

Service Manual

Telephone Equipment

900MHz Cordless
Answering System

KX-TCM938D-B

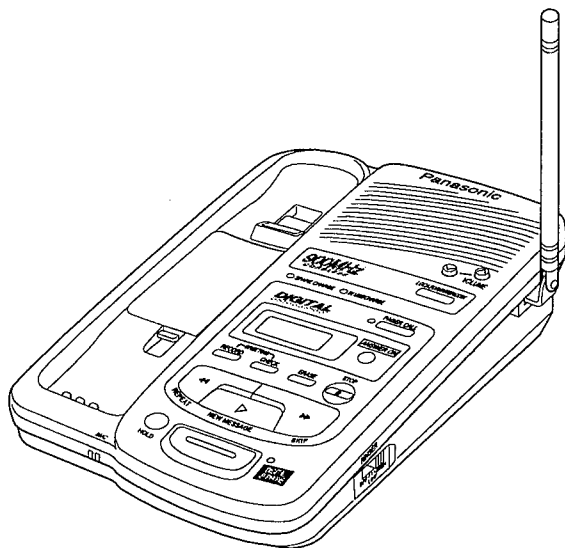
(for U.S.A.)

Please file and use this manual together with the Service Manual for Model KX-TCM940-B order No. KM49609089C1.
This Service Manual indicates the main differences between: Original KX-TCM940-B and KX-TCM938D-B.

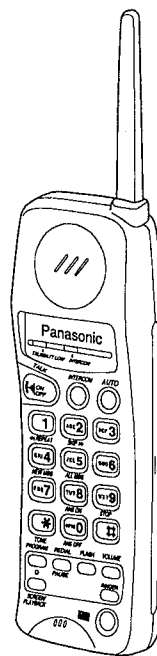
WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

The model KX-TCM938D-B has been changed the RF unit of base unit and P.C.Board of portable handset from model KX-TCM940-B.



(Base Unit)

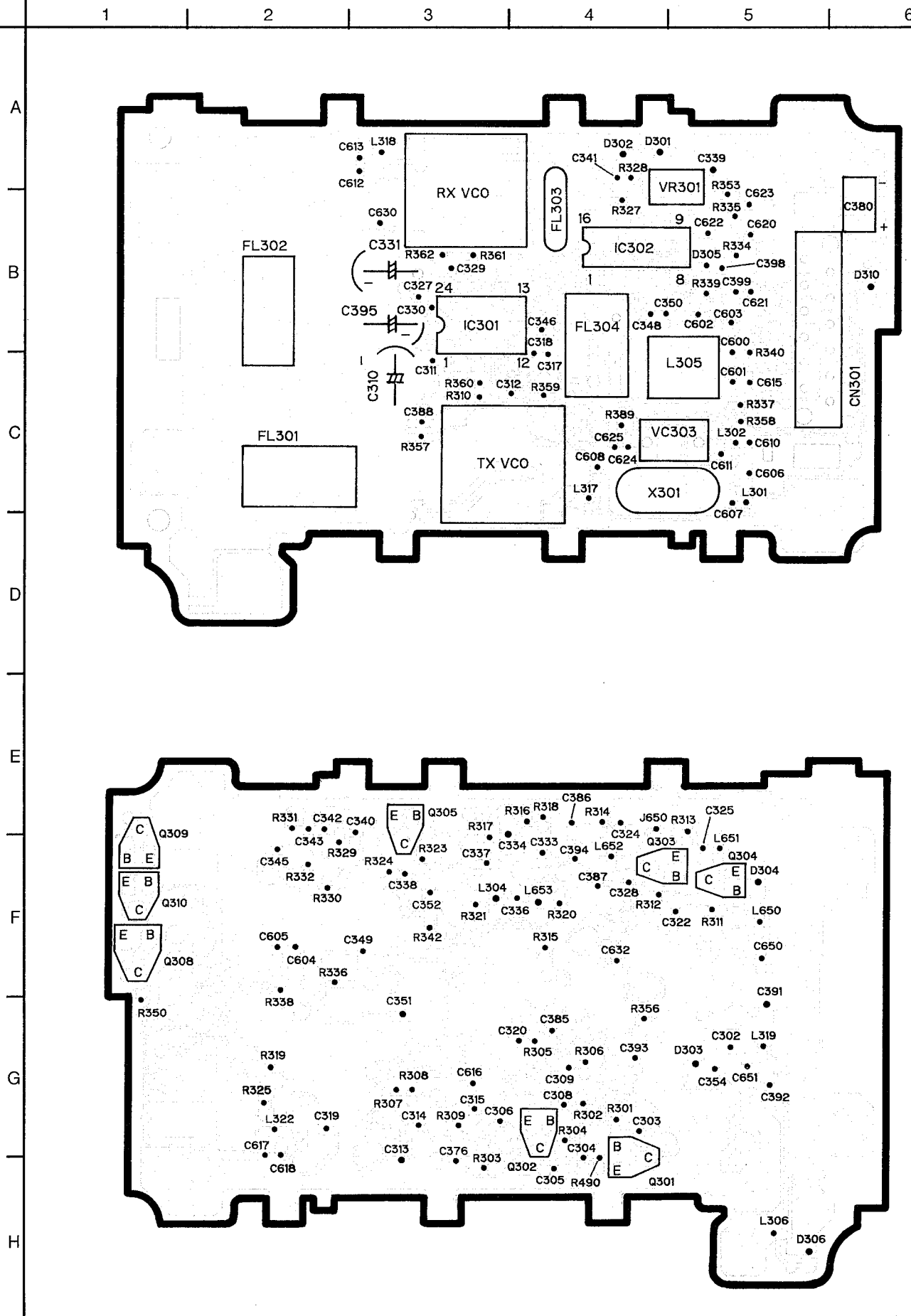


(Portable Handset)

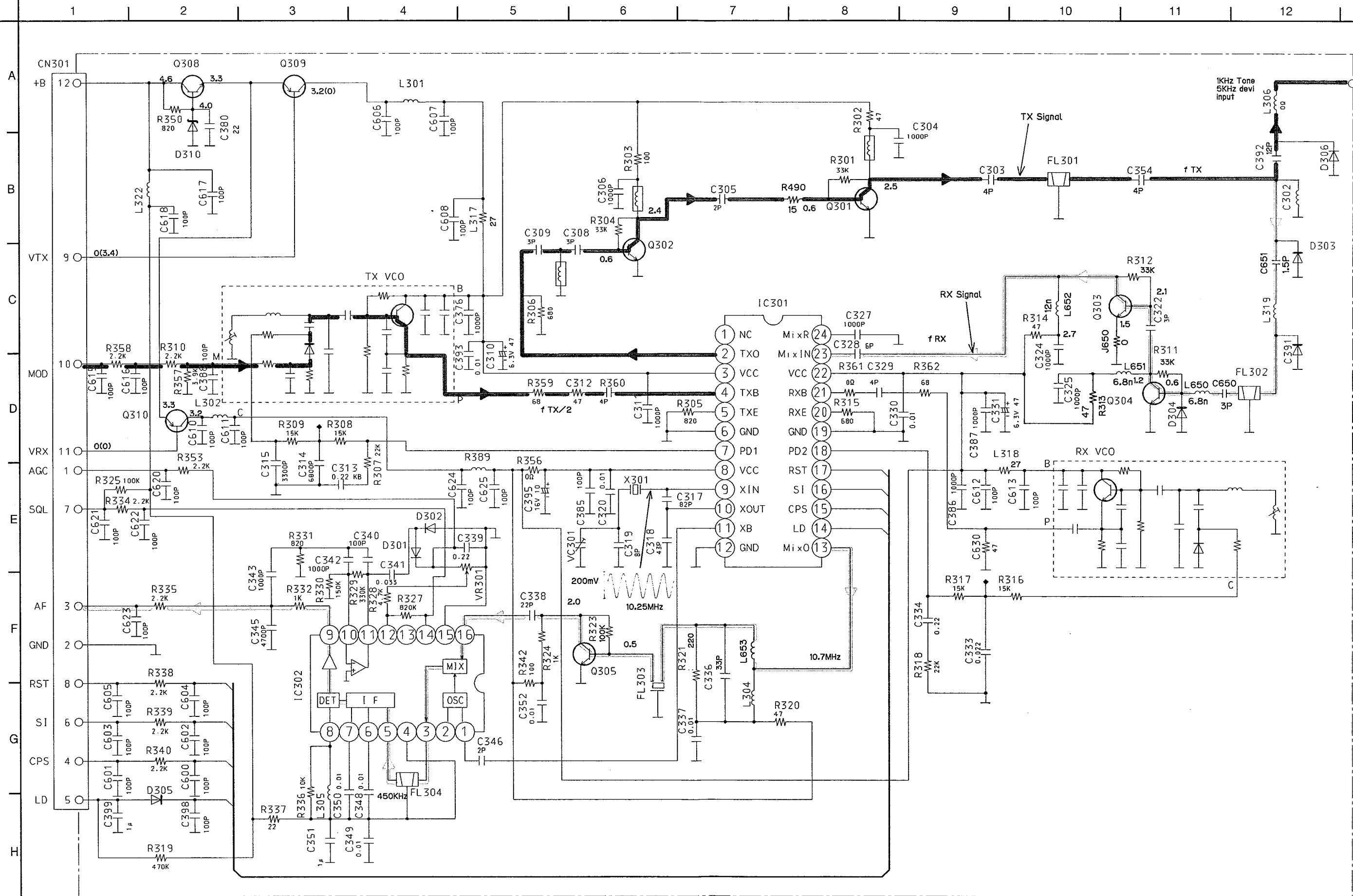
Panasonic

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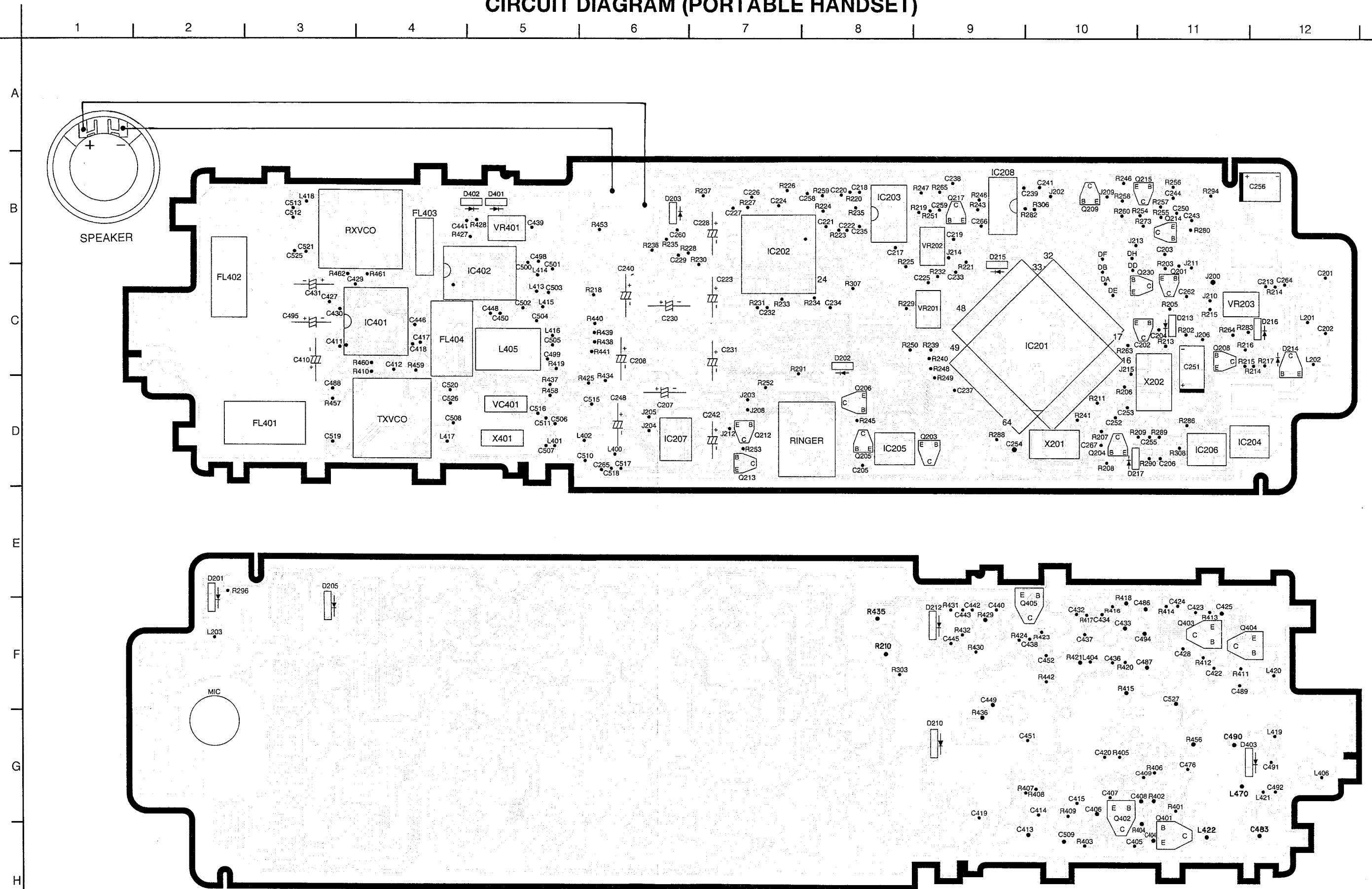
CIRCUIT BOARD (BASE UNIT) [RF UNIT]



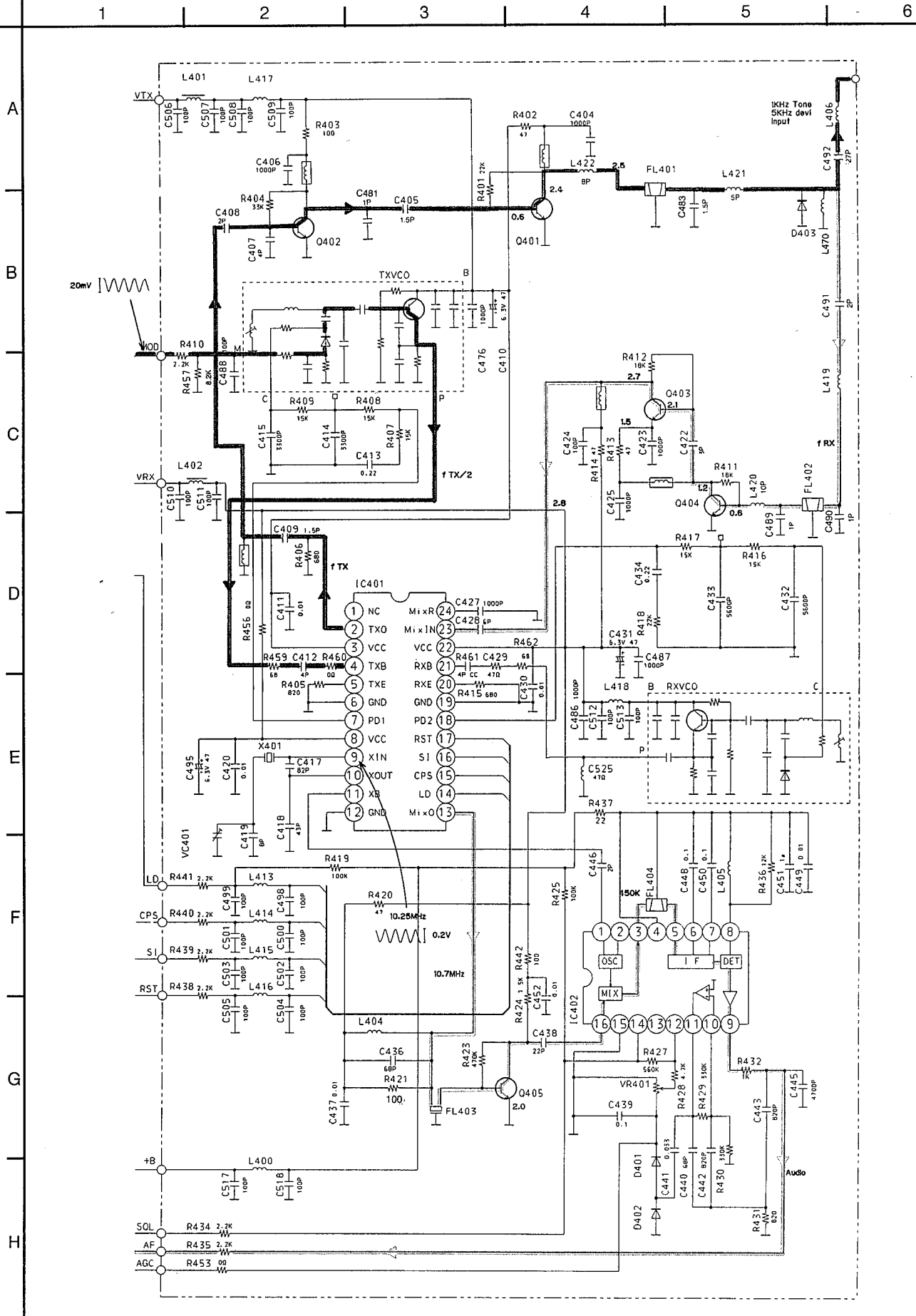
SCHEMATIC DIAGRAM (BASE UNIT) [RF UNIT]



CIRCUIT DIAGRAM (PORTABLE HANDSET)



SCHEMATIC DIAGRAM (PORTABLE HANDSET)



KX-TCM938D-B
■ PARTS COMPARISON TABLE (Change from original pages 73~82)

Ref. No.	Part No.		Part Names & Descriptions	Pcs/ Set	Remarks
	KX-TCM940-B	KX-TCM938D-B			
Base Unit					
2	PQYF10101V1	PQYF10101R1	Lower Cabinet	1	
26	-----	PQGT12832Z	Name Plate (for Lower Cabinet)	1	Addition
PCB1	PQWPTCM940BH	PQWPCM938DBH	P.C.Board Ass'y (RTL)	1	
IC201	PQVI4639RA50	PQVI4639RA76	IC	1	
IC202	PQVI93LC46XI	-----	IC	0	Deletion
DH	1SS119	-----	Diode (Si)	0	Deletion
L101,102	PQLQXF1R5K	-----	Coil	0	Deletion
C101	PQCUV1H103KB	PQCUV1H821JC	820PF	1	
Portable Handset					
101	PQYM10063V3	PQYM10063J3	Front Cabinet	1	
108	PQSX10045Y	PQSX10045T	Keyboard Switch	1	
117	-----	PQGT12833Z	Name Plate (for Front Cabinet)	1	Addition
PCB100	PQWPTCM940BR	PQWPCM938DBR	P.C.Board Ass'y (RTL)	1	
IC201	MN151233KZAC	MN151233KZAD	IC	1	
D206~209	PQVDPY1112H	-----	LED	0	Deletion
L406	MQLRE2N7DF	MQLRE1N2DF	Coil	1	
L419	MQLRE6N8JF	MQLRE12N9JF	Coil	1	
L420	MQLRE10N9JF	ECUV1H100DCV	Capacitor, 10PF	1	
L421	MQLRE15N9JF	ECUV1H050CCV	Capacitor, 5PF	1	
L422	MQLRW6N8JF	ECUV1H080DCV	Capacitor, 8PF	1	
L470	-----	MQLRE3N9JF	Coil	1	Addition
FL401	PQVSM927C11L	PQVSM927F11L	Saw Filter	1	
FL402	PQVS705CF903	PQVSM903F11L	Saw Filter	1	
R253	ERJ3GEYJ221	ERJ3GEYJ181	Resistor, 180Ω	1	
R264	ERJ3GEYJ101	ERJ3GEYJ100	Resistor, 10Ω	1	
R297~300	ERJ3GEYJ331	-----	Resistor, 330Ω	0	Deletion
C402, 482	ECUV1H0R5CCV	-----	Capacitor, 0.5PF	0	Deletion
C405	ECUV1H020CCV	ECUV1H1R5CCV	Capacitor, 1.5PF	1	
C483	-----	ECUV1H1R5CCV	Capacitor, 1.5PF	1	Addition
C490	-----	ECUV1H010CCV	Capacitor, 1PF	1	Addition
C491	ECUV1H030CCV	ECUV1H020CCV	Capacitor, 2PF	1	
C492	ECUV1H102KBV	ECUV1H270JCV	Capacitor, 27PF	1	
Accessories and Packing Materials					
A8	PQQW11677Z	PQQW11800Z	Quick Reference Guide (English)	1	
A8	PQQW11678Z	PQQW11801Z	Quick Reference Guide (Spanish)	1	
A9	PQQX11658Z	PQQX11782Z	Instruction Book	1	
P6	PQPK12180Z	PQPK12323Z	Gift Box	1	

REPLACEMENT PARTS LIST

BASE UNIT (RF UNIT)

Note:

1. RTL (Retention Time Limited)

The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention.

After the end of this period, the assembly will no longer be available.

2. Important safety notice.

Components identified by a Δ mark special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

3. The S mark indicates service standard parts and may differ from production parts.

4. RESISTORS & CAPACITORS

Unless otherwise specified.

All resistors are in ohms (Ω) K=1000 Ω , M=1000K Ω

All capacitors are in MICRO FARADS (μ F) P= μ F

*Type & Wattage of Resistor

Type

ERC:Solid	ERX:Metal Film	PQ4R:Carbon
ERD:Carbon	ERG:Metal Oxide	ERS:Fusible Resistor
PQRD:Carbon	ER0:Metal Film	ERF:Cement Resistor

Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W
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*Type & Voltage of Capacitor

Type

ECFD:Semi-Conductor	ECQD,ECKD,ECBT,PQCB : Ceramic
ECQS:Styrol	ECQE,ECQV,ECQG : Polyester
PQCUV:Chip	ECEA,ECSZ : Electrolytic
ECQMS:Mica	ECQP : Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H: 50V	05: 50V	0F:3.15V	0J :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		0J:6.3V	1E,25:25V	2A :100V

Ref. No.	Part No.	Part Name & Description	Pcs/Set
D310	MA8047	DIODE(SI)	1
C391	MA110	DIODE(SI)	1
		(COILS)	
L302	PQLQR1RM601	COIL	1
L304	PQLQR2N3R3KT	COIL	1
L305	PQLI2B201	COIL	1
L306	MLRE10NJF	COIL	1
L319	MLRE12NJF	COIL	1
L322	PQLQR1RM601	COIL	1
L650	MLRE6N8JF	COIL	1
L651	MLRE6N8JF	COIL	1
L652	MLRE12nJF	COIL	1
L653	PQLQR2N3R3K	COIL	1
R389	PQLQR1RM601	COIL	1
C302	MLRE5N6JF	COIL	1
		(SAW FILTERS)	
FL301	PQVSM903F11L	SAW FILTER	1
FL302	PQVSM927F11L	SAW FILTER	1
FL303	PQVFSFE107MJ	SAW FILTER	1
FL304	PQVFCFH450B1	SAW FILTER	1
		(OTHERS)	
RX VCO	PQV030Z	CRYSTAL OSCILLATOR	1
TX VCO	PQV031Z	CRYSTAL OSCILLATOR	1
VC301	ECRLA010A53R	TRIMMER CAPACITOR	1
VR301	EVN5ESX50B54	VARIABLE RESISTOR	1
X301	PQVCJ1025N0Z	CRYSTAL OSCILLATOR	1
CN301	PQJS12A99Z	CONNECTOR	1
		(RESISTORS)	
R301	ERJ3GEYJ333	33K	1
R302	ERJ3GEYJ470	47	1
R303	ERJ3GEYJ101	100	1
R304	ERJ3GEYJ333	33K	1
R305	ERJ3GEYJ821	820	1
R306	ERJ3GEYJ681	680	1
R307	ERJ3GEYJ223	22K	1
R308	ERJ3GEYJ153	15K	1
R309	ERJ3GEYJ153	15K	1
R310	ERJ3GEYJ222	2.2K	1
R311	ERJ3GEYJ333	33K	1
R312	ERJ3GEYJ333	33K	1
R313	ERJ3GEYJ470	47	1
R314	ERJ3GEYJ470	47	1
R315	ERJ3GEYJ681	680	1
R316	ERJ3GEYJ153	15K	1
R317	ERJ3GEYJ153	15K	1
R318	ERJ3GEYJ223	22K	1
R319	ERJ3GEYJ474	470K	1
R320	ERJ3GEYJ470	47	1
R321	ERJ3GEYJ221	220	1
R323	ERJ3GEYJ104	100K	1
R324	ERJ3GEYJ102	1K	1
R325	ERJ3GEYJ104	100K	1
R327	ERJ3GEYJ824	820K	1
R328	ERJ3GEYJ472	4.7K	1
R329	ERJ3GEYJ334	330K	1
R330	ERJ3GEYJ154	150K	1
R331	ERJ3GEYJ821	820	1
R332	ERJ3GEYJ102	1K	1
R334	ERJ3GEYJ222	2.2K	1
R335	ERJ3GEYJ222	2.2K	1
R336	ERJ3GEYJ103	10K	1
R337	ERJ3GEYJ220	22	1
R338	ERJ3GEYJ222	2.2K	1

Ref. No.	Part No.	Part Name & Description	Pcs/Set
RF UNIT PARTS			
PCB3	PQLP10197M	P.C.BOARD ASS'Y (RTL)	1
		(ICS)	
IC301	PQVIM64084AG	IC	1
IC302	PQVIDBL5018V	IC	1
		(TRANSISTORS)	
Q301	2SC4571R77	TRANSISTOR(SI)	1
Q302	2SC4571R77	TRANSISTOR(SI)	1
Q303	2SC4226R24	TRANSISTOR(SI)	1
Q304	2SC4226R24	TRANSISTOR(SI)	1
Q305	2SC4099NT106	TRANSISTOR(SI)	1
Q308	2SD601A	TRANSISTOR(SI)	1
Q309	PQVTD123J106	TRANSISTOR(SI)	1
Q310	PQVTD123J106	TRANSISTOR(SI)	1
		(DIODES)	
D301	PQVDRB751V4	DIODE(SI)	1
D302	PQVDRB751V4	DIODE(SI)	1
D303	MA110	DIODE(SI)	1
D304	MA110	DIODE(SI)	1
D305	MA2S111	DIODE(SI)	1
D306	MA110	DIODE(SI)	1

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Ref. No.	Part No.	Part Name & Description	Pcs/Set	Ref. No.	Part No.	Value	Pcs/Set
R339	ERJ3GEYJ222	2.2K	1	C392	ECUV1H120JCV	12P	1
R340	ERJ3GEYJ222	2.2K	1	C393	ECUV1H103KBV	0.01	1
R342	ERJ3GEYJ101	100	1	C395	ECEA1CKS100	10	S 1
R350	ERJ3GEYJ821	820	1	C398	ECUV1H101JCV	100P	1
R353	ERJ3GEYJ222	2.2K	1	C399	ECUV1A105ZFB	1	1
R356	ERJ3GEY0R00	0	1	C600	ECUV1H101JCV	100P	1
R357	ERJ3GEYJ392	3.9K	1	C601	ECUV1H101JCV	100P	1
R358	ERJ3GEYJ222	2.2K	1	C602	ECUV1H101JCV	100P	1
R359	ERJ3GEYJ680	68	1	C603	ECUV1H101JCV	100P	1
R360	ECUV1H040CCV	4P	1	C604	ECUV1H101JCV	100P	1
R361	ERJ3GEY0R00	0	1	C605	ECUV1H101JCV	100P	1
R362	ERJ3GEYJ680	68	1	C606	ECUV1H101JCV	100P	1
R490	ERJ3GEYJ150	15	1	C607	ECUV1H101JCV	100P	1
L317	ERJ3GEYJ270	27	1	C608	ECUV1H101JCV	100P	1
L318	ERJ3GEYJ270	27	1	C610	ECUV1H101JCV	100P	1
C312	ERJ3GEYJ470	47	1	C611	ECUV1H101JCV	100P	1
C394	ERJ3GEY0R00	0	1	C612	ECUV1H101JCV	100P	1
C630	ERJ3GEYJ470	47	1	C613	ECUV1H101JCV	100P	1
C632	ERJ3GEY0R00	0	1	C615	ECUV1H101JCV	100P	1
J650	ERJ3GEY0R00	0	1	C616	ECUV1H101JCV	100P	1
		(CAPACITORS)		C617	ECUV1H101JCV	100P	1
C303	ECUV1H040CCV	4P	1	C618	ECUV1H101JCV	100P	1
C304	ECUV1H102KBV	0.001	1	C620	ECUV1H101JCV	100P	1
C305	ECUV1H020CCV	2P	1	C621	ECUV1H101JCV	100P	1
C306	ECUV1H102KBV	0.001	1	C622	ECUV1H101JCV	100P	1
C308	ECUV1H030CCV	3P	1	C623	ECUV1H101JCV	100P	1
C309	ECUV1H030CCV	3P	1	C624	ECUV1H101JCV	100P	1
C310	ECEA1CKS470	47	S 1	C625	ECUV1H101JCV	100P	1
C311	ECUV1H102KBV	0.001	1	C650	ECUV1H030CCV	3P	1
C313	PQCUV1C224KB	0.22	1	C651	ECUV1H1R5CCV	1.5P	1
C314	ECUV1H682KBV	0.0068	1				
C315	ECUV1H332KBV	0.0033	1				
C317	ECUV1H820JCV	82P	1				
C318	ECUV1H430JCV	43P	1				
C319	ECUV1H080DCV	8P	1				
C320	ECUV1H103KBV	0.01	1				
C322	ECUV1H030CCV	3P	1				
C324	ECUV1H102KBV	0.001	1				
C325	ECUV1H102KBV	0.001	1				
C327	ECUV1H102KBV	0.001	1				
C328	ECUV1H060DCV	6P	1				
C329	ECUV1H040CCV	4P	1				
C330	ECUV1H103KBV	0.01	1				
C331	ECEA1CKS470	47	S 1				
C333	ECUV1H223KBV	0.022	S 1				
C334	PQCUV1C224KB	0.22	1				
C336	ECUV1H330JCV	33P	1				
C337	ECUV1H103KBV	0.01	1				
C338	ECUV1H220JCV	22P	1				
C339	PQCUV1C224KB	0.22	S 1				
C340	ECUV1H101JCV	100P	1				
C341	ECUV1H333KDV	0.033	S 1				
C342	ECUV1H102KBV	0.001	1				
C343	ECUV1H102KBV	0.001	1				
C345	ECUV1H472KBV	0.0047	1				
C346	ECUV1H020CCV	2P	1				
C348	ECUV1H103KBV	0.01	1				
C349	ECUV1H103KBV	0.01	1				
C350	ECUV1H103KBV	0.01	1				
C351	PQCUV1C105ZF	1	1				
C352	ECUV1H103KBV	0.01	1				
C354	ECUV1H040CCV	4P	1				
C376	ECUV1H102KBV	0.001	1				
C380	ECST0JX226	22	1				
C383	ECUV1H020CCV	2P	1				
C385	ECUV1H101JCV	100P	1				
C386	ECUV1H102KBV	0.001	1				
C387	ECUV1H102KBV	0.001	1				
C388	ECUV1H101JCV	100P	1				