



# ***CHAOS*** AMPLIFIERS **Service Manual**

**MODEL: CH1500D**

## **SPECIFICATIONS**

Maximum power output (2 Ohms): 800W x 1ch

RMS power Output: 540W x 1ch

Bridged Power Output: 1500W x 1ch

Frequency response: 20 - 300Hz

S/N Ratio: 103dB

Low Pass Crossover (Variable) 20Hz-250Hz

Power Source Voltage: 14.4V

Ground: Negative

Power consumption: 25A(with 125Wx2 rated output)

External dimensions: 300(W)x65(H)x292(D)mm

# To engineers in charge of repair or inspection of our products.

Before repair or inspection, make sure to follow the instructions so that customers and Engineers in charge of repair or inspection can avoid suffering any risk or injury.

## 1. Use specified parts.

The system uses parts with special safety features against fire and voltage. Use only parts with equivalent characteristics when replacing them. The use of unspecified parts shall be regarded as remodeling for which we shall not be liable. The onus of product liability (PL) shall not be our responsibility in cases where an accident or failure is as a result of unspecified parts being used.

2. Place the parts and wiring back in their original positions after replacement or re-wiring. For proper circuit construction, use of insulation tubes, bonding, gaps to PCB, etc, is involved. The wiring connection and routing to the PWB are specially planned using clamps to keep away from heated and high voltage parts. Ensure that they are placed back in their original positions after repair or inspection. If extended damage is caused due to negligence during repair, the legal responsibility shall be with the repairing company.

3. Check for safety after repair. Check that the screws, parts and wires are put back securely in their original position after repair. Ensure for safety reasons there is no possibility of secondary problems around the repaired spots. If extended damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.

4. Caution in removal and making wiring connection to the parts for the automobile. Disconnect the battery terminal after turning the ignition key off. If wrong wiring connections are made with the battery connected, a short circuit and/or fire may occur. If extensive damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.

## 5. Cautions regarding chips.

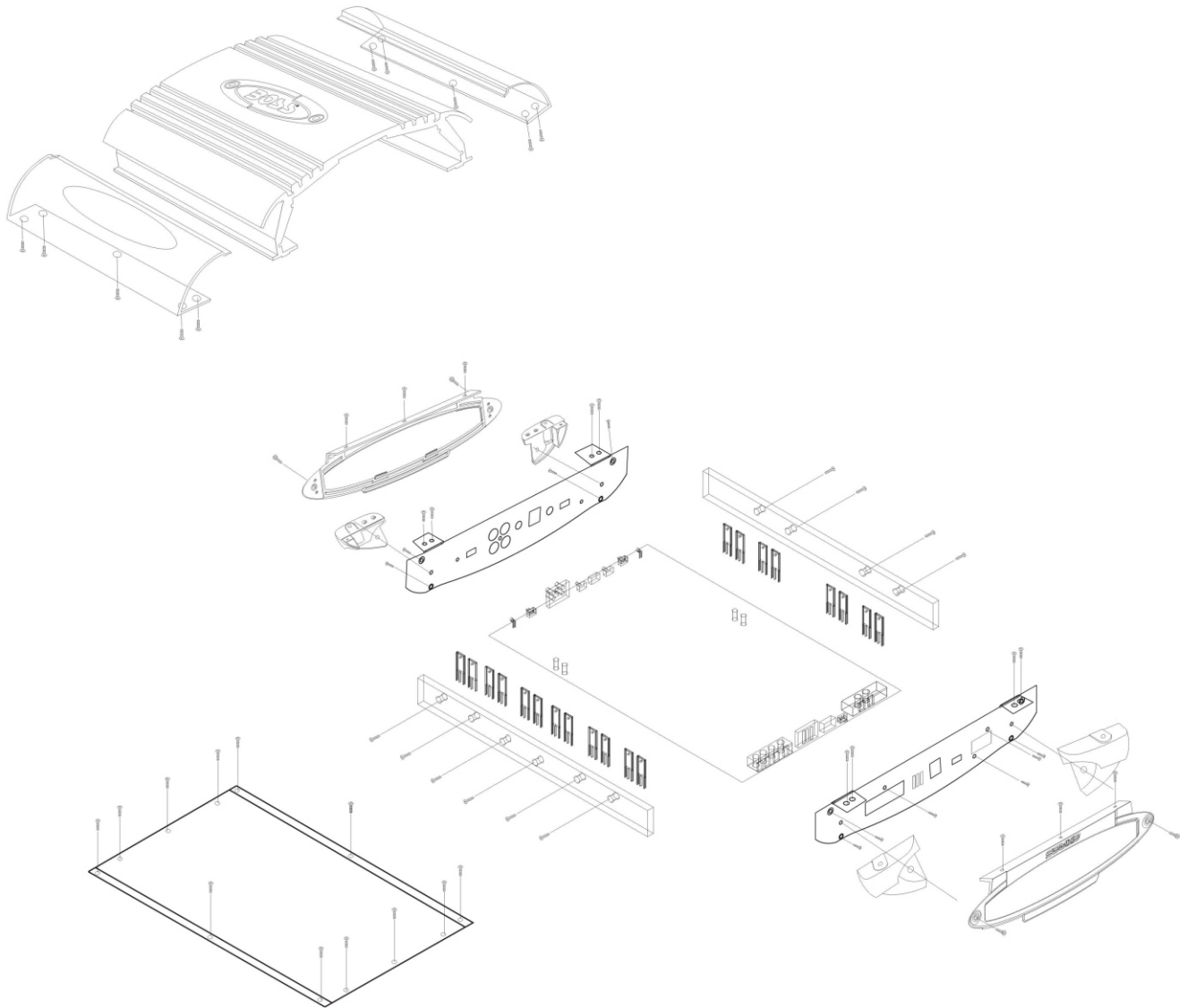
Do not reuse removed chips even when no abnormality is observed in their appearance. Always replace them with new ones. (The chip parts include resistors, capacitors, diodes, transistors, etc). The negative pole of tantalum capacitors is highly susceptible to heat, so use special care when replacing them and check the operation afterwards.

## 6. Cautions in handling flexible PCB

Before working with a soldering iron, make sure that the iron tip temperature is around 270... Take care not to apply the iron tip repeatedly (more than three times) to the same patterns. Also take care not to apply the tip with force.

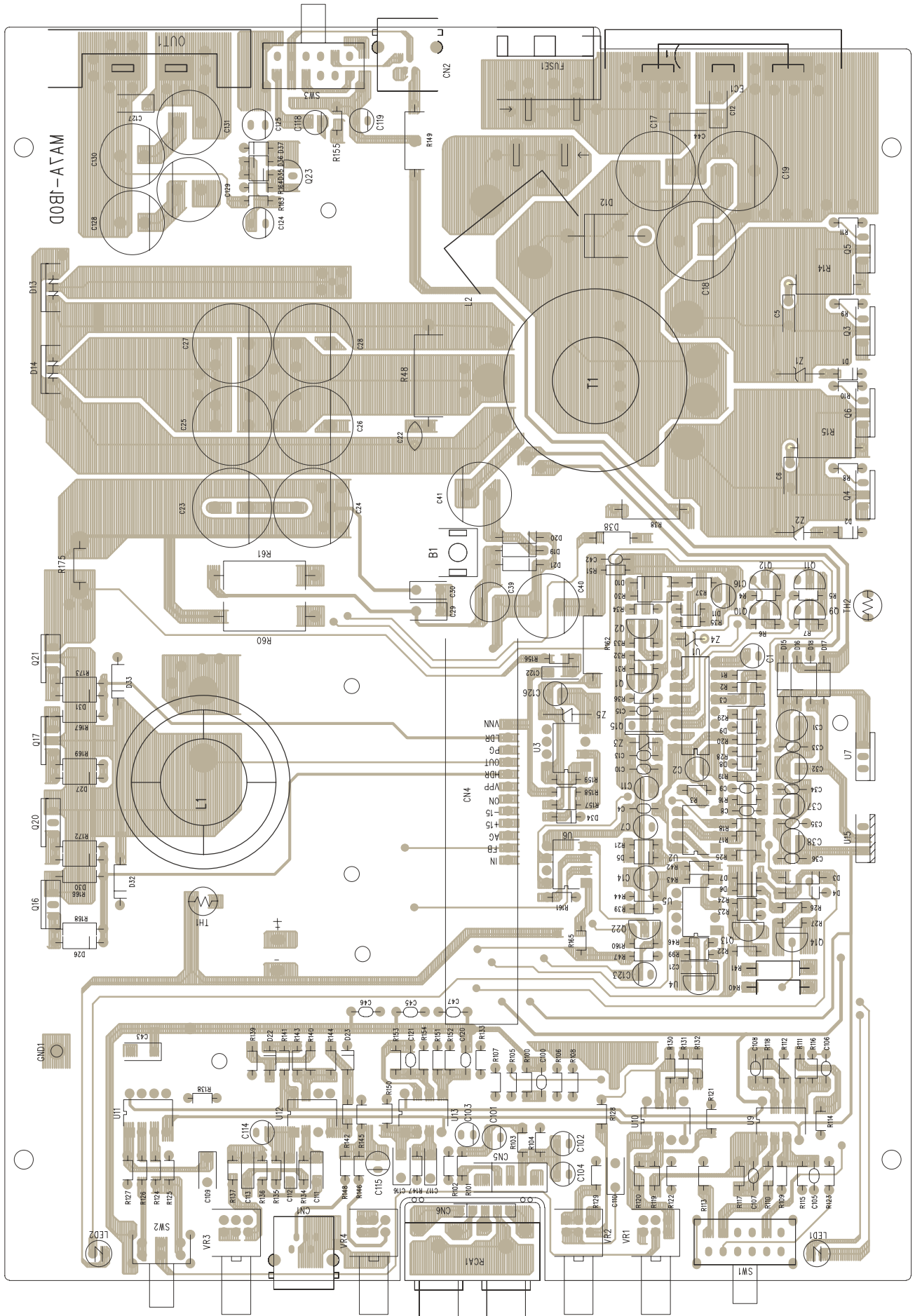
7. Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

# EXPLODED VEIW

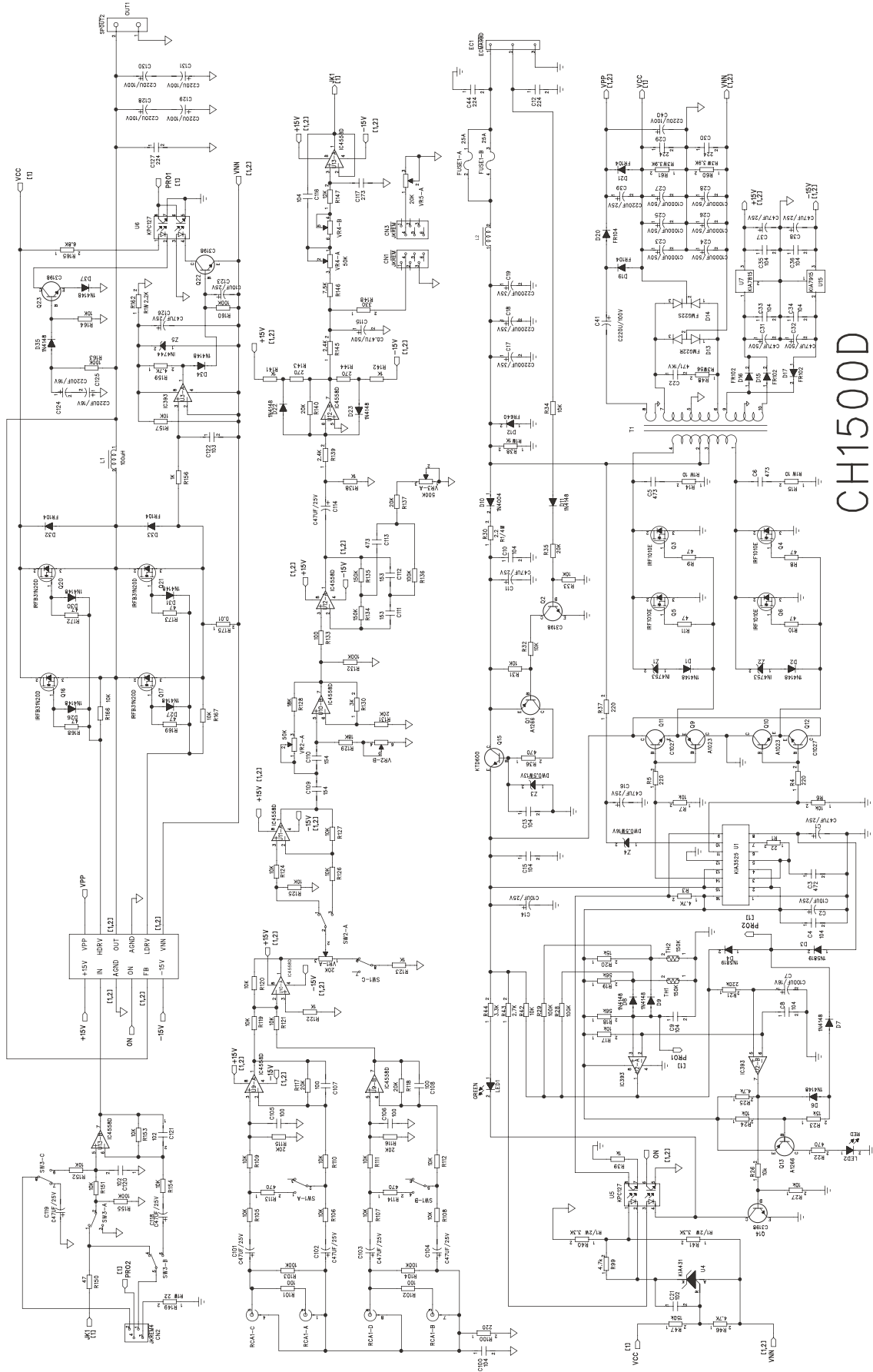


EXPLODED VIEW PART LIST		
ITEM	Description	Mfr's Part No.
1	Heat sink	MH-MA7A235-6SXXX
2	Left Chrome Cover	MC-M7A235L-2CXXX
3	Right Chrome Cover	MC-M7A235R-2CXXX
4	Front Panel	MC-M7A2CHF-20XXX
5	Rear Panel	MC-M7A2CHR-20XXX
6	Left Mounting foot	PB-MA7AXXL-C0LEG
7	Right Mounting foot	PB-MA7AXXR-C0LEG
8	Front End Cap	PB-MA7AXX0-CCBRK
9	Rear End Cap	PB-MA7AXX0-CCBRK
10	Bottom Chassis	MB-MA7A235-2SXXX

# PRINTED CIRCUIT BOARD - 1

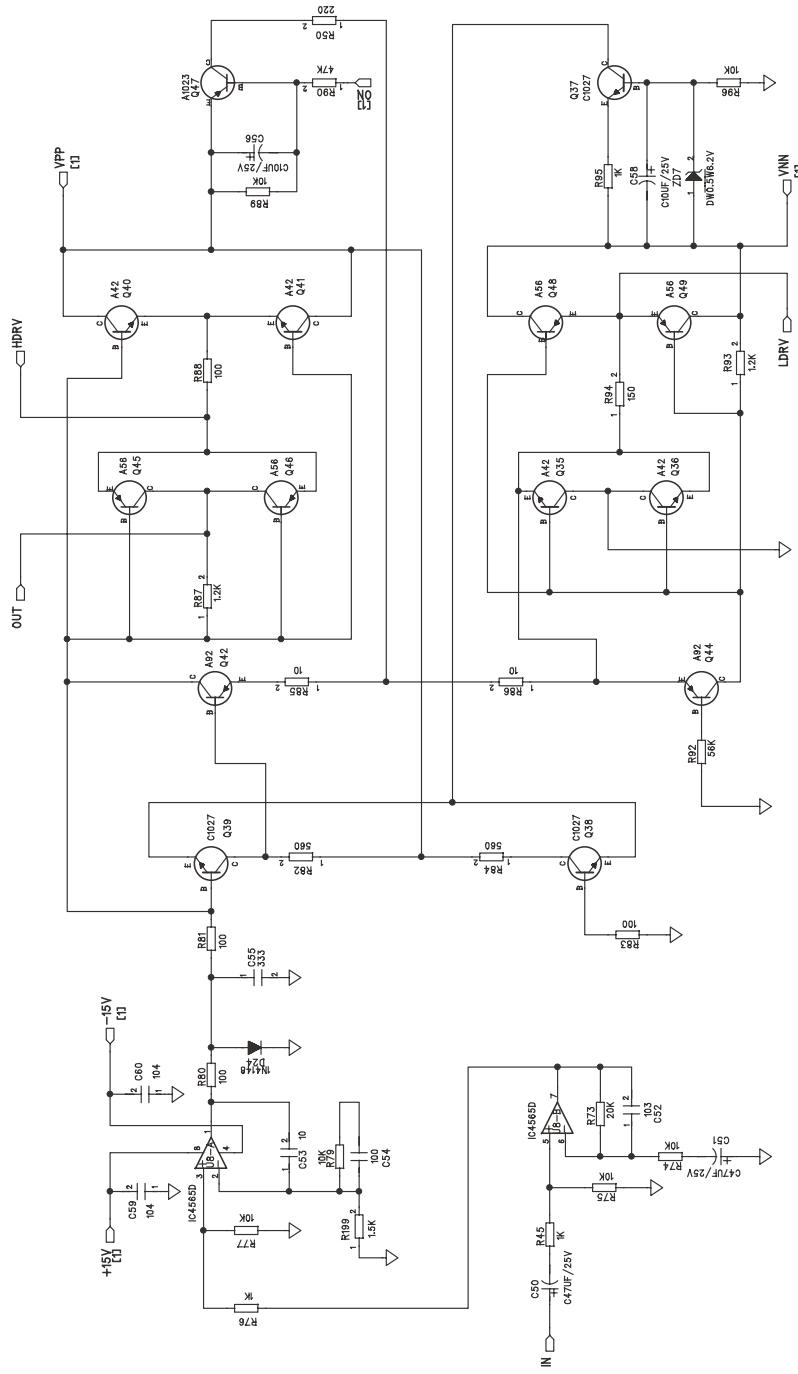


# CIRCUIT DIAGRAM 1



CH1500D

# CIRCUIT DIAGRAM 2



CH1500D

# PARTS LIST - 1

Part number	desc	Location	qty
CR-40091X0-VOS00	RCA Jack	RCA1	1
CW-50000X0-V0025	High Input wafer		1
EC-B4102X0-Z2675	Tubular Cap 102J	C21	1
EC-B4103X0-Z2675	Tubular Cap 103J	C52,122	2
EC-B4104X0-Z2675	Tubular Cap 104J	C116	1
EC-B4153X0-Z2675	Tubular Cap 153J	C111,112	2
EC-B4154X0-Z2675	Tubular Cap 154J	C109,110	2
EC-B4224X0-Z2675	Tubular Cap 224J	C12,29,30,43,44,127	6
EC-B4273X0-Z2675	Tubular Cap 273J	C117	1
EC-B4333X0-Z2675	Tubular Cap 333J	C55	1
EC-B4472X0-Z2675	Tubular Cap 472J	C3	1
EC-B4473X0-Z2675	Tubular Cap 473	C5,6,113	3
EC-CX471X0-J60B6	C Cap 470PF/1KV	C22	1
EC-E2107X0-M50A1	E Cap 100UF/16	C7	1
EC-E2227X0-M63A1	E Cap 220UF/16	C124,125	2
EC-E3106X0-M50A1	E Cap 10UF/25V	C2,14,56,58,123	5
EC-E3227X0-M80A3	E Cap 220UF/25	C39	1
EC-E3476X0-M50A1	E Cap 47UF/25	C1,11,16,37,38,50,51,101~104,114,118,119,126	15
EC-E4108X0-MA3B5	E Cap 1000/50V	C23~28	6
EC-E4474X0-M50A1	E Cap 0.47/50V	C115	1
EC-E4476X0-M50A1	E Cap 47UF/50V	C31,32	2
EC-E6228X0-MA3B5	E Cap 2200/35V	C17~19	3
EC-EA227X0-MA3B5	E Cap 220UF/100V	C40,41,128~131	6
EC-R4102T0-K1435	BOX Type CAP 102K	C120,121,45,46	4
EC-R4104T0-Z1435	BOX Type CAP 104K	C4,8~10,13,15,33~36,42,59,60,100	14
EC-R5100X0-J1435	BOX Type CAP10P	C53	1
EC-R5101X0-Z1435	BOX Type CAP 100P	C54,105~108	5
ED-R4004X0-H0000	Diode IN-4004	D10,38	2
ED-R5819X0-H0000	Diode 1N5819	D3,4	2
ED-RFMG22R-H0000	Diode FMG22R	D13	1
ED-RFMG22S-H0000	Diode FMG22S	D14	1
ED-RFR1020-H0000	Diode FR102	D15~18	4
ED-RFR1040-H0000	Diode FR104	D19~21,32,33	5
ED-RFR6040-H0000	Diode FR604	D12	1
ED-S4148X0-H0000	Diode IN-4148	D1,2,5~9,11,22~27,30,31,34~37	20
ED-Z06V2X0-H0500	Diode 6.2V 0.5W	ZD6	1

## PARTS LIST - 2

ED-Z13V0X0-H0500	Diode 13V 0.5W	Z3	1
ED-Z15VXX0-H4744	ZENER IN4744	Z5	1
ED-Z16V0X0-H0500	Diode 16V 0.5W	Z4	1
ED-Z4753X0-H1000	Diode1N4753-36V	Z1,2	2
EE-C23X5X0-10302	LED Red 3MM	LED2	1
EE-C53X5X0-10302	LED Green 3MM	LED1	1
EF-COCOAX0-XXXXX	Fan 30X30X10		1
EO-C9B1B0D-V00C3	Coil	L1	1
EO-CMA5280-H0023	choke coil	L2	1
EO-I9B1B0D-VXXXXA	Transformer	T1	1
ER-HG153X0-HXXXX	THERMISTOR 150K	TH1,2	2
ER-MG123X0-H1214	Resistor 12K 1/8W	R157	1
ER-MG300X0-H1214	Resistor 300 OHM 1/8W	R158	1
ER-MG392X0-HC0XX	Resistor 3.9K 3W	R60,61	2
ER-MG560X0-HC0XX	Resistor 56Ω 3W	R48	1
ER-OG022X0-H2526	Resistor 2.2Ω 1/4W	R30	1
ER-OG100X0-H1214	Resistor 10Ω 1/8W	R85,86,91	3
ER-OG100X0-HA04C	Resistor 10Ω 1W	R14,15	2
ER-OG101X0-H1214	Resistor100Ω 1/8W	R80,81,83,88,101,102,133	7
ER-OG102X0-H1214	Resistor 1K 1/8W	R45,76,92,122,123,138,141,142,156,39	10
ER-OG102X0-HA04C	Resistor 1KΩ 1W	R38	1
ER-OG103X0-H1214	Resistor 10K 1/8W	R31~34,42,74,75,77,79,89,96,105~112,119~121,	40
		124~127,151~154,164,166,167,6,7,16~17,24,26,27	
ER-OG104X0-H1214	Resistor 100K 1/8W	R28,29,78,103,104,132,136,155,160,163	10
ER-OG105X0-H1214	Resistor 1M 1/8W	R51	1
ER-OG122X0-H1214	Resistor 1.2K 1/8W	R87,93,95	3
ER-OG123X0-H1214	Resistor 12K 1/8W	R147	1
ER-OG151X0-H1214	Resistor 150Ω 1/8W	R94	1
ER-OG152X0-H1214	Resistor 1.5K 1/8W	R199	1
ER-OG153X0-H1214	Resistor 15K 1/8W	R23,19	2
ER-OG154X0-H1214	Resistor 150K 1/8W	R47,134,135	3
ER-OG183X0-H1214	Resistor18K 1/8W	R128,129	2
ER-OG203X0-H1214	Resistor 20K 1/8W	R35,73,115~118,131,137,140	9
ER-OG220X0-H1214	Resistor 22Ω 1/8W	R1	1
ER-OG220X0-HA04C	Resistor 22Ω 1W	R149	1
ER-OG221X0-H1214	Resistor 220Ω 1/8W	R4,5,37,50,100	5



## PARTS LIST - 3

ER-OG222X0-H1214	Resistor 2.2K 1/8W	R44	1
ER-OG222X0-HA04C	Resistor 2.2K $\Omega$ 1W	R162	1
ER-OG224X0-H1214	Resistor 220K 1/8W	R21	1
ER-OG242X0-H1214	Resistor 2.4K 1/8W	R139,145	2
ER-OG271X0-H1214	Resistor 270 $\Omega$ 1/8W	R143,144	2
ER-OG272X0-H1214	Resistor 2.7K 1/8W	R43	1
ER-OG302X0-H1214	Resistor 3K 1/8W	R130	1
ER-OG331X0-H1214	Resistor 330 $\Omega$ 1/8W	R148	1
ER-OG332X0-H5039	Resistor 3.3K 1/2W	R40,41	2
ER-OG470X0-H1214	Resistor 47 $\Omega$ 1/8W	R8-11,150,168,169,172,173	9
ER-OG471X0-H1214	Resistor 470 $\Omega$ 1/8W	R22,36,113,114	4
ER-OG472X0-H1214	Resistor 4.7K 1/8W	R3,46,159,2,99,25	6
ER-OG473X0-H1214	Resistor 47K 1/8W	R90	1
ER-OG561X0-H1214	Resistor 560 $\Omega$ 1/8W	R82,84	2
ER-OG563X0-H1214	Resistor 56K 1/8W	R18,20	2
ER-OG682X0-H1214	Resistor 6.8K 1/8W	R161,165	2
ER-OG752X0-H1214	Resistor 7.5K 1/8W	R146	1
ER-R0000X0-15XXX	Resistor (10MK)	R175	1
		SW2	
ES-S2219X0-H0006	Switch SwS2219		1
ES-S42F010-H0016	Switch SK42F01	SW1,SW3	2
ET-B31N20D-X0000	Mosfet IRFB31N20D	Q16,17,20,21	4
ET-C1023X0-PY000	Transistor KTA1023-Y	Q9,10,47	3
ET-C1027X0-NY000	Transistor KTC1027-Y	Q11,12,37~39	5
ET-C1266X0-PY000	Transistor A1266Y	Q1,13	2
ET-C3198K0-NY000	Transistor KTC3198-Y	Q2,14,22,23	4
ET-CA42XX0-N0000	Transistor MPSA42	Q35,36,40,41	4
ET-CA56XX0-P0000	Transistor MPSA56-AT	Q45,46,48,49	4
ET-CA92XX0-P0000	Transistor MPSA92	Q42~44	3
ET-CD600X0-N0000	Transistor KTD600-KY	Q15	1
ET-FF1010E-N0000	Transistor IRF1010E	Q3~6	4
ET-KIA431A-X0000	Transistor KIA431A-AT	U4	1
II-3525AX0-V0016	IC SG3525AN	U1	1
II-393XXX0-H0008	IC KIA-393P	U2,3	2
II-45580B0-V0008	IC JRC-4558D	U9~13	5
II-4565DX0-H0008	IC JRC-4565D	U8	1
II-521-2X0-H0008	IC TLP521-2	U5,6	2

## PARTS LIST - 4

II-78150X0-V0003	IC KA7815TU	U7	1
II-79150X0-V0003	IC KA7915-TU	U15	1
VR-BN203X1-H0A26	VR 20KBX2	VR1	1
VR-BN503X0-V0A26	VR 50KB T12	VR2,4	2
VR-BN504X0-V0A26	VR 500KB T12	VR3	1