zenith

SERVICE MANUAL

Product Type:	LCD TV
Chassis:	ML-027C
Manual Part #:	3828VD0140J
Model Line:	
Product Year:	2003

Model Series:

L23W36

CONTENTS

Specifications 4
Description of Controls 5
Adjustment Instructions 7
Diagrams 11
Parts List 17
Schematics.....

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Zenith Electronics Corporation
201 James Record Road
Huntsville, Alabama 35824-1513

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PRODUCT SAFETY

IMPORTANT SAFETY NOTICE

This manual was prepared for use only by properly trained audiovisual service technicians. When servicing this product, under no circumstances should the original design be modified or altered without permission from Zenith Electronics Corporation. All components should be replaced only with types identical to those in the original circuit and their physical location, wiring, and lead dress must conform to original layout upon completion of repairs. If any fuse (or Fusible Resistor) in this TV receiver is blown, replace it only with the factory specified fuse type and rating. When replacing a high wattage resistor (Oxide Metal Film Resistor, over 1W), keep the resistor 10mm away from PCB. Always keep wires away from high voltage or high temperature parts.

Special components are also used to prevent shock and fire hazard.
These components are indicated by the letter "x" included in their component designators and are required to maintain safe performance. No deviations are allowed without prior approval by Zenith Electronics Corporation. Service work should be performed only after you are thoroughly familiar with these safety checks and servicing guidelines.

Circuit diagrams may occasionally differ from the actual circuit used.
This way, implementation of the latest safety and performance improvement changes into the set is not delayed until the new service literature is printed.

CAUTION: Do not attempt to modify this product in any way.
Never perform customized installations without manufacturer's approval.
Unauthorized modifications will not only void the warranty, but may lead to property damage or user injury.

GENERAL GUIDANCE

An Isolation Transformer should always be used during the servicing
of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating to protect against personal injury from electrical shocks. It will also protect the receiver and its components from being damaged by accidental shorts of the circuitry that may be inadvertently introduced during the service operation.

Before returning the receiver to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as antennas, terminals, etc., to be sure the set is safe to operate
without damage of electrical shock.

LEAKAGE CURRENT COLD CHECK (ANTENNA COLD CHECK)

With the instrument's AC plug removed from AC source, connect an electrical jumper across the two AC plug prongs. Place the AC switch in the on position, connect one lead of ohm-meter to the AC plug prongs tied together, and touch other ohm-meter lead in turn to each exposed metallic parts such as antenna terminals, phone jacks, etc. If the exposed metallic part has a return path to the chassis, the measured resistance should be between 1MΩ and 5.2MΩ. When the exposed metal has no return path to the chassis the reading must be infinite. Any other abnormality that exists must be corrected before
the receiver is returned to the customer.

ELECTROSTATICALLY SENSITIVE DEVICES

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

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on the body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as an ESD mat, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charge sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil, or comparable conductive material.)
7. Immediately before removing the protective material from the leads of a replacement ES device, 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 bodily motions when handling unpackaged replacement ES devices. (Otherwise, seemingly harmless motion, such as the brushing together of your clothing or the lifting of your foot from a carpeted floor, can generate static electricity sufficient to damage an ES device.)

REGULATORY INFORMATION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Reorient or relocate the receiving antenna; Increase the separation between the equipment and receiver; Connect the equipment into an outlet on a circuit different from that to which the receiver is connected; Consult the dealer or an experienced radio/TV technician for help.

The responsible party for this device's compliance is:

Zenith Electronics Corporation
201 James Record Road
Huntsville, AL 35824, USA
Digital TV Hotline: 1-877-993-6484

TABLE OF CONTENTS

SPECIFICATIONS.....4

DESCRIPTION OF CONTROLS.....5

ADJUSTMENT INSTRUCTIONS 7

TROUBLESHOOTING 10

PRINTED CIRCUIT BOARD 11

BLOCK DIAGRAM.....15

EXPLODED VIEW.....16

EXPLODED VIEW PARTS LIST 17

REPLACEMENT PARTS LIST 18

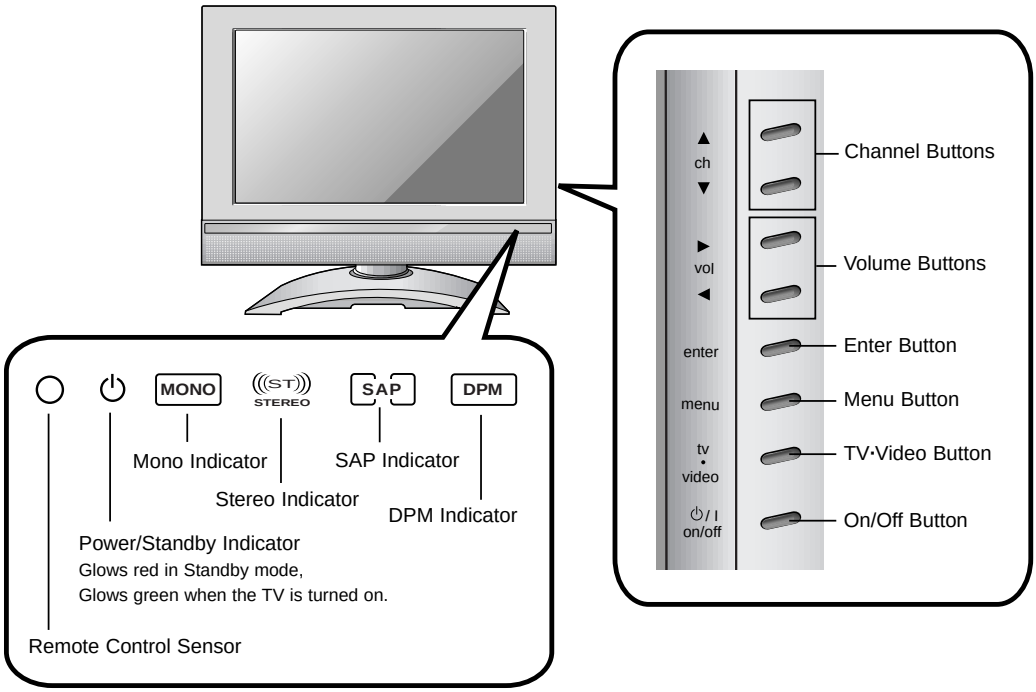
SCHEMATIC DIAGRAM.....

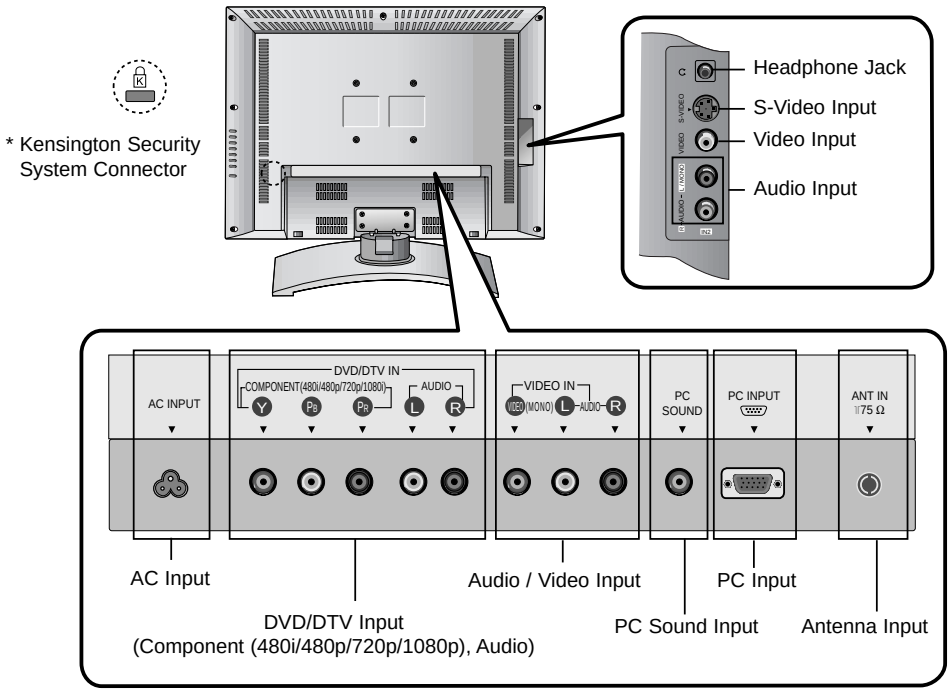
SPECIFICATIONS

MODEL	L23W36
Width (inches)	23.6
Height (inches)	20.6
Depth (inches)	8.1
Weight (pounds)	22
Power Requirement	AC100-240V ~ 60Hz
Television System	NTSC
Television Channel	VHF : 2 ~ 13, UHF : 14 ~ 69, Cable : 01 ~ 125
Television Screen	LCD Panel
Power Consumption	See the back of the set
External Antenna Impedance	75 Ω
Audio Output	7 W + 7 W

DESCRIPTION OF CONTROLS

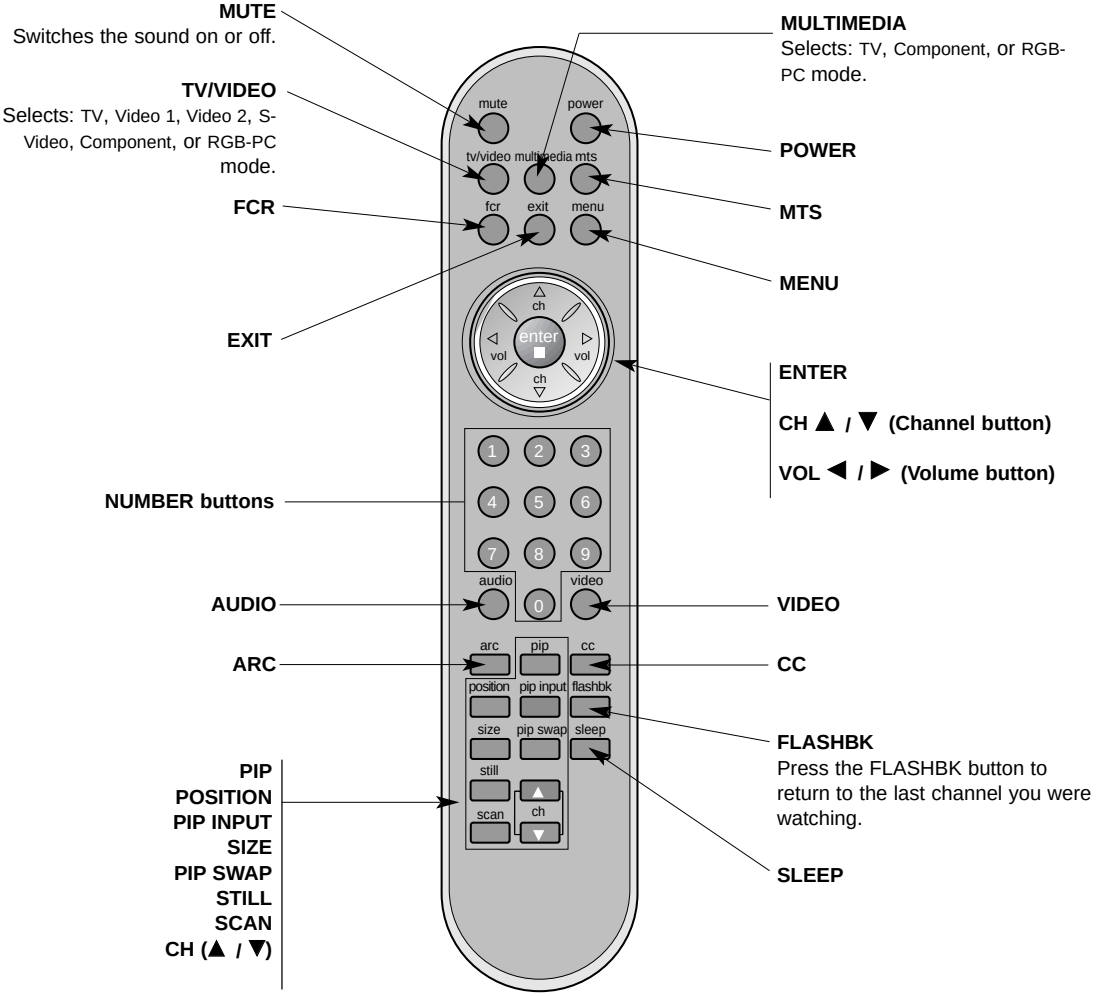
Controls & Connection Options





Remote Control Key Functions

- When using the remote control, aim it at the remote control sensor on the TV.



ADJUSTMENT INSTRUCTIONS

1. Application Object

This instruction is for the application to the LCD TV.

2. Notes

(1) This set uses an adapter, so connect the adapter and the set correctly before adjustment.
(2) Adjustments must be performed in the correct sequence.
(3) Adjustments must be performed in an enviorment of 25±5°C (68-85 degrees F) of temperature and 65±10% of relative humidity.
(4) The input voltage of the receiver must keep 100~240V, 50/60Hz in adjusting.
(5) The set must be operated for 15 minutes prior to adjustment.

※ 'Heat Run' must be performed with the full white signal or TV noise signal.

3. PC Input Mode Adjustment

3-1. Required Test Equipment

(1) A pattern generator; Gray pattern of 16 tones with angle outline in the quadrilateral (MSPG-925LTH)
(2) An adjustment Remote.

3-2. Preparation for Adjustment

(1) Perform 'Heat Run' for more than 15 minutes in white pattern.
(2) Connect the signal of pattern generator with LCD TV.

3-3. Auto Gray Adjustment

(1) Apply the gray signal XGA(1024X768) 16 tones from a signal generatror.
(2) In Service menu mode, adjust the Auto gray from 0 to 1 by using Vol(+) button.

4. Position Adjustment

Mode	VGA-60	VGA-67	VGA-75	VGA-85	SVGA-56	SVGA-60	SVGA-72	SVGA-75	SVGA-
H_Display	640	640	640	640	800	800	800	800	85800
V_Display	480	480	480	480	600	600	600	600	600
V_Frequency	60	67	75	82	56	60	72	75	85
H_Total	800	864	840	832	1024	1056	1040	1056	1048
H_Blanking	160	224	200	192	224	256	240	256	248
H_Sync	96	64	64	56	72	128	120	80	64
H_Polarity	NEG.	NEG.	NEG	NEG	POS	POS	POS	POS	POS
H_Vp	48	96	120	80	128	88	64	160	152
H_Fp	16	64	16	56	24	40	56	16	32
H-Freq[KHz]	31.469	35.0	37.5	43.269	35.156	37.879	48.077	46.875	53.674
/Clk[MHz]	25.175	30.24	31.5	36.0	36.0	40.0	50.0	49.5	56.25
V_Total	525	525	500	509	62.5	628	666	625	631
V_Blanking	45	45	20	29	25	28	66	25	31
V_Sync	2	3	3	3	2	4	6	3	3
V_Polarity	NEG	NEG	NEG	NEG	POS	POS	POS	POS	POS
V_Bp	33	39	16	25	22	23	23	21	27
V_Fp	10	3	1	1	1	1	37	1	1

Mode	XGA-60	XGA-70	XGA-75	XGA-85	WXGA-50	WXGA-60
H_Display	1024	1024	1024	1024	1280	1280
V_Display	768	768	768	768	768	768
V_Frequency	60	70	75	82	50	60
H_Total	1344	1328	1312	1376	1648	1680
H_Blanking	320	304	288	352	368	400
H_Sync	136	136	96	96	128	136
H_Polarity	NEG	NEG	POS	POS	NEG	NEG
H_Vp	136	144	176	208	184	200
H_Fp	160	24	16	48	56	64
H-Freq[KHz]	48.363	56.476	60.023	68.677	39.518	47.693
/Clk[MHz]	65.0	75.0	78.75	84.997	65.125	80.125
V_Total	806	806	800	808	791	795
V_Blanking	38	38	32	40	23	27
V_Sync	6	6	3	3	7	7
V_Polarity	NEG	NEG	POS	POS	POS	POS
V_Bp	29	29	28	36	15	19
V_Fp	3	3	1	1	1	1

5. EDID (The Extended Display Identification Data)

EDID Table

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00	00	FF	FF	FF	FF	FF	FF	00	30	E5	D7	3A	01	00	00	00
10	00	0B	01	01	78	1F	17	70	E8	C3	A0	A3	54	4C	97	24
20	14	50	54	BF	E8	80	31	59	3B	D9	45	59	61	59	71	59
30	81	40	81	80	01	01	10	0E	01	01	01	01	01	01	01	01
40	01	01	01	01	01	01	01	01	F9	15	01	01	01	01	01	01
50	01	01	01	01	01	01	01	01	01	01	64	19	00	40	41	00
60	26	30	18	88	36	00	0E	C3	10	00	00	1E	00	00	00	FD
70	00	32	55	1E	46	0D	00	0A	20	20	20	20	20	20	00	C8

TROUBLESHOOTING

1. General Features

No.	Symptom	Cause	Check Point
1	No screen	Input error of inverter connector	1) Bend the pin legs of P1 connector -> recheck them 2) Check and repair F804.
		P704 connector slipping out	1) Check and fix P704 connector 2) Check and fix the components at P704 LCD module and at main board. 3) Check Pin21.
		Cracked components and soldering at tuner board	Check and repair tuner board and main board
2	Dark screen	1) Defective LCD lamp 2) Defective inverter 3) Input error for inverter	1) Replace the LCD lamp 2) Replace the inverter 3) Check the connector input.

2. PC Mode

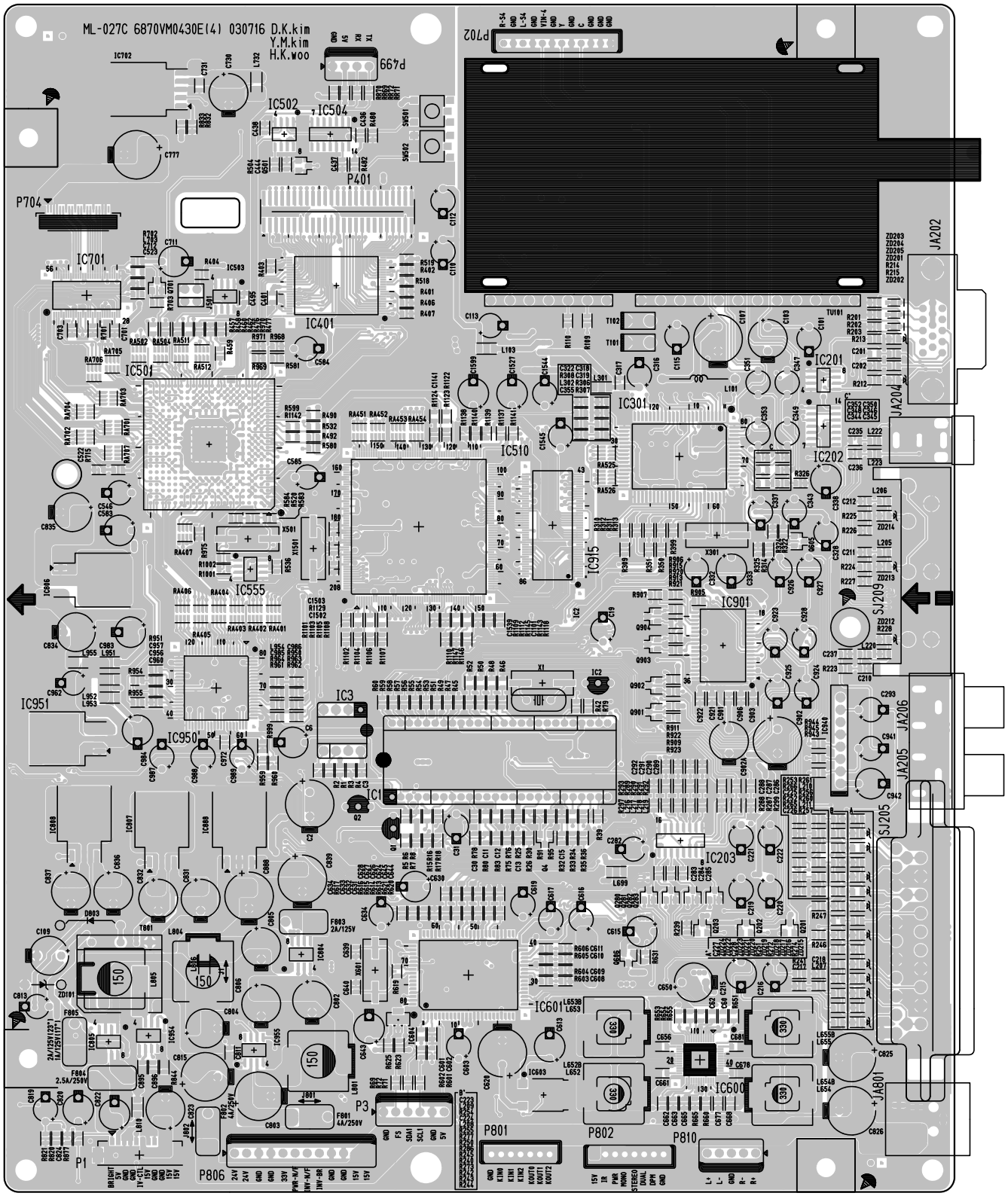
No.	Symptom	Cause	Check Point
1	Screen noise	Clock or phase being not able to be adjusted.	1) Resettig is needed according to the video card of each PC. 2) Horizontal noise : adjust phase until no horizontal noise occurres. 3) Vertical noise : adjust clock in menu until no vertical noise occurres.
2	Screen position error	Screen position error horizontally or vertically	1) Activate the Auto Configure in the Menu. 2) Adjust horizontal and vertical position until the screen displayes normally.
3	Color beat noise	Soldering D-SUB Jack of JA202 and IC202.	Recheck and repair JA202,IC202

3. TV and external input

No.	Symptom	Cause	Check Point
1	No sound - Speaker - Earphone	Defective Reset IC of IC604. Defective MSP3411 of IC601. Defective B+(8V,5V) of IC603.	1) Check volume and speaker. - Sound comes out only when being inputted into Audio L/R. 2) Check after replacing IC604. 3) Replace IC601. 4) Check and replace B+ of IC603.
2	Video color beat noise	Earphone shield case being touched.	Check the mould of shield and SJ209, Replace shield case.
		Soldering IC301 and IC510.	Re-soldering

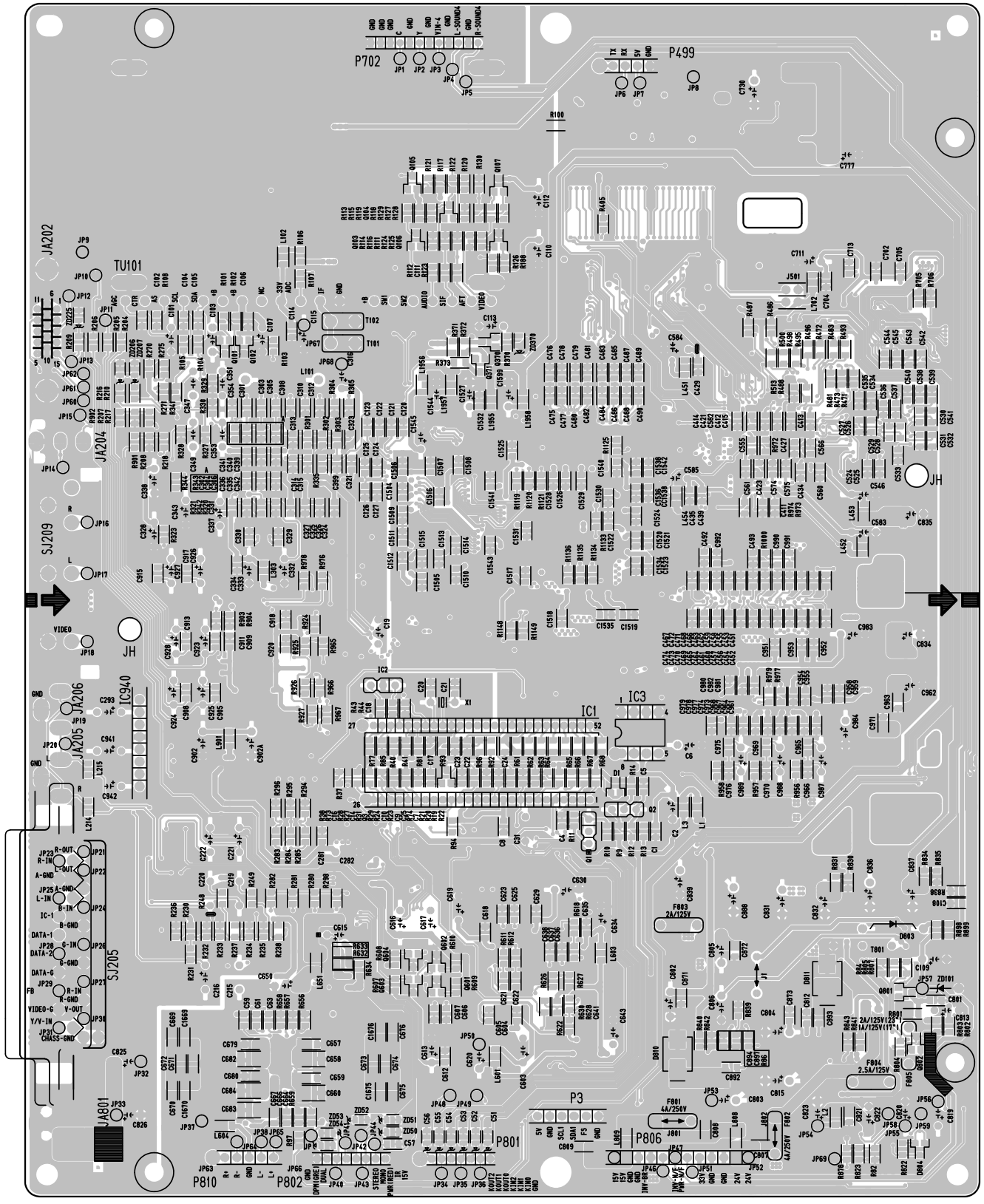
PRINTED CIRCUIT BOARD

MAIN(TOP)



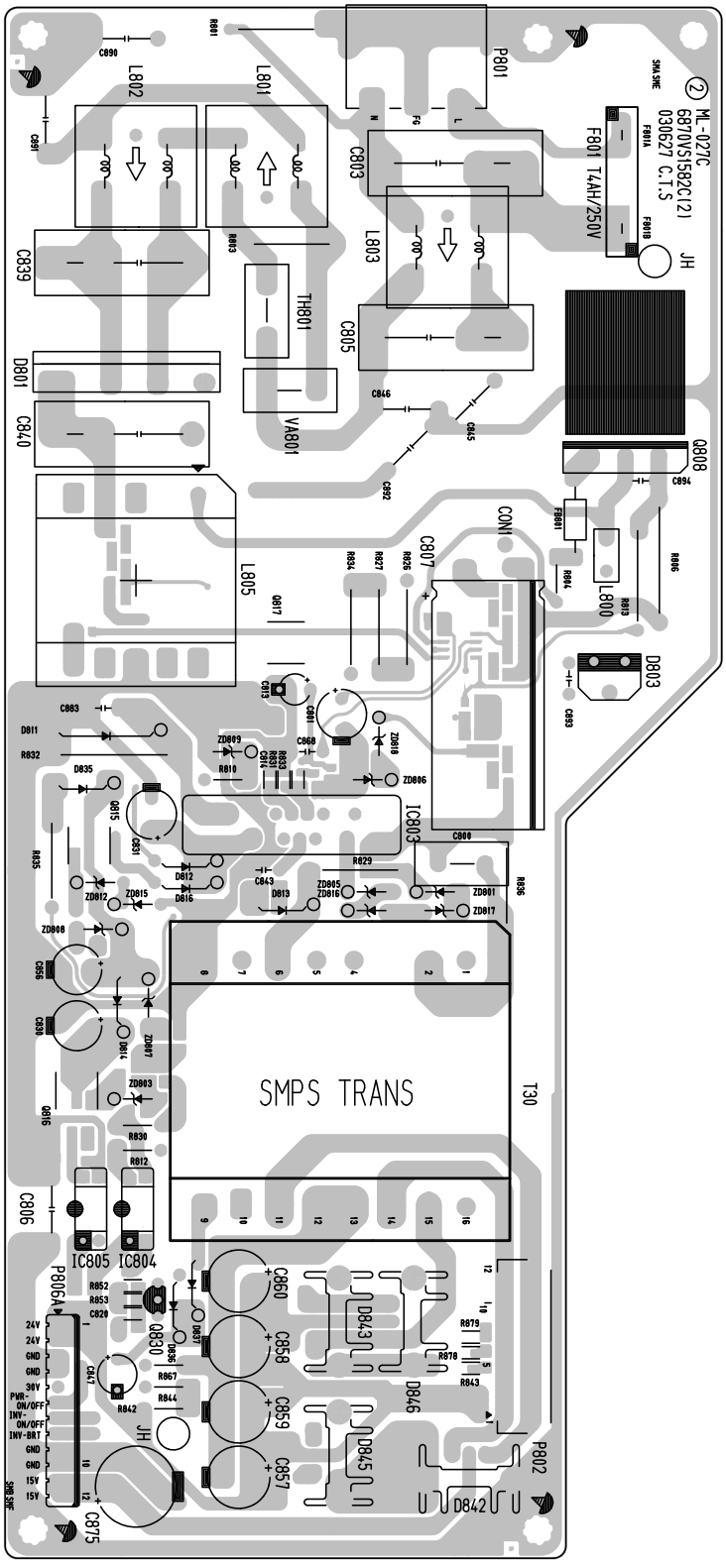
PRINTED CIRCUIT BOARD

MAIN(BOTTOM)



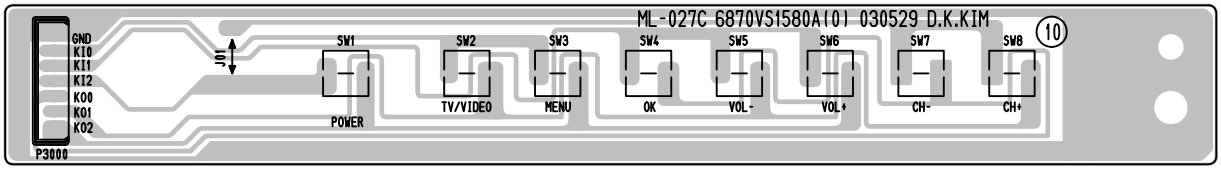
PRINTED CIRCUIT BOARD

POWER

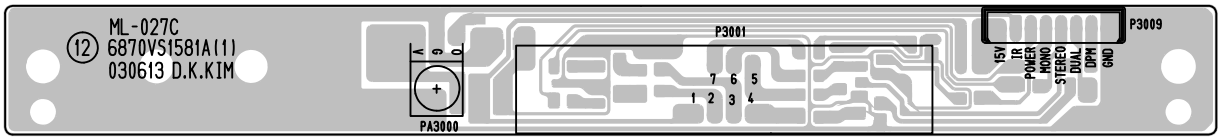


PRINTED CIRCUIT BOARD

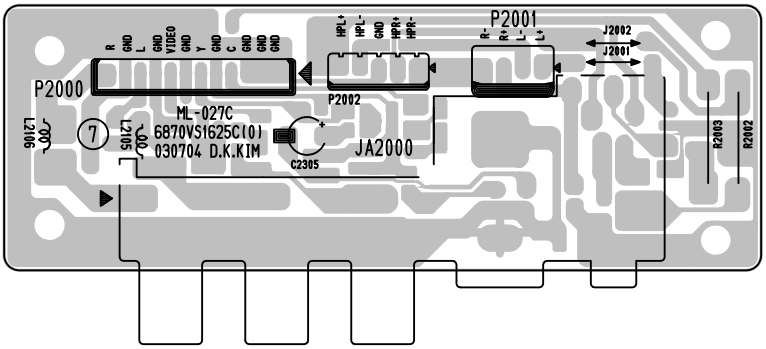
CONTROL



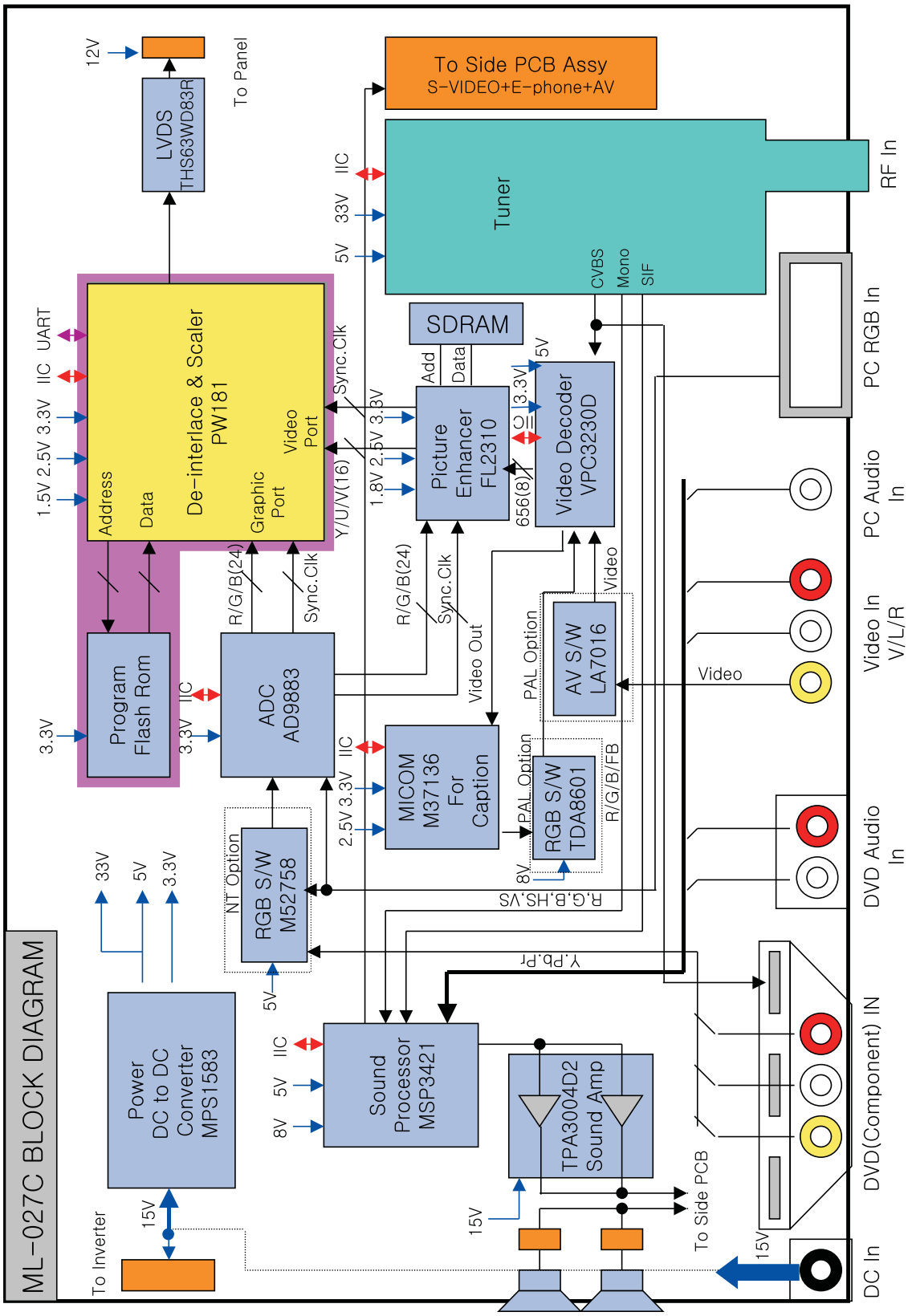
LED



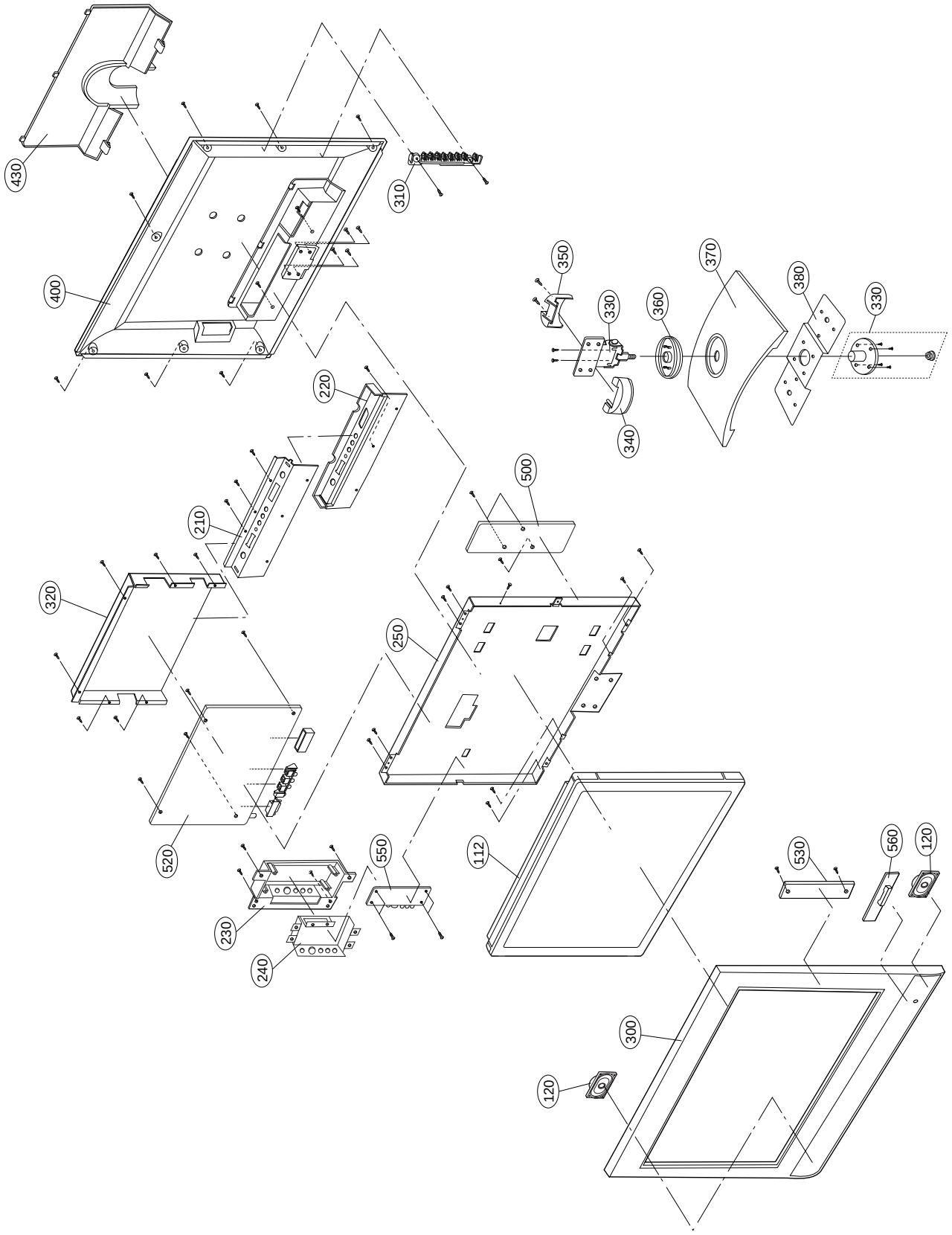
SIDE AV



BLOCK DIAGRAM



EXPLODED VIEW



EXPLODED VIEW PARTS LIST

No.	PART NO.	DESCRIPTION
112	6306V23001A	LCD MODULE,LC230W01-A2 LG PHILPS TFT COLOR 23 WXGA LCD
120	6400GKTX01A	SPEAKER,FULLRANGE F1527C-6428 (GENERAL) 8OHM 7/12W 83DB
210	4950V00151B	METAL,SHIELD ET
230	4810V00765E	BRACKET,SIDE AV RU-23LZ20 ML027C HIPS 40AF
240	4950V00142A	METAL,SHIELD NON SIDE AV, 20LA60/15LA60
250	4950V00149C	METAL,FRAME SECC(EGI)
300	3091V00518B	CABINET ASSEMBLY,RU-23LZ20 STEREO ML027C
310	5020V00781A	BUTTON,CONTROL RZ-23LZ20 ABS 8KEY
320	4950V00150A	METAL,SHIELD SBHG RZ-23LZ20
330	4950V00157D	METAL,HINGE ASSY SPCC(CR) RZ-23LZ20
340	4810V00767A	BRACKET,STAND 20LA60 ML012B NON HINGE FRONT
350	4810V00768A	BRACKET,STAND 20LA60 ML012B NON HINGE COVER
360	4810V00766A	BRACKET,DECO 20LA60 ML012B NON STAND DECO.
370	4810V00769E	BRACKET,STAND RU-23LZ20 NON ABS, HF-380 .
380	4950V00133A	METAL,STAND NON BASE 20LA60
400	3809V00359B	BACK COVER ASSEMBLY,RU-23LZ20 NON
430	3500V00068A	BOARD,AV RZ-23LZ20 ML027A COVER REAR
520	6871VMMQ43A	PCB ASSEMBLY,MAIN ML-027C RU-23LZ20
530	6871VSMW11A	PCB ASSEMBLY,SUB CONT ML027C MANNUAL ASSY
540	6871VSMW07A	PCB ASSEMBLY,SUB POWER ML027C ASSY
550	6871VSMV40E	PCB ASSEMBLY,SUB A/V ML027C RU-23LZ20
560	6871VSMW12B	PCB ASSEMBLY,SUB WINDO ML027C INDEX MANNUAL ASSY

REPLACEMENT PARTS LIST

For Capacitors & Resistors, the 2nd and 3rd digits in the P/No. designate;
CC, CX, CK, CN : Ceramic
CQ : Polyestor
CE : Electrolytic
RD : Carbon Film
RS : Metal Oxide Film
RN : Metal Film
RF : Fusible

RUN DATE : 2003.8.13

LOCA. NO	PART NO	DESCRIPTION
IC		
IC1	0IZZVC0098A	M37136EFSP DIP 52P ST
IC2	0IFA754207A	KA75420ZTA 3P,TO92 TP 4.2V
IC201	0IAL242110A	AT24C2110SI2.5 8P,SOP TP 1K EEPROM
IC202	0IMCRFA022A	74F14SC 14P SCHMITT TRIGGER IC
IC3	0IAL241610B	AT24C16A10PI2.7 8PIN
IC301	0IIT323000E	VPC3230D C5 80P VIDEO PROCESSOR
IC401	0IIN298003A	COPY TE28F800B3TA90 48TSOP BK 8M
IC501	0IMCRPW001B	PW181(133MHZ) 352PBGA
IC502	0IMCRTI020A	TLC7733ID 8P SOP R/TP DTYPE 3.3V
IC503	0IMCRAL006A	AT24C16AN10SI2.7 8P SOIC R/TP EEPROM
IC504	0IMCRTI002A	SN74HCT32D 16P R/TP QUADRUPLE2INPUT
IC510	0IMCRGN001B	FLI2310BC 208P DIGITAL VIDEO
IC555	0IMCRPU001A	P2781A08SR 8 PIN R/TP EMI REDUCTION
IC600	0IMCRTI022D	TPA3004D2 48P 9WSTEREO AUDIO AMP
IC601	0IMCRMN007A	MSP3421G QA B8 V3 80P VIRTUAL DOLBY
IC603	0IMCRFA008A	KA78M05RTM 2P DPAK
IC604	0IKE704200J	KIA7042AF SOT89 TP 4.2V
IC701	0IMCRTH001A	THC63LVDM83R 56P TRANSMITTER IC
IC702	0IMCRNS007B	LM2941S 5P TO263 R/TP 12V
IC801	0IMCRFE001A	FA5501ANTE1 8P POWER CONTROLLER
IC803	0IMCRFE002A	F922LF219S13RR 23P POWER CONTROLLER
IC804	0ILI817000G	LTV817MVB 4P,DIP BK PHOTO COUPLER
IC805	0ILI817000G	LTV817MVB 4P,DIP BK PHOTO COUPLER
IC806	0IMCRNS007D	LMS1587 CS 1.5V 3P
IC807	0IMCRNS007C	LMS1587CSADJ 3P TO263 R/TP 1.5V
IC808	0IMCRNS007C	LMS1587CSADJ 3P TO263 R/TP 1.5V
IC888	0IMCRNS007A	LM2940S 8V 3P TO263
IC901	0IMCRMI006A	M52758FP 36PIN, R/TP PLL IC
IC915	0IMMRHY033A	HY57V643220C(L)T6 86P 64M
IC950	0IMCRAD002A	AD9883A 80P DIGITAL BOARD
IC951	0IMCRNS007E	LMS1587CS3.3 3P TO263 R/TP 3.3V
IC954	0IMCRMZ001A	MP1583DN 8P DCDC CONVERTER
IC955	0IMCRMZ001A	MP1583DN 8P DCDC CONVERTER
Q830	0IMCRFA007A	KA431Z 3DIP,TO92 TP
TRANSISTOR		
IC804	0TFVI80005A	SI4963DY R/TP SO8 20V 6.2A
IC805	0TF492509AA	SI4925DY TP TEMIC 30V 6.1A SO8
Q104	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q107	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q201	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q202	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q203	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q3	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q3000	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q3001	0TR387500AA	CHIP 2SC3875S(ALY) KEC

LOCA. NO	PART NO	DESCRIPTION
Q3002	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q3003	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q3004	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q3005	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q370	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q371	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q3875	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q4	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q601	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q602	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q605	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q606	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q701	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q801	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q802	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q805	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q806	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q808	0TFFJ10002A	2SK360801 FUJI ST USC 500V 52A
Q810	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q811	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q812	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q815	0TFFJ80001A	2SK201801STB16R TSOP6 60V 10A
Q816	0TFFJ80001A	2SK201801STB16R TSOP6 60V 10A
Q817	0TFFJ80001B	2SK207101STB16R TSOP6 60V 2A
DIODE		
C55	0DZRM00178A	ZENERS,UDZS TE17 5.1B
C56	0DZRM00178A	ZENERS,UDZS TE17 5.1B
D1	0DD181009AB	KDS181 TP KEC 85V 300MA
D801	0DRSA00150A	RBV406 600V 4A 80VA .SEC 10MA
D802	0DD100009AM	EU1ZV(1) TP SANKEN
D803	0DR260001AA	FMG26S TO220 600V 6A 50A
D804	0DD181009AB	KDS181 TP KEC 85V 300MA
D810	0DR340009AA	MBRS340 40V 3A 80A 2MA
D811	0DR340009AA	MBRS340 40V 3A 80A 2MA
D811	0DD100009AM	EU1ZV(1) TP SANKEN
D812	0DD100009AM	EU1ZV(1) TP SANKEN
D813	0DD100009AM	EU1ZV(1) TP SANKEN
D814	0DD100009AM	EU1ZV(1) TP SANKEN
D816	0DD100009AM	EU1ZV(1) TP SANKEN
D835	0DD100009AM	EU1ZV(1) TP SANKEN
D836	0DR060009AA	TVR06J DO41 600V 0.6A
D837	0DR060009AA	TVR06J DO41 600V 0.6A
D842	0DRFJ00061A	YG805C06R 60V 20A 80A .SEC 15MA
D843	0DR240000BA	FML24S TO220 400V 10A 70A
D845	0DR240000BA	FML24S TO220 400V 10A 70A
D846	0DR240000BA	FML24S TO220 400V 10A 70A
ZD203	0DZRM00178A	ZENERS,UDZS TE17 5.1B

REPLACEMENT PARTS LIST

LOCA. NO	PART NO	DESCRIPTION
ZD204	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD205	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD206	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD207	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD215	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD216	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD225	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD370	0DZRM00248A	ZENERS,RLZ8.2BTE11
ZD801	0DZ180009AA	ZENERS,MTZ18B
ZD803	0DZ180009AA	ZENERS,MTZ18B
ZD805	0DZ180009AA	ZENERS,MTZ18B
ZD806	0DZ110009AA	ZENER,MTZ 11B
ZD807	0DZ560009AA	ZENERS,MTZ5.6B
ZD808	0DZ110009AA	ZENER,MTZ 11B
ZD809	0DZ560009AA	ZENERS,MTZ5.6B
ZD812	0DZ110009AA	ZENER,MTZ 11B
ZD815	0DZ910009AJ	ZENERS,MTZJ9.1B
ZD816	0DZ910009AJ	ZENERS,MTZJ9.1B
ZD817	0DZ910009AJ	ZENERS,MTZJ9.1B
ZD818	0DZ110009AA	ZENER,MTZ 11B
CAPACITOR		
C107	0CE108DD618	1000UF STD 10V M
C109	0CE106DK618	10UF STD 50V M
C112	0CE476DF618	47UF STD 16V M
C113	0CE107DF618	100UF STD 16V M
C1527	0CE107DF618	100UF STD 16V M
C1532	0CE107DF618	100UF STD 16V M
C1544	0CE476DF618	47UF STD 16V M
C1545	0CE107DD618	100UF STD 10V M
C1599	0CE107DD618	100UF STD 10V M
C19	0CE106DF618	10UF STD 16V M
C2	0CE107DF618	100UF STD 16V M
C2	0CE687DD618	680UF STD 10V 20%
C216	0CE106DF618	10UF STD 16V M
C219	0CE106DF618	10UF STD 16V M
C220	0CE106DF618	10UF STD 16V M
C2300	0CK105DF64A	1UF 2012 16V 20%
C2301	0CK105DF64A	1UF 2012 16V 20%
C2305	0CE225DK618	2.2UF STD 50V 20%
C301	0CK224DF56A	220000PF 2012 16V 10%
C303	0CK224DF56A	220000PF 2012 16V 10%
C305	0CK224DF56A	220000PF 2012 16V 10%
C31	0CE105DK618	1UF STD 50V M
C315	0CK224DF56A	220000PF 2012 16V 10%
C316	0CE107DD618	100UF STD 10V M
C328	0CE106DF618	10UF STD 16V M
C332	0CE476DF618	47UF STD 16V M
C333	0CE107DF618	100UF STD 16V M
C336	0CK224DF56A	220000PF 2012 16V 10%
C337	0CE226DF618	22UF STD 16V M

LOCA. NO	PART NO	DESCRIPTION
C338	0CE107DF618	100UF STD 16V M
C341	0CK224DF56A	220000PF 2012 16V 10%
C343	0CE476DF618	47UF STD 16V M
C347	0CE105CK636	1UF SHL,SD 50V M
C349	0CE105CK636	1UF SHL,SD 50V M
C351	0CE105CK636	1UF SHL,SD 50V M
C353	0CE105CK636	1UF SHL,SD 50V M
C51	0DZRM00178A	UDZS TE17 5.1B
C52	0DZRM00178A	UDZS TE17 5.1B
C53	0DZRM00178A	UDZS TE17 5.1B
C54	0DZRM00178A	UDZS TE17 5.1B
C546	0CE107DF618	100UF STD 16V M
C583	0CE107DF618	100UF STD 16V M
C584	0CE107DF618	100UF STD 16V M
C585	0CE107DF618	100UF STD 16V M
C59	0CK105DF64A	1UF 2012 16V 20%
C6	0CE107DF618	100UF STD 16V M
C60	0CK105DF64A	1UF 2012 16V 20%
C603	0CE476DF618	47UF STD 16V M
C61	0CK105DF64A	1UF 2012 16V 20%
C613	0CE107DF618	100UF STD 16V M
C615	0CE107DD618	100UF STD 10V M
C616	0CE106DF618	10UF STD 16V M
C617	0CE106DF618	10UF STD 16V M
C619	0CE335DK618	3.3UF STD 50V 20%
C62	0CK105DF64A	1UF 2012 16V 20%
C620	0CE477DF618	470UF STD 16V 20%
C621	0CK224DF56A	220000PF 2012 16V 10%
C622	0CK224DF56A	220000PF 2012 16V 10%
C624	0CK224DF56A	220000PF 2012 16V 10%
C626	0CK224DF56A	220000PF 2012 16V 10%
C627	0CK224DF56A	220000PF 2012 16V 10%
C628	0CK224DF56A	220000PF 2012 16V 10%
C63	0CK105DF64A	1UF 2012 16V 20%
C630	0CE107DF618	100UF STD 16V M
C634	0CE107DF618	100UF STD 16V M
C643	0CE476DK618	47UF STD 50V M
C644	0CK224DF56A	220000PF 2012 16V 10%
C645	0CK224DF56A	220000PF 2012 16V 10%
C650	0CE227DH618	220UF STD 25V M
C658	0CN475FH67A	4.7UF 3225 25V 20%
C660	0CN475FH67A	4.7UF 3225 25V 20%
C662	0CK105DF64A	1UF 2012 16V 20%
C665	0CK105DF64A	1UF 2012 16V 20%
C666	0CK105DF64A	1UF 2012 16V 20%
C668	0CK105DF64A	1UF 2012 16V 20%
C677	0CK105DF64A	1UF 2012 16V 20%
C682	0CN475FH67A	4.7UF 3225 25V 20%
C683	0CN475FH67A	4.7UF 3225 25V 20%
C684	0CN475FH67A	4.7UF 3225 25V 20%
C711	0CE107DF618	100UF STD 16V M

REPLACEMENT PARTS LIST

LOCA. NO	PART NO	DESCRIPTION
C730	0CE107DH618	100UF STD 25V M
C777	0CE477DF618	470UF STD 16V 20%
C800	181-010M	PP 630V 0.018UF J
C801	0CE476DK618	47UF STD 50V M
C801	0CE475DK618	4.7UF STD 50V 20%
C801	0CE107DK618	100UF STD 50V M
C802	0CE477DF618	470UF STD 16V 20%
C803	0CE227DJ618	220UF STD 35V M
C803	0CQZVBK002D	A.C 275V 0.47UF K (S=22.5)
C803	0CQZVBK002C	A.C 275V 0.22UF K (S=22.5)
C804	0CE477DF618	470UF STD 16V 20%
C805	0CE477DF618	470UF STD 16V 20%
C805	0CQZVBK002C	A.C 275V 0.22UF K (S=22.5)
C806	0CE477DF618	470UF STD 16V 20%
C807	0CE1072V610	100UF KMF 450V 20%
C813	0CE107DD618	100UF STD 10V M
C813	0CE475DK618	4.7UF STD 50V 20%
C815	0CE227DJ618	220UF STD 35V M
C819	0CE106DF618	10UF STD 16V M
C820	0CE226DF618	22UF STD 16V M
C820	0CK105DF64A	1UF 2012 16V 20%
C822	0CE107DH618	100UF STD 25V M
C823	0CE227DH618	220UF STD 25V M
C823	0CE227DJ618	220UF STD 35V M
C825	0CE477DH618	470UF STD 25V M
C826	0CE477DH618	470UF STD 25V M
C830	0CE107DK618	100UF STD 50V M
C831	0CE477DD618	470UF STD 10V M
C831	0CE227BJ618	220U KME 35V M
C832	0CE477DD618	470UF STD 10V M
C834	0CE477DD618	470UF STD 10V M
C835	0CE477DD618	470UF STD 10V M
C836	0CE477DD618	470UF STD 10V M
C837	0CE477DD618	470UF STD 10V M
C839	0CE477DD618	470UF STD 10V M
C839	0CE477DF618	470UF STD 16V 20%
C839	0CQZVBK002D	A.C 275V 0.47UF K (S=22.5)
C840	181-013R	MPP 0.47UF 400V 5% FM
C843	181-007T	MPE ECQV1H105JL3(TR), 50V 1.0UF J
C845	181-120P	470 PF 4KV K JE R FL 10
C846	181-120P	470 PF 4KV K JE R FL 10
C847	0CE476BK618	47UF KME 50V M
C856	0CE226DN618	22UF STD 100V M
C857	0CE477BJ618	470UF KME TYPE 35V 20%
C858	0CE477BJ618	470UF KME TYPE 35V 20%
C859	0CE477BJ618	470UF KME TYPE 35V 20%
C860	0CE477BJ618	470UF KME TYPE 35V 20%
C868	181-007T	MPE ECQV1H105JL3(TR), 50V 1.0UF J
C875	0CE108DH618	1000UF STD 25V M
C883	181-091R	R 1000PF 1KV 10%,10%
C888	0CE477DD618	470UF STD 10V M

LOCA. NO	PART NO	DESCRIPTION
C888	0CE477DH618	470UF STD 25V M
C890	181-120P	470 PF 4KV K JE R FL 10
C891	181-120P	470 PF 4KV K JE R FL 10
C892	181-120N	1000PF 4KV M E 5
C894	181-091N	SL 100PF 1KV 10%,10%
C898	181-120P	470 PF 4KV K JE R FL 10
C899	181-120P	470 PF 4KV K JE R FL 10
C902	0CE477DD618	470UF STD 10V M
C902	0CE107DF618	100UF STD 16V M
C902A	0CE227DD618	220UF STD 10V M
C923	0CE476DF618	47UF STD 16V M
C924	0CE476DF618	47UF STD 16V M
C925	0CE476DF618	47UF STD 16V M
C926	0CE476DF618	47UF STD 16V M
C927	0CE476DF618	47UF STD 16V M
C928	0CE476DF618	47UF STD 16V M
C941	0CE106DK618	10UF STD 50V M
C942	0CE107DF618	100UF STD 16V M
C956	0CK823DK56A	82000PF 2012 50V 10%
C962	0CE107DF618	100UF STD 16V M
C991	0CK105DF64A	1UF 2012 16V 20%
FUSE		
F801	0FS4001B84B	FUSE,SLOW BLOW 0FS 4000MA 250V
F801	131-098B	FUSE,SLOW BLOW 4000MA 250V
F802	0FS4001B84B	FUSE,SLOW BLOW 0FS 4000MA 250V
F803	0FT2001A86B	FUSE,SLOW BLOW 2000MA 125V
F805	0FT2001A86B	FUSE,SLOW BLOW 2000MA 125V
F805	0FS2501B84B	FUSE,SLOW BLOW 2500MA 250V
JACK		
JA2000	6613V00018A	JACK ASSEMBLY,PMJ026A (7PIN)
JA204	6612VCH003B	JACK,PHONE PEJ012C
JA205	380-336E	JACK,RCA WA6013E 1P
JA206	380-336F	JACK,RCA WA6013E 1P
SJ205	6612VJH008D	JACK,RCA PJ6063D DVD IN 3P
SJ209	6613V00004P	JACK ASSY,PJ6054P 3P
COIL & TRANSFORMER		
L101	0LA0102K139	INDUCTOR,10UH K
L2105	0LA0472K119	INDUCTOR,47UH K
L2106	0LA0472K119	INDUCTOR,47UH K
L652	6140VR0008A	COIL,SLF12575T330M4R7 33UH
L653	6140VR0008A	COIL,SLF12575T330M4R7 33UH
L654	6140VR0008A	COIL,SLF12575T330M4R7 33UH
L655	6140VR0008A	COIL,SLF12575T330M4R7 33UH
L801	6140VR0008B	COIL,SLF12575T150M3R2 15UH
L805	6140VR0008B	COIL,SLF12575T150M3R2 15UH
L805	6170VMCA47B	TRANSFORMER,SMPS[COIL] EER3016 325UH
T30	6170VMCA611	TRANSFORMER,SMPS[COIL] MB3EPC50Z 1850UH

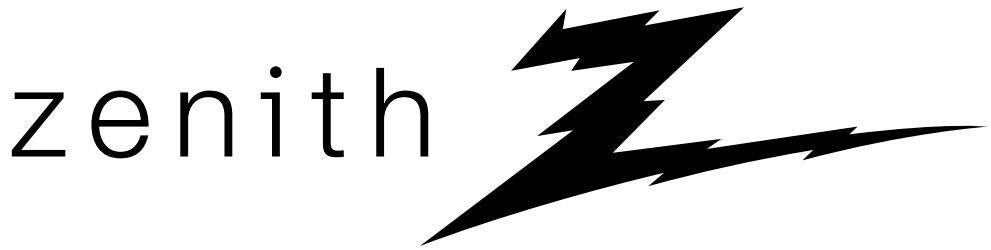
REPLACEMENT PARTS LIST

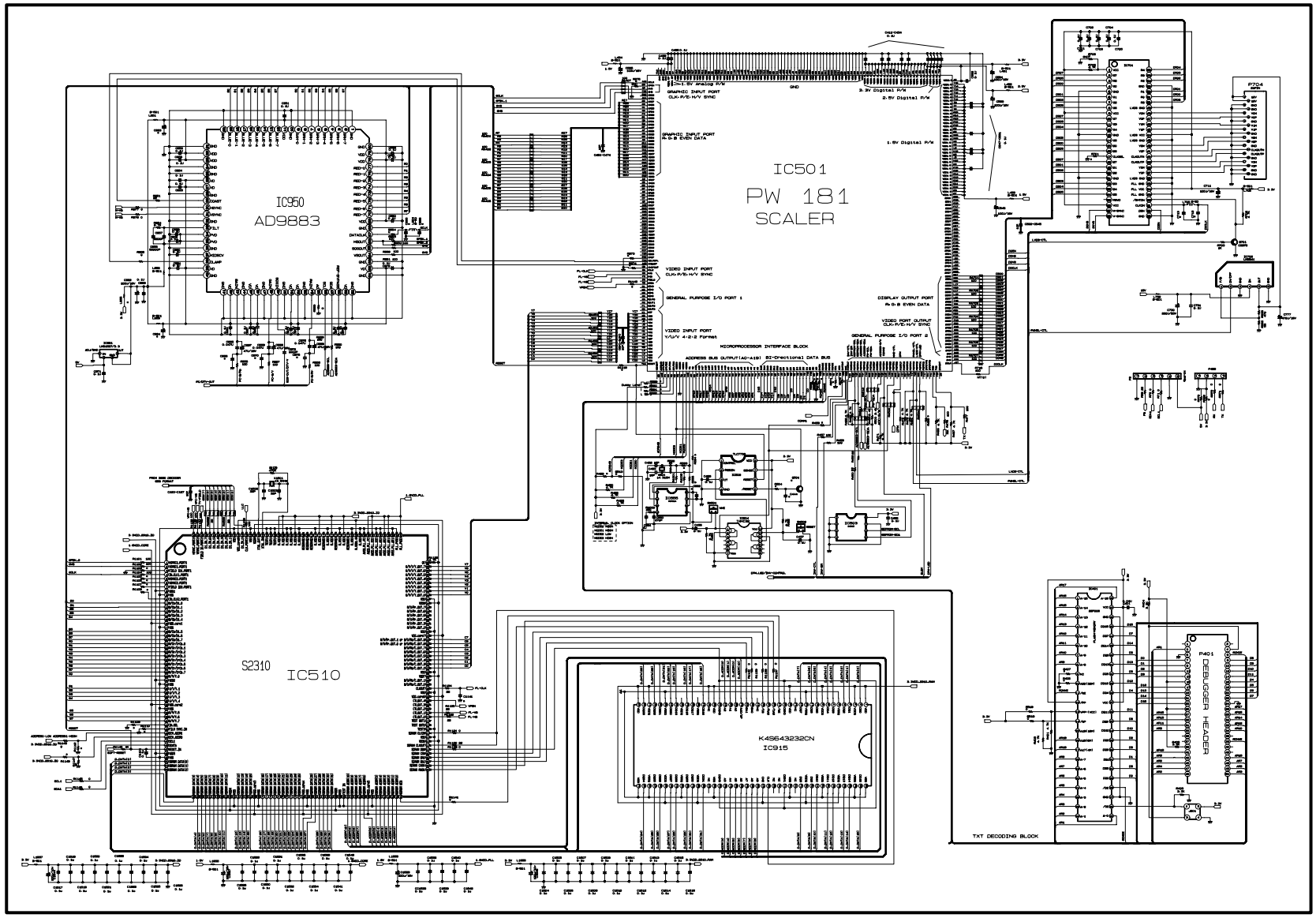
LOCA. NO	PART NO	DESCRIPTION
CONNECTOR		
JA202	6630G15E215	CONNECTOR,DSUB 15P 2.29MM
P2000	6631V20014A	CONNECTOR ASSEMBLY,12P 2.0MM
P2002	387-A05K	CONNECTOR ASSEMBLY,5P 2.5MM
P3000	6631V20037G	CONNECTOR ASSEMBLY,7P 2.0MM
P3009	6631V20010F	CONNECTOR ASSEMBLY,8P 2.0MM
P806A	387-A15B	CONNECTOR ASSEMBLY,12P 2.5MM
RESISTOR		
R2002	0RS1500J607	150 OHM 1 W 5.00%
R2003	0RS1500J607	150 OHM 1 W 5.00%
R536	0RD1004H609	1M OHM 1/2 W 5.00%
R801	0RKZVTA001D	10M OHM 1/2 W 5%
R803	0RKZVTA001K	0.47M OHM 1/2 W 5%
R804	0RD0222F609	22 OHM 1/6 W 5.00%
R806	180-A01B	RW ROUND G 2W 0.11 K
R810	0RD3301F609	3.3K OHM 1/6 W 5.00%
R812	0RD2200F609	220 OHM 1/6 W 5.00%
R813	0RD1000F609	100 OHM 1/6 W 5%
R826	0RD2202H609	22K OHM 1/2 W 5.00%
R827	0RD2202H609	22K OHM 1/2 W 5.00%
R829	0RD2700H609	270 OHM 1/2 W 5.00%
R830	0RD2202F609	22K OHM 1/6 W 5%
R832	180-A01E	2 W RW ROUND G 2W 0.33J
R834	0RD2202H609	22K OHM 1/2 W 5.00%
R835	0RD0221H609	2.2 OHM 1/2 W 5.00%
R836	0RD1004H609	1M OHM 1/2 W 5.00%
R842	0RD2702F609	27K OHM 1/6 W 5.00%
R844	0RD6801F609	6.8K OHM 1/6 W 5.00%
R867	0RD3901F609	3.9K OHM 1/6 W 5%
RA401	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA402	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA403	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA404	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA405	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA406	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA407	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA451	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA452	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA453	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA454	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA502	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA511	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA512	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA525	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
RA525	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA526	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
RA526	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA701	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA702	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA703	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA704	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA705	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA706	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
RA707	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%
SWITCH		
SW1	140-313B	SWITCH,TACT 2LEAD 160G(TA)
SW2	140-313B	SWITCH,TACT 2LEAD 160G(TA)
SW3	140-313B	SWITCH,TACT 2LEAD 160G(TA)
SW4	140-313B	SWITCH,TACT 2LEAD 160G(TA)
SW5	140-313B	SWITCH,TACT 2LEAD 160G(TA)
SW501	6600VR1004A	SWITCH,TACT SKHMPW 5P
SW502	6600VR1004A	SWITCH,TACT SKHMPW 5P
SW6	140-313B	SWITCH,TACT 2LEAD 160G(TA)
SW7	140-313B	SWITCH,TACT 2LEAD 160G(TA)
SW8	140-313B	SWITCH,TACT 2LEAD 160G(TA)
FILTER & CRYSTAL		
FB801	125-022K	FILTER,EMC FERRITE 1UH
L102	6210TCE001G	FILTER,EMC HH1M3216501
L103	6210TCE001G	FILTER,EMC HH1M3216501
L1955	6210TCE001G	FILTER,EMC HH1M3216501
L1956	6210TCE001G	FILTER,EMC HH1M3216501
L1957	6210TCE001G	FILTER,EMC HH1M3216501
L1958	6210TCE001G	FILTER,EMC HH1M3216501
L205	6210TCE001A	FILTER,EMC HB1S2012080JT
L206	6210TCE001A	FILTER,EMC HB1S2012080JT
L2100	6210TCE001A	FILTER,EMC HB1S2012080JT
L2101	6210TCE001A	FILTER,EMC HB1S2012080JT
L2105	6210TCE001A	FILTER,EMC HB1S2012080JT
L2106	6210TCE001A	FILTER,EMC HB1S2012080JT
L2107	6210TCE001A	FILTER,EMC HB1S2012080JT
L2108	6210TCE001G	FILTER,EMC HH1M3216501
L2109	6210TCE001G	FILTER,EMC HH1M3216501
L214	6210TCE001A	FILTER,EMC HB1S2012080JT
L215	6210TCE001A	FILTER,EMC HB1S2012080JT
L3	6210TCE001G	FILTER,EMC HH1M3216501
L301	6210TCE001G	FILTER,EMC HH1M3216501
L302	6210TCE001A	FILTER,EMC HB1S2012080JT
L303	6210TCE001G	FILTER,EMC HH1M3216501
L451	6210TCE001G	FILTER,EMC HH1M3216501
L452	6210TCE001G	FILTER,EMC HH1M3216501
L453	6210TCE001G	FILTER,EMC HH1M3216501
L454	6210TCE001G	FILTER,EMC HH1M3216501
L601	6210TCE001G	FILTER,EMC HH1M3216501
L603	6210TCE001G	FILTER,EMC HH1M3216501
L604	6210TCE001G	FILTER,EMC HH1M3216501
L651	6210TCE001G	FILTER,EMC HH1M3216501
L699	6210TCE001G	FILTER,EMC HH1M3216501
L702	6210TCE001G	FILTER,EMC HH1M3216501

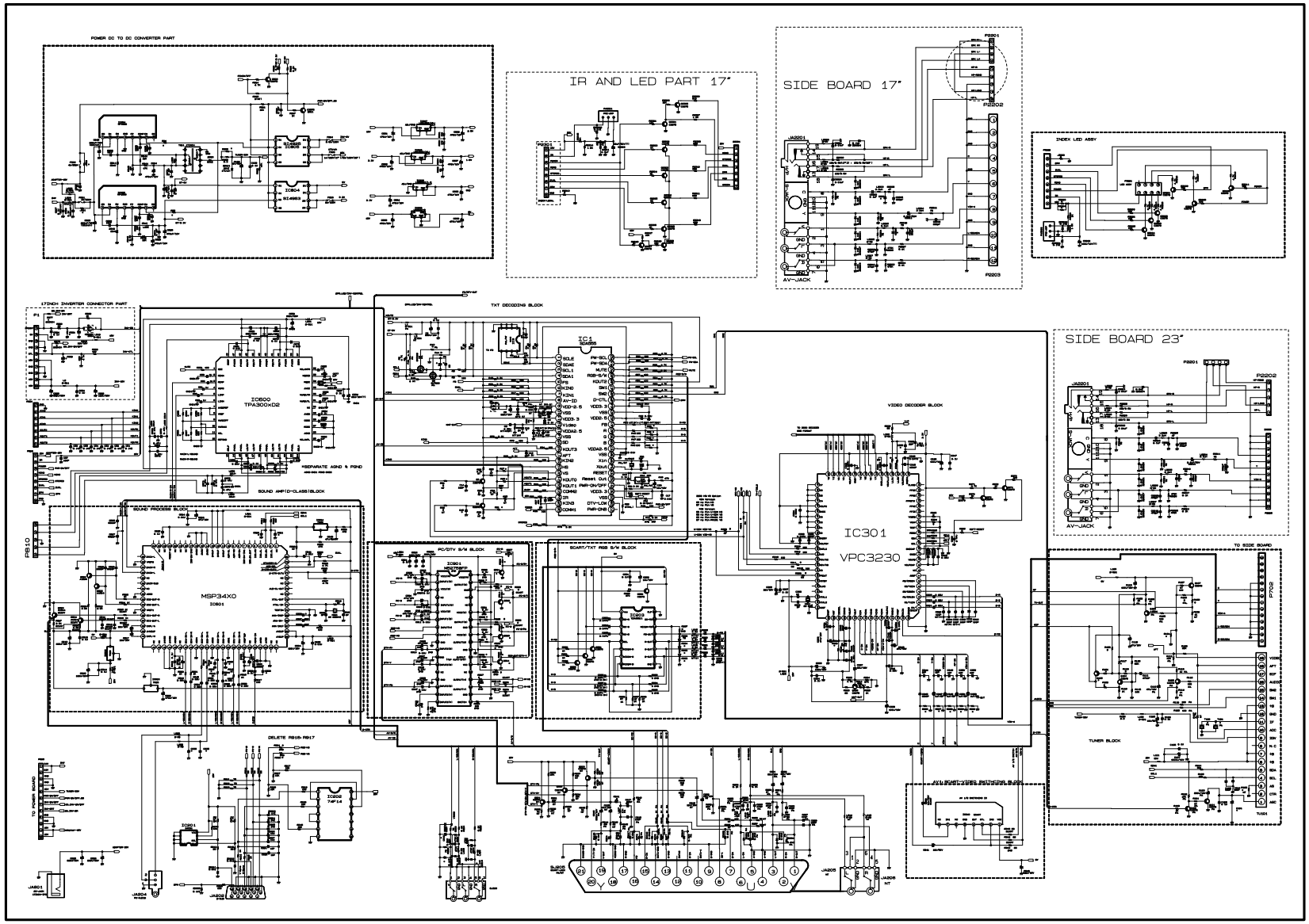
REPLACEMENT PARTS LIST

LOCA. NO	PART NO	DESCRIPTION
L703	6210TCE001A	FILTER,EMC HB1S2012080JT
L732	6210TCE001G	FILTER,EMC HH1M3216501
L800	125-123A	FILTER,EMC FERRITE BFD3565R2F
L801	6200JB8012Q	FILTER,EMC OR 14*7*7.5H
L802	6200JB8012Q	FILTER,EMC OR 14*7*7.5H
L803	6200JB8012Q	FILTER,EMC OR 14*7*7.5H
L808	6210TCE001G	FILTER,EMC HH1M3216501
L901	6210TCE001G	FILTER,EMC HH1M3216501
L951	6210TCE001G	FILTER,EMC HH1M3216501
L952	6210TCE001G	FILTER,EMC HH1M3216501
L953	6210TCE001G	FILTER,EMC HH1M3216501
L954	6210TCE001A	FILTER,EMC HB1S2012080JT
RA504	6210VC0004A	FILTER,EMC BK3216 4S600
X1	156-A01P	RESONATOR,CRYSTAL HC49U 8.000MHZ
X1501	6202VDT002J	RESONATOR,CRYSTAL SX1 13.500000MHZ
X301	6202VDT002E	RESONATOR,CRYSTAL SX1SMD 20250000HZ
X501	6202VDT002B	RESONATOR,CRYSTAL SX1 SC14.3MHZ
X601	6202VDT002H	RESONATOR,CRYSTAL SX1 18.432000MHZ
	MISCELLANEOUS	
F801A	430-813A	HOLDER,FUSE NON MC994C
F801B	430-813A	HOLDER,FUSE NON MC994C
P3001	3720V00194C	PANEL ASSY,RU15LA60 NON
P801	6620VZ0002A	SOCKET,DRAWING IS7007 ISHENG AC
PA3000	6726VV0006D	REMOTE CONTROLLER RECEIVER,38.0KHZ
TH801	163-048D	THERMISTOR,KL15L2R5 +/ 15% 125V
TU101	6700VNF019E	TUNER,TAFHH001P LG NTSC FS
VA801	164-003K	VARISTOR,SVC621D14A 620V 0%
	ACCESSORIES	
A1	3828VA0387C	MANUAL,OWNERS ML027C ZENITH
A2	6710V00091K	REMOTE CONTROLLER,ML027C STEREO
A3	6410VUH007A	POWER CORD,SP305+IS034 SVT18AWG*3C
A4	6851V00004D	CABLE ASSEMBLY,AUDIO TO AUDIO 2000MM
A5	6866VA9001A	CONNECTOR,DSUB 29909C,AT,L1830

LOCA. NO	PART NO	DESCRIPTION


zenith


IC950
AD9883
IC501
PW 181
SCALER
S2310
IC510
K4S643232CN
IC915
P401
DEBUGGER HEADER
TXT DECODING BLOCK


POWER DC TO DC CONVERTER PART
IR AND LED PART 17"
SIDE BOARD 17"
INDEX LED ASSY
AV-JACK
17INCH INVERTER CONNECTOR PART
IC600
TPA3004D2
SOUND AMP(D-CLASS)BLOCK
SOUND PROCESS BLOCK
MSP34X0
IC801
TXT DECODING BLOCK
IC1
SAA5264
VIDEO DECODER BLOCK
IC301
VPC3230
SCART/TXT RGB S/W BLOCK
TUNER BLOCK
TO SIDE BOARD
SIDE BOARD 23"
AV-JACK
TO POWER BOARD
DELETE R815~R817