
COMPONENT MODULES

Exploded View # (see page 40)	Description	Part #
1 (50W)	PA Assembly, 50 W, "A" Range (400-435 MHz)	70-075869
1 (50W)	PA Assembly, 50 W, "B" Range (440-475 MHz)	70-075854
1 (50W)	PA Assembly, 50 W, "C" Range (465-500 MHz)	70075872
1 (100W)	PA Assembly, 100 W, "A" Range (400-435 MHz)	
1 (100W)	PA Assembly, 100 W, "B" Range (440-475 MHz)	650-230-0032
1 (100W)	PA Assembly, 100 W, "C" Range (465-500 MHz)	
8	Front Panel Assembly	550-020-0059
12 a	Analog Logic PCB Assembly	650-010-0014
12 b	Digital Logic PCB assembly	650-010-0015
13	TX Module Assembly, "A" Range (400-435 MHz)	
13	TX Module Assembly, "B" Range (440-475 MHz)	650-230-0031
13	TX Module Assembly, "C" Range (465-500 MHz)	
14	RX Module Assembly, "A" Range (400-435 MHz)	
14	RX Module Assembly, "B" Range (440-475 MHz)	650-110-2002
14	RX Module Assembly, "C" Range (465-500 MHz)	

PARTS LIST

91-4050/4100

KEYBOARD UNIT

MISCELLANEOUS

00-6200-510-130-000+	CN405
SKHMPW	CH, SCAN, MUTE, SHIFT, 1, 2, 3, 4, 5, 6, 7, 8, 9, 0, A, B, C, D, #, *
51KEY87-1	P.C.B
4A10-2996	SUPPORT(KEY)
SE-3 X 10	

VR UNIT

MISCELLANEOUS

00-6200-508-130-000+	CN407
264-7JUBC/S1142	D415
SPPH23056A	SW401
RY-8084	VR401
71VRS63-1	P.C.B
4A10-2988	BUTTON
SE-3 X 10	

CONTROL UNIT

MISCELLANEOUS

2A10-0258	FRONT PANEL
4A10-3199	BUTTON
3A10-0570	HANDOL
4A10-3178	WINDOW
4A10-2989	KNOB
4A10-3001	SP GRILL
4A10-3191	DIFFUSION PLATE
3A10-0657	SHIELD
4A10-3026	SP SPACER
4A10-3195	TAPE FOR WINDOW
4A-S499	CONNECTOR CABLE
KS-110	SPEAKER
PN-3 X 8 TP	SPEAKER Screw

CONTROL MAIN UNIT

INTERGRATED CIRCUITS

BA2J2DD0WT	IC401
TDA1519C	IC402
XC6202P502P	IC403
TA75S01F(TE85R,F)	IC404
TC7WT125FU	IC405, IC406, IC407, IC408
M62551GP-C60Q	IC409
TA75S558F(TE85R,F)	IC410, IC411

TRANSISTORS

UMC2N-TR	Q401, Q410, Q411, Q412, Q413
	Q414
2SA1576A	Q402
2SD2118-TLR	Q403
DTA144EUA-T106	Q404, Q405, Q420
2SK3018-T106	Q406, Q407, Q408, Q415
DTC314TU-T106	Q409, Q417
2SK880GR(TE85L,F)	Q416
DTA124EUA-T106	Q418, Q419

DIODES

1SS355-TE17	D417, D418, D419, D420, D421, D422, D423
RB706F-40	D416

CAPACITORS

GRM188B11H102KA01D	C424
GRM188B11E104KA01D	C425
GRM188B11E153KA01D	C405
GRM188B11A224KA01D	C406
GRM188B11H471KD01D	C408
GRM188B11C473KA01D	C410
GRM188B11H562KD01D	C413
GRM1882C1H820JA01D	C417, C422
GRM21BB11A105KA01L	C409, C414, C416, C419, C420, C423
GRM21BB10J225KC01L	C404, C418
GRM21BB11E474KC01L	C421
TEESVA1A106M8R	C415
EMVK250ADA330MF55G	C401, C402
EMVE500ADA2R2MD55G	C407
EKMG160ELL102MJ16S	C403
EKMG350ELL471MJ16S	C411, C412

RESISTORS

MCR03EZHZ 000	R471
MCR03EZHZ 102	R446, R447, R448, R449
MCR03EZHZ 103	R401, R466
MCR03EZHZ 104	R403, R414, R441, R442, R443 R456, R461, R464
MCR03EZHZ 105	R412
MCR03EZHZ 183	R457, R463
MCR03EZHZ 184	R410, R413, R468
MCR03EZHZ 222	R444, R445, R462
MCR03EZHZ 223	R465
MCR03EZHZ 224	R461
MCR03EZHZ 273	R407
MCR03EZHZ 333	R419
MCR03EZHZ 391	R452, R453, R454, R455
MCR03EZHZ 392	R422, R423, R426, R427, R430, R431, R434, R435, R475
MCR03EZHZ 471	R450, R451
MCR03EZHZ 472	R408, R418, R458, R466
MCR03EZHZ 473	R437, R438, R439, R440, R467 R470, R474
MCR03EZHZ 562	R415
MCR03EZHZ 563	R409
MCR03EZHZ 681	R472
MCR03EZHZ 682	R421, R424, R425, R428, R429 R432, R433, R436
MCR03EZHZ 822	R411
MCR100JZHZ150	R416, R417
MCR18EZHZ 000	R402
MCR18EZHZ 100	R460
MOSX2 3.9Ω	R405, R406

PARTS LIST

91-4050/4100

CONTROL MAIN UNIT (Cont.)

CONNECTORS

290A-88-30-119	CN409
00-6200-520-330-000+	CN402, CN403
00-6200-510-130-000+	CN404
00-6200-508-130-000+	CN406
FFC-14TBMEP1B	CP401(LCD)
FFC-5TAMEP1B	CP402(LCD)
B 3P-VH	CN401
SB20-02WS	CN410

MISCELLANEOUS

SB20-06WS	CS408
S-G8022#01	J401
4A-S429	
4A-S585	
4A-S584	
BP53RD030310120M	
4A10-3190	AF PLATE
4A10-3189	AF RADIATOR
ASB-E-307	LCD
BSB-E-308	
WSE-3 X 6	
SE-3 X 10	
SEB-3 X 12	
71FRO6Y-1	P.C.B
SC2004C	LCD401
ERTJR103J	TH401
BLM21BD421SN1D	BL401
GF06P 10K	FVR401
GF06P 100K	FVR402

LOGIC-ANALOG UNIT

INTERGRATED CIRCUITS

HD64F2239TE20-TFP-100B	IC1
AK2344	IC2, IC3
NJM2405M-T1	IC4
BD3931FP	IC5
AT24C256N-10SU-1.8	IC6
TA75S393F(TE85R,F)	IC7
BA33BC0T	IC8
M62551GP-C60Q	IC9, IC20, IC22, IC32
R1180D331C-TR-F	IC10
BU4819FVE	IC11
TC74HC541AF	IC14
BU4SU69	IC15
BU4S01G2-TR	IC16
BU4S81G-TR	IC17, IC25, IC27
NJM2073M	IC18
MAX7412	IC19, IC31
BU4S66G2	IC21, IC30
DP7113	IC23
BU4066BCP	IC24
FX828D5	IC28, IC29
USBN9604-28M	IC12

BH33FB1WHFV	IC13
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TRANSISTORS

2SK3018	Q1, Q3, Q4, Q5, Q7, Q11
DTA144EUA	Q2
2SB1698-T00	Q6
UMX1N	Q9

DIODES

1SS355-TE17	D1, D4, D9, D10, D13, D14, D15, D16, D17, D18
1SS356-TW11	D2, D6
DAN202U-T106	D3, D5
RB501V-40TE-17	D12
1SS355	D8
1SS356	D7

CRYSTALS

12.00MHZ	X1
3.68MHZ(SMD)	X3, X4
4.032MHZ	X5

INDUCTORS ARRAY

BLA31BD471SN4D	BA4, BA5, BA6 BA7, BA8, BA9, BA10, BA11,
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INDUCTORS FERRITE

FBM3216HM501NT	BL1, BL2
BLM21BD421SN1D	BL4, BL5, BL6, BL7, BL8, BL9, BL10, BL11, BL12, BL13, BL14

CAPACITORS

GRM188B11H103KA01D	C32, C57, C59, C69, C75, C80, C81
GRM188B11E104KA01D	C2, C6, C9, C13, C14, C19 C29, C33, C47, C62, C63, C64, C74, C78, C91, C92, C93, C104 C112, C113, C116
GRM188B11A224KA01D	C48, C61, C79, C96, C98
GRM188B11H333KA01D	C58
GRM188B11C473KA01D	C1, C41, C42, C97
GRM188B11H822KA01D	C45
GRM1882C1H150JA01D	C15, C16
GRM1882C1H151JA01D	C110,
GRM1882C1H220JA01D	C70, C71, C72, C73, C76, C77
GRM1882C1H470JA01D	C52, C56, C66, C89, C99, C108, C111,
GRM1882C1H820JA01D	C38, C49, C82, C84, C102
GRM216B11C105KA01L	C11, C12, C39, C44, C46, C50, C51, C54, C55, C65, C68, C85, C86, C87, C94, C95, C101, C106 C107, C109, C115
GRM21BB10J225KA01L	C53
GRM21BB11E474KA01L	C67, C83
TEESVA1A475M8R	C4
TEESVA1A106M8R	C8
TEESVA1V105M8R	C7
EMVK250ADA330MF55G	C3,
EMVK160ADA100MD55G	C5, C31

PARTS LIST

91-4050/4100

LOGIC-ANALOG UNIT (CONT)

CAPACITORS (CONT)

EMVK160ADA470MF55G	C27, C28, C30
EECS5R5H105	C10
GRM188B11H102KA01D	C20,
MCH185A080DK	C22,
GRM1882C1H150JA01D	C21
GRM188B11E104KA01D	C23
GRM188B11A224KA01D	C24
GRM216B11C105KA01L	C25, C26

RESISTORS

MCR03EZHZ 000	R36, R38, R61, R135, R157, R158, R159
MCR03EZHZ 102	R18, R34, R37, R40, R45, R46, R47, R90
MCR03EZHZ 103	R14, R15, R17, R20, R21, R30, R31, R35, R63, R64, R65, R71, R78, R82 R87, R139

RESISTORS

MCR03EZHZ 104	R1, R4, R22, R66, R74, R75, R85 R93, R96, R101, R104, R128 R129, R130, R147, R148, R149 R150, R151, R152
MCR03EZHZ 105	R5, R23, R115, R118, R120, R140
MCR03EZHZ 113	R6
MCR03EZHZ 124	R97, R108, R112, R153
MCR03EZHZ 153	R94, R124, R127
MCR03EZHZ 154	R7, R92, R109, R113, R114, R126, R132, R134, R137, R141, R145
MCR03EZHZ 183	R143, R155
MCR03EZHZ 184	R8, R136
MCR03EZHZ 222	R142
MCR03EZHZ 225	R3
MCR03EZHZ 244	R146
MCR03EZHZ 271	R67, R68
MCR03EZHZ 273	R2
MCR03EZHZ 274	R77, R110
MCR03EZHZ 3R3	R69
MCR03EZHZ 332	R122
MCR03EZHZ 333	R12, R19, R106
MCR03EZHZ 393	R81
MCR03EZHZ 471	R32, R33, R38, R39, R41, R42, R43 R44, R48, R100, R116
MCR03EZHZ 472	R27, R59, R60, R70, R73, R84, R86, R90
MCR03EZHZ 473	R10, R16, R28, R79, R98, R102 R103, R117, R119, R121, R123 R131, R133, R138, R156
MCR03EZHZ 474	R88, R89, R91, R99
MCR03EZHZ 562	R9
MCR03EZHZ 563	R49, R95, R144
MCR03EZHZ 683	R50, R107
MCR03EZHZ 684	R11
MCR03EZHZ 752	R24, R25

MCR03EZHZ 753	R13
MCR03EZHZ 754	R80
MCR03EZHZ 823	R29
MCR10EZHZ 100	R26
MCR18EZHZ 000	R160
MCR18EZHZ 103	R105
MCR50EZHZ 4R7	R72
MCR03EZHZ 102	R51
MCR03EZHZ 104	R57
MCR03EZHZ 105	R52
MCR03EZHZ 152	R56
MCR03EZHZ 270	R54, R55
MCR03EZHZ 473	R58
MCR03EZHZ 823	R53

RESISTORS ARRAY

MNR14E0ABJ471	RA1, RA2, RA3, RA4, RA5, RA6, RA7, RA8, RA9, RA11, RA12, RA13, RA14
MNR14E0ABJ473	RA10, RA15, RA16

CONNECTORS

00-6200-516-230-000+	CN6, CN8, CN9
00-6200-520-330-000+	CN2, CN3, CN5
AXN420-530S	CN7

MISCELLANEOUS

RCT	TP1, TP2
SB20-03WS	CN1
DIC-149-3P	JP2, JP3
71LOG67-1	P.C.B
24MHZ	X2
BLA31BB471SN4D	BA1, BA2, BA3
FBM3216HM501NT	BL3,
ELJ-FC150KF	L2
MX-387GL	JK1
ELJ-FC150KF	L1
G32AT 503	FVR1

LOGIC-DIGITAL UNIT

INTEGRATED CIRCUITS

TMS320VC5509AGHH	IC1
EN29LV400AB	IC2
TL16C550CPFB	IC3
S-1131B16PD-N4B-G	IC4
MAX7414EUA	IC8
M62551GP-C60Q	IC6, IC7, IC9
TLV320AIC23BPW	IC10
BU4819FVE	IC11

PARTS LIST

91-4050/4100

LOG-D UNIT (Cont.)

CAPACITORS

GRM188B11H102KA01D	C19
GRM188B11E104KA01D	C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C16, C23 C36, C45
GRM188B11A224KA01D	C31
GRM188B11H272KA01D	C25, C28, C42
GRM188B11H822KA01D	C24, C27, C41
MCH185A100CK	C20
GRM1882C1H150JA01D	C43
GRM1882C1H220JA01D	C46, C47
GRM1882C1H820JA01D	C32
MCH185AR75CK	C18
GRM216B11C105KA01L	C26, C30, C33, C38
GRM21BB10J225KA01L	C15, C17, C34, C35, C37
GRM21BB11E474KA01L	C39
TEESVA1A106M8R	C21, C22
MCR10EZHZJ000	C40
MCR10EZHZJ 000	C90, C105

RESISTORS

MCR03EZHZJ 000	R53
MCR03EZHZJ 102	R8, R34, R39, R49
MCR03EZHZJ 103	R5, R10, R12, R16, R19, R20 R21, R42, R43, R44, R47 R55, R56, R57, R59, R61, R62, R66, R67
MCR03EZHZJ 105	R1, R48
MCR03EZHZJ 152	R13, R18
MCR03EZHZJ 154	R26, R27, R30, R31, R33, R37
MCR03EZHZJ 270	R14, R15
MCR03EZHZJ 471	R3, R4, R6, R9, R32, R35, R51
MCR03EZHZJ 473	R7, R22, R23, R40, R41, R54, R58, R60
MCR03EZHZJ 682	R24, R25, R28, R29, R36, R38
MCR03EZHZJ 822	R2
MCR03EZHZJ 823	R11
MCR18EZHZJ000	R17
MNR14E0ABJ471	RA1, RA4, RA7, RA8, RA9, RA12, RA15, RA16
MNR14E0ABJ473	RA6, RA14

MISCELLANEOUS

RCT	TP1, TP2, CP1
CHS-01A1	SW1
MX7B-0442	CN1
AXN320-130S	CN2
PS-14PLB-D4T1-FL	CN3
71DSP67-1	PCB
2SK3018	Q1, Q2
1SS400-TE61	D2
1SS356	D3
12.00MHZ	X1
3.68MHZ(SMD)	X2
FBM3216HM501NT	BL1, BL2
FBMH4525HM102NT	BL3

BLM21BD421SN1D	BL4
ELJ-NC150KF	L1

RX MAIN UNIT

INTEGRATED CIRCUITS

BA70BCFP-E2	IC801
XC221A1200MR	IC802, IC810
TC7WT125FU(TE12L,F)	IC803, IC804
XC6202P502M	IC805, IC812
MB1511PFV-G-BND-EFE	IC806
NJU7662M-T1-TE1#ZZZB	IC807
TC4S66F(TE85L,F)	IC808
TA75S01F(TE85R,F)	IC809
SPM5001	IC811

TRANSISTORS

2SK3018-T106	Q801, Q805, Q807
2SD2351-T106	Q802, Q809
MCH3306-TL	Q803
UMC2N-TR	Q804, Q808
RTU002P02-T106	Q806
2SK508-T1B K53	Q810
DTA144EUA-T106	Q811
3SK177-T1 U73	Q861

DIODES

1SS355-TE17	D801, D802, D805, D807, D809
DA204U-T106	D803, D804
RB886G-T2R	D806
SML210VT-T86	D808
1SV229(TPH3,F)	D862, D863, D864, D865, D866
HVU131TRF	D867, D868

CRYSTALS

C-TYPE 1.5ppm	TCXO801
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CAPACITORS

TEESVA1V105M8R	C801
TEESVA1A475M8R	C802, C858
EMVK160ADA100MD55G	C803, C822, C823, C824, C825, C826, C828
GRM188B11H272KA01D	C804
GRM188B11H822KA01D	C805
GRM188B11H103KA01D	C806, C820, C844, C852, C856
GRM216B11C105KA01L	C807, C842, C843
GRM188B11H102KA01D	C808, C830, C833, C834, C836, C839, C841, C845, C847, C848, C851, C853, C876, C877, C878, C879, C880, C892
GRM188B11C334KA01D	C809, C812
GRM1882C1H150JA01D	C810, C882
MCH185A050CK	C811, C840, C846, C850, C875, C897, C899
GRM188B11E104KA01D	C813, C814, C819, C832
GRM188B11H153KA01D	C815
GRM319B11E684KC01D	C817
GRM188B11C473KA01D	C818, C831
TEESVA1C225M8R	C827
MCH185A030CK	C829, C849, C865
GRM1882C1H110JZ01D	C837
GRM1882C1H101JZ01D	C854
MCH185A100CK	C855

PARTS LIST

91-4050/4100

RX MAIN UNIT (CONT)

CAPACITORS (CONT)

GRM188B11E223KA01D	C857
MCH185A060CK	C860, C861
GRM1882C1H220JA01D	C862
MCH185A070CK	C866
MCH185A040CK	C867, C870, C872, C873, C874, C884, C887, C889, C890, C895, C898
MCH185A0R5CK	C868, C869, C885, C886
GRM1882C1H240JA01D	C871
MCH185A020CK	C883
GRM1882C1H270JA01D	C888
GRM1882C1H200JA01D	C896

COILS

LL2012-FHL15NJ	L801
KQ1008TTER82K	L803
KQ1008TTER27K	L805, L806
KQ1008TTE4R7K	L807
KQ1008TTE1R5K	L809
LQW31HN8N8J	L861
#E558ANA-100051=P3	L862, L863, L867, L868, L869
MCR03EZHZ 000	L864, R858, R861
LQW31HNR10J	L865
LL2012-FHL22NJ	L866
KS3006TTE18NJ	L870
#3060(SMD-0071)	T801, T802, T803

FERRITE IDUCTORS

FBM3216HM501NT	BL801, BL804
BLM21BD421SN1D	BL802, BL803, BL805, BL806, BL808, BL809, BL861

RESISTORS

MCR03EZHZ 471	R801, R839
MCR03EZHZ 562	R802, R813
MCR03EZHZ 104	R803, R807, R831, R835, R837, R838, R859, R862, R863, R872, R873, R875
MCR03EZHZ 682	R804, R805, R834, R846
MCR03EZHZ 224	R806
MCR03EZHZ 473	R808, R809, R828, R836
MCR03EZHZ 153	R810, R819, R857, R865
MCR03EZHZ 103	R811, R814, R815, R816, R854, R855, R869, R871, R874,
MCR03EZHZ 432	R812
MCR03EZHZ 822	R817
MCR03EZHZ 123	R818
MCR03EZHZ 823	R820, R841
MCR03EZHZ 183	R821, R843
MCR03EZHZ 273	R822
MCR03EZHZ 393	R823, R833
MCR03EZHZ 270	R824
MCR03EZHZ 470	R825, R853, R868
MCR03EZHZ 152	R826, R827, R864, R867
MCR03EZHZ 272	R829
MCR03EZHZ 101	R830, R845, R851, R852
MCR03EZHZ 472	R832
MCR03EZHZ 332	R840
MCR03EZHZ 182	R842
MCR03EZHZ 154	R844
MCR03EZHZ 221	R847

MCR03EZHZ 150	R848
MCR03EZHZ 100	R849
MCR03EZHZ 271	R850
MCR03EZHZ 303	R856
MCR03EZHZ 102	R860
MCR03EZHZ 560	R866

CONNECTORS

4A-S587	CN801
52030-1629	CN802
LPC-6FDS+C	CS801
LPC-2FDS+C	CS802, CS803
LPC-7FDS+C	CS804
4A-S471	FLAT CABLE

MISCELLANEOUS

CRS5001-0801F	TP801
4A10-3037	TX COVER
MF73Q 73.35MHZ	XF801
71RXU67-1	PCB
4A10-2200	GND SPRING
SE-3 X 8	COVER SCREW
SE-3 X 6	PCB SCREW
4A10-3180	RX ANT SHIELD
4A10-3198	RX SEAL
3A10-0654	RX/RF BPF COVER
2A10-0210	RX/TX FRAME
4A10-3000	BOSS
OPT-121-00	SPRING
TWT-113-00	SPRING

73.35MHz IF UNIT

INTEGRATED CIRCUITS

BA4116FV	IC001
M62551GP-C60Q	IC002

TRANSISTORS

2SC4250(TE85R,F)	Q001
2SK880GR(TE85L,F)	Q002, Q004
DTC623TU-T106	Q003
2SK3018-T106	Q005
2SD2351-T106	Q006
XP01501	Q007

DIODES

1SS295(TE85L,F)	D001
1SS356-TW11	D002
1SS400-TE61	D003
02DZ3.9-X(TPH3,F)	D004

CERAMIC FILTERS

CDA455C24R	CD001
CFWLB455KGFA-B0	CF001
CFWLB455KEFA-B0	CF002

CAPACITORS

MCH185A030CK	C001, C002
GRM1882C1H110JA01D	C003
GRM188B11H102KA01D	C004, C006, C007, C009, C010, C034, C035
MCH185A080CK	C005
GRM188B11H103KA01D	C008, C027
GRM1882C1H270JA01D	C011
GRM188B11H332KA01D	C012, C021
GRM1882C1H330JA01D	C013
GRM188B11H153KA01D	C014, C024

73.35MHz IF UNIT (CONT)

CAPACITORS (CONT)

GRM216B11C105KA01L	C015, C026, C030
GRM188B11E104KA01D	C016
GRM1882C1H680JA01D	C017
GRM21BB10J225KA01L	C018
GRM188B11H223KA01D	C019, C029
GRM188B11C473KA01D	C020
GRM1882C1H561JA01D	C022, C023
GRM1882C1H560JA01D	C028
TEESVA1V684M8R	C031
GRM188B11H471KD01D	C037, C039
GRM1882C1H120JA01D	C038

COILS

ELJ-FCR22KF	L001
HK2125R22J	L002
KQ1008TTER39K	L007

RESISTORS

MCR03EZJH 332	R001, R014
MCR03EZJH 473	R002, R022, R027
MCR03EZJH 471	R003, R032
MCR03EZJH 151	R004, R005
MCR03EZJH 000	R007, R026, R043, R045
MCR03EZJH 822	R008
MCR03EZJH 154	R009, R028, R030
MCR03EZJH 104	R010, R011, R020, R024, R031, R035
MCR03EZJH 153	R013, R039
MCR03EZJH 222	R015, R033
MCR03EZJH 103	R016, R021, R034, R048
MCR03EZJH 224	R017
MCR03EZJH 472	R018, R023
MCR03EZJH 122	R019
MCR03EZJH 563	R025
MCR03EZJH 392	R029
MCR03EZJH 394	R036
MCR03EZJH 223	R037
MCR03EZJH 334	R038
MCR03EZJH 681	R040
MCR03EZJH 102	R042
MCR03EZJH 273	R044

RESISTOR, VARIABLE

G32AT 201	FVR001
G32AT 103	FVR002

CONNECTORS

LPC-2T7M+S	CP103
LPC-7T7M+S	CP104

MISCELLANEOUS

SE-3 X 6	SEMS SCREW
TEST PT, RCT	TP001
72.895MHZ	X001
MF73Q, XTAL FILT.	XF001, XF002
4A10-1624	METAL CASE
71IF766-1	PCB

RX VCO UNIT

INTEGRATED CIRCUITS

UPC1688G-T1	IC301
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TRANSISTORS

2SK508-T1B K53	Q301
2SC4325(TE85R)	Q302
2SC3583-T1B(R34)	Q303
DTA124EUA-T106	Q304
2SD2351-T106	Q305
DTA114EUA-T106	Q306

DIODES

1SV232(TPH3,F)	D303, D304
1SS356-TW11	D308
02DZ2.0-X(TPH3,F)	D309, D310

CAPACITORS

GRM188B11C823KA01D	C302
MCH185A040CK	C303, C310
GRM1882C1H150JA01D	C305
MCH185A020CK	C307
MCH185A070CK	C308
MCH185A050CK	C309
MCH185A100CK	C309, C315
MCH185A0R5CK	C311
GRM188B11H102KA01D	C312, C313, C320, C323
MCH185AR75CK	C314
MCH185A010CK	C317
EMVK160ADA100MD55G	C318, C319, C324
GRM188B11H471KD01D	C322
GRM1882C1H101JZ01D	C326

COILS

ELJ-FCR47KF	L301, L302
#3078*	L303
KQ1008TTER47K	L304
KQ1008TTER27K	L305
LL2012-FHL22NJ	L306
MCR10EZJH 270	L307
#1091	L308

FERRITE IDUCTORS

FBM3216HM501NT	BL301
BLM21BD421SN1D	BL302, BL303

RESISTORS

MCR03EZJH 150	R306, R321
MCR03EZJH 221	R307
MCR03EZJH 472	R308, R315
MCR03EZJH 752	R309
MCR03EZJH 471	R310, R311
MCR03EZJH 101	R312, R323
MCR03EZJH 222	R314
MCR03EZJH 332	R316
MCR03EZJH 102	R317
MCR03EZJH 121	R318
MCR03EZJH 4R7	R319
MCR03EZJH 391	R320
MCR03EZJH 000	R322

CONNECTORS

LPC-6T7M+S	CP301
LPC-2T7M+S	CP302

PARTS LIST

91-4050/4100 RX VCO UNIT (CONT)

MISCELLANEOUS

TEST PT. RCT	TP301
4A10-2170	VCO COVER
4A10-2169	VCO SHIELD
4A10-3029	VCO SHIELD
71TCU62-1	PCB ASSY

TX MAIN UNIT

INTEGRATED CIRCUITS

BAJ0BC0FP	IC201
XC6202P702P	IC202
XC6202P502M	IC203
TC75W51FU(TE12L,F)	IC204
TA75S01F(TE85R,F)	IC205, IC213
TC7WT125FU(TE12L,F)	IC206, IC207
MB1511PFV-G-BND-EFE	IC208
TC4S66F(TE85L,F)	IC209
NJU7662M-T1-TE1#ZZZB	IC210
BA00CC0WFP	IC211
NJM2904M	IC212

TRANSISTORS

2SK3018-T106	Q201, Q205, Q209
UMG1N TR *	Q202, Q212
UMC2N-TR	Q204, Q210
2SC4325(TE85R)	Q214
2SD2351-T106	Q207
RTU002P02-T106	Q208
2SC3357-T1	Q211
DTA124EUA-T106	Q206
DTC124EUA-T106	Q213

DIODES

1SS355-TE17	D201, D204, D207, D208
1SS356-TW11	D206
DA204U-T106	D202, D203
RB886G-T2R	D210
SML210VT-T86	D214
HVU131TRF	D205

CRYSTALS

C-TYPE 1.5ppm	TCXO201
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CAPACITORS

GRM188B11H102KA01D	C208, C209, C243, C244, C250, C252, C255, C256, C267
GRM188B11H103KA01D	C210, C253
GRM188B11E104KA01D	C219, C222, C238
GRM188B11H153KA01D	C226, C234, C248
GRM188B11E154KA01D	C216, C251, C265
GRM188B11E223KA01D	C225
GRM188B11H272KD01D	C212
GRM188B11H471KD01D	C211, C241
GRM188B11C473KA01D	C217, C235, C254
MCH185AR75CK	C257
MCH185A010CK	C259
MCH185A030CK	C224, C258
MCH185A100CK	C245, C268
GRM1882C1H101JZ01D	C263
GRM1882C1H150JA01D	C223, C242, C262
GRM1882C1H470JA01D	C215
GRM216B11C105KA01L	C204, C206, C214, C220,

	C221, C227, C260
GRM31MR71H474KA01L	C237
TEESVA1V105M8R	C201, C207, C213, C249
TEESVA1A475M8R	C205
TEESVA1C225M8R	C202, C230, C247, C266
EMVK160ADA100MD55G	C228, C229, C231, C232, C233

COILS

#1091	L201
LQW31HN8N8J	L202

FERRITE IDUCTORS

BLM21BD421SN1D	BL202, BL204, BL205, BL206
FBM3216HM501NT	BL201, BL203

RESISTORS

MCR03EZHZ 000	R209, R218, R281, R285
MCR03EZHZ 100	R244
MCR03EZHZ 101	R242, R260
MCR03EZHZ 102	R226, R236, R254
MCR03EZHZ 103	R205, R206, R211, R223, R224, R225, R232, R241, R256, R263, R275
MCR03EZHZ 104	R216, R243, R258, R266, R267
MCR03EZHZ 124	R217
MCR03EZHZ 151	R246
MCR03EZHZ 152	R227, R237
MCR03EZHZ 153	R214, R233, R240, R257, R259, R278
MCR03EZHZ 182	R268, R274
MCR03EZHZ 183	R230
MCR03EZHZ 184	R212
MCR03EZHZ 203	R221
MCR03EZHZ 222	R280
MCR03EZHZ 223	R252, R253
MCR03EZHZ 270	R234
MCR03EZHZ 271	R245
MCR03EZHZ 272	R239
MCR03EZHZ 273	R231, R255
MCR03EZHZ 332	R261
MCR03EZHZ 393	R286
MCR03EZHZ 470	R235
MCR03EZHZ 471	R262
MCR03EZHZ 472	R229, R247
MCR03EZHZ 473	R220, R238, R264, R265
MCR03EZHZ 560	R277
MCR03EZHZ 562	R203, R210
MCR03EZHZ 683	R213, R219
MCR03EZHZ 752	R222
MCR03EZHZ 822	R204, R270
MCR03EZHZ 823	R215
MCR10EZHZ 2R2	R248, R272
MCR10EZHZ 391	R250
MCR10EZHZ 4R7	R249
MCR18EZHZ 100	R251
MCR18EZHZ 103	R207
MCR18EZHZ 471	R273

RESISTOR, VARIABLE

G32AT 103	FVR201, FVR204
G32AT 204	FVR202
G32AT 502	FVR203

PARTS LIST

91-4050/4100

TX MAIN UNIT (CONT)

CONNECTORS

52030-1629	CN202
LPC-2FDS+C	CS202
LPC-6FDS+C	CS201
4A-S586	CN201
4A-S471	FLAT CABLE

MISCELLANEOUS

TEST PT., RCT	TP201
SE-3 X 6	PCB SCREW
SE-3 X 8	COVER SCREW
OPT-121-00	SPRING
4A10-3000	BOSS
4A10-3037	TX COVER
2A10-0210	RX-TX FRAME
4A10-3039	TX SEAL
71TXU6Y-1	PCB

TX VCO UNIT

INTEGRATED CIRCUITS

UPC1688G-T1	IC301
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TRANSISTORS

2SK508-T1B K53	Q301
2SC4325(TE85R)	Q302
2SC3583-T1B(R34)	Q303
DTA124EUA-T106	Q304
2SD2351-T106	Q305
DTA114EUA-T106	Q306

DIODES

1SV229(TPH3,F)	D301
1SV232(TPH3,F)	D303, D304
1SS355-TE17	D307, D311
1SS356-TW11	D308
02DZ2.0-X(TPH3,F)	D309, D310

CAPACITORS

GRM188B11H102KA01D	C312, C313, C320, C323
GRM188B11H471KD01D	C322
GRM188B11C823KA01D	C302
ECDG0ER308	C306
MCH185A0R5CK	C311
MCH185AR75CK	C307, C314
MCH185A010CK	C306
MCH185A030CK	C303, C310
MCH185A040CK	C309
MCH185A060CK	C308
MCH185A090CK	C305
MCH185A100CK	C315, C321
GRM1882C1H101JZ01D	C326
EMVK160ADA100MD55G	C318, C319, C324

COILS

ELJ-FCR47KF	L301
KQ1008TTER47K	L302, L304
KQ1008TTER27K	L305
LL2012-FHL22NJ	L306
LL2012-FHL33NJ	L307
#3078*	L303
#1091	L308

FERRITE INDUCTORS

BLM21BD421SN1D	BL302, BL303
FBM3216HM501NT	BL301

RESISTORS

MCR03EZHZ 101	R312
MCR03EZHZ 102	R317
MCR03EZHZ 150	R306, R321
MCR03EZHZ 154	R325
MCR03EZHZ 221	R307
MCR03EZHZ 222	R314
MCR03EZHZ 332	R316
MCR03EZHZ 470	R323
MCR03EZHZ 471	R310, R311
MCR03EZHZ 472	R308, R315
MCR03EZHZ 473	R301, R324
MCR03EZHZ 4R7	R319
MCR03EZHZ 560	R318
MCR03EZHZ 563	R303
MCR03EZHZ 752	R309
MCR03EZHZ 821	R320

MISCELLANEOUS

TEST PT. RCT	TP301
LPC-2T7M+S	CP302
LPC-6T7M+S	CP301
4A10-2169	VCO SHIELD
4A10-2170	VCO COVER
4A10-3029	VCO SHIELD
71TCU62-1	PCB ASSY

50W PA UNIT

INTEGRATED CIRCUIT

BA4558F	IC501
TA75S01F	IC502, IC503
AN78L05M	IC504

POWER MODULE & TRANSISTORS

RA07H4452M	PM501
2SK3018-T106	Q501
DTB143EK-T146	Q502
RD60HUF1	Q504

DIODES

1SS355	D501, D503
DAP202U-T146	D502
UDZ 2.4B-TE17	D504
SML-210VT-T86	D505
RB501V-40TE-17	D507, D508

CAPACITORS

GRM40B102K50PT	C501, C504, C508, C511, C512, C515, C518, C521, C526, C533, C575, C576, C578, C580, C581
ECST1VY224R	C503
GRM40B473K25PT	C505, C507
GRM40B104K25PT	C506
ECST1DC106R	C509
ECST1CY105R	C519
TMCMA1D105MTR	C520
UC232H0050D	C523
UC232H0560J	C524
UC232H0060D	C525
UC232H0150J	C527, C528
RM40-2H330J	C531
GRM40B471K50PT	C534
RM40-2H100J	C540, C541, C586, C587
RM40-2H200J	C543, C542, C544

PARTS LIST

91-4050/4100 50W PA UNIT (CONT)

CAPACITORS (CONT)

MVK35VC4R7M D55	C558
RM40-2H150J	C561
UC232H0430J	C564
GRM40CH050D50PT	C579
RM40-2H050D	C585, C588
UP050SL010N/NAC	C589, C590
UC232H0010D	C591
UC232H01R5D	C594
SM551	CN501
4A-S588	CN502

CAPACITOR, VARIABLE

1HB340YE102PDA05	FC501
TC-6S 18P	FVC501
TC-6S 10P	FVC505

RESISITOR, VARIABLE

EVM-7JSX30B22	FVR501
EVM-7JSX30B23	FVR502, FVR503
EVM-7JSX30B15	FVR504

COILS

4A-S630	L504
4A-S591	L515
4A-S592	L516, L518
4A-S593	L517

FERRITE INDUCTORS

FBA04VA900KF	BL505, BL511, BL512, BL514
FBMH3216HM501NT	BL508
FBMH4525HM102NT	BL509
FBA04VA600KD	BL515
	BL520

RESISTORS

MCR10EZJH182	R501
MCR10EZJH472	R502, R528, R529
MCR10EZJH184	R503
MCR10EZJH103	R504, R508, R521, R526, R527
MCR10EZJH102	R507, R514
MCR10EZJH470	R509
MCR10EZJH471	R510, R538, R553, R556
MCR10EZJH682	R511
MCR10EZJH104	R512, R518, R522, R530
MCR10EZJH473	R513, R523
MCR10EZJH562	R515, R517, R525
MCR10EZJH392	R516
MCR10EZJH333	R520
MCR10EZJH753	R524
MCR10EZJH151	R531, R533
MCR10EZJH330	R532
MCR10EZJH152	R537
MCR10EZJH332	R539
MCR10EZJH272	R542
MCR10EZJH752	R543
MCR18EZJH470	R546
RSMF 1W 270Ω	R547
MCR10EZJH560	R552
MCR10EZJH121	R554
MCR10EZJH822	R555

MISCELLANEOUS

51PAU35-1	PCB
SE-2.6 X 8	Screw TR & PM mtg
TEST PT., RCT	TP501, TP502
4A10-3136	TR HEAT SINK

100W PA UNIT

INTEGRATED CIRCUITS

RA13H4452M-101	PM501
AN78L05M	IC504
BA4558F	IC501
TA75S01F	IC502, IC503

TRANSISTORS

2SK3018-T106	Q501
DTB143EK-T146	Q502
RD60HUF1-101	Q504, Q505

DIODES

1SS355	D501, D503, D509
DAP202U-T146	D502
RB501V-40TE-17	D507, D508
SML-210VT-T86	D505
02DZ3.9-X(TPH3,F)	D504

CAPACITORS

GRM188B11H102KA01D	C501, C504, C508, C511, C512, C515, C518, C521, C526, C575, C576, C577, C578, C580, C581
GRM188B11E104KA01D	C506
GRM188B11C473KA01D	C505, C507
TEESVA1V224M8R	C503
TEESVD1V106M12R	C509
TEESVA1V105M8R	C519
TEESVA21D105M8R	C520
EMVK350ADA4R7MD55G	C551, C558
UC232H0040D	C523
UC342H1500J	C570, C571
UC342H4700J	C544, C547
RM40-2H050D	C531, C535
RM40-2H270J	C538, C539, C540, C541
RM40-2H330J	C542, C543, C545, C546
RM40-2H050J	C585, C588
RM40-2H100J	C586, C587
MOS1/2C 391J	R551, R552
UP050CH471J/NAC	C532, C537

CAPACITORS, VARIABLE

TC-6C 10P	FVC502, FVC503, FVC504, FVC505, FVC506
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RESISTOR, VARIABLE

G32AT 103	FVR506
G32AT 104	FVR504, FVR505
G32AT 201	FVR501
G32AT 202	FVR502, FVR503
PT72-2A-70C-TE-470	PT501

COILS

PLE33ABYE102P□□bfree)	FC501, FC503
4A-S630	L504, L506
4A-S672	L505
4A-S592	L517
4A-S593	L518
4A-S702	L516

100W PA UNIT (CONT)

FERRITE IDUCTORS

BLM21B421SPT	BL519
FBMH3216HM501NT	BL508, BL510
FBMH4525HM102NT	BL509
FBA04VA900KF	BL505, BL506, BL507, BL511, BL512, BL513, BL514, BL520
FBA04VA600KD	BL515

RESISTORS

MCR03EZJH101	R509
MCR03EZJH102	R507
MCR03EZJH103	R504, R508, R521, R558
MCR03EZJH104	R512, R518, R522
MCR03EZJH151	R554
MCR03EZJH152	R539
MCR03EZJH181	R538
MCR03EZJH182	R501
MCR03EZJH184	R503
MCR03EZJH223	R527
MCR03EZJH333	R520
MCR03EZJH392	R516
MCR03EZJH471	R510, R531, R553, R556
MCR03EZJH472	R502, R526, R528, R529, R542
MCR03EZJH473	R513, R523, R530
MCR03EZJH474	R559
MCR03EZJH4R7	R532
MCR03EZJH562	R515, R517, R525
MCR03EZJH682	R511
MCR03EZJH753	R524
MCR03EZJH821	R514, R537
MOSX1 8.2Ω	R549
MOS1C 270Ω	R546, R548
MCR100JZHJ3R3	C527X2, C528X2

CONNECTORS

DIC-149-2P	JP501
DIC-128	SOCKET
SM551	CN501
4A-S599	CABLE1, CABLE2
4A-S668	PA UNIT CORD
4A-S588	CN502

MISCELLANEOUS

TEST PT., RCT	TP501, TP502
SE-2.6 X 8	SCREW
SE-3 X 5	SCREW
SE-3 X 8	SCREW
BD-3 X 5	SCREW
71PAU6Y/100W	PCB
ASB-E-308	SPACER
BSB-E-308	SPACER
4A10-3200	SHIELD PLATE
4A10-2200	GND SPRING
4A10-3124	TR HEAT SINK
4A10-3126	LPF CASE
SE-3 X 8	LPFSCREW
51LPF26-1	PCB

PA-CHASSIS

MISCELLANEOUS

4A10-2999	BOSS
3A10-0574	PA COVER
2A10-0211	PA FRAME
3A10-0596	PA SEAL
FOT-233-00	
SE-3 X 5	
SE-3 X 8	

PA PWR PCB (PAP)

MISCELLANEOUS

FBA04VA900KF	BL516, BL517
PLE33GTYE102P	FC502
JMI6LH-03CBT	CN503
4A-S600	CP501
4A-S601	
4A-S602	
51PAP8X	

EXT OPTION TERM

MISCELLANEOUS

MCR03EZJH 000	R601, R602, R603, R604
00-6200-520-330-000+	CN601
00-6200-516-230-000+	CN602
TMCSA1C105MTRF	C603
CDS3109-0126	CN604
CDS3125-0126	CN603
71DUB67-1	P.C.B

DC UNIT

MISCELLANEOUS

21-3B	CN701
SB20-02WS	CN702, CN703
42822-2	CP701
42117-2	CP702
4A-S603	CP703
20DL2C	D701
4A-S669	
1SR154-400	D702
2SD2153	Q701
51DC28-1	

PARTS LIST

91-4050/4100

REAR PANEL

	MISCELLANEOUS
2A10-0248	REAR PANEL
SN-2054#01C	60W FUSE HOLDER
F-7159	110W FUSE HOLDER
21-3A	DC CONNECTOR
BNC-J/NJ(F)	BNC CONNECTOR
BNC-PA-JJ	BNC CONNECTOR
FGBO 125V 20A	60W FUSE
MF01 NR 30A	110W FUSE
OV-3 X 8	21-3B
SEB-4 X 10	REAR PANEL
SE-2.6 X 8	BNC-PA-JJ
SE-3 X 10	BNC-J/NJ(F)
FW-3PAI	BNC-J/NJ(F)
NT-3PAI	BNC-J/NJ(F)

OVERALL ASSY

	MISCELLANEOUS
2A10-0207	SIDE(L)
2A10-0208	SIDE(R)
MOS01779-01	HEAT SINK
3A10-0572	CHASSIS
3A10-0579	PROTECTOR(L)
3A10-0578	PROTECTOR(R)
3A10-0571	BOTTM COVER
4A-S579	FLC601
4A-S580	FLC602
FOT-233-00	SPRING
BDB-3 X 5	BOTTM COVER
OV-3 X 8	21-3B
SEB-4 X 10	CHASSIS
SEB-4 X 15	HANDLE
OVB-4 X 8	FRONT
SE-3 X 8	(V)CHASSIS

REPLACEMENT PARTS ORDERING

To speed delivery and avoid errors, have the following information ready when ordering replacement parts:

1. Identification of the part. The best identification is the Midland Part Number. Otherwise you will need to know the Model and Serial numbers of the equipment in which the part is used, a part description and the schematic reference designator. You may also need to return the old part as a sample.
2. Quantity desired.
3. Ship-to-address and billing address (if different).

Mail or Fax your order to:

Parts Department
Midland Radio Corporation
5900 Parretta Drive
Kansas City, MO 64120
Voice: 816-241-8500
FAX: 816-241-5713