

Mar. 2012



# SERVICE MANUAL ADDENDUM

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## IC-F25SR

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# PARTS LIST

**[ANT UNIT]**

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
L601	6200013010	S.COI 0.30-0.9-5TL 10.3N <COMO>	B	7.2/12.5
C601	4030017600	S.CER C1005 CH 1H 080C-T	B	5.8/15.3

**[CONNECT UNIT]**

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C501	4030017460	S.CER C1005 JB 1H 102K-T	T	8.3/5.3
C502	4030016930	S.CER C1005 JB 1A 104K-T	T	9.3/5.3
J501	6910016390	CON IMSA-9230B-1-02Z145-PT1		

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

## [MAIN-A UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
IC1	1110003201	S.IC TA31136FNG(EL)	B	51.8/19.0
IC2	1110002751	S.IC TA75S01F(T85RF)	T	68.9/21.0
IC4	1140005991	S.IC MB15A02PFV1-G-BND-ERE1	T	38.3/35.7
IC5	1110005330	S.IC NJM12904V-TE1-#ZZZB	T	28.6/7.1
IC6	1110005320	S.IC NJM13403V-TE1-#ZZZB	T	15.9/34.6
IC8	1190000350	S.IC M62363FP-650C	T	40.3/15.2
IC9	1110005350	S.IC NJM2870F05-TE1-#FZZB	B	84.2/14.2
IC10	1130011770	S.IC CD4066BPWR	T	22.9/34.6
IC12	1110001811	S.IC TA7368FG(5ER)	T	89.3/13.2
IC13	1140013890	S.IC HD6433687C50FPV(FX-2775B)	T	12.5/14.4
IC14	1110006260	S.IC BD5242G-TR	T	6.6/5.9
IC15	1130011570	S.IC BR24L32FV-WE2	B	16.0/11.6
Q1	1560000841	S.FET 2SK1829(T85RF)	T	75.0/39.6
Q2	1580000731	S.FET 3SK293(T85LF)	B	76.8/37.9
Q3	1580000800	S.FET 3SK324UG-TL-E	B	66.3/37.9
Q4	1530002601	S.TRA 2SC4215-O(T85RF)	B	51.4/23.1
Q5	1530004180	S.TRA 2SC3356-T1B YS (R25)	T	74.3/33.5
Q6	1590003231	S.TRA UNR9113G0L	T	72.6/19.1
Q7	1560001232	S.FET RD07MVS2-T112	T	82.6/27.1
Q8	1560001241	S.FET RD01MUS1-T113	T	76.1/27.5
Q9	1530003311	S.TRA 2SC5107-O(T85RF)	T	67.1/30.3
Q10	1530003311	S.TRA 2SC5107-O(T85RF)	T	59.4/36.3
Q11	1530003311	S.TRA 2SC5107-O(T85RF)	B	56.3/37.0
Q12	1530003311	S.TRA 2SC5107-O(T85RF)	T	59.0/31.5
Q13	1530002921	S.TRA 2SC4226-T1 Y25 (R25)	T	54.9/30.7
Q14	1530002921	S.TRA 2SC4226-T1 Y25 (R25)	T	54.2/37.1
Q15	1590001400	S.TRA XP1214(TX)	B	56.5/32.6
Q16	1590003291	S.TRA UNR9213G0L	B	59.1/32.6
Q17	1530002851	S.TRA 2SC4116-BL(T85RF)	T	55.5/44.1
Q18	1560000541	S.FET 2SK880-Y(T5R1COMF)	B	51.8/41.2
Q19	1530002851	S.TRA 2SC4116-BL(T85RF)	T	43.3/29.9
Q21	1510001110	S.TRA 2SA1577T106R	T	71.9/16.4
Eqv.	1510001190	S.TRA 2SA1608-T1-A Y14		
Q22	1510001110	S.TRA 2SA1577T106R	T	24.9/25.9
Eqv.	1510001190	S.TRA 2SA1608-T1-A Y14		
Q23	1520000460	S.TRA 2SB1132L T100 R	T	81.0/15.2
Eqv.	1520000910	S.TRA 2SB1132L-R-AB3-R <SLVJ>		
Q24	1590001190	S.TRA XP6501-(TX).AB	T	76.2/14.4
Q25	1590003291	S.TRA UNR9213G0L	B	77.0/14.6
Q27	1590003291	S.TRA UNR9213G0L	T	24.8/16.7
Q28	1590003431	S.TRA UNR911HG0L	B	63.1/10.6
Q29	1590003271	S.TRA UNR9210G0L	B	35.7/9.2
Q30	1510001080	S.TRA 2SA2048 TLR	T	91.9/8.6
Eqv.	1520000920	S.TRA 2SB1691WL-TL-E		
Q31	1590001190	S.TRA XP6501-(TX).AB	T	91.4/5.2
Q32	1590003020	S.TRA XP4216-TX	T	16.5/23.1
Q33	1590003231	S.TRA UNR9113G0L	T	19.9/22.5
Q34	1560001360	S.FET 2SK3019 TL	T	10.7/30.1
Eqv.	1560001840	S.FET 2SK3107-T1-AT		
Eqv.	1560001860	S.FET 2SK1824-T1-A		
Q35	1560001360	S.FET 2SK3019 TL	T	8.4/26.6
Eqv.	1560001840	S.FET 2SK3107-T1-AT		
Eqv.	1560001860	S.FET 2SK1824-T1-A		
Q36	1590001650	S.TRA XP4601(TX)	T	29.9/36.1
Q37	1510001110	S.TRA 2SA1577T106R	T	24.9/22.2
Eqv.	1510001190	S.TRA 2SA1608-T1-A Y14		
Q38	1530002691	S.TRA 2SC4116-GR(T85RF)	T	27.9/12.9
D1	1750001080	S.DIO RB886G T2R	B	90.7/40.1
Eqv.	1750002450	S.DIO HSD88KRF-E		
D2	1750000581	S.DIO 1SV307(TPH3F)	B	91.5/31.1
D3	1750000711	S.VAR HVC350BTRF-E	B	86.0/35.0
D5	1790001261	S.DIO MA25077G0L	B	86.5/39.3
D6	1790001241	S.DIO MA252780GL	B	84.5/39.9
D7	1750000711	S.VAR HVC350BTRF-E	B	81.6/35.0
D9	1750000711	S.VAR HVC350BTRF-E	B	73.6/35.9
D10	1750000711	S.VAR HVC350BTRF-E	B	72.2/35.9
D14	1790001261	S.DIO MA25077G0L	T	65.8/35.5
D15	1790001261	S.DIO MA25077G0L	T	65.8/36.9
D16	1750000711	S.VAR HVC350BTRF-E	T	52.1/38.9
D17	1750000711	S.VAR HVC350BTRF-E	T	49.4/28.3
D18	1720000570	S.VAR MA368(TX)	B	49.6/26.9
D21	1750000711	S.VAR HVC350BTRF-E	T	50.5/33.7
D22	1750000711	S.VAR HVC350BTRF-E	T	50.5/35.2
D24	1790001251	S.DIO MA251110GL	T	41.5/39.2
D25	1790001251	S.DIO MA251110GL	T	70.5/40.4
D26	1790001790	S.DIO RB876W TL	B	35.7/7.1
D27	1750001850	S.DIO LDAN222T1G <SLVJ>	B	21.3/6.0
D28	1790001261	S.DIO MA25077G0L	B	8.5/11.2
D29	1790001251	S.DIO MA251110GL	B	23.1/4.0
D30	1750001080	S.DIO RB886G T2R	T	88.5/36.2
Eqv.	1750002450	S.DIO HSD88KRF-E		
F11	2030000150	S.MON DSF753SB 46.350 MHz (FL-335)	B	62.8/27.1
F12	2020002410	CER LTM450FW <JJE>		
F13	2040001440	S.LC NFE31PT152Z1E9L (NFM60R20T152)	B	81.2/17.8
X2	6050011940	S.XTA CR-783 TTS14VSB-A6 15.3 MHz	T	36.9/28.9
X3	6050011720	S.XTA CR-764 SMD-49TB 19.6608 MHz <KDS>	B	12.0/5.9
L1	6200012490	S.COI 0.30-0.9-6TR 13.6N <COMO>	B	94.7/36.4
L2	6200013010	S.COI 0.30-0.9-5TL 10.3N <COMO>	B	94.8/31.9
L3	6200012610	S.COI 0.40-0.9-2TL 2.8N <COMO>	B	92.9/26.3
L4	6200012610	S.COI 0.40-0.9-2TL 2.8N <COMO>	B	89.9/20.6
L5	6200010850	S.COI LQW18AN22NG00D (LQW1608A22NG00)	B	89.3/36.4
L7	6200007680	S.COI LQW2BHN12NJ03L	B	84.3/34.5

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## [MAIN-A UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
L8	6200007680	S.COI LQW2BHN12NJ03L	B	79.9/34.6
L9	6200007680	S.COI LQW2BHN12NJ03L	B	75.9/35.2
L11	6200007680	S.COI LQW2BHN12NJ03L	B	70.6/37.8
L12	6200011001	S.COI ELJRF 56NJFB	B	64.2/39.0
L13	6200007850	S.COI ELJNC R82K-F	B	66.8/33.7
L15	6200002851	S.COI NLV25T-R82J	T	94.2/32.4
L17	6200012980	S.COI 0.40-1.4-5TR 18.3N <COMO>	B	81.2/29.0
L19	6200005671	S.COI ELJRE 12NGFA	T	76.0/35.5
L20	6200005691	S.COI ELJRE 18NGFA	T	68.8/33.1
L21	6200007881	S.COI ELJRF 33NJFB	T	59.2/38.6
L22	6200007901	S.COI ELJRF 22NJFB	T	59.5/33.3
L23	6200002851	S.COI NLV25T-R82J	T	55.2/28.1
L25	6200014240	S.COI 0.30-0.9-3TR 5.8J <COMO>	T	49.5/29.9
L26	6200013581	S.COI 0.30-0.9-4TR 8.6J <COMO>	T	49.0/37.9
L27	6200004951	S.COI NLV25T-1R8J	B	52.8/29.0
L28	6200004951	S.COI NLV25T-1R8J	B	51.7/37.0
L29	6200004660	S.COI MLF1608A 1R8K-T	T	43.9/36.4
L30	6200007881	S.COI ELJRF 33NJFB	B	85.1/38.7
L32	6200007911	S.COI ELJRF 18NJFB	B	55.8/40.8
L33	6200004480	S.COI MLF1608D R82K-T	T	43.4/25.9
L35	6200003540	S.COI MLF1608D R22K-T	T	41.7/31.8
L38	6200005731	S.COI ELJRE 39NGFA	B	65.6/40.7
L40	6200002851	S.COI NLV25T-R82J	T	53.6/34.6
L41	6200007881	S.COI ELJRF 33NJFB	B	58.4/38.1
L42	6200004951	S.COI NLV25T-1R8J	B	49.4/34.0
L43	6200004951	S.COI NLV25T-1R8J	B	49.4/31.1
L45	6200012490	S.COI 0.30-0.9-6TR 13.6N <COMO>	B	95.2/39.6
L46	6200007740	S.COI LQW2BHN47NJ03L	B	87.7/34.4
R1	7030009140	S.RES ERJ2GEJ 272 X (2.7K)	B	92.3/37.6
R2	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	91.1/38.2
R3	7030004970	S.RES ERJ2GEJ 470 X (4K)	T	66.7/27.0
R4	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	75.8/20.8
R5	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	73.3/21.1
R6	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	66.7/18.2
R7	7030005310	S.RES ERJ2GEJ 124 X (120K)	T	68.0/17.7
R8	7030005170	S.RES ERJ2GEJ 474 X (470K)	T	71.3/21.1
R9	7030008280	S.RES ERJ2GEJ 271 X (270)	T	71.3/22.4
R10	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	68.4/24.0
R11	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	84.0/35.8
R12	7030005530	S.RES ERJ2GEJ 100 X (10)	T	77.6/37.5
R13	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	82.3/35.8
R14	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	84.0/36.7
R15	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	79.1/38.4
R16	7030004980	S.RES ERJ2GEJ 101 X (100)	B	74.8/39.9
R17	7030004970	S.RES ERJ2GEJ 470 X (47)	B	74.0/33.3
R18	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	78.8/36.7
R19	7030005080	S.RES ERJ2GEJ 823 X (82K)	T	78.8/38.7
R20	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	75.9/33.7
R21	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	72.2/38.9
R22	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	69.2/38.9
R23	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	71.2/38.9
R24	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	64.6/38.0
R25	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	68.1/37.8
R29	7030004980	S.RES ERJ2GEJ 101 X (100)	B	64.2/35.1
R30	7030005000	S.RES ERJ2GEJ 471 X (470)	B	67.1/35.7
R31	7030004980	S.RES ERJ2GEJ 101 X (100)	B	64.2/32.1
R32	7030004980	S.RES ERJ2GEJ 101 X (100)	B	65.7/31.5
R33	7030007270	S.RES ERJ2GEJ 151 X (150)	B	55.5/25.2
R34	7030005110	S.RES ERJ2GEJ 224 X (220K)	B	52.5/25.2
R35	7030004980	S.RES ERJ2GEJ 101 X (100)	B	50.5/25.2
R36	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	T	52.5/15.5
R38	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	46.5/21.0
R39	7030004970	S.RES ERJ2GEJ 470 X (47)	B	55.8/22.3
R40	7030007270	S.RES ERJ2GEJ 151 X (150)	B	56.2/21.1
R42	7030008400	S.RES ERJ2GEJ 182 X (1.8K)	B	52.8/15.4
R43	7030004970	S.RES ERJ2GEJ 470 X (47)	B	47.5/15.4
R44	7030005700	S.RES ERJ2GEJ 274 X (270K)	B	54.8/15.4
R45	7030008290	S.RES ERJ2GEJ 183 X (18K)	B	52.8/13.7
R46	7030005030	S.RES ERJ2GEJ 152 X (1.5K)	B	53.8/13.7
R48	7030005000	S.RES ERJ2GEJ 471 X (470)	B	51.5/25.2
R50	7030004980	S.RES ERJ2GEJ 101 X (100)	T	66.3/38.0
R51	7030005080	S.RES ERJ2GEJ 823 X (82K)	B	94.0/41.4
R52	7030004990	S.RES ERJ2GEJ 221 X (220)	T	93.3/35.9
R53	7030005530	S.RES ERJ2GEJ 100 X (10)	T	80.0/22.5
R54	7030005060	S.RES ERJ2GEJ 333 X (33K)	T	81.3/21.4
R55	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	80.0/22.9
R56	7030003860	S.RES ERJ3GE JPW V	T	78.0/20.4
R57	7030004970	S.RES ERJ2GEJ 470 X (47)	T	75.2/23.2
R59	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	71.2/24.0
R61	7030004970	S.RES ERJ2GEJ 470 X (47)	T	71.8/36.3
R62	7030005220	S.RES ERJ2GEJ 223 X (22K)	T	72.1/35.0
R65	7030004980	S.RES ERJ2GEJ 101 X (100)	T	69.5/34.2
R66	7030007340	S.RES ERJ2GEJ 153 X (15K)	T	67.9/34.2
R67	7030004980	S.RES ERJ2GEJ 101 X (100)	T	67.9/35.1
R68	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	69.5/35.1
R69	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	65.0/34.2
R70	7030005530	S.RES ERJ2GEJ 100 X (10)	B	57.6/39.9
R71	7030005070	S.RES ERJ2GEJ 683 X (68K)	T	58.7/38.6
R73	7030004980	S.RES ERJ2GEJ 101 X (100)	B	57.2/30.5
R75	7030005110	S.RES ERJ2GEJ 224 X (220K)	B	58.4/36.1
R76	7030004980	S.RES ERJ2GEJ 101 X (100)	B	57.6/39.0
R77	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	56.7/30.5
R78	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	57.8/33.3
R79	7030006020	S.RES RR0510P-682-D (6.8K)	T	56.5/38.9
R80	7030008370	S.RES ERJ2GEJ 561 X (560)	B	54.6/32.8
R82	7030009320			

[MAIN-A UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R90	7030005170	S.RES ERJ2GEJ 474 X (470K)	B	46.9/25.1
R92	7030005310	S.RES ERJ2GEJ 124 X (120K)	B	46.9/26.1
R93	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	39.8/39.4
R94	7030005100	S.RES ERJ2GEJ 154 X (150K)	T	41.8/40.8
R95	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	49.9/36.4
R96	7030008410	S.RES ERJ2GEJ 392 X (3.9K)	B	49.4/39.9
R97	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	49.4/38.1
R98	7030007290	S.RES ERJ2GEJ 222 X (2.2K)	T	53.5/44.1
R100	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	B	49.1/42.0
R101	7030005000	S.RES ERJ2GEJ 471 X (470)	B	51.7/43.5
R103	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	33.1/27.8
R104	7030005230	S.RES ERJ2GEJ 334 X (330K)	T	31.5/26.9
R105	7030005170	S.RES ERJ2GEJ 474 X (470K)	T	33.1/28.8
R106	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	37.5/32.0
R107	7030005580	S.RES ERJ2GEJ 560 X (56)	B	55.8/43.5
R108	7030005600	S.RES ERJ2GEJ 273 X (27K)	T	44.9/21.0
R109	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	43.9/21.0
R110	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	21.8/34.3
R111	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	29.2/25.3
R113	7030006610	S.RES ERJ2GEJ 394 X (390K)	B	46.9/31.1
R114	7030005100	S.RES ERJ2GEJ 154 X (150K)	B	46.9/29.1
R115	7030007570	S.RES ERJ2GEJ 122 X (1.2K)	T	40.5/32.0
R116	7030007060	S.RES ERJ2GEJ 684X (680K)	T	43.4/32.7
R117	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	35.3/40.1
R118	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	37.2/40.1
R123	7030008400	S.RES ERJ2GEJ 182 X (1.8K)	T	75.2/37.7
R124	7030005170	S.RES ERJ2GEJ 474 X (470K)	T	72.7/40.4
R125	7030005110	S.RES ERJ2GEJ 224 X (220K)	T	73.2/38.9
R130	7030010080	S.RES ERJ2RHD 1003X (100K)	T	40.9/28.1
R131	7510001730	S.THE ERTJOEP 473J	T	40.9/27.1
R132	7030004980	S.RES ERJ2GEJ 101 X (100)	T	77.0/12.6
R133	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	84.1/14.2
R134	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	B	75.5/15.0
R135	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	24.5/24.0
R136	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	22.8/24.0
R137	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	69.8/14.7
R138	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	69.8/16.7
R139	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	21.6/20.6
R140	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	23.0/22.1
R141	7030005000	S.RES ERJ2GEJ 471 X (470)	T	35.4/10.0
R142	7030005000	S.RES ERJ2GEJ 471 X (470)	T	43.3/41.0
R143	7030007340	S.RES ERJ2GEJ 153 X (15K)	T	38.3/21.9
R144	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	46.5/13.7
R154	7030008010	S.RES ERJ2GEJ 123 X (12K)	B	64.2/38.1
R155	7030005310	S.RES ERJ2GEJ 124 X (120K)	B	62.5/38.1
R156	7030005080	S.RES ERJ2GEJ 823 X (82K)	B	62.5/39.9
R159	7030008010	S.RES ERJ2GEJ 123 X (12K)	T	15.7/28.8
R160	7030004980	S.RES ERJ2GEJ 101 X (100)	B	6.5/31.3
R161	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	12.9/27.3
R162	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	8.7/29.8
R163	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	14.1/29.8
R164	7030008410	S.RES ERJ2GEJ 392 X (3.9K)	T	15.7/27.8
R165	7030008410	S.RES ERJ2GEJ 392 X (3.9K)	T	12.6/31.9
R166	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	12.6/36.1
R167	7030009290	S.RES ERJ2GEJ 562 X (5.6K)	T	15.7/29.8
R168	7030005000	S.RES ERJ2GEJ 471 X (470)	T	16.3/40.1
R169	7030005100	S.RES ERJ2GEJ 154 X (150K)	T	18.0/41.1
R170	7030008010	S.RES ERJ2GEJ 123 X (12K)	T	12.9/29.3
R171	7030005100	S.RES ERJ2GEJ 154 X (150K)	T	11.6/36.1
R172	7030005700	S.RES ERJ2GEJ 274 X (270K)	T	18.0/39.1
R173	7030005310	S.RES ERJ2GEJ 124 X (120K)	T	19.4/26.8
R174	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	19.4/28.8
R175	7030005110	S.RES ERJ2GEJ 224 X (220K)	T	19.4/27.8
R176	7030005100	S.RES ERJ2GEJ 154 X (150K)	T	17.7/27.8
R177	7030005060	S.RES ERJ2GEJ 333 X (33K)	T	17.7/28.8
R178	7030005710	S.RES ERJ2GEJ 121 X (120)	T	19.4/30.7
R179	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	11.9/16.6
R180	7030005160	S.RES ERJ2GEJ 105 X (1M)	T	24.7/40.1
R181	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	21.1/40.1
R182	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	24.7/39.1
R183	7030006020	S.RES RR0510P-682-D (6.8K)	B	17.2/39.1
R184	7030008250	S.RES RR0510P-562-D (5.6K)	B	17.7/40.4
R185	7030005310	S.RES ERJ2GEJ 124 X (120K)	B	18.7/40.4
R186	7030005080	S.RES ERJ2GEJ 823 X (82K)	T	19.4/29.8
R187	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	12.3/17.5
R188	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	32.8/20.3
R189	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	33.5/21.9
R190	7030007280	S.RES ERJ2GEJ 331 X (330)	T	34.7/18.9
R191	7030008300	S.RES ERJ2GEJ 184 X (180K)	T	18.0/4.1
R192	7030005720	S.RES ERJ2GEJ 563 X (56K)	T	18.0/5.1
R193	7030005220	S.RES ERJ2GEJ 223 X (22K)	T	18.0/6.1
R194	7030005220	S.RES ERJ2GEJ 223 X (22K)	T	23.9/10.9
R195	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	19.7/4.1
R196	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	23.9/11.9
R197	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	23.9/12.9
R198	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	25.7/12.9
R199	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	27.5/14.9
R200	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	25.7/14.9
R201	7030007350	S.RES ERJ2GEJ 393 X (39K)	T	23.9/14.9
R202	7030010040	S.RES ERJ2GEJ-JPW	T	27.9/10.9
R206	7030005110	S.RES ERJ2GEJ 224 X (220K)	T	13.4/4.1
R207	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	13.4/5.1
R208	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	15.6/1.1
R209	7030005220	S.RES ERJ2GEJ 223 X (22K)	T	15.6/6.0
R210	7030008010	S.RES ERJ2GEJ 123 X (12K)	T	15.6/4.1
R211	7030005070	S.RES ERJ2GEJ 683 X (68K)	T	23.9/4.5
R212	7030005070	S.RES ERJ2GEJ 683 X (68K)	T	23.9/5.5
R213	7030005070	S.RES ERJ2GEJ 683 X (68K)	T	23.9/6.5
R214	7030005070	S.RES ERJ2GEJ 683 X (68K)	T	27.9/4.5
R215	7030005070	S.RES ERJ2GEJ 683 X (68K)	T	31.3/4.5
R220	7030004980	S.RES ERJ2GEJ 101 X (100)	B	16.0/23.2
R221	7030005000	S.RES ERJ2GEJ 471 X (470)	B	66.5/13.7
R222	7030005080	S.RES ERJ2GEJ 823 X (82K)	B	63.9/8.5
R223	7030005060	S.RES ERJ2GEJ 333 X (33K)	B	61.0/11.3
R224	7030005000	S.RES ERJ2GEJ 471 X (470)	B	75.5/10.3

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

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REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R225	7030004980	S.RES ERJ2GEJ 101 X (100)	B	33.9/7.1
R226	7210003390	VAR F081165S-5 A10K L15FCX7 <SLVJ>		
R227	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	94.9/13.9
R228	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	94.2/15.2
R229	7030005530	S.RES ERJ2GEJ 100 X (10)	T	86.0/9.7
R230	7030005530	S.RES ERJ2GEJ 100 X (10)	T	87.0/17.0
R231	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	90.6/2.8
R232	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	T	93.2/4.5
R233	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	T	92.7/2.8
R234	7030005100	S.RES ERJ2GEJ 154 X (150K)	B	23.3/6.2
R235	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	20.3/4.2
R236	7030005230	S.RES ERJ2GEJ 334 X (330K)	B	23.3/5.2
R237	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	21.1/39.1
R238	7410001140	S.ARR EXB28V104JX	B	40.9/9.6
R240	7030005590	S.RES ERJ2GEJ 680 X (68)	T	99.7/12.3
R251	7030008010	S.RES ERJ2GEJ 102 X (12K)	B	5.9/9.1
R252	7030005530	S.RES ERJ2GEJ 100 X (10)	B	13.7/9.1
R254	7030008010	S.RES ERJ2GEJ 102 X (12K)	B	9.3/10.1
R255	7030008010	S.RES ERJ2GEJ 123 X (12K)	B	7.6/10.1
R256	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	6.0/8.6
R257	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	9.0/22.1
R258	7410001140	S.ARR EXB28V104JX	T	6.6/20.6
R259	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	21.6/22.1
R260	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	21.3/25.2
R261	7410001130	S.ARR EXB28V102JX	T	19.4/19.9
R262	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	21.3/13.9
R263	7030005050	S.RES ERJ2GEJ 123 X (10K)	T	21.3/12.9
R264	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	21.3/10.9
R265	7410001130	S.ARR EXB28V102JX	T	19.7/9.2
R266	7030007340	S.RES ERJ2GEJ 153 X (15K)	T	5.7/18.8
R271	7030005160	S.RES ERJ2GEJ 105 X (1M)	B	10.0/39.3
R272	7030005160	S.RES ERJ2GEJ 105 X (1M)	B	11.0/39.3
R273	7030005160	S.RES ERJ2GEJ 105 X (1M)	B	12.0/39.3
R274	7030005070	S.RES ERJ2GEJ 683 X (68K)	B	15.0/39.3
R275	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	13.0/39.3
R276	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	8.0/39.3
R277	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	9.0/39.3
R278	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	14.0/39.3
R280	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	16.2/36.2
R284	7030004980	S.RES ERJ2GEJ 101 X (100)	B	16.3/27.0
R287	7030007280	S.RES ERJ2GEJ 331 X (330)	T	18.4/23.8
R288	7030005030	S.RES ERJ2GEJ 152 X (1.5K)	T	14.7/22.7
R291	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	5.9/12.5
R292	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	7.6/12.5
R293	7030008290	S.RES ERJ2GEJ 183 X (18K)	T	61.4/43.4
R294	7030005600	S.RES ERJ2GEJ 273 X (27K)	T	60.4/43.4
R295	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	95.1/43.4
R296	7030009140	S.RES ERJ2GEJ 272 X (2.7K)	B	92.8/35.5
R297	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	91.1/36.4
R298	7030010040	S.RES ERJ2GEJ-JPW	B	93.2/22.5
R299	7030004990	S.RES ERJ2GEJ 221 X (220)	T	93.3/34.9
R301	7030005220	S.RES ERJ2GEJ 223 X (22K)	T	28.5/31.4
R302	7030005220	S.RES ERJ2GEJ 223 X (22K)	T	28.5/32.3
R303	7030005220	S.RES ERJ2GEJ 223 X (22K)	T	30.2/33.2
R304	7030007340	S.RES ERJ2GEJ 153 X (15K)	T	31.7/35.3
R305	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	T	30.2/34.1
R306	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	28.5/34.1
R307	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	28.1/36.1
R308	7030007570	S.RES ERJ2GEJ 122 X (1.2K)	T	30.2/38.1
R309	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	31.7/36.9
C1	4030017600	S.CER C1005 CH 1H 080C-T	B	96.5/41.4
C2	4030017350	S.CER C1005 CH 1H 020B-T	B	93.2/36.8
C3	4030017600	S.CER C1005 CH 1H 080C-T	B	96.5/33.9
C4	4030017560	S.CER C1005 CH 1H 2R5B-T	B	94.9/33.9
C5	4030017570	S.CER C1005 CH 1H 040B-T	B	94.6/30.2
C6	4030017460	S.CER C1005 JB 1H 102K-T	B	92.8/33.4
C7	4030017460	S.CER C1005 JB 1H 102K-T	B	92.9/29.6
C8	4030017370	S.CER C1005 CH 1H 3R5B-T	B	93.2/28.1
C11	4030006980	S.CER C1608 CH 1H 070D-T	B	91.5/21.9
C12	4030007000	S.CER C1608 CH 1H 090D-T	B	91.5/19.3
C13	4030007020	S.CER C1608 CH 1H 120J-T	B	88.3/20.8
C14	4030017570	S.CER C1005 CH 1H 040B-T	B	87.7/37.8
C16	4030008560	S.CER C1608 CH 1H 300J-T	B	86.5/21.5
C17	4030017510	S.CER C1005 CH 1H 680J-T	B	83.4/38.7
C19	4030017460	S.CER C1005 JB 1H 102K-T	B	

[MAIN-A UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C53	4030016790	S.CER C1005 JB 1E 103K-T	B	64.2/33.1
C54	4030017460	S.CER C1005 JB 1H 102K-T	B	64.2/34.1
C56	4030017400	S.CER C1005 CH 1H 220J-T	B	64.3/23.8
C57	4030017460	S.CER C1005 JB 1H 102K-T	T	64.1/36.8
C58	4030017460	S.CER C1005 JB 1H 102K-T	B	53.9/24.3
C59	4030017460	S.CER C1005 JB 1H 102K-T	B	49.5/25.2
C60	4030017460	S.CER C1005 JB 1H 102K-T	B	52.5/26.9
C61	4030017430	S.CER C1005 CH 1H 101J-T	B	49.5/22.7
C62	4030017510	S.CER C1005 CH 1H 680J-T	B	47.5/17.6
C63	4030017420	S.CER C1005 CH 1H 470J-T	B	46.5/20.7
C65	4030017460	S.CER C1005 JB 1H 102K-T	B	46.5/18.9
C66	4030017460	S.CER C1005 JB 1H 102K-T	B	47.5/13.7
C67	4030017460	S.CER C1005 JB 1H 102K-T	B	53.9/22.3
C68	4030017780	S.CER C1005 JB 1H 472K-T	B	51.8/13.7
C69	4030017710	S.CER C1005 CH 1H 181J-T	B	53.8/15.4
C70	4030017710	S.CER C1005 CH 1H 181J-T	B	54.8/13.7
C71	4030016930	S.CER C1005 JB 1A 104K-T	B	56.2/17.5
C72	4030017420	S.CER C1005 CH 1H 470J-T	T	69.8/18.7
C73	4030017460	S.CER C1005 JB 1H 102K-T	T	69.3/24.0
C74	4030017460	S.CER C1005 JB 1H 102K-T	B	91.1/37.3
C75	4550006250	S.TAN TEESVA 1A 106M8R	B	54.5/9.9
Eqv.	4550007520	S.TAN F931A106MAABMA		
C76	4030016790	S.CER C1005 JB 1E 103K-T	T	66.7/21.1
C77	4030017460	S.CER C1005 JB 1H 102K-T	T	65.7/22.7
C78	4030017460	S.CER C1005 JB 1H 102K-T	T	74.8/20.8
C79	4030018890	S.CER C1005 JB 0J 224K-T	T	72.3/21.1
C80	4030017780	S.CER C1005 JB 1H 472K-T	T	68.0/18.7
C81	4030016790	S.CER C1005 JB 1E 103K-T	B	77.2/21.5
C82	4030017460	S.CER C1005 JB 1H 102K-T	B	78.2/21.5
C84	4030017420	S.CER C1005 CH 1H 470J-T	T	81.3/20.5
C86	4030017670	S.CER C1005 CH 1H 390J-T	T	78.7/24.4
C88	4030017460	S.CER C1005 JB 1H 102K-T	T	73.1/24.0
C89	4030017570	S.CER C1005 CH 1H 040B-T	T	75.5/24.4
C91	4510009280	S.ELE EEE1EA4R7SR	B	69.7/20.3
C92	4030017630	S.CER C1005 CH 1H 120J-T	T	74.6/30.9
C93	4030017380	S.CER C1005 CH 1H 050B-T	T	70.9/33.5
C94	4030017730	S.CER C1005 JB 1H 471K-T	T	70.3/24.0
C97	4030017420	S.CER C1005 CH 1H 470J-T	T	74.8/36.0
C98	4030017380	S.CER C1005 CH 1H 050B-T	T	66.5/34.2
C99	4030017460	S.CER C1005 JB 1H 102K-T	T	68.3/36.3
C100	4030017620	S.CER C1005 CH 1H 100C-T	B	61.3/36.1
C102	4030017380	S.CER C1005 CH 1H 050B-T	T	59.5/34.3
C103	4030017350	S.CER C1005 CH 1H 020B-T	B	58.4/35.1
C104	4030017460	S.CER C1005 JB 1H 102K-T	T	58.9/29.4
C105	4030017460	S.CER C1005 JB 1H 102K-T	B	58.4/37.2
C106	4030017420	S.CER C1005 CH 1H 470J-T	B	70.3/33.9
C107	4030017460	S.CER C1005 JB 1H 102K-T	T	70.6/36.3
C108	4030016790	S.CER C1005 JB 1E 103K-T	T	69.7/36.3
C109	4030017460	S.CER C1005 JB 1H 102K-T	B	57.6/40.8
C110	4030017730	S.CER C1005 JB 1H 471K-T	B	55.7/30.5
C111	4030017420	S.CER C1005 CH 1H 470J-T	B	56.3/34.4
C112	4030017460	S.CER C1005 JB 1H 102K-T	T	60.2/38.6
C113	4030017520	S.CER C1005 CH 1H 0R3B-T	T	56.1/32.6
C114	4030017580	S.CER C1005 CH 1H 060C-T	T	51.9/36.5
C115	4030017630	S.CER C1005 CH 1H 120J-T	T	55.7/35.4
C116	4030016790	S.CER C1005 JB 1E 103K-T	T	56.5/37.9
C117	4030017730	S.CER C1005 JB 1H 471K-T	T	56.5/36.6
C118	4030017530	S.CER C1005 CH 1H 0R5B-T	T	56.1/33.9
C119	4030017460	S.CER C1005 JB 1H 102K-T	T	56.6/31.6
C120	4030017730	S.CER C1005 JB 1H 471K-T	T	57.5/28.7
C121	4030017630	S.CER C1005 CH 1H 120J-T	T	52.6/30.0
C122	4030017620	S.CER C1005 CH 1H 100C-T	T	53.1/28.6
C123	4030017390	S.CER C1005 CH 1H 180J-T	T	52.6/31.0
C124	4030017610	S.CER C1005 CH 1H 090C-T	T	51.1/29.0
C126	4030017630	S.CER C1005 CH 1H 120J-T	T	51.9/37.7
C127	4030017610	S.CER C1005 CH 1H 090C-T	T	50.5/37.5
C129	4030017530	S.CER C1005 CH 1H 0R5B-T	T	48.4/31.4
C130	4030016950	S.CER C1005 JB 1A 473K-T	B	49.4/39.0
C132	4030017460	S.CER C1005 JB 1H 102K-T	B	49.6/27.1
C133	4030017390	S.CER C1005 CH 1H 180J-T	T	51.1/31.0
C134	4030017390	S.CER C1005 CH 1H 180J-T	T	50.6/36.3
C135	4030017460	S.CER C1005 JB 1H 102K-T	T	48.4/34.4
C136	4030016930	S.CER C1005 JB 1A 104K-T	T	48.4/35.4
C137	4030016790	S.CER C1005 JB 1E 103K-T	T	57.8/44.1
C138	4030017460	S.CER C1005 JB 1H 102K-T	B	49.6/28.4
C139	4030016930	S.CER C1005 JB 1A 104K-T	B	56.7/28.9
C140	4030016930	S.CER C1005 JB 1A 104K-T	T	43.4/34.7
C141	4030017460	S.CER C1005 JB 1H 102K-T	B	50.0/42.0
C142	4030017460	S.CER C1005 JB 1H 102K-T	T	42.9/21.0
C143	4030017460	S.CER C1005 JB 1H 102K-T	B	53.3/43.5
C144	4030017420	S.CER C1005 CH 1H 470J-T	B	49.6/29.3
C145	4030017420	S.CER C1005 CH 1H 470J-T	B	47.1/23.9
C146	4550000270	S.TAN TEESVA 1E 474M8R	B	52.6/32.7
Eqv.	4550007610	S.TAN F931E474MAABMA		
C147	4550000460	S.TAN TEESVA 1C 105M8R	B	47.6/41.4
Eqv.	4550007670	S.TAN F931C105MAABMA		
C148	4550006250	S.TAN TEESVA 1A 106M8R	T	50.1/44.1
Eqv.	4550007520	S.TAN F931A106MAABMA		
C149	4030017460	S.CER C1005 JB 1H 102K-T	T	43.8/39.1
C150	4030018860	S.CER C1005 JB 0J 105K-T	T	44.9/22.7
C151	4030016930	S.CER C1005 JB 1A 104K-T	T	42.0/40.8
C152	4030017420	S.CER C1005 CH 1H 470J-T	T	35.3/41.1
C153	4030017420	S.CER C1005 CH 1H 470J-T	T	37.2/41.1
C154	4030017420	S.CER C1005 CH 1H 470J-T	T	38.0/39.1
C155	4030017420	S.CER C1005 CH 1H 470J-T	T	43.8/38.1
C156	4030017460	S.CER C1005 JB 1H 102K-T	T	39.5/32.0
C157	4030017620	S.CER C1005 CH 1H 100C-T	T	38.5/32.0
C158	4030016930	S.CER C1005 JB 1A 104K-T	T	36.3/31.4
C159	4030017460	S.CER C1005 JB 1H 102K-T	T	36.3/32.4
C160	4030016930	S.CER C1005 JB 1A 104K-T	B	20.2/33.7
C161	4030017620	S.CER C1005 CH 1H 100C-T	T	43.4/33.7
C162	4030017500	S.CER C1005 CH 1H 560J-T	T	43.9/28.1
C163	4030017570	S.CER C1005 CH 1H 040B-T	T	42.5/27.6
C164	4030017590	S.CER C1005 CH 1H 070C-T	T	43.9/27.1
C165	4030016790	S.CER C1005 JB 1E 103K-T	T	43.4/31.7

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

[MAIN-A UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C166	4030017360	S.CER C1005 CH 1H 030B-T	T	43.2/24.7
C167	4030016930	S.CER C1005 JB 1A 104K-T	B	55.8/23.3
C168	4030016930	S.CER C1005 JB 1A 104K-T	B	56.6/19.8
C169	4030016930	S.CER C1005 JB 1A 104K-T	B	56.6/18.8
C170	4030017460	S.CER C1005 JB 1H 102K-T	T	91.5/34.2
C171	4030017420	S.CER C1005 CH 1H 470J-T	T	91.5/35.2
C173	4030017460	S.CER C1005 JB 1H 102K-T	T	40.9/30.1
C175	4030017360	S.CER C1005 CH 1H 030B-T	B	94.9/41.4
C176	4030017460	S.CER C1005 JB 1H 102K-T	T	77.8/20.5
C177	4030009910	S.CER C1608 CH 1H 040B-T	B	90.7/33.4
C178	4030017420	S.CER C1005 CH 1H 470J-T	T	77.8/21.4
C179	4030006860	S.CER C1608 JB 1H 102K-T	T	86.6/31.5
C180	4030017420	S.CER C1005 CH 1H 470J-T	T	67.1/32.3
C182	4030017600	S.CER C1005 CH 1H 080C-T	T	68.8/31.6
C183	4030017420	S.CER C1005 CH 1H 470J-T	T	74.1/24.0
C185	4030017530	S.CER C1005 CH 1H 0R5B-T	B	91.1/35.5
C186	4030017530	S.CER C1005 CH 1H 0R5B-T	B	92.3/39.2
C188	4030017460	S.CER C1005 JB 1H 102K-T	B	47.5/20.7
C191	4030017460	S.CER C1005 JB 1H 102K-T	T	65.0/39.3
C192	4030017420	S.CER C1005 CH 1H 470J-T	T	66.0/39.3
C193	4030017350	S.CER C1005 CH 1H 020B-T	B	68.5/40.2
C194	4030017350	S.CER C1005 CH 1H 020B-T	B	64.2/40.8
C195	4030017350	S.CER C1005 CH 1H 020B-T	B	64.2/39.9
C196	4030017420	S.CER C1005 CH 1H 470J-T	B	62.5/39.0
C197	4030017460	S.CER C1005 JB 1H 102K-T	B	62.5/40.8
C202	4030016930	S.CER C1005 JB 1A 104K-T	T	48.4/33.4
C203	4030017460	S.CER C1005 JB 1H 102K-T	B	46.9/30.1
C205	4030017380	S.CER C1005 CH 1H 050B-T	B	55.8/39.0
C206	4030017590	S.CER C1005 CH 1H 070C-T	B	55.8/39.9
C208	4030017590	S.CER C1005 CH 1H 070C-T	B	55.8/41.7
C209	4030017460	S.CER C1005 JB 1H 102K-T	B	55.8/42.6
C211	4030018910	S.CER C1608 JB 0J 475K-T	T	36.6/21.3
C213	4030017460	S.CER C1005 JB 1H 102K-T	T	31.5/27.8
C222	4030016930	S.CER C1005 JB 1A 104K-T	T	19.2/34.0
C224	4030016930	S.CER C1005 JB 1A 104K-T	T	40.9/29.1
C225	4030017460	S.CER C1005 JB 1H 102K-T	B	83.0/11.6
C226	4550006250	S.TAN TEESVA 1A 106M8R	B	81.2/13.5
Eqv.	4550007520	S.TAN F931A106MAABMA		
C227	4030016790	S.CER C1005 JB 1E 103K-T	B	86.9/13.0
C228	4510008540	S.ELE EEE1CA100SR	B	89.4/15.7
C229	4030017460	S.CER C1005 JB 1H 102K-T	B	85.8/17.8
C230	4030016930	S.CER C1005 JB 1A 104K-T	B	85.8/16.8
C231	4030016790	S.CER C1005 JB 1E 103K-T	B	74.6/15.0
C232	4030017730	S.CER C1005 JB 1H 471K-T	B	79.6/13.4
C233	4030016790	S.CER C1005 JB 1E 103K-T	T	23.0/25.2
C234	4030017460	S.CER C1005 JB 1H 102K-T	T	24.2/27.8
C235	4030016790	S.CER C1005 JB 1E 103K-T	T	69.8/15.7
C236	4030017460	S.CER C1005 JB 1H 102K-T	T	69.8/17.7
C237	4550007320	S.TAN F930J226MAABMA	T	27.2/19.5
C238	4030017460	S.CER C1005 JB 1H 102K-T	T	27.2/22.5
C239	4030016790	S.CER C1005 JB 1E 103K-T	T	23.2/20.6
C240	4030016930	S.CER C1005 JB 1A 104K-T	T	75.4/12.6
C241	4030016930	S.CER C1005 JB 1A 104K-T	T	37.1/10.0
C242	4030016930	S.CER C1005 JB 1A 104K-T	T	44.9/10.0
C243	4030016790	S.CER C1005 JB 1E 103K-T	T	40.7/10.0
C244	4030016930	S.CER C1005 JB 1A 104K-T	B	46.5/15.4
C256	4030016940	S.CER C1005 JB 1A 393K-T	T	30.2/31.4
C257	4030016930	S.CER C1005 JB 1A 104K-T	T	28.5/33.2
C258	4030016790	S.CER C1005 JB 1E 103K-T	T	30.2/32.3
C259	4030016930	S.CER C1005 JB 1A 104K-T	T	32.6/35.3
C261	4030016970	S.CER C1005 JB 1E 223K-T	T	30.2/39.0
C264	4510008540	S.ELE EEE1CA100SR	B	69.7/15.5
C265	4030017460	S.CER C1005 JB 1H 102K-T	B	65.0/12.9
C266	4030016930	S.CER C1005 JB 1A 104K-T	B	62.3/8.5
C269	4030017720	S.CER C1005 JB 1H 331K-T	T	11.6/37.9
C270	4030016950	S.CER C1005 JB 1A 473K-T	T	14.1/28.8
C271	4030016950	S.CER C1005 JB 1A 473K-T	T	14.1/26.8
C272	4030016950	S.CER C1005 JB 1A 473K-T	T	9.8/27.9
C273	4030016950	S.CER C1005 JB 1A 473K-T	T	14.1/27.8
C274	4030016950	S.CER C1005 JB 1A 473K-T	T	11.6/31.9
C275	4030016970	S.CER C1005 JB 1E 223K-T	T	11.6/34.4
C276	4030016950			

**[MAIN-A UNIT]**

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C313	4030017420	S.CER C1005 CH 1H 470J-T	B	32.9/7.1
C314	4030017460	S.CER C1005 JB 1H 102K-T	T	86.6/3.3
C315	4030017460	S.CER C1005 JB 1H 102K-T	T	93.2/6.1
C316	4030016930	S.CER C1005 JB 1A 104K-T	T	91.7/2.8
C317	4510008540	S.ELE EEE1CA100SR	B	95.9/15.2
C318	4030016930	S.CER C1005 JB 1A 104K-T	T	89.7/8.9
C319	4030016930	S.CER C1005 JB 1A 104K-T	T	89.6/2.8
C320	4030017730	S.CER C1005 JB 1H 471K-T	T	88.6/2.8
C321	4030017460	S.CER C1005 JB 1H 102K-T	B	19.3/4.2
C322	4030016950	S.CER C1005 JB 1A 473K-T	T	93.9/13.9
C323	4030016950	S.CER C1005 JB 1A 473K-T	T	87.6/9.7
C324	4030017420	S.CER C1005 CH 1H 470J-T	T	85.0/13.7
C325	4550006250	S.TAN TEESVA 1A 106M8R	T	90.6/17.2
Eqv.	4550007520	S.TAN F931A106MAABMA		
C326	4510008900	S.ELE EEEFC0J101P	B	87.8/8.9
C333	4030017420	S.CER C1005 CH 1H 470J-T	B	76.8/39.9
C335	4030018860	S.CER C1005 JB 0J 105K-T	B	57.2/21.1
C339	4030016930	S.CER C1005 JB 1A 104K-T	B	5.9/17.2
C340	4030016930	S.CER C1005 JB 1A 104K-T	B	9.3/12.5
C341	4030016930	S.CER C1005 JB 1A 104K-T	B	5.9/10.1
C342	4030017630	S.CER C1005 CH 1H 120J-T	B	18.3/4.2
C343	4030017580	S.CER C1005 CH 1H 060C-T	B	5.6/4.2
C344	4030017640	S.CER C1005 CH 1H 150J-T	B	7.6/9.1
C345	4030016930	S.CER C1005 JB 1A 104K-T	B	11.0/11.2
C346	4030016930	S.CER C1005 JB 1A 104K-T	B	11.0/10.1
C347	4030016790	S.CER C1005 JB 1E 103K-T	T	8.8/6.5
C348	4030016930	S.CER C1005 JB 1A 104K-T	T	6.0/10.0
C349	4030016930	S.CER C1005 JB 1A 104K-T	T	21.3/14.9
C350	4030017460	S.CER C1005 JB 1H 102K-T	T	59.4/43.4
C354	4030017460	S.CER C1005 JB 1H 102K-T	T	14.2/24.4
C355	4030018080	S.CER C1005 JB 1H 182K-T	T	43.9/22.7
C356	4030018910	S.CER C1608 JB 0J 475K-T	T	34.6/20.6
C357	4030017400	S.CER C1005 CH 1H 220J-T	T	79.1/25.6
C358	4030017420	S.CER C1005 CH 1H 470J-T	B	7.8/25.4
C359	4030017420	S.CER C1005 CH 1H 470J-T	B	6.9/25.4
C360	4030017570	S.CER C1005 CH 1H 040B-T	B	87.7/36.5
J1	6510021901	S.CON BM02B-ASRS-TF(LF)(SN)	T	86.6/6.8
J2	6450001680	CON HSJ1122-010010		
J3	6450002250	CON HSJ1456-010320		
J4	6510018430	S.CON AXN330C038P	B	11.8/30.7
J6	6510023350	S.CON MM8430-2600RA1	T	93.9/39.3
F1	5210001160	S.FUS ERBRE3R00V	T	98.0/14.5
DS1	5040002670	S.LED CL-165HR/YG	T	102.8/12.4
MC1	7700002750	MIC EM9745P-38-G <HOR>		
S1	2260001900	SWI SW-149 (SKHLLD)		
S2	2260002800	S.SWI SW-167 (SKQTLAE010)	B	99.5/44.3
S3	2260002800	S.SWI SW-167 (SKQTLAE010)	B	61.0/44.3
S4	2250000490	ENC TP70TF5163-15.9F-2775		
EP1	6910015370	S.BEA ACZ1005Y-102-T	T	57.0/29.9
EP3	6910015370	S.BEA ACZ1005Y-102-T	T	35.0/32.0

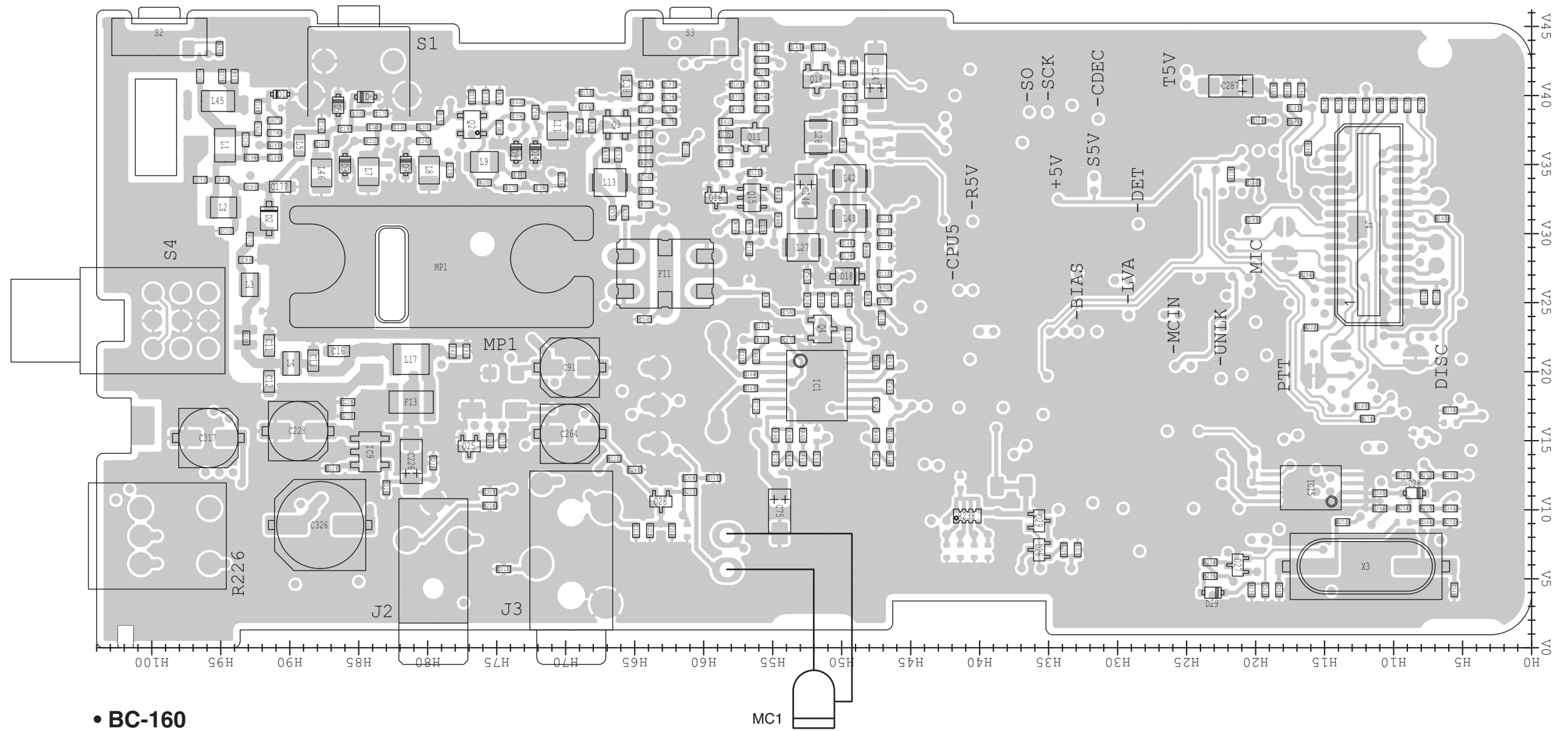
Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

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

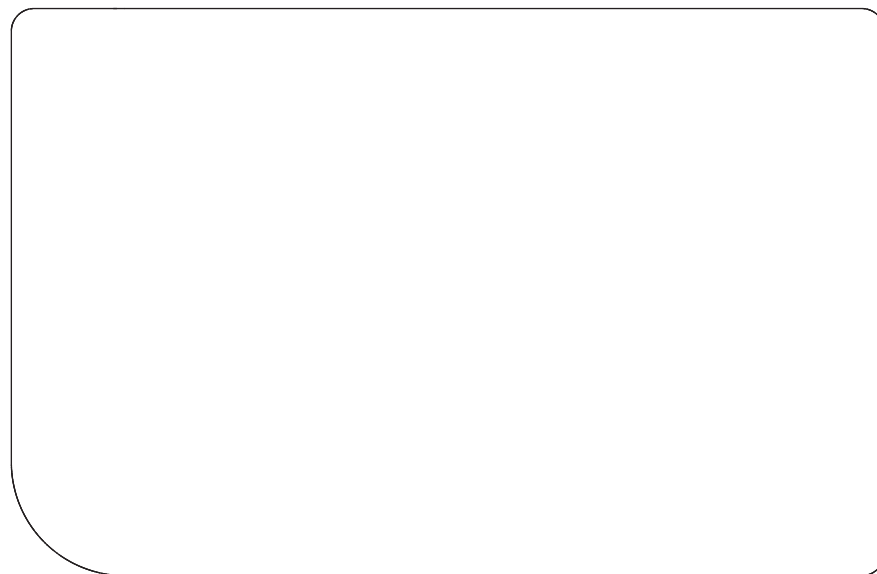


The combination of this side and the bottom side shows the board layout in the same configuration as the actual P.C.Board.

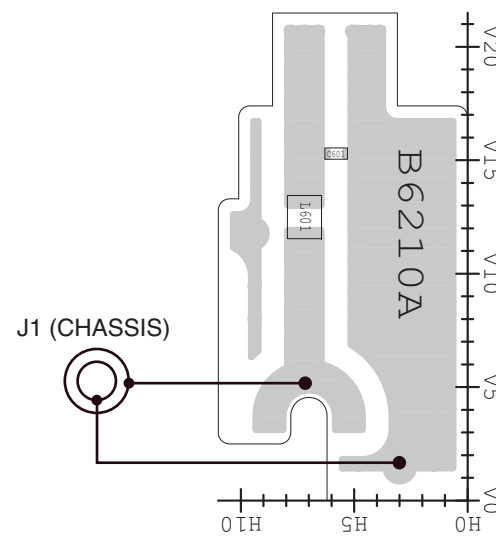
• MAIN-A UNIT  
(BOTTOM VIEW)



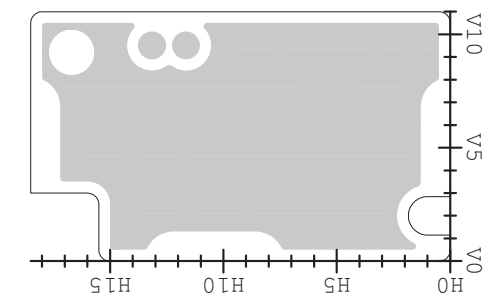
• BC-160  
(BOTTOM VIEW)



• ANT UNIT  
(BOTTOM VIEW)

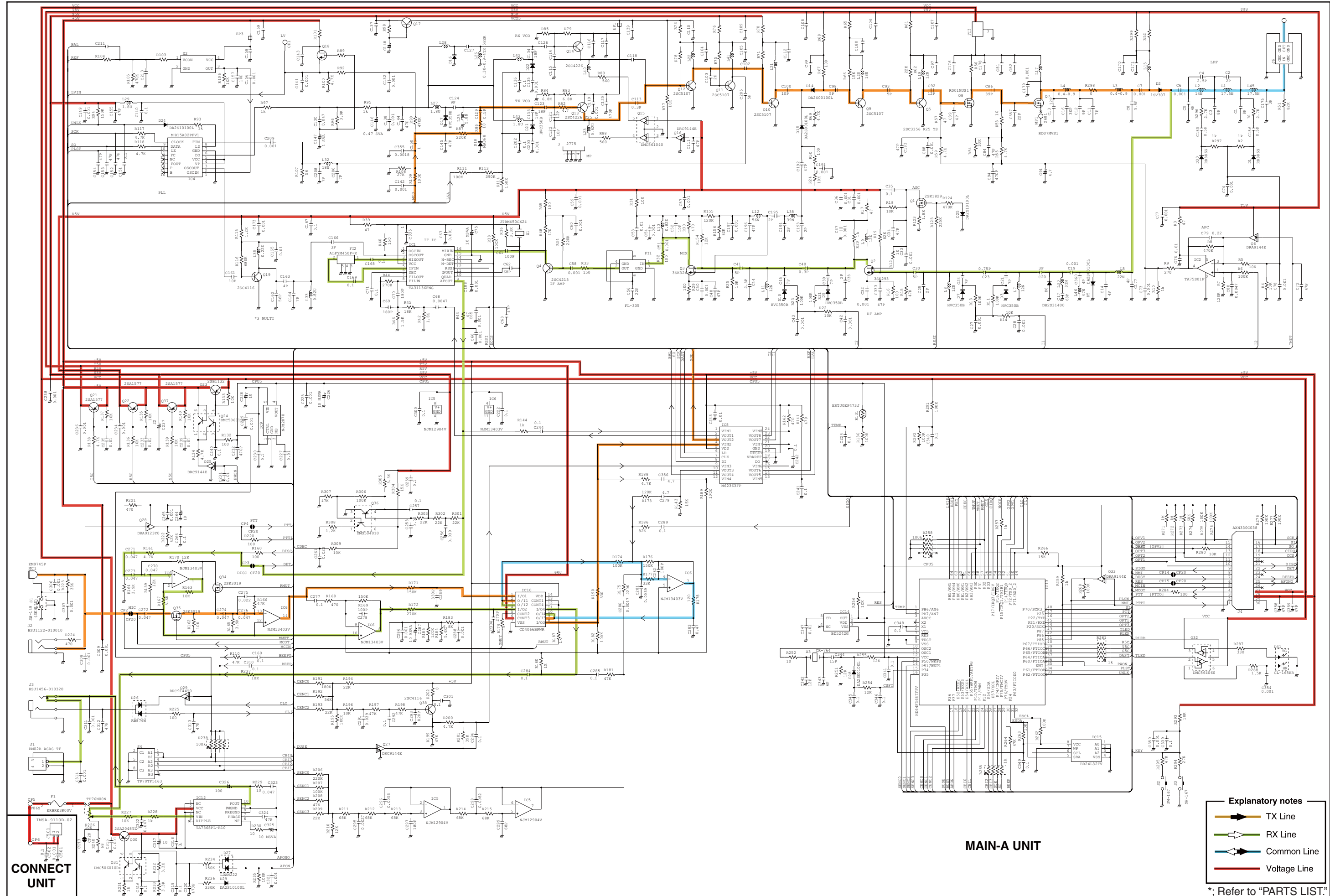


• CONNECT UNIT  
(BOTTOM VIEW)





# VOLTAGE DIAGRAM



Mar. 2009



# SERVICE MANUAL ADDENDUM

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## IC-F25SR

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# PARTS LIST

## [ANT UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
L601	6200013010	S.COI 0.30-0.9-5TL 10.3N <COMO>	B	7.2/12.5
C601	4030017600	S.CER ECJ0EC1H080C	B	5.8/15.3

## [CONNECT UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C501	4030017460	S.CER ECJ0EB1E102K	T	8.3/5.3
C502	4030016930	S.CER ECJ0EB1A104K	T	9.3/5.3
J501	6910016390	CON IMSA-9230B-1-02Z145-PT1		

## [MAIN-A UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
IC1	1110003201	S.IC TA31136FNG(EL)	B	51.8/19
IC2	1110002751	S.IC TA75S01F(TE85R,F)	T	68.9/21
IC4	1140005991	S.IC MB15A02PFV1-G-BND-ERE1	T	38.3/35.7
IC5	1110005330	S.IC NJM12904V-TE1-#ZZZB	T	28.6/7.1
IC6	1110005320	S.IC NJM13403V-TE1-#ZZZB	T	15.9/34.6
IC8	1190000350	S.IC M62363FP-650C	T	40.3/15.2
IC9	1110005350	S.IC NJM2870F05-TE1-#FZZB	B	84.2/14.2
IC10	1130011770	S.IC CD4066BPWR	T	22.9/34.6
IC12	1110001811	S.IC TA7368FG(5,ER)	T	89.3/13.2
IC13	1140013890	S.IC HD6433687C50FPV(FX-2775B)	T	12.5/14.3
IC14	1110006260	S.IC BD5242G-TR	T	6.6/5.9
IC15	1130011570	S.IC BR24L32FV-WE2	B	16/11.6
Q1	1560000841	S.FET 2SK1829(TE85R,F)	T	75/39.6
Q2	1580000731	S.FET 3SK293(TE85L,F)	B	76.8/37.9
Q3	1580000800	S.FET 3SK324UG-TL-E	B	66.3/37.9
Q4	1530002601	S.TRA 2SC4215-O(TE85R,F)	B	51.4/23.1
Q5	1530000371	S.TRA 2SC3356-T1B S (R25)	T	74.3/33.5
Q6	1590003231	S.TRA UNR9113G0L	T	72.5/19.1
Q7	1560001232	S.FET RD07MVS2-T112	T	82.6/27
Q8	1560001241	S.FET RD01MUS1-T113	T	76.1/27.5
Q9	1530003311	S.TRA 2SC5107-O(TE85R,F)	T	67/30.3
Q10	1530003311	S.TRA 2SC5107-O(TE85R,F)	T	59.4/36.3
Q11	1530003311	S.TRA 2SC5107-O(TE85R,F)	B	56.3/37
Q12	1530003311	S.TRA 2SC5107-O(TE85R,F)	T	59/31.5
Q13	1530002920	S.TRA 2SC4226-T1 R25	T	54.9/30.7
Q14	1530002920	S.TRA 2SC4226-T1 R25	T	54.2/37.1
Q15	1590001400	S.TRA XP1214(TX)	B	56.5/32.6
Q16	1590003291	S.TRA UNR9213G0L	B	59.1/32.6
Q17	1530002851	S.TRA 2SC4116-BL(TE85R,F)	T	55.5/44.1
Q18	1560000541	S.FET 2SK880-Y(T5RICOM,F)	B	51.8/41.2
Q19	1530002851	S.TRA 2SC4116-BL(TE85R,F)	T	43.3/29.9
Q21	1510001110	S.TRA 2SA1577T106R	T	71.9/16.4
Q22	1510001110	S.TRA 2SA1577T106R	T	24.9/25.9
Q23	1520000460	S.TRA 2SB1132 T100 R	T	81/15.2
Q24	1590001190	S.TRA XP6501-(TX).AB	T	76.2/14.4
Q25	1590003291	S.TRA UNR9213G0L	B	77/14.6
Q27	1590003291	S.TRA UNR9213G0L	T	24.8/16.7
Q28	1590003431	S.TRA UNR911HG0L	B	63.1/10.6
Q29	1590003271	S.TRA UNR9210G0L	B	35.7/9.2
Q30	1510001080	S.TRA 2SA2048 TLR	T	91.9/8.6
Q31	1590001190	S.TRA XP6501-(TX).AB	T	91.4/5.2
Q32	1590003020	S.TRA XP4216-(TX)	T	16.5/23.1
Q33	1590003231	S.TRA UNR9113G0L	T	19.9/22.5
Q34	1560001360	S.FET 2SK3019 TL	T	10.7/30.1
Q35	1560001360	S.FET 2SK3019 TL	T	8.4/26.6
Q36	1590001650	S.TRA XP4601(TX)	T	29.9/36.1
Q37	1510001110	S.TRA 2SA1577T106R	T	24.9/22.2
Q38	1530002691	S.TRA 2SC4116-GR(TE85R,F)	T	27.9/12.9
D1	1750001080	S.DIO RB886G T2R	B	90.7/40.1
D2	1750000581	S.DIO 1SV307(TPH3,F)	B	91.5/31.1
D3	1750000711	S.VAR HVC350BTRF-E	B	86/35
D5	1790001261	S.DIO MA2S077G0L	B	86.5/39.3
D6	1790001241	S.DIO MA2S7280GL	B	84.5/39.9
D7	1750000711	S.VAR HVC350BTRF-E	B	81.6/35
D9	1750000711	S.VAR HVC350BTRF-E	B	73.6/35.9
D10	1750000711	S.VAR HVC350BTRF-E	B	72.2/35.9
D14	1790001261	S.DIO MA2S077G0L	T	65.8/35.5
D15	1790001261	S.DIO MA2S077G0L	T	65.8/36.9
D16	1750000711	S.VAR HVC350BTRF-E	T	52.1/38.9
D17	1750000711	S.VAR HVC350BTRF-E	T	49.4/28.3
D18	1720000570	S.VAR MA368(TX)	B	49.6/26.9
D21	1750000711	S.VAR HVC350BTRF-E	T	50.5/33.7
D22	1750000711	S.VAR HVC350BTRF-E	T	50.5/35.2
D24	1790001251	S.DIO MA2S1110GL	T	41.5/39.2
D25	1790001251	S.DIO MA2S1110GL	T	70.5/40.4
D26	1790001790	S.DIO RB876W TL	B	35.7/7.1
D27	1750000520	S.DIO DAN222TL	B	21.3/6
D28	1790001261	S.DIO MA2S077G0L	B	8.5/11.2
D29	1790001251	S.DIO MA2S1110GL	B	23.1/4
D30	1750001080	S.DIO RB886G T2R	T	88.5/36.2
FI1	2030000150	S.MON DSF753SB 46.350 MHz (FL-335)	B	62.8/27.1
FI2	2020002410	CER LTM450FW <JJE>		
FI3	2040001440	S.LC NFE31PT15Z21E9L (NFM60R20T152)	B	81.2/17.8
X1	6070000191	S.DIS CDBKB450KCAY24-R0	T	54.4/20
X2	6050011940	S.XTA CR-783 TTS14VSB-A6 15.3 MHz	T	36.9/28.9
X3	6050011720	S.XTA CR-764 SMD-49TB 19.6608 MHz	B	12/5.9
L1	6200012490	S.COI 0.30-0.9-6TR 13.6N <COMO>	B	94.7/36.4
L2	6200013010	S.COI 0.30-0.9-5TL 10.3N <COMO>	B	94.8/31.9
L3	6200012610	S.COI 0.40-0.9-2TL 2.8N <COMO>	B	92.9/26.3
L4	6200012610	S.COI 0.40-0.9-2TL 2.8N <COMO>	B	89.9/20.6
L5	6200010850	S.COI LQW18AN22NG00D (LQW1608A22NG00)	B	89.3/36.4
L7	6200007680	S.COI LQW2BHN12NJ03L	B	84.3/34.5
L8	6200007680	S.COI LQW2BHN12NJ03L	B	79.9/34.6
L9	6200007680	S.COI LQW2BHN12NJ03L	B	75.9/35.2
L11	6200007680	S.COI LQW2BHN12NJ03L	B	70.6/37.8
L12	6200011001	S.COI ELJRF 56NJFB	B	64.2/39

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

[MAIN-A UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
L13	6200007850	S.COI ELJNC R82K-F	B	66.8/33.7
L15	6200002851	S.COI NLV25T-R82J	T	94.2/32.4
L17	6200012980	S.COI 0.40-1.4-5TR 18.3N <COMO>	B	81.2/20.9
L19	6200005671	S.COI ELJRE 12NGFA	T	76/35.5
L20	6200005691	S.COI ELJRE 18NGFA	T	68.8/33.1
L21	6200007881	S.COI ELJRF 33NJFB	T	59.2/38.6
L22	6200007901	S.COI ELJRF 22NJFB	T	59.5/33.3
L23	6200002851	S.COI NLV25T-R82J	T	55.2/28.1
L25	6200013630	S.COI 0.30-0.9-3TR 5.8N 5PER<COMO>	T	49.5/29.9
L26	6200013580	S.COI 0.30-0.9-4TR 5PER <COMO>	T	49/37.9
L27	6200004951	S.COI NLV25T-1R8J	B	52.8/29
L28	6200004951	S.COI NLV25T-1R8J	B	51.7/37
L29	6200004660	S.COI MLF1608A 1R8K-T	T	43.9/36.4
L30	6200007881	S.COI ELJRF 33NJFB	B	85.1/38.7
L32	6200007911	S.COI ELJRF 18NJFB	B	55.8/40.8
L33	6200004480	S.COI MLF1608D R82K-T	T	43.4/25.9
L35	6200003540	S.COI MLF1608D R22K-T	T	41.7/31.8
L38	6200005731	S.COI ELJRE 39NGFA	B	65.6/40.7
L40	6200002851	S.COI NLV25T-R82J	T	53.6/34.6
L41	6200007881	S.COI ELJRF 33NJFB	B	58.4/38.1
L42	6200004951	S.COI NLV25T-1R8J	B	49.4/34
L43	6200004951	S.COI NLV25T-1R8J	B	49.4/31.1
L45	6200012490	S.COI 0.30-0.9-6TR 13.6N <COMO>	B	95.2/39.6
L46	6200007740	S.COI LQW2BHN47N30JL	B	87.7/34.4
R1	7030009140	S.RES ERJ2GEJ 272 X (2.7K)	B	92.3/37.6
R2	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	91.1/38.2
R3	7030004970	S.RES ERJ2GEJ 470 X (47)	T	66.7/22.7
R4	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	75.8/20.8
R5	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	73.3/21.1
R6	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	66.7/18.2
R7	7030005310	S.RES ERJ2GEJ 124 X (120K)	T	68/17.7
R8	7030005170	S.RES ERJ2GEJ 474 X (470K)	T	71.3/21.1
R9	7030008280	S.RES ERJ2GEJ 271 X (270)	T	71.3/22.4
R10	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	68.4/24
R11	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	84/35.8
R12	7030005530	S.RES ERJ2GEJ 100 X (10)	T	77.5/37.5
R13	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	82.3/35.8
R14	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	84/36.7
R15	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	79.1/37.4
R16	7030004980	S.RES ERJ2GEJ 101 X (100)	B	74.8/39.9
R17	7030004970	S.RES ERJ2GEJ 470 X (47)	B	74/33.3
R18	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	78.8/36.7
R19	7030005080	S.RES ERJ2GEJ 823 X (82K)	T	78.8/38.7
R20	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	75.9/33.7
R21	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	72.2/38.9
R22	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	69.2/38.9
R23	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	71.2/38.9
R24	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	64.6/38
R25	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	68.1/37.8
R29	7030004980	S.RES ERJ2GEJ 101 X (100)	B	64.2/35.1
R30	7030005000	S.RES ERJ2GEJ 471 X (470)	B	67.1/35.7
R31	7030004980	S.RES ERJ2GEJ 101 X (100)	B	64.2/32.1
R32	7030004980	S.RES ERJ2GEJ 101 X (100)	B	65.7/31.5
R33	7030007270	S.RES ERJ2GEJ 151 X (150)	B	55.5/25.2
R34	7030005110	S.RES ERJ2GEJ 224 X (220K)	B	52.5/25.2
R35	7030004980	S.RES ERJ2GEJ 101 X (100)	B	50.5/25.2
R36	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	T	52.5/15.5
R38	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	46.5/21
R39	7030004970	S.RES ERJ2GEJ 470 X (47)	B	55.8/22.3
R40	7030007270	S.RES ERJ2GEJ 151 X (150)	B	56.2/21.1
R42	7030008400	S.RES ERJ2GEJ 182 X (1.8K)	B	52.8/15.4
R43	7030004970	S.RES ERJ2GEJ 470 X (47)	B	47.5/15.4
R44	7030005700	S.RES ERJ2GEJ 274 X (270K)	B	54.8/15.4
R45	7030008290	S.RES ERJ2GEJ 183 X (18K)	B	52.8/13.7
R46	7030005030	S.RES ERJ2GEJ 152 X (1.5K)	B	53.8/13.7
R48	7030005000	S.RES ERJ2GEJ 471 X (470)	B	51.5/25.2
R50	7030004980	S.RES ERJ2GEJ 101 X (100)	B	66.3/38
R51	7030005080	S.RES ERJ2GEJ 823 X (82K)	B	94/41.4
R52	7030004990	S.RES ERJ2GEJ 221 X (220)	T	93.3/35.9
R53	7030005530	S.RES ERJ2GEJ 100 X (10)	T	80/22.5
R54	7030005060	S.RES ERJ2GEJ 333 X (33K)	T	81.3/21.4
R55	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	80/20.9
R56	7030003860	S.RES ERJ3GE JPW V	T	78/22.4
R57	7030004970	S.RES ERJ2GEJ 470 X (47)	T	75.2/23.2
R59	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	71.2/24
R61	7030004970	S.RES ERJ2GEJ 470 X (47)	T	71.8/36.3
R62	7030005220	S.RES ERJ2GEJ 223 X (22K)	T	72.1/35
R65	7030004980	S.RES ERJ2GEJ 101 X (100)	T	69.4/34.2
R66	7030007340	S.RES ERJ2GEJ 153 X (15K)	T	67.8/34.2
R67	7030004980	S.RES ERJ2GEJ 101 X (100)	T	67.8/35.1
R68	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	69.4/35.1
R69	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	65/34.2
R70	7030005530	S.RES ERJ2GEJ 100 X (10)	B	57.6/39.9
R71	7030005070	S.RES ERJ2GEJ 683 X (68K)	T	58.2/38.6
R73	7030004980	S.RES ERJ2GEJ 101 X (100)	B	57.7/30.5
R75	7030005110	S.RES ERJ2GEJ 224 X (220K)	B	58.4/36.1
R76	7030004980	S.RES ERJ2GEJ 101 X (100)	B	57.6/39
R77	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	56.7/30.5
R78	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	57.8/33.3
R79	7030006020	S.RES RR0510P-682-D (6.8K)	T	56.5/38.9
R80	7030008370	S.RES ERJ2GEJ 561 X (560)	B	54.6/32.8
R82	7030009320	S.RES ERJ2GEJ 4R7 X (4.7)	T	52.6/32
R83	7030006020	S.RES RR0510P-682-D (6.8K)	T	54.1/32.6
R84	7030006020	S.RES RR0510P-682-D (6.8K)	T	52.1/28.6
R85	7030006020	S.RES RR0510P-682-D (6.8K)	T	54.7/38.9
R86	7030005530	S.RES ERJ2GEJ 100 X (10)	B	48.2/28.8
R87	7030005110	S.RES ERJ2GEJ 224 X (220K)	B	48.1/25.3
R88	7030008370	S.RES ERJ2GEJ 561 X (560)	B	54.6/31
R89	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	49.4/40.8
R90	7030005170	S.RES ERJ2GEJ 474 X (470K)	B	46.9/25.1
R92	7030005310	S.RES ERJ2GEJ 124 X (120K)	B	46.9/26.1
R93	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	39.8/39.4

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REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R94	7030005100	S.RES ERJ2GEJ 154 X (150K)	T	41.8/40.8
R95	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	49.9/36.4
R96	7030008410	S.RES ERJ2GEJ 392 X (3.9K)	B	49.4/39.9
R97	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	49.4/38.1
R98	7030007290	S.RES ERJ2GEJ 272 X (2.2K)	T	53.5/44.1
R100	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	B	49.1/42
R101	7030005000	S.RES ERJ2GEJ 471 X (470)	B	51.7/43.5
R103	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	33.1/27.8
R104	7030005230	S.RES ERJ2GEJ 334 X (330K)	T	31.5/26.9
R105	7030005170	S.RES ERJ2GEJ 474 X (470K)	T	33.1/28.8
R106	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	37.5/32
R107	7030005580	S.RES ERJ2GEJ 560 X (56)	B	55.8/43.5
R108	7030005600	S.RES ERJ2GEJ 273 X (27K)	T	44.9/21
R109	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	43.9/21
R110	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	21.8/34.3
R111	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	29.2/25.3
R113	7030006610	S.RES ERJ2GEJ 394 X (390K)	B	46.9/31.1
R114	7030005100	S.RES ERJ2GEJ 154 X (150K)	B	46.9/29.1
R115	7030007570	S.RES ERJ2GEJ 122 X (1.2K)	T	40.5/32
R116	7030007060	S.RES ERJ2GEJ 684X (680K)	T	43.4/32.7
R117	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	35.3/40.1
R118	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	37.2/40.1
R123	7030008400	S.RES ERJ2GEJ 182 X (1.8K)	T	75.2/37.7
R124	7030005170	S.RES ERJ2GEJ 474 X (470K)	T	72.7/40.4
R125	7030005110	S.RES ERJ2GEJ 224 X (220K)	T	73.2/38.9
R130	7030010080	S.RES ERJ2RHD 104 X (100K)	T	40.9/28.1
R131	7510001730	S.THE ERTJOEP 473J	T	40.9/27.1
R132	7030004980	S.RES ERJ2GEJ 101 X (100)	T	77/12.6
R133	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	84.1/14.2
R134	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	B	75.5/15
R135	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	24.5/24
R136	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	22.8/24
R137	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	69.8/14.7
R138	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	68.8/16.7
R139	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	21.6/20.6
R140	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	23/22.1
R141	7030005000	S.RES ERJ2GEJ 471 X (470)	T	35.4/10
R142	7030005000	S.RES ERJ2GEJ 471 X (470)	T	43.3/10
R143	7030007340	S.RES ERJ2GEJ 153 X (15K)	T	38.3/21.9
R144	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	46.5/13.7
R154	7030008010	S.RES ERJ2GEJ 123 X (12K)	B	64.2/38.1
R155	7030005310	S.RES ERJ2GEJ 124 X (120K)	B	62.5/38.1
R156	7030005080	S.RES ERJ2GEJ 823 X (82K)	B	62.5/39.9
R159	7030008010	S.RES ERJ2GEJ 123 X (12K)	T	15.7/28.8
R160	7030004980	S.RES ERJ2GEJ 101 X (100)	B	6.5/31.1
R161	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	12.9/27.7
R162	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	8.7/29.8
R163	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	14.1/29.8
R164	7030008410	S.RES ERJ2GEJ 392 X (3.9K)	T	15.7/27.8
R165	7030008410	S.RES ERJ2GEJ 392 X (3.9K)	T	12.6/31.9
R166	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	12.6/36.1
R167	7030009290	S.RES ERJ2GEJ 562 X (5.6K)	T	15.7/29.8
R168	7030005000	S.RES ERJ2GEJ 471 X (470)	T	16.3/40.1
R169	7030005100	S.RES ERJ2GEJ 154 X (150K)	T	18/41.1
R170	7030008010	S.RES ERJ2GEJ 123 X (12K)	T	12.9/29.3
R171	7030005100	S.RES ERJ2GEJ 154 X (150K)	T	11.6/36.1
R172	7030005700	S.RES ERJ2GEJ 274 X (270K)	T	18/39.1
R173	7030005310	S.RES ERJ2GEJ 124 X (120K)	T	19.4/26.8
R174	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	19.4/28.8
R175	7030005110	S.RES ERJ2GEJ 224 X (220K)	T	19.4/27.8
R176	7030005100	S.RES ERJ2GEJ 154 X (150K)	T	17.7/27.8
R177	7030005060	S.RES ERJ2GEJ 333 X (33K)	T	17.7/28.8
R178	7030005710	S.RES ERJ2GEJ 121 X (120)	T	19.4/30.7
R179	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	11.9/16.6
R180	7030005160	S.RES ERJ2GEJ 105 X (1M)	T	24.7/40.1
R181	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	21.1/40.1
R182	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	24.7/39.1
R183	7030006020	S.RES RR0510P-682-D (6.8K)	B	17.2/39.1
R184	7030008250	S.RES RR0510P-562-D (5.6K)	B	17.7/40.4
R185	7030005310	S.RES ERJ2GEJ 124 X (120K)	B	18.7/40.4
R186	7030005080	S.RES ERJ2GEJ 823 X (82K)	T	19.4/29.8
R187	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	12.3/17.5
R188	7030005040	S.RES ERJ2GEJ 472 X (4.7K)	T	32.8/20.3
R189	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	33.5/21.9
R190	7030007280	S.RES ERJ2GEJ 301 X (330)	T	34.7/18.9
R191	7030008300	S.RES ERJ2GEJ 184 X (180K)	T	18/4.1
R192	7030005720	S.RES ERJ2GEJ 563 X (56K)	T	18/5.1
R193	7030005220	S.RES ERJ2GEJ 223 X (22K)	T	18/6.1
R194	7030005220	S.RES ERJ2GEJ 223 X (22K)	T	23.9/10.9
R195	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	19.7/4.1
R196	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	23.9/11.9

## [MAIN-A UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R227	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	94.9/13.9
R228	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	94.2/15.2
R229	7030005530	S.RES ERJ2GEJ 100 X (10)	T	86/9.7
R230	7030005530	S.RES ERJ2GEJ 100 X (10)	T	87.2/17.2
R231	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	90.6/2.8
R232	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	T	93.2/4.4
R233	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	T	92.7/2.8
R234	7030005100	S.RES ERJ2GEJ 154 X (150K)	B	23.3/6.2
R235	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	20.3/4.2
R236	7030005230	S.RES ERJ2GEJ 334 X (330K)	B	23.3/5.2
R237	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	21.1/39.1
R238	7410001140	S.ARR EXB28V104JX	B	40.9/9.5
R240	7030005590	S.RES ERJ2GEJ 680 X (68)	T	99.7/12.3
R251	7030008010	S.RES ERJ2GEJ 123 X (12K)	B	5.9/9.1
R252	7030005530	S.RES ERJ2GEJ 100 X (10)	B	13.7/9.1
R254	7030008010	S.RES ERJ2GEJ 123 X (12K)	B	9.3/10.1
R255	7030008010	S.RES ERJ2GEJ 123 X (12K)	B	7.6/10.1
R256	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	6/8.6
R257	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	9/22.1
R258	7410001140	S.ARR EXB28V104JX	T	6.6/20.6
R259	7030005120	S.RES ERJ2GEJ 102 X (1K)	T	21.6/22.1
R260	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	21.3/25.2
R261	7410001130	S.ARR EXB28V102JX	T	19.4/19.9
R262	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	21.3/13.9
R263	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	21.3/12.9
R264	7030005240	S.RES ERJ2GEJ 473 X (47K)	T	21.3/10.9
R265	7410001130	S.ARR EXB28V102JX	T	19.7/9.2
R266	7030007340	S.RES ERJ2GEJ 153 X (15K)	T	5.7/18.8
R271	7030005160	S.RES ERJ2GEJ 105 X (1M)	B	10/39.3
R272	7030005160	S.RES ERJ2GEJ 105 X (1M)	B	11/39.3
R273	7030005160	S.RES ERJ2GEJ 105 X (1M)	B	12/39.3
R274	7030005070	S.RES ERJ2GEJ 683 X (68K)	B	15/39.3
R275	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	13/39.3
R276	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	8/39.3
R277	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	9/39.3
R278	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	14/39.3
R280	7030005050	S.RES ERJ2GEJ 103 X (10K)	B	16.2/36.2
R284	7030004980	S.RES ERJ2GEJ 101 X (100)	B	16.3/27
R287	7030007280	S.RES ERJ2GEJ 331 X (330)	T	18.4/23.8
R288	7030005030	S.RES ERJ2GEJ 152 X (15K)	T	14.7/22.7
R291	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	5.9/12.5
R292	7030005090	S.RES ERJ2GEJ 104 X (100K)	B	7.6/12.5
R293	7030008290	S.RES ERJ2GEJ 183 X (18K)	T	61.4/43.4
R294	7030005600	S.RES ERJ2GEJ 273 X (27K)	T	60.4/43.4
R295	7030005240	S.RES ERJ2GEJ 473 X (47K)	B	95.1/43.4
R296	7030009140	S.RES ERJ2GEJ 272 X (2.7K)	B	92.8/35.5
R297	7030005120	S.RES ERJ2GEJ 102 X (1K)	B	91.1/36.4
R298	7030010040	S.RES ERJ2GEJ-JPW	B	93.1/22.4
R299	7030004990	S.RES ERJ2GEJ 221 X (220)	T	93.3/34.9
R301	7030005220	S.RES ERJ2GEJ 223 X (22K)	T	28.5/31.4
R302	7030005220	S.RES ERJ2GEJ 223 X (22K)	T	28.5/32.3
R303	7030005220	S.RES ERJ2GEJ 223 X (22K)	T	30.2/33.2
R304	7030007340	S.RES ERJ2GEJ 153 X (15K)	T	31.7/35.3
R305	7030007300	S.RES ERJ2GEJ 332 X (3.3K)	T	30.2/34.1
R306	7030005090	S.RES ERJ2GEJ 104 X (100K)	T	28.5/34.1
R307	7030005070	S.RES ERJ2GEJ 683 X (68K)	T	28.1/36.1
R308	7030007570	S.RES ERJ2GEJ 122 X (1.2K)	T	30.2/38.1
R309	7030005050	S.RES ERJ2GEJ 103 X (10K)	T	31.7/36.9
C1	4030017600	S.CER ECJ0EC1H080C	B	96.5/41.4
C2	4030017350	S.CER ECJ0EC1H020B	B	93.2/36.8
C3	4030017600	S.CER ECJ0EC1H080C	B	96.5/33.9
C4	4030017560	S.CER ECJ0EC1H2R5B	B	94.9/33.9
C5	4030017570	S.CER ECJ0EC1H040B	B	94.6/30.2
C6	4030017460	S.CER ECJ0EB1E102K	B	92.8/33.4
C7	4030017460	S.CER ECJ0EB1E102K	B	92.9/29.6
C8	4030017370	S.CER ECJ0EC1H3R5B	B	93.2/28.1
C11	4030006980	S.CER C1608 CH 1H 070D-T	B	91.5/21.9
C12	4030007000	S.CER C1608 CH 1H 090D-T	B	91.5/19.3
C13	4030007020	S.CER C1608 CH 1H 120J-T	B	88.3/20.8
C14	4030017570	S.CER ECJ0EC1H040B	B	87.7/37.8
C16	4030008560	S.CER C1608 CH 1H 300J-T	B	86.4/21.5
C17	4030017510	S.CER ECJ0EC1H680J	B	83.4/38.7
C19	4030017460	S.CER ECJ0EB1E102K	B	86/37.6
C20	4030017360	S.CER ECJ0EC1H030B	B	83/37.7
C21	4030017590	S.CER ECJ0EC1H070C	B	84.1/36.7
C23	4030017540	S.CER ECJ0EC1HR75B	B	82.1/37.7
C24	4030017590	S.CER ECJ0EC1H070C	B	80.3/36.7
C25	4030017350	S.CER ECJ0EC1H020B	B	78.4/34.6
C27	4030017460	S.CER ECJ0EB1E102K	T	84/37.7
C28	4030017460	S.CER ECJ0EB1E102K	T	82.3/37.7
C30	4030017380	S.CER ECJ0EC1H050B	B	80.3/37.7
C31	4030017460	S.CER ECJ0EB1E102K	T	79.7/35.8
C32	4030017460	S.CER ECJ0EB1E102K	B	75.8/39.9
C33	4030017460	S.CER ECJ0EB1E102K	T	77.1/38.7
C34	4030017420	S.CER ECJ0EC1H470J	T	77.1/39.7
C35	4030016930	S.CER ECJ0EB1A104K	T	78.8/37.7
C36	4030017460	S.CER ECJ0EB1E102K	B	71.8/33.3
C37	4030017460	S.CER ECJ0EB1E102K	B	73.4/34.2
C38	4030017350	S.CER ECJ0EC1H020B	B	74.8/37.7
C39	4030017590	S.CER ECJ0EC1H070C	B	73.5/38.5
C40	4030017520	S.CER ECJ0EC1H0R3B	B	73.5/39.5
C41	4030017380	S.CER ECJ0EC1H050B	B	68.5/39.2
C42	4030017460	S.CER ECJ0EB1E102K	T	68.5/37.7
C43	4030017460	S.CER ECJ0EB1E102K	T	70.2/38.9
C44	4030017560	S.CER ECJ0EC1H2R5B	B	69/37.8
C45	4030017590	S.CER ECJ0EC1H070C	B	72.2/38.8
C48	4030017420	S.CER ECJ0EC1H470J	B	64.2/37.2
C50	4030017460	S.CER ECJ0EB1E102K	B	64.2/36.1
C51	4030017460	S.CER ECJ0EB1E102K	B	66.6/31.5
C52	4030017620	S.CER ECJ0EC1H100C	B	66.2/35.7
C53	4030016790	S.CER ECJ0EB1C103K	B	64.2/33.1
C54	4030017460	S.CER ECJ0EB1E102K	B	64.2/34.1

## [MAIN-A UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C56	4030017400	S.CER ECJ0EC1H220J	B	64.3/23.8
C57	4030017460	S.CER ECJ0EB1E102K	T	64.1/36.8
C58	4030017460	S.CER ECJ0EB1E102K	B	53.9/24.3
C59	4030017460	S.CER ECJ0EB1E102K	B	49.5/25.2
C60	4030017460	S.CER ECJ0EB1E102K	B	52.5/26.9
C61	4030017430	S.CER ECJ0EC1H101J	B	49.5/22.7
C62	4030017510	S.CER ECJ0EC1H680J	B	47.5/17.6
C63	4030017420	S.CER ECJ0EC1H470J	B	46.5/20.7
C65	4030017460	S.CER ECJ0EB1E102K	B	46.5/18.9
C66	4030017460	S.CER ECJ0EB1E102K	B	47.5/13.7
C67	4030017460	S.CER ECJ0EB1E102K	B	53.9/22.3
C68	4030017780	S.CER ECJ0EB1E472K	B	51.8/13.7
C69	4030017710	S.CER ECJ0EC1H181J	B	53.8/15.4
C70	4030017710	S.CER ECJ0EC1H181J	B	54.8/13.7
C71	4030016930	S.CER ECJ0EB1A104K	B	56.2/17.5
C72	4030017420	S.CER ECJ0EC1H470J	T	69.8/18.7
C73	4030017460	S.CER ECJ0EB1E102K	T	69.3/24
C74	4030017460	S.CER ECJ0EB1E102K	B	91.1/37.3
C75	4550006250	S.TAN TEESVA 1A 106M8R	B	54.5/9.9
C76	4030016790	S.CER ECJ0EB1C103K	T	66.7/21.1
C77	4030017460	S.CER ECJ0EB1E102K	T	65.7/22.7
C78	4030017460	S.CER ECJ0EB1E102K	T	74.8/20.8
C79	4030018890	S.CER ECJ0EB0J224K	T	72.3/21.1
C80	4030017780	S.CER ECJ0EB1E472K	T	68/18.7
C81	4030016790	S.CER ECJ0EB1C103K	B	77.2/21.5
C82	4030017460	S.CER ECJ0EB1E102K	B	78.2/21.5
C84	4030017420	S.CER ECJ0EC1H470J	T	81.3/20.5
C86	4030017670	S.CER ECJ0EC1H390J	T	78.7/24.3
C88	4030017460	S.CER ECJ0EB1E102K	T	73.1/24
C89	4030017570	S.CER ECJ0EC1H040B	T	75.5/24.4
C91	4510009280	S.ELE EEE1EA4R7SR	B	69.7/20.3
C92	4030017630	S.CER ECJ0EC1H120J	T	74.6/30.9
C93	4030017380	S.CER ECJ0EC1H050B	T	70.9/33.5
C94	4030017730	S.CER ECJ0EB1E471K	T	70.3/24
C97	4030017420	S.CER ECJ0EC1H470J	T	74.8/36
C98	4030017380	S.CER ECJ0EC1H050B	T	66.5/34.2
C99	4030017460	S.CER ECJ0EB1E102K	T	68.3/36.3
C100	4030017620	S.CER ECJ0EC1H100C	B	61.3/36.1
C102	4030017380	S.CER ECJ0EC1H050B	T	59.5/34.3
C103	4030017350	S.CER ECJ0EC1H020B	B	58.4/35.1
C104	4030017460	S.CER ECJ0EB1E102K	T	58.9/29.4
C105	4030017460	S.CER ECJ0EB1E102K	B	58.4/37.2
C106	4030017420	S.CER ECJ0EC1H470J	B	70.3/33.9
C107	4030017460	S.CER ECJ0EB1E102K	T	70.6/36.3
C108	4030016790	S.CER ECJ0EB1C103K	T	69.7/36.3
C109	4030017460	S.CER ECJ0EB1E102K	B	57.6/40.8
C110	4030017730	S.CER ECJ0EB1E471K	B	55.7/30.5
C111	4030017420	S.CER ECJ0EC1H470J	B	56.3/34.4
C112	4030017460	S.CER ECJ0EB1E102K	T	60.2/38.6
C113	4030017520	S.CER ECJ0EC1H0R3B	T	56.1/32.6
C114	4030017580	S.CER ECJ0EC1H060C	T	51.9/36.5
C115	4030017630	S.CER ECJ0EC1H120J	T	55.7/35.4
C116	4030016790	S.CER ECJ0EB1C103K	T	56.5/37.9
C117	4030017730	S.CER ECJ0EB1E471K	T	56.5/36.6
C118	4030017530	S.CER ECJ0EC1H0R5B	T	56.1/33.9
C119	4030017460	S.CER ECJ0EB1E102K	T	56.6/31.6
C120	4030017730	S.CER ECJ0EB1E471K	T	57.5/28.7
C121	4030017630	S.CER ECJ0EC1H120J	T	52.6/30
C122	4030017620	S.CER ECJ0EC1H100C	T	53.1/28.6
C123	4030017390	S.CER ECJ0EC1H180J	T	52.6/31
C124	4030017620	S.CER ECJ0EC1H100C	T	51.1/29
C126	4030017630	S.CER ECJ0EC1H120J	T	51.9/37.7
C127	4030017620	S.CER ECJ0EC1H100C	T	50.5/37.5
C129	4030017530	S.CER ECJ0EC1H0R5B	T	48.4/31.4
C130	4030016950	S.CER ECJ0EB1A473K	B	49.4/39
C132	4030017460	S.CER ECJ0EB1E102K	B	46.9/27.1
C133	4030017640	S.CER ECJ0EC1H150J	T	51.1/31
C134	4030017640	S.CER ECJ0EC1H150J	T	50.6/36.3
C135	4030017460	S.CER ECJ0EB1E102K	T	48.4/34.4
C136	4030016930	S.CER ECJ0EB1A104K	T	48.4/35.4
C137	4030016790	S.CER ECJ0EB1C103K	T	57.7/44.1
C138	4030017460	S.CER ECJ0EB1E102K	B	49.6/28.4
C139	4030016930	S.CER ECJ0EB1A104K	B	56.7/28.9
C140	4030016930	S.CER ECJ0EB1A104K	T	43.4/34.7
C141	4030017460	S.CER ECJ0EB1E102K	B	50/42
C142	4030017460	S.CER ECJ0EB1E102K	T	42.9/21
C143	4030017460	S.CER ECJ0EB1E102K	B	53.3/43.5
C144	4030017420	S.CER ECJ0EC1H470J	B	49.6/29.3
C145	4030017420	S.CER ECJ0EC1H470J	B	47.1/23.9
C146	4550000270	S.TAN TEESVA 1E 474M8R	B	52.6/32.7
C147	4550000460	S.TAN TEESVA 1C 105M8R	B	47.5/41.4
C148	4550006250	S.TAN TEESVA 1A 106M8R	T	50.1/44.1
C149	4030017460	S.CER ECJ0EB1E102K	T	43.8/39.1
C150	4030018860	S.CER ECJ0EB0J105K	T	44.9/22.7
C151	4030016930	S.CER ECJ0EB1A104K	T	40.2/40.8
C152	4030017420	S.CER ECJ0EC1H470J	T	35.3/41.1
C153	4030017420	S.CER ECJ0EC1H470J	T	

## [MAIN-A UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C171	4030017420	S.CER ECJ0EC1H470J	T	91.5/35.2
C173	4030017460	S.CER ECJ0EB1E102K	T	40.9/30.1
C175	4030017360	S.CER ECJ0EC1H030B	B	94.9/41.4
C176	4030017460	S.CER ECJ0EB1E102K	T	77.7/20.4
C177	4030009910	S.CER C1608 CH 1H 040B-T	B	90.7/33.4
C178	4030017420	S.CER ECJ0EC1H470J	T	77.7/21.3
C179	4030006860	S.CER C1608 JB 1H 102K-T	T	86.6/31.4
C180	4030017420	S.CER ECJ0EC1H470J	T	67.1/32.3
C182	4030017600	S.CER ECJ0EC1H080C	T	68.8/31.6
C183	4030017420	S.CER ECJ0EC1H470J	T	74.1/24
C185	4030017530	S.CER ECJ0EC1H0R5B	B	91.1/35.5
C186	4030017530	S.CER ECJ0EC1H0R5B	B	92.3/39.2
C188	4030017460	S.CER ECJ0EB1E102K	B	47.5/20.7
C191	4030017460	S.CER ECJ0EB1E102K	T	65/39.3
C192	4030017420	S.CER ECJ0EC1H470J	T	66/39.3
C193	4030017350	S.CER ECJ0EC1H020B	B	68.5/40.2
C194	4030017350	S.CER ECJ0EC1H020B	B	64.2/40.8
C195	4030017350	S.CER ECJ0EC1H020B	B	64.2/39.9
C196	4030017420	S.CER ECJ0EC1H470J	B	62.5/39
C197	4030017460	S.CER ECJ0EB1E102K	B	62.5/40.8
C202	4030016930	S.CER ECJ0EB1A104K	T	48.4/33.4
C203	4030017460	S.CER ECJ0EB1E102K	B	46.9/30.1
C205	4030017380	S.CER ECJ0EC1H050B	B	55.8/39
C206	4030017590	S.CER ECJ0EC1H070C	B	55.8/39.9
C208	4030017590	S.CER ECJ0EC1H070C	B	55.8/41.7
C209	4030017460	S.CER ECJ0EB1E102K	B	55.8/42.6
C211	4030018910	S.CER C1608 JB 0J 475K-T	T	36.6/21.3
C213	4030017460	S.CER ECJ0EB1E102K	T	31.5/27.8
C222	4030016930	S.CER ECJ0EB1A104K	T	19.2/34
C224	4030016930	S.CER ECJ0EB1A104K	T	40.9/29.1
C225	4030017460	S.CER ECJ0EB1E102K	B	83/11.6
C226	4550006250	S.TAN TEESVA 1A 106M8R	B	81.2/13.5
C227	4030016790	S.CER ECJ0EB1C103K	B	86.9/13
C228	4510008540	S.ELE EEE1CA100SR	B	89.4/15.7
C229	4030017460	S.CER ECJ0EB1E102K	B	85.8/17.8
C230	4030016930	S.CER ECJ0EB1A104K	B	85.8/16.8
C231	4030016790	S.CER ECJ0EB1C103K	B	74.6/15
C232	4030017730	S.CER ECJ0EB1E471K	B	79.6/13.4
C233	4030016790	S.CER ECJ0EB1C103K	T	23/25.2
C234	4030017460	S.CER ECJ0EB1E102K	T	24.2/27.8
C235	4030016790	S.CER ECJ0EB1C103K	T	69.8/15.7
C236	4030017460	S.CER ECJ0EB1E102K	T	69.8/17.7
C237	4550007320	S.TAN F930J226MAAABMA	T	27.2/19.5
C238	4030017460	S.CER ECJ0EB1E102K	T	27.2/22.5
C239	4030016790	S.CER ECJ0EB1C103K	T	23.2/20.6
C240	4030016930	S.CER ECJ0EB1A104K	T	75.4/12.6
C241	4030016930	S.CER ECJ0EB1A104K	T	37.1/10
C242	4030016930	S.CER ECJ0EB1A104K	T	44.9/10
C243	4030016790	S.CER ECJ0EB1C103K	T	40.7/10
C244	4030016930	S.CER ECJ0EB1A104K	B	46.5/15.4
C256	4030016940	S.CER ECJ0EB1A393K	T	30.2/31.4
C257	4030016930	S.CER ECJ0EB1A104K	T	28.5/33.2
C258	4030016790	S.CER ECJ0EB1C103K	T	30.2/32.3
C259	4030016930	S.CER ECJ0EB1A104K	T	32.6/35.3
C261	4030016970	S.CER ECJ0EB1C223K	T	30.2/39
C264	4510008540	S.ELE EEE1CA100SR	B	69.7/15.5
C265	4030017460	S.CER ECJ0EB1E102K	B	65/12.9
C266	4030016930	S.CER ECJ0EB1A104K	B	62.3/8.5
C269	4030017720	S.CER ECJ0EB1H331K	T	11.6/37.9
C270	4030016950	S.CER ECJ0EB1A473K	T	14.1/28.8
C271	4030016950	S.CER ECJ0EB1A473K	T	14.1/26.8
C272	4030016950	S.CER ECJ0EB1A473K	T	9.8/27.9
C273	4030016950	S.CER ECJ0EB1A473K	T	14.1/27.8
C274	4030016950	S.CER ECJ0EB1A473K	T	11.6/31.9
C275	4030016970	S.CER ECJ0EB1C223K	T	11.6/34.4
C276	4030016950	S.CER ECJ0EB1A473K	T	12.6/34.4
C277	4030016930	S.CER ECJ0EB1A104K	T	14.6/40.1
C278	4030017430	S.CER ECJ0EC1H101J	T	18/40.1
C279	4030018910	S.CER C1608 JB 0J 475K-T	T	36.6/23.2
C280	4030017780	S.CER ECJ0EB1E472K	T	21.1/27.8
C281	4030018920	S.CER ECJ0EB1H392K	T	17.7/26.8
C282	4030017710	S.CER ECJ0EC1H181J	T	17.7/29.8
C283	4030018900	S.CER ECJ0EB0J474K	T	19.4/31.7
C284	4030016930	S.CER ECJ0EB1A104K	T	22.9/39.1
C285	4030016930	S.CER ECJ0EB1A104K	T	22.9/40.1
C286	4030017460	S.CER ECJ0EB1E102K	B	16.7/40.4
C287	4550006250	S.TAN TEESVA 1A 106M8R	B	21.8/40.7
C288	4030017460	S.CER ECJ0EB1E102K	B	17.2/38.1
C289	4030016930	S.CER ECJ0EB1A104K	B	20.2/31
C291	4030016940	S.CER ECJ0EB1A393K	T	25.7/10.9
C292	4030016930	S.CER ECJ0EB1A104K	T	25.7/13.9
C293	4030017740	S.CER ECJ0EB1E821K	T	25.7/11.9
C294	4030016930	S.CER ECJ0EB1A104K	T	23.9/13.9
C295	4030018110	S.CER ECJ0EB1H272K	T	25.7/4.5
C296	4030018240	S.CER ECJ0EB1E562K	T	23.9/7.5
C297	4030017710	S.CER ECJ0EC1H181J	T	23.9/8.5
C298	4030018090	S.CER ECJ0EB1C822K	T	29.6/4.5
C299	4030017510	S.CER ECJ0EC1H680J	T	33/4.5
C300	4030016930	S.CER ECJ0EB1A104K	T	32.1/8.9
C301	4030016930	S.CER ECJ0EB1A104K	T	27.9/10
C304	4030017450	S.CER ECJ0EB1E271K	B	19.8/38.2
C306	4030017460	S.CER ECJ0EB1E102K	B	61/12.3
C307	4030017460	S.CER ECJ0EB1E102K	B	59.3/12.3
C308	4030017460	S.CER ECJ0EB1E102K	T	75.7/9.8
C309	4030017460	S.CER ECJ0EB1E102K	B	75.5/11.3
C310	4030016930	S.CER ECJ0EB1A104K	T	21.3/11.9
C311	4030017460	S.CER ECJ0EB1E102K	B	64.9/8.5
C312	4030017420	S.CER ECJ0EC1H470J	B	74.5/5.7
C313	4030017420	S.CER ECJ0EC1H470J	B	32.9/7.1
C314	4030017460	S.CER ECJ0EB1E102K	T	86.6/3.3
C315	4030017460	S.CER ECJ0EB1E102K	T	93.2/6
C316	4030016930	S.CER ECJ0EB1A104K	B	91.7/2.8
C317	4510008540	S.ELE EEE1CA100SR	B	95.9/15.2
C318	4030016930	S.CER ECJ0EB1A104K	T	89.7/8.9

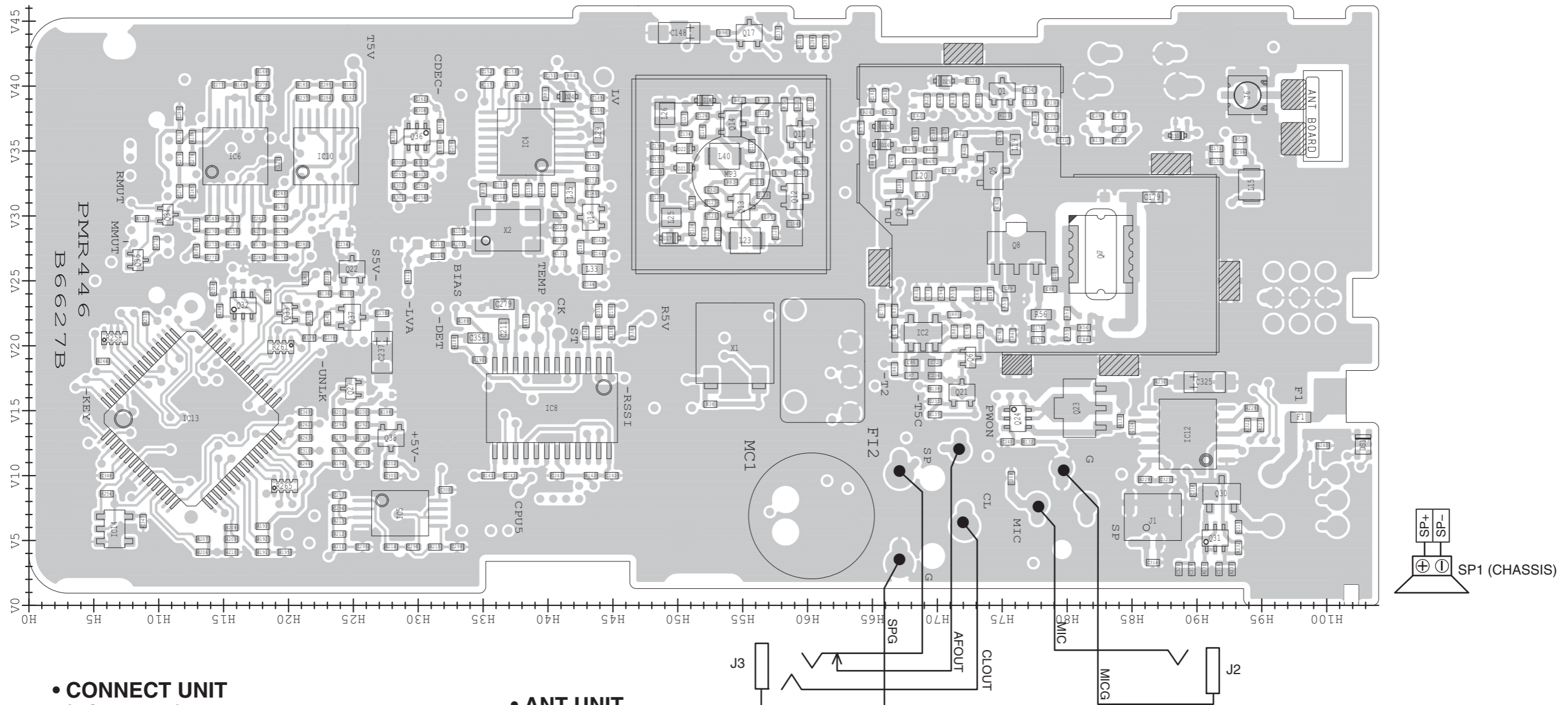
## [MAIN-A UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C319	4030016930	S.CER ECJ0EB1A104K	T	89.6/2.8
C320	4030017730	S.CER ECJ0EB1E471K	T	88.6/2.8
C321	4030017460	S.CER ECJ0EB1E102K	B	19.3/4.2
C322	4030016950	S.CER ECJ0EB1A473K	T	93.9/13.9
C323	4030016950	S.CER ECJ0EB1A473K	T	87.6/9.7
C324	4030017420	S.CER ECJ0EC1H470J	T	85/13.7
C325	4550006250	S.TAN TEESVA 1A 106M8R	T	90.6/17.2
C326	4510008900	S.ELE EEEFC0J101P	B	87.8/8.9
C333	4030017420	S.CER ECJ0EC1H470J	B	76.8/39.9
C335	4030018860	S.CER ECJ0EB0J105K	B	57.2/21.1
C339	4030016930	S.CER ECJ0EB1A104K	B	5.9/17.2
C340	4030016930	S.CER ECJ0EB1A104K	B	9.3/12.5
C341	4030016930	S.CER ECJ0EB1A104K	B	5.9/10.1
C342	4030017630	S.CER ECJ0EC1H120J	B	18.3/4.2
C343	4030017580	S.CER ECJ0EC1H060C	B	5.6/4.2
C344	4030017640	S.CER ECJ0EC1H150J	B	7.6/9.1
C345	4030016930	S.CER ECJ0EB1A104K	B	11/11.2
C346	4030016930	S.CER ECJ0EB1A104K	B	11/10.1
C347	4030016790	S.CER ECJ0EB1C103K	T	8.8/6.5
C348	4030016930	S.CER ECJ0EB1A104K	T	6/10
C349	4030016930	S.CER ECJ0EB1A104K	T	21.3/14.9
C350	4030017460	S.CER ECJ0EB1E102K	T	59.4/43.4
C354	4030017460	S.CER ECJ0EB1E102K	T	14.2/24.4
C355	4030018080	S.CER ECJ0EB1H182K	T	43.9/22.7
C356	4030018910	S.CER C1608 JB 0J 475K-T	T	34.6/20.6
C357	4030017400	S.CER ECJ0EC1H220J	T	79/25.5
C358	4030017420	S.CER ECJ0EC1H470J	B	7.8/25.4
C359	4030017420	S.CER ECJ0EC1H470J	B	6.9/25.4
C360	4030017570	S.CER ECJ0EC1H040B	B	87.7/36.5
J1	6510021901	S.CON BM02B-ASRS-TF(LF)(SN)	T	86.6/6.8
J2	6450001680	CON HSJ1122-010010		
J3	6450002250	CON HSJ1456-010320		
J4	6510018430	S.CON AXN330C038P	B	11.8/30.6
J6	6510023350	S.CON MM8430-2600RA1	T	93.9/39.3
F1	5210000830	S.FUS ERBFE3R00U	T	98/14.5
DS1	5040002670	S.LED CL-165HR/YG	T	102.8/12.4
MC1	7700002750	MIC EM9745P-38-G <HOR>		
S1	2260001900	SWI SW-149 (SKHLLD)		
S2	2260002800	S.SWI SW-167 (SKQTLAE010)	B	99.4/44.2
S3	2260002800	S.SWI SW-167 (SKQTLAE010)	B	60.9/44.2
S4	2250000490	ENC TP70TF5163-15.9F-2775		
EP1	6910015370	S.BEA ACZ1005Y-102-T	T	57/29.9
EP3	6910015370	S.BEA ACZ1005Y-102-T	T	35/32
MP1	8410002531	S.HEA 2681 PA HEATSINK-1	B	79/28.2
MP3	8510016470	S.CAS 2775 VCO CASE	T	54.1/33.2

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

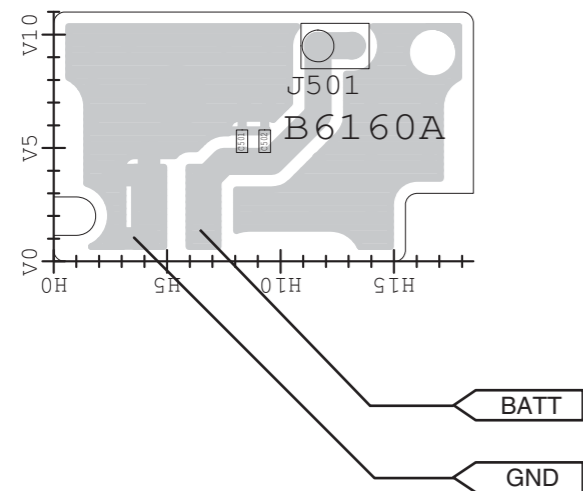
# BOARD LAYOUTS

## • MAIN-A UNIT (TOP VIEW)

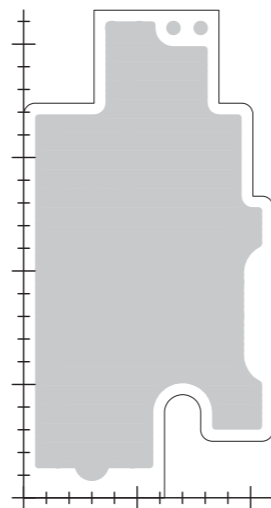


The combination of this side and the bottom side shows the board layout in the same configuration as the actual P.C.Board.

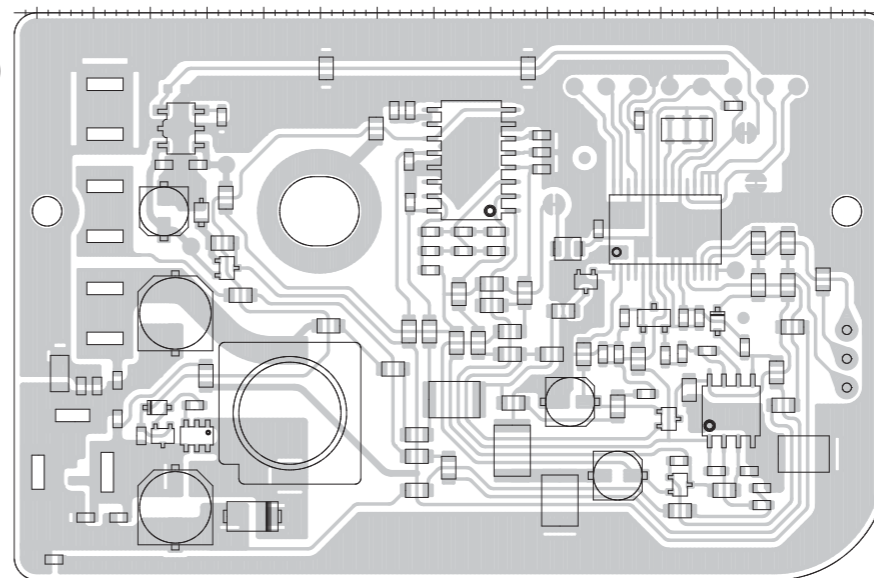
## • CONNECT UNIT (TOP VIEW)



## • ANT UNIT (TOP VIEW)

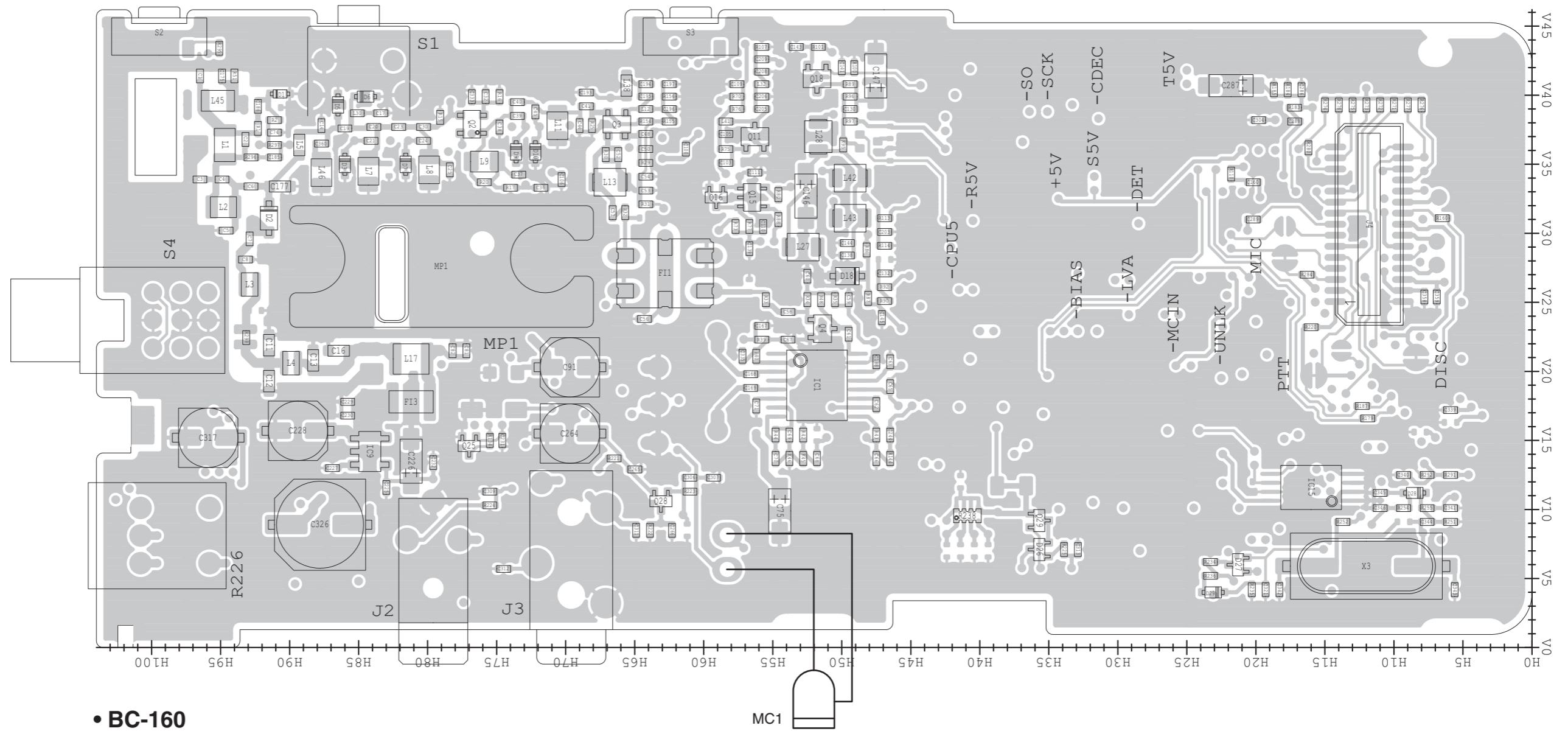


## • BC-160 (TOP VIEW)

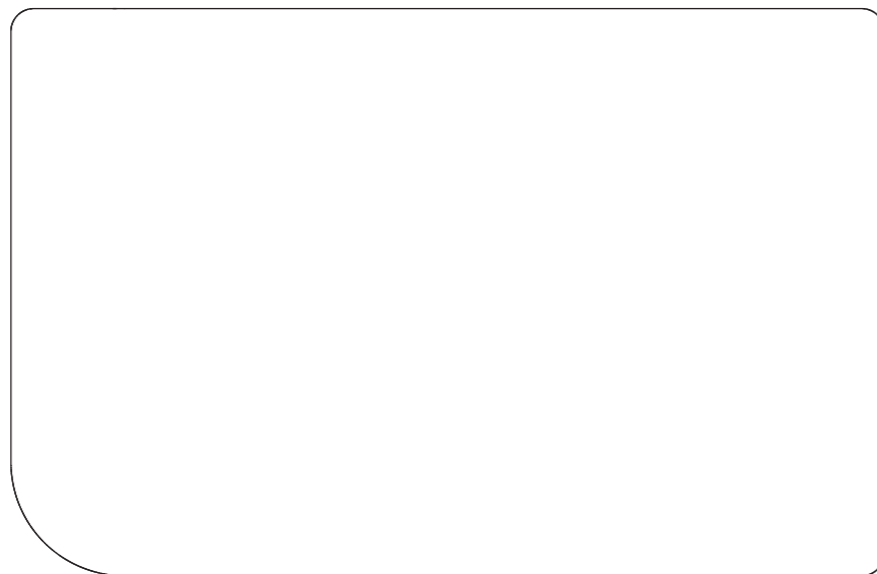


The combination of this side and the bottom side shows the board layout in the same configuration as the actual P.C.Board.

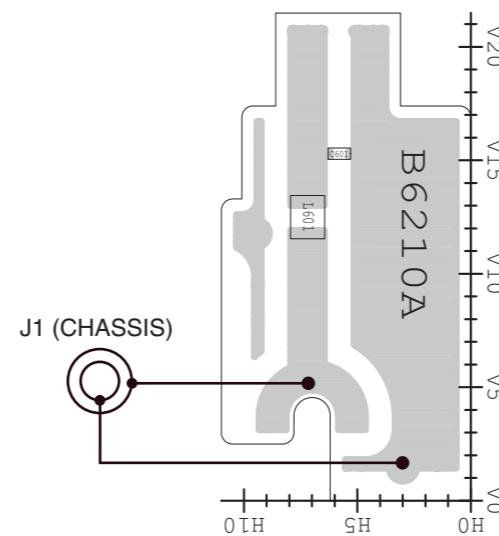
• MAIN-A UNIT  
(BOTTOM VIEW)



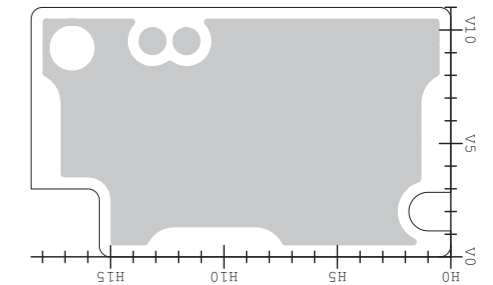
• BC-160  
(BOTTOM VIEW)



• ANT UNIT  
(BOTTOM VIEW)

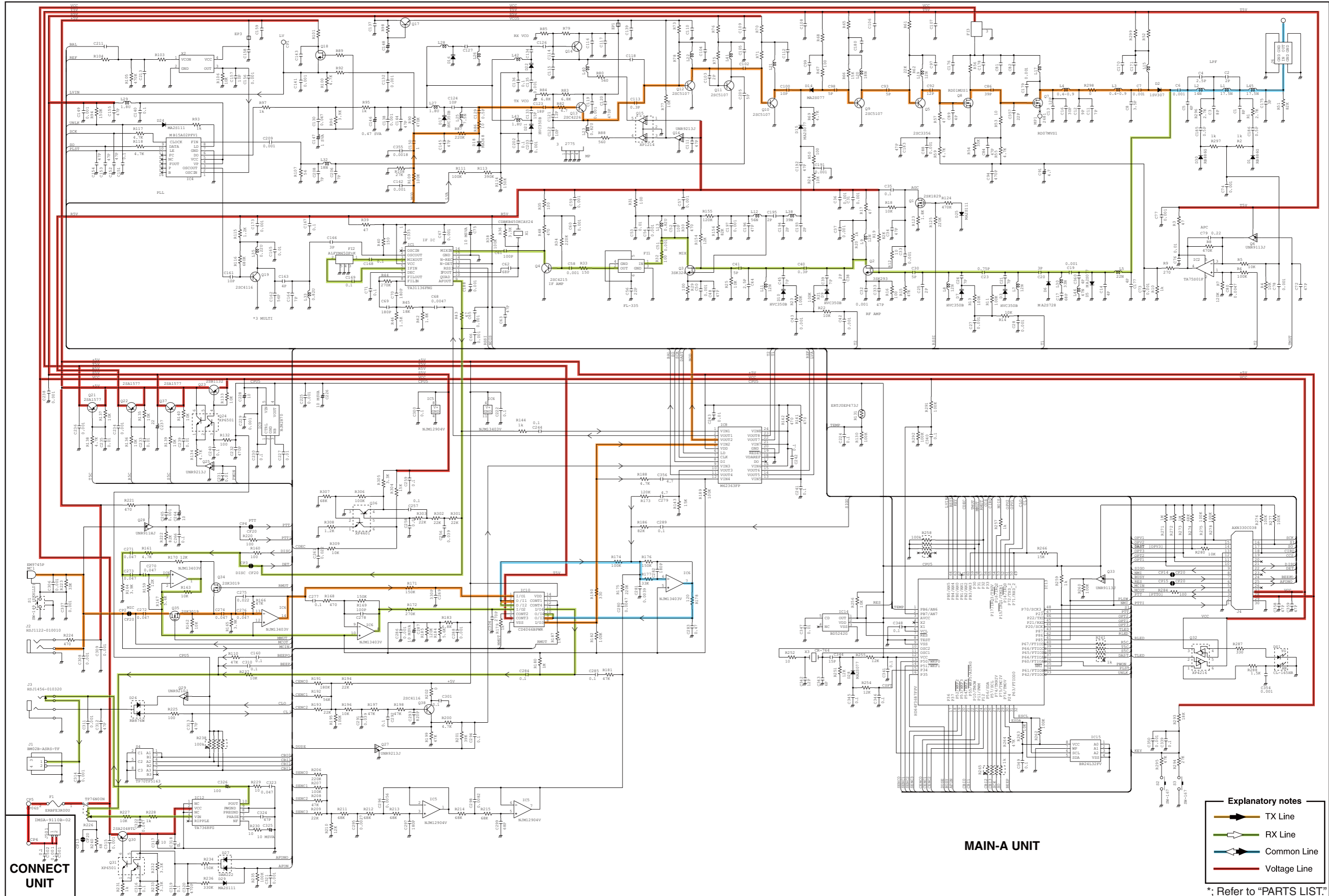


• CONNECT UNIT  
(BOTTOM VIEW)





# VOLTAGE DIAGRAM



- Explanatory notes**
- ▶ TX Line
  - ▶ RX Line
  - ▶ Common Line
  - ▶ Voltage Line

\*; Refer to "PARTS LIST."



Jul. 2008

# SERVICE MANUAL ADDENDUM

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## IC-F25SR

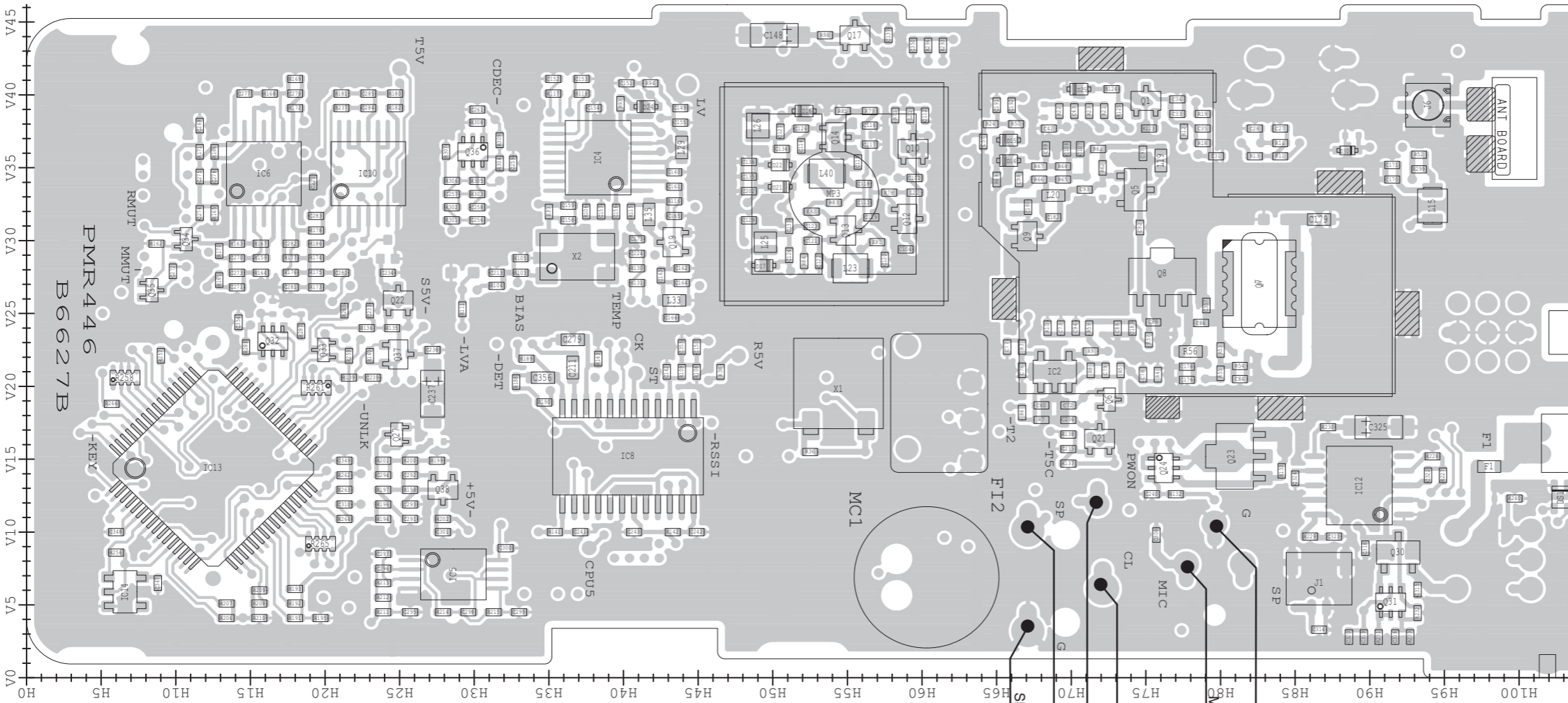
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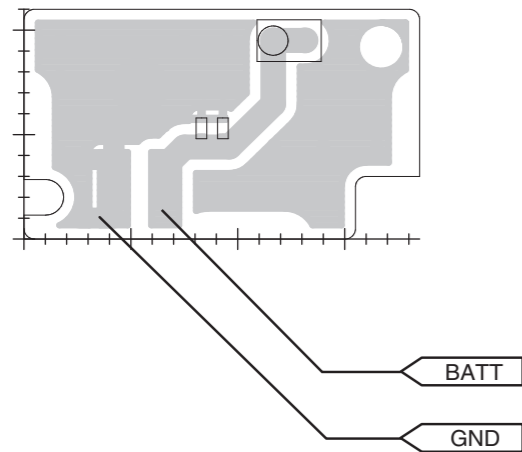
BOARD LAYOUTS.....	1
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# BOARD LAYOUTS

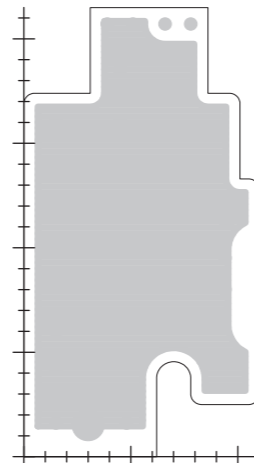
## • MAIN/MAIN-A UNIT (TOP VIEW)



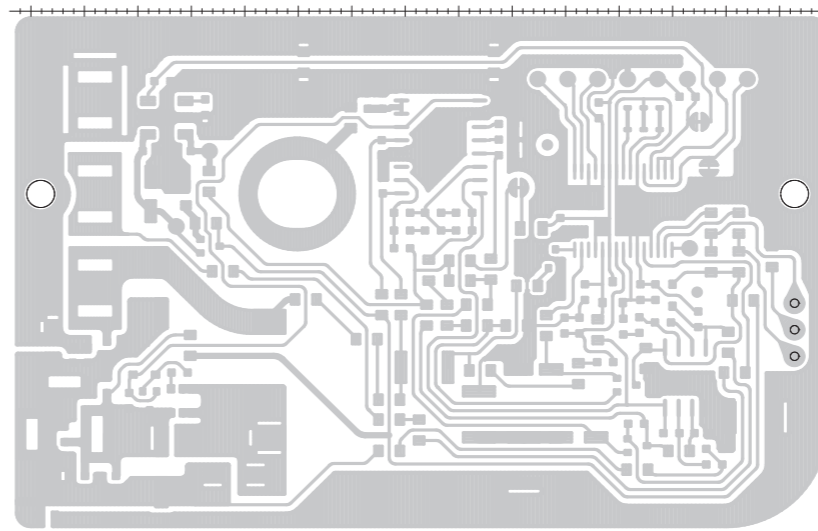
## • CONNECT UNIT (TOP VIEW)



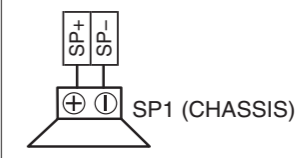
## • ANT UNIT (TOP VIEW)



## • BC-160 (TOP VIEW)

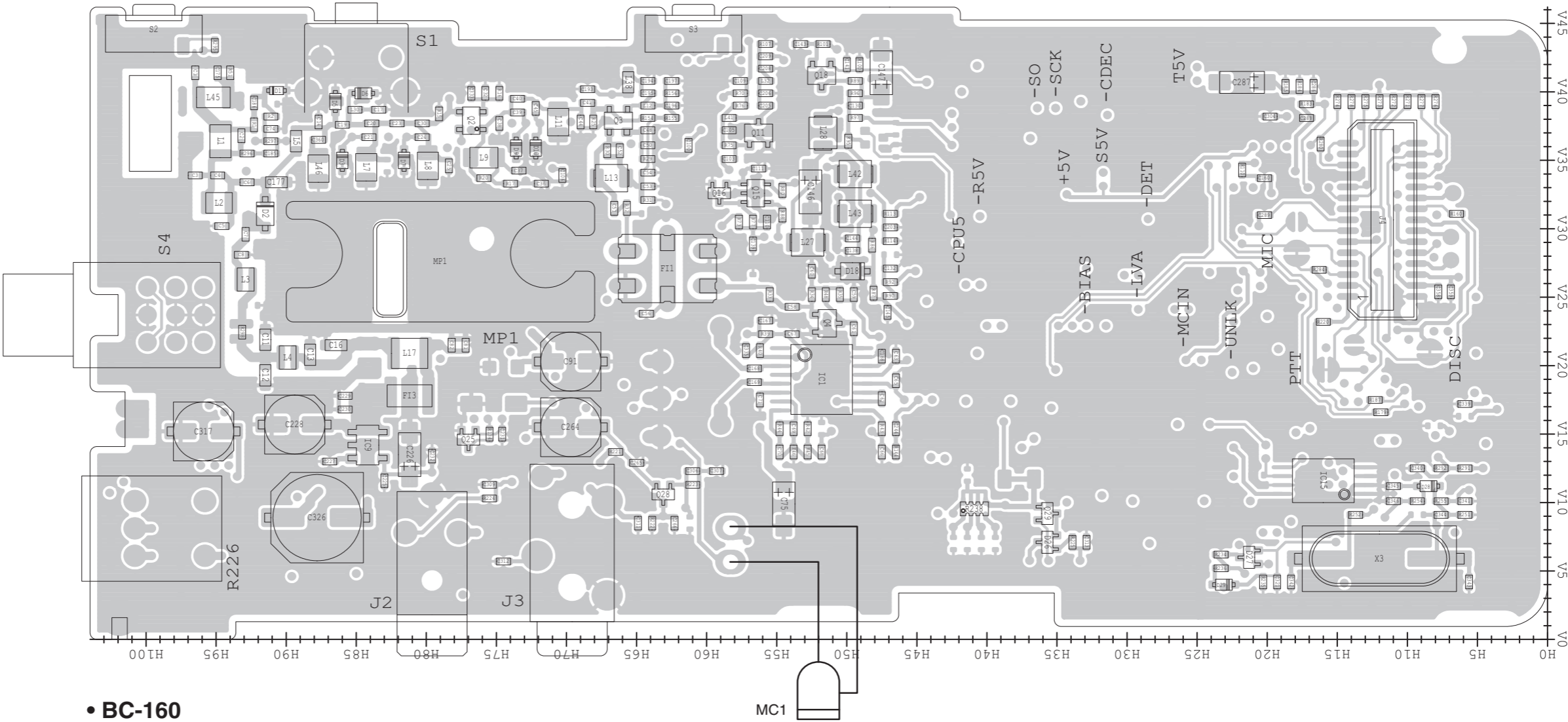


The combination of this side and the bottom side shows the board layout in the same configuration as the actual P.C.Board.

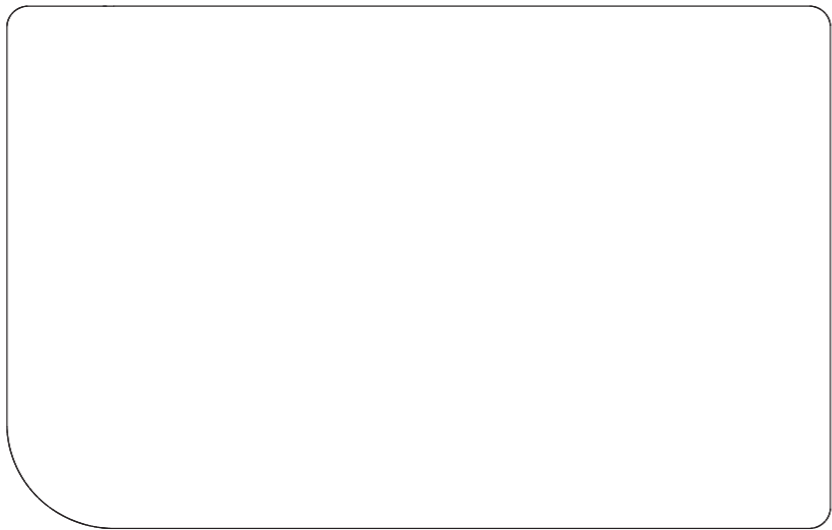


The combination of this side and the bottom side shows the board layout in the same configuration as the actual P.C.Board.

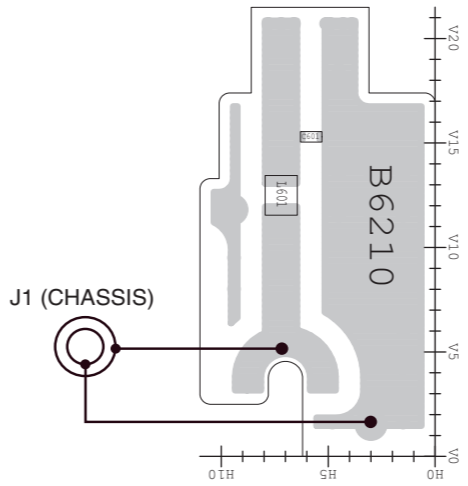
• MAIN/MAIN-A UNIT  
(BOTTOM VIEW)



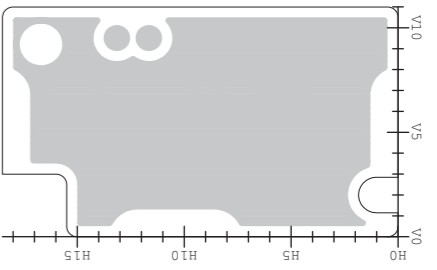
• BC-160  
(BOTTOM VIEW)



• ANT UNIT  
(BOTTOM VIEW)



• CONNECT UNIT  
(BOTTOM VIEW)





# SERVICE MANUAL

PMR446 FM TRANSCEIVER

**IC-F25SR**

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S-14328XZ-C1  
Feb. 2007

Icom Inc.

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## INTRODUCTION

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This service manual describes the latest service information for the **IC-F25SR** PMR446 FM TRANSCEIVER at the time of publication.

MODEL	VERSION
IC-F25SR	[EUR-17]
	[UK-17]
	[EUR-18]
	[UK-18]

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

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## CAUTION

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**NEVER** connect the transceiver to an AC outlet or to a DC power supply that uses more than 8 V. This will ruin the transceiver.

**DO NOT** expose the transceiver to rain, snow or any liquids.

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

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

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## ORDERING PARTS

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

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

### <SAMPLE ORDER>

1110003491 S.IC TA31136FNG IC-F25SR MAIN UNIT 5 pieces  
8820001210 Screw 2438 screw IC-F25SR Top cover 10 pieces  
Addresses are provided on the inside back cover for your convenience.



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## REPAIR NOTES

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1. Make sure a problem is internal before disassembling the transceiver.
2. **DO NOT** open the transceiver until the transceiver 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 transceiver is defective.
6. **DO NOT** transmit power into a signal generator or a sweep generator.
7. **ALWAYS** connect a 50 dB to 60 dB attenuator between the transceiver and a deviation meter or spectrum analyzer when using such test equipment.
8. **READ** the instructions of test equipment thoroughly before connecting equipment to the transceiver.

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<b>SECTION 12</b>	<b>VOLTAGE DIAGRAM</b>	

# SECTION 1

# SPECIFICATIONS

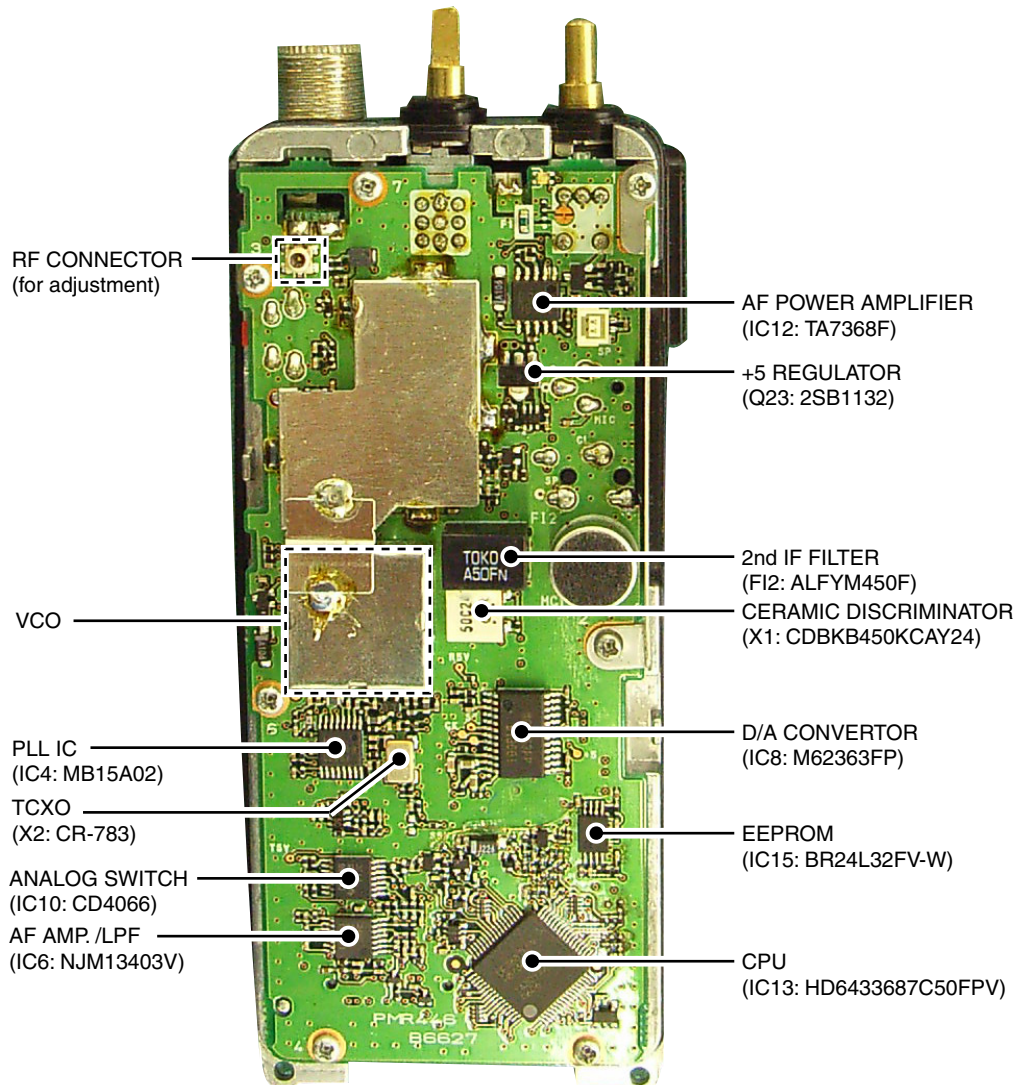
GENERAL	• Frequency coverage		446.00625–446.09375 MHz	
	• Type of emission		8K50F3E (12.5 kHz)	
	• Number of programable channels		15 channels	
	• Antenna impedance		50 Ω (nominal)	
	• Operating temperature range		–25°C to 55°C	
	• Power supply		Specified Icom's battery packs only (Operatable voltage; 7.2 V DC negative ground)	
	• Current drain (approx.)	RX	Stand-by	75 mA
			Max. audio	300 mA
		TX	0.4 A (0.5 W EPR)	
	• Dimensions (projections included)		53.0 (W) × 195.0 (H) × 38.0 (D) mm	
• Weight (with antenna and BP-231, approx.)		260 g		
TRANSMITTER	• Transmit output power		0.5 W ERP	
	• Modulation		Variable reactance frequency modulation	
	• Max. permissible deviation		±2.5 kHz	
	• Frequency error		±0.5 kHz	
	• Spurious emission		0.25 μW (≤1 GHz), 1.00 μW (>1 GHz)	
	• Adjacent channel power		60 dB	
	• Audio harmonic distortion		5% typ. (with 1 kHz at AF 60% deviation)	
	• Residual modulation		50 dB typ.	
	• Limiting charact of modulation		70–100% of max. deviation	
	• Microphone impedance		2.2 kΩ	
RECEIVER	• Receive system		Double conversion superheterodyne	
	• Intermediate frequencies		1st IF; 46.35 MHz, 2nd IF; 450 kHz	
	• Sensitivity		26.5 dBμV/m at 20 dB SINAD	
	• Squelch sensitivity (at threshold)		26.5 dBμV/m	
	• Adjacent channel selectivity		81.29 dBμV/m	
	• Spurious response		91.29 dBμV/m	
	• Intermodulation		86.29 dBμV/m	
	• FM Hum and Noise		50 dB typ.	
	• Audio output power		0.5 W typ. at 5% distortion with an 8 Ω load 0.6 W typ. at 5% distortion with a 6 Ω load	
• Audio output impedance		8 Ω		

Measurements made in accordance with EN 300 296.

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



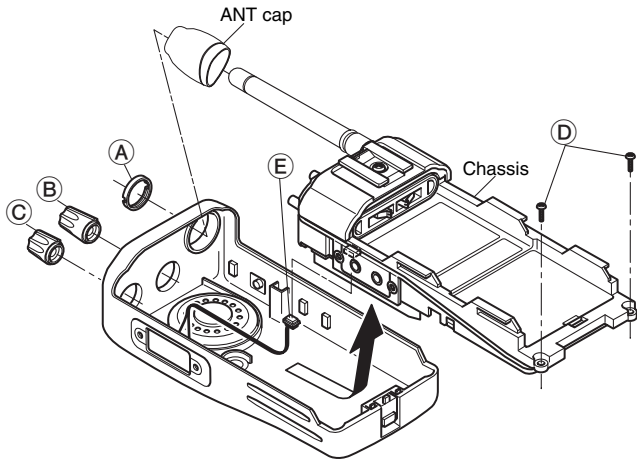
## • MAIN UNIT



# SECTION 3 DISASSEMBLY INSTRUCTION

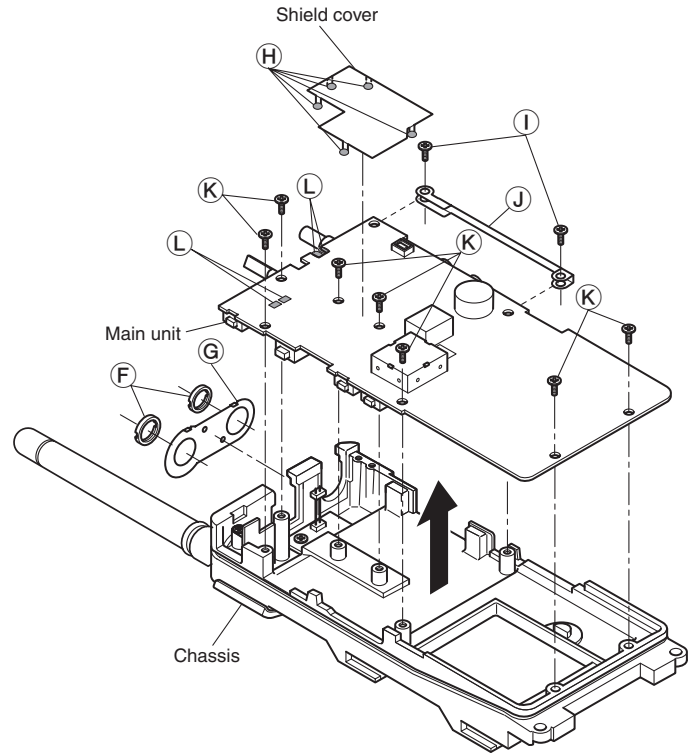
## 1. Removing the the CAHSSIS

- ① Remove ANT cap, and unscrew 1 nut (A) and 2 knobs (B), (C).
- ② Unscrew 2 screws (D).
- ③ Unplug the SP connector (E) from the MAIN UNIT.
- ④ Take off the chassis in the direction of the arrow.



## 2. Removing the MAIN UNIT

- ① Unscrew 2 nuts (F), and remove the top plate (G).
- ② Unsolder 5 points (H), and remove the shield cover.
- ③ Unscrew 2 screws (I), and remove the side plate (J).
- ④ Unscrew 7 screws (K).
- ⑤ Unsolder 4 points (L), and take off the main unit in the direction of the arrow.



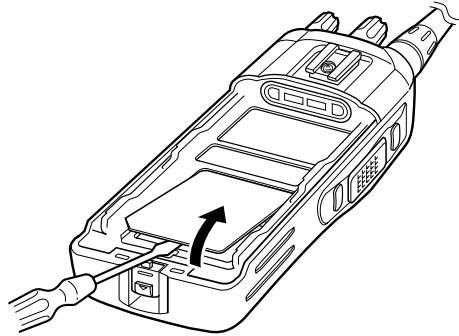
# SECTION 4 OPTIONAL UNITS INSTALLATION

Install optional unit as follows:

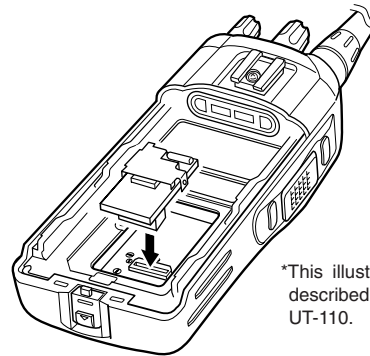
① Rotate [VOL] to turn the power OFF, and remove the battery pack.

② Remove the unit cover.

**NOTE:** Use a flat head screw driver or a similar flat instrument, and insert into the hollow of the chassis, then lift and take away the unit cover. (The removed cover cannot be used gain.)



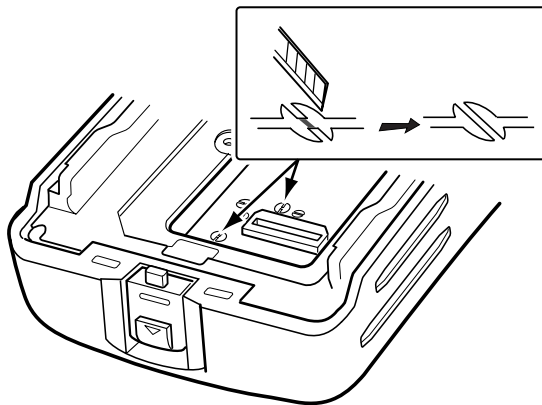
④ Install the unit as shown below.



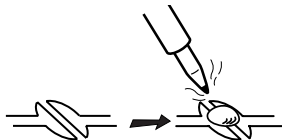
\*This illustration is described with the UT-110.

⑤ Replace the unit cover and the battery pack, then rotate [VOL] to turn the power ON.

③ Cut the pattern on the PCB at the TX mic circuit (MIC) and RX AF circuit (DISC) as shown below.



**NOTE:** When uninstalling the scrambler unit. Be sure to re-solder the disconnected points at left, otherwise no TX modulation or AF output is available.



## 5-1 RECEIVER CIRCUITS

### 5-1-1 ANTENNA SWITCHING CIRCUIT

The antenna switching circuit toggles the receive (RX) line and transmit (TX) line.

The received signals from the antenna are passed through the low-pass filter (LPF; L709, L710, C742, C744–C748) and antenna switch (D2, D5).

While transmitting, the voltage on the T5V line is applied to D2 and D5, and these are ON. Thus the TX line is connected to the antenna. Simultaneously, the RX line is connected to the GND to prevent transmit signal entering.

While receiving, no voltage is applied to the D2 and D5, and these are OFF. Thus the TX line and the antenna is disconnected to prevent received signals entering. Simultaneously, the RX line is disconnected from the GND and the received signals are passed through the LPF (L712, C750–C752). The filtered signals are applied to the RF circuits.

### 5-1-2 RF CIRCUITS

RF circuits filter and amplify the received signals within the frequency coverage.

The received signals from the antenna switching circuit are passed through the two-staged bandpass filter (BPF; D19, D25, L7, L8, C21–C23, C25, C27–C29) to filter-out unwanted signals, and the filtered signals are applied to the RF amplifier (Q2). The amplified received signals are then applied to the 1st mixer (Q3) via another two-staged BPF (D14, D15, L9, L11, C19, C36, C39–C41, C44, C45).

### 5-1-3 1st IF CIRCUITS

The received signals are converted into the 1st IF signal, filtered and amplified at the 1st IF circuits.

The received signals from the two-staged BPF (D14, D15, L9, L11, C19, C36, C39–C41, C44, C45) are applied to the 1st mixer (Q6) and converted into the 46.35 MHz 1st IF signal by being mixed with the local oscillator (LO) signal from the RX VCO (Q14, D16, D22).

The converted 1st IF signal is passed through the 1st IF filter (F1) to filter-out adjacent signals, then applied to the 1st IF amplifier (Q7). The amplified 1st IF signal is then applied to the IF IC (IC1, pin 16).

### 5-1-4 2nd IF AND DEMODULATOR CIRCUITS

The 1st IF signal is converted into the 2nd IF signal, and demodulated.

The 1st IF signal from the 1st IF amplifier is applied to the 2nd mixer in the IF IC (IC1, pin 16), and converted into the 450 kHz 2nd IF signal by being mixed with the 45.9 MHz 2nd LO signal from the reference frequency oscillator (X2) via the tripler (Q19) and BPF (L33, C163, C164, C166). The converted 2nd IF signal is output from pin 3, and passed through the 2nd IF filters to remove sideband noise.

The 2nd IF signal is passed through the 2nd IF filter (F12) and applied to the IF IC (IC1, pin 5) again via A/D switches (D2, D3).

The filtered 2nd IF signal is amplified at the limiter amplifier, and FM-demodulated by the quadrature detector (IC9, pins 10, 11, X1). The demodulated AF signals are output from pin 9, then applied to the AF amplifier circuits.

### 5-1-5 AF AMPLIFIER CIRCUITS

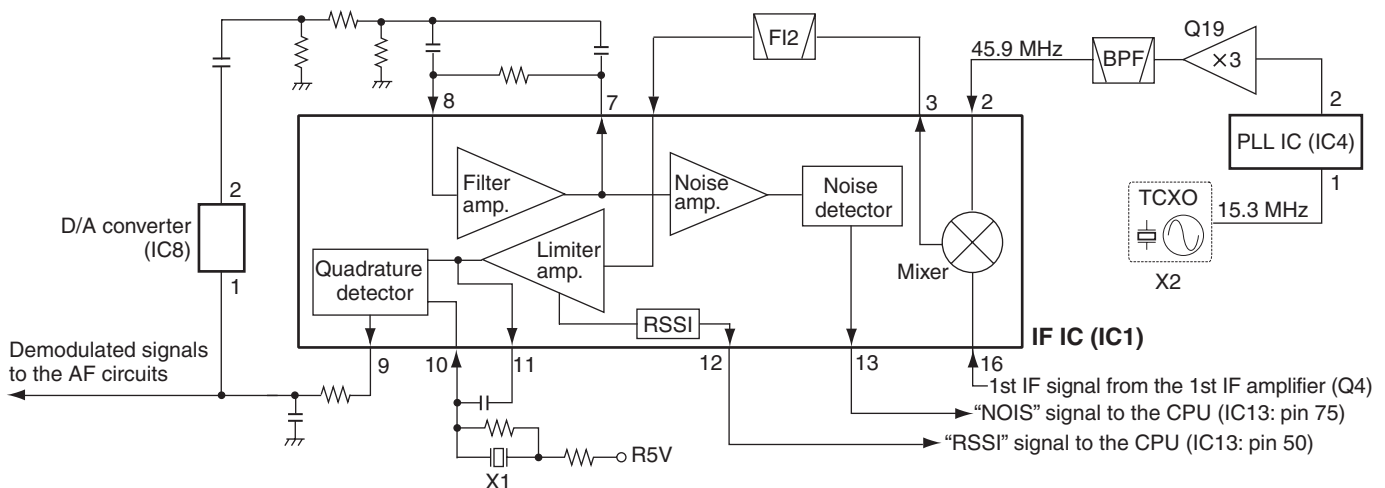
The demodulated AF signals from the IF IC are amplified and filtered at AF circuits.

The demodulated AF signals from the IF IC (pin 9) are passed through HPF (IC6, pins 1, 2) to remove tone signals. The filtered AF signals are passed through the de-emphasis circuit (R142, C249) to obtain the –6 dB/oct of frequency characteristic. The de-emphasized AF signals are passed through the RX mute switch (Q34), analog switch (IC10, pins 3, 4), LPF (IC6, pins 13, 14), analog switch (IC10, pins 1, 2), AF mixer (IC6, pins 6, 7) and analog switch (IC3, pins 10, 11) in sequence.

The AF signal from the analog switch (IC3, pin 11) are adjusted its level (=audio level) by volume control pot (R226), then applied to the AF power amplifier (IC12, pin 4) and amplified to the 0.5 W of audio output power (max., at 8 Ω load).

The power-amplified AF signals are output from pin 10, then applied to the speaker (CHASSIS UNIT; SP1) or an external speaker via [SP] jack (J2).

## • 2nd IF AND DEMODULATOR CIRCUITS



## 5-1-6 SQUELCH CIRCUITS

### 5-1-6-1 NOISE SQUELCH

The squelch mutes the AF output signals when no RF signals are received. By detecting noise components (around 30 kHz signals) in the demodulated AF signals, the squelch circuit toggles the mute switch and AF power amplifier ON and OFF.

A portion of the demodulated AF signals from the IF IC (IC1, pin 9) are applied to the D/A converter (IC8, pin 24) for level (=squelch threshold) adjustment. The level-adjusted AF signals are output from pin 23 and passed through the noise filter (IC1, pins 7, 8, R42, R44–R46, C69, C70, C413). The filtered noise signals are amplified the noise components only at the noise amplifier.

The amplified noise components are converted into the pulse-type signal at the noise detector section, and output from pin 13 as the "NOIS" signal. The converted signal is applied to the CPU (IC13, pin 75). Then the "RMUTE" signal from the CPU (IC13, pin 96) to the RX mute switch (Q34) and analog switch (IC3, pins 12, 13) becomes "Low" according to the "NOIS" signal level to cut off the AF line.

At the same time, the "AFON" signal from the CPU (IC13, pin 70) to the AF amplifier controller (Q30, Q31) becomes "Low", and the controller turns the AF power amplifier (IC12) OFF.

### 5-1-6-2 TONE SQUELCH

#### • CTCSS/DTCS

The tone squelch circuit detects tone signals and opens the squelch only when receiving a signal containing a matched sub audible tone. When the tone squelch is in use, and a signal with a mismatched or no sub audible tone is received, the tone squelch circuit mutes the AF signals even when the noise squelch is open.

A portion of the demodulated AF signals are passed through the active LPF (Q39) to filters CTCSS/DTCS signal. The filtered signal is applied to the CPU (IC13, pin 46). The CPU compares the applied signal and the set CTCSS/DTCS, then the CPU controls the status ("Low" or "High") of "RMUTE" and "AFON" signals as same as "NOISE SQUELCH."

#### • DTMF

DTMF signals in the demodulated AF signals are passed through the LPF (Q36) to remove unwanted components (voice signals), then applied to the CPU (IC13, pin 45) and decoded.

## 5-2 TRANSMITTER CIRCUITS

### 5-2-1 MICROPHONE AMPLIFIER CIRCUITS

The AF signals from the microphone (MIC signals) are filtered and level-adjusted at microphone amplifier circuits.

#### • MIC SIGNALS

MIC signals from the microphone are applied to or bypassed the ALC (Automatic Level Control) circuit (IC24, pins 3, 5) and the A/D switch (IC25, pins 1, 7), then applied to the D/A converter (IC8, pin 1).

The level-adjusted MIC signals are output from pin 2, and passed through the MIC mute switch (Q35), HPF (IC6, pins 13, 14) and gain switch (Q34, Q35) which controls the gain of MIC amplifier (IC5) according to the Analog/Digital mode, then applied to the MIC amplifier (IC5, pin 9). The amplified MIC signals are output from pin 8, and passed through the analog switch (IC3, pins 3, 4), AF mixer (IC5, pins 6, 7) where the MIC signals and tone signals are mixed with.

#### • TONE SIGNALS

The CTCSS/DTCS signals are generated by the CPU (IC13) and output from pins 19–21. The output signals are passed through the 3 registers (R222–R224) to change its wave form. The wave form changed CTCSS/DTCS signals are passed through the LPF (IC7, pins 8, 10), tone filter switch (Q40) and D/A converter (IC8, pins 11, 12) for level adjustment. The level adjusted CTCSS/DTCS signals are then applied to the AF mixer (IC5, pin 6).

DTMF signals are generated by the CPU (IC13) and output from pin 43. The output DTMF signals are passed through two LPF's (IC6, pins 1, 3 and pins 12, 14), then applied to the AF mixer (IC5, pin 6).

The mixed AF signals are output from pin 7 of the AF mixer (IC5) and passed through the analog switch (IC3, pins 8, 9), then applied to another AF amplifier (IC7, pin 6). The amplified AF signals are output from pin 7, and applied to the D/A converter (IC8, pin 9) to be adjusted its level (=deviation). The level-adjusted MIC signals are then applied to the modulation circuits as the modulation signals.

### 5-2-2 MODULATION CIRCUITS

The modulation circuits modulates the VCO oscillating signal using the modulation signals.

The modulation signals from the D/A converter (IC8, pin 10) are applied to the D18 at the TX VCO (Q13, D17, D18, D21) to modulate the VCO oscillating signal by changing the reactance of D18.

The modulation signals are also applied to the reference frequency oscillator (X2) via D/A converter (IC8, pins 15, 16) to ensure the modulation of low frequency components of the modulation signals.

The modulated VCO output is buffer-amplified by Q12 and Q10, then applied to the transmit amplifiers as the transmit signal via TX/RX switch (D14=ON, D15=OFF).

### 5-2-3 TRANSMIT AMPLIFIERS

The transmit signal from the VCO is amplified to the transmit output level by the transmit amplifiers.

The transmit signal from the TX/RX switch (D14=ON, D15=OFF) is amplified by two pre-drive amplifiers (Q5), drive amplifier (Q8) and power amplifier (Q7) in sequence to obtain 0.5 W (approx.) of transmit output power.

The power-amplified transmit signal is passed through the antenna switch (D2) and LPF (as a harmonic filter; L709, L710, C742, C744–C748), then applied to the antenna via the ANT UNIT.

### 5-2-4 APC CIRCUIT

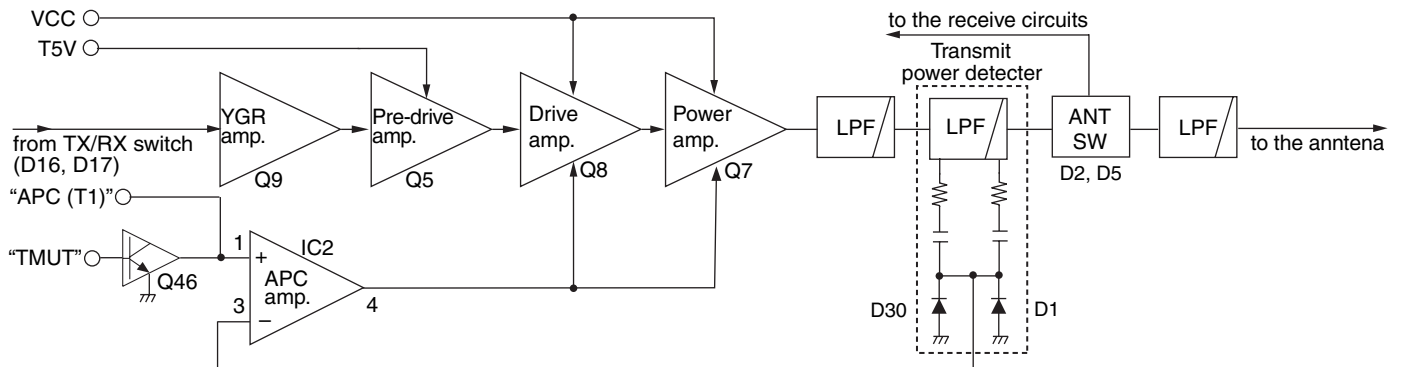
The APC (Automatic Power Control) circuit prevents the transition of the transmit output power level which is caused by load mismatching or heat effect, etc.

A portion of transmit signal is detected by the transmit power detector (D1, D30) to produce a DC voltage corresponding to the transmit output power level. The detected voltage is applied to the APC amplifier (IC2, pin 3). The transmit power setting voltage “APC (T1)” from the D/A converter (MAIN UNIT; IC8, pin 1) is applied to another input terminal (pin 1) as the reference voltage.

The APC amplifier compares the detected voltage and reference voltage, and the difference of the voltage “APCV” is output from pin 4. The voltage “APCV” controls the bias of the drive (Q8) and power (Q7) amplifiers to reduce/increase the gain of these amplifiers for stable transmit output power.

The transmit power muting is carried out by the TX mute switch (Q46), using the “TMUT” signal from the CPU (IC13, pin 35).

### • APC CIRCUIT



## 5-3 PLL CIRCUITS

### 5-3-1 VCO

VCO is a oscillator whose oscillating frequency is controlled by adding voltage (lock voltage).

This transceiver has 2 VCO's; RX VCO (Q14, D16, D22) and TX VCO (Q13, D17, D18, D21). The RX VCO oscillates the 1st LO signals, and the TX VCO oscillates the transmit signal.

#### • RX VCO

The output signals are amplified by the buffer amplifiers (Q15, Q29), and applied to the 1st mixer (Q3) via TX/RX switch (D14 is OFF, D15 is ON) and LPF (L12, L46, C46, C47, C396, C397), to be mixed with the received signals to produce the 46.35 MHz 1st IF signal.

#### • TX VCO

The output signal is applied to the transmit amplifiers via the buffer amplifiers (Q10, Q12) and TX/RX switch (D14 is ON, D15 is OFF).

A portion of each VCO output is applied to the PLL IC (IC4, pin 8) via the buffer amplifier (Q11) and the LPF (L32, L34, C196, C197, C205).

### 5-3-2 PLL IC

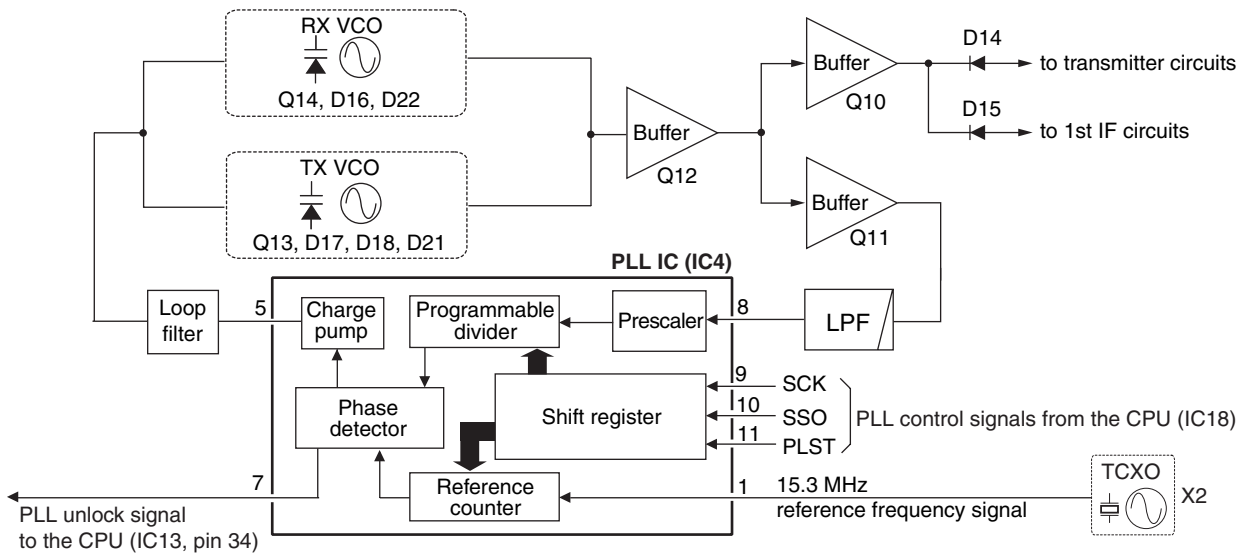
The PLL circuit provides stable oscillation of the transmit frequency and receive 1st LO frequency. The PLL output frequency is controlled by the divided ratio (N-data) from the CPU.

The VCO output signals from the BPF (L32, L34, C196, C197, C205) are applied to the PLL IC (IC4, pin 8). The applied signals are divided at the prescaler and programmable counter according to the "SSO" signal from the CPU (IC13, pin 99). The divided signal is phase-compared with the reference frequency signal from the reference frequency oscillator (X2), at the phase detector.

The phase difference is output from pin 5 as a pulse type signal after being passed through the internal charge pump. The output signal is converted into the DC voltage (lock voltage) by passing through the loop filter (R94-R96, C16, C17, C146). The lock voltage is applied to the varactors (D9 and D11 of RX VCO, D10 and D13 of TX VCO) and locked to keep the VCO frequency constant.

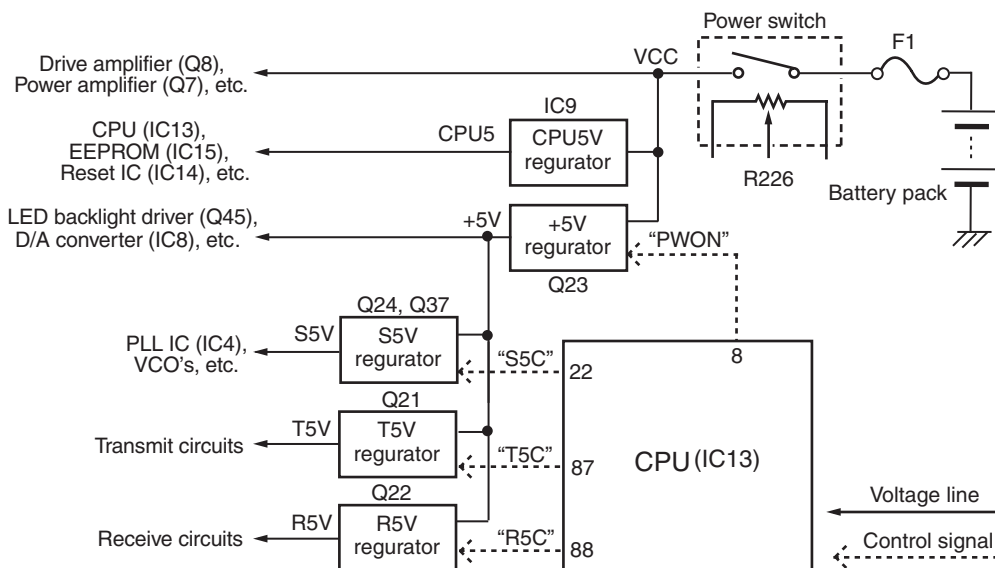
If the oscillated signal drifts, its phase changes from that of the reference frequency, causing a lock voltage change to compensate for the drift in the VCO oscillating frequency.

#### • PLL CIRCUIT



## 5-4 POWER SUPPLY CIRCUITS

Voltage from the attached battery pack is routed to whole of the circuit in the transceiver via a switch and regulators.



## 5-5 PORT ALLOCATIONS

### 5-5-1 CPU (IC13)

Pin No.	Port Name	Description
1-3	KR1-KR3	Input ports for dealer-programmable keys.
4-8	KS0-KS4	Output ports for dealer-programmable keys.
9	BUSY	Outputs "BUSY" signal to the DSP UNIT.
10	CCS	Outputs chip-select signal to the DSP UNIT.
11	SCK	Outputs serial clock signal to the PLL IC (IC4, pin 9) and D/A converter (IC8, pin 7/IC23, pin 7).
19-21	CENC0-CENC2	Output ports for CTCSS/DTCS signal.
22	S5C	Outputs S5V line control signal to the S5V regulator (Q23). "Low"=While power save mode.
26	T5C	Outputs T5V line control signal to the T5V line regulator (Q24, Q49). "Low"=While transmitting.
27	R5C	Outputs R5V line control signal to the R5V line regulator (Q25). "Low"=While receiving.
31	PLST	Outputs PLL strobe signal to the PLL IC (IC4, pin 11).
34	ULCK	Input port for PLL unlock detect signal from the PLL IC (IC4, pin 7). "Low"=While the PLL circuit is unlocked.
35	TMUT	Outputs transmit mute signal to the transmit mute switch (Q46). "High"=Transmitting is muted.
36	MONI	Input port for [SIDE1] key (S5). "Low"=While the key is pushed.
37	EMER	Input port for top switch (S1). "Low"=While the switch is pushed.
39	DSDA	Outputs serial data to the D/A converter (IC23, pin 6).
43	SENC	Outputs DTMF signals to the LPF (IC6, pin 3).
44	BEEP	Outputs beep sounds to the D/A converter (IC8, pin 21).
45	SDEC	Input port for DTMF signals.
46	CDEC	Input port for CTCSS/DTCS signals.
48	BATV	Input port for remaining battery power.
49	LVIN	Input port for VCO lock voltage.
50	RSSI	Input port for receive signal strength level signal from the IF IC (IC1, pin 12).
59	RES	Input port for CPU reset signal from the reset IC (IC14, pin 1). "Low"=When the CPU is reset.
69	CSFT	Outputs CPU clock shift signal to the clock shift switch (D6).
70	AFON	Outputs AF power amplifier (IC12) control signal to the AF power amplifier controller (Q41, Q42, D21, D23). "High"=The AF power amplifier is ON.
71	DAST	Outputs strobe signal to the D/A converter (IC8, pin 6).
72	DUSE	Outputs CTCSS/DTCS select signal to the tone filter switch (Q40). "High"=While DTCS is in use.
75	NOIS	Input port for noise signal from the IF IC (IC1, pin 13).
82	ESDA	Outputs serial data to the EEPROM (IC15, pin 5).
85	ESCL	Outputs clock signal to the EEPROM (IC15, pin 6).

Pin No.	Port Name	Description
89	DIGI	Outputs Analog/Digital select signal to the A/D switch (D2, D3). "High"=Digital mode is selected.
96	RMUTE	Outputs AF mute signal to the analog switch (IC3, pins 12, 13). "Low"=While the squelch is close or transmitting.
97	MMUTE	Outputs MIC signals mute signal to the analog switch (IC3, pin 5) and MIC mute switch (Q31). "Low"=While receiving.
99	SSO	Outputs serial data to the PLL IC (IC4, 10) and D/A converter (IC8, pin 8).
100	KR0	Input ports for dealer-programmable keys.

### 5-5-2 D/A CONVERTER (IC6)

Pin No.	Port Name	Description
2	SQLIN	Outputs level-adjusted AF signals to the noise filter (IC9, pins 7, 8, R42, R44-R46, C69, C70, C413).
3	MOD	Outputs modulation signals to the TX VCO (Q13, 17, D18, D21)
4	RXLVA	Outputs oscillating frequency adjust voltage to the TX and RX VCO.
10	BEEPO	Outputs beep sounds to the AF volume buffer (IC6, pin 9).
11	BAL	Outputs modulation balance control signal to the reference frequency oscillator buffer (IC7, pin 12).
14	LVA	Outputs oscillating frequency adjust voltage to the TX and RX VCO.
15	REF	Outputs reference frequency control voltage to the reference frequency oscillator (X2).
22	T1	<ul style="list-style-type: none"> <li>• <b>While receiving</b> Outputs BPF tuning voltage to the tunable BPF (D19, D25, L7, L8, C21-C23, C25, C27-C29).</li> <li>• <b>While transmitting (as "APC" signal)</b> Outputs transmit mute signal to the transmit mute switch (Q46).</li> </ul>
23	T2	Outputs BPF tuning voltage to the tunable BPF (D14, D15, L9, L11, C19, C36, C39-C41, C44, C45).



# SECTION 6 ADJUSTMENT PROCEDURE

## 6-1 PREPARATION

When adjusting IC-F25SR, CS-F25SR CLONING SOFTWARE, CS-F25SR ADJ ADJUSTMENT SOFTWARE (Rev. 1.0 or later), OPC-478/U/UC JIG CABLE (modified OPC-478/U/UC CLONING CABLE; see the page 6-2) and the following test equipments are required.

EQUIPMENT	GRADE AND RANGE	EQUIPMENT	GRADE AND RANGE
DC power supply	Output voltage : 7.2 V DC Current capacity : More than 1 A	External speaker	Input impedance : 8 Ω Capacity : 1 W or more
modulation analyzer	Frequency range : DC–600 MHz Measuring range : 0 to ±10 kHz	Attenuator	Power attenuation : 20 or 30 dB Capacity : 1 W
Frequency counter	Frequency range : 0.1–600 MHz Frequency accuracy : ±1 ppm or better Sensitivity : 100 mV or better	Standard signal generator (SSG)	Frequency range : 0.1–600 MHz Output level : 0.1 μV to 32 mV (–127 to –17 dBm)
RF power meter	Measuring range : 0.1–1 W Frequency range : 100–600 MHz Impedance : 50 Ω SWR : Better than 1.2 : 1	Oscilloscope	Frequency rang : DC–20 MHz Measuring range : 0.01–20 V

### ■ SYSTEM REQUIREMENTS (for the ADJUSTMENT SOFTWARE)

- Microsoft® Windows® 98/98SE/Me/2000/XP
- RS-232C serial port (D-sub 9 pin) or USB port

### ■ ADJUSTMENT SOFTWARE INSTALLATION

- ① Quit all applications when Windows is running.
- ② Insert the CD into the appropriate CD drive.
- ③ Double-click the “Setup.exe” contained in the ‘CS-F25SR ADJ’ folder in the CD drive.
- ④ The “Welcome to the InstallShield Wizard for CS-F25SR ADJ” will appear. Click [Next>].
- ⑤ The “Choose Destination Location” will appear. Then click [Next>] to install the software to the destination folder. (e.g. C:\Program Files\lcom\CS-F25SR ADJ)
- ⑥ After the installation is completed, the “InstallShield Wizard Complete” will appear. Then click [Finish].
- ⑦ Eject the CD.
- ⑧ Program group ‘CS-F25SR ADJ’ appears in the ‘Programs’ folder of the start menu, and ‘CS-F25SR ADJ’ icon appears on the desk top screen.

Microsoft and Windows are registered trademarks of Microsoft Corporation in the U.S.A. and other countries.

### ■ BEFORE STARTING SOFTWARE ADJUSTMENT

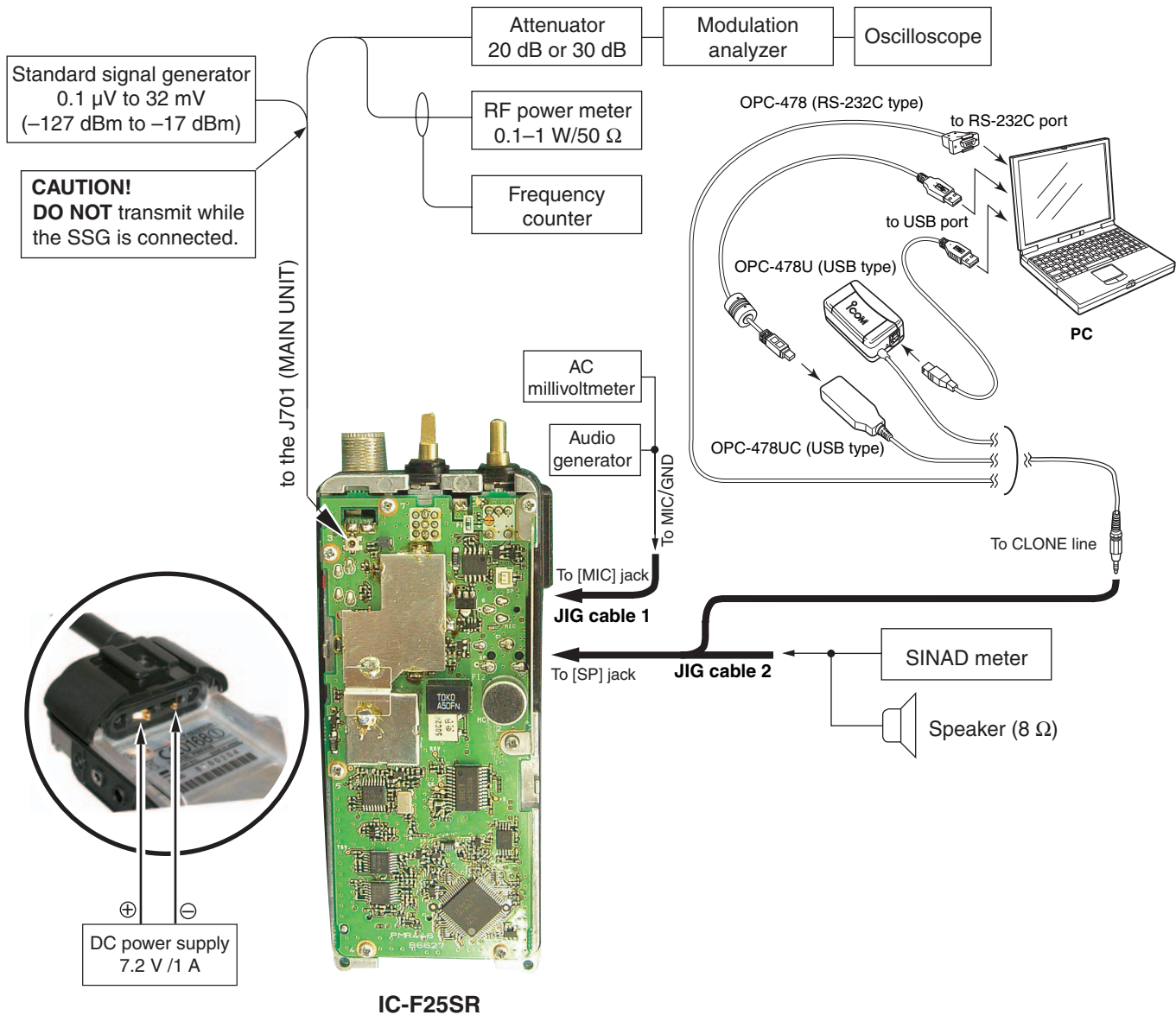
Clone the adjustment frequencies and settings into the transceiver, and set the configuration using the CS-F25SR CLONING SOFTWARE before starting the software adjustment. Otherwise, the software adjustment can not be started.

**CAUTION!:** **BACK UP** the originally programmed memory data in the transceiver before programming the adjustment frequencies. When program the adjustment frequencies into the transceiver, the transceiver’s memory data will be overwritten and lose original memory data at the same time.

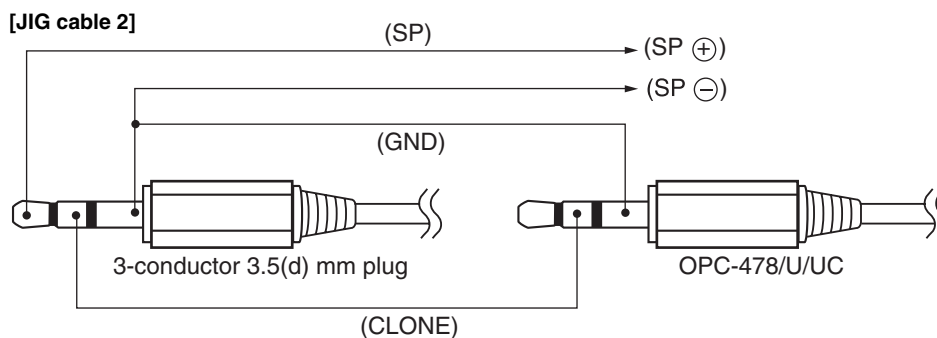
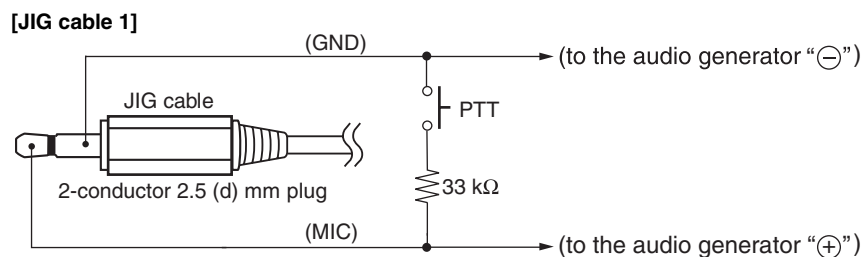
### • ADJUSTMENT FREQUENCY LIST

CHANNEL	FREQUENCY	SETTING
1-1	446.006250 MHz	None
1-2	446.006250 MHz	• DTCS code : 071
1-3	446.006250 MHz	• CTCSS frequency : 151.4 Hz

• CONNECTION



• JIG CABLES



## ■ STARTING SOFTWARE ADJUSTMENT

- ① Connect the transceiver and PC with OPC-478/U/UC JIG CABLE.
- ② Turn the transceiver power ON.
- ③ Boot up Windows, and click the program group 'CS-F25SR ADJ' in the 'Programs' folder of the [Start] menu, then CS-F25SR ADJ's window appears.
- ④ Click 'Connect' on the CS-F25SR ADJ's window, then the window shows transceiver's condition and adjustment items as below.
- ⑤ Set or modify adjustment data as specified.

## • PC SCREEN EXSAMPLE

① Connect the transceiver and PC with OPC-478/U/UC JIG CABLE.

② Turn the transceiver power ON.

③ Boot up Windows, and click the program group 'CS-F25SR ADJ' in the 'Programs' folder of the [Start] menu, then CS-F25SR ADJ's window appears.

④ Click 'Connect' on the CS-F25SR ADJ's window, then the window shows transceiver's condition and adjustment items as below.

⑤ Set or modify adjustment data as specified.

① Power: 47 [####-----]

② BAL N: 99 [#####-----]

③ MOD N: 58 [#####-----]

④ CTCSS/DTCS: 82 [#####-----]

⑤ SQL: 0 [-----]

⑥ REF: 146 [#####-----]

⑦ BPF ALL: [Enter] to Sweep

⑧ BPF T1: 49 [####-----] [Enter] to Sweep

BPF T2: 49 [####-----] [Enter] to Sweep

⑨ RX LVA: 112 [#####-----] [Enter] to Sweep

TX LVA: 159 [#####-----] [Enter] to Sweep

⑩ LV(RX LVA): 158 [#####-----] [3.10V]

LV(TX LVA): 148 [#####-----] [2.90V]

**NOTE:** The above values for settings are example only.  
Each transceiver has its own specific values for each setting.

- |                         |                                       |
|-------------------------|---------------------------------------|
| ① Transmit output power | ⑦ Receive sensitivity (Automatically) |
| ② Modulation balance    | ⑧ Receive sensitivity (Manually)      |
| ③ FM deviation          | ⑨ PLL lock voltage                    |
| ④ CTCSS/DTCS deviation  | ⑩ PLL lock voltage preset             |
| ⑤ Squelch               | ⑪ Reload data                         |
| ⑥ Reference frequency   | ⑫ PLL lock voltage (verify)           |

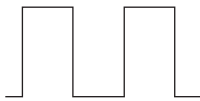
## 6-2 FREQUENCY ADJUSTMENT

Select an adjustment item using [↑] / [↓] keys, then set to the specified value using [←] / [→] keys on the connected PC's keyboard.

ADJUSTMENT	ADJUSTMENT CONDITION	MEASUREMENT		VALUE
		UNIT	OPERATION	
PLL LOCK VOLTAGE [RX LVA]	1 <ul style="list-style-type: none"> <li>• Channel : 1-1</li> <li>• Lock voltage preset [LV (RX LVA)] : 158 [3.1 V]</li> <li>• Receiving</li> </ul>	PC screen	Click [Reload (F5)] button, then check the "LVIN" item on the ADJ's screen (see page 6-3).	Push [Enter] key (Automatic adjustment)
[TX LVA]	3 <ul style="list-style-type: none"> <li>• Channel : 1-1</li> <li>• Lock voltage preset [LV (TX LVA)] : 148 [2.9 V]</li> <li>• Connect an RF power meter to the RF connector (MAIN UNIT; J701).</li> <li>• Transmitting</li> </ul>			
REFERENCE FREQUENCY [REF]	<ul style="list-style-type: none"> <li>• Channel : 1-1</li> <li>• Connect an RF power meter to the RF connector (MAIN UNIT; J701).</li> <li>• Transmitting</li> </ul>	MAIN UNIT	Loosely couple a frequency counter to the RF connector (MAIN UNIT; J701).	446.006250 MHz

## 6-3 TRANSMIT ADJUSTMENT

Select an adjustment item using [↑] / [↓] keys, then set to the specified value using [←] / [→] keys on the connected PC's keyboard.

ADJUSTMENT	ADJUSTMENT CONDITION	MEASUREMENT		VALUE
		UNIT	OPERATION	
TRANSMIT OUTPUT POWER [Power]	1 <ul style="list-style-type: none"> <li>• Channel : 1-1</li> <li>• Transmitting</li> </ul>	MAIN UNIT	Connect an RF power meter to the RF connector (MAIN UNIT; J701).	0.5 W
FM DEVIATION [MOD N]	1 <ul style="list-style-type: none"> <li>• Channel : 1-1</li> <li>• Connect the modulation analyzer to the RF connector (MAIN UNIT; J701) through an attenuator, and set as;               <ul style="list-style-type: none"> <li>HPF : OFF</li> <li>LPF : 20 kHz</li> <li>De-emphasis : OFF</li> <li>Detector : (P-P)/2</li> </ul> </li> <li>• Connect an audio generator to the [MIC] jack through the JIG cable and set as;               <ul style="list-style-type: none"> <li>Frequency : 1.0 kHz</li> <li>Level : 150 mV rms</li> </ul> </li> <li>• Transmitting</li> </ul>	MAIN UNIT	Connect the modulation analyzer to the RF connector (MAIN UNIT; J701) through an attenuator.	±2.05 to ±2.15 kHz
MODULATION BALANCE [BAL N]	1 <ul style="list-style-type: none"> <li>• Channel : 1-2</li> <li>• No audio signals applied to the JIG cable.</li> <li>• Set the modulation analyzer to the same condition as "FM DEVIATION."</li> <li>• Transmitting</li> </ul>	MAIN UNIT	Connect the modulation analyzer with the oscilloscope to the RF connector (MAIN UNIT; J701) through an attenuator.	Set to square wave form 
CTCSS/DTCS DEVIATION [CTCS/DTCS]	1 <ul style="list-style-type: none"> <li>• Channel : 1-3</li> <li>• No audio signals applied to the JIG cable.</li> <li>• Set the modulation analyzer to the same condition as "FM DEVIATION."</li> <li>• Transmitting</li> </ul>	MAIN UNIT	Connect the modulation analyzer to RF connector (MAIN UNIT; J701) through an attenuator.	±0.33 to ±0.37 kHz

## 6-4 RECEIVE ADJUSTMENT

Select an adjustment item using [↑] / [↓] keys, then set to the specified value using [←] / [→] keys on the connected PC's keyboard.

ADJUSTMENT	ADJUSTMENT CONDITION	MEASUREMENT		VALUE
		UNIT	LOCATION	
RECEIVE SENSITIVITY [BPF (T1)] [BPF (T2)]	1 <ul style="list-style-type: none"> <li>• Channel : 1-1</li> <li>• Connect an SSG to RF connector (MAIN UNIT; J701) and set as;               <ul style="list-style-type: none"> <li>Frequency : 446.006250 MHz</li> <li>Level : +20 dBμ<sup>†</sup> (-87 dBm)</li> <li>Modulation : 1 kHz</li> <li>Deviation : ±1.75 kHz</li> </ul> </li> <li>• Receiving</li> </ul>	[MIC/SP] jack	Connect the SINAD meter with an 8 Ω load to the JIG cable.	Minimum distortion level
<b>CONVENIENT:</b> The "RECEIVE SENSITIVITY" can be adjusted automatically. 1: Put the cursor on "[BPF ALL]," then push [Enter] key. 2: The connected PC tunes BPF's to peak levels automatically.				
SQUELCH [SQL]	1 <ul style="list-style-type: none"> <li>• Channel : 1-1</li> <li>• Close the squelch by adjusting the value of [SQL] item on the CS-F25SR ADJ's screen.</li> <li>• Connect the SSG to RF connector (MAIN UNIT; J701) and set as;               <ul style="list-style-type: none"> <li>Frequency : 466.006250 MHz</li> <li>Level : -14 dBμ<sup>†</sup> (-121 dBm)</li> <li>Modulation : 1 kHz</li> <li>Deviation : ±1.75 kHz</li> </ul> </li> <li>• Receiving</li> </ul>	[MIC/SP] jack	Connect an 8 Ω speaker to the JIG cable.	Set the [SQL] to the value that the audio signals just appears.

<sup>†</sup>: The output level of the standard signal generator (SSG) is indicated as the SSG's open circuit.

## SECTION 7

## PARTS LIST

## [MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
IC1	1110003201	S.IC TA31136FNG (EL)	B	51.8/19
IC2	1110002751	S.IC TA75S01F (TE85R,F)	T	68.9/21
IC4	1140005991	S.IC MB15A02PFV1-G-BND-ERE1	T	38.3/35.7
IC5	1110005330	S.IC NJM12904V-TE1-#ZZZB	T	28.6/7.1
IC6	1110005320	S.IC NJM13403V-TE1-#ZZZB	T	15.9/34.6
IC8	1190000350	S.IC M62363FP-650C	T	40.3/15.2
IC9	1110005350	S.IC NJM2870F05-TE1-#FZZB	B	84.2/14.2
IC10	1130011770	S.IC CD4066BPWR	T	22.9/34.6
IC12	1110001811	S.IC TA738FG (5.ER)	T	89.3/13.2
IC13	1140013860	S.IC HD64F3687FPV [EUR-17], [UK-17], [EUR-18]	T	12.5/14.3
	1140013890	S.IC HD6433687C50FPV [UK-18]	T	12.5/14.3
IC14	1110006260	S.IC BD5242G-TR	T	6.6/5.9
IC15	1130011570	S.IC BR24L32FV-WE2	B	16/11.6
Q1	1560000841	S.FET 2SK1829 (TE85R,F)	T	75/39.6
Q2	1580000731	S.FET 3SK293 (TE85L,F)	B	76.8/37.9
Q3	1580000800	S.FET 3SK324UG-TL-E	B	66.3/37.9
Q4	1530002601	S.TR 2SC4215-O (TE85R,F)	B	51.4/23.1
Q5	1530000371	S.TR 2SC3356-T1B S (R25)	T	74.3/33.5
Q6	1590003230	S.TR UNR9113J-(TX)	T	72.5/19.1
Q7	1560001231	S.FET RD07MVS1-T112 [EUR-17], [UK-17], [EUR-18]	T	82.6/27
Q7	1560001232	S.FET RD07MVS2-T112 [UK-18]	T	82.6/27
Q8	1560001241	S.FET RD01MUS1-T113	T	76.1/27.5
Q9	1530003311	S.TR 2SC5107-O (TE85R,F)	T	67/30.3
Q10	1530003311	S.TR 2SC5107-O (TE85R,F)	T	59.4/36.3
Q11	1530003311	S.TR 2SC5107-O (TE85R,F)	B	56.3/37
Q12	1530003311	S.TR 2SC5107-O (TE85R,F)	T	59/31.5
Q13	1530002920	S.TR 2SC4226-T1 R25	T	54.9/30.7
Q14	1530002920	S.TR 2SC4226-T1 R25	T	54.2/37.1
Q15	1590001400	S.TR XP1214 (TX)	B	56.5/32.6
Q16	1590003290	S.TR UNR9213J-(TX)	B	59.1/32.6
Q17	1530002851	S.TR 2SC4116-BL (TE85R,F)	T	55.5/44.1
Q18	1560000541	S.FET 2SK880-Y (T5RICOM,F)	B	51.8/41.2
Q19	1530002851	S.TR 2SC4116-BL (TE85R,F)	T	43.3/29.9
Q21	1510001110	S.TR 2SA1577T106R	T	71.9/16.4
Q22	1510001110	S.TR 2SA1577T106R	T	24.9/25.9
Q23	1520000460	S.TR 2SB1132 T100 R	T	81/15.2
Q24	1590001190	S.TR XP6501-(TX).AB	T	76.2/13.9
Q25	1590003290	S.TR UNR9213J-(TX)	T	76.7/16.2
Q27	1590003290	S.TR UNR9213J-(TX)	T	24.8/16.7
Q28	1590003430	S.TR UNR911HJ-(TX)	B	63.1/10.6
Q29	1590003270	S.TR UNR9210J-(TX)	B	35.7/9.2
Q30	1510001080	S.TR 2SA2048 TLR	T	91.9/8.6
Q31	1590001190	S.TR XP6501-(TX).AB	T	91.4/5.2
Q32	1590003020	S.TR XP4216-(TX)	T	16.5/23.1
Q33	1590003230	S.TR UNR9113J-(TX)	T	19.9/22.5
Q34	1560001360	S.FET 2SK3019 TL	T	10.7/30.1
Q35	1560001360	S.FET 2SK3019 TL	T	8.4/26.6
Q36	1590001650	S.TR XP4601 (TX)	T	29.9/36.1
Q37	1510001110	S.TR 2SA1577T106R	T	24.9/22.2
Q38	1530002691	S.TR 2SC4116-GR (TE85R,F)	T	27.9/12.9
D1	1750001080	S.DIO RB886G T2R	B	90.7/40.1
D2	1750000581	S.DIO 1SV307 (TPH3,F)	B	91.5/31.1
D3	1750000711	S.VCP HVC350BTRF-E	B	86/35
D5	1790001260	S.DIO MA25077-(TX)	B	86.5/39.3
D6	1790001240	S.DIO MA25728-(TX)	B	84.5/39.9
D7	1750000711	S.VCP HVC350BTRF-E	B	81.6/35
D9	1750000711	S.VCP HVC350BTRF-E	B	73.6/35.9
D10	1750000711	S.VCP HVC350BTRF-E	B	72.2/35.9
D14	1790001260	S.DIO MA25077-(TX)	T	65.8/35.5
D15	1790001260	S.DIO MA25077-(TX)	T	65.8/36.9
D16	1750000711	S.VCP HVC350BTRF-E	T	52.1/38.9
D17	1750000711	S.VCP HVC350BTRF-E	T	49.4/28.3
D18	1720000570	S.VCP MA368 (TX)	B	49.6/26.9
D21	1750000711	S.VCP HVC350BTRF-E	T	50.5/33.7
D22	1750000711	S.VCP HVC350BTRF-E	T	50.5/35.2
D24	1790001250	S.DIO MA25111-(TX)	T	41.5/39.2
D25	1790001250	S.DIO MA25111-(TX)	T	70.5/40.4
D26	1790001790	S.DIO RB876W TL	B	35.7/7.1
D27	1750000520	S.DIO DAN222TL	B	21.3/6
D28	1790001260	S.DIO MA25077-(TX)	B	8.5/11.2
D29	1790001250	S.DIO MA25111-(TX)	B	23.1/4
D30	1750001080	S.DIO RB886G T2R	T	88.5/36.2
F11	2030000150	S.MLH FL-335 (46.350 MHz)	B	62.8/27.1
F12	2020001840	CER ALFYM450F=K		
F13	2040001440	S.LC NFE31PT152Z1E9L	B	81.2/17.8
X1	6070000191	S.DCR CDBKB450KCA24-R0	T	54.4/20
X2	6050011940	S.XTL CR-783 (15.3 MHz)	T	36.9/28.9
X3	6050011720	S.XTL CR-764 (19.6608 MHz)	B	12/5.9
L1	6200008700	S.COL 0.30-0.9-6TR 17.5N [EUR-17], [UK-17], [EUR-18]	B	94.7/36.4
	6200012490	S.COL 0.30-0.9-6TR 13.6N [UK-18]	B	94.7/36.4
L2	6200013010	S.COL 0.30-0.9-5TL 10.3N	B	94.8/31.9
L3	6200012610	S.COL 0.40-0.9-2TL 2.8N	B	92.9/26.3
L4	6200012610	S.COL 0.40-0.9-2TL 2.8N	B	89.9/20.6
L5	6200010850	S.COL LQW18AN22NG00D	B	89.3/36.4
L7	6200007680	S.COL LQW2BHN12NJ03L	B	84.3/34.5

## [MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
L8	6200007680	S.COL LQW2BHN12NJ03L	B	79.9/34.6
L9	6200007680	S.COL LQW2BHN12NJ03L	B	75.9/35.2
L11	6200007680	S.COL LQW2BHN12NJ03L	B	70.6/37.8
L12	6200011001	S.COL ELJRF 56NJFB	B	64.2/39
L13	6200007850	S.COL ELJNC R82K-F	B	66.8/33.7
L15	6200002851	S.COL NLV25T-R82J	T	94.2/32.4
L17	6200012980	S.COL 0.40-1.4-5TR 18.3N	B	81.2/20.9
L19	6200005671	S.COL ELJRE 12NGFA	T	76/35.5
L20	6200005691	S.COL ELJRE 18NGFA	T	68.8/33.1
L21	6200007881	S.COL ELJRF 33NJFB	T	59.2/38.6
L22	6200007901	S.COL ELJRF 22NJFB	T	59.5/33.3
L23	6200002851	S.COL NLV25T-R82J	T	55.2/28.1
L25	6200012390	S.COL 0.30-0.92-3TR 5.8N	T	49.5/29.9
L26	6200012970	S.COL 0.30-0.91-4TR 8.6N	T	49/37.9
L27	6200004951	S.COL NLV25T-1R8J	B	52.8/29
L28	6200004951	S.COL NLV25T-1R8J	B	51.7/37
L29	6200004660	S.COL MLF1608A 1R8K-T	T	43.9/36.4
L30	6200007881	S.COL ELJRF 33NJFB	B	85.1/38.7
L32	6200007911	S.COL ELJRF 18NJFB	B	55.8/40.8
L33	6200004480	S.COL MLF1608D R82K-T	T	43.4/25.9
L35	6200003540	S.COL MLF1608D R22K-T	T	41.7/31.8
L38	6200005731	S.COL ELJRE 39NGFA	B	65.6/40.7
L40	6200002851	S.COL NLV25T-R82J	T	53.6/34.6
L41	6200007881	S.COL ELJRF 33NJFB	B	58.4/38.1
L42	6200004951	S.COL NLV25T-1R8J	B	49.4/34
L43	6200004951	S.COL NLV25T-1R8J	B	49.4/31.1
L45	6200008700	S.COL 0.30-0.9-6TR 17.5N [EUR-17], [UK-17], [EUR-18]	B	95.2/39.6
	6200012490	S.COL 0.30-0.9-6TR 13.6N [UK-18]	B	95.2/39.6
L46	6200007740	S.COL LQW2BHN47NJ03L	B	87.7/34.4
R1	7030009140	S.RES ERJ2GEJ 272 X (2.7 k)	B	92.3/37.6
R2	7030005120	S.RES ERJ2GEJ 102 X (1 k)	B	91.1/38.2
R3	7030004970	S.RES ERJ2GEJ 470 X (47)	T	66.7/22.7
R4	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	75.8/20.8
R5	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	73.3/21.1
R6	7030005090	S.RES ERJ2GEJ 104 X (100 k)	T	66.7/18.2
R7	7030005310	S.RES ERJ2GEJ 124 X (120 k)	T	68/17.7
R8	7030005170	S.RES ERJ2GEJ 474 X (470 k)	T	71.3/21.1
R9	7030008280	S.RES ERJ2GEJ 271 X (270)	T	71.3/22.4
R10	7030005120	S.RES ERJ2GEJ 102 X (1 k)	T	68.4/24
R11	7030005090	S.RES ERJ2GEJ 104 X (100 k)	T	84/35.8
R12	7030005530	S.RES ERJ2GEJ 100 X (10)	T	77.5/37.5
R13	7030005090	S.RES ERJ2GEJ 104 X (100 k)	T	82.3/35.8
R14	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	84/36.7
R15	7030005240	S.RES ERJ2GEJ 473 X (47 k)	B	79.1/38.4
R16	7030004980	S.RES ERJ2GEJ 101 X (100)	B	74.8/39.9
R17	7030004970	S.RES ERJ2GEJ 470 X (47)	B	74/33.3
R18	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	78.8/36.7
R19	7030005080	S.RES ERJ2GEJ 823 X (82 k)	T	78.8/38.7
R20	7030005120	S.RES ERJ2GEJ 102 X (1 k)	B	75.9/33.7
R21	7030005090	S.RES ERJ2GEJ 104 X (100 k)	T	72.2/38.9
R22	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	69.2/38.9
R23	7030005090	S.RES ERJ2GEJ 104 X (100 k)	T	71.2/38.9
R24	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	64.6/38
R25	7030005050	S.RES ERJ2GEJ 103 X (10 k)	B	68.1/37.8
R29	7030004980	S.RES ERJ2GEJ 101 X (100)	B	64.2/35.1
R30	7030005000	S.RES ERJ2GEJ 471 X (470)	B	67.1/35.7
R31	7030004980	S.RES ERJ2GEJ 101 X (100)	B	64.2/32.1
R32	7030004980	S.RES ERJ2GEJ 101 X (100)	B	65.7/31.5
R33	7030007270	S.RES ERJ2GEJ 151 X (150)	B	55.5/25.2
R34	7030005110	S.RES ERJ2GEJ 224 X (220 k)	B	52.5/25.2
R35	7030004980	S.RES ERJ2GEJ 101 X (100)	B	50.5/25.2
R36	7030007300	S.RES ERJ2GEJ 332 X (3.3 k)	T	52.5/15.5
R38	7030005090	S.RES ERJ2GEJ 104 X (100 k)	T	46.5/21
R39	7030004970	S.RES ERJ2GEJ 470 X (47)	B	55.8/27.3
R40	7030007270	S.RES ERJ2GEJ 151 X (150)	B	56.2/21.1
R42	7030008400	S.RES ERJ2GEJ 182 X (1.8 k)	B	52.8/15.4
R43	7030004970	S.RES ERJ2GEJ 470 X (47)	B	47.5/15.4
R44	7030005700	S.RES ERJ2GEJ 274 X (270 k)	B	54.8/15.4
R45	7030008290	S.RES ERJ2GEJ 183 X (18 k)	B	52.8/13.7
R46	7030005030	S.RES ERJ2GEJ 152 X (1.5 k)	B	53.8/13.7
R48	7030005000	S.RES ERJ2GEJ 471 X (470)	B	51.5/25.2
R50	7030004980	S.RES ERJ2GEJ 101 X (100)	T	66.3/38
R51	7030005080	S.RES ERJ2GEJ 823 X (82 k)	B	94/41.4
R52	7030004990	S.RES ERJ2GEJ 221 X (220)	T	93.3/35.9
R53	7030005530	S.RES ERJ2GEJ 100 X (10)	T	80/22.5
R54	7030005060	S.RES ERJ2GEJ 333 X (33 k)	T	81.3/21.4
R55	7030005040	S.RES ERJ2GEJ 472 X (4.7 k)	T	80/20.9
R56	7030003860	S.RES ERJ3GE JPW V	T	78/22.4
R57	7030004970	S.RES ERJ2GEJ 470 X (47)	T	75.2/23.2
R59	7030005040	S.RES ERJ2GEJ 472 X (4.7 k)	T	71.2/24
R61	7030004970	S.RES ERJ2GEJ 470 X (47)	T	71.8/36.3
R62	7030005220	S.RES ERJ2GEJ 223 X (22 k)	T	72.1/35
R65	7030004980	S.RES ERJ2GEJ 101 X (100)	T	69.4/34.2
R66	7030007340	S.RES ERJ2GEJ 153 X (15 k)	T	67.8/34.2
R67	7030004980	S.RES ERJ2GEJ 101 X (100)	T	67.8/35.1
R68	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	69.4/35.1
R69	7030005040	S.RES ERJ2GEJ 472 X (4.7 k)	T	65/34.2
R70	7030005530	S.RES ERJ2GEJ 100 X (10)	B	57.6/39.9
R71	7030005070	S.RES ERJ2GEJ 683 X (68 k)	T	58.2/38.6
R73	7030004980	S.RES ERJ2GEJ 101 X (100)	B	57.7/30.5
R75	7030005110	S.RES ERJ2GEJ 224 X (220 k)	B	58.4/36.1
R76	7030004980	S.RES ERJ2GEJ 101 X (100)	B	57.6/39
R77	7030005050	S.RES ERJ2GEJ 103 X (10 k)	B	56.7/30.5
R78	7030005090	S.RES ERJ2GEJ 104 X (100 k)	T	57.8/33.3
R79	7030006020	S.RES RR0510P-682-D (6.8 k)	T	56.5/38.9

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

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
R80	7030008370	S.RES ERJ2GEJ 561 X (560)	B	54.6/32.8
R82	7030009320	S.RES ERJ2GEJ 4R7 X (4.7)	T	52.6/32
R83	7030006020	S.RES RR0510P-682-D (6.8 k)	T	54.1/32.6
R84	7030006020	S.RES RR0510P-682-D (6.8 k)	T	52.1/28.6
R85	7030006020	S.RES RR0510P-682-D (6.8 k)	T	54.7/38.9
R86	7030005530	S.RES ERJ2GEJ 100 X (10)	B	48.2/28.8
R87	7030005110	S.RES ERJ2GEJ 224 X (220 k)	B	48.1/25.3
R88	7030008370	S.RES ERJ2GEJ 561 X (560)	B	54.6/31
R89	7030005050	S.RES ERJ2GEJ 103 X (10 k)	B	49.4/40.8
R90	7030005170	S.RES ERJ2GEJ 474 X (470 k)	B	46.9/25.1
R92	7030005310	S.RES ERJ2GEJ 124 X (120 k)	B	46.9/26.1
R93	7030005120	S.RES ERJ2GEJ 102 X (1 k)	T	39.8/39.4
R94	7030005100	S.RES ERJ2GEJ 154 X (150 k)	T	41.8/40.8
R95	7030005120	S.RES ERJ2GEJ 102 X (1 k)	B	49.9/36.4
R96	7030008410	S.RES ERJ2GEJ 392 X (3.9 k)	B	49.4/39.9
R97	7030005120	S.RES ERJ2GEJ 102 X (1 k)	B	49.4/38.1
R98	7030007290	S.RES ERJ2GEJ 222 X (2.2 k)	T	53.5/44.1
R100	7030005040	S.RES ERJ2GEJ 472 X (4.7 k)	B	49.1/42
R101	7030005000	S.RES ERJ2GEJ 471 X (470)	B	51.7/43.5
R103	7030005240	S.RES ERJ2GEJ 473 X (47 k)	T	33.1/27.8
R104	7030005230	S.RES ERJ2GEJ 334 X (330 k)	T	31.5/26.9
R105	7030005170	S.RES ERJ2GEJ 474 X (470 k)	T	33.1/28.8
R106	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	37.5/32
R107	7030005580	S.RES ERJ2GEJ 560 X (56)	B	55.8/43.5
R108	7030005600	S.RES ERJ2GEJ 273 X (27 k)	T	44.9/21
R109	7030005090	S.RES ERJ2GEJ 104 X (100 k)	T	43.9/21
R110	7030005240	S.RES ERJ2GEJ 473 X (47 k)	B	21.8/34.3
R111	7030005090	S.RES ERJ2GEJ 104 X (100 k)	T	29.2/25.3
R113	7030006610	S.RES ERJ2GEJ 394 X (390 k)	B	46.9/31.1
R114	7030005100	S.RES ERJ2GEJ 154 X (150 k)	B	46.9/29.1
R115	7030007570	S.RES ERJ2GEJ 122 X (1.2 k)	T	40.5/32
R116	7030007060	S.RES ERJ2GEJ 684X (680 k)	T	43.4/32.7
R117	7030005040	S.RES ERJ2GEJ 472 X (4.7 k)	T	35.3/40.1
R118	7030005040	S.RES ERJ2GEJ 472 X (4.7 k)	T	37.2/40.1
R123	7030008400	S.RES ERJ2GEJ 182 X (1.8 k)	T	75.2/37.7
R124	7030005170	S.RES ERJ2GEJ 474 X (470 k)	T	72.7/40.4
R125	7030005110	S.RES ERJ2GEJ 224 X (220 k)	T	73.2/38.9
R130	7030010080	S.RES ERJ2RHD 104 X (100 k)	T	40.9/28.1
R131	7510001730	S.TMR ERTJOPD 473J	T	40.9/27.1
R132	7030004980	S.RES ERJ2GEJ 101 X (100)	T	77/12.1
R133	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	84.1/14.2
R134	7030005040	S.RES ERJ2GEJ 472 X (4.7 k)	T	75.1/15.9
R135	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	24.5/24
R136	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	22.8/24
R137	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	69.8/14.7
R138	7030005040	S.RES ERJ2GEJ 472 X (4.7 k)	T	69.8/16.7
R139	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	21.6/20.6
R140	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	23/22.1
R141	7030005000	S.RES ERJ2GEJ 471 X (470)	T	35.4/10
R142	7030005000	S.RES ERJ2GEJ 471 X (470)	T	43.3/10
R143	7030007340	S.RES ERJ2GEJ 153 X (15 k)	T	38.3/21.9
R144	7030005120	S.RES ERJ2GEJ 102 X (1 k)	B	46.5/13.7
R154	7030008010	S.RES ERJ2GEJ 123 X (12 k)	B	64.2/38.1
R155	7030005310	S.RES ERJ2GEJ 124 X (120 k)	B	62.5/38.1
R156	7030005080	S.RES ERJ2GEJ 823 X (82 k)	B	62.5/39.9
R159	7030008010	S.RES ERJ2GEJ 123 X (12 k)	T	15.7/28.8
R160	7030004980	S.RES ERJ2GEJ 101 X (100)	B	6.5/31.1
R161	7030005040	S.RES ERJ2GEJ 472 X (4.7 k)	T	12.9/27.3
R162	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	8.7/29.8
R163	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	14.1/29.8
R164	7030008410	S.RES ERJ2GEJ 392 X (3.9 k)	T	15.7/27.8
R165	7030008410	S.RES ERJ2GEJ 392 X (3.9 k)	T	12.6/31.9
R166	7030005240	S.RES ERJ2GEJ 473 X (47 k)	T	12.6/36.1
R167	7030009290	S.RES ERJ2GEJ 562 X (5.6 k)	T	15.7/29.8
R168	7030005000	S.RES ERJ2GEJ 471 X (470)	T	16.3/40.1
R169	7030005100	S.RES ERJ2GEJ 154 X (150 k)	T	18/41.1
R170	7030008010	S.RES ERJ2GEJ 123 X (12 k)	T	12.9/29.3
R171	7030005100	S.RES ERJ2GEJ 154 X (150 k)	T	11.6/36.1
R172	7030005700	S.RES ERJ2GEJ 274 X (270 k)	T	18/39.1
R173	7030005310	S.RES ERJ2GEJ 124 X (120 k)	T	19.4/26.8
R174	7030005090	S.RES ERJ2GEJ 104 X (100 k)	T	19.4/28.8
R175	7030005110	S.RES ERJ2GEJ 224 X (220 k)	T	19.4/27.8
R176	7030005100	S.RES ERJ2GEJ 154 X (150 k)	T	17.7/27.8
R177	7030005060	S.RES ERJ2GEJ 333 X (33 k)	T	17.7/28.8
R178	7030005710	S.RES ERJ2GEJ 121 X (120 k)	T	19.4/30.7
R179	7030005120	S.RES ERJ2GEJ 102 X (1 k)	B	11.9/16.6
R180	7030005160	S.RES ERJ2GEJ 105 X (1 M)	T	24.7/40.1
R181	7030005240	S.RES ERJ2GEJ 473 X (47 k)	T	21.1/40.1
R182	7030005090	S.RES ERJ2GEJ 104 X (100 k)	T	24.7/39.1
R183	7030006020	S.RES RR0510P-682-D (6.8 k)	B	17.2/39.1
R184	7030008250	S.RES RR0510P-562-D (5.6 k)	B	17.7/40.4
R185	7030005310	S.RES ERJ2GEJ 124 X (120 k)	B	18.7/40.4
R186	7030005080	S.RES ERJ2GEJ 823 X (82 k)	T	19.4/29.8
R187	7030005120	S.RES ERJ2GEJ 102 X (1 k)	B	12.3/17.5
R188	7030005040	S.RES ERJ2GEJ 472 X (4.7 k)	T	32.8/20.3
R189	7030005090	S.RES ERJ2GEJ 104 X (100 k)	T	33.5/21.9
R190	7030007280	S.RES ERJ2GEJ 331 X (330)	T	34.7/18.9
R191	7030008300	S.RES ERJ2GEJ 184 X (180 k)	T	18/4.1
R192	7030005720	S.RES ERJ2GEJ 563 X (56 k)	T	18/5.1
R193	7030005220	S.RES ERJ2GEJ 223 X (22 k)	T	18/6.1
R194	7030005220	S.RES ERJ2GEJ 223 X (22 k)	T	23.9/10.9
R195	7030005090	S.RES ERJ2GEJ 104 X (100 k)	T	19.7/4.1
R196	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	23.9/11.9
R197	7030005240	S.RES ERJ2GEJ 473 X (47 k)	T	23.9/12.9
R198	7030005240	S.RES ERJ2GEJ 473 X (47 k)	T	25.7/12.9
R199	7030005240	S.RES ERJ2GEJ 473 X (47 k)	T	27.5/14.9
R200	7030005040	S.RES ERJ2GEJ 472 X (4.7 k)	T	25.7/14.9
R201	7030007350	S.RES ERJ2GEJ 393 X (39 k)	T	23.9/14.9
R202	7030010040	S.RES ERJ2GEJ-JPW	T	27.9/10.9
R206	7030005110	S.RES ERJ2GEJ 224 X (220 k)	T	13.4/4.1
R207	7030005090	S.RES ERJ2GEJ 104 X (100 k)	T	13.4/5.1
R208	7030005240	S.RES ERJ2GEJ 473 X (47 k)	T	15.6/5.1
R209	7030005220	S.RES ERJ2GEJ 223 X (22 k)	T	15.6/6
R210	7030008010	S.RES ERJ2GEJ 123 X (12 k)	T	15.6/4.1

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
R211	7030005070	S.RES ERJ2GEJ 683 X (68 k)	T	23.9/4.5
R212	7030005070	S.RES ERJ2GEJ 683 X (68 k)	T	23.9/5.5
R213	7030005070	S.RES ERJ2GEJ 683 X (68 k)	T	23.9/6.5
R214	7030005070	S.RES ERJ2GEJ 683 X (68 k)	T	27.9/4.5
R215	7030005070	S.RES ERJ2GEJ 683 X (68 k)	T	31.3/4.5
R220	7030004980	S.RES ERJ2GEJ 101 X (100)	B	16/23.2
R221	7030005000	S.RES ERJ2GEJ 473 X (470)	B	66.5/13.7
R222	7030005080	S.RES ERJ2GEJ 821 X (82 k)	B	63.9/8.5
R223	7030005060	S.RES ERJ2GEJ 333 X (33 k)	B	61/11.3
R224	7030005000	S.RES ERJ2GEJ 471 X (470)	B	75.5/10.3
R225	7030004980	S.RES ERJ2GEJ 101 X (100)	B	33.9/7.1
R226	7210003061	VAR TP76N00N-15F-A103-2251A		
R227	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	94.9/13.9
R228	7030005120	S.RES ERJ2GEJ 102 X (1 k)	T	94.2/15.2
R229	7030005530	S.RES ERJ2GEJ 100 X (10)	T	86/9.7
R230	7030005530	S.RES ERJ2GEJ 100 X (10)	T	87.2/17.2
R231	7030005120	S.RES ERJ2GEJ 102 X (1 k)	T	90.6/2.8
R232	7030007300	S.RES ERJ2GEJ 332 X (3.3 k)	T	93.2/4.4
R233	7030007300	S.RES ERJ2GEJ 332 X (3.3 k)	T	92.7/2.8
R234	7030005100	S.RES ERJ2GEJ 154 X (150 k)	B	23.3/6.2
R235	7030005090	S.RES ERJ2GEJ 104 X (100 k)	B	20.3/4.2
R236	7030005230	S.RES ERJ2GEJ 334 X (330 k)	B	23.3/5.2
R237	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	21.1/39.1
R238	7410001140	S.ARY EXB28V104JX	B	40.9/9.5
R240	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	99.7/12.3
R251	7030008010	S.RES ERJ2GEJ 123 X (12 k)	B	5.9/9.1
R252	7030005530	S.RES ERJ2GEJ 100 X (10)	B	13.7/9.1
R254	7030008010	S.RES ERJ2GEJ 123 X (12 k)	B	9.3/10.1
R255	7030008010	S.RES ERJ2GEJ 123 X (12 k)	B	7.6/10.1
R256	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	6/8.6
R257	7030005120	S.RES ERJ2GEJ 102 X (1 k)	T	9/22.1
R258	7410001140	S.ARY EXB28V104JX	T	6.6/20.6
R259	7030005120	S.RES ERJ2GEJ 102 X (1 k)	T	21.6/22.1
R260	7030005090	S.RES ERJ2GEJ 104 X (100 k)	T	21.3/25.2
R261	7410001130	S.ARY EXB28V102JX	T	19.4/19.9
R262	7030005090	S.RES ERJ2GEJ 104 X (100 k)	T	21.3/13.9
R263	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	21.3/12.9
R264	7030005240	S.RES ERJ2GEJ 473 X (47 k)	T	21.3/10.9
R265	7410001130	S.ARY EXB28V102JX	T	17.9/7.2
R266	7030007340	S.RES ERJ2GEJ 153 X (15 k)	T	5.7/18.8
R271	7030005160	S.RES ERJ2GEJ 105 X (1 M)	B	10/39.3
R272	7030005160	S.RES ERJ2GEJ 105 X (1 M)	B	11/39.3
R273	7030005160	S.RES ERJ2GEJ 105 X (1 M)	B	12/39.3
R274	7030005070	S.RES ERJ2GEJ 683 X (68 k)	B	15/39.3
R275	7030005090	S.RES ERJ2GEJ 104 X (100 k)	B	13/39.3
R276	7030005090	S.RES ERJ2GEJ 104 X (100 k)	B	8/39.3
R277	7030005090	S.RES ERJ2GEJ 104 X (100 k)	B	9/39.3
R278	7030005090	S.RES ERJ2GEJ 104 X (100 k)	B	14/39.3
R280	7030005050	S.RES ERJ2GEJ 103 X (10 k)	B	16.2/36.2
R284	7030004980	S.RES ERJ2GEJ 101 X (100)	B	16.3/27
R287	7030007280	S.RES ERJ2GEJ 331 X (330)	T	18.4/23.8
R288	7030005030	S.RES ERJ2GEJ 152 X (15 k)	T	14.7/22.7
R291	7030005090	S.RES ERJ2GEJ 104 X (100 k)	B	5.9/12.5
R292	7030005090	S.RES ERJ2GEJ 104 X (100 k)	B	7.6/12.5
R293	7030008290	S.RES ERJ2GEJ 183 X (18 k)	T	61.4/43.4
R294	7030005600	S.RES ERJ2GEJ 273 X (27 k)	T	60.4/43.4
R295	7030005240	S.RES ERJ2GEJ 473 X (47 k)	B	95.1/43.4
R296	7030009140	S.RES ERJ2GEJ 272 X (2.7 k)	B	92.8/35.5
R297	7030005120	S.RES ERJ2GEJ 102 X (1 k)	B	91.1/36.4
R298	7030010040	S.RES ERJ2GEJ-JPW	B	93.1/22.4
R299	7030004990	S.RES ERJ2GEJ 221 X (220)	T	93.3/34.9
R301	7030005220	S.RES ERJ2GEJ 223 X (22 k)	T	28.5/31.4
R302	7030005220	S.RES ERJ2GEJ 223 X (22 k)	T	28.5/32.3
R303	7030005220	S.RES ERJ2GEJ 223 X (22 k)	T	30.2/33.2
R304	7030007340	S.RES ERJ2GEJ 153 X (15 k)	T	31.7/35.2
R305	7030007300	S.RES ERJ2GEJ 332 X (3.3 k)	T	30.2/34.1
R306	7030005090	S.RES ERJ2GEJ 104 X (100 k)	T	28.5/34.1
R307	7030005070	S.RES ERJ2GEJ 683 X (68 k)	T	28.1/36.1
R308	7030007570	S.RES ERJ2GEJ 122 X (1.2 k)	T	30.2/38.1
R309	7030005050	S.RES ERJ2GEJ 103 X (10 k)	T	31.7/36.9
C1	4030017600	S.CER ECJ0EC1H080C	B	96.5/41.4
C2	4030017350	S.CER ECJ0EC1H020B	B	93.2/36.8
C3	4030017600	S.CER ECJ0EC1H080C	B	96.5/33.9
C4	4030017560	S.CER ECJ0EC1H2R5B	B	94.9/33.9
C5	4030017570	S.CER ECJ0EC1H040B	B	94.6/30.2
C6	4030017460	S.CER ECJ0EB1E102K	B	92.8/33.4
C7	4030017460	S.CER ECJ0EB1E102K	B	92.9/29.6
C8	4030017370	S.CER ECJ0EC1H3R5B	B	93.2/28.1
C11	4030006980	S.CER C1608 CH 1H 070D-T	B	91.5/21.9

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
C40	4030017520	S.CER ECJ0EC1H0R3B	B	73.5/39.5
C41	4030017380	S.CER ECJ0EC1H050B	B	68.5/39.2
C42	4030017460	S.CER ECJ0EB1E102K	T	68.5/37.7
C43	4030017460	S.CER ECJ0EB1E102K	T	70.2/38.9
C44	4030017560	S.CER ECJ0EC1H2R5B	B	69/37.8
C45	4030017590	S.CER ECJ0EC1H070C	B	72.2/38.8
C48	4030017420	S.CER ECJ0EC1H470J	B	64.2/37.2
C50	4030017460	S.CER ECJ0EB1E102K	B	64.2/36.1
C51	4030017460	S.CER ECJ0EB1E102K	B	66.6/31.5
C52	4030017620	S.CER ECJ0EC1H100C	B	66.2/35.7
C53	4030016790	S.CER ECJ0EB1C103K	B	64.2/33.1
C54	4030017460	S.CER ECJ0EB1E102K	B	64.2/34.1
C56	4030017400	S.CER ECJ0EC1H220J	B	64.3/23.8
C57	4030017460	S.CER ECJ0EB1E102K	T	64.1/36.8
C58	4030017460	S.CER ECJ0EB1E102K	B	53.9/24.3
C59	4030017460	S.CER ECJ0EB1E102K	B	49.5/25.2
C60	4030017460	S.CER ECJ0EB1E102K	B	52.5/26.9
C61	4030017430	S.CER ECJ0EC1H101J	B	49.5/22.7
C62	4030017510	S.CER ECJ0EC1H680J	B	47.5/17.6
C63	4030017420	S.CER ECJ0EC1H470J	B	46.5/20.7
C65	4030017460	S.CER ECJ0EB1E102K	B	46.5/18.9
C66	4030017460	S.CER ECJ0EB1E102K	B	47.5/13.7
C67	4030017460	S.CER ECJ0EB1E102K	B	53.9/22.3
C68	4030017780	S.CER ECJ0EB1E472K	B	51.8/13.7
C69	4030017710	S.CER ECJ0EC1H181J	B	53.8/15.4
C70	4030017710	S.CER ECJ0EC1H181J	B	54.8/13.7
C71	4030016930	S.CER ECJ0EB1A104K	B	56.2/17.5
C72	4030017420	S.CER ECJ0EC1H470J	T	69.8/18.7
C73	4030017460	S.CER ECJ0EB1E102K	T	69.3/24
C74	4030017460	S.CER ECJ0EB1E102K	B	91.1/37.3
C75	4550006250	S.TAN TEESVA 1A 106M8R	B	54.5/9.9
C76	4030016790	S.CER ECJ0EB1C103K	T	66.7/21.1
C77	4030017460	S.CER ECJ0EB1E102K	T	65.7/22.7
C78	4030017460	S.CER ECJ0EB1E102K	T	74.8/20.8
C79	4030018890	S.CER ECJ0EB0J224K	T	72.3/21.1
C80	4030017780	S.CER ECJ0EB1E472K	T	68/18.7
C81	4030016790	S.CER ECJ0EB1C103K	B	77.2/21.5
C82	4030017460	S.CER ECJ0EB1E102K	B	78.2/21.5
C84	4030017420	S.CER ECJ0EC1H470J	T	81.3/20.5
C86	4030017670	S.CER ECJ0EC1H390J	T	78.7/24.3
C88	4030017460	S.CER ECJ0EB1E102K	T	73.1/24
C89	4030017570	S.CER ECJ0EC1H040B	T	75.5/24.4
C91	4510009280	S.ELSE EEE1EA47R5R	B	69.7/20.3
C92	4030017630	S.CER ECJ0EC1H120J	T	74.6/30.9
C93	4030017380	S.CER ECJ0EC1H050B	T	70.9/33.5
C94	4030017730	S.CER ECJ0EB1E471K	T	70.3/24.2
C97	4030017420	S.CER ECJ0EC1H470J	T	74.8/36
C98	4030017380	S.CER ECJ0EC1H050B	T	66.5/34.2
C99	4030017460	S.CER ECJ0EB1E102K	B	68.3/36.3
C100	4030017620	S.CER ECJ0EC1H100C	B	61.3/36.1
C102	4030017380	S.CER ECJ0EC1H050B	T	59.5/34.3
C103	4030017350	S.CER ECJ0EC1H020B	B	58.4/35.1
C104	4030017460	S.CER ECJ0EB1E102K	T	58.9/29.4
C105	4030017460	S.CER ECJ0EB1E102K	B	58.4/37.2
C106	4030017420	S.CER ECJ0EC1H470J	B	70.3/33.9
C107	4030017460	S.CER ECJ0EB1E102K	B	60.7/36.3
C108	4030016790	S.CER ECJ0EB1C103K	T	69.7/36.3
C109	4030017460	S.CER ECJ0EB1E102K	B	57.6/40.8
C110	4030017730	S.CER ECJ0EB1E471K	B	55.7/30.5
C111	4030017420	S.CER ECJ0EC1H470J	B	56.3/34.4
C112	4030017460	S.CER ECJ0EB1E102K	T	60.2/38.6
C113	4030017520	S.CER ECJ0EC1H0R3B	T	56.1/32.6
C114	4030017580	S.CER ECJ0EC1H060C	T	51.9/36.5
C115	4030017630	S.CER ECJ0EC1H120J	T	55.7/35.4
C116	4030016790	S.CER ECJ0EB1C103K	T	56.5/37.9
C117	4030017730	S.CER ECJ0EB1E471K	T	56.5/36.6
C118	4030017530	S.CER ECJ0EC1H0R5B	T	56.1/33.9
C119	4030017460	S.CER ECJ0EB1E102K	T	56.6/31.6
C120	4030017730	S.CER ECJ0EB1E471K	T	57.5/28.7
C121	4030017630	S.CER ECJ0EC1H120J	T	52.6/30
C122	4030017620	S.CER ECJ0EC1H100C	T	53.1/28.6
C123	4030017390	S.CER ECJ0EC1H180J	T	52.6/31
C124	4030017620	S.CER ECJ0EC1H100C	T	51.1/29
C126	4030017630	S.CER ECJ0EC1H120J	T	51.9/37.7
C127	4030017620	S.CER ECJ0EC1H100C	T	50.5/37.5
C129	4030017530	S.CER ECJ0EC1H0R5B	T	48.4/31.4
C130	4030016950	S.CER ECJ0EB1A473K	B	49.4/39
C132	4030017460	S.CER ECJ0EB1E102K	B	46.9/27.1
C133	4030017640	S.CER ECJ0EC1H150J	T	51.1/31
C134	4030017640	S.CER ECJ0EC1H150J	T	50.6/36.3
C135	4030017460	S.CER ECJ0EB1E102K	T	48.4/34.4
C136	4030016930	S.CER ECJ0EB1A104K	T	48.4/35.4
C137	4030016790	S.CER ECJ0EB1C103K	T	57.7/44.1
C138	4030017460	S.CER ECJ0EB1E102K	B	49.6/28.4
C139	4030016930	S.CER ECJ0EB1A104K	B	56.7/28.9
C140	4030016930	S.CER ECJ0EB1A104K	T	43.4/34.7
C141	4030017460	S.CER ECJ0EB1E102K	B	50/42
C142	4030017460	S.CER ECJ0EB1E102K	T	42.9/21
C143	4030017460	S.CER ECJ0EB1E102K	B	53.3/43.5
C144	4030017420	S.CER ECJ0EC1H470J	B	49.6/29.3
C145	4030017420	S.CER ECJ0EC1H470J	B	47.1/23.9
C146	4550000270	S.TAN TEESVA 1E 474M8R	B	52.6/32.7
C147	4550000460	S.TAN TEESVA 1C 105M8R	T	47.5/41.4
C148	4550006250	S.TAN TEESVA 1A 106M8R	B	50.1/44.1
C149	4030017460	S.CER ECJ0EB1E102K	T	43.8/39.1
C150	4030018860	S.CER ECJ0EB0J105K	T	44.9/22.7
C151	4030016930	S.CER ECJ0EB1A104K	T	40.2/40.8
C152	4030017420	S.CER ECJ0EC1H470J	T	35.3/41.1
C153	4030017420	S.CER ECJ0EC1H470J	T	37.2/41.1
C154	4030017420	S.CER ECJ0EC1H470J	T	38/39.1
C155	4030017420	S.CER ECJ0EC1H470J	T	43.8/38.1
C156	4030017460	S.CER ECJ0EB1E102K	T	39.5/32
C157	4030017620	S.CER ECJ0EC1H100C	T	38.5/32
C158	4030016930	S.CER ECJ0EB1A104K	T	36.3/31.4

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
C159	4030017460	S.CER ECJ0EB1E102K	T	36.3/32.4
C160	4030016930	S.CER ECJ0EB1A104K	B	20.2/33.7
C161	4030017620	S.CER ECJ0EC1H100C	T	43.4/33.7
C162	4030017500	S.CER ECJ0EC1H560J	T	43.9/28.1
C163	4030017570	S.CER ECJ0EC1H040B	T	42.5/27.6
C164	4030017590	S.CER ECJ0EC1H070C	T	43.9/27.1
C165	4030016790	S.CER ECJ0EB1C103K	T	43.4/31.7
C166	4030017360	S.CER ECJ0EC1H030B	T	43.2/24.7
C167	4030016930	S.CER ECJ0EB1A104K	B	55.8/23.3
C168	4030016930	S.CER ECJ0EB1A104K	B	56.6/19.8
C169	4030016930	S.CER ECJ0EB1A104K	B	56.6/18.8
C170	4030017460	S.CER ECJ0EB1E102K	T	91.5/34.2
C171	4030017420	S.CER ECJ0EC1H470J	T	91.5/35.2
C173	4030017460	S.CER ECJ0EB1E102K	T	40.9/30.1
C175	4030017360	S.CER ECJ0EC1H030B	B	94.9/41.4
C176	4030017460	S.CER ECJ0EB1E102K	T	77.7/20.4
C177	4030009910	S.CER C1608 CH 1H 040B-T	B	90.7/33.4
C178	4030017420	S.CER ECJ0EC1H470J	T	77.7/21.7
C179	4030006860	S.CER C1608 JB 1H 102K-T	T	86.6/31.4
C180	4030017420	S.CER ECJ0EC1H470J	T	67.1/32.3
C182	4030017600	S.CER ECJ0EC1H080C	T	68.8/31.6
C183	4030017420	S.CER ECJ0EC1H470J	T	74.1/24
C185	4030017530	S.CER ECJ0EC1H0R5B	B	91.1/35.5
C186	4030017530	S.CER ECJ0EC1H0R5B	B	92.3/39.2
C188	4030017460	S.CER ECJ0EB1E102K	B	47.5/20.7
C191	4030017460	S.CER ECJ0EB1E102K	T	65/39.3
C192	4030017420	S.CER ECJ0EC1H470J	T	66/39.3
C193	4030017350	S.CER ECJ0EC1H020B	B	68.5/40.2
C194	4030017350	S.CER ECJ0EC1H020B	B	64.2/40.8
C195	4030017350	S.CER ECJ0EC1H020B	B	64.2/39.9
C196	4030017420	S.CER ECJ0EC1H470J	B	62.5/39
C197	4030017460	S.CER ECJ0EB1E102K	B	62.5/40.8
C202	4030016930	S.CER ECJ0EB1A104K	T	48.4/33.4
C203	4030017460	S.CER ECJ0EB1E102K	B	46.9/30.1
C205	4030017380	S.CER ECJ0EC1H050B	B	55.8/39
C206	4030017590	S.CER ECJ0EC1H070C	B	55.8/39.9
C208	4030017590	S.CER ECJ0EC1H070C	B	55.8/41.7
C209	4030017460	S.CER ECJ0EB1E102K	B	55.8/42.6
C211	4030018910	S.CER C1608 JB 0J 475K-T	T	36.6/21.3
C213	4030017460	S.CER ECJ0EB1E102K	T	31.5/27.8
C222	4030016930	S.CER ECJ0EB1A104K	T	19.2/34
C224	4030016930	S.CER ECJ0EB1A104K	T	40.9/29.1
C225	4030017460	S.CER ECJ0EB1E102K	B	83/11.6
C226	4550006250	S.TAN TEESVA 1A 106M8R	B	81.2/13.5
C227	4030016790	S.CER ECJ0EB1C103K	B	86.9/13
C228	4510008540	S.ELSE EEE1CA100SR	B	89.4/15.7
C229	4030017460	S.CER ECJ0EB1E102K	B	85.8/17.8
C230	4030016930	S.CER ECJ0EB1A104K	B	85.8/16.8
C231	4030016790	S.CER ECJ0EB1C103K	B	78.2/10.3
C232	4030017730	S.CER ECJ0EB1E471K	B	79.6/13.4
C233	4030016790	S.CER ECJ0EB1C103K	T	23/25.2
C234	4030017460	S.CER ECJ0EB1E102K	T	24.2/27.8
C235	4030016790	S.CER ECJ0EB1C103K	T	69.8/15.7
C236	4030017460	S.CER ECJ0EB1E102K	T	69.8/17.7
C237	4550007320	S.TAN F930J226MAABMA	T	27.2/19.5
C238	4030017460	S.CER ECJ0EB1E102K	T	27.2/22.5
C239	4030016790	S.CER ECJ0EB1C103K	T	23.2/20.6
C240	4030016930	S.CER ECJ0EB1A104K	T	75.4/12.1
C241	4030016930	S.CER ECJ0EB1A104K	T	37.1/10
C242	4030016930	S.CER ECJ0EB1A104K	T	44.9/10
C243	4030016790	S.CER ECJ0EB1C103K	T	40.7/10
C244	4030016930	S.CER ECJ0EB1A104K	B	46.5/15.4
C256	4030016940	S.CER ECJ0EB1A393K	T	30.2/31.4
C257	4030016930	S.CER ECJ0EB1A104K	T	28.5/33.2
C258	4030016790	S.CER ECJ0EB1C103K	T	30.2/32.3
C259	4030016930	S.CER ECJ0EB1A104K	T	32.6/35.3
C261	4030016970	S.CER ECJ0EB1C223K	T	30.2/39
C264	4510008540	S.ELSE EEE1CA100SR	B	69.7/15.5
C265	4030017460	S.CER ECJ0EB1E102K	B	65/12.9
C266	4030016930	S.CER ECJ0EB1A104K	B	62.3/8.5
C269	4030017720	S.CER ECJ0EB1H331K	T	11.6/37.9
C270	4030016950	S.CER ECJ0EB1A473K	T	14.1/28.8
C271	4030016950	S.CER ECJ0EB1A473K	T	14.1/26.8
C272	4030016950	S.CER ECJ0EB1A473K	T	9.8/27.9
C273	4030016950	S.CER ECJ0EB1A473K	T	14.1/27.8
C274	4030016950	S.CER ECJ0EB1A473K	T	11.6/31.9
C275	4030016970	S.CER ECJ0EB1C223K	T	11.6/34.4
C276	4030016950	S.CER ECJ0EB1A473K	T	12.6/34.4
C277	4030016930	S.CER ECJ0EB1A104K	T	14.6/40.1
C278	4030017430	S.CER ECJ0EC1H101J	T	18.4/10
C279	4030018910	S.CER C1608 JB 0J 475K-T	T	36.6/23.2
C280	4030017780	S.CER ECJ0EB1E472K	T	21.1/27.8
C281	4030018920	S.CER ECJ0EB1H392K	T	17.7/26.8
C282	4030017710	S.CER ECJ0EC1H181J	T	17.7/29.8
C283	4030018900	S.CER ECJ0EB0J474K	T	19.4/31.7
C284	4030016930	S.CER ECJ0EB1A104K	T	22.9/39.1
C285	4030016930	S.CER ECJ0EB1A104K		



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REF NO.	ORDER NO.	DESCRIPTION		M.	H/V LOCATION
C307	4030017460	S.CER	ECJ0EB1E102K	B	59.3/12.3
C308	4030017460	S.CER	ECJ0EB1E102K	T	75.7/9.8
C309	4030017460	S.CER	ECJ0EB1E102K	B	75.5/11.3
C310	4030016930	S.CER	ECJ0EB1A104K	T	21.3/11.9
C311	4030017460	S.CER	ECJ0EB1E102K	B	64.9/8.5
C312	4030017420	S.CER	ECJ0EC1H470J	B	74.5/5.7
C313	4030017420	S.CER	ECJ0EC1H470J	B	32.9/7.1
C314	4030017460	S.CER	ECJ0EB1E102K	T	86.6/3.3
C315	4030017460	S.CER	ECJ0EB1E102K	T	93.2/6
C316	4030016930	S.CER	ECJ0EB1A104K	T	91.7/2.8
C317	4510008540	S.ELE	EEE1CA100SR	B	95.9/15.2
C318	4030016930	S.CER	ECJ0EB1A104K	T	89.7/8.9
C319	4030016930	S.CER	ECJ0EB1A104K	T	89.6/2.8
C320	4030017730	S.CER	ECJ0EB1E471K	T	88.6/2.8
C321	4030017460	S.CER	ECJ0EB1E102K	B	19.3/4.2
C322	4030016950	S.CER	ECJ0EB1A473K	T	93.9/13.9
C323	4030016950	S.CER	ECJ0EB1A473K	T	87.6/9.7
C324	4030017420	S.CER	ECJ0EC1H470J	T	85/13.7
C325	4550006250	S.TAN	TEESVA 1A 106M8R	T	90.6/17.2
C326	4510008900	S.ELE	EEFCVJ101P	B	87.8/8.9
C333	4030017420	S.CER	ECJ0EC1H470J	B	76.8/39.9
C335	4030018860	S.CER	ECJ0EB0J105K	B	57.2/21.1
C339	4030016930	S.CER	ECJ0EB1A104K	B	5.9/17.2
C340	4030016930	S.CER	ECJ0EB1A104K	B	9.3/12.5
C341	4030016930	S.CER	ECJ0EB1A104K	B	5.9/10.1
C342	4030017630	S.CER	ECJ0EC1H120J	B	18.3/4.2
C343	4030017580	S.CER	ECJ0EC1H060C	B	5.6/4.2
C344	4030017640	S.CER	ECJ0EC1H150J	B	7.6/9.1
C345	4030016930	S.CER	ECJ0EB1A104K	B	11/11.2
C346	4030016930	S.CER	ECJ0EB1A104K	B	11/10.1
C347	4030016790	S.CER	ECJ0EB1C103K	T	8.8/6.5
C348	4030016930	S.CER	ECJ0EB1A104K	T	6/10
C349	4030016930	S.CER	ECJ0EB1A104K	T	21.3/14.9
C350	4030017460	S.CER	ECJ0EB1E102K	T	59.4/43.4
C354	4030017460	S.CER	ECJ0EB1E102K	T	14.2/24.4
C355	4030018080	S.CER	ECJ0EB1H182K	T	43.9/22.7
C356	4030018910	S.CER	C1608 JB 0J 475K-T	T	34.6/20.6
C357	4030017400	S.CER	ECJ0EC1H220J	T	79/25.5
C358	4030017420	S.CER	ECJ0EC1H470J	B	7.8/25.4
C359	4030017420	S.CER	ECJ0EC1H470J	B	6.9/25.4
C360	4030017570	S.CER	ECJ0EC1H040B	B	87.7/36.5
J1	6510021901	S.CNR	BM02B-ASRS-TF (LF) (SN)	T	86.6/6.8
J2	6450001680	CNR	HSJ1122-010010		
J3	6450002250	CNR	HSJ1456-010320		
J4	6510018430	S.CNR	AXN330C038P	B	11.8/30.6
J6	6510023350	S.CNR	MM8430-2600RA1	T	93.9/39.3
F1	5210000830	S.FUS	ERBFE3R00U	T	98/14.5
DS1	5040002670	S.LED	CL-165HR/YG	T	102.8/12.4
MC1	7700002750	MIC	EM9745P-38-G <HOR>		
S1	2260002840	SW	SKHLLFA010		
S2	2260002800	S.SW	SW-167 (SKQTLAE010)	B	99.4/44.2
S3	2260002800	S.SW	SW-167 (SKQTLAE010)	B	60.9/44.2
S4	2250000490	ECR	TP70TF5163-15.9F-2775		
EP1	6910015370	S.BEA	ACZ1005Y-102-T	T	57/29.9
EP3	6910015370	S.BEA	ACZ1005Y-102-T	T	35/32

[ANT UNIT]

REF NO.	ORDER NO.	DESCRIPTION		M.	H/V LOCATION
L601	6200008240	S.COL	0.30-0.9-5TL 14N	B	7.2/12.5
C601	4030017600	S.CER	ECJ0EC1H080C	B	5.8/15.3

[CONNECT UNIT]

REF NO.	ORDER NO.	DESCRIPTION		M.	H/V LOCATION
C501	4030017460	S.CER	ECJ0EB1E102K	T	8.3/5.3
C502	4030016930	S.CER	ECJ0EB1A104K	T	9.3/5.3
J501	6910016390	CNR	IMSA-9230B-1-02Z145-PT1		

• BC-160

[MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION		M.	H/V LOCATION
IC1	1110006480	S.IC	NJM2801U1-0543-TE1	B	10.2/62.3
IC2	1110003071	S.IC	μPC494GS-E1-A	B	13/36.7
IC3	1140012301	S.IC	μPD789112AMC-534-5A4-A	B	19.1/19.6
IC4	1110002700	S.IC	NJM2904M-TE1	B	35.1/13.8
Q1	1530002060	S.TR	2SC4081 T106 R	B	37.3/63.9
Q2	1550000090	S.FET	RSQ035P03TR	B	37.3/60.9
Q3	1530002060	S.TR	2SC4081 T106 R	B	35.8/19.3
Q4	1530002060	S.TR	2SC4081 T106 R	B	41.6/18.3
Q5	1590000430	S.TR	DTC144EUA T106	B	23.7/26.6
Q6	1530002060	S.TR	2SC4081 T106 R	B	22.5/58.2
D1	1730002350	S.ZEN	MA8110-M (TX)	B	17.6/60.5
D2	1750000550	S.DIO	1SS355 TE-17	B	34.8/64.4
D3	1750001110	S.DIO	SM240A-T	B	44.4/56
D4	1160000070	S.DIO	DAN202K T146	B	26.9/20.6
D5	1750000550	S.DIO	1SS355 TE-17	B	27.2/15
X1	6060000790	S.CER	CSTCR4M91G	B	10.3/17.7
L1	6190001640	S.COL	SLF12555T-101M1R1	B	35.3/52.7
L2	6200002611	S.COL	NLV25T-R47J	B	20.8/28.2
R2	7030000460	S.RES	MCR10EZJ 4.7 k	B	20.3/58.6
R3	7030003410	S.RES	ERJ3GEYJ 561 V (560)	B	37.3/65.8
R4	7030003200	S.RES	ERJ3GEYJ 100 V (10)	B	34.6/61.1
R5	7030009580	S.RES	ERJ8RSJ R12V	B	31.8/73
R6	7030000540	S.RES	MCR10EZJ 22 k	B	30.1/26.8
R7	7030000380	S.RES	MCR10EZJ 1 k	B	30.1/29.6
R8	7030003520	S.RES	ERJ3GEYJ 472 V (4.7 k)	B	39.5/18.4
R9	7030003600	S.RES	ERJ3GEYJ 223 V (22 k)	B	13.8/30.5
R10	7030000740	S.RES	MCR10EZJ 1 M	B	25.8/34.9
R11	7030000540	S.RES	MCR10EZJ 22 k	B	24.8/37.8
R12	7030003560	S.RES	ERJ3GEYJ 103 V (10 k)	B	10.8/30.5
R13	7030003600	S.RES	ERJ3GEYJ 223 V (22 k)	B	19.3/34.5
R14	7030003770	S.RES	ERJ3GEYJ 564 V (560 k)	B	21/34.5
R15	7030003650	S.RES	ERJ3GEYJ 563 V (56 k)	B	21/40.3
R16	7030003770	S.RES	ERJ3GEYJ 564 V (560 k)	B	19.3/40.3
R17	7030003560	S.RES	ERJ3GEYJ 103 V (10 k)	B	22.7/40.3
R18	7030003410	S.RES	ERJ3GEYJ 561 V (560)	B	8.6/43.5
R19	7030003620	S.RES	ERJ3GEYJ 333 V (33 k)	B	16.7/42.1
R20	7030000560	S.RES	MCR10EZJ 33 k	B	28.1/40.4
R21	7030000380	S.RES	MCR10EZJ 1 k	B	26.3/28.6
R22	7030000440	S.RES	MCR10EZJ 3.3 k	B	24/11.4
R23	7030000460	S.RES	MCR10EZJ 4.7 k	B	24/8.8
R24	7030000260	S.RES	MCR10EZJ 100 (101)	B	20.3/11.4
R25	7030000260	S.RES	MCR10EZJ 100 (101)	B	20.3/8.8
R26	7030000500	S.RES	MCR10EZJ 10 k	B	30.5/22
R27	7030007220	S.RES	ERA3YED 202V (2 k)	B	30.2/19.6
R28	7030011200	S.RES	ERA3YEB 303V (30 k)	B	30/18.1
R29	7030011190	S.RES	ERA3YEB 103V (10 k)	B	26.9/16.6
R30	7030005871	S.RES	ERA3YKD 104V (100 k)	B	40.4/15.1
R31	7030003560	S.RES	ERJ3GEYJ 103 V (10 k)	B	29.8/15.9
R32	7030005341	S.RES	ERA3YED 332V (3.3 k)	B	43.4/11.1
R33	7030000500	S.RES	MCR10EZJ 10 k	B	31.7/9.8
R34	7030000740	S.RES	MCR10EZJ 1 M	B	42.1/14.4
R35	7030003440	S.RES	ERJ3GEYJ 102 V (1 k)	B	40.4/12.2
R36	7030000460	S.RES	MCR10EZJ 4.7 k	B	34.7/23.8
R37	7030005501	S.RES	ERA3YKD 124V (120 k)	B	33.6/21.3
R38	7030005671	S.RES	ERA3YKD 393V (39 k)	B	30.1/25.1
R39	7030000010	S.RES	MCR10EZJ JPW	B	28.1/42.2
R40	7030000010	S.RES	MCR10EZJ JPW	B	27.7/8.4
R41	7030000010	S.RES	MCR10EZJ JPW	B	34.6/9.2
R42	7030008240	S.RES	ERJ12YJ0R00U	B	38.9/7.4
R43	7030000010	S.RES	MCR10EZJ JPW	B	30.1/33.3
R44	7030000010	S.RES	MCR10EZJ JPW	B	28.1/33.3
R45	7030000010	S.RES	MCR10EZJ JPW	B	29.1/38
R46	7030000010	S.RES	MCR10EZJ JPW	B	29.1/36.1
R47	7030000010	S.RES	MCR10EZJ JPW	B	43.9/18.3
R48	7030008240	S.RES	ERJ12YJ0R00U	B	43/28.9
R49	7030000010	S.RES	MCR10EZJ JPW	B	23.5/5.7
R50	7030008240	S.RES	ERJ12YJ0R00U	B	34.1/38.2
R51	7030000010	S.RES	MCR10EZJ JPW	B	23.9/34.9
R52	7030000010	S.RES	MCR10EZJ JPW	B	24.7/32
R53	7030008240	S.RES	ERJ12YJ0R00U	B	38.6/33.1
R54	7030000010	S.RES	MCR10EZJ JPW	B	34.4/33
R55	7030000010	S.RES	MCR10EZJ JPW	B	32/60.1
R56	7030000010	S.RES	MCR10EZJ JPW	B	42.1/41.5
R57	7030000010	S.RES	MCR10EZJ JPW	B	37.2/41.5
R58	7030000010	S.RES	MCR10EZJ JPW	B	24.9/57
R59	7030000010	S.RES	MCR10EZJ JPW	B	27.6/49.3
R60	7030000010	S.RES	MCR10EZJ JPW	B	16.3/58.3
R61	7030000010	S.RES	MCR10EZJ JPW	B	4.9/31.7
R62	7030000010	S.RES	MCR10EZJ JPW	B	39.1/41.5
R63	7030000010	S.RES	MCR10EZJ JPW	B	31.4/43.6
R64	7030000010	S.RES	MCR10EZJ JPW	B	40.1/38.7
R65	7030000010	S.RES	MCR10EZJ JPW	B	4.9/49.5
R66	7030003560	S.RES	ERJ3GEYJ 103 V (10 k)	B	8.2/13.6
R67	7030000100	S.RES	MCR10EZJ 4R7 (4.7)	B	10.2/45.1
C1	4030006900	S.CER	C1608 JB 1H 103K-T	B	44.5/70.7
C2	4030006900	S.CER	C1608 JB 1H 103K-T	B	48.2/73.5

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

**[MAIN UNIT]**

REF NO.	ORDER NO.	DESCRIPTION	M.	H/V LOCATION
C3	4030006860	S.CER C1608 JB 1H 102K-T	B	44.5/67.8
C4	4030006900	S.CER C1608 JB 1H 103K-T	B	32.9/69.7
C5	4030006900	S.CER C1608 JB 1H 103K-T	B	32.9/71.1
C6	4510008540	S.ELE EEE1CA100SR	B	17.5/63.8
C7	4030011600	S.CER C1608 JB 1E 104K-T	B	13.4/60.8
C8	4030006900	S.CER C1608 JB 1H 103K-T	B	9.2/58.7
C9	4030011600	S.CER C1608 JB 1E 104K-T	B	13.4/63.8
C10	4510009150	S.ELE EEE1EA470WP	B	43.6/62.8
C11	4030006900	S.CER C1608 JB 1H 103K-T	B	35.8/67.9
C12	4030006900	S.CER C1608 JB 1H 103K-T	B	32.4/67.9
C13	4510009150	S.ELE EEE1EA470WP	B	26.5/62.8
C14	4510008660	S.ELE EEE0JA220SR	B	34.3/28
C15	4510008660	S.ELE EEE0JA220SR	B	40.8/23.8
C16	4030006860	S.CER C1608 JB 1H 102K-T	B	12.3/30.5
C17	4030011600	S.CER C1608 JB 1E 104K-T	B	19.3/37.4
C18	4030006900	S.CER C1608 JB 1H 103K-T	B	21/37.4
C19	4030006900	S.CER C1608 JB 1H 103K-T	B	13.1/42.2
C20	4030009980	S.CER C1608 JB 1H 152K-T	B	8.6/42.1
C21	4030011600	S.CER C1608 JB 1E 104K-T	B	9.5/21.9
C22	4030006900	S.CER C1608 JB 1H 103K-T	B	19/25.5
C23	4030006900	S.CER C1608 JB 1H 103K-T	B	26.9/23.2
C24	4030006900	S.CER C1608 JB 1H 103K-T	B	26.9/18
C25	4030004760	S.CER C2012 JF 1H 104Z-T	B	33.2/17.5
C26	4030006900	S.CER C1608 JB 1H 103K-T	B	41.9/11.1
C27	4030006900	S.CER C1608 JB 1H 103K-T	B	29.5/12.6
C28	4030006900	S.CER C1608 JB 1H 103K-T	B	30.1/23.7
J1	6510024940	CNR HEC2305-016250		
DS1	5040002740	LED RT3-03HRYG		

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

# SECTION 8

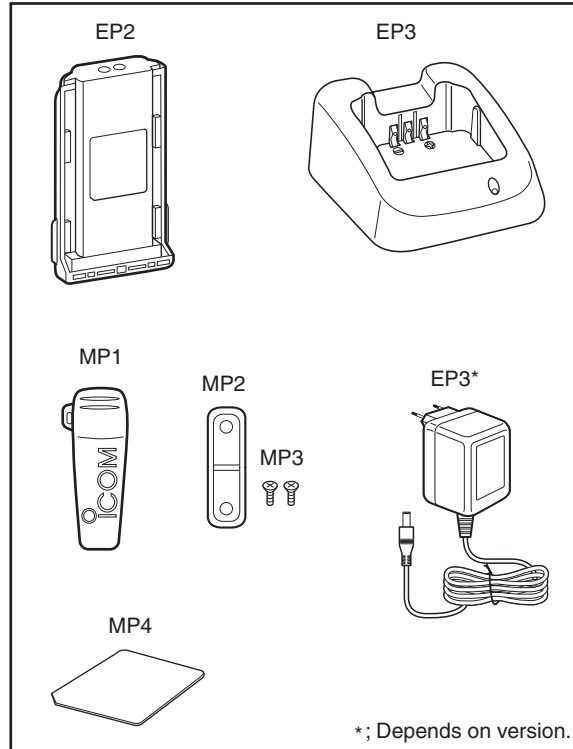
# MECHANICAL PARTS

## [CHASSIS PARTS]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J2	6910015860	IMSA-6277S-O2A-G	1
SP1	2510001061	K036NA500-67	1
W1	8900009640	OPC-963	1
EP1	3310003640	2927 ANT	1
MP1	8010019694	2775 CHASSIS-4	1
MP2	8210020920	2775 FRONT PANEL (Incl. MP3, MP4, MP5, MP6, MP7)	1
MP3	8210020820	2775 PTT PANEL	1
MP4	8930063360	2775 PTT BUTTON	1
MP5	8930063370	2775 PTT RUBBER	1
MP6	8930040390	Speaker net (B)	1
MP7	8930046050	Speaker net (C)	1
MP8	8210020550	2721 REAR PANEL	1
MP9	8930063350	2775 LENS	1
MP10	8610011930	KNOB N-318	1
MP11	8610012130	KNOB N-323	1
MP13	8930063330	2775 B-MAIN SEAL	1
MP14	8930063060	2721 T-RUBBER	1
MP16	8930063400	2775 SIDE PLATE	1
MP17	8930063410	2775 B-TOP PLATE	1
MP20	8930043760	1923 MIC SEAL	1
MP21	8930059360	2600 RELEASE BUTTON	1
MP22	8930070361	2775 RELEASE PLATE (A)-1	1
MP23	8610007510	knob spring NO.7800	1
MP24	8610007920	knob spring NO.1500	1
MP25	8830002900	2927 ANT NUT	1
MP26	8810009221	Screw BT B0 2X8 NI-ZK3 (BT)	2
MP27	8810009561	Screw BT B0 2X6 NI-ZK3 (BT)	2
MP28	8810009511	Screw BT B0 2X4 NI-ZC3 (BT)	9
MP29	8810009511	Screw BT B0 2X4 NI-ZC3 (BT)	1
MP30	8810009511	Screw BT B0 2X4 NI-ZC3 (BT)	1
MP31	8810010430	screw truss M3X5 SUS SSBC	1
MP32	8930051290	2251 OPT SHEET	1
MP33	8930042350	1922 MIC SHEET	1
MP34	8930056540	Push spring (AH)	2
MP35	8830001701	VR NUT (Q)-1	1
MP36	8830001701	VR NUT (Q)-1	1
MP38	6910018220	2927 ANT CAP	1

## [ACCESSORIES]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
EP2	Optional product	BP-232N [EUR-17], [UK-17]	1
	Optional product	BP-230N [EUR-18], [UK-18]	1
EP3	Optional product	BC-160 [EUR-17], [UK-17]	1
	Optional product	BC-171 [EUR-18], [UK-18]	1
EP4	Optional product	BC-145E [EUR-17]	1
	Optional product	BC-145UK [UK-17]	1
	Optional product	BC-147E [EUR-18]	1
MP1	Optional product	MB-94	1
MP2	8210020560	2721 JACK PANEL	1
MP3	8810004861	Screw PH M2X6 ZK3	2
MP4	8930051290	2251 OPTION SHEET	1



## [MAIN UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J2	6450001680	HSJ1122-010010	1
J3	6450002250	HSJ1456-010320	1
MC1	7700002750	EM9745P-38-G	1
S1	2260002840	SKHLLFA010	1
S4	2250000490	TP70TF5163 15.9F-2775	1
MP1*	8410002530	2681 PA HEATSINK	1
MP2	8510016460	2775 VCO COVER	1
MP3*	8510016470	2775 VCO CASE	1
MP4*	8510016580	2775 SHIELD PLATE	1
MP5	8510016770	2776 EARTH PLATE	1

\*: Refer to SECTION 10 BOARD LAYOUTS.

## [ANT UNIT]

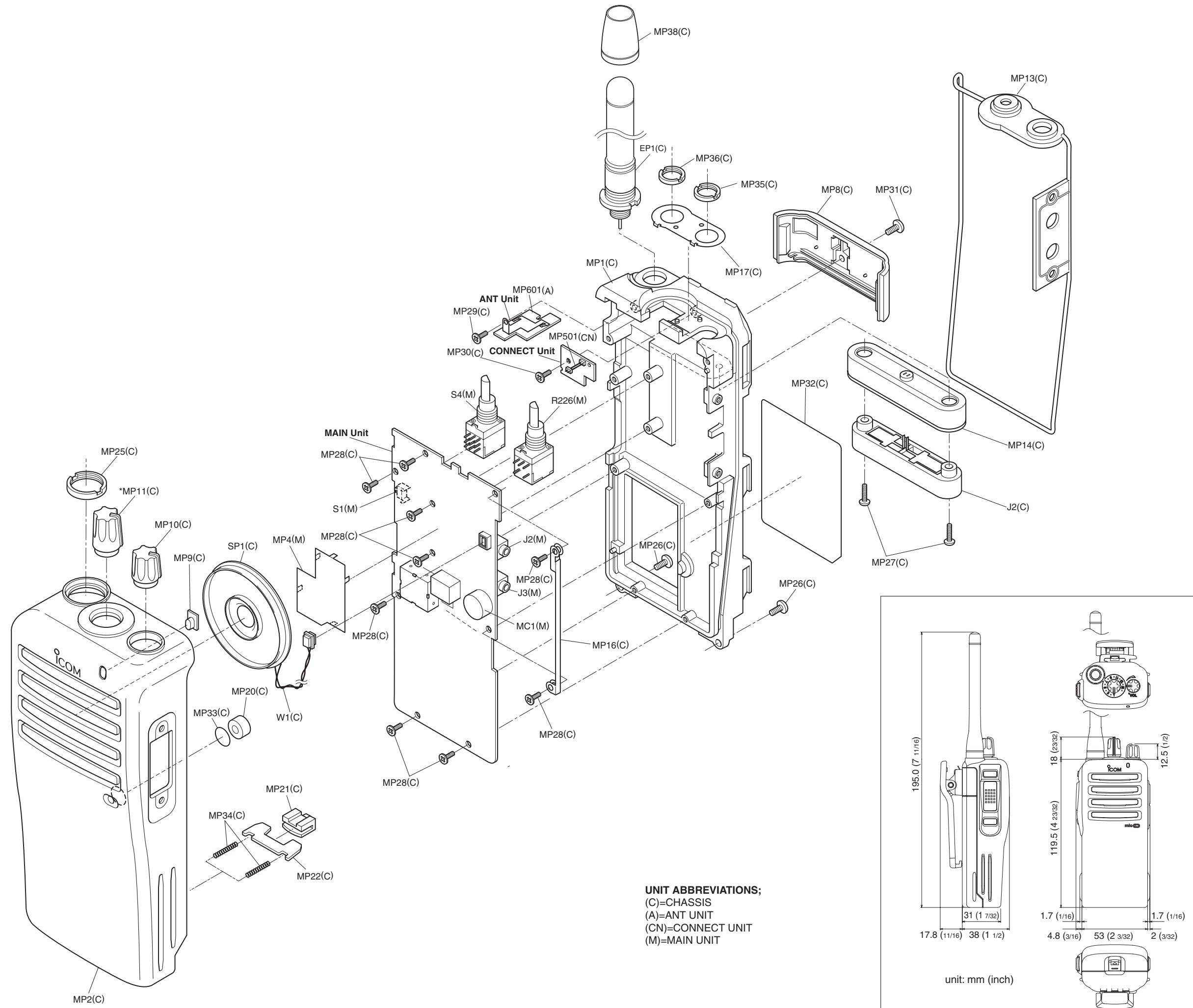
REF NO.	ORDER NO.	DESCRIPTION	QTY.
MP601	8510016350	2721 ANT PLATE	1

## [CONNECT UNIT]

REF NO.	ORDER NO.	DESCRIPTION	QTY.
J501	6910016390	IMSA-9230B-1-02Z145-PT1	1

Screw abbreviations

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



# SECTION 9 SEMICONDUCTOR INFORMATION

## • TRANSISTERS AND FETs

NAME	SYMBOL	INSIDE VIEW
2SA1577 R	HR	
2SB1132 R	BARB	
2SC3356 R25 2SC4116 BL 2SC4215 O 2SC4226 R25 2SC5006 2SC5700	R25 LL QO R25 24 WB	
2SK1829 F	KI	
2SK3019	KN	
2SK880 Y F	XY	
3SK293 F 3SK324	UF UG	

NAME	SYMBOL	INSIDE VIEW
DTA114EU UNR9111J UNR9113J	16 6A 6C	
RD01MUS1	K2	
RD07MVS1	RD07MVS1	
UNR9213J	8C	
XP1214	9H	
XP4601	5C	
XP6501 AB	5N	

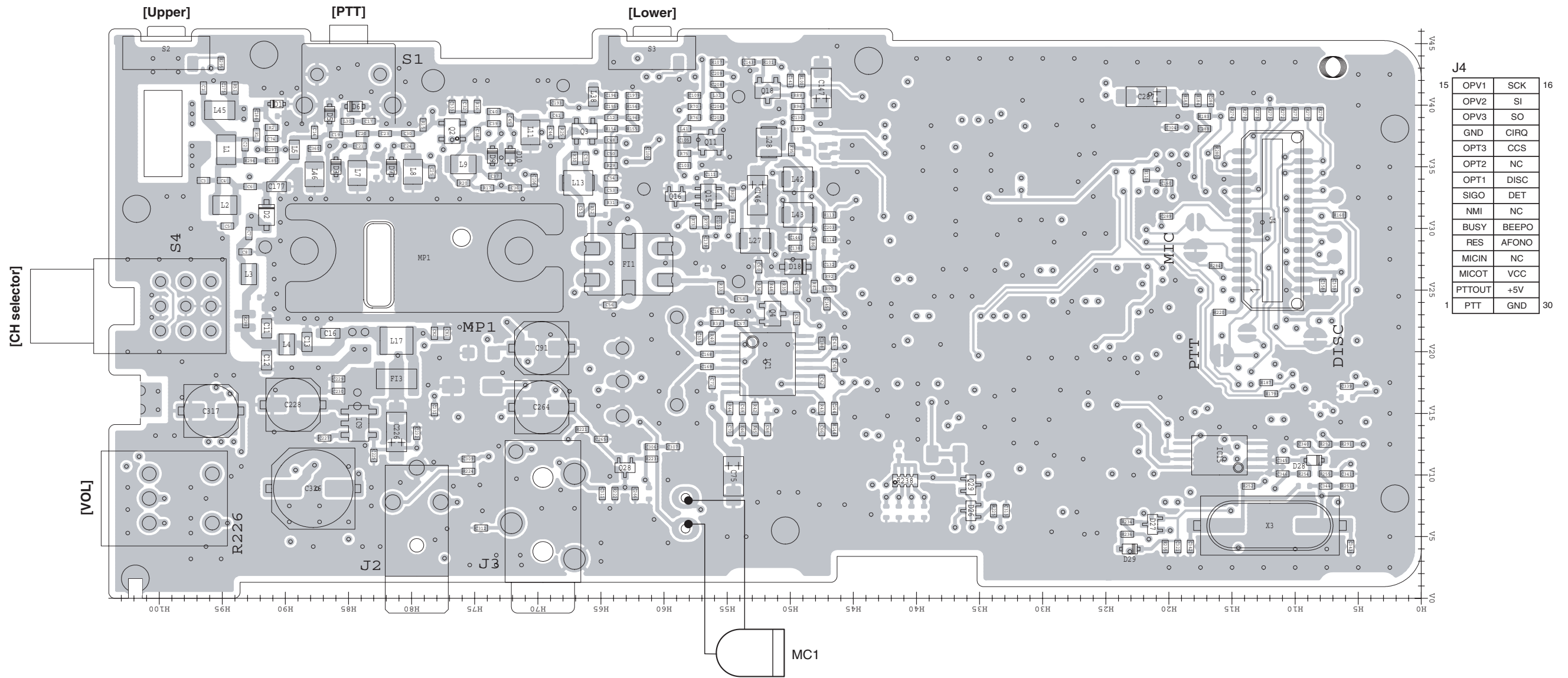
## • DIODES

NAME	SYMBOL	INSIDE VIEW
1SV307	TX	
DAN222	N	
HVC350B-E	B0	
MA2S077 MA2S111 MA2S728	S A B	
MA368	6L	
RB706F-40	3J	

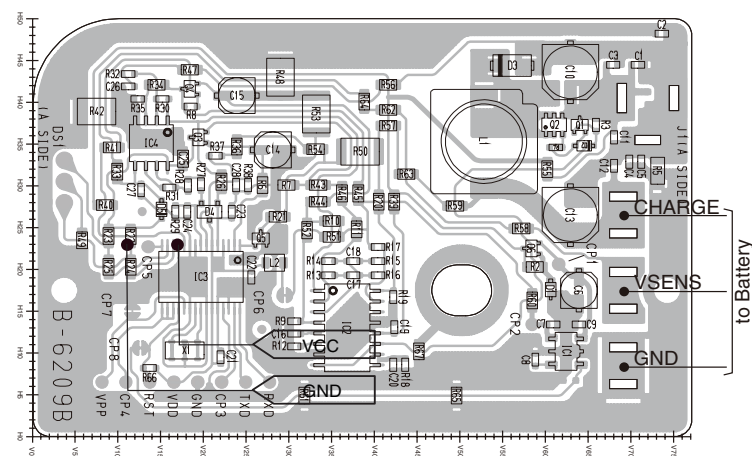


The combination of this side and the bottom side shows the board layout in the same configuration as the actual P.C.Board.

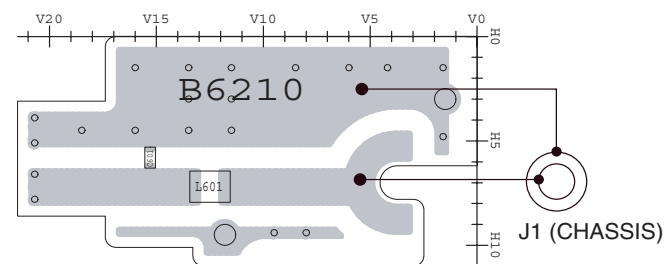
• MAIN UNIT (BOTTOM VIEW)



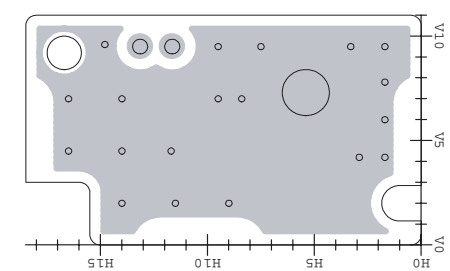
• BC-160 (BOTTOM VIEW)



• ANT UNIT (BOTTOM VIEW)

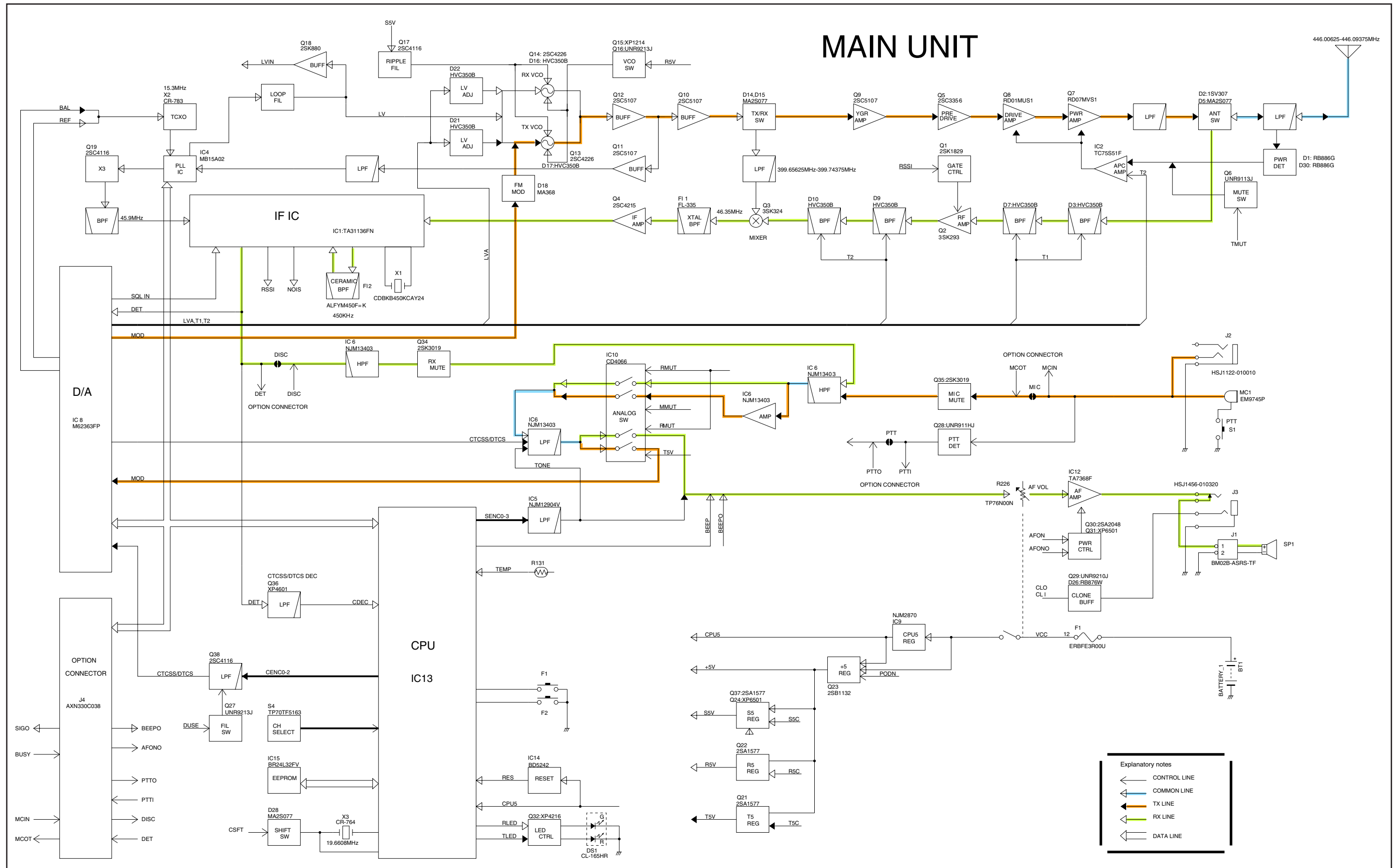


• CONNECT UNIT (BOTTOM VIEW)



# SECTION 11

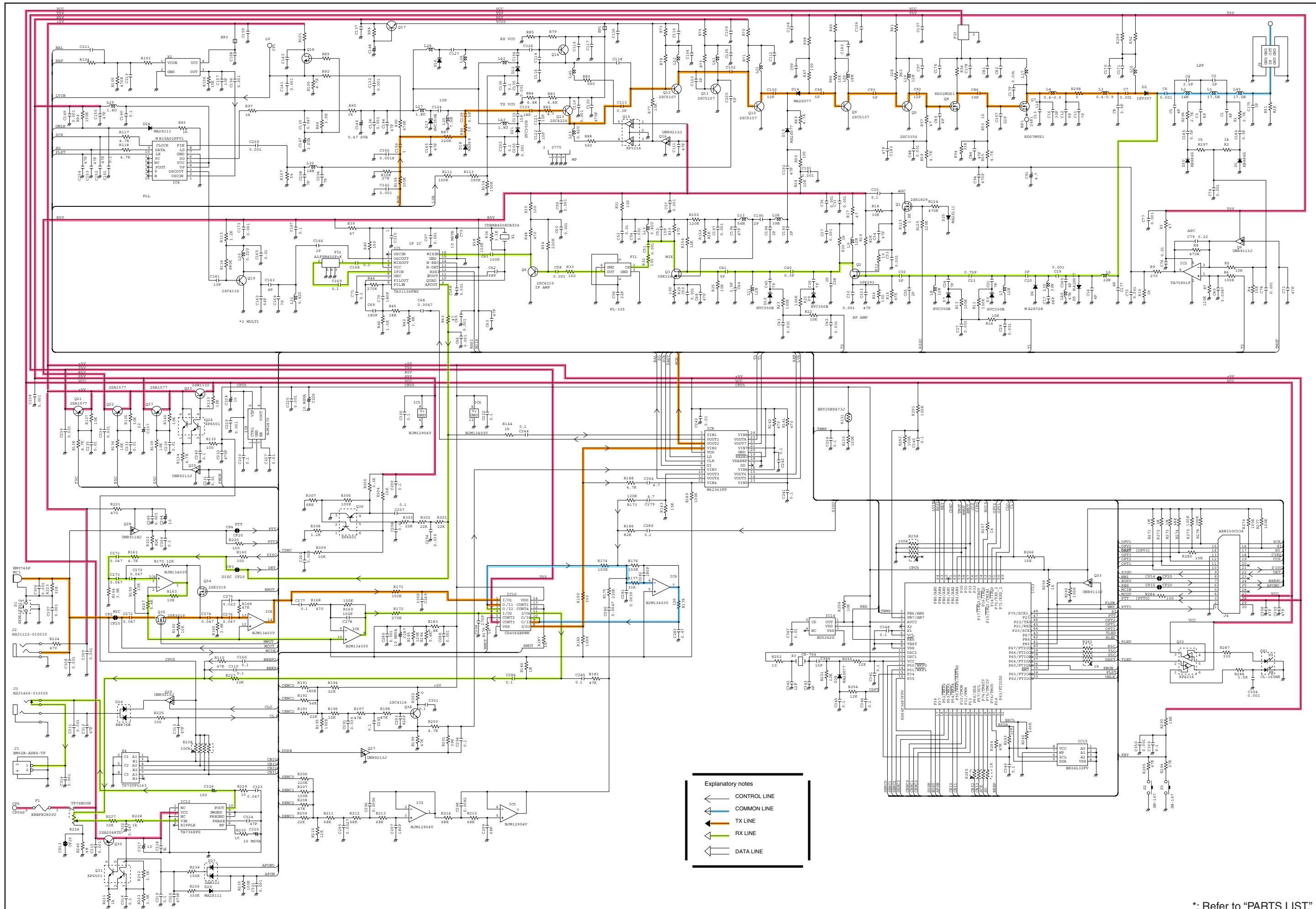
# BLOCK DIAGRAM





# SECTION 12

# VOLTAGE DIAGRAM



- Explanatory notes
- CONTROL LINE
  - COMMON LINE
  - TX LINE
  - RX LINE
  - DATA LINE

\*: Refer to "PARTS LIST."

# SECTION 13

# BC-160

### [CHASSIS PARTS]

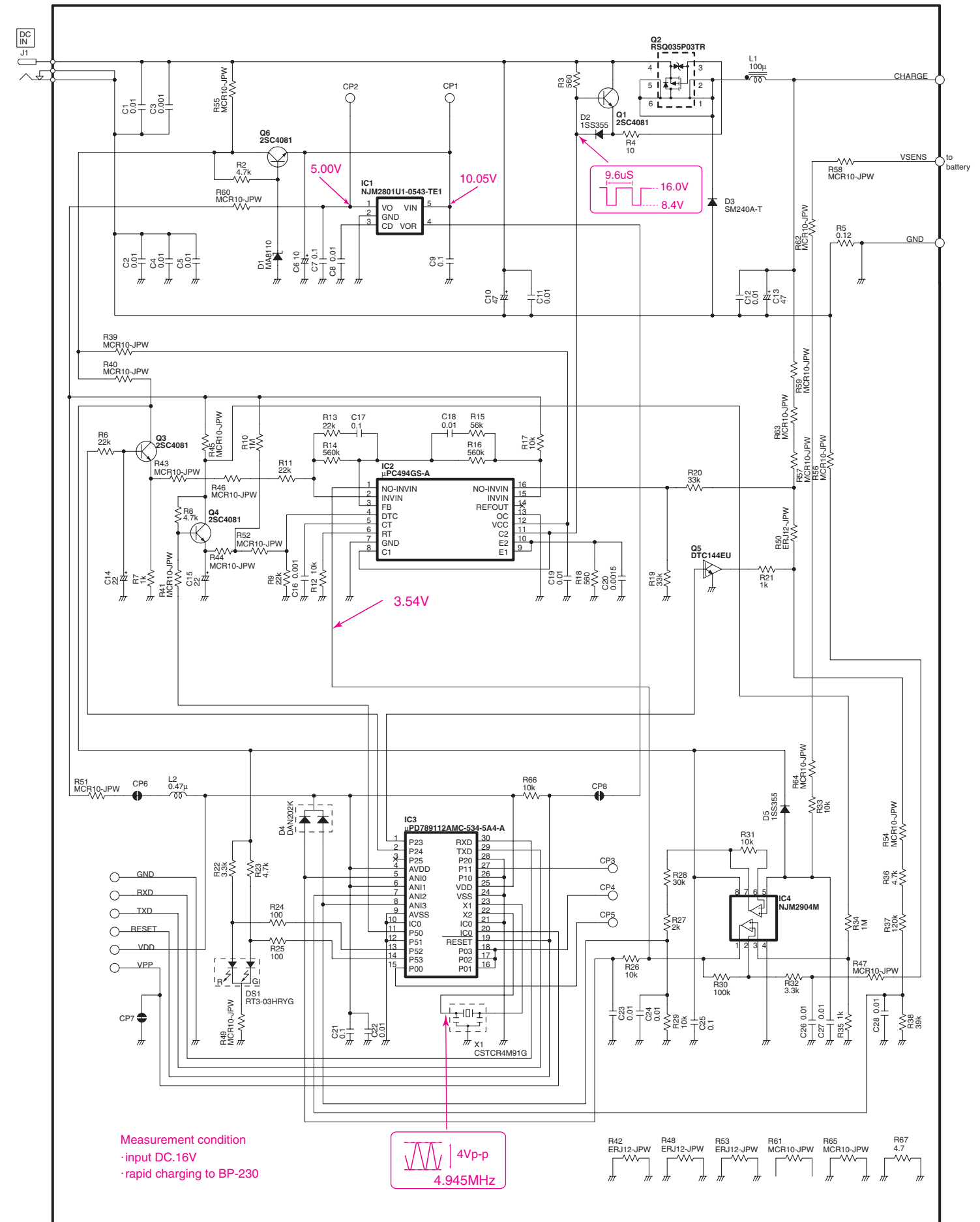
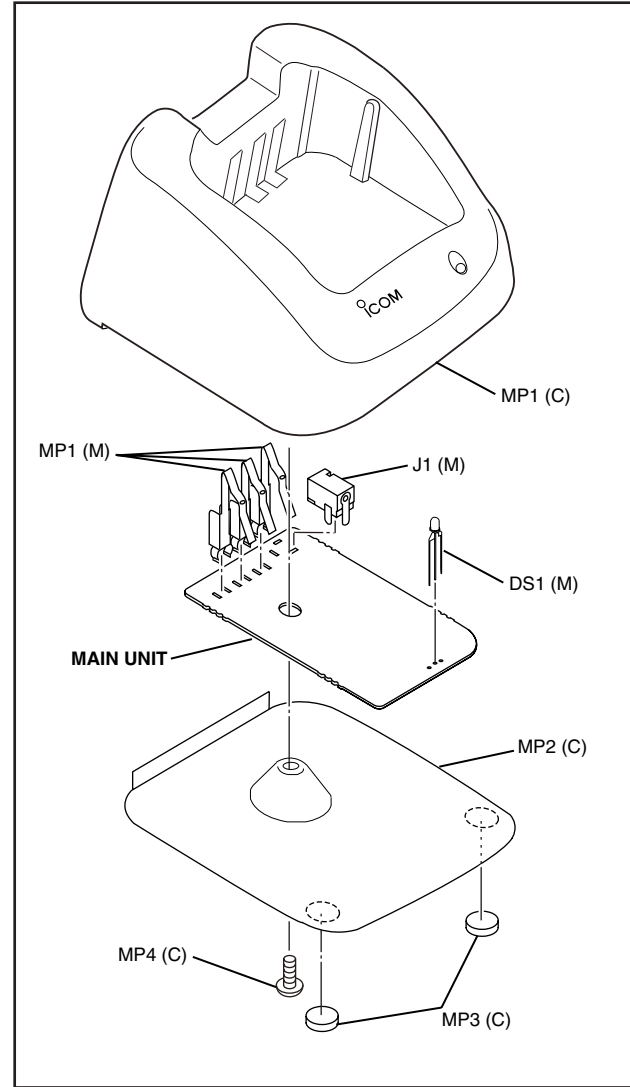
REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8010019750	2830 case	1
MP2	8110008220	2830 cover	1
MP3	8930039620	Leg cushion (A)	2
MP4	8810008630	Screw PH BT M3 x 6 NI-ZU	1

### [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6510023070	Connector HEC2305-01-250	1
DS1	5040002740	LED RT3-03HRYG	1
MP1	8930064410	2830 TERMINAL	3

### [ACCESSORIES]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
EP1	Optional product	Charger BC-145E	[EUR] 1
	Optional product	Charger BC-145UK	[UK] 1



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Fax : +81 (06) 6793 0013  
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