

**JBL**

MultiMedia Series Loudspeakers

Media Sub2000

Service Manual



JBL Consumer Products  
250 Crossways Park Dr.  
Woodbury, New York 11797

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## Media Sub2000 Specifications

Max Power Output	35 watts (@ 1% THD)
Frequency Response	50Hz – 120Hz
Input Sensitivity	3V Maximum
Input Impedance	10k ohms
Signal Input Jack	Stereo Mini-Connector (1/8")
Signal Output Jack	Stereo Mini-Connector (1/8")
Dimensions (H x W x D)	9 5/8 x 5 1/4 x 10 3/4" (244 x 133 x 273mm)
Weight	7.0 lbs. /3.2kg

## TEST PROCEDURE

### Media Sub2000

Frequency	20Hz – 600Hz
Input Voltage	0.175V
Volume	Maximum

### General Function

1. Assure Level control volume is Maximum (full CW)
2. Using sine wave generator sweep unit to range of above frequencies
3. Listen to driver and cabinet for rattles, clicks, buzzes, or other unusual noises

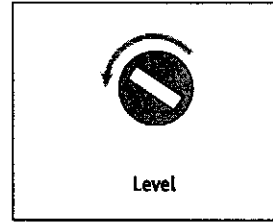
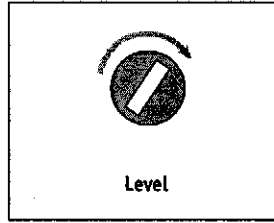
# OPERATION

## Media Sub2000

### Level:

To raise the output level, rotate the *level* knob clockwise.

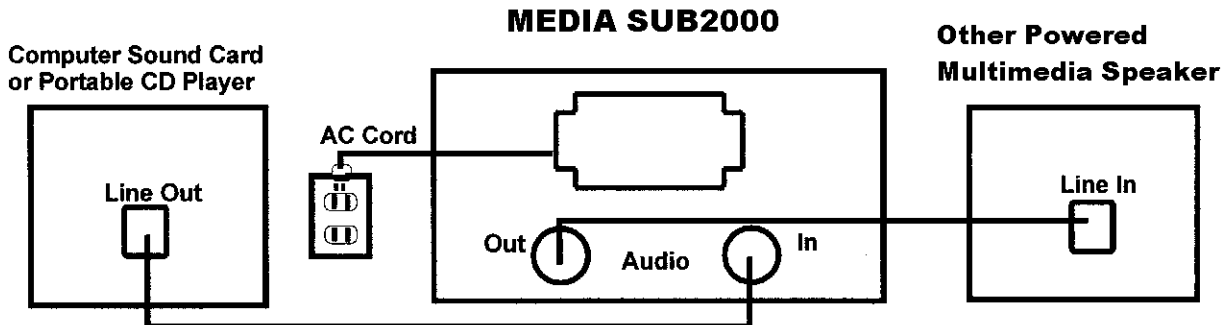
To lower the output level, rotate the *level* knob counterclockwise.



### Auto turn-on/turn-off

The Media 2000 and Media Sub2000 feature an automatic turn-on/turn-off feature. They will turn off when the source equipment (computer or CD player) has no sound output for approximately fifteen minutes and immediately turn back on when a signal is present.

# CONNECTIONS



Service Bulletin JBL9802 - May 1998

This is considered a Major repair

To: All JBL Service Centers

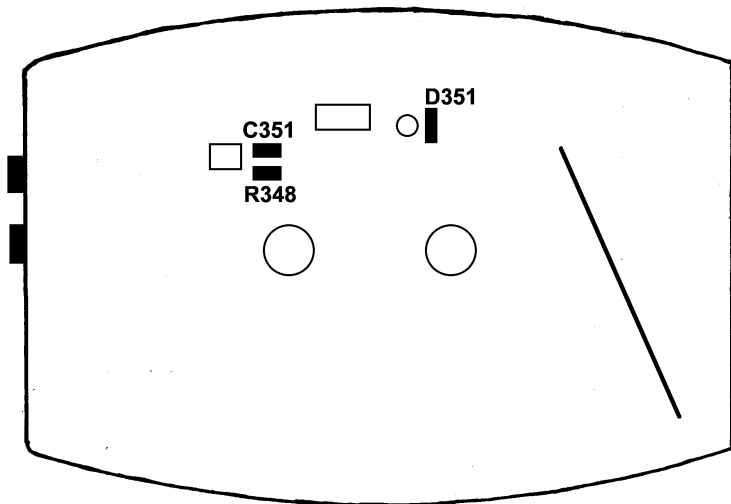
Model: Media Sub2000 Powered Subwoofer

Subject: False Triggering

**In the event you receive a Media Sub2000 with the complaint: “the subwoofer never shuts off”, or “the unit cycles on & off by itself with no input signal”, perform the following modification to raise the input threshold of the subwoofer amplifier:**

Procedure:

- 1) Turn the unit upside-down and remove the (8) mounting screws on the bottom plate. This includes the (2) deeply recessed screws near the center of the plate. Then remove the (2) smaller screws holding the black input plate to the end of the cabinet.
- 2) Pull the plate and amplifier up and out the cabinet.
- 3) Unplug all (3) molex connectors, and remove the (2) small screws holding the input plate onto the amplifier PCB; remove the input plate.
- 4) To gain access to the components, remove the (2) remaining small screws holding the PCB to the bottom plate and detach it from the plate.
- 5) Locate C351 - 100pf SMD cap. Replace with 470 pf part, (JBL part #CP1885). See drawing.
- 6) Locate R348 - 330K $\Omega$  SMD resistor. Replace with 100k $\Omega$  part, (JBL part #RS2043).
- 7) Locate Diode D351. Solder a 10K $\Omega$  resistor (JBL part #RS2042) in parallel with the diode.
- 8) Reassemble and replace the amplifier assembly into the cabinet in the reverse order, making sure all connectors and screws are replaced.\* When re-attaching the input plate make sure both ground terminals are attached to the screw.
- 9) Test unit and assure that the subwoofer stays in the standby mode with no input signal, and comes out of protection with a 50 Hz, 50 mV input signal.

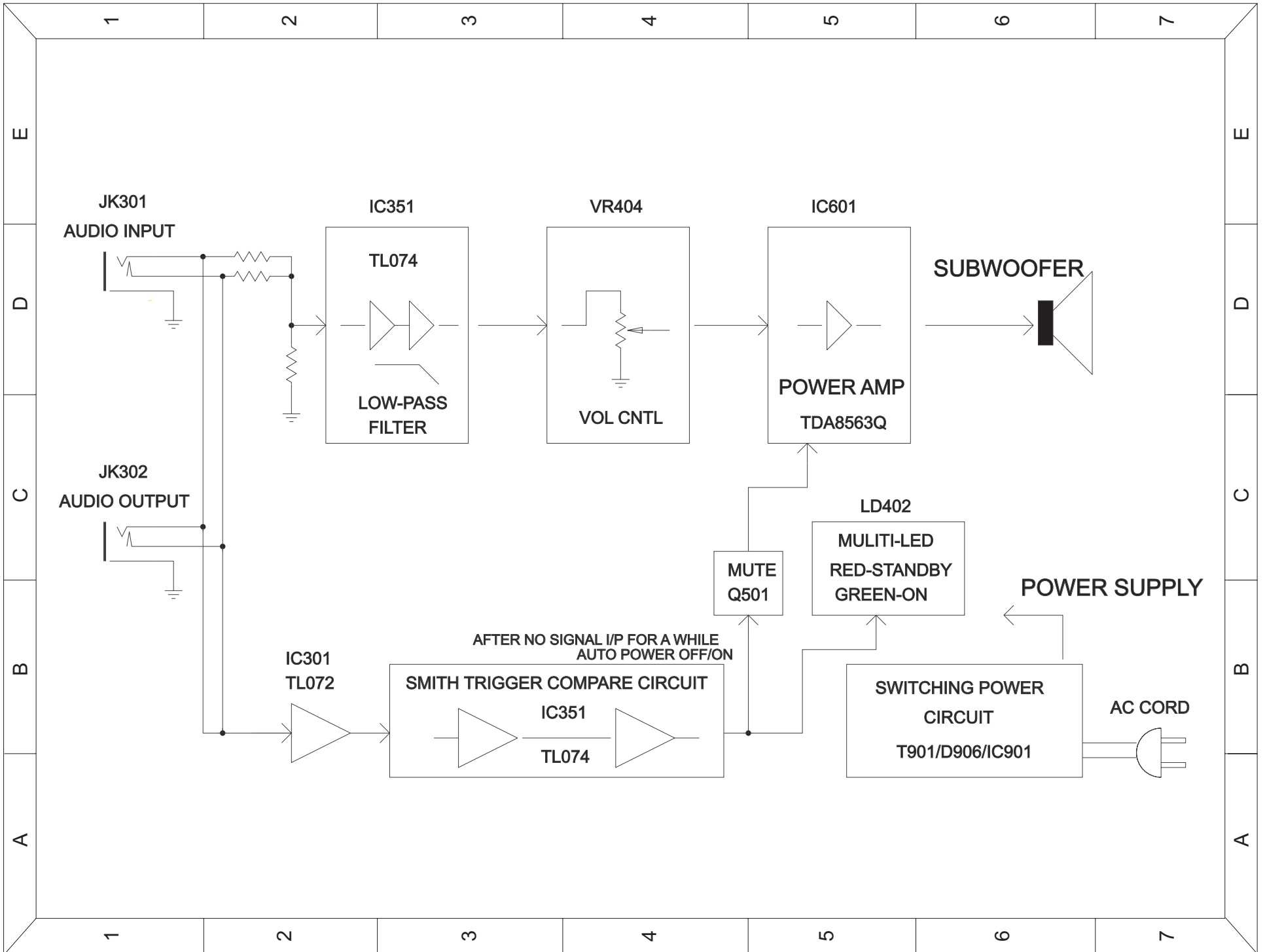


\* When replacing the final two screws in the center of the bottom plate, because of the design you cannot drop the screws into each cavity and expect the screws to align with the holes.  
With a Philips screwdriver well fitted to the screw head, you may either use a magnetized screwdriver and lower the tip (with screw) carefully down into the cavity to align; OR turn the subwoofer right-side up and insert the tip with screw up into the cavity.

Model	Serial number 120V	Serial number 230V	Status	Action
Media Sub2000	AC0029-10001 to AC0029-11300		False Triggering	Change value of C351 and R348; add 10K $\Omega$ resistor in parallel with D351
Media Sub2000	AC0029-11301 and above	AC0030-01001 and above	Factory Modification	NONE REQUIRED

**BLOCK DIAGRAM**

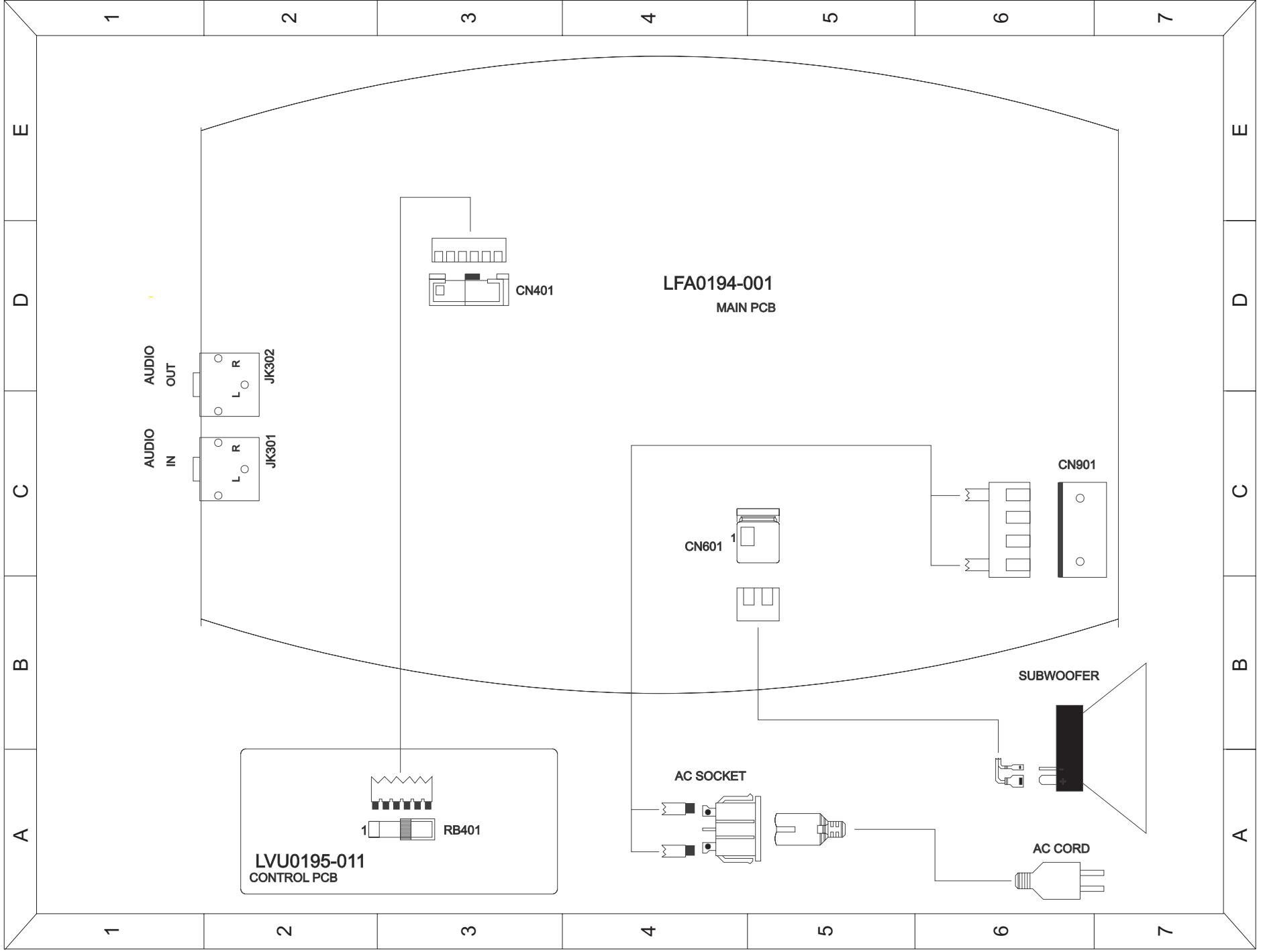
Media Sub2000



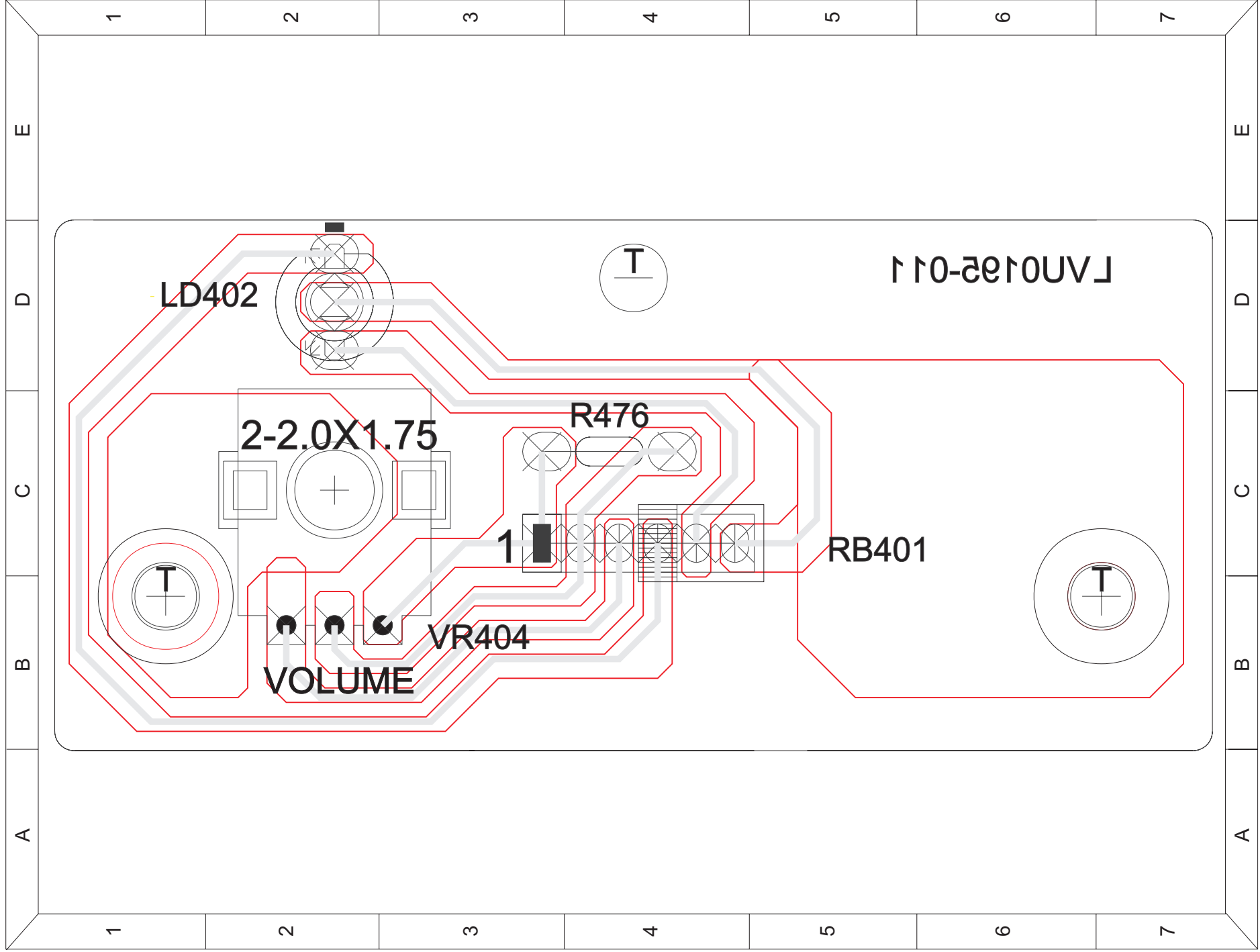


Media Sub2000

# WIRING DIAGRAM



CONTROL PCB PRINTED CIRCUIT





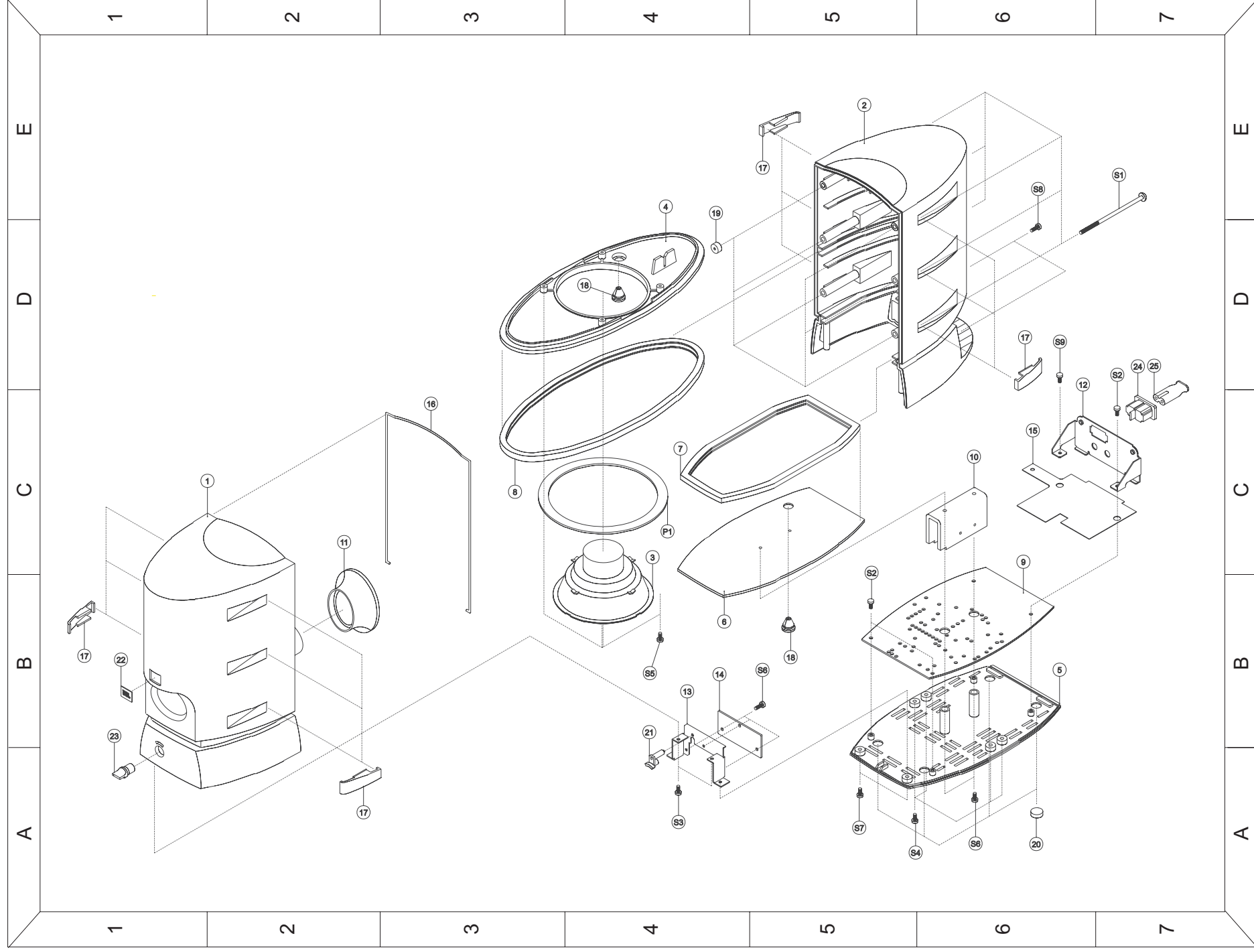
# ICS AND TRANSISTORS VOLTAGE CHART

PART NO. \ REF. VOL. \ NO. OF PIN	1	2	3	4	5	6	7	8	9	10
IC301	6.0	6.0	6.0	G	6.0	6.0	6.0	11.6	X	X
IC351	6.0	6.0	5.8	11.3	6.0	6.0	6.0	1.4	5.9	5.9
IC601	2.2	G	14.8	7.4	G	7.3	X	G	X	14.8
IC901	2.3	0.0	0.0	X	X	X	X	X	X	X
IC902	14.8	G	11.9	X	X	X	X	X	X	X
IC903	1.0	0.0	0.0	X	X	X	X	X	X	X

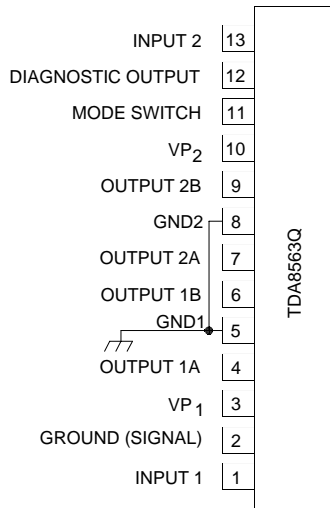
PART NO. \ REF. VOL. \ NO. OF PIN	11	12	13	14
IC301	X	X	X	X
IC351	G	1.2	6.0	1.1
IC601	11.1	X	X	X
IC901	X	X	X	X
IC902	X	X	X	X
IC903	X	X	X	X

PART NO. \ REF. VOL. \ NO. OF PIN	B	C	E
Q352	9.0	11.9	4.2
Q353	0.4	2.1	G
Q501	0.3	11.1	G
Q901	11.4	14.8	11.9

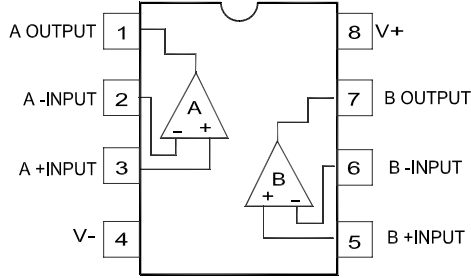
EXPLODED VIEW



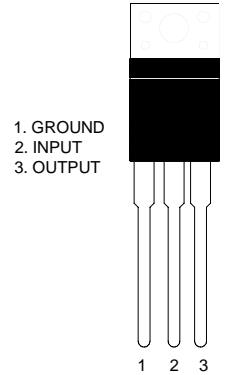
TDA8563Q, IC601



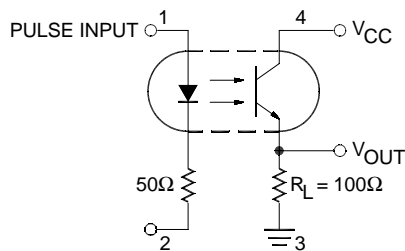
DUAL OPAMP, TL072, IC301



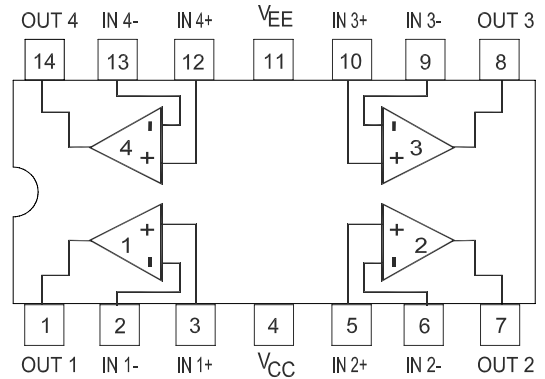
+12V REGULATOR 7812 IC902



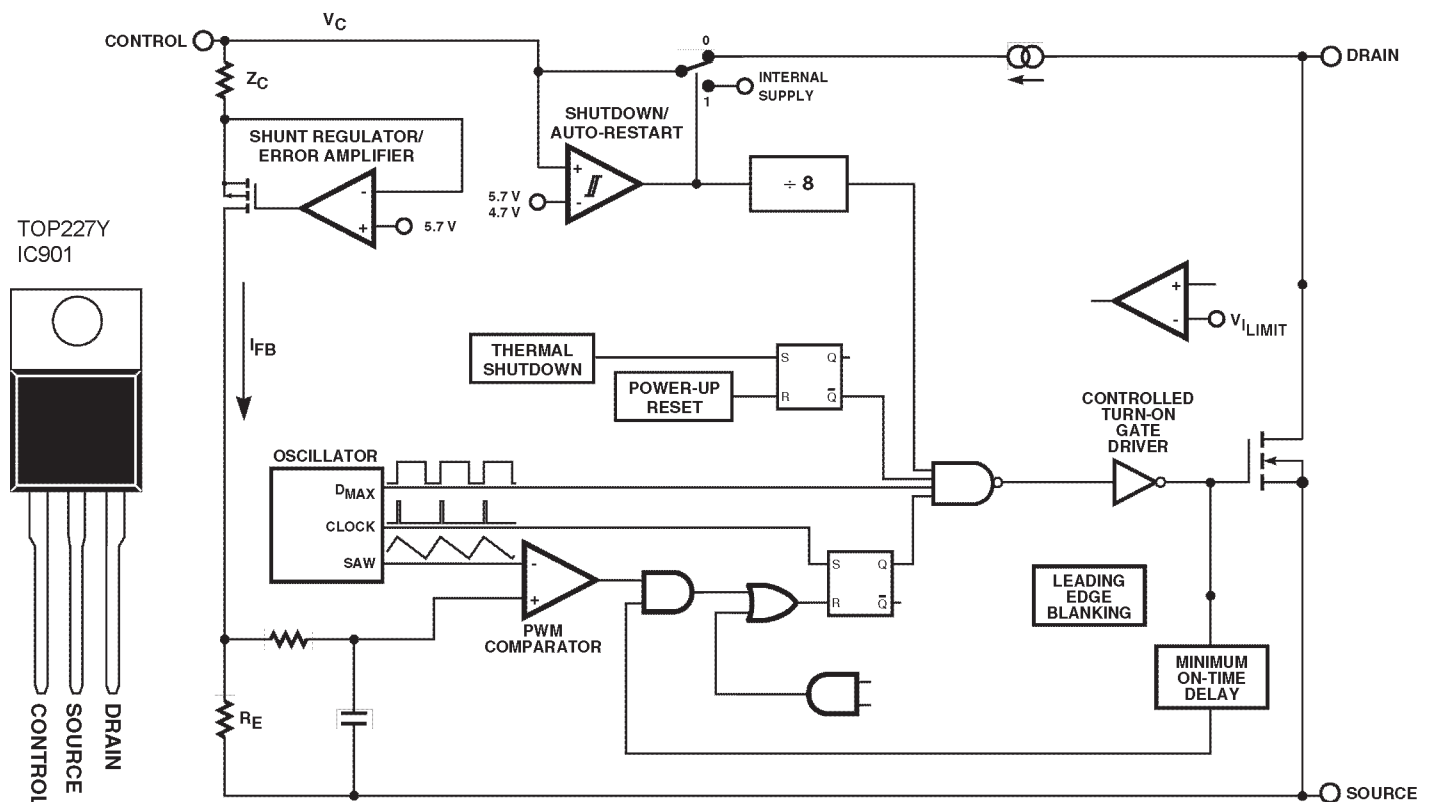
PS2501, IC903



QUAD OP AMP, TLO74, IC351



TOP227Y, IC901



## MECHANICAL PARTS LIST

REF#	DESCRIPTION		PART NO.	QTY
1	FRONT CAB	ABS W/KNOB HOLEx1	BPF5041-AQ1	1
2	REAR CAB	PP BEIGE	BPA0029-AQ1	1
3	SPEAKER DRIVER	4" 2 OHM 20W	FTF2040-371	1
4	BAFFLE	MAGIC WOOF	BPA0030-001	1
5	BOTTOM	MAGIC WOOF	BPB0023-001	1
6	PORT PLATE	t=3.0 mm	GAL0089-002	1
7	SEAL RUBBER		BRB0010-001	1
8	RUBBER		BRB0009-001	1
9	MAIN ASSEMBLY		APE0194-002	1
10	HEAT SINK		GAL0090-001	11
11	PORT EDGE		BPR0033-001	1
12	REAR BRACKET		GSE0181-002	1
13	PCB BRACKET		GSE0180-001	1
14	LED PCB ASSEMBLY		APE0195-012	1
15	TIN FOIL	0.1 TIN+0.4 PAPER	GTN0034-001	1
16	PVC PLATE	L20.0xW6.0xT0.5 mm	BNP0052-001	3
17	MASK PLATE	MAGIC WOOF (M.SUB)	BPA0031-AQ0	12
18	RUBBER		BRB0008-001	2
19	BUSHION	BOSS BUSHION	BRB0014-001	6
20	FEET		BRF0024-001	4
21	LENS		BPN0066-001	1
22	LOGO PLATE	LOGO PLATE	BPL0018-002	1
23	KNOB	MEDIA SUB	BPK5041-AQ0	1
24	AC SOCKET	2.5A~250V UL/CSA/VDE	CPP0002-004	1
25	LINE CORD	VDE 1830 MM	2559-002222	1
P1	DRIVER SPONGE	OD102xID91xT1	IVE0043-002	1
S1	SCREW	M4x0.7PxL85.0 mm	H060501-185	6
S2	SCREW	T3.0x1.27P-2RHxL8 mm	H101001-108	3
S3	SCREW	T3.0xL8.0 mm	H101001-308	2
S4	SCREW	T3.0xL16.0 mm	H101001-316	4
S5	SCREW	T3.0xL10.0	H101002-310	4
S6	SCREW	M3x0.5Px8 mm	H120301-308	2
S7	SCREW	M3x0.5Px10 mm	H120301-310	2
S8	SCREW	M3x0.5PxL8.0 mm	H120308-308	2
S9	SCREW	T3.0xL10.0 mm	H101001-110	1

# MEDIA SUB2000 ELECTRICAL PARTS LIST

DESIGNATOR	DESCRIPTION	PART #	QTY
<b>CAPACITORS</b>			
C301,C302	CHIP CAP	220 pF 50V 10%	PCV5645-221 2
C303,C304,C352,C612	CHIP CAP	1 uF 16V +80-20%	PCV3962-105 4
C350,C353,C905,C909, C911-C915,C930	CHIP CAP	0.1 uF 50V 20%	PCV3955-104 10
C351	CHIP CAP	470 pF 50V 10%	PCV5645-471 1
C354	COND ELECT	330 uF 16V 20%	PRE3952-331 1
C355,C910	COND ELECT	100 uF 16V 20%	PRE3952-101 2
C504,C505,C608	CHIP CAP	4.7 uF 16V +80-20%	PCV3962-475 3
C600,C603,C605	CHIP CAP	0.068 uF 50V 5%	PCV5635-683 3
C604	CHIP CAP	0.15 uF 50V 10%	PCV3945-154 1
C606	CHIP CAP	0.022 uF 50V 10%	PCV5645-223 1
C609	CHIP CAP	0.001 uF 50V 10%	PCV5645-102 1
C610	CHIP CAP	0.22 uF 50V +80-20%	PCV3965-224 1
C901	COND SAFTY	0.1 uF 250V 20%	PVS3559-104 1
C902	COND ELECT	150 uF 400V 20%	PJE995E-151 1
C903	COND ELECT	47 uF 25V 20%	PRE3953-470 1
C907	COND ELECT	2700 uF 25V 20%	PVR9953-272 1
C908	COND ELECT	1000 uF 25V 20% D=10	PVE3953-102 1
C916	COND ELECT	22 uF 25V 20%	PRE3953-220 1
C917,C918	COND SAFTY	0.0022 uF 250V 20%	PVS3559-222 2
C919,C920	COND SAFTY	0.001 uF 250V 20%	PVS3559-102 2
<b>CONNECTORS</b>			
CN401	CONNECTOR	J.S.T. 2.0mm PH	CCN7879-026 1
CN601	CONNECTOR	2 PIN CL3962WVO	CCN3962-002 1
CN901	CONNECTOR	4 PIN CL3962WVO	CCN3962-234 1
<b>SEMICONDUCTORS</b>			
D351,D903,D905	DIODE SW	LL4148 TELEFUNKEN	RCD4148-001 3
D902	DIODE	BYV26D PHILIPS	RAD0026-001 1
D906	DIODE	MBR/STPS20100CT	RHD2010-001 1
ZD903	DIODE	P6KE180A	RHD0180-001 1
ZD904	DIODE ZENR	13.5-14.0V .5W	RAZ0859-083 1
ZD908	DIODE ZENR	12.6-13.1V .5W	RAZ0859-082 1
IC301	IC 8 PIN	TL072 DUAL OP-AMP	RCI0720-001 1
IC351	IC 14 PIN	TL074CD QUAD OP-AMP	RCI0740-001 1
IC601	IC 13 PIN	TDA8563Q POWER AMP	RHI8563-001 1
BD901	RECTIFIER	BRIDGE RS204L	RHD0204-001 1
IC901	IC 3 PIN	TOP227Y PWM SWITCH	RHI0227-001 1
IC902	IC 3 PIN	REGULATOR +12V	RHI7812-004 1
IC903	IC 4 PIN	PS2501 OPTOCOUPLER	RHI2501-001 1
Q352,Q353,Q501,Q901	XISTR NPN	SMT TYPE (2SC945)	RCN1623-001 4
<b>RESISTORS</b>			
R301,R305,R353,R354,R357,R358, R503,R607,R905,R906	CHIP RES.	10K OHM 1/8W 5%	QCF0851-103 11
R303	CHIP RES.	5.6K OHM 1/8W 5%	QCF0851-562 1
R348	CHIP RES.	100K OHM 1/8W 5%	QCF0851-104 1
R351,R370,R610	CHIP RES.	100 OHM 1/8W 5%	QCF0851-101 3
R355,R356	CHIP RES.	150K OHM 1/8W 5%	QCF0851-154 2
R359	CHIP RES.	330K OHM 1/8W 5%	QCF0851-334 1

## ELECTRICAL PARTS LIST (CONT'D)

DESIGNATOR	DESCRIPTION	PART #	QTY
R360,R606	CHIP RES. 220K OHM 1/8W 5%	QCF0851-224	2
R361	CHIP RES. 820K OHM 1/8W 5%	QCF0851-824	1
R362,R380	CHIP RES. 680K OHM 1/8W 5%	QCF0851-684	2
R363	CHIP RES. 82K OHM 1/8W 5%	QCF0851-823	1
R364,R615	CHIP RES. 470 OHM 1/8W 5%	QCF0851-471	2
R366,R368,R614	CHIP RES. 1K OHM 1/8W 5%	QCF0851-102	3
R369	CHIP RES. 680 OHM 1/8W 5%	QCF0851-681	1
R501,R907	CHIP RES. 22K OHM 1/8W 5%	QCF0851-223	2
R502	CHIP RES. 33K OHM 1/8W 5%	QCF0851-333	1
R604	CHIP RES. 12K OHM 1/8W 5%	QCF0851-123	1
R605	CHIP RES. 910 OHM 1/8W 5%	QCF0851-911	1
R616	CHIP RES. 330 OHM 1/8W 5%	QCF0851-331	1
R901	RESISTOR 1M OHM 1/2W 5%	QHF0250-105	1
R902	CHIP RES. 22 OHM 1/8W 5%	QCF0851-220	1
R903,R904	CHIP RES. 33 OHM 1/8W 5%	QCF0851-330	2
BETWEEN Q352 BASS TO GND	RESISTOR 10K OHM 1/8W 5%	QAF0850-103	1

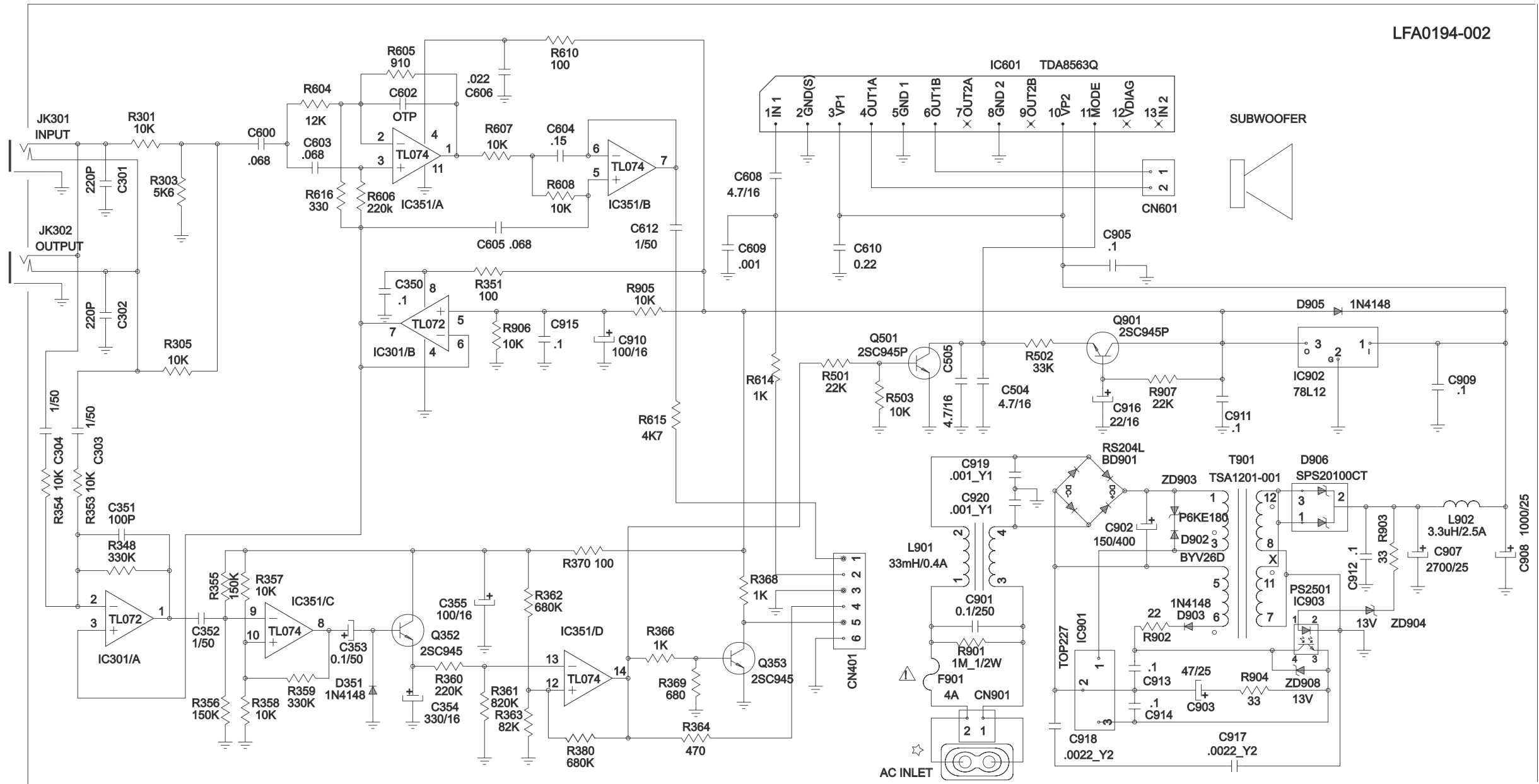
### MISCELLANEOUS

IC601 TO HSINK	SCREW M3.0xL12.0xP0.5 mm	H120302-312	2
IC901	HEAT SINK AL 30x25x35H BLACK	GAL0093-001	1
JK301,JK301	PHONE JACK JYE TAI 3542-01-030	CJM9380-028	2
CN601 TO WOOFER SPK	CON/WIRE 2 COND 400/350mm	4999A-369	1
CN901 TO AC SOCKET	CON/WIRE 4 COND 180mm P=3.96m	4999A-370	1
D906	HEAT SINK AL 2.0t BLACK	GAL0094-001	1
D906	NUT M3.0x2.5t NICKEL	HNM3055-125	1
D906,IC901	WASHER HD=6.7 ID=3.2 OD=3.6	DSS0007-001	2
D906,IC901	SI RUBBER 13x18x0.3t mm	GS10001-001	2
F901	FUSE 4A 250V SLOW	KSD2400-001	1
HEAT SINK TO IC901	SCREW T3x6 mm	H101012-206	1
HSINK TO D906	SCREW M3.0x0.5PxL8.0 mm	H060308-108	1
L901	AC FILTER A6109 33 mH/0.4A	JLF0002-001	1
L902	CHOKE 6110 3.3 uH	SVC0002-339	1
P1 TO P2	WIRE 18 GA 80 MM BLACK UL 1617	5824-080BB	1
PCB TO H/SINK(IC901)	SCREW T3.0xL6.0 mm	H120301-106	1
T901	PWR TRANS 97-550-1 EE-30	TSA1201-001	1

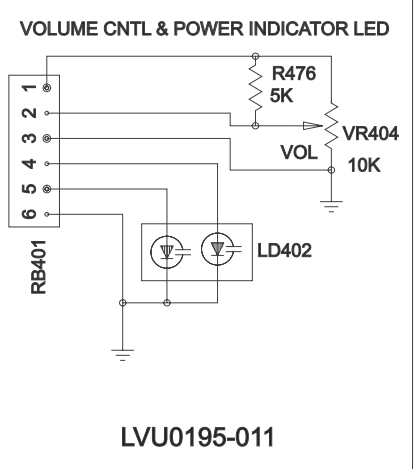
### LED PCB ASSEMBLY PARTS LIST

REF. NO	DESCRIPTION	PART NO	QTY
LD402	LED MULTI-COLOR LED TWO	KEM0001-001	1
PCB BRACKET	FELT 120x5x0.2 mm	IVS0005-001	1
R476	RESISTOR 5K OHM 1/6W 5% CF	QAF0650-502	1
RB401 TO CN401	CON/WIRE 6 COND 200 mm	4999A-384	1
VR404	CNTL ROTRY RV093NB10KPtEj-15F(S)	MRR0103-012	1
	94V0 PCB LED PCB	LVU0195-201	1

LFA0194-002



**REMARK:**



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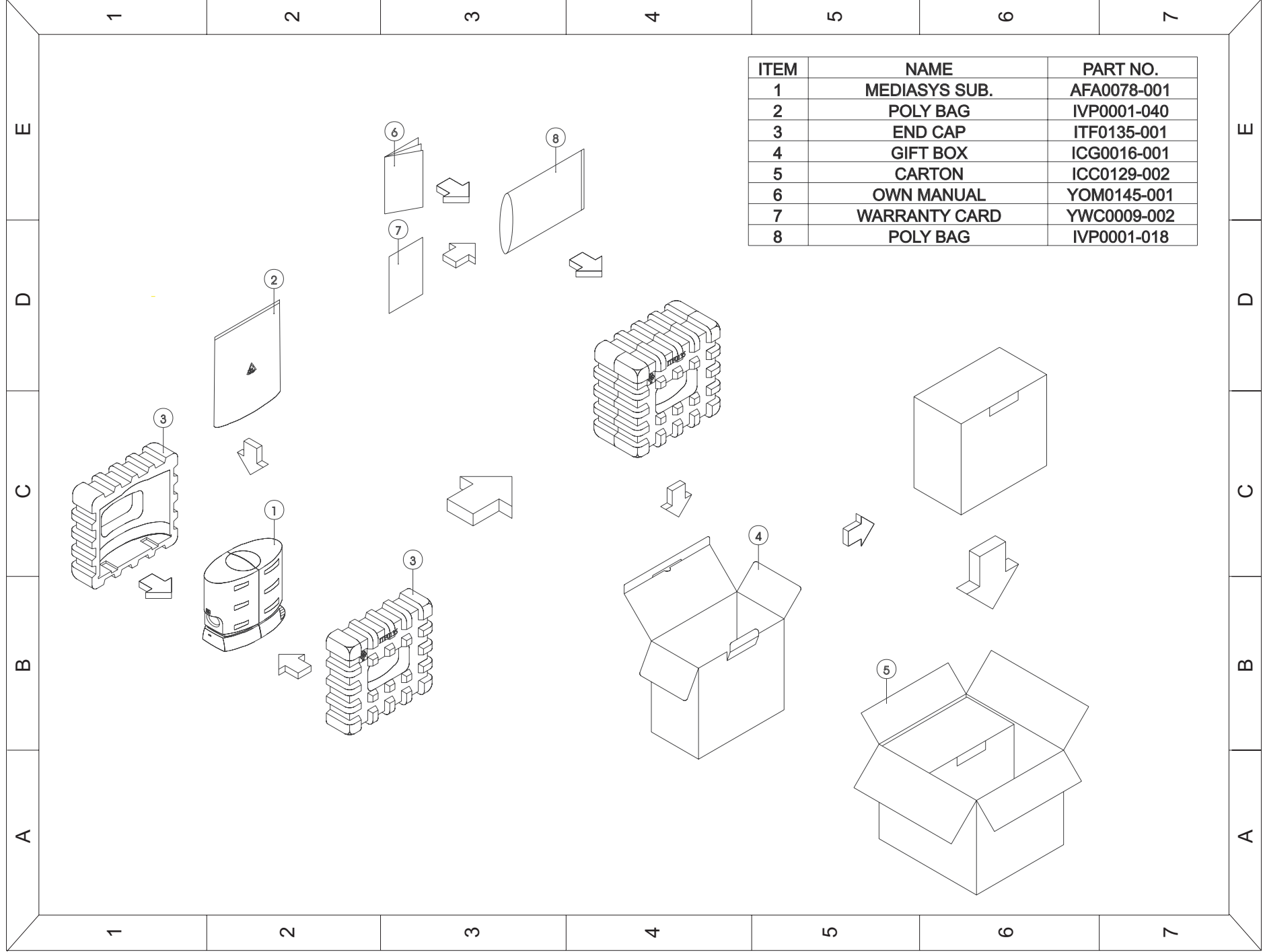
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Media Sub2000

PACKING EXPLODED VIEW



ITEM	NAME	PART NO.
1	MEDIASYS SUB.	AFA0078-001
2	POLY BAG	IVP0001-040
3	END CAP	ITF0135-001
4	GIFT BOX	ICG0016-001
5	CARTON	ICC0129-002
6	OWN MANUAL	YOM0145-001
7	WARRANTY CARD	YWC0009-002
8	POLY BAG	IVP0001-018