



# SERVICE MANUAL

12INCH DISPLAY

## **MXD-5000**

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S-14819XZ-C1  
Apr. 2012

Icom Inc.

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## INTRODUCTION

This service manual describes the latest technical information for the **MXD-5000 12INCH DISPLAY**, at the time of publication.

MODEL	VERSION
MXD-5000	[USA]
	[EUR]
	[EXP]

## CAUTION

**NEVER** connect the display to an AC outlet or to a DC power supply that uses more than the specified voltage. This will ruin the display.

**DO NOT** reverse the polarities of the power supply when connecting the display.

To upgrade quality, any electrical or mechanical parts and internal circuits are subject to change without notice or obligation.



## ORDERING PARTS

Be sure to include the following four points when ordering replacement parts:

1. 10-digit Icom part number
2. Component name
3. Equipment model name and unit name
4. Quantity required

### <ORDER EXAMPLE>

5030003230 LTD121C35S MXD-5000 MAIN UNIT 5 pieces  
8210025570 REAR PANEL ASSEMBLY MXD-5000 Top cover 10 pieces

Addresses are provided on the inside back cover for your convenience.

## REPAIR NOTES

1. Make sure that the problem is internal before disassembling the display.
2. **DO NOT** open the display until the it is disconnected from its power source.
3. **DO NOT** force any of the variable components. Turn them slowly and smoothly.
4. **DO NOT** short any circuits or electronic parts. An insulated tuning tool **MUST** be used for all adjustments.
5. **DO NOT** keep power ON for a long time when the display is defective.
6. **READ** the instructions of the test equipment thoroughly before connecting it to the display.

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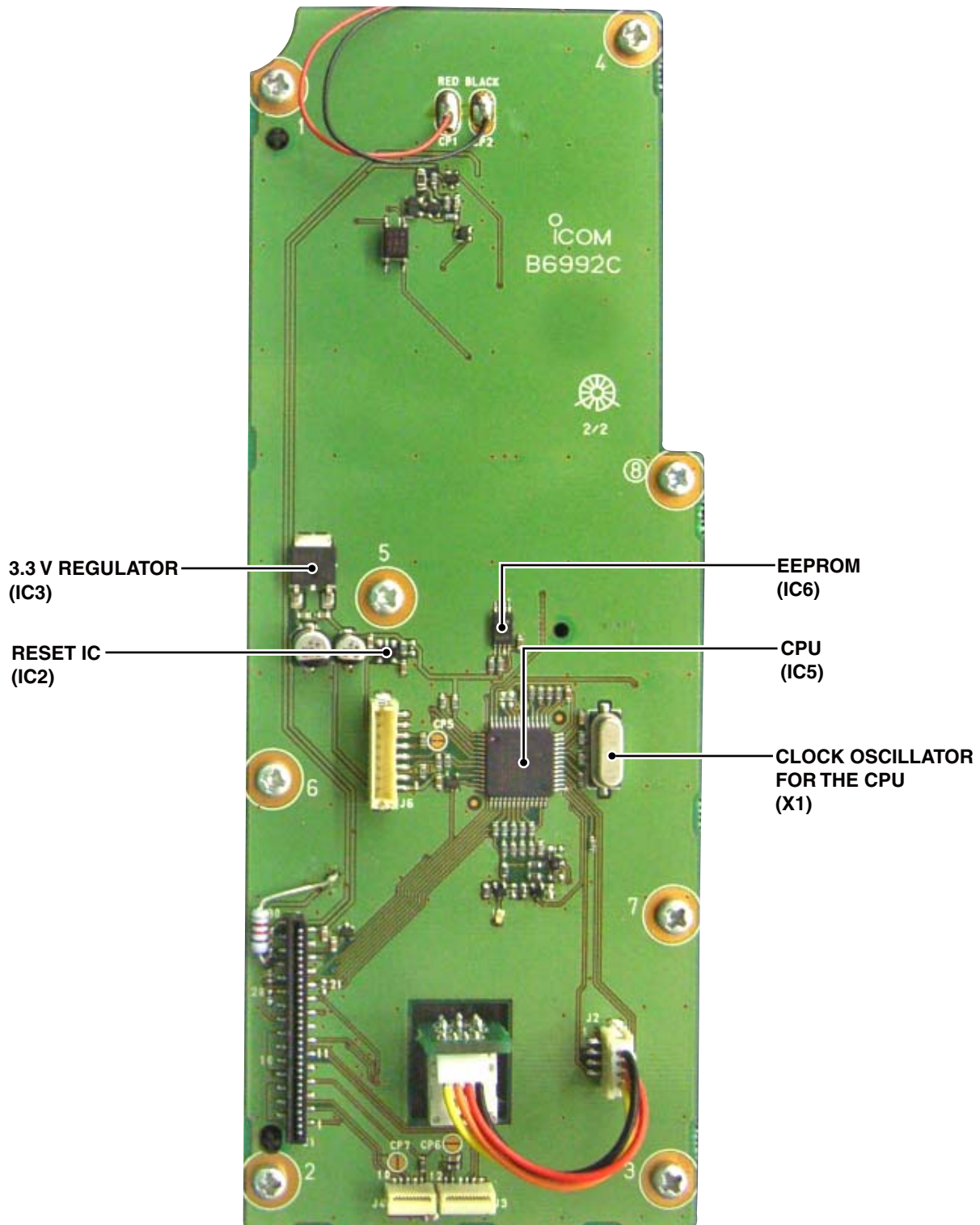
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**■ GENERAL**

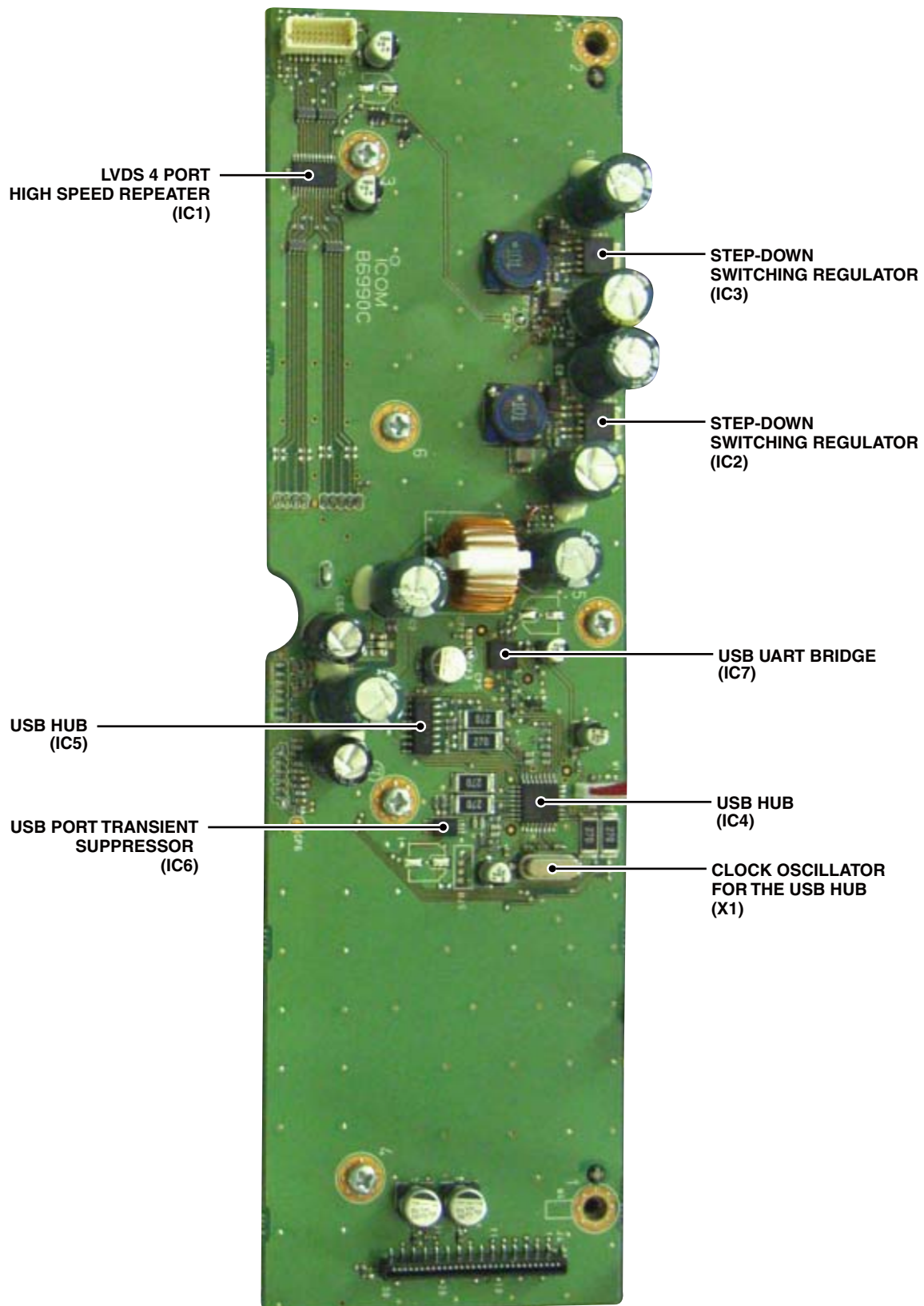
- LCD display : 12.1-inch SVGA Color display
- DC input voltage : 30 V DC supplied from MXP-5000 (Main UNIT)
- Power consumption : Less than 1.0 A (at maximum brightness)
- Usable temperature range : -20°C to +60°C; -4°F to 140°F
- Dimensions (without Bracket) : 386(W) × 274(H) × 69.2 (D) mm; 15.2(W) × 10.8(H) × 2.7(D) in  
(with Bracket) : 404(W) × 299(H) × 102 (D) mm; 15.9(W) × 11.8(H) × 4.0(D) in
- Cable length : Approximately 5 m; 16.4 ft
- Weight (without Bracket) : Approximately 3.6 kg; 7.9 lb  
(with Bracket) : Approximately 4.1 kg; 9.0 lb

**All stated specifications are subject to change without notice or obligation.**

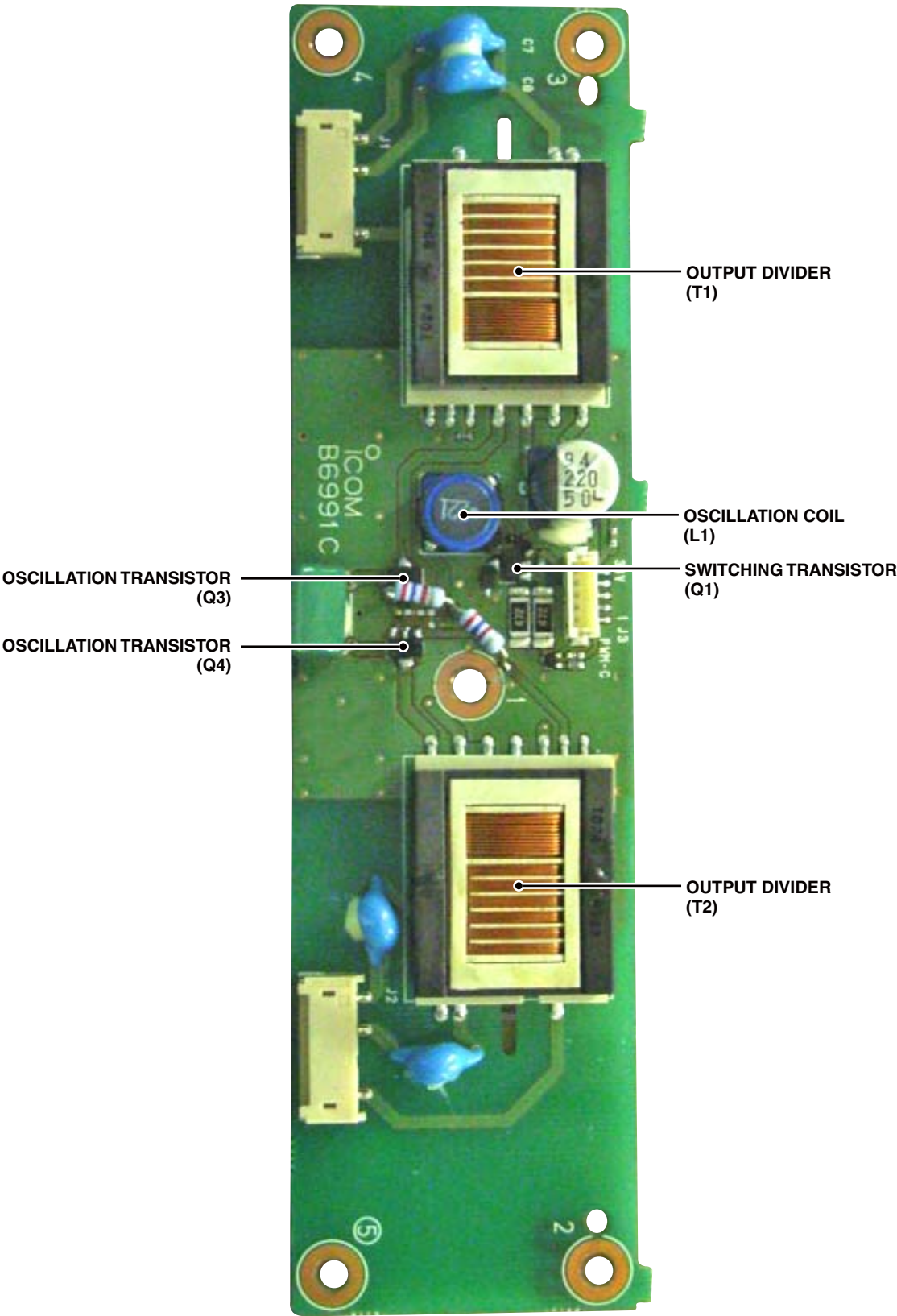
### • LOGIC UNIT



• MAIN UNIT



• INVERTER UNIT





## SECTION 3

## PARTS LIST

## [MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
IC1	11300014620	S.IC FIN1104MTC	T	30.6/8.2
IC2	1180003400	S.REG BD9703FP-E2	T	72.0/58.0
IC3	1180003400	S.REG BD9703FP-E2	T	43.1/58.0
IC4	1190002911	S.IC TUSB2046BIVFRG4	T	138.0/48.0
IC5	11300014600	S.IC TPS2044BD	T	124.6/27.0
IC6	11300014610	S.IC SN65240PWR	T	142.0/31.2
IC7	1190002730	S.IC CP2102-GMR <MAC>	T	112.5/41.5
Q5	1510000510	S.TRA 2SA1576A T106R	T	120.9/46.8
Eqv.	1510000771	S.TRA 2SA1586-GR(Te85LF)		
Eqv.	1510001151	S.TRA L2SA1576AST1G <SLVJ>		
Eqv.	1510001200	S.TRA L2SA1576ART1G <SLVJ>		
Q7	1550000090	S.FET RSQ035P03TR	T	19.7/19.3
Eqv.	1550000290	S.FET UPA1914TE-T1-AT		
Eqv.	1550000330	S.FET FDC610PZ		
Q8	1590003680	S.TRA KRC402 RTK/P	T	22.8/24.2
D2	1750000560	S.DIO RB050L-40 TE-25	T	71.1/22.1
D3	1750002170	S.DIO DB2S31400L	T	122.1/43.4
FI1	2040001440	S.LC NFE31PT152Z1E9L (NFM60R20T152)	T	110.9/19.6
FI2	2040001440	S.LC NFE31PT152Z1E9L (NFM60R20T152)	T	110.9/16.1
X1	6050010940	S.XTA CR-672 SMD-49 6.000 MHz <KDS>	B	106.6/14.2
L1	5920000660	COI FK-060C-1020		
L3	6200011490	S.COI SLF10145T-101M1R0-PF	T	44.5/43.3
L4	6180003780	S.COI DLP31DN131ML4L	T	20.0/10.3
L5	6180003780	S.COI DLP31DN131ML4L	T	20.0/6.6
L6	6180003780	S.COI DLP31DN131ML4L	T	43.0/11.5
L7	6180003780	S.COI DLP31DN131ML4L	T	43.0/5.1
R1	7030003860	S.RES ERJ3GE JPW V	T	83.4/16.8
R3	7410000760	S.RES EXB-V4V JPWV	T	139.0/5.5
R13	7030003320	S.RES ERJ3GEYJ 101 V (100)	T	39.6/5.3
R14	7030003320	S.RES ERJ3GEYJ 101 V (100)	T	38.0/7.0
R15	7030003320	S.RES ERJ3GEYJ 101 V (100)	T	39.6/9.3
R16	7030003320	S.RES ERJ3GEYJ 101 V (100)	T	38.0/11.2
R22	7030003510	S.RES ERJ3GEYJ 392 V (3.9K)	T	75.6/49.7
R23	7030003350	S.RES ERJ3GEYJ 181 V (180)	T	72.8/49.7
R24	7030003440	S.RES ERJ3GEYJ 102 V (1K)	T	72.8/51.1
R25	7030003480	S.RES ERJ3GEYJ 222 V (2.2K)	T	46.9/49.7
R26	7030003340	S.RES ERJ3GEYJ 151 V (150)	T	44.0/49.7
R27	7030003440	S.RES ERJ3GEYJ 102 V (1K)	T	40.0/51.1
R28	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	120.6/33.1
R29	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	123.9/32.2
R30	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	125.1/32.2
R31	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	128.3/31.5
R32	7030011030	S.RES ERJ1TYJ 270U (27)	T	143.6/57.2
R33	7030006461	S.RES ERA3YED 152V (1.5K)	T	149.1/58.4
R34	7030011030	S.RES ERJ1TYJ 270U (27)	T	143.6/60.9
R36	7030003250	S.RES ERJ3GEYJ 270 V (27)	T	144.6/40.1
R37	7030003580	S.RES ERJ3GEYJ 153 V (15K)	T	145.9/40.1
R38	7030003250	S.RES ERJ3GEYJ 270 V (27)	T	140.7/40.1
R39	7030003580	S.RES ERJ3GEYJ 153 V (15K)	T	144.2/37.8
R40	7030011030	S.RES ERJ1TYJ 270U (27)	T	138.2/36.3
R41	7030003580	S.RES ERJ3GEYJ 153 V (15K)	T	137.8/31.0
R42	7030011030	S.RES ERJ1TYJ 270U (27)	T	134.5/36.3
R43	7030003580	S.RES ERJ3GEYJ 153 V (15K)	T	137.8/29.7
R44	7030011030	S.RES ERJ1TYJ 270U (27)	T	123.6/37.7
R45	7030003580	S.RES ERJ3GEYJ 153 V (15K)	T	125.9/43.3
R46	7030011030	S.RES ERJ1TYJ 270U (27)	T	127.3/37.7
R47	7030003580	S.RES ERJ3GEYJ 153 V (15K)	T	128.0/43.6
R48	7030003250	S.RES ERJ3GEYJ 270 V (27)	T	124.4/49.2
R49	7030003580	S.RES ERJ3GEYJ 153 V (15K)	T	125.7/49.2
R50	7030003250	S.RES ERJ3GEYJ 270 V (27)	T	128.3/49.2
R51	7030003580	S.RES ERJ3GEYJ 153 V (15K)	T	127.0/47.7
R54	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	107.8/41.2
R55	7030003600	S.RES ERJ3GEYJ 223 V (22K)	T	119.3/43.4
R56	7030003600	S.RES ERJ3GEYJ 223 V (22K)	T	117.2/43.0
R57	7030003640	S.RES ERJ3GEYJ 473 V (47K)	T	120.8/48.8
R68	7030003460	S.RES ERJ3GEYJ 152 V (1.5K)	T	145.5/48.8
R69	7030003730	S.RES ERJ3GEYJ 274 V (270K)	T	19.7/21.7
R70	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	20.5/23.7
R71	7030003860	S.RES ERJ3GE JPW V	T	218.1/17.6
R72	7030003660	S.RES ERJ3GEYJ 683 V (68K)	T	89.9/46.9
R73	7030003660	S.RES ERJ3GEYJ 683 V (68K)	T	57.0/49.1
C1	4030018980	S.CER C1608 JB 1H 104K-T	T	114.5/14.5
C2	4030018980	S.CER C1608 JB 1H 104K-T	T	108.0/21.7
C3	4510007930	ELE 35 ME 470CA		
C4	4030018980	S.CER C1608 JB 1H 104K-T	T	94.2/42.7
C5	4510007930	ELE 35 ME 470CA		
C6	4510008580	S.ELE EEE0JA470SR	T	34.0/16.5
C7	4030011600	S.CER C1608 JB 1E 104K-T	T	23.0/12.3
C8	4030006860	S.CER C1608 JB 1H 102K-T	T	67.9/53.5
C9	4510007930	ELE 35 ME 470CA		
C10	4510007340	ELE 16 ME 470 AX		

## [MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C11	4030006860	S.CER C1608 JB 1H 102K-T	T	80.6/45.5
C12	4030018970	S.CER C3225 JB 1C 226MT-N	T	78.2/44.8
C13	4030011340	S.CER C1608 CH 1H 471J-T	T	75.6/51.1
C14	4030006900	S.CER C1608 JB 1H 103K-T	T	109.3/33.3
C15	4510008580	S.ELE EEE0JA470SR	T	8.9/19.4
C16	4030011600	S.CER C1608 JB 1E 104K-T	T	4.4/15.6
C17	4030006860	S.CER C1608 JB 1H 102K-T	T	38.8/53.9
C18	4510007930	ELE 35 ME 470CA		
C19	4510007340	ELE 16 ME 470 AX		
C20	4030006860	S.CER C1608 JB 1H 102K-T	T	50.0/52.4
C21	4030018970	S.CER C3225 JB 1C 226MT-N	T	50.8/50.2
C22	4030011340	S.CER C1608 CH 1H 471J-T	T	46.9/51.1
C23	4030006900	S.CER C1608 JB 1H 103K-T	T	55.1/47.1
C24	4030008560	S.CER C1608 CH 1H 300J-T	T	145.5/46.0
C25	4030008560	S.CER C1608 CH 1H 300J-T	T	145.5/51.7
C26	4030011600	S.CER C1608 JB 1E 104K-T	T	118.7/26.8
C27	4030011600	S.CER C1608 JB 1E 104K-T	T	146.3/42.2
C28	4510008660	S.ELE EEE0JA220SR	T	149.8/39.2
C29	4030011600	S.CER C1608 JB 1E 104K-T	T	129.5/54.1
C30	4510008660	S.ELE EEE0JA220SR	T	126.0/56.5
C31	4030011600	S.CER C1608 JB 1E 104K-T	T	111.1/45.8
C32	4510008660	S.ELE EEE0JA220SR	T	111.9/49.6
C34	4510009530	S.ELE 10 CE 150 BSS	T	114.4/30.2
C35	4510009530	S.ELE 10 CE 150 BSS	T	206.4/34.5
C36	4510009530	S.ELE 10 CE 150 BSS	T	206.4/26.5
C37	4030007050	S.CER C1608 CH 1H 220J-T	T	138.5/57.5
C38	4030007050	S.CER C1608 CH 1H 220J-T	T	138.8/60.5
C39	4030007050	S.CER C1608 CH 1H 220J-T	T	141.4/37.8
C40	4030007050	S.CER C1608 CH 1H 220J-T	T	141.4/36.5
C41	4030007050	S.CER C1608 CH 1H 220J-T	T	143.3/40.1
C42	4030007050	S.CER C1608 CH 1H 220J-T	T	142.0/40.1
C43	4030007050	S.CER C1608 CH 1H 220J-T	T	130.9/46.1
C44	4030007050	S.CER C1608 CH 1H 220J-T	T	129.6/46.1
C45	4030007050	S.CER C1608 CH 1H 220J-T	T	130.9/49.2
C46	4030007050	S.CER C1608 CH 1H 220J-T	T	129.6/49.2
C47	4030018980	S.CER C1608 JB 1H 104K-T	T	133.6/58.3
C49	4030011600	S.CER C1608 JB 1E 104K-T	T	215.9/53.0
C53	4510009800	ELE 50 ME 470 CA		
C54	4030017320	S.CER GRM21BB11H104KA01L (GRM40-034)	T	119.0/4.8
C55	4510007330	ELE 50 ME 33HWN		
C56	4030017320	S.CER GRM21BB11H104KA01L (GRM40-034)	T	114.7/4.8
C57	4510007330	ELE 50 ME 33HWN		
C58	4030017320	S.CER GRM21BB11H104KA01L (GRM40-034)	T	123.3/4.8
C60	4030011600	S.CER C1608 JB 1E 104K-T	T	30.5/3.4
C71	4030007090	S.CER C1608 CH 1H 470J-T	T	114.7/6.4
C72	4030006850	S.CER C1608 JB 1H 471K-T	T	114.7/7.6
C73	4030007090	S.CER C1608 CH 1H 470J-T	T	117.4/6.4
C74	4030006850	S.CER C1608 JB 1H 471K-T	T	117.4/7.6
C75	4030007090	S.CER C1608 CH 1H 470J-T	T	123.6/6.4
C76	4030006850	S.CER C1608 JB 1H 471K-T	T	124.2/7.6
C77	4030007090	S.CER C1608 CH 1H 470J-T	T	128.4/5.5
C78	4030006850	S.CER C1608 JB 1H 471K-T	T	127.2/5.5
C79	4030007090	S.CER C1608 CH 1H 470J-T	T	131.2/5.5
C80	4030006850	S.CER C1608 JB 1H 471K-T	T	132.4/5.5
C81	4030007090	S.CER C1608 CH 1H 470J-T	T	136.1/5.7
C82	4030006850	S.CER C1608 JB 1H 471K-T	T	137.3/5.7
J2	6510026960	S.CON DF20F-20DP-1V(56)	T	7.0/8.5
J4	6510022601	S.CON 30FMN-BMTTR-A-TBT(LF)(SN)	T	217.0/36.0
J6	6510009401	CON B7B-ZR(LF)(SN)		
J7	6510009391	CON B6B-ZR(LF)(SN)		
J8	6510009381	CON B5B-ZR(LF)(SN)		
J9	6510009371	CON B4B-ZR(LF)(SN)		
J10	6510003381	CON B02B-EH-S(LF)(SN)		
W1	8900018740	CAB OPC-1910		
EP2	6910018270	S.BEA MMZ1608Y301CT	T	133.6/5.5
EP3	6910014690	S.BEA MPZ1608S221A-T	T	212.6/26.5
EP4	6910014690	S.BEA MPZ1608S221A-T	T	212.6/34.5
EP6	6910018270	S.BEA MMZ1608Y301CT	T	129.6/5.5
EP7	6910018270	S.BEA MMZ1608Y301CT	T	134.9/5.5

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

M.=Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)  
S.=Surface mount



# [INVERTER UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
Q1	1520000910	S.TRA 2SB1132L-R-AB3-R <SLVJ>	T	71.5/27.6
Q2	15300003900	S.TRA KTC4075 BL-RTK/P	T	83.4/32.6
Q3	15300004150	S.TRA 2SC3649T-TD-E	T	68.8/11.5
Q4	15300004150	S.TRA 2SC3649T-TD-E	T	85.2/11.5
D1	17500001670	S.DIO RR264M-400TR	T	68.0/50.4
D2	17500001670	S.DIO RR264M-400TR	T	39.0/50.4
L1	6200011480	S.COI SLF10145T-221MR65-PF	T	64.7/21.4
R1	70300003560	S.RES ERJ3GEYJ 103 V (10K)	T	73.4/32.6
R2	70300001330	S.RES MCR50JZHJ 4.7K (472)	T	78.1/32.2
R3	70300001330	S.RES MCR50JZHJ 4.7K (472)	T	78.1/29.2
R4	70300003520	S.RES ERJ3GEYJ 472 V (4.7K)	T	84.1/35.6
R5	70300001300	S.RES MCR50JZHJ 2.7K (272)	T	73.5/13.5
R6	70300001300	S.RES MCR50JZHJ 2.7K (272)	T	80.0/13.5
R7	70300003680	S.RES ERJ3GEYJ 104 V (100K)	T	55.0/21.9
C1	4510010020	S.ELE 50 CE 220 LX	T	61.4/34.8
C2	40300006860	S.CER C1608 JB 1H 102K-T	T	67.6/40.5
C6	43100001280	MYL 250 MPS 473J		
C7	40100008670	CER DEC1X3J150JC4B		
C8	40100008670	CER DEC1X3J150JC4B		
C9	40100008670	CER DEC1X3J150JC4B		
C10	40100008670	CER DEC1X3J150JC4B		
J1	6510026760	S.CON SM03(7-D1)B-BHS-1-TB(LF)(SN)	T	23.5/5.5
J2	6510026760	S.CON SM03(7-D1)B-BHS-1-TB(LF)(SN)	T	130.5/5.6
J3	6510025760	S.CON B5B-ZR-SM4-TF(LF)(SN)	T	74.9/36.2
T1	59100001110	S.TRF 1348-T024(CEPH249)	T	36.0/27.2
T2	59100001110	S.TRF 1348-T024(CEPH249)	T	109.9/27.2

# [LOGIC UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
IC1	1170000352	S.IC PC357N6J000F	B	34.6/44.6
IC2	11100005731	S.IC S-80928CNMC-G8Y-G	B	92.7/45.5
IC3	11800002020	S.REG BA033FP-E2	B	82.1/56.1
IC4	11300008041	S.IC TC7SH04FU(TE85LJF)	B	111.3/36.0
IC5	1140014770	S.IC UPD78F0522AGB(R)-GAG-AX	B	108.4/26.5
IC6	1130016400	S.IC BR24T32FVT-WE2	B	89.3/29.0
Q1	15400000690	S.TRA 2SD2351 T106	B	122.9/21.0
Q2	15400000690	S.TRA 2SD2351 T106	B	127.0/23.7
Q3	15400000690	S.TRA 2SD2351 T106	B	126.9/29.1
Q4	15900003580	S.TRA KRC404 RTK/P	B	33.0/34.9
Q5	15300003900	S.TRA KTC4075 BL-RTK/P	B	29.3/39.1
Q6	15100000501	S.TRA 2SA1162-GR(TE85RF)	B	29.2/40.1
Q7	15900003580	S.TRA KRC404 RTK/P	B	25.2/36.5
Q8	15900004010	S.TRA KRA302-RTK/P	B	132.8/50.9
X1	6050012041	S.XTA CR-790A SX1302 9.8304 MHz	T	148.9/49.5
R3	70300003370	S.RES ERJ3GEYJ 271 V (270)	B	124.9/21.1
R6	70300003370	S.RES ERJ3GEYJ 271 V (270)	B	126.9/25.7
R9	70300003370	S.RES ERJ3GEYJ 271 V (270)	B	126.9/31.1
R10	70300001260	S.RES MCR50JZHJ 1.2K (122)	B	34.6/48.2
R11	70300000300	S.RES MCR10EZJH 220 (221)	B	25.2/40.9
R12	70300003650	S.RES ERJ3GEYJ 563 V (56K)	B	28.5/37.2
R13	70300003440	S.RES ERJ3GEYJ 102 V (1K)	B	30.6/36.6
R14	70300003750	S.RES ERJ3GEYJ 394 V (390K)	B	28.5/35.8
R15	70300003650	S.RES ERJ3GEYJ 563 V (56K)	B	25.2/39.1
R19	70300004120	S.RES ERJ3GEYJ 203 V (20K)	B	118.1/29.8
R20	70300004120	S.RES ERJ3GEYJ 203 V (20K)	B	118.1/28.5
R21	70300004120	S.RES ERJ3GEYJ 203 V (20K)	B	118.1/27.2
R22	70300004120	S.RES ERJ3GEYJ 203 V (20K)	B	118.1/25.9
R23	70300004120	S.RES ERJ3GEYJ 203 V (20K)	B	118.1/24.6
R24	70300004120	S.RES ERJ3GEYJ 203 V (20K)	B	120.9/23.3
R25	70300003560	S.RES ERJ3GEYJ 103 V (10K)	B	120.9/28.5
R26	70300003560	S.RES ERJ3GEYJ 103 V (10K)	B	120.9/27.2
R27	70300003560	S.RES ERJ3GEYJ 103 V (10K)	B	120.9/25.9
R28	70300003560	S.RES ERJ3GEYJ 103 V (10K)	B	120.9/24.6
R29	70300003560	S.RES ERJ3GEYJ 103 V (10K)	B	92.2/43.1
R30	70300003560	S.RES ERJ3GEYJ 103 V (10K)	B	105.4/40.2
R32	70300003640	S.RES ERJ3GEYJ 473 V (47K)	B	98.7/20.9
R33	70300003640	S.RES ERJ3GEYJ 473 V (47K)	B	98.7/22.2
R34	70300003640	S.RES ERJ3GEYJ 473 V (47K)	B	98.7/23.5
R35	70300003440	S.RES ERJ3GEYJ 102 V (1K)	B	110.8/17.6
R36	70300003560	S.RES ERJ3GEYJ 103 V (10K)	B	109.9/40.2
R37	70300003560	S.RES ERJ3GEYJ 103 V (10K)	B	108.4/38.0
R38	70300003560	S.RES ERJ3GEYJ 103 V (10K)	B	108.4/36.7
R39	70300003560	S.RES ERJ3GEYJ 103 V (10K)	B	100.0/35.7
R40	70300003560	S.RES ERJ3GEYJ 103 V (10K)	B	99.9/37.5
R41	70300003770	S.RES ERJ3GEYJ 564 V (560K)	B	98.7/24.8
R42	70300003560	S.RES ERJ3GEYJ 103 V (10K)	B	94.6/30.6
R43	70300003640	S.RES ERJ3GEYJ 473 V (47K)	B	94.6/29.3
R44	70300003640	S.RES ERJ3GEYJ 473 V (47K)	B	120.3/15.9
C1	4030011600	S.CER C1608 JB 1E 104K-T	B	91.4/47.9
C2	40300008890	S.CER C1608 JB 1H 273K-T	B	95.0/43.1
C3	4030011600	S.CER C1608 JB 1E 104K-T	B	98.7/19.6
C4	4030017490	S.CER C1608 JB 1A 105K-T	B	102.2/17.6
C5	4030007050	S.CER C1608 CH 1H 220J-T	B	105.1/17.6
C6	4030007050	S.CER C1608 CH 1H 220J-T	B	107.9/17.6
C7	4030011600	S.CER C1608 JB 1E 104K-T	B	98.7/26.1
C8	4030011600	S.CER C1608 JB 1E 104K-T	B	111.2/38.0
C9	4030018980	S.CER C1608 JB 1H 104K-T	B	87.6/57.5
C10	4030018980	S.CER C1608 JB 1H 104K-T	B	87.6/54.6
C11	4510009110	S.ELE EEE1VA220WR	B	92.1/56.5
C12	4510008660	S.ELE EEE0JA220SR	B	92.3/51.0
C14	4030018980	S.CER C1608 JB 1H 104K-T	B	133.2/54.1
C15	4030011600	S.CER C1608 JB 1E 104K-T	B	133.5/61.7
C19	4030011600	S.CER C1608 JB 1E 104K-T	B	165.6/35.4
C20	4030011600	S.CER C1608 JB 1E 104K-T	B	174.3/38.6
C21	4030011600	S.CER C1608 JB 1E 104K-T	B	134.7/52.8
C22	4030011600	S.CER C1608 JB 1E 104K-T	B	91.5/26.5
J1	6510022601	S.CON 30FMN-BMTTR-A-TBT(LF)(SN)	B	146.0/58.0
J2	6510015541	S.CON B4B-ZR-SM4-TF(LF)(SN)	B	151.1/12.2
J3	6510024522	S.CON 12FLT-SM2-TB(LF)(SN)(M)	B	170.6/33.6
J4	6510025142	S.CON 10FLT-SM2-TB(LF)(SN)(M)	B	170.6/41.6
J6	6510019421	S.CON B8B-ZR-SM4-TF(LF)(SN)	B	106.9/46.0
DS1	5040002310	S.LED SML-311YTT86	T	23.4/48.0
DS2	5040002310	S.LED SML-311YTT86	T	31.4/48.0
DS3	5040002310	S.LED SML-311YTT86	T	43.0/48.0
DS4	5040002310	S.LED SML-311YTT86	T	51.0/48.0
DS5	5040002310	S.LED SML-311YTT86	T	62.6/48.0
DS6	5040002310	S.LED SML-311YTT86	T	70.6/48.0
DS7	5040002310	S.LED SML-311YTT86	T	98.9/48.0
DS8	5040002310	S.LED SML-311YTT86	T	104.9/48.0
DS9	5040002310	S.LED SML-311YTT86	T	100.1/33.0
DS10	5040002310	S.LED SML-311YTT86	T	89.1/33.0
DS11	5040002310	S.LED SML-311YTT86	T	107.1/26.0
DS21	5040002310	S.LED SML-311YTT86	T	43.1/21.0
DS22	5040002310	S.LED SML-311YTT86	T	51.1/21.0
DS23	5040002310	S.LED SML-311YTT86	T	62.8/21.0
DS24	5040002310	S.LED SML-311YTT86	T	70.8/21.0
DS25	5040002310	S.LED SML-311YTT86	T	82.1/26.0
DS26	5040002310	S.LED SML-311YTT86	T	82.1/15.0
DS27	5040002310	S.LED SML-311YTT86	T	89.1/8.0
DS28	5040002310	S.LED SML-311YTT86	T	100.1/8.0
DS29	5040002310	S.LED SML-311YTT86	T	107.1/15.0
DS30	5040002310	S.LED SML-311YTT86	T	118.4/21.0

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

M.=Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side) S.=Surface mount

## [LOGIC UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
DS31	5040002310	S.LED SML-311YTT86	T	126.4/21.0
DS41	5040002310	S.LED SML-311YTT86	T	118.4/48.0
DS42	5040002310	S.LED SML-311YTT86	T	126.4/48.0
DS43	5040002310	S.LED SML-311YTT86	T	143.0/46.2
DS44	5040002310	S.LED SML-311YTT86	T	154.6/51.0
DS45	5040002310	S.LED SML-311YTT86	T	166.3/46.2
DS46	5040002310	S.LED SML-311YTT86	T	171.1/34.5
DS47	5040002310	S.LED SML-311YTT86	T	166.3/22.8
DS48	5040002310	S.LED SML-311YTT86	T	154.6/18.0
DS49	5040002310	S.LED SML-311YTT86	T	142.9/22.8
DS50	5040002310	S.LED SML-311YTT86	T	138.1/34.5
DS51	5040002310	S.LED SML-311YTT86	B	130.7/29.1
S1	2260002740	S.SWI LS8J2M-T	T	27.4/48.0
S3	2260002740	S.SWI LS8J2M-T	T	47.1/21.0
S4	2260002740	S.SWI LS8J2M-T	T	66.8/21.0
S5	2260002740	S.SWI LS8J2M-T	T	46.1/48.0
S6	2260002740	S.SWI LS8J2M-T	T	67.5/48.0
S7	2260002050	S.SWI EVQ-PJX 05M	T	82.1/20.5
S8	2260002050	S.SWI EVQ-PJX 05M	T	94.6/33.0
S9	2260002050	S.SWI EVQ-PJX 05M	T	107.1/20.5
S10	2260002050	S.SWI EVQ-PJX 05M	T	94.6/8.0
S11	2260002740	S.SWI LS8J2M-T	T	101.9/48.0
S12	2260002740	S.SWI LS8J2M-T	T	122.4/21.0
S13	2260002740	S.SWI LS8J2M-T	T	122.4/48.0
W1	8900015170	CAB OPC-918A (P1N30L180) <TJM>		
EP2	6910014690	S.BEA MPZ1608S221A-T	B	166.8/35.4
EP3	6910014690	S.BEA MPZ1608S221A-T	B	166.7/39.8

## [SDCARD UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
IC1	1130015920	S.IC RTS5181-VBC-GR <GMI>	B	23.5/12.0
IC2	1130015190	S.IC AT93C46DN-SH	T	15.5/6.5
IC3	1110002751	S.IC TA75S01F(TE85RF)	B	12.4/6.0
IC4	1130015930	S.IC SST39VF512-70-4I-WHE<SEI>	B	23.5/33.0
Q1	1540000461	S.TRA 2SD1817-TL-E	B	6.5/21.5
R1	7030003720	S.RES ERJ3GEYJ 224 V (220K)	B	37.0/17.1
R2	7030006041	S.RES ERA3YED 622V (6.2K)	B	43.9/11.8
R3	7030003860	S.RES ERJ3GE JPW V	B	37.4/9.1
R4	7030003860	S.RES ERJ3GE JPW V	B	35.7/9.1
R5	7030003860	S.RES ERJ3GE JPW V	B	37.1/14.4
R6	7030003560	S.RES ERJ3GEYJ 103 V (10K)	B	35.4/17.2
R7	7030003380	S.RES ERJ3GEYJ 331 V (330)	B	11.2/14.2
R9	7030003860	S.RES ERJ3GE JPW V	B	28.2/21.7
R12	7030007560	S.RES ERJ3GEYJ 514V (510K)	T	25.5/7.2
R13	7030003680	S.RES ERJ3GEYJ 104 V (100K)	T	27.5/6.5
R14	7030003720	S.RES ERJ3GEYJ 224 V (220K)	B	24.2/2.3
R16	7030003580	S.RES ERJ3GEYJ 153 V (15K)	B	12.8/3.6
R17	7030003580	S.RES ERJ3GEYJ 153 V (15K)	B	10.8/2.9
R18	7510001661	S.THR NTCG16 4LH 473JT	B	12.8/8.4
R19	7030003660	S.RES ERJ3GEYJ 683 V (68K)	B	10.7/9.1
R20	7030003560	S.RES ERJ3GEYJ 103 V (10K)	B	13.2/9.8
R21	7030003440	S.RES ERJ3GEYJ 102 V (1K)	B	13.2/12.2
R22	7070001280	RES ERG1SJ 120 (12)		
C1	4030009990	S.CER C1608 CH 1H 200J-T	B	37.6/19.1
C2	4030009990	S.CER C1608 CH 1H 200J-T	B	38.3/17.1
C3	4030011600	S.CER C1608 JB 1E 104K-T	B	43.9/13.1
C4	4550007960	S.TAN TEESVB2 1E 475M8R	B	35.6/3.7
Eqv.	4550008180	S.TAN F931E475MBA		
C5	4030018910	S.CER C1608 JB 0J 475K-T	T	27.5/7.8
C6	4030018910	S.CER C1608 JB 0J 475K-T	B	33.3/6.0
C7	4030017490	S.CER C1608 JB 1A 105K-T	B	38.2/12.4
C9	4030011600	S.CER C1608 JB 1E 104K-T	B	34.8/11.9
C10	4030011600	S.CER C1608 JB 1E 104K-T	B	35.3/7.2
C12	4030017490	S.CER C1608 JB 1A 105K-T	B	13.3/17.2
C13	4030017490	S.CER C1608 JB 1A 105K-T	B	33.9/19.3
C14	4030007090	S.CER C1608 CH 1H 470J-T	B	34.1/16.5
C15	4030011600	S.CER C1608 JB 1E 104K-T	T	11.0/5.9
C16	4030011600	S.CER C1608 JB 1E 104K-T	B	33.7/8.4
C17	4030011600	S.CER C1608 JB 1E 104K-T	B	13.3/19.2
C18	4030011600	S.CER C1608 JB 1E 104K-T	T	30.5/6.5
C19	4030018910	S.CER C1608 JB 0J 475K-T	T	23.8/9.9
C21	4030017490	S.CER C1608 JB 1A 105K-T	T	25.7/5.2
C23	4030011600	S.CER C1608 JB 1E 104K-T	B	12.8/2.3
C24	4030011600	S.CER C1608 JB 1E 104K-T	B	32.5/32.7
J1	6510024522	S.CON 12FLT-SM2-TB(LF)(SN)(M)	T	32.0/3.3
J2	6510026840	S.CON IMSA-9431S-09Y910	T	23.3/39.0
DS1	5040002310	S.LED SML-311YTT86	B	13.2/13.6
W1	8900018810	CAB OPC-1974 (P0.5N12L50) <TJM>		
EP2	6910014690	S.BEA MPZ1608S221A-T	T	32.7/8.8

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

M.=Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)  
S.=Surface mount

[illegible]

REF NO.	PARTS NO.	DESCRIPTION		M.	H/V LOCATION
S1	2250000530	ENC	TP90N1007AE20-20F-2914		
W1	8900018350	CAB	OPC-1915		

M.=Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)  
S.=Surface mount

## SECTION 4

## MECHANICAL PARTS

### [CHASSIS PARTS]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
DS1	5030003230	LTD121C35S	1
W1	8900018251	OPC-1896A <LIA>	1
W2	8900018341	OPC-1909A	1
W3	8900019010	OPC-2007	1
W4	8900019020	OPC-2008	1
EP1	6910020700	MGB20M-13B <KOU>	1
EP2	6910007040	ZCAT1325-0530A	1
EP3	6910007040	ZCAT1325-0530A	1
EP4	6910021650	ZCAT2235-1030A-BK	1
MP1	8210025570	3171 REAR PANEL ASSEMBLY	1
MP4	8930079440	3171 A-INSULATION SHEET	2
MP5	8930078990	3171 VENT SHEET VSC-240	4
MP6	8930079670	3171 SPONGE	4
MP7	8930072750	HIMELON SHEET (CW)	1
MP11	8810008661	PHBT M3 X 8 NI-ZC3	7
MP12	8810008661	PHBT M3 X 8 NI-ZC3	5
MP13	8810009131	PHBT M3 X12 NI-ZC3	4
MP14	8930079480	INSULATION SHEET (ML)	2
MP15	8930079490	INSULATION SHEET (MM)	2
MP16	8930081260	SHIELD SPONGE (CP)	3
MP21	8930077540	3171 MAIN SEAL (TOP)	1
MP22	8810003841	BIND M3 X8 SUS SSBC	16
MP31	8930078530	3171 CONNECTOR RUBBER (TOP)	1
MP32	8930077590	3171 CONNECTOR PLATE D	1
MP33	8810006300	SETSCREW M3 X 8 SUS	4
MP34	8930079621	3169 D-EARTH PLATE-1	1
MP41	8930079280	3171 INSULATION SHEET	1

### [MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J2*	6510026960	DF20F-20DP-1V (56)	1
J4*	6510022601	30FMN-BMTTR-A-TBT (LF) (SN)	1
J6*	6510009401	B7B-ZR (LF) (SN)	1
J7*	6510009391	B6B-ZR (LF) (SN)	1
J8*	6510009381	B5B-ZR (LF) (SN)	1
J9*	6510009371	B4B-ZR (LF) (SN)	1
J10*	6510003381	B02B-EH-S (LF) (SN)	1
W1**	8900018740	OPC-1910	1

### [INVERTER UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1*	6510026760	SM03 (7-D1)B-BHS-1-TB (LF) (SN)	1
J2*	6510026760	SM03 (7-D1)B-BHS-1-TB (LF) (SN)	1
J3*	6510025760	B5B-ZR-SM4-TF (LF) (SN)	1
T1*	5910001110	1348-T024 (CEPH249)	1
T2*	5910001110	1348-T024 (CEPH249)	1

### [FRONT UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
SP1	2520000121	PKM24EWH4000	1
MP1	8210025560	3171 FRONT PANEL ASSEMBLY	1
MP3	8210025261	3171 SD REAR PANEL-1	1
MP4	8810008661	PHBT M3 X 8 NI-ZC3	4
MP5	8930077510	3171 KNOB LENS	1
MP6	8810008661	PHBT M3 X 8 NI-ZC3	3
MP7	8930083890	3171 KEY (A) <SEP>	1
MP11	8930077750	DOUBLE SIDE TAPE (BD)	2
MP12	8930077770	DOUBLE SIDE TAPE (BE)	2
MP13	8310073110	3171 WINDOW PLATE (260X210X4.0)	1
MP14	8930077611	3171 WP PLATE-1 D	2
MP15	8810008661	PHBT M3 X 8 NI-ZC3	6
MP16	8930079750	SPONGE (KR)	1
MP17	8930078990	3171 VENT SHEET VSC-240	1
MP18	8810009561	PHBT M2 X 6 NI-ZK3	2
MP21	8810008661	PHBT M3 X 8 NI-ZC3	8
MP22	8930077601	3171 SD ANGLE-1 D	1
MP23	8810008631	PHBT M3 X 6 NI-ZC3	4
MP24	8810008631	PHBT M3 X 6 NI-ZC3	2
MP25	8810008661	PHBT M3 X 8 NI-ZC3	2
MP26	8930052280	O-RING (AC) (TOP)	1
MP27	8830003290	NUT M8 SUS	4
MP28	8810010860	CAPBOLT M8X15 SUS SSBC	4
MP31	8210027262	3171 SD PANEL (A)-2	1
MP32	8930077520	3171 RELEASE BUTTON	1
MP33	8930079150	COIL SPRING (AL)	1
MP34	8930079250	3171 SPRING SHAFT	1
MP35	8810010750	PHBT M2 X 6 SUS SSBC	1
MP36	8930079400	3171 A-SD SEAL (TOP)	1
MP37	8850002960	PLAIN WASHER (AR)	2
MP41	8610013930	KNOB N-381	1
MP43	8310073050	3171 KNOB PLATE	1
MP44	8310074360	3171 NAME PLATE	1

### [LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1*	6510022601	30FMN-BMTTR-A-TBT (LF) (SN)	1
J2*	6510015541	B4B-ZR-SM4-TF (LF) (SN)	1
J3*	6510024522	12FLT-SM2-TB (LF) (SN) (M)	1
J4*	6510025142	10FLT-SM2-TB (LF) (SN) (M)	1
J6*	6510019421	B8B-ZR-SM4-TF (LF) (SN)	1
S1*	2260002740	LS8J2M-T	1
S3*	2260002740	LS8J2M-T	1
S4*	2260002740	LS8J2M-T	1
S5*	2260002740	LS8J2M-T	1
S6*	2260002740	LS8J2M-T	1
S7*	2260002050	EVQ-PJX 05M	1
S8*	2260002050	EVQ-PJX 05M	1
S9*	2260002050	EVQ-PJX 05M	1
S10*	2260002050	EVQ-PJX 05M	1
S11*	2260002740	LS8J2M-T	1
S12*	2260002740	LS8J2M-T	1
S13*	2260002740	LS8J2M-T	1
W1**	8900015170	OPC-918A (P1N30L180)	1

### [SDCARD UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1*	6510024522	12FLT-SM2-TB (LF) (SN) (M)	1
J2*	6510026840	IMSA-9431S-09Y910	1
W1**	8900018810	OPC-1974 (P0.5N12L50)	1

### [USB UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J1*	6510027540	CMS1400-016010	1
J2*	6510027900	IMSA-9631S-10Y933	1
W1**	8900018800	OPC-1973 (P0.5N10L90)	1

\*: Refer to "BOARD LAYOUTS" for the location.

\*\*\*: Refer to "GENERAL WIRING" for the connection

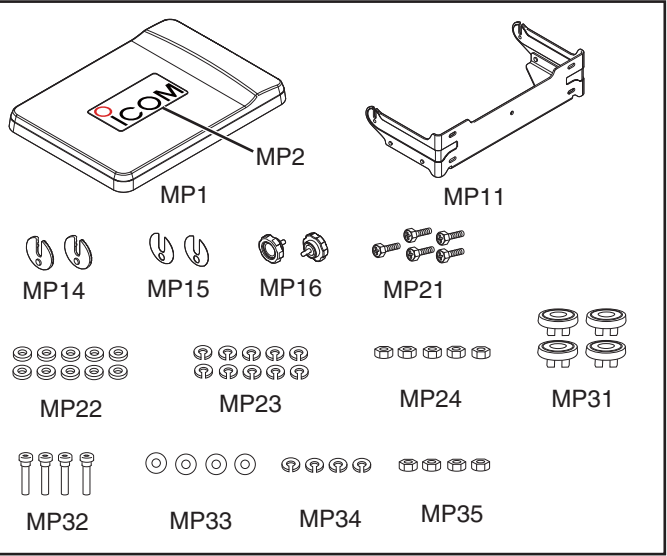
**Screw abbreviations** A, B0, BT: Self-tapping PH: Pan head ZK: Black NI-ZU: Nickel-Zinc SUS: Stainless

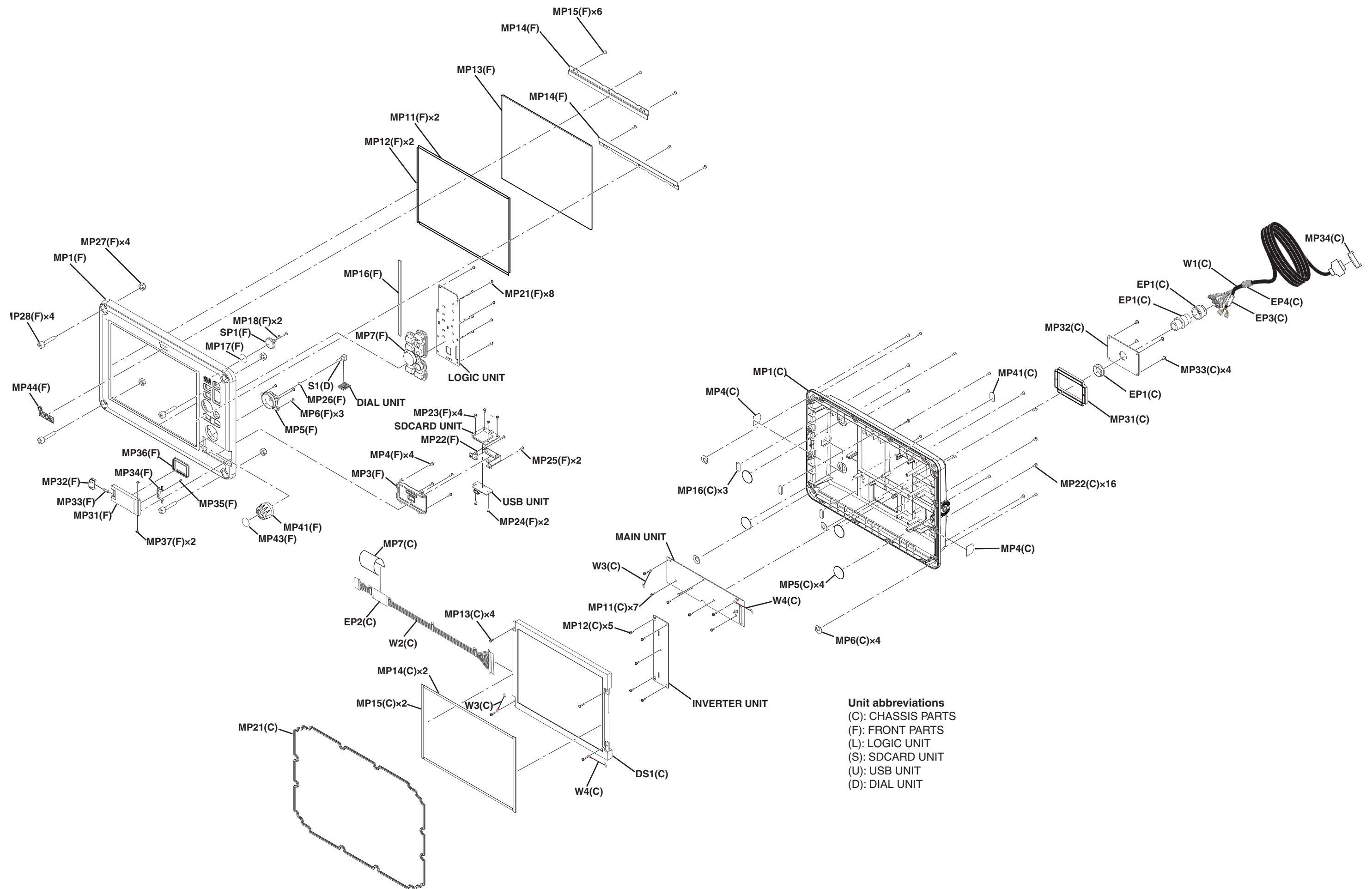
[DIAL UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
S1	2250000530	TP90N1007AE20-20F-2914	1
W1**	8900018350	OPC-1915	1

[ACCESSORIES]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8110009750	3171 FRONT COVER	1
MP2	8930079380	3171 LOGO SHEET	1
MP11	8010021560	3171 BRACKET ASSEMBLY	1
MP14	8930078520	3171 STOPPER PLATE	2
MP15	8930079290	3171 A-BRACKET SHEET	2
MP16	8820001160	GRIP BOLT G2BLACK6X15 SUS	2
MP21	8810010980	BOLT M6 X30 SUS	5
MP22	8850000200	FLAT WASHER M 6 (6X20X1.5)SUS	10
MP23	8850000510	S-WASHER M 6 SUS	10
MP24	8830000260	NUT M 6 SUS	5
MP31	8930078510	3171 CAP	4
MP32	8820001520	3171 CAP SCREW	4
MP33	8850000190	FLAT WASHER M 6 (6X13X1.0)SUS	4
MP34	8850000510	S-WASHER M 6 SUS	4
MP35	8830000260	NUT M 6 SUS	4





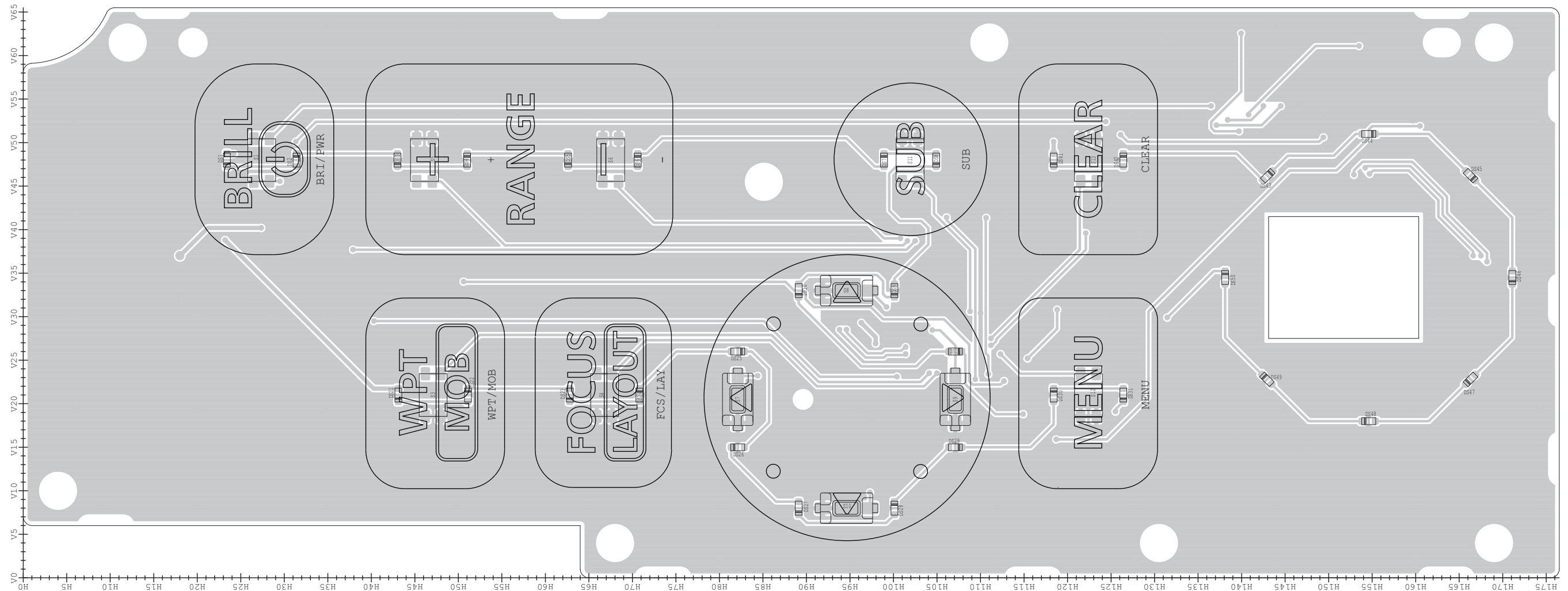


## SECTION 5

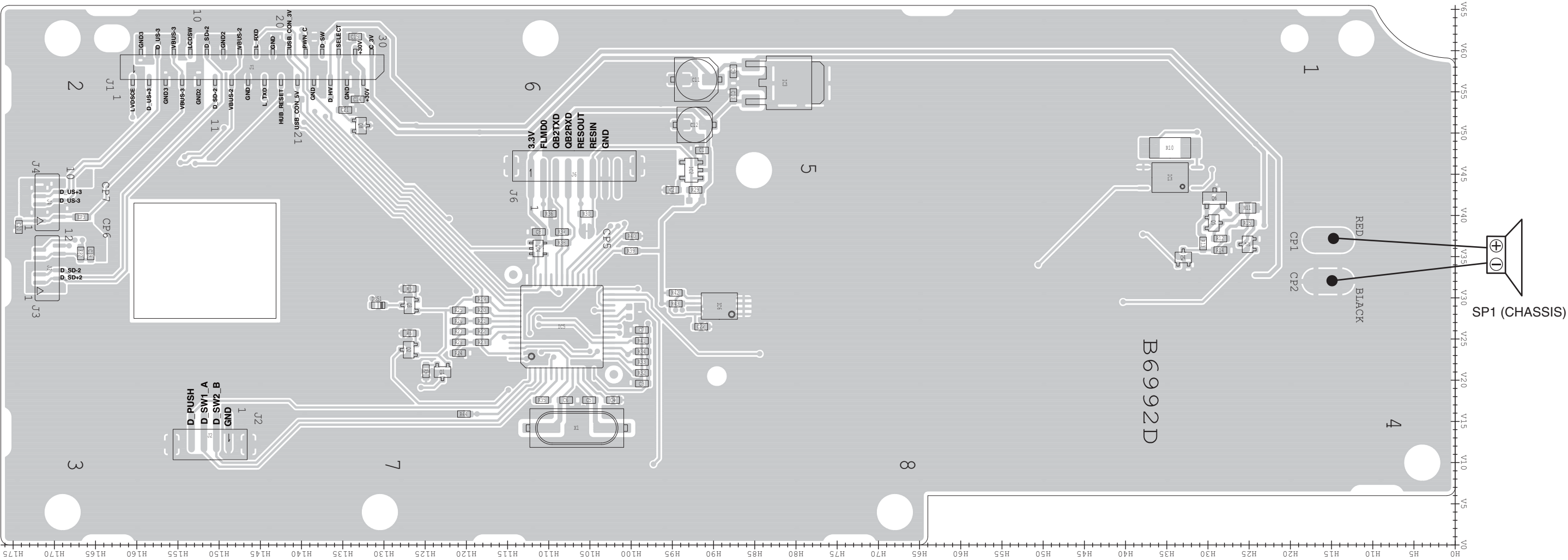
## BOARD LAYOUTS

The combination of top side and bottom side of this page shows the actual configuration of P.C. board.

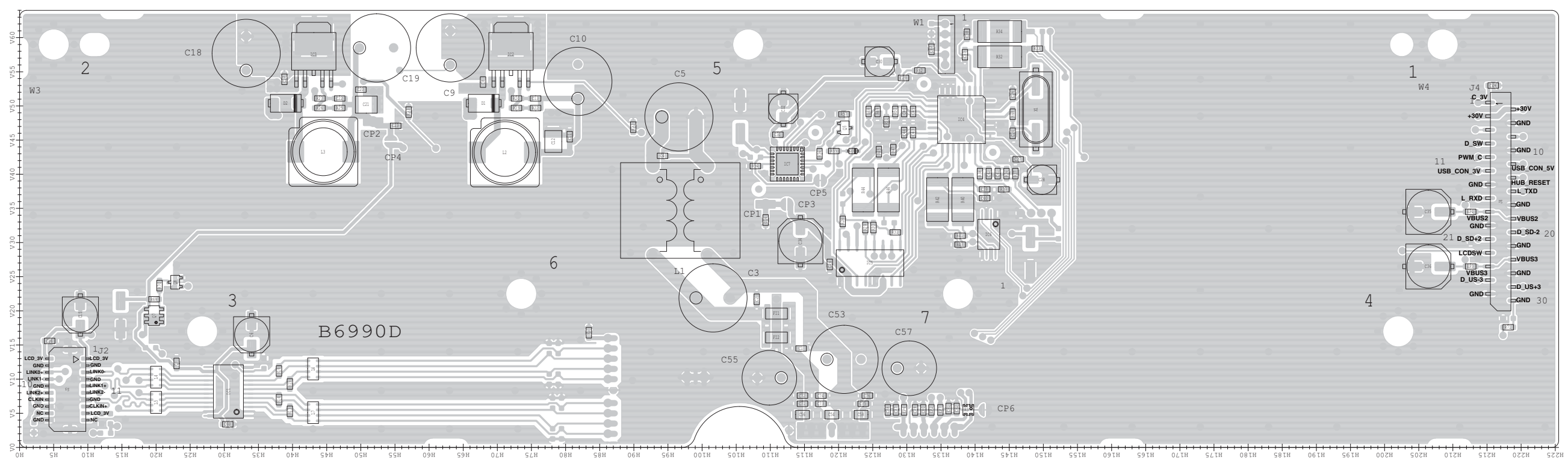
- **LOGIC UNIT  
(TOP VIEW)**



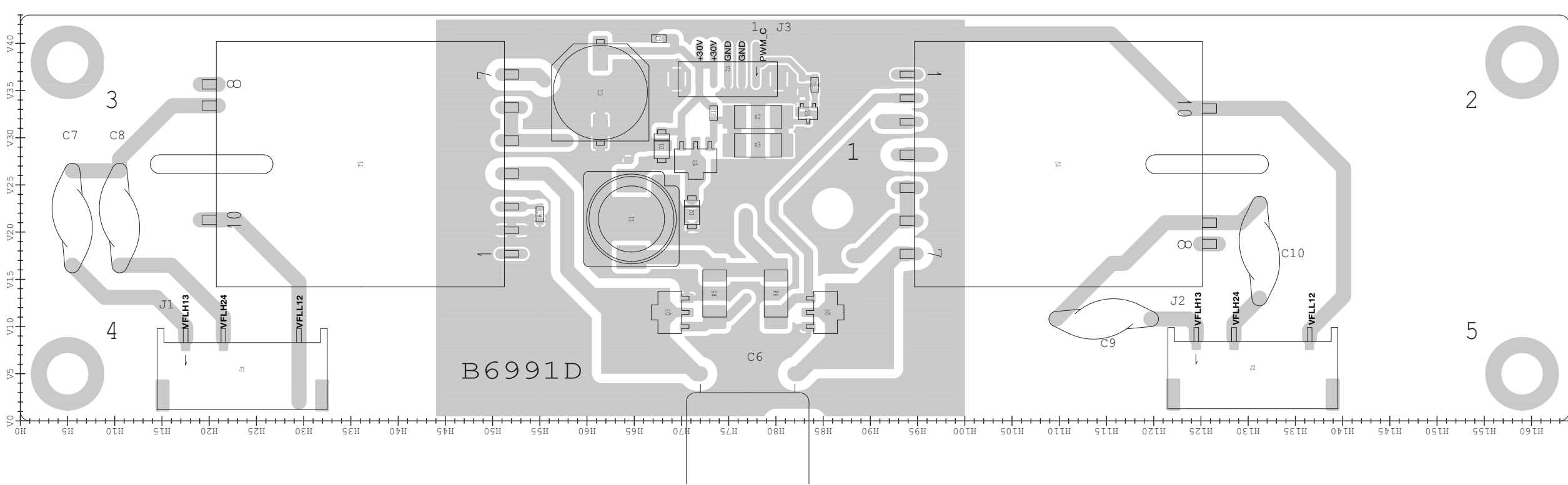
• LOGIC UNIT  
(BOTTOM VIEW)



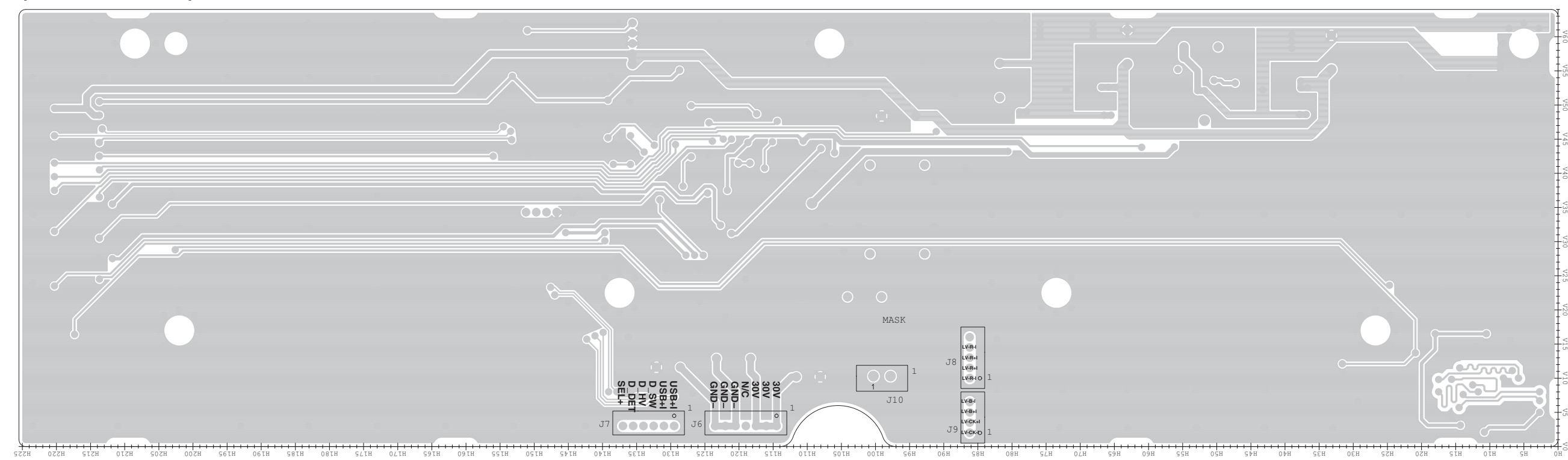
• MAIN UNIT  
(TOP VIEW)



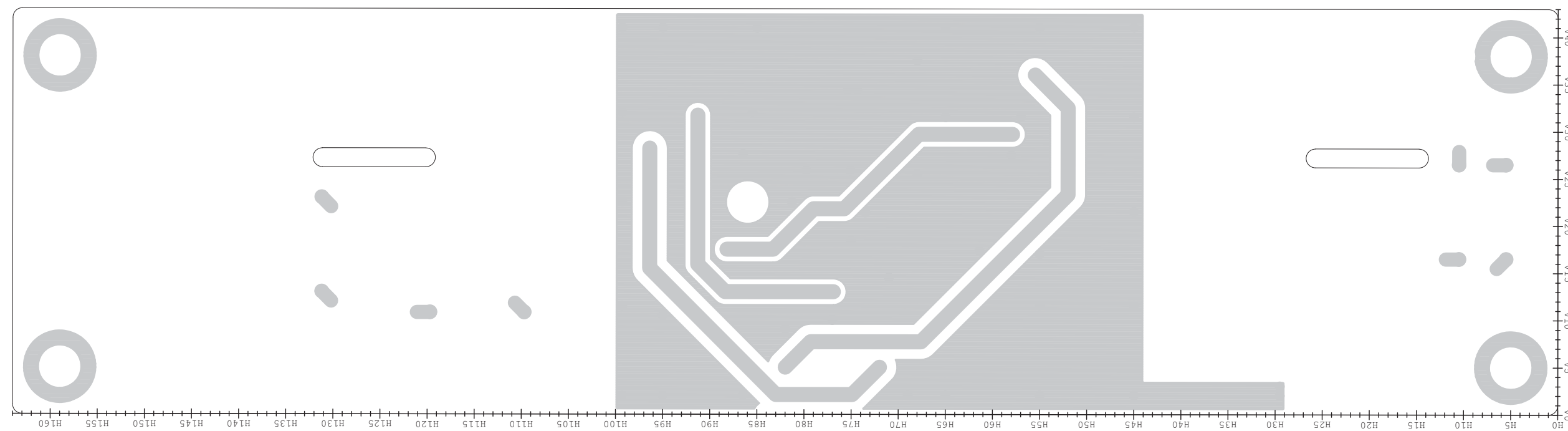
• INVERTER UNIT  
(TOP VIEW)



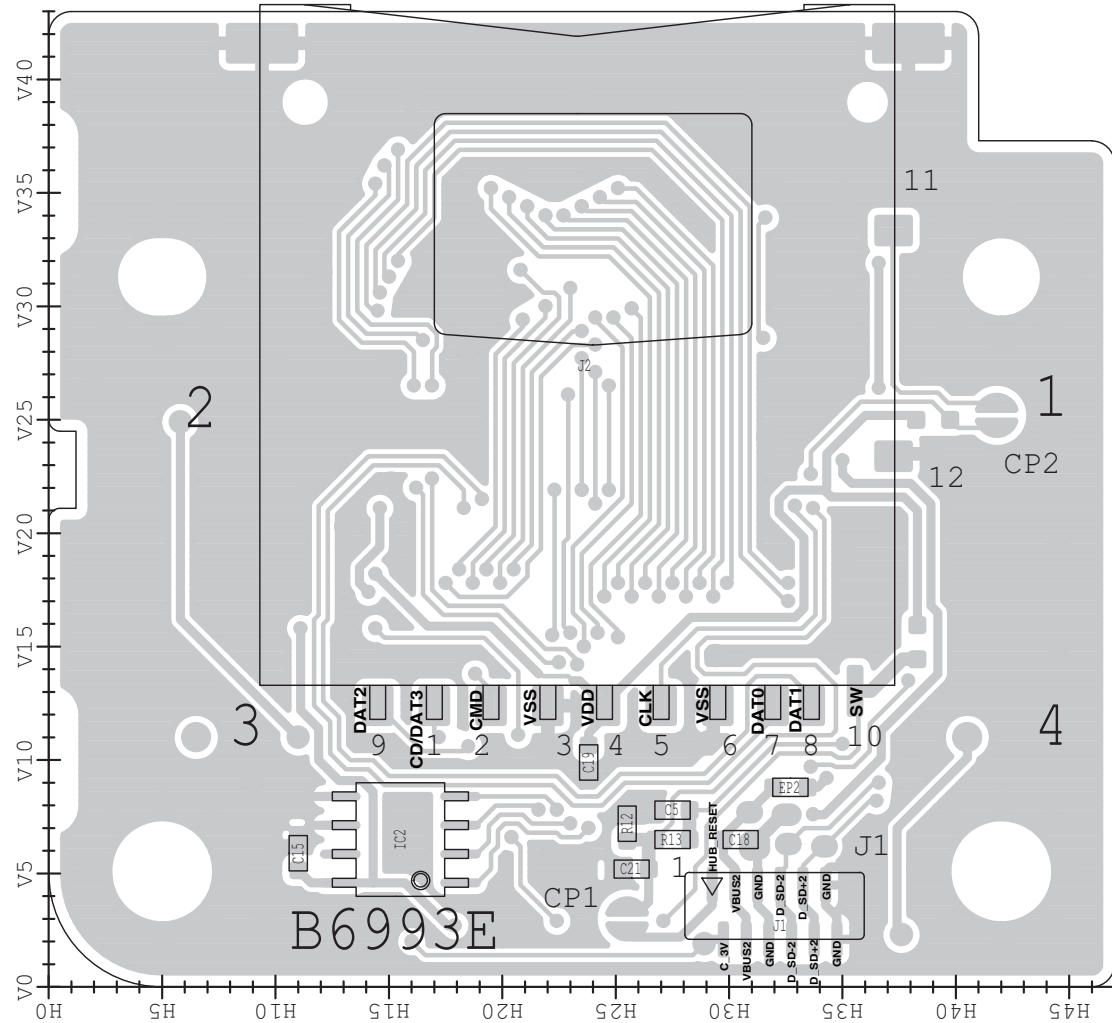
• MAIN UNIT  
(BOTTOM VIEW)



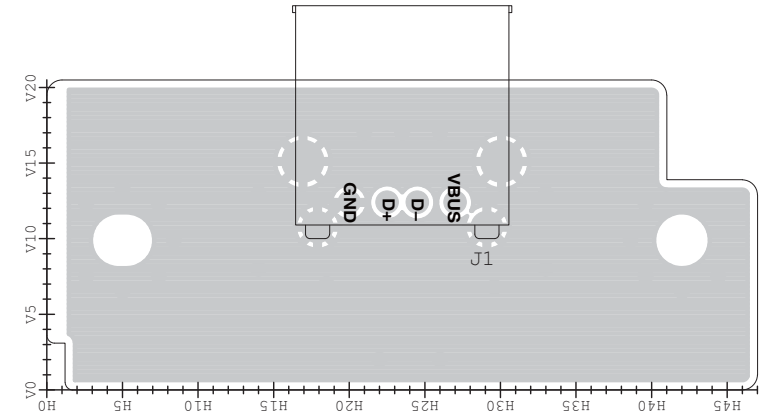
• INVERTER UNIT  
(BOTTOM VIEW)



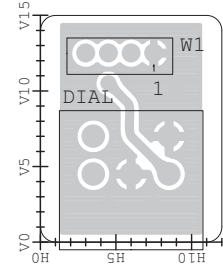
• SDCARD UNIT  
(TOP VIEW)



• USB UNIT  
(TOP VIEW)



• DIAL UNIT  
(TOP VIEW)





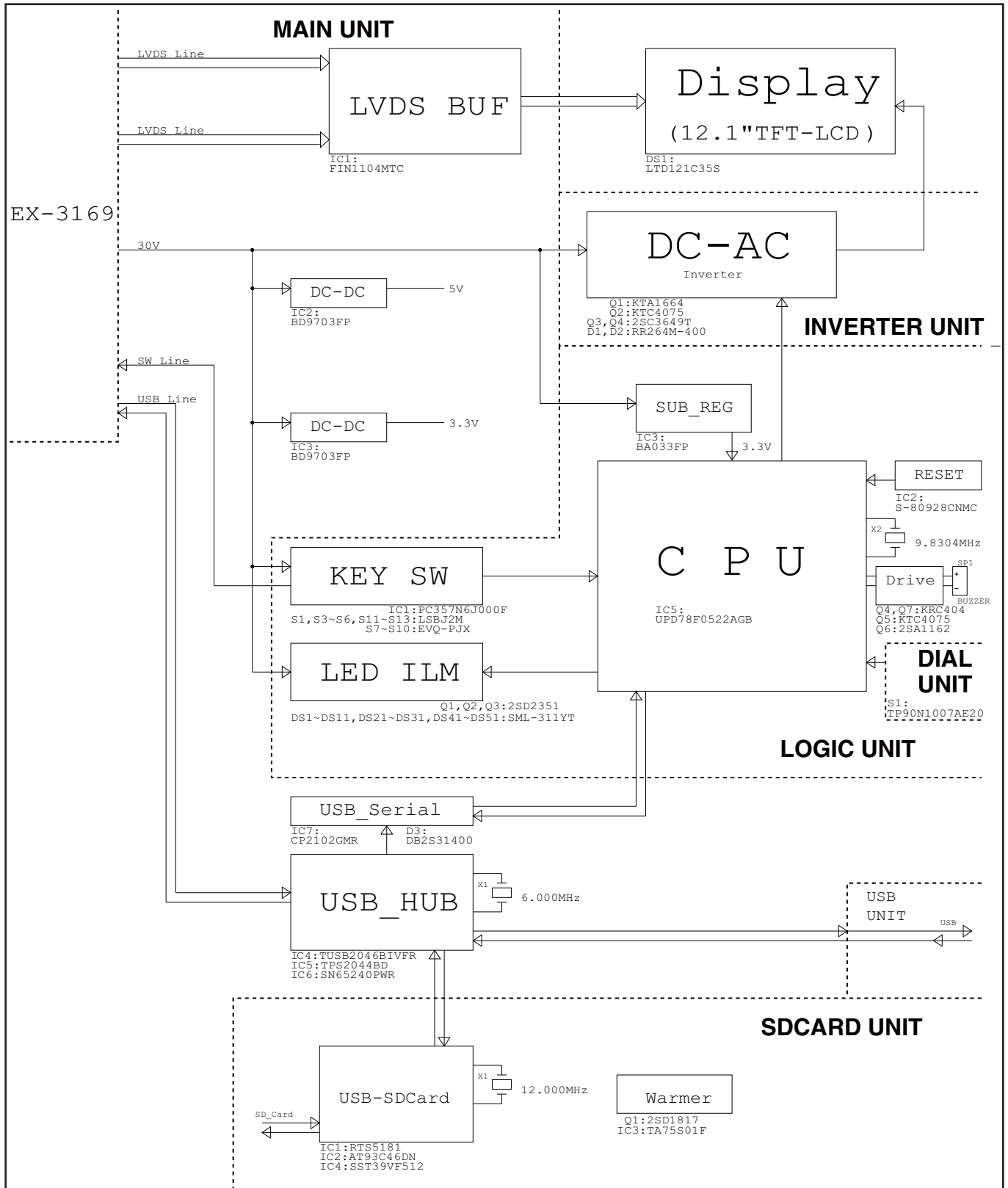


## WIRING DIAGRAM



# SECTION 7

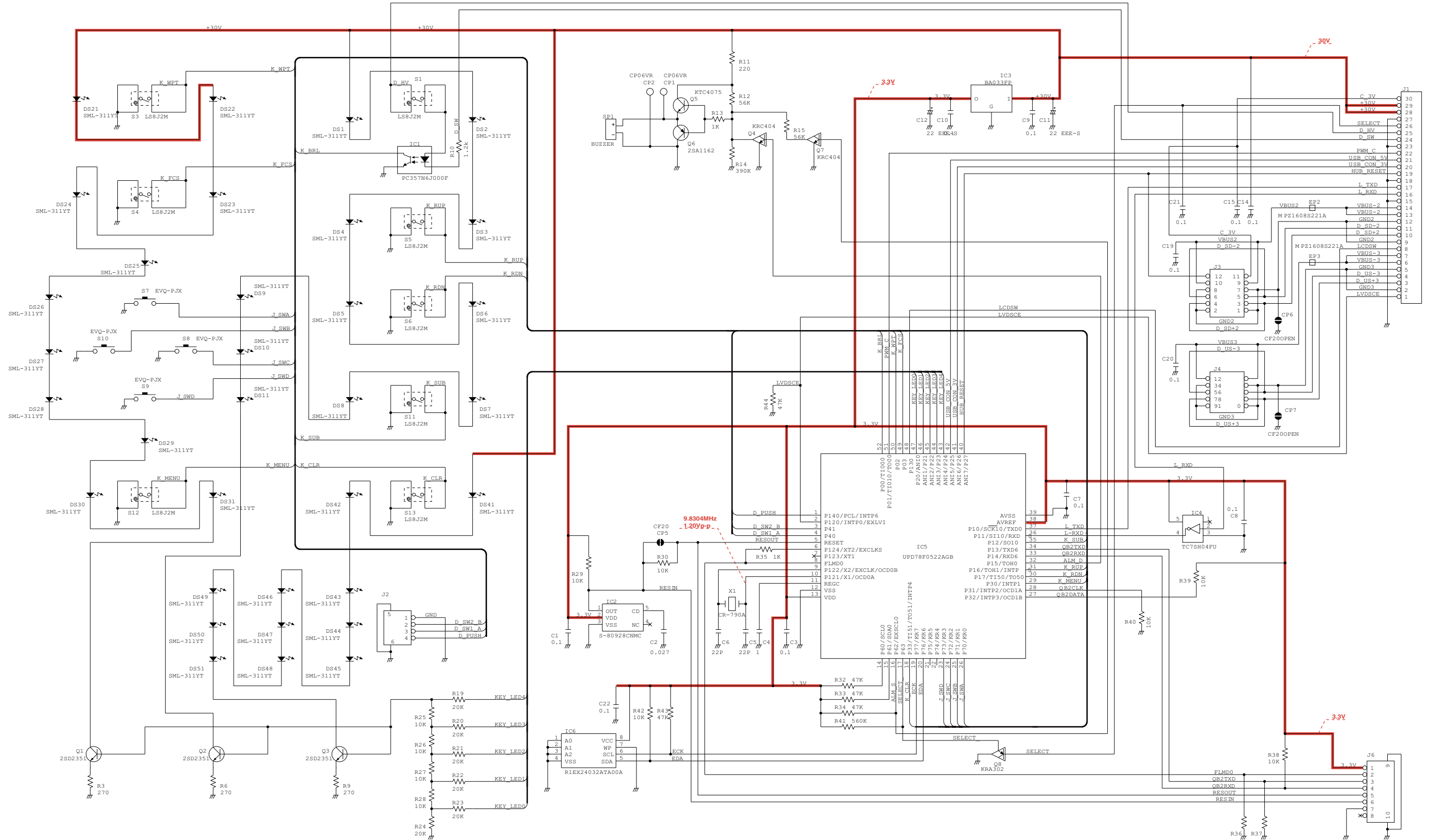
# BLOCK DIAGRAM



# SECTION 8

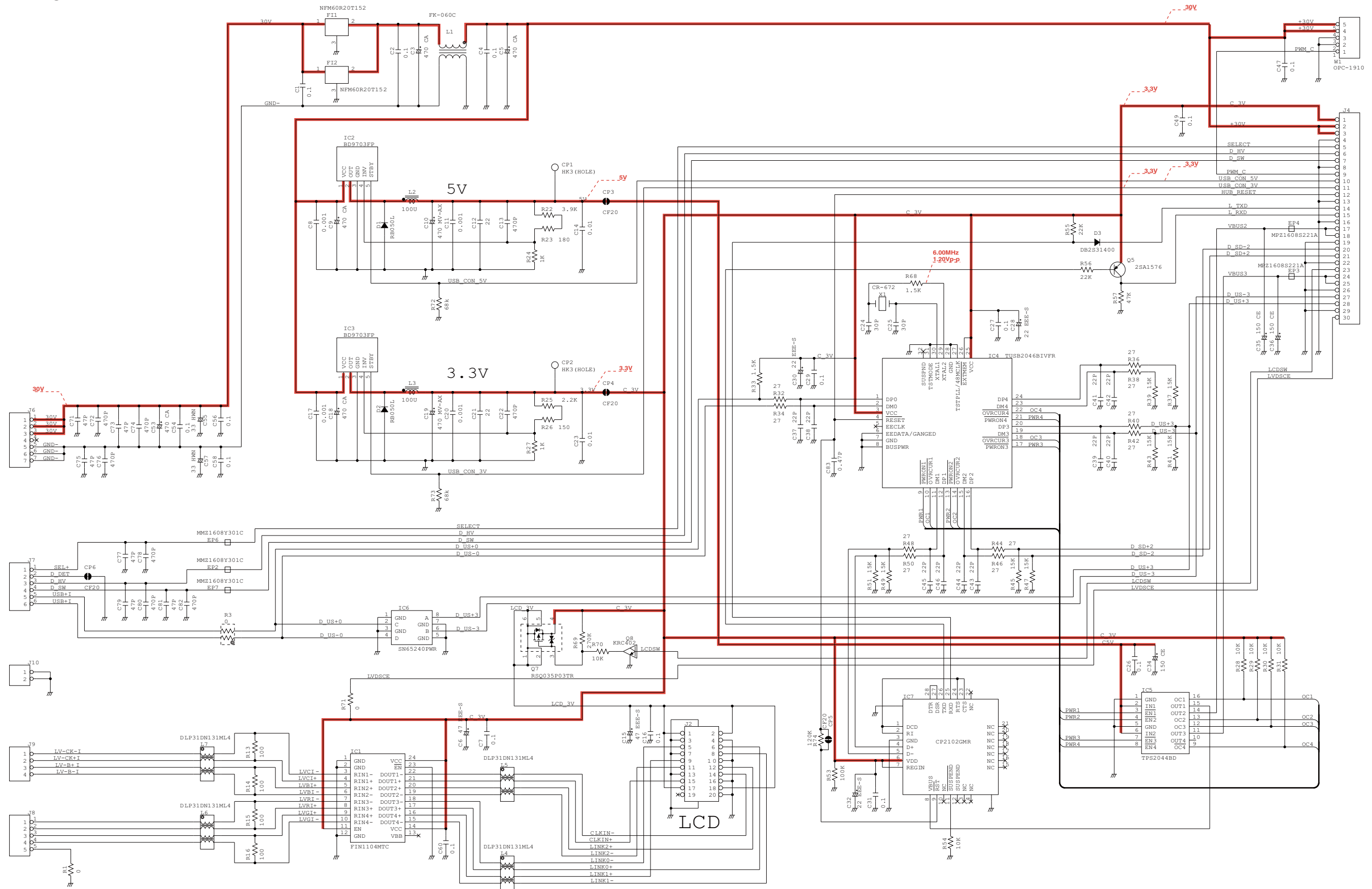
# VOLTAGE DIAGRAM

## • LOGIC UNIT



\*: Refer to the PARTS LIST for the value and name of component.

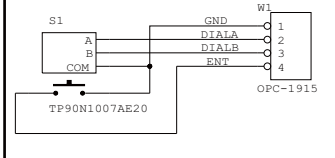
- **MAIN UNIT**



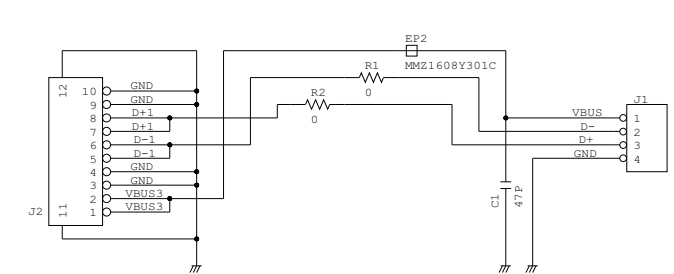
**NOTICE:** Refer to the PARTS LIST for the value and name of each component.

• SDCARD UNIT

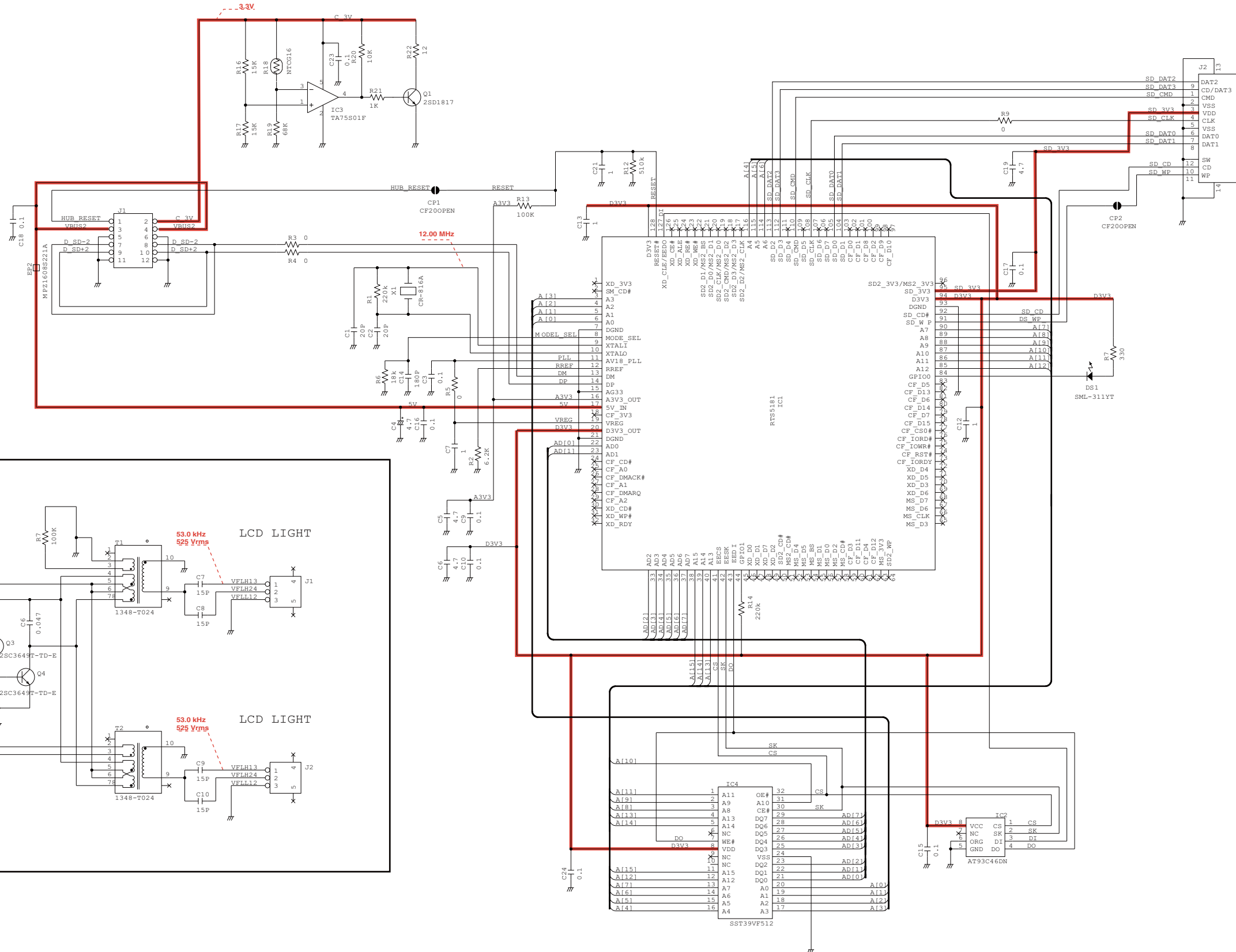
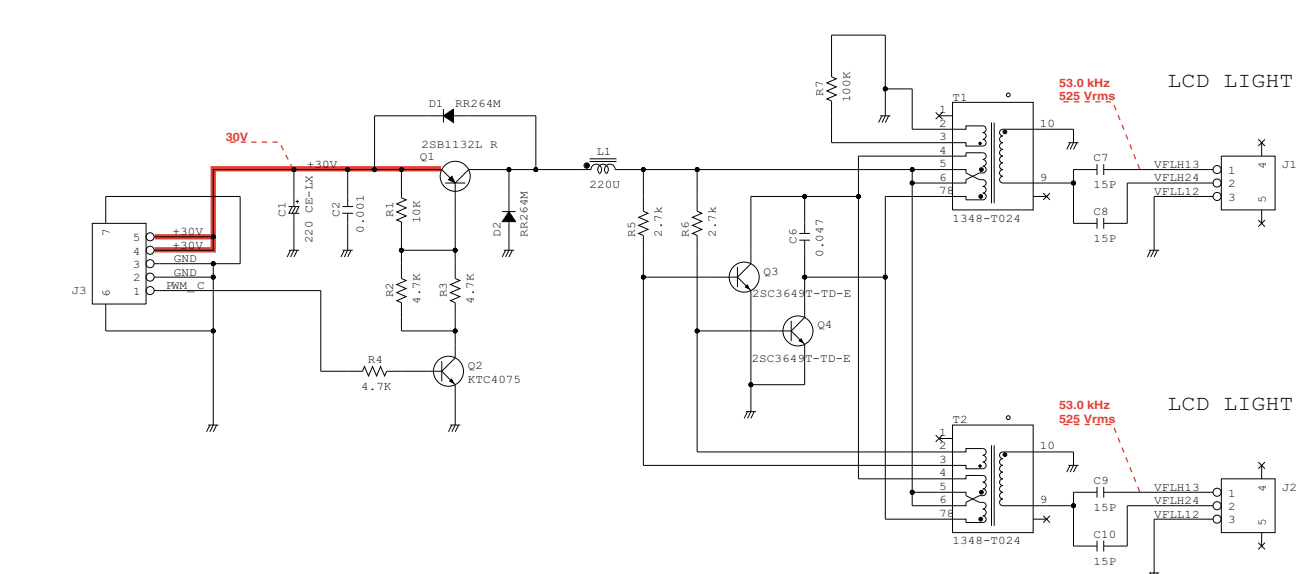
DIAL UNIT



USB UNIT



INVERTER UNIT



NOTICE: Refer to the PARTS LIST for the value and name of each component.

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