

Service Manual

Telephone Equipment

900MHz Cordless
Answering System

KX-TCM937-B

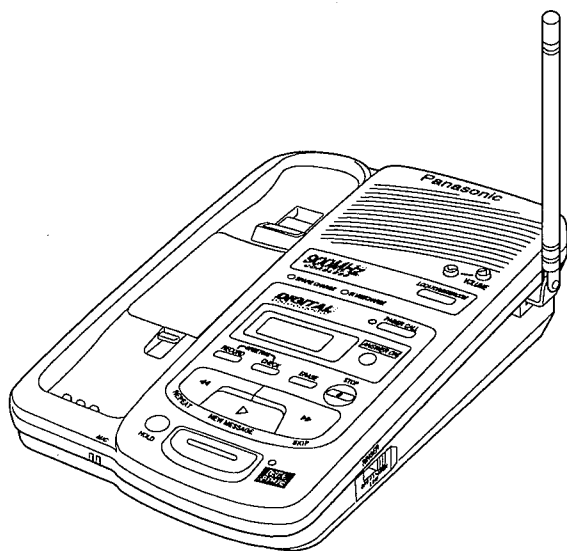
(for U.S.A.)

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-TCM937-B.

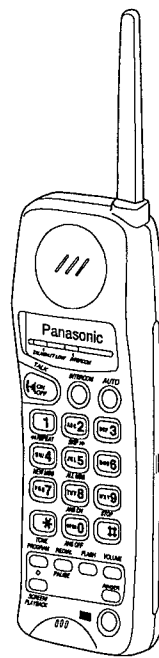
WARNING

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-TCM937-B has been changed the RF unit of base unit and P.C.Board of portable handset from model KX-TCM940-B.



(Base Unit)

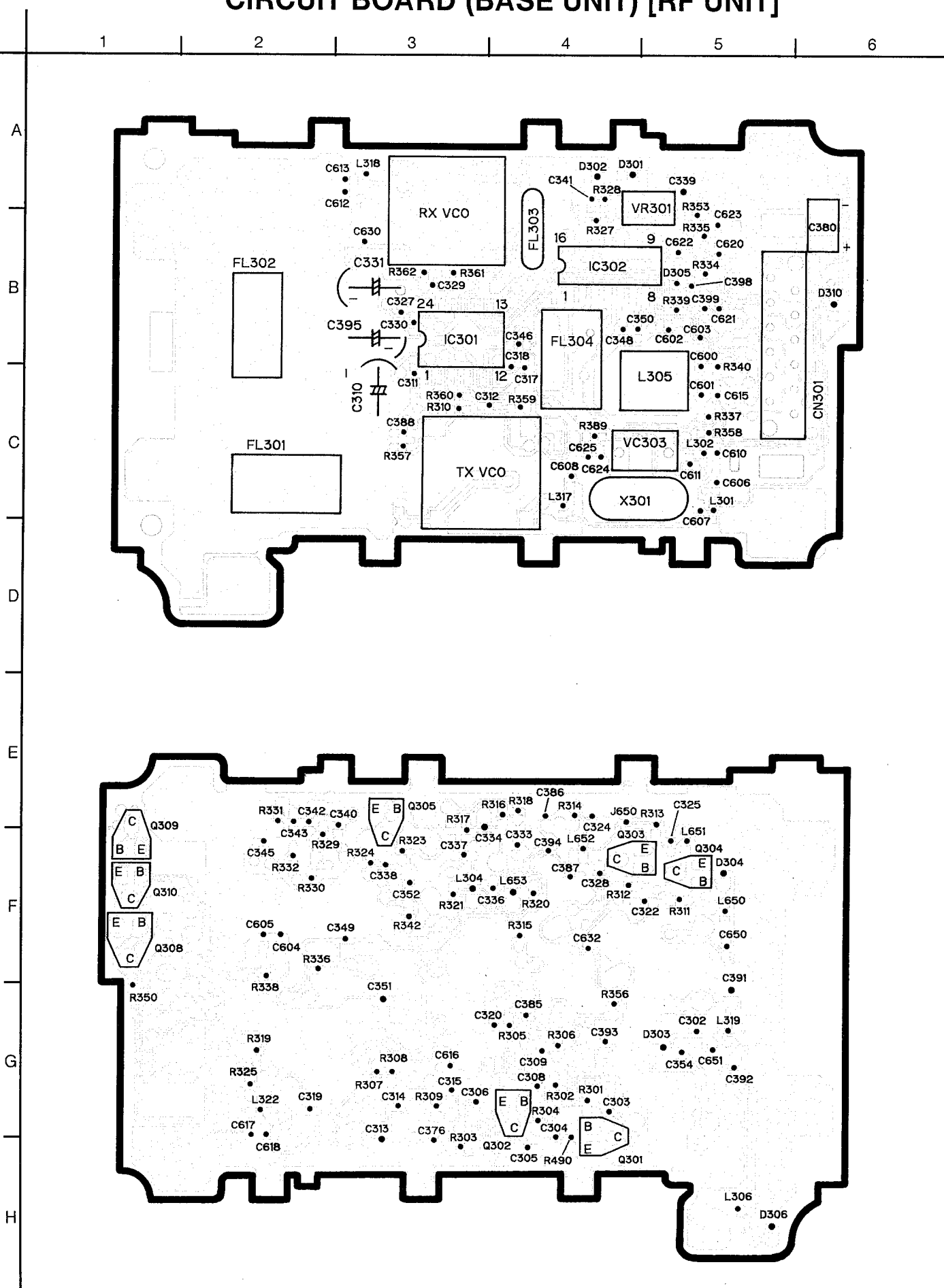


(Portable Handset)

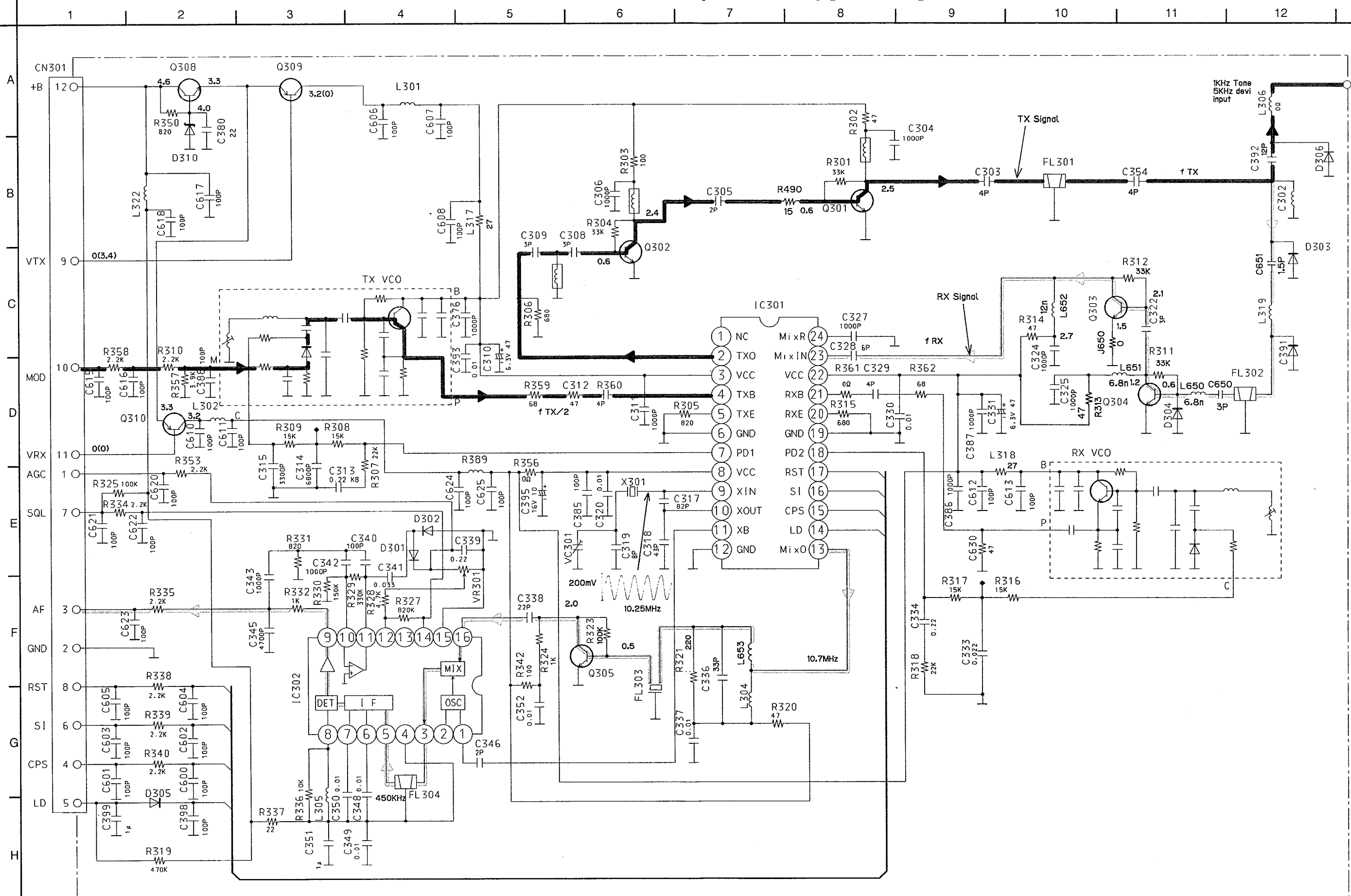
Panasonic

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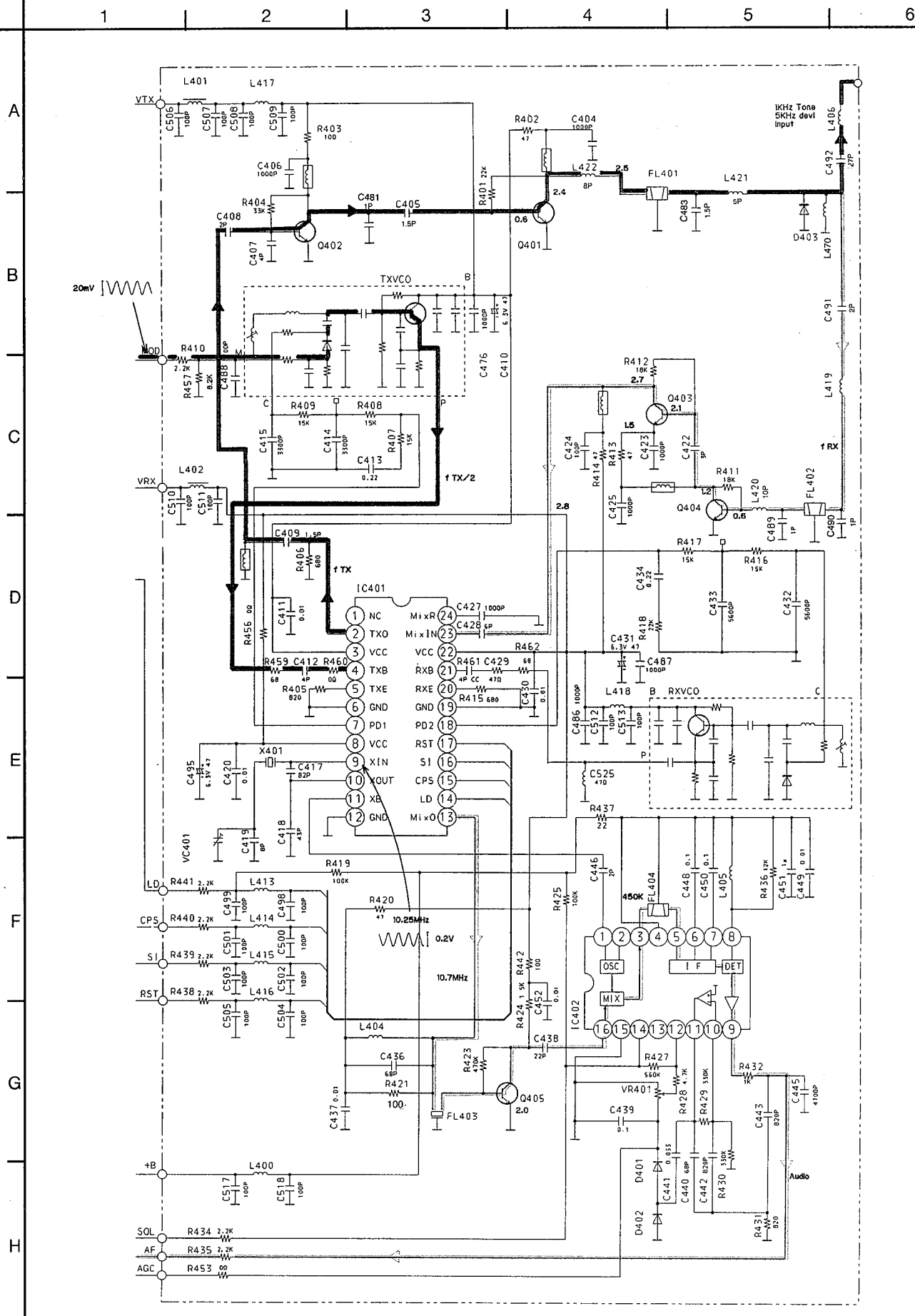
CIRCUIT BOARD (BASE UNIT) [RF UNIT]



SCHEMATIC DIAGRAM (BASE UNIT) [RF UNIT]



SCHEMATIC DIAGRAM (PORTABLE HANDSET)



KX-TCM937-B**■ PARTS COMPARISON TABLE (Change from original pages 73~82)**

| Ref. No. | Part No. | | Part Names & Descriptions | Pcs/ Set | Remarks |
|-----------------------------------|--------------|--------------|---------------------------------|-------------|----------|
| | KX-TCM940-B | KX-TCM937-B | | | |
| Base Unit | | | | | |
| 2 | PQYF10101V1 | PQYF10101R1 | Lower Cabinet | 1 | |
| 26 | ----- | PQGT12873Z | Name Plate (for Lower Cabinet) | 1 | Addition |
| 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 | ----- | PQGT12874Z | Name Plate (for Front Cabinet) | 1 | Addition |
| PCB100 | PQWPTCM940BR | PQWPTCM937BR | 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 | MQLRE12NJF | Coil | 1 | |
| L420 | MQLRE10NJF | ECUV1H100DCV | Capacitor, 10PF | 1 | |
| L421 | MQLRE15NJF | 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 | PQQW11827Z | Quick Reference Guide (English) | 1 | |
| A8 | PQQW11678Z | PQQW11828Z | Quick Reference Guide (Spanish) | 1 | |
| A9 | PQQX11658Z | PQQX11800Z | Instruction Book | 1 | |
| P6 | PQPK12180Z | PQPK12361Z | 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 |
|------------|------------|---------|------|------|------|

*Type & Voltage of Capacitor

Type

| | |
|---------------------|--------------------------------|
| ECFD:Semi-Conductor | ECCD,ECKD,ECBT,PQCBC : Ceramic |
| EQQS:Styrol | ECQE,ECQV,ECQG : Polyester |
| PQCUV:Chip | ECEA,ECSZ : Electrolytic |
| ECQMS:Mica | ECQP : Polypropylene |

Voltage

| ECQ Type | ECQG 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 |
|---------------|--------------|-------------------------|---------|
| 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) | S 1 |
| Q302 | 2SC4571R77 | TRANSISTOR(SI) | S 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 |

| 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 | MQLRE10NJF | COIL | 1 |
| L319 | MQLRE12NJF | COIL | 1 |
| L322 | PQLQR1RM601 | COIL | 1 |
| L650 | MQLRE6N8JF | COIL | 1 |
| L651 | MQLRE6N8JF | COIL | 1 |
| L652 | MQLRE12nJF | COIL | 1 |
| L653 | PQLQR2N3R3K | COIL | 1 |
| R389 | PQLQR1RM601 | COIL | 1 |
| C302 | MQLRE5N6JF | COIL | 1 |
| | | (SAW FILTERS) | |
| FL301 | PQVSM903F11L | SAW FILTER | 1 |
| FL302 | PQVSM927F11L | SAW FILTER | 1 |
| FL303 | PQVFSFE107MJ | SAW FILTER | S 1 |
| FL304 | PQVFCFH450B1 | SAW FILTER | 1 |
| | | (OTHERS) | |
| RX VCO | PQV030Z | CRYSTAL OSCILLATOR | 1 |
| TX VCO | PQV031Z | CRYSTAL OSCILLATOR | 1 |
| VC301 | EQRLA010A53R | 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 |

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| Ref. No. | Part No. | Part Name & Description | Pcs/Set |
|--------------|--------------|-------------------------|---------|
| R339 | ERJ3GEYJ222 | 2.2K | 1 |
| R340 | ERJ3GEYJ222 | 2.2K | 1 |
| R342 | ERJ3GEYJ101 | 100 | 1 |
| R350 | ERJ3GEYJ821 | 820 | 1 |
| R353 | ERJ3GEYJ222 | 2.2K | 1 |
| R356 | ERJ3GEY0R00 | 0 | 1 |
| R357 | ERJ3GEYJ392 | 3.9K | 1 |
| R358 | ERJ3GEYJ222 | 2.2K | 1 |
| R359 | ERJ3GEYJ680 | 68 | 1 |
| R360 | ECUV1H040CCV | 4P | 1 |
| R361 | ERJ3GEY0R00 | 0 | 1 |
| R362 | ERJ3GEYJ680 | 68 | 1 |
| R490 | ERJ3GEYJ150 | 15 | 1 |
| L317 | ERJ3GEYJ270 | 27 | 1 |
| L318 | ERJ3GEYJ270 | 27 | 1 |
| C312 | ERJ3GEYJ470 | 47 | 1 |
| C394 | ERJ3GEY0R00 | 0 | 1 |
| C630 | ERJ3GEYJ470 | 47 | 1 |
| C632 | ERJ3GEY0R00 | 0 | 1 |
| J650 | ERJ3GEY0R00 | 0 | 1 |
| (CAPACITORS) | | | |
| C303 | ECUV1H040CCV | 4P | 1 |
| C304 | ECUV1H102KBV | 0.001 | 1 |
| C305 | ECUV1H020CCV | 2P | 1 |
| C306 | ECUV1H102KBV | 0.001 | 1 |
| C308 | ECUV1H030CCV | 3P | 1 |
| C309 | ECUV1H030CCV | 3P | 1 |
| C310 | ECEA1CKS470 | 47 | 1 |
| C311 | ECUV1H102KBV | 0.001 | 1 |
| C313 | PQCUV1C224KB | 0.22 | 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 | 1 |
| C333 | ECUV1H223KBV | 0.022 | 1 |
| C334 | PQCUV1C224KB | 0.22 | 1 |
| C336 | ECUV1H330JCV | 33P | 1 |
| C337 | ECUV1H103KBV | 0.01 | 1 |
| C338 | ECUV1H220JCV | 22P | 1 |
| C339 | PQCUV1C224KB | 0.22 | 1 |
| C340 | ECUV1H101JCV | 100P | 1 |
| C341 | ECUV1H333KDV | 0.033 | 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 |

| Ref. No. | Part No. | Value | Pcs/Set |
|----------|--------------|-------|---------|
| C392 | ECUV1H120JCV | 12P | 1 |
| C393 | ECUV1H103KBV | 0.01 | 1 |
| C395 | ECEA1CKS100 | 10 | 1 |
| C398 | ECUV1H101JCV | 100P | 1 |
| C399 | ECUV1A105ZFF | 1 | 1 |
| C600 | ECUV1H101JCV | 100P | 1 |
| C601 | ECUV1H101JCV | 100P | 1 |
| C602 | ECUV1H101JCV | 100P | 1 |
| C603 | ECUV1H101JCV | 100P | 1 |
| C604 | ECUV1H101JCV | 100P | 1 |
| C605 | ECUV1H101JCV | 100P | 1 |
| C606 | ECUV1H101JCV | 100P | 1 |
| C607 | ECUV1H101JCV | 100P | 1 |
| C608 | ECUV1H101JCV | 100P | 1 |
| C610 | ECUV1H101JCV | 100P | 1 |
| C611 | ECUV1H101JCV | 100P | 1 |
| C612 | ECUV1H101JCV | 100P | 1 |
| C613 | ECUV1H101JCV | 100P | 1 |
| C615 | ECUV1H101JCV | 100P | 1 |
| C616 | ECUV1H101JCV | 100P | 1 |
| C617 | ECUV1H101JCV | 100P | 1 |
| C618 | ECUV1H101JCV | 100P | 1 |
| C620 | ECUV1H101JCV | 100P | 1 |
| C621 | ECUV1H101JCV | 100P | 1 |
| C622 | ECUV1H101JCV | 100P | 1 |
| C623 | ECUV1H101JCV | 100P | 1 |
| C624 | ECUV1H101JCV | 100P | 1 |
| C625 | ECUV1H101JCV | 100P | 1 |
| C650 | ECUV1H030CCV | 3P | 1 |
| C651 | ECUV1H1R5CCV | 1.5P | 1 |