



Sony Ericsson

# Troubleshooting Guide

## - electrical -



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# 1 Troubleshooting Flow

**For information about troubleshooting and optional troubleshooting equipment, refer to the 'Generic Repair Manual – electrical', section 'Troubleshooting Directions'!**

## 1.1 Display

|                 |                         |                       |
|-----------------|-------------------------|-----------------------|
| <b>Symptom:</b> | Display problem         |                       |
| <b>Replace:</b> | <b>X2403</b> if damaged | Vision check pin 1-20 |
|                 | <b>Z4200</b>            |                       |
|                 | <b>Z4201</b>            |                       |
|                 | <b>Z4202</b>            |                       |

## 1.2 Illumination

|                 |  |                        |
|-----------------|--|------------------------|
| <b>Symptom:</b> | No Display illumination                    |                        |
| <b>Replace:</b> | <b>X2403</b> if damaged                    | Vision check Pin 22-23 |
|                 | <b>L4200</b> if more than 1 Ohm            |                        |
|                 | <b>C4206</b> if short circuit              |                        |
|                 | <b>V4200</b>                               |                        |
|                 | <b>N4200</b>                               |                        |
| <b>Symptom:</b> | No Numeric keyboard illumination           |                        |
| <b>Replace:</b> | <b>V4201</b> if no left side illumination  |                        |
|                 | <b>V4202</b> if no right side illumination |                        |
| <b>Symptom:</b> | No Navigation keyboard illumination        |                        |
| <b>Replace:</b> | <b>X2403</b> if damaged                    | Vision check Pin 35-37 |
| <b>Symptom:</b> | Flash LED`s problems                       |                        |
| <b>Replace:</b> | <b>V4402</b>                               |                        |
|                 | <b>N4400</b>                               |                        |



## Troubleshooting Flow

### 1.3 Keys and Sensors

|                 |   |
|-----------------|---|
| <b>Symptom:</b> | On / Off key problems                           |
| <b>Replace:</b> | <b>X2403</b> if damaged Vision check pin 33-34  |
| <b>Symptom:</b> | Off key problems                                |
| <b>Replace:</b> | <b>V2475</b>                                    |
| <b>Symptom:</b> | Numeric keyboard problems                       |
| <b>Replace:</b> | <b>V2403</b>                                    |
| <b>Symptom:</b> | Numeric keyboard problems Key 7 and *           |
| <b>Replace:</b> | <b>L2405, L2408 or L2410</b> if more than 1 Ohm |
| <b>Symptom:</b> | Numeric keyboard problems Key 0 and 8           |
| <b>Replace:</b> | <b>L2406, L2407 or L2409</b> if more than 1 Ohm |
| <b>Symptom:</b> | Numeric keyboard problems Key #                 |
| <b>Replace:</b> | <b>L2411 or L2412</b> if more than 1 Ohm        |
| <b>Symptom:</b> | Navigation& Sub keypad keys problems            |
| <b>Replace:</b> | <b>X2403</b> if damaged Vision check Pin 25-33  |
| <b>Symptom:</b> | Camera Auto Focus and Shutter problems          |
| <b>Replace:</b> | <b>X2402</b> if damaged Vision check all pins   |
| <b>Symptom:</b> | Volume Up Key problems                          |
| <b>Replace:</b> | <b>S2402</b> if damaged<br><b>V2406</b>         |
| <b>Symptom:</b> | Volume Down Key problems                        |
| <b>Replace:</b> | <b>S2403</b> if damaged<br><b>V2406</b>         |
| <b>Symptom:</b> | Light Sensor problems                           |
| <b>Replace:</b> | <b>X2403</b> if damaged Vision check Pin 61-63  |
| <b>Symptom:</b> | Slide Sensor problems                           |
| <b>Replace:</b> | <b>B4201</b>                                    |
| <b>Symptom:</b> | Accelerometer problems                          |
| <b>Replace:</b> | <b>N2411</b>                                    |

**Troubleshooting Flow****1.4 Alert / RTC**

|                 |   |
|-----------------|---|
| <b>Symptom:</b> | The clock gain or lose time. SERP calibrating are performed |
| <b>Action:</b>  | <b>B2100</b>  |

**1.5 Audio**

|                 |   |  |  |
|-----------------|---|--|--|
| <b>Symptom:</b> | No 1 <sup>st</sup> Microphone   |  |  |
| <b>Replace:</b> | <b>L3106</b> or <b>L3107</b> if more than 2 Ohm<br><b>B3101</b>   |  |  |
| <b>Symptom:</b> | No 2 <sup>nd</sup> Microphone   |  |  |
| <b>Replace:</b> | <b>B3102</b>  |  |  |
| <b>Symptom:</b> | No Earphone   |  |  |
| <b>Replace:</b> | <b>L3104</b> or <b>L3105</b> if more than 1 Ohm<br><b>X2403</b> if damaged          Vision check Pin 64-65  |  |  |
| <b>Symptom:</b> | No or bad Loudspeaker   |  |  |
| <b>Replace:</b> | <b>L3100</b> or <b>L3101</b> if more than 1 Ohm<br><b>N3100</b>   |  |  |
| <b>Symptom:</b> | No Hands-free (PHF) Aux Microphone  |  |  |
| <b>Replace:</b> | <b>X2400</b> if damaged          Vision check Pin 3 and 4          (Diagram Pin 9 and 10)<br><b>L2401</b> or <b>L2403</b> if more than 2 Ohm<br><b>N3101</b>                    |  |  |
| <b>Symptom:</b> | No Hands-free (PHF) Aux Earphone  |  |  |
| <b>Replace:</b> | <b>X2400</b> if damaged          Vision check Pin 2,5 and 6          (Diagram Pin 7-8 and 11)<br><b>L2400</b> , <b>L2404</b> or <b>L3302</b> if more than 2 Ohm<br><b>N3101</b> |  |  |
| <b>Symptom:</b> | No Microphone and no Earphone .Phone stuck in PHF mode when PHF is not attached   |  |  |
| <b>Replace:</b> | <b>V2417</b> if short circuit<br><b>N2422</b>   |  |  |
| <b>Symptom:</b> | No Hands-free (PHF) audio .Phone not recognizes PHF set   |  |  |
| <b>Replace:</b> | <b>X2400</b> if damaged          Vision check Pin 8 and 9          ( Diagram Pin 4 and 5)<br><b>N2422</b>   |  |  |
| <b>Symptom:</b> | No or bad FM Radio  |  |  |
| <b>Replace:</b> | <b>X2400</b> if damaged          Vision check Pin 2 , 8 and 9          (Diagram Pin 4 , 5 and 11)<br><b>N1300</b>   |  |  |



## Troubleshooting Flow

### 1.6 On/Off

|                 |   |
|-----------------|---|
| <b>Symptom:</b> | Current draw greater than 300 mAmps   |
| <b>Replace:</b> | <b>N1200</b> if module getting hot<br><b>N2420</b> if getting hot   |
| <b>Symptom:</b> | Current draw when powered off   |
| <b>Replace:</b> | <b>N1200</b><br><b>N2420</b>  |
| <b>Symptom:</b> | Using no current when On/Off key is pressed and will not start. Starts when charger is inserted                 |
| <b>Replace:</b> | <b>X2403</b> if damaged      Vision check Pin 33-34   |
| <b>Symptom:</b> | Draws current when On/Off key is pressed, returns to zero   |
| <b>Replace:</b> | <b>L2200</b> or <b>L2202</b> if more than 1 Ohm<br><b>N2207</b><br><b>B2100</b><br><b>N1211</b><br><b>N1200</b> |

### 1.7 Charging/Capacity

|                 |   |
|-----------------|---|
| <b>Symptom:</b> | No Charging from power outlet   |
| <b>Replace:</b> | <b>X2400</b> if damaged      Vision check Pin 9 and 12      (Diagram Pin 1 and 4)<br><b>X2200</b> if damaged<br><b>C2405</b> or <b>V2400</b> if short circuit<br><b>V2202</b> |
| <b>Symptom:</b> | No Charging from computer via USB   |
| <b>Replace:</b> | <b>X2400</b> if damaged      Vision check Pin 1 and 9      (Diagram Pin 4 and 12)<br><b>C2406</b> if short circuit<br><b>N2200</b>  |



## Troubleshooting Flow

### 1.8 SIM

|          |                         |                       |
|----------|-------------------------|-----------------------|
| Symptom: | SIM not detected        | vision check all pins |
| Replace: | <b>X2404</b> if damaged |                       |

### 1.9 Camera

|          |   |                       |
|----------|---|-----------------------|
| Symptom: | Main Camera problems                    |                       |
| Replace: | <b>X4300</b> if damaged<br><b>N4401</b> | vision check all pins |

|          |                         |                        |
|----------|-------------------------|------------------------|
| Symptom: | Video camera problems   |                        |
| Replace: | <b>X2403</b> if damaged | vision check pin 39-59 |



## Troubleshooting Flow

### 1.10 Data Communication

|          |   |
|----------|---|
| Symptom: | No communication via the System Connector   |
| Action:  | if not charging via USB go to Charging problems   |
| Replace: | <b>X2400</b> if damaged<br><b>V2415</b> if pin10 (Diagram Pin 3) at X2400 system connector are short circuit to GND<br><b>V2416</b> if pin11 (Diagram Pin 2) at X2400 system connector are short circuit to GND<br><b>Z2400</b><br><b>N2420</b> |
| Symptom: | Bad Bluetooth and WLAN connection   |
| Replace: | <b>X1501</b> if damaged<br><b>X1500</b> if damaged  |
| Symptom: | No or bad Bluetooth connection  |
| Replace: | <b>W1300</b><br><b>N1300</b><br><b>N1510</b>  |
| Symptom: | No or bad WLAN connection   |
| Replace: | <b>L2311</b> if more than 1 Ohm<br><b>N2300</b><br><b>N1510</b><br><b>N1500</b>   |
| Symptom: | No or bad GPS connection  |
| Replace: | <b>X1401</b> if damaged<br><b>Z1401</b><br><b>B1401</b><br><b>N1400</b>   |

### 1.11 Micro SD card

|          |   |
|----------|---|
| Symptom: | Card not detected                       |
| Replace: | <b>X2401</b> if damaged<br><b>N2400</b> |





## Troubleshooting Flow

### 1.12 Network/Signal

|          |   |
|----------|---|
| Symptom: | Phone fails to lock on to network during radiated (wireless) Go / No Go test  |
| Action:  | Use RF probe to perform conducted Go / No Go test   |
|          |   |
| Symptom: | Phone passes conducted (RF cable) Go / No Go test but fails radiated (wireless) Go / No Go test   |
| Check:   | <b>X1201</b> for damage and replace if necessary  |
| Check:   | <b>X1200</b> for damage and replace if necessary  |
| Replace: | Antenna   |
| Action:  | Rerun the phone through radiated (wireless) Go/No Go testing  |
|          |   |
| Symptom: | Phone fails conducted (RF probe) Go / No Go test  |
| Replace: | Run the calibration routine   |
|          |   |
| Symptom: | Fails conducted (RF probe) Go/No Go test, but passes calibration  |
| Replace: | Rerun the phone through Go/No Go testing  |
|          |   |
| Symptom: | Fails any part of the calibration routine   |
| Replace: | <b>X1200</b> if damaged<br><b>N1211</b> or <b>N1200</b> if GSM fault<br><b>L1200</b> if UMTS fault and L1200 is more than 1 Ohm<br><b>N1210</b> or <b>N1200</b> if UMTS fault |



## Revision History

| Rev. | Date       | Changes / Comments                |
|------|------------|-----------------------------------|
| 1    | 2010-04-09 | Initial release                   |
| 2    | 2011-04-07 | L2405-L2412 added to Key problems |