



SERVICE MANUAL

GPS RECEIVER

MXG-5000

S-14710XZ-C1
Sep. 2010

Icom Inc.

INTRODUCTION

This service manual describes the latest technical information for the **MXG-5000** GPS RECEIVER, at the time of publication.

MODEL	VERSION
MXG-5000	EXP
	USA
	EUR

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

CAUTION

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

DO NOT reverse the polarities of the power supply when connecting the receiver.

DO NOT apply an RF signal of more than 20 dBm (100 mW) to the antenna connector. This could damage the receiver's front-end.



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>

8900018230	OPC-1886	MXG-5000	CHASSIS UNIT	2 pieces
8510012351	2273 U-CASE-1	MXG-5000	CHASSIS UNIT	3 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 receiver.
2. **DO NOT** open the receiver until the receiver 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.
5. **DO NOT** keep power ON for a long time when the receiver is defective.

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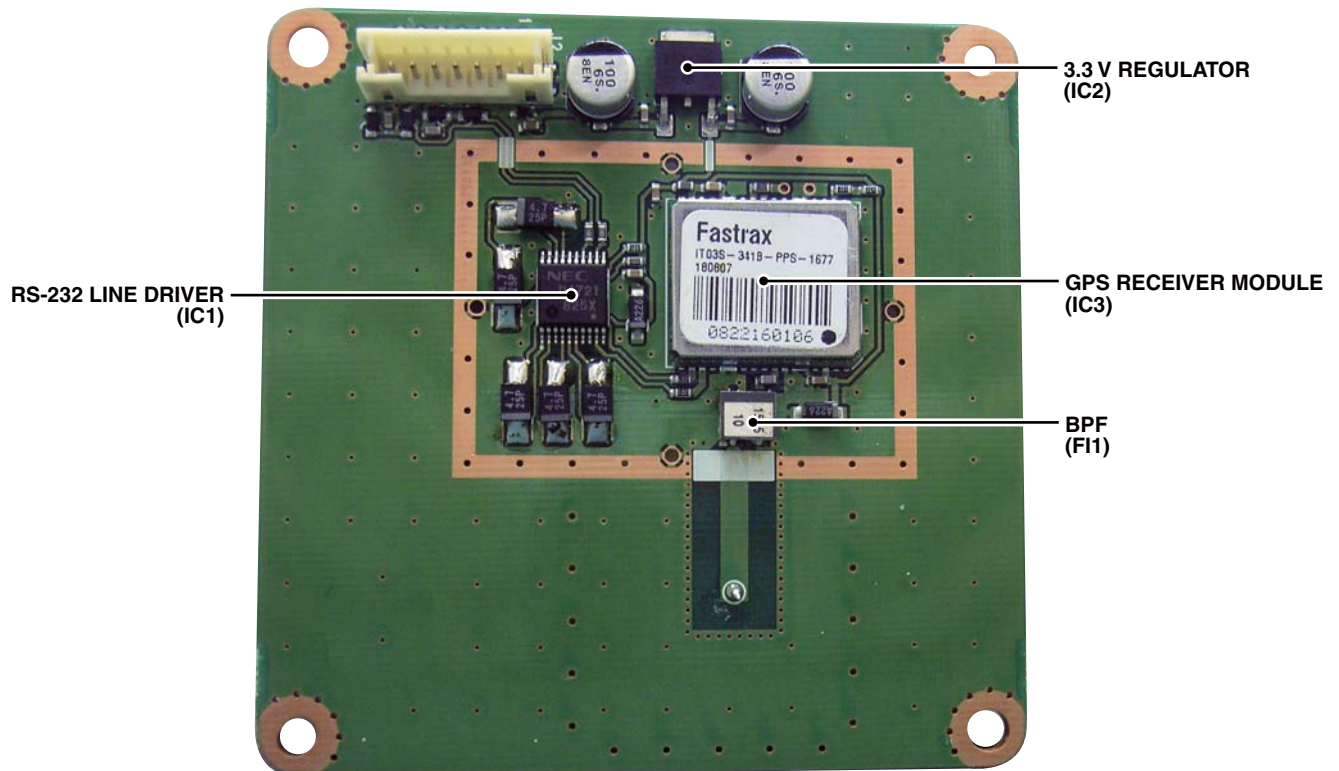
SECTION 1

SPECIFICATIONS

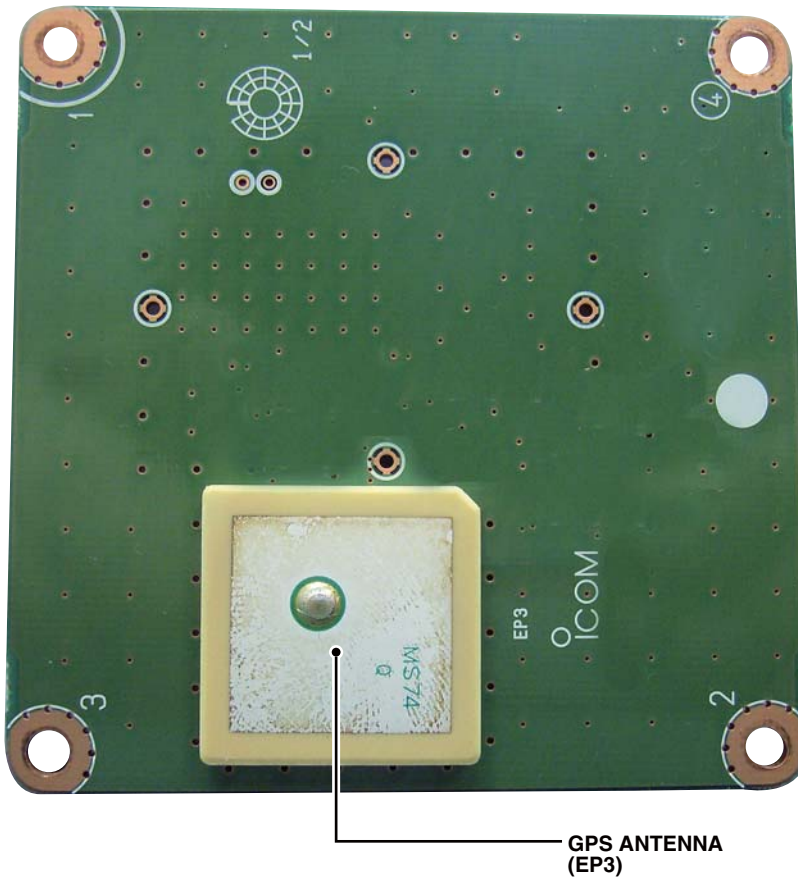
- Power supply voltage : 4.75 to 5.25 V DC (supplied from the MarineCommander™)
- Operating temp. range : -20°C to +60°C; -4°F to +140°F
- Relative humidity : Less than 95% (at +35°C; +95°F)
- Dimensions : 140(d)×157.2(H) mm; 5¹/₂(d)×6³/₁₆(H) in.
- Weight (approx.) : 710 g; 1.57 oz
- Cable length (approx.) : 10 m; 32 ft. 9³/₄ in.
- Receiving frequency : 1575.42 MHz
- Receiving channels : 12
- Receiving codes : L1, C/A-code, SPS
- Satellite differential type : WAAS, EGNOS, MSAS
- TTFF (Time to First Fix)
 - Cold start (typical) : 40 sec.
 - Hot start (typical) : 4 sec.

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

• MAIN UNIT (TOP VIEW)



• MAIN UNIT (BOTTOM VIEW)



SECTION 3

PARTS LIST

[MAIN UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
IC1	1120002951	S.IC UPD4721GS-GJG-A	T	28.5/30.0
IC2	1180002020	S.REG BA033FP-E2	T	8.0/41.0
IC3	1190002581	S.IC ITRAX03S1/IT03S341EPPS1677<MRF	T	27.0/48.5
D1	1730002331	S.ZEN MAZ8100GML	T	10.8/20.2
D2	1730002331	S.ZEN MAZ8100GML	T	10.8/16.7
D3	1730002331	S.ZEN MAZ8100GML	T	11.5/13.8
D4	1730002331	S.ZEN MAZ8100GML	T	11.5/10.4
D5	1790001711	S.DIO NNCD5.6C-T1-A	T	10.5/25.1
FI1	2020002550	S.DIE TDFM2A-1575A-10A	T	40/46.7
R1	7030003200	S.RES ERJ3GEYJ 100 V (10)	T	22.3/31.5
R2	7030003200	S.RES ERJ3GEYJ 100 V (10)	T	22.3/32.8
R3	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	25.0/35.9
R4	7030003560	S.RES ERJ3GEYJ 103 V (10K)	T	23.7/35.9
R5	7030003360	S.RES ERJ3GEYJ 221 V (220)	T	17.6/56.2
R6	7030003360	S.RES ERJ3GEYJ 221 V (220)	T	36.4/40.5
R7	7030003360	S.RES ERJ3GEYJ 221 V (220)	T	37.7/40.5
R8	7030003360	S.RES ERJ3GEYJ 221 V (220)	T	17.5/48.2
R9	7030003520	S.RES ERJ3GEYJ 472 V (4.7K)	T	17.6/59.0
C1	4550007960	S.TAN TEESVB2 1E 475M8R	T	38.6/24.5
C2	4550007090	S.TAN TEESVA 1A 226M8R	T	30.1/36.2
C3	4030006900	S.CER C1608 JB 1H 103K-T	T	26.3/35.9
C4	4550007960	S.TAN TEESVB2 1E 475M8R	T	38.6/28.6
C5	4550007960	S.TAN TEESVB2 1E 475M8R	T	38.6/32.4
C6	4550007960	S.TAN TEESVB2 1E 475M8R	T	27.7/23.7
C7	4550007960	S.TAN TEESVB2 1E 475M8R	T	20.9/27.0
C8	4510009030	S.ELE EEE0JA101SP	T	8.0/32.5
C9	4030006900	S.CER C1608 JB 1H 103K-T	T	10.6/36.8
C10	4510009030	S.ELE EEE0JA101SP	T	8.0/49.5
C11	4030006900	S.CER C1608 JB 1H 103K-T	T	10.6/45.2
C13	4030007130	S.CER C1608 CH 1H 101J-T	T	12.5/16.4
C14	4030007130	S.CER C1608 CH 1H 101J-T	T	11.5/12.1
C15	4030006900	S.CER C1608 JB 1H 103K-T	T	11.9/25.8
C16	4030006900	S.CER C1608 JB 1H 103K-T	T	17.6/43.5
C17	4030006900	S.CER C1608 JB 1H 103K-T	T	36.4/53.7
C18	4550007090	S.TAN TEESVA 1A 226M8R	T	39.5/53.7
C19	4030006900	S.CER C1608 JB 1H 103K-T	T	18.4/37.9
C20	4030017810	S.CER C1608 CH 1H 102J-T	T	36.4/48.7
J2	6510018951	S.CON B7B-PH-SM4-TB(LF)(SN)	T	7.0/19.0
EP2	6910012350	S.BEA MMZ1608Y 102BT	T	17.6/40.7
EP3	6910019890	E.O #DAKC1575MS74T		

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

SECTION 4

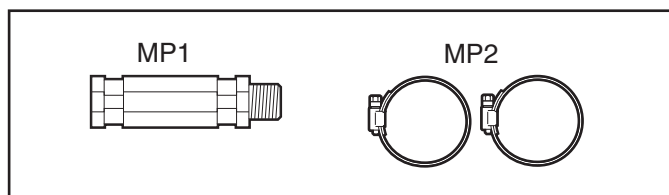
MECHANICAL PARTS

[CHASSIS PARTS]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
W1	8900018230	OPC-1886 <LIA>	1
MP1	8510012340	2273 L-CASE	1
MP2	8930049320	2288 VENT.SHEET	1
MP3	8810008661	PHBT M3 X 8 NI-ZC3	4
MP11	8510012351	2273 U-CASE-1	1
MP13	8930049392	2273 MAIN SEAL-2 (TOT)	1
MP14	8820001210	2438 SCREW	4
MP15	8930052290	O-RING (AD) (TOP)	4

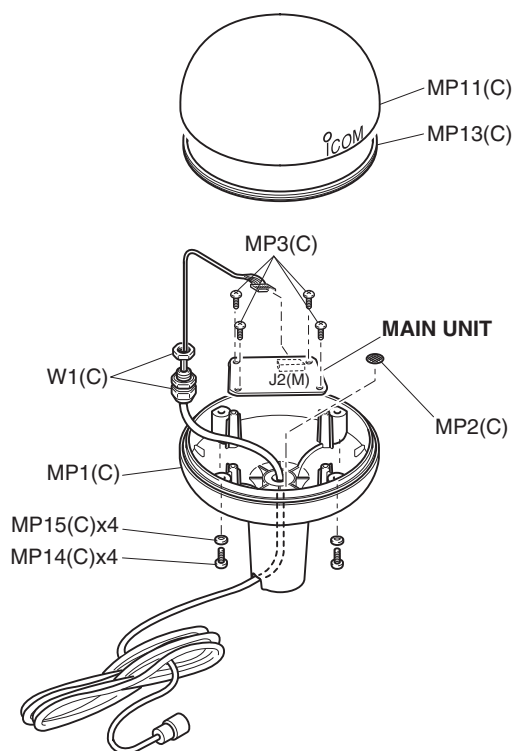
[ACCESSORIES]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8930049400	2273 PIPE	1
MP2	8930049740	HAS-40 (X-2272-3) STAINLESS BAND	2



[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J2*	6510018951	B7B-PH-SM4-TB (LF) (SN)	1

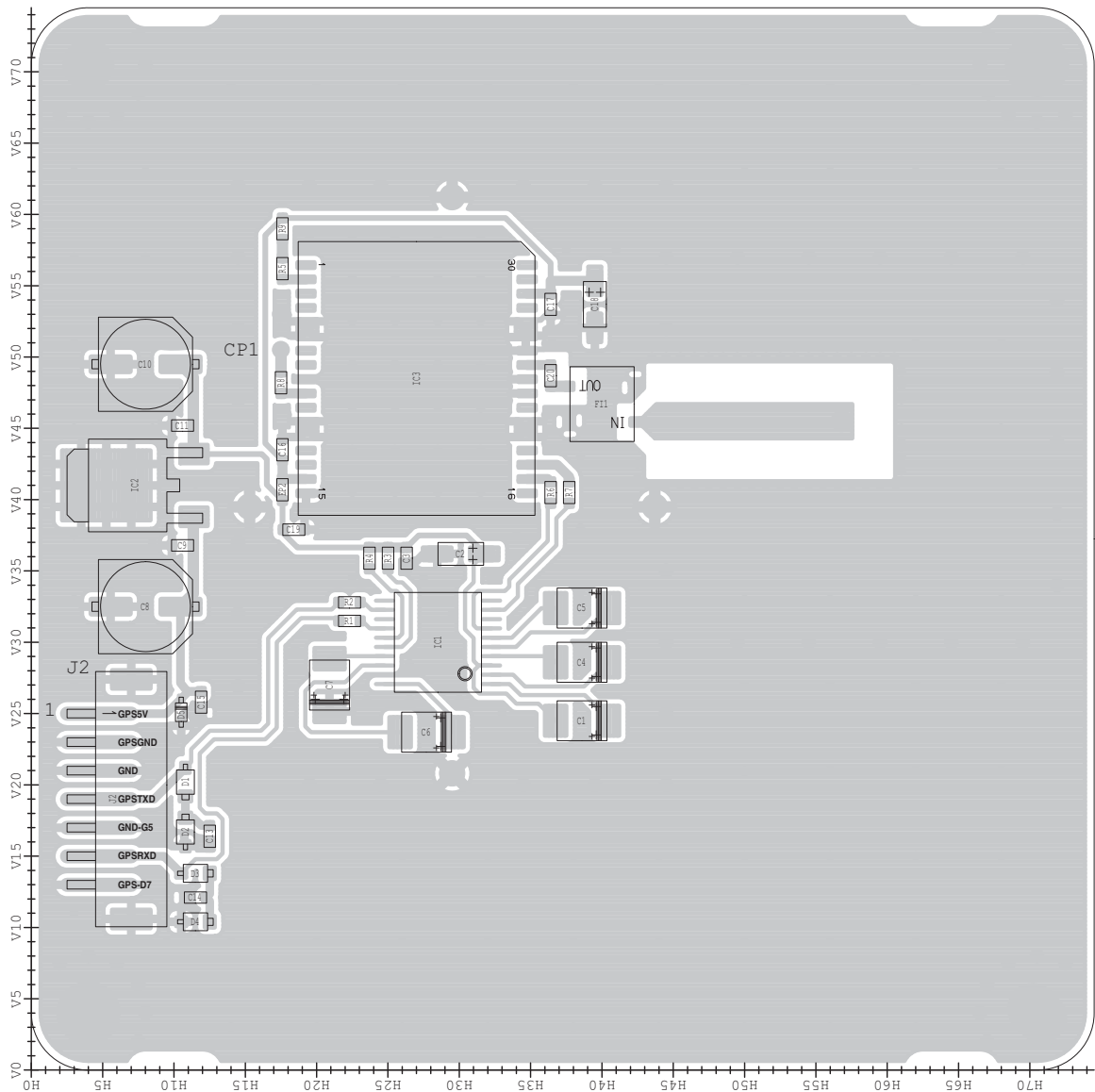


*: Refer to "BOARD LAYOUTS" for the location.

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

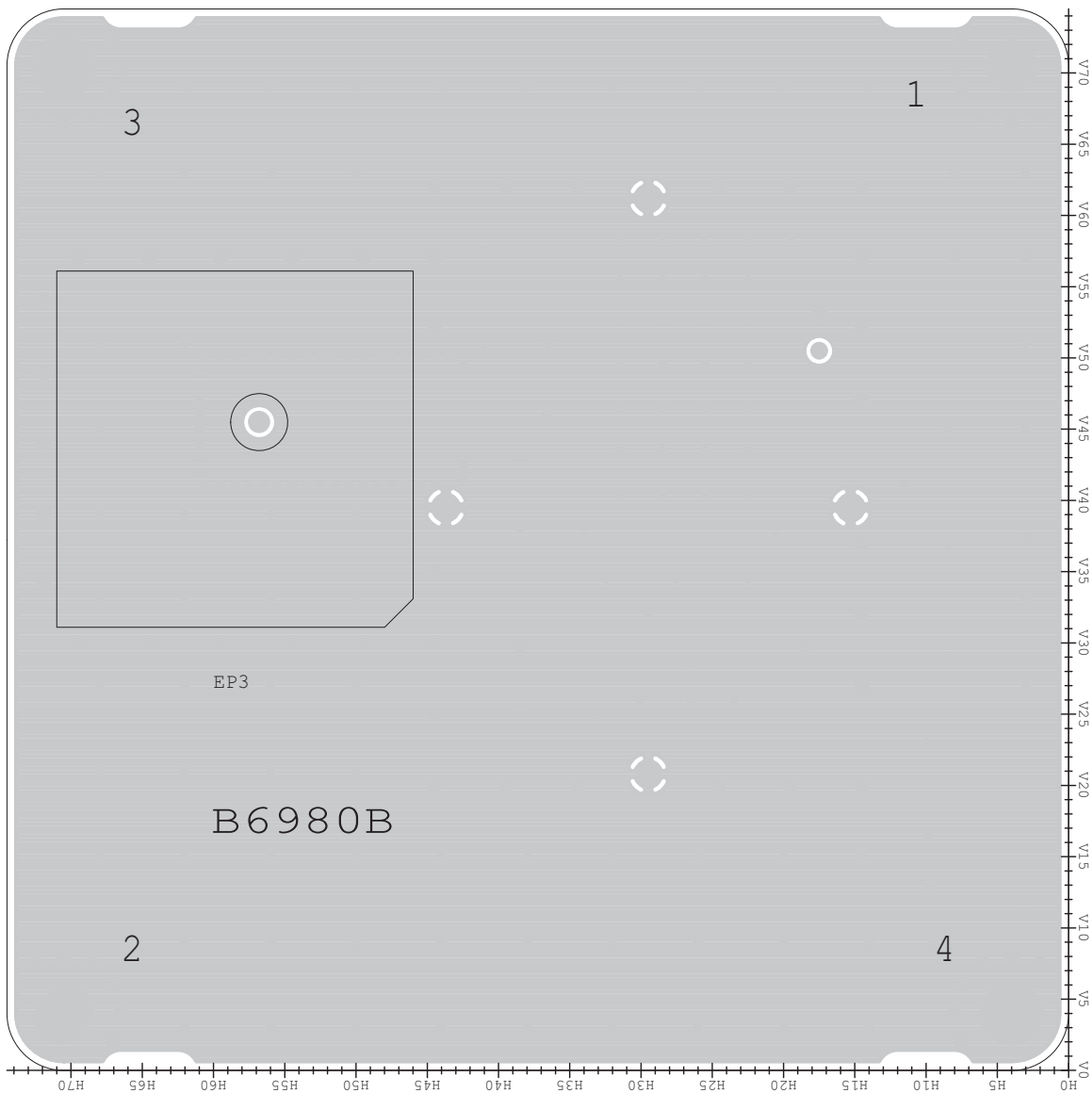
BOARD LAYOUTS

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



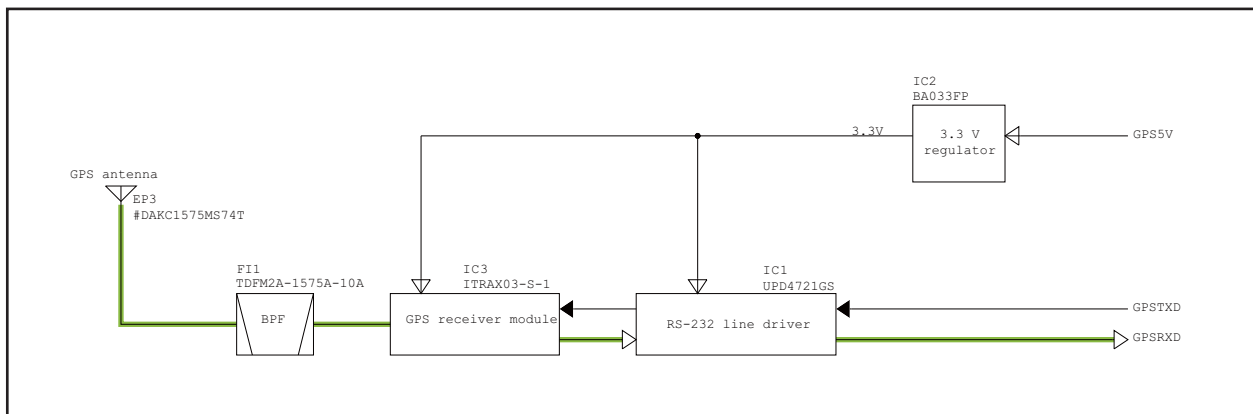
- **MAIN UNIT
(BOTOM VIEW)**

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



SECTION 6

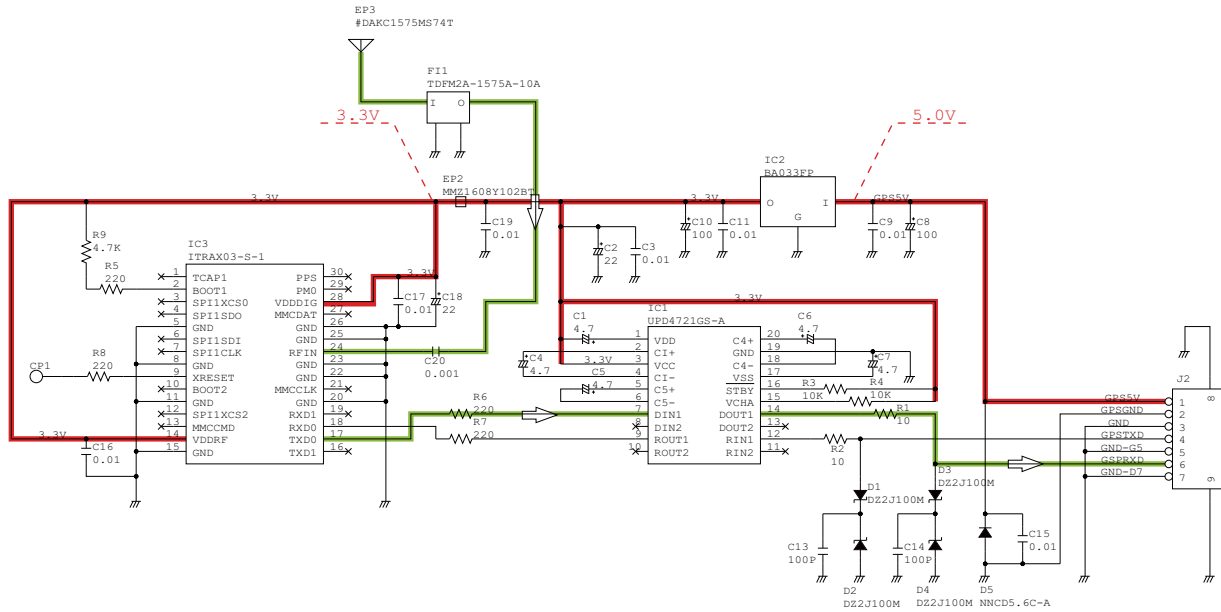
BLOCK DIAGRAM



SECTION 7

VOLTAGE DIAGRAM

• MAIN UNIT



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