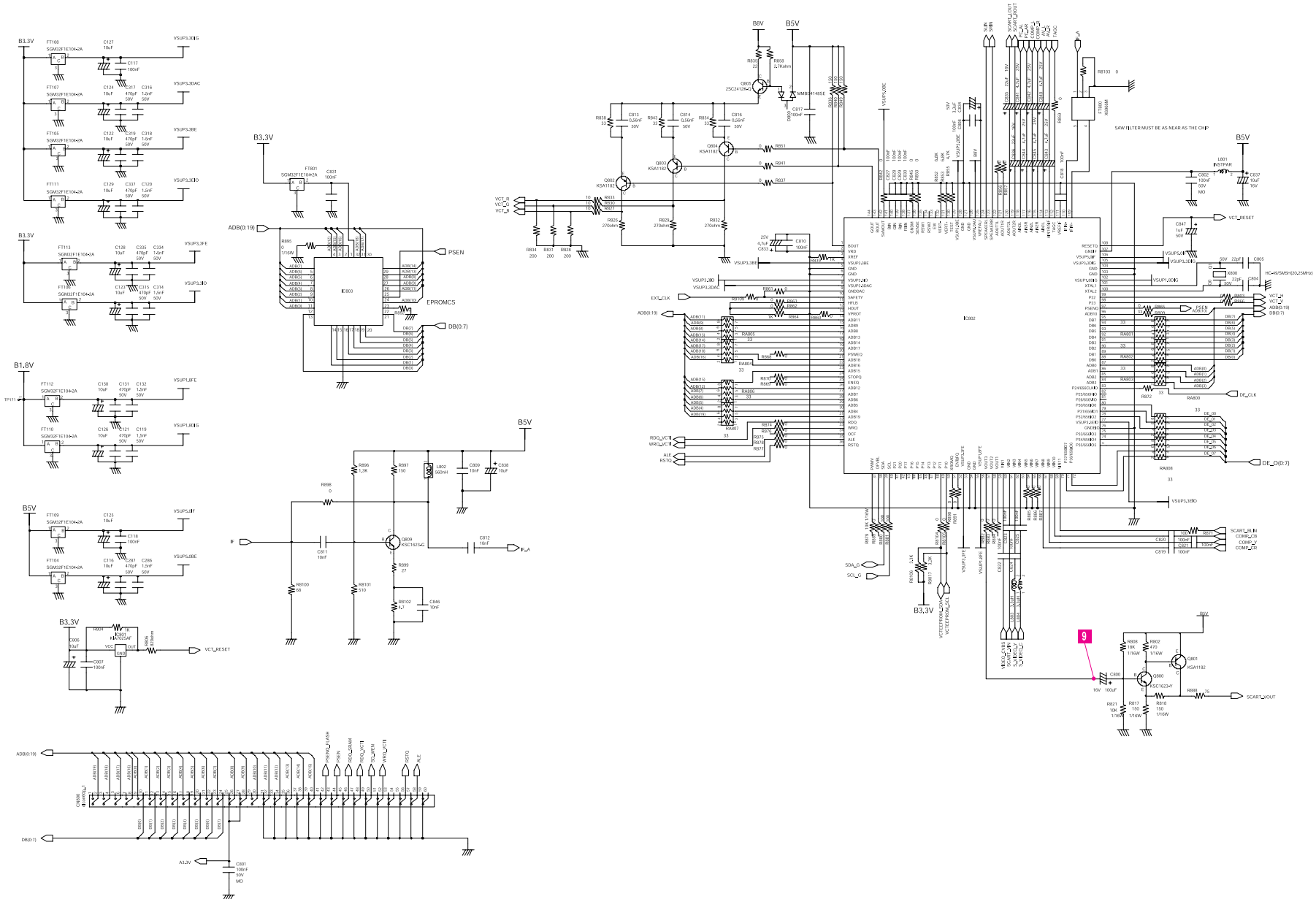


11 Schematic Diagrams

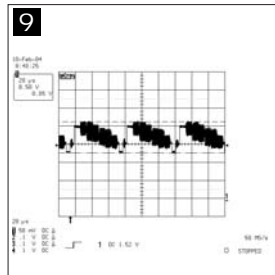


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11-2 Video Decoder Schematic Diagram

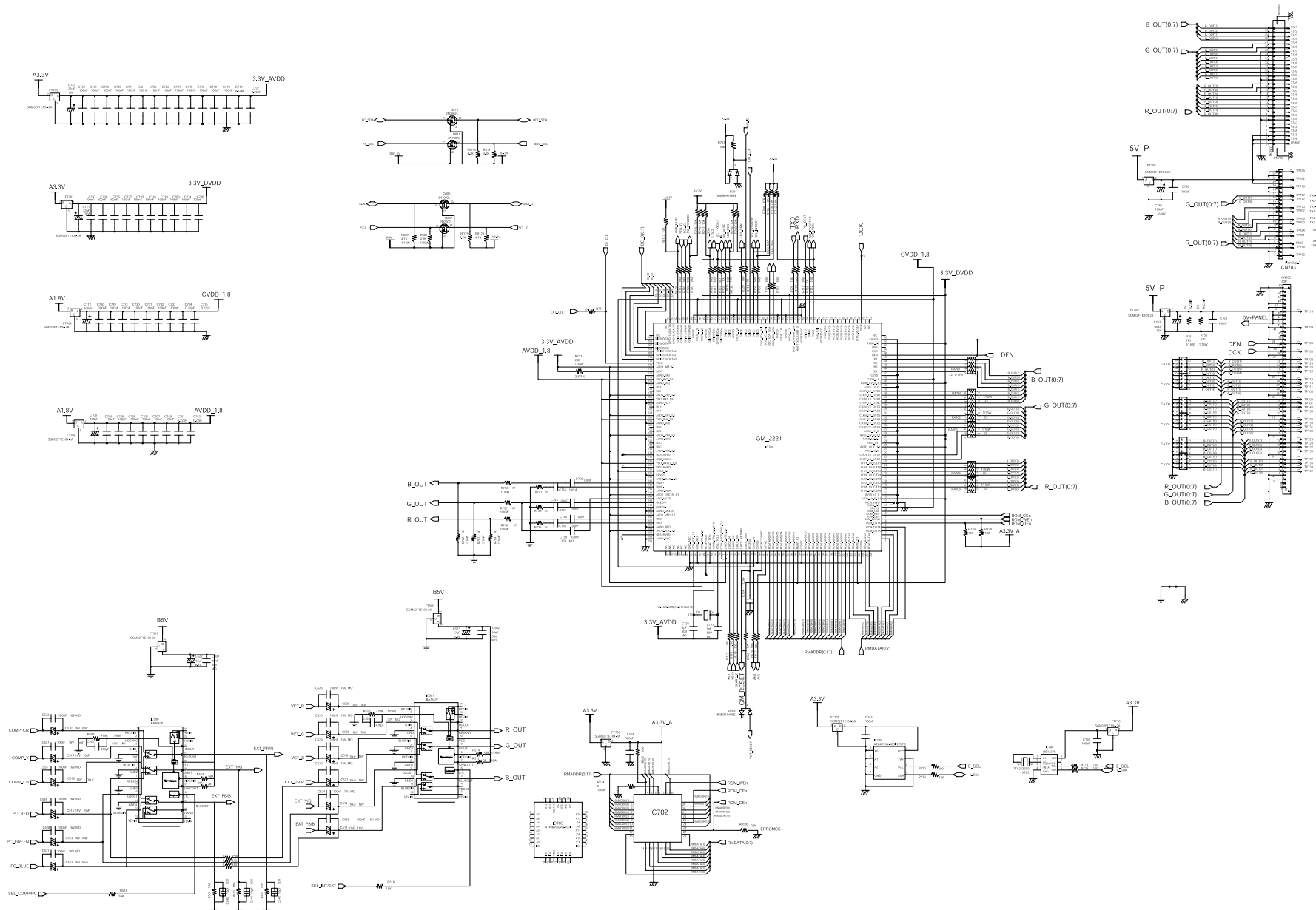


11 Schematic Diagrams



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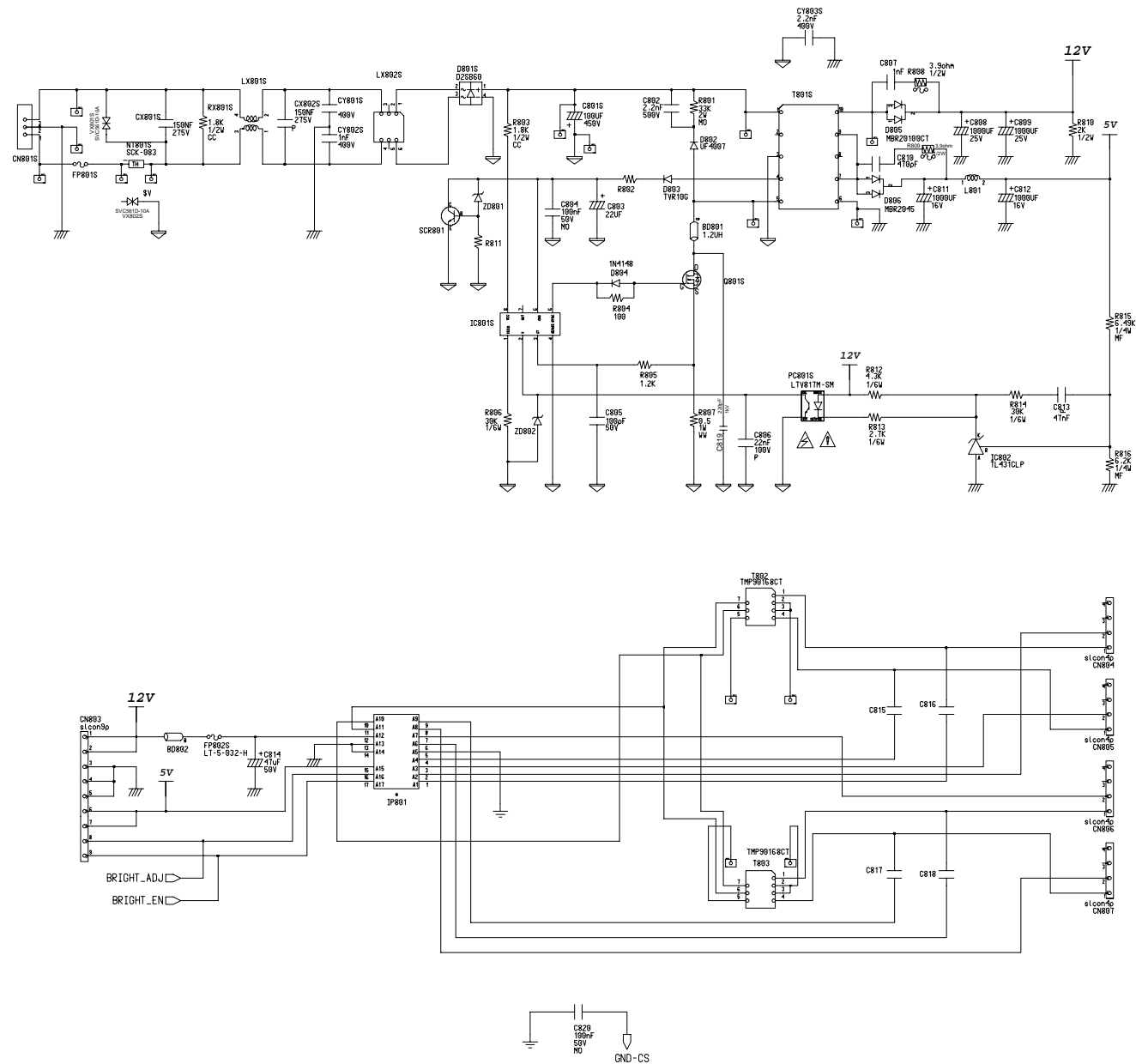
11-3 Output Scaler, LVDS Schematic Diagram



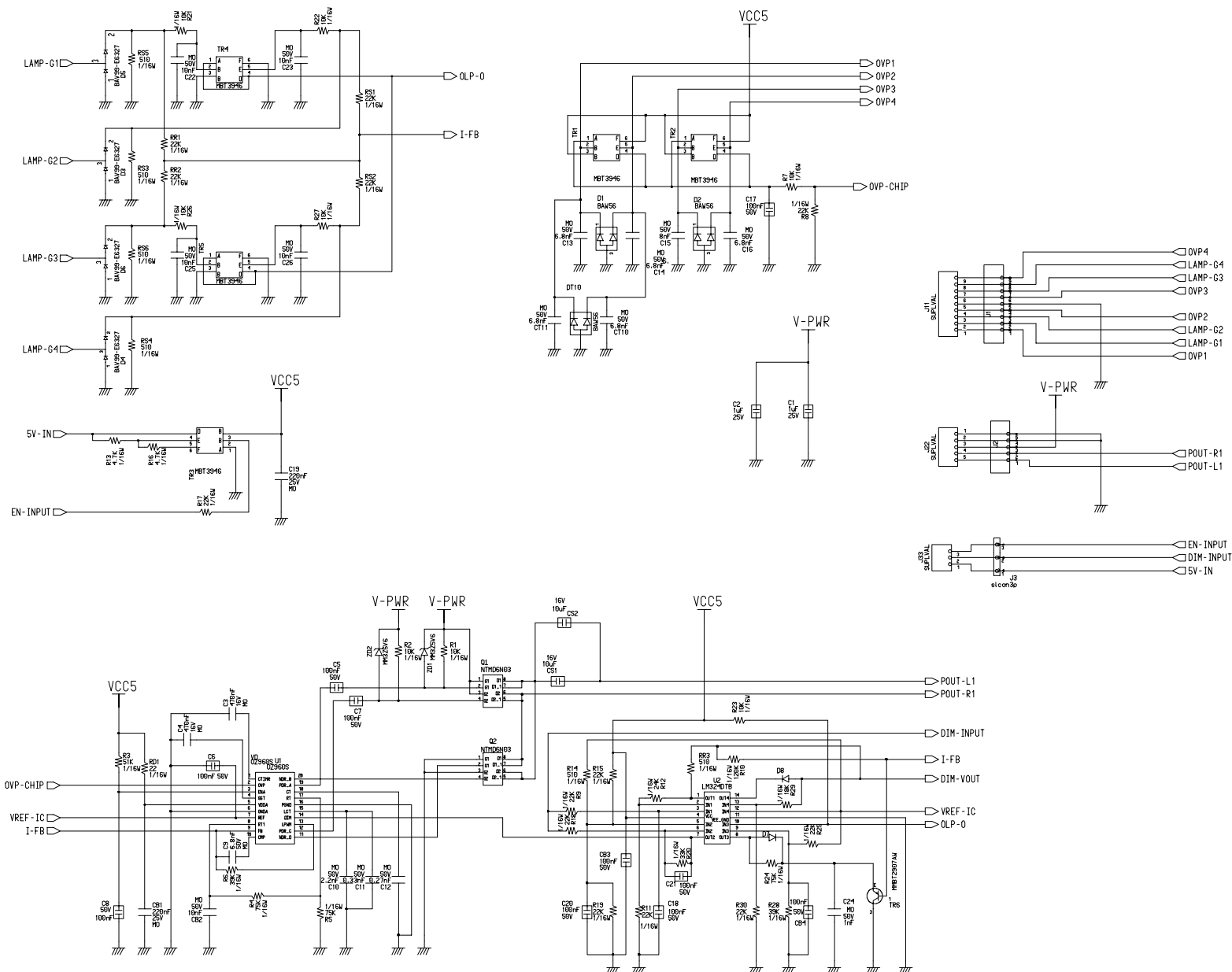
11 Schematic Diagrams

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11-4 Power Supply, Inverter Board Schematic Diagram



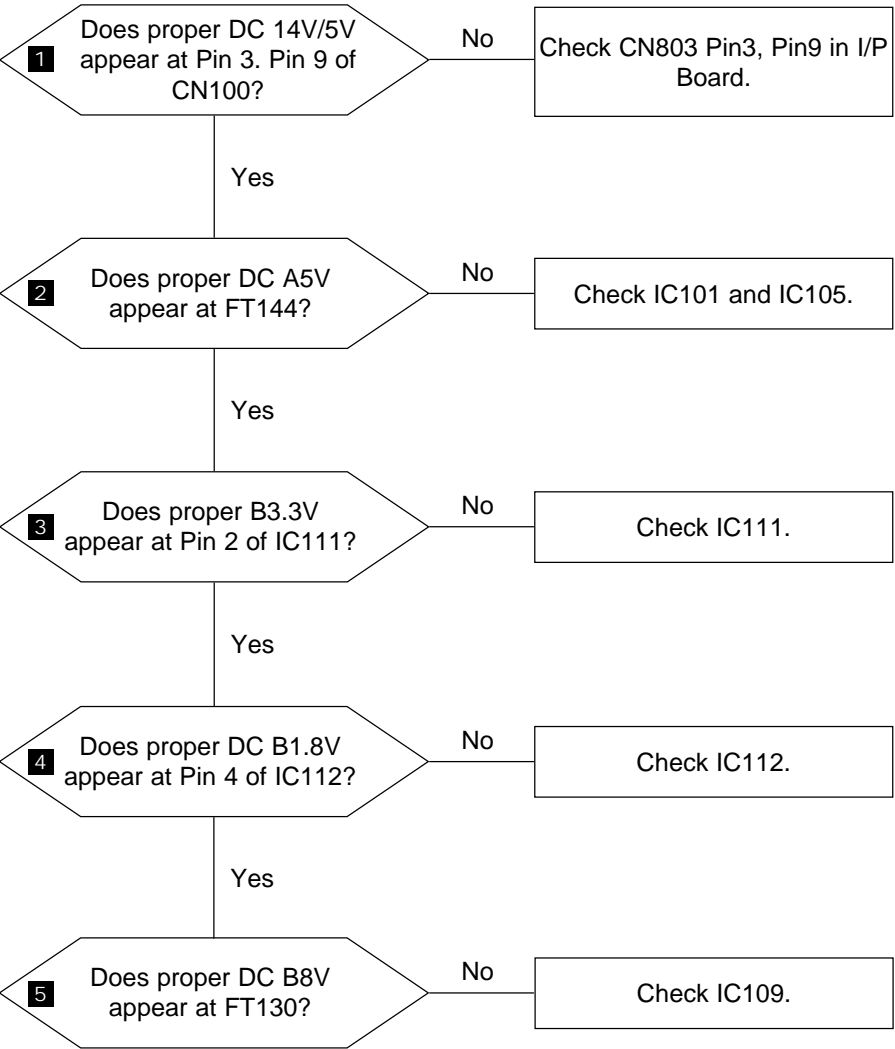
11-5 Power Supply, Inverter Board Schematic Diagram



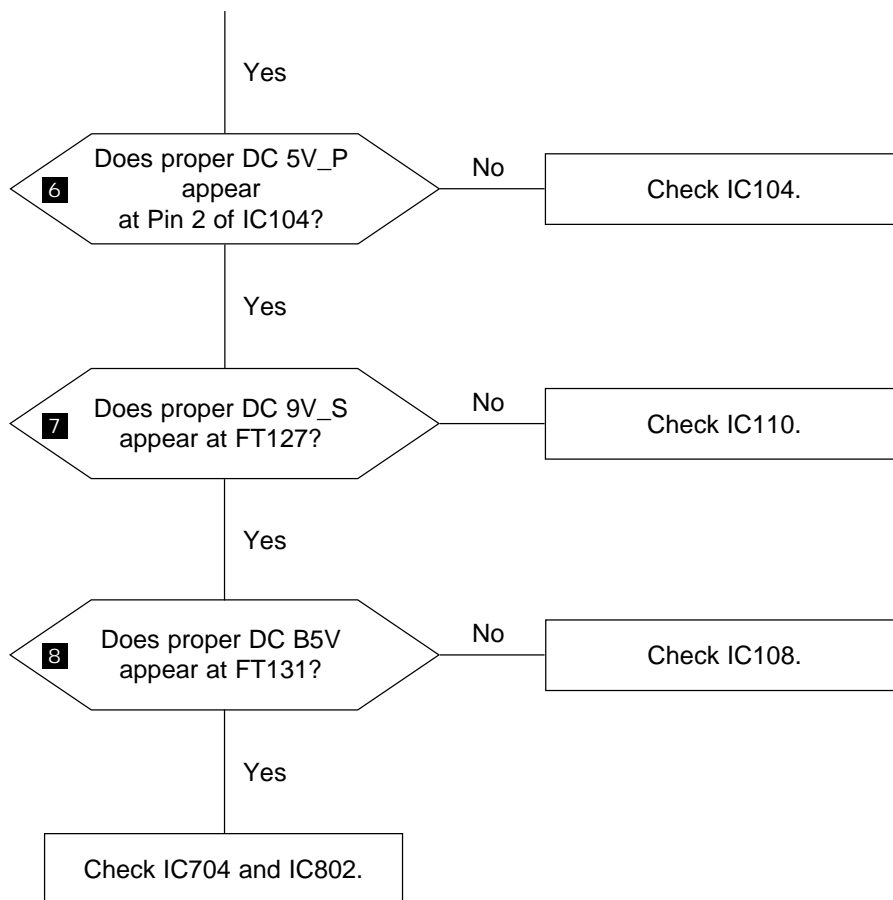
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5 Troubleshooting

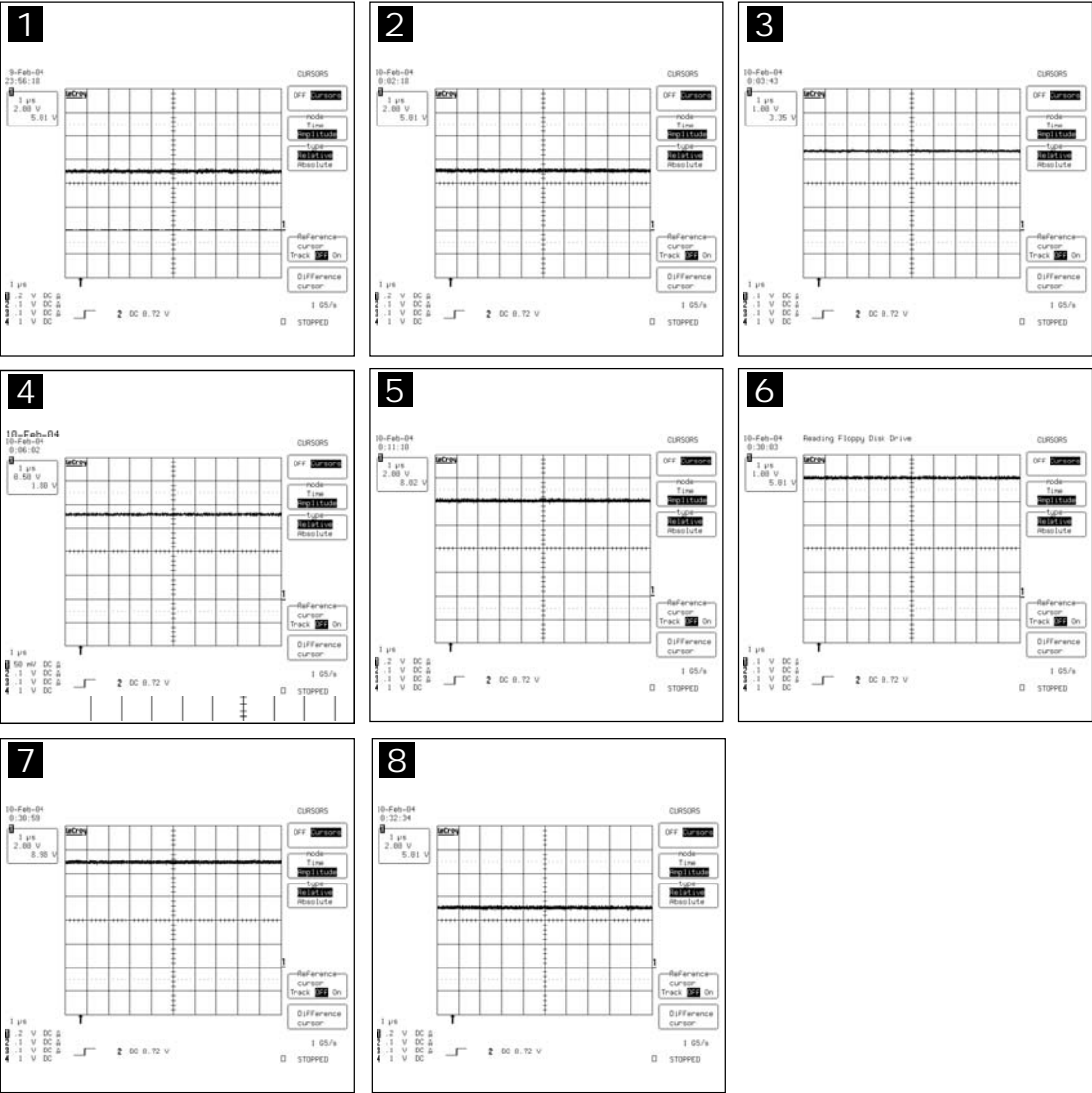
5-1 No Power



5 Troubleshooting

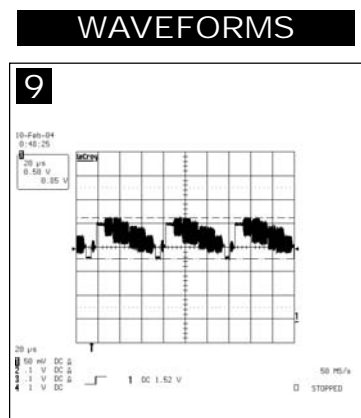
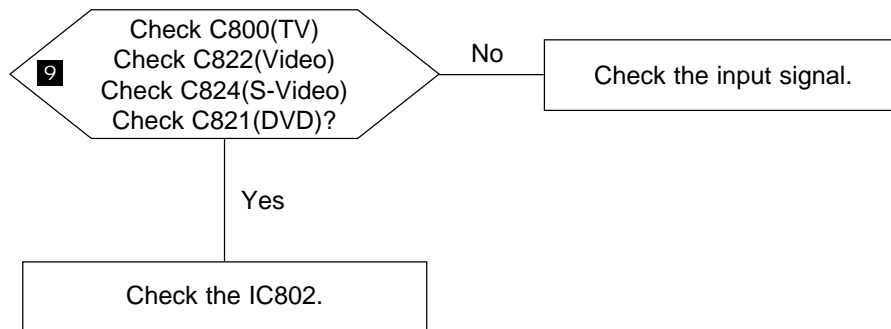


WAVEFORMS

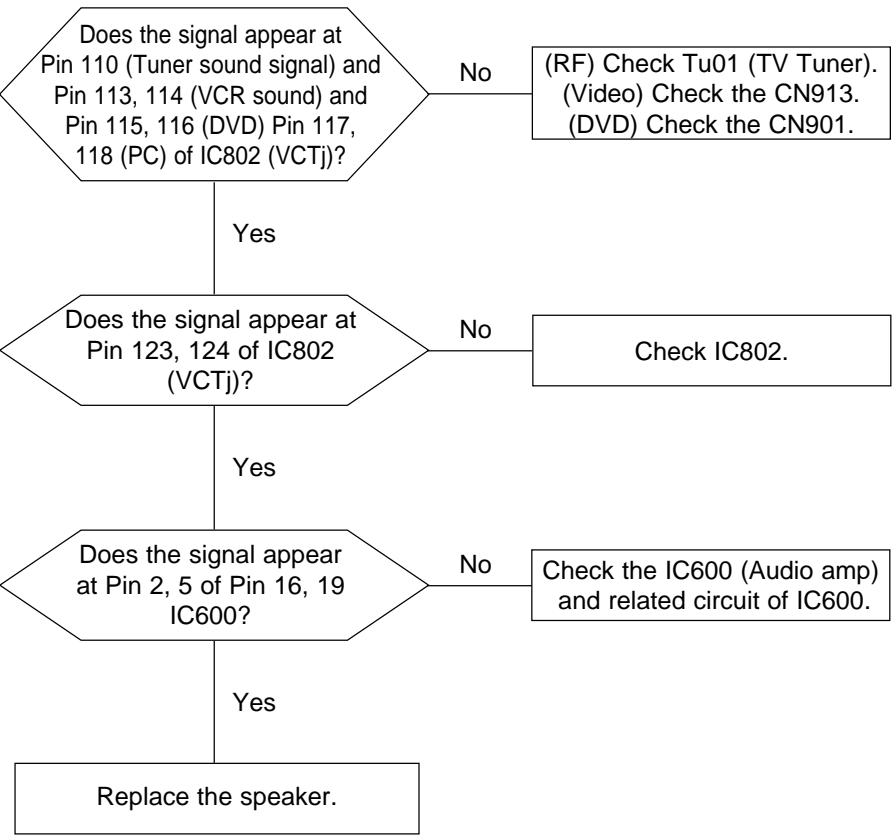


5 Troubleshooting

5-2 No Picture (TV, Video, S-Video, DVD)



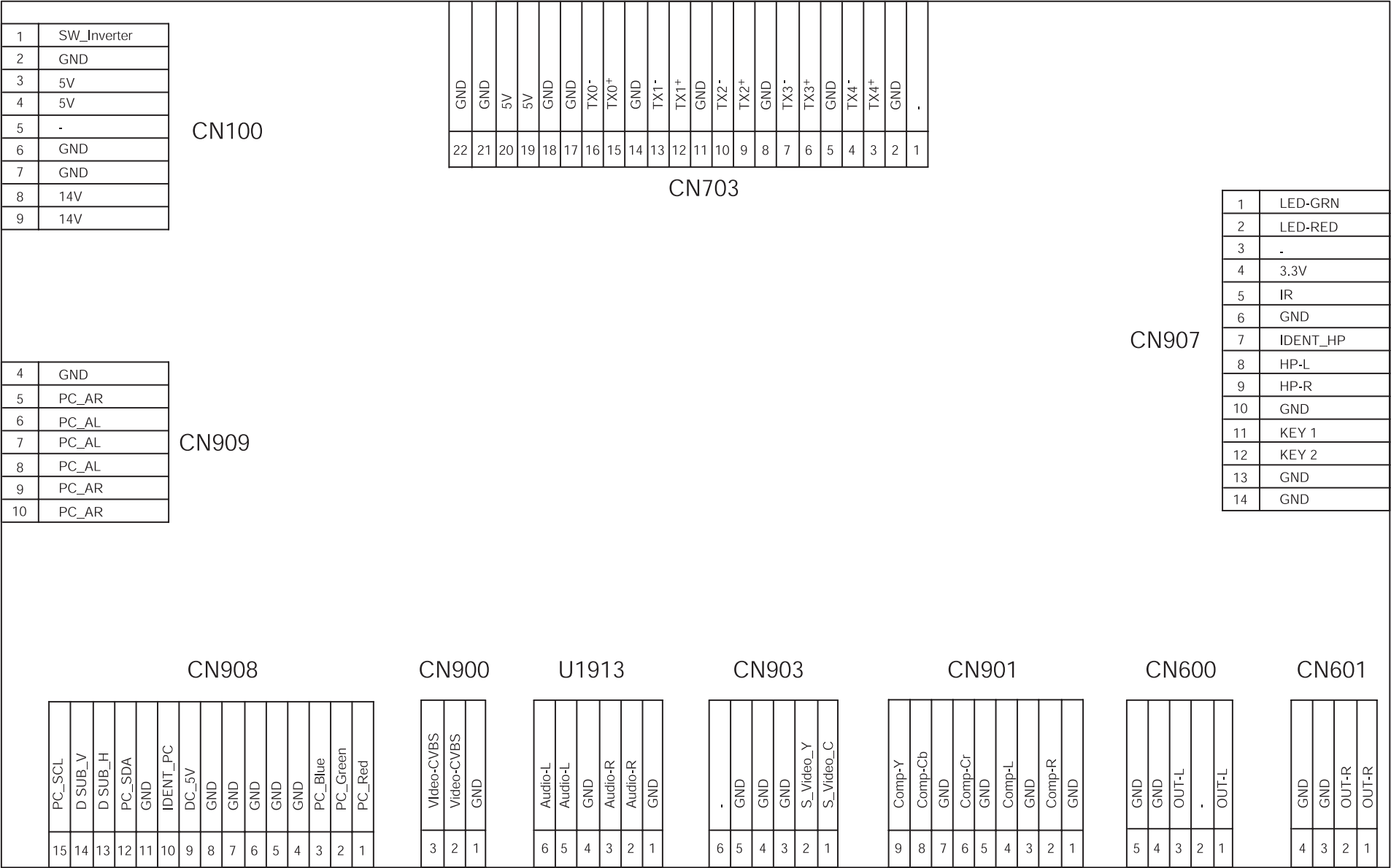
5-3 No Sound



5 Troubleshooting

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9 Wiring Diagram



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