



# Trouble Shooting Guide R600, Electrical

by Toko (toko@gsm-free.org)

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# 1 Explanations

For Component replacement refer to sparepart list electrical  
The Go / No Go test has to be performed with a mounted phone.

## 1.1 Service functions in the software

In the software of the phone there is a built in service function that allows testing some of the functions of the phone.

They are as follows:

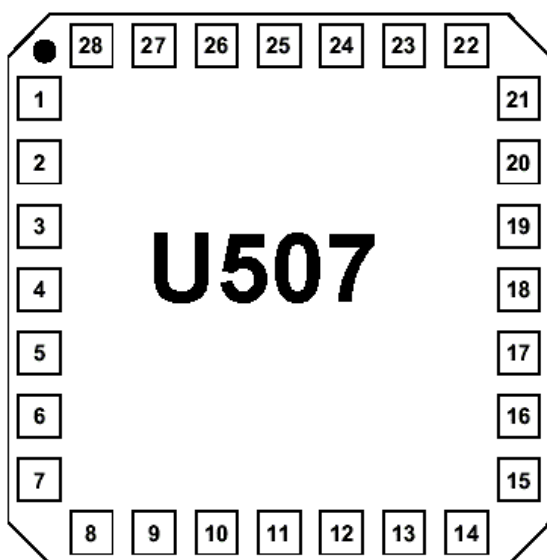
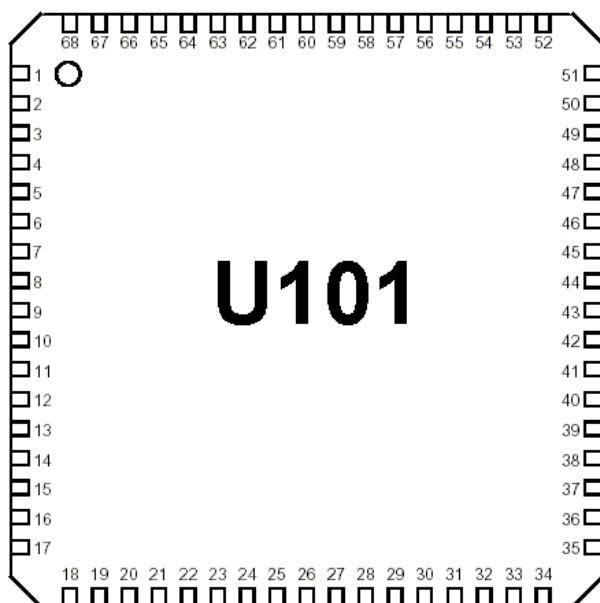
1. **Service info**
2. **Service settings**
3. **Service tests**
4. **Text labels**

To use the function press the following combination, using the navigation button and the keyboard:

> \* < < \* < \*



## 2 Pin Configuration U101 & U507



### 3 Network Problems

- Check that the Antenna Units flex film is properly fitted and undamaged. (Fig2.1) Also check the Antenna Units connector pins. Replace the Antenna Unit if it's necessary. Also check the PCB pads, if necessary clean them.
- Check if the External Antenna Connector (Fig2.2) is incorrectly soldered, mechanically damaged, dirty, deformed or oxidized. Measure the resistance through the Antenna Connector; it should be less than  $1\Omega$ . Replace Antenna Connector if it's necessary.
- Replace the U600 if there is no TX power signal.(Fig2.3)
- Replace the U507 if there is no 216 Hz digital signal output at pin 23. (Fig2.4)
- If the U507 has been replaced beforehand and the fault still remains, please replace U504. (Fig2.5)

If fault still remains, send the unit to higher level according to local company directives.

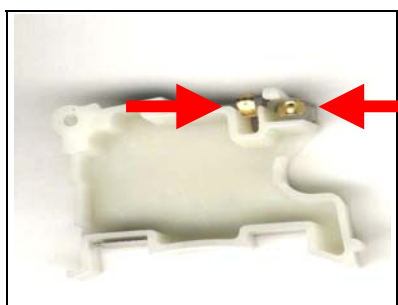


Fig. 2.1

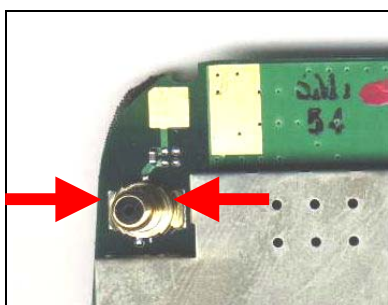


Fig. 2.2

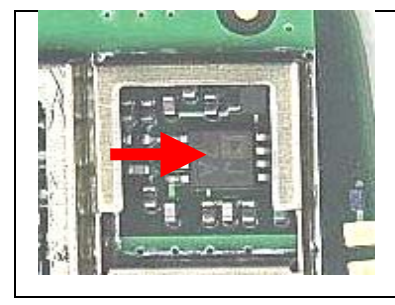


Fig. 2.3

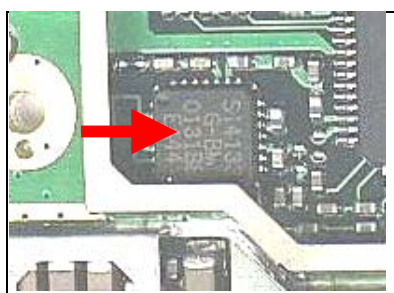


Fig. 2.4

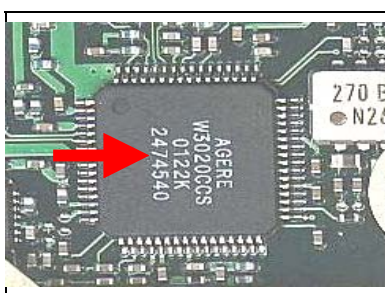


Fig. 2.5

## 4 On/Off Problem

- Check the output of Regulator U101, normally the voltage Pin13=1.8V, Pin15=2.85V (Fig. 3.1).  
Replace it if there is no voltage output, or voltage is abnormal on Pin13 and Pin 15.
- Check the voltage of two extremities on capacitor C119 (Fig. 3.2).  
Replace the C119 if the voltage is lower than 2.825 V.

If fault still remains, send the unit to higher level according to local company directives

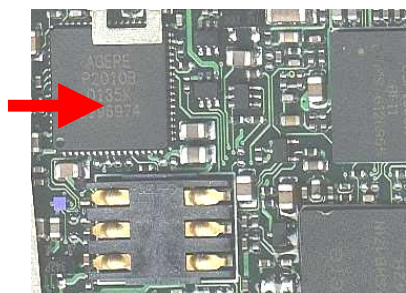


Fig. 3.1

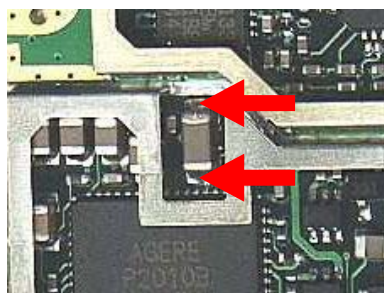


Fig. 3.2

## 5 Display / Illumination Problems

- Check the LCD connector if it's (Fig. 4.1) incorrectly soldered, mechanically damaged, dirty or oxidized.  
Replace it if necessary.
- If the LCD connector is ok, replace the LCD Module (Fig 4.2)
- Check the capacitors C411, C412, C413, C414 and C422 (Fig 4.3).  
Replace the capacitor if its impedance of two extremities is lower than 2 M $\Omega$   
Please note that all these capacitors (C411~C414) are with same specification.

If fault still remains, send the unit to higher level according to local company directives.

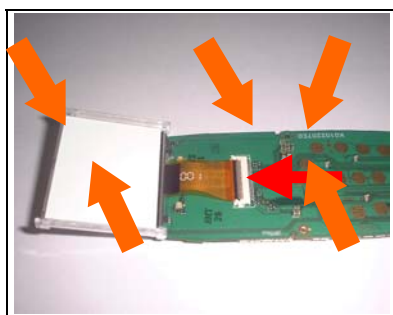


Fig. 4.1



Fig. 4.2

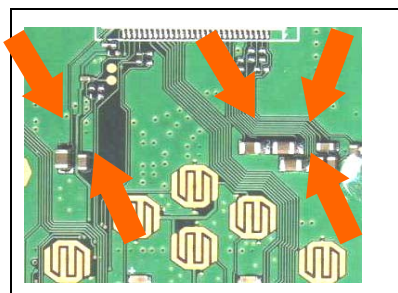


Fig. 4.3

## 6 Charging Problems

- Check the System Connector (Fig. 5.1) if it's incorrectly soldered, mechanically damaged, dirty or oxidized. Replace the System Connector (Fig 5.2) if it's necessary.

If fault still remains, send the unit to higher level according to local company directives



Fig. 5.1

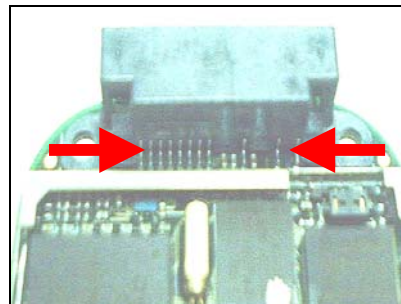


Fig. 5.2

## 7 LED Problems

- Test the LED by using Service Function – LED test, to make sure if the problem is caused by LED defect.
- Check the LED (Fig. 6.1) if it's incorrectly soldered or damaged. Replace LED if necessary.
- Check the Display LED (Fig. 6.2) if it's incorrectly soldered or damaged. Replace Display LED if necessary.
- Check the resistance of R400 (Fig. 6.3). Replace resistor R400 if it is incorrectly soldered or damaged.

If fault still remains, send the unit to higher level according to local company directives

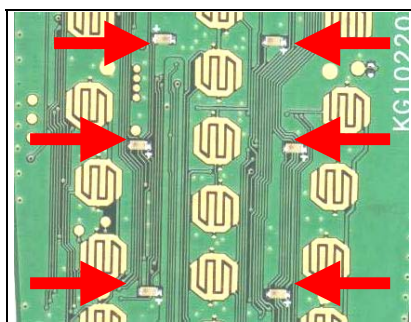


Fig. 6.1

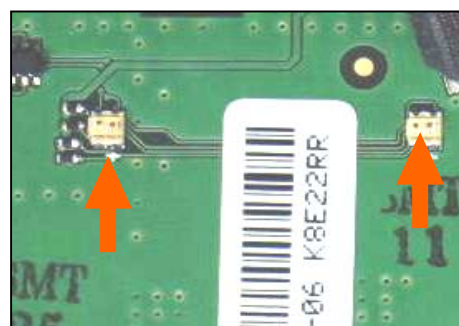


Fig. 6.2

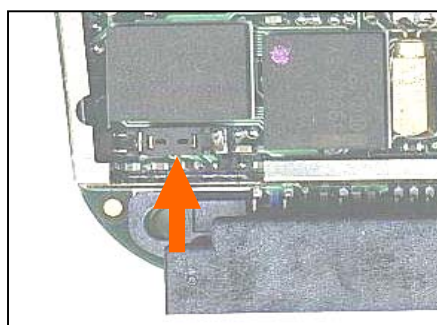


Fig. 6.3

## 8 Alert Problems

- Test the Buzzer by using Service Function – Buzzer test.
- Check the Buzzer (Fig. 7.1) if it's incorrectly soldered.  
Replace Buzzer if necessary.

If fault still remains, send the unit to higher level according to local company directives

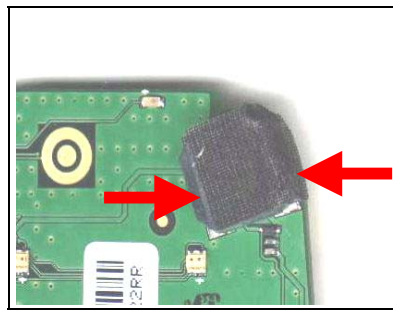


Fig. 7.1

## 9 Microphone Problem

- Use Service Function – Earphone test to make sure the Earphone is ok.
- Test the Microphone by using Service Function – Microphone test.  
Replace Microphone (Fig 8.1) if it's necessary.
- Check the Microphone holder (Fig. 8.2) if it's incorrectly soldered, dirty or oxidized.  
Replace the Microphone holder if it's necessary.

If fault still remains, send the unit to higher level according to local company directives

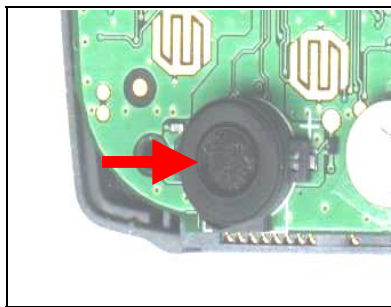


Fig. 8.1

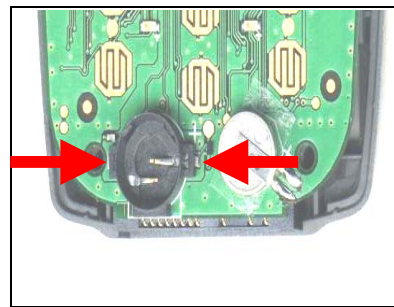


Fig. 8.2



## 10 Real Time Problem

- Check the RTC Backup Battery (Fig. 9.1) if it's incorrectly soldered, Mechanically damaged, dirty or oxidized. Replace the RTC Backup battery if it's necessary.

If fault still remains, send the unit to higher level according to local company directives

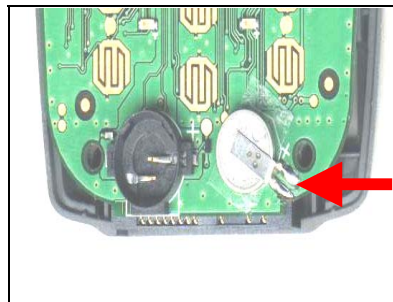


Fig. 9.1

## 11 SIM Card recognition Problem

- Check the SIM Card Connector (Fig. 10.1) if it's incorrectly soldered, Mechanically damaged, dirty or oxidized.  
Replace the SIM Connector (Fig 10.2) if it's necessary.

If fault still remains, send the unit to higher level according to local company directives

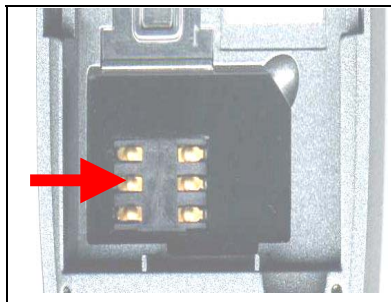


Fig. 10.1

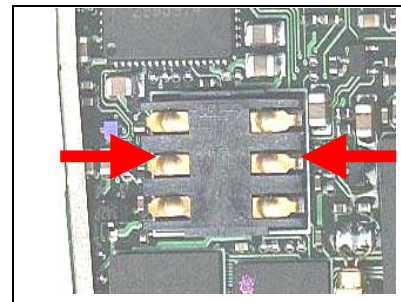


Fig. 10.2

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## 12 Revision history

Rev.	Date	Changes / Comments
A	2002-05-20	First release repair concept
B	2002-09-04	Minor changes