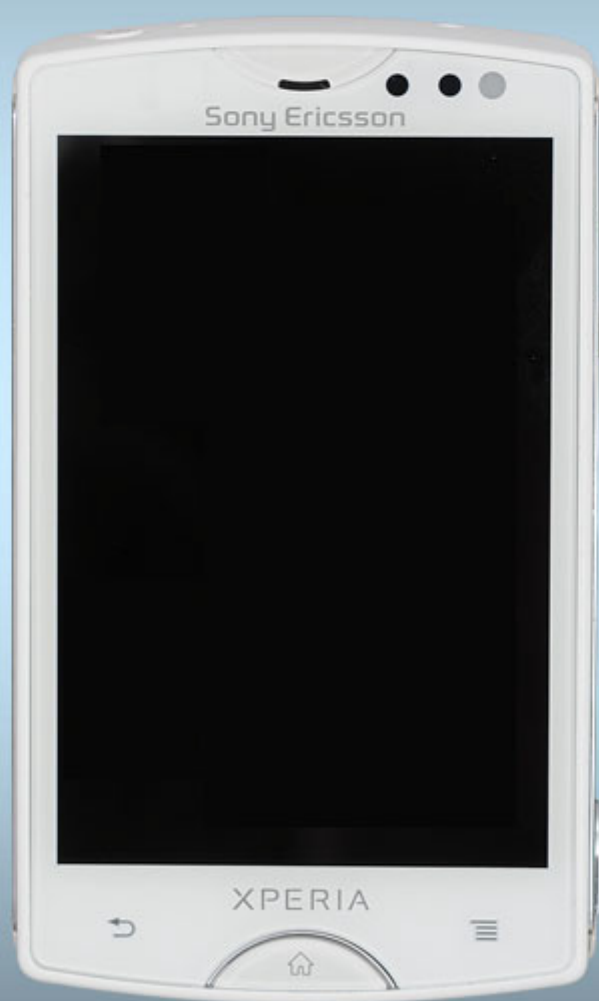




Sony Ericsson

# Troubleshooting Guide

## - electrical -



*Xperia™ mini*

*ST15i, ST15a, S51SE*



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***For general information about electrical repair related issues, refer to  
1220-1336: Generic Repair Manual - electrical***



# 1 Troubleshooting Flow

## 1.1 Display & Touch

**Symptom:** Display problem

**Replace:** **X7002**, if damaged vision check pin 3, 5, 9,11,13,15,18 and 21  
**Z9800** or **Z9801**

## 1.2 Illumination

**Symptom:** No Display illumination

**Replace:** **X7002**, if damaged vision check pin 19, 23 and 25  
**L7600** or **L7610**, if more than 1  $\Omega$   
**C7603**, if short circuit  
**V7601**  
**N7600**

**Symptom:** No Key Back Light

**Replace:** **X5303**, if damaged vision check pin A3, A4, A7 and A8  
**N7600**

**Symptom:** No RGB LED

**Replace:** **V5107**  
**N7600**

**Symptom:** No Flash LED

**Replace:** **L7801**, if more than 1  $\Omega$

## Troubleshooting Flow

### 1.3 Keys & Sensors

**Symptom:** On / Off key problems

**Replace:** **S5207**

**R5202**, if more than 1  $\Omega$

**Symptom:** Back Key, Menu Key and Display Touch Sensor problems

**Replace:** **X5303**, if damaged vision check pin B1-B5, B7-B9

**Symptom:** Camera key problems

**Replace:** **S5205**

**Symptom:** Volume Up key problems

**Replace:** **S5203**

**R5200** or **R5201**, if more than 2.2 k $\Omega$

**Symptom:** Volume Down key problems

**Replace:** **S5204**

**Symptom:** Proximity sensor problems

**Replace:** **V5500** or **V5501**

**N5500**

**Symptom:** Ambient Light Sensor problems

**Replace:** **N5600**

**Symptom:** Compass problems

**Replace:** **N5400**

### 1.4 Alert

**Symptom:** Vibrator problems

**Replace:** **R2832** or **R2833**, if more than 2  $\Omega$

**B5100**



## Troubleshooting Flow

### 1.5 Audio

**Symptom:** No audio

**Replace:** **L1001**, if more than 1  $\Omega$

**Symptom:** No Primary Microphone

**Replace:** **B3501**

**Symptom:** No Secondary Microphone

**Replace:** **L3504**, **L3505** or **L3506**, if more than 1  $\Omega$   
**B3502**

**Symptom:** No or bad Earphone / Ear speaker

**Replace:** **R2837** or **R2839**, if more than 2  $\Omega$   
**V3502**, if pin 1 or pin 2 is short circuit to GND

**Symptom:** No or bad Loudspeaker

**Replace:** **X3500** or **X3503**, if damaged  
**L3500**, **L3501**, **L3502** or **L3503**, if more than 2  $\Omega$   
**V3503** or **V3505**, if X3500 is short circuit to GND  
**V3504** or **V3506**, if X3503 is short circuit to GND  
**N3501**

**Symptom:** No or bad Hands-free (PHF) Microphone

**Replace:** **L3100** or **L3604**, if more than 2  $\Omega$   
**R3611**, if more than 15 K $\Omega$   
**N3600**

**Symptom:** No or bad Hands-free (PHF) Aux Earphone / Ear speaker

**Replace:** **L3100**, **L3600**, **L3601**, **L3602** or **L3603**, if more than 2  $\Omega$   
**N3600**

**Symptom:** No Hands-free (PHF) Microphone – Phone not recognizes PHF set

**Replace:** **R3616**, if more than 33 K $\Omega$   
**L3100**, if more than 2  $\Omega$   
**N3600**

**Symptom:** No or bad FM Radio

**Replace:** **L3605**, if more than 2  $\Omega$   
**V3100**  
**N8100**



## Troubleshooting Flow

### 1.6 On/Off

**Symptom:** Current draw greater than 300 mA

**Replace:** **N2801C**, if getting hot  
**N2900C**, **N2902C** or **N2903C**, if getting hot

**Symptom:** Current draw when powered off

**Replace:** **N2801C**, if getting hot  
**N2900C**, **N2902C** or **N2903C**, if getting hot  
**C1312C**, if short circuit

**Symptom:** Using no current when On/Off key is pressed and will not start

**Replace:** **S5207**

**Symptom:** Draws current when On/Off key is pressed, returns to zero

**Replace:** **L1000**, **L1003**, **L1004**, **L2400C** or **L2401C**, if more than 1  $\Omega$   
**N2401C**

**Symptom:** Other

**Replace:** **X1300**, if damaged                      vision check all pins



## Troubleshooting Flow

### 1.7 Charging & Capacity

**Symptom:** No or bad Charging from USB

**Replace:** **X2200**, if damaged vision check pin 1 and 5  
**C1317** or **C2200**, if X2200 pin 1 is short circuit to GND  
**L1300C** or **L1306**, if more than 1  $\Omega$   
**N1304**  
**N1303C**

**Symptom:** Wrong battery indicator

**Replace:** **N1302C**

### 1.8 SIM

**Symptom:** SIM not detected

**Replace:** **X4000**, if damaged vision check all pins

### 1.9 Camera

**Symptom:** Main Camera problems

**Replace:** **X7301**, if damaged vision check all pins  
**L1002**, if more than 1  $\Omega$

## Troubleshooting Flow

### 1.10 Data Communication

**Symptom:** No communication via the USB Connector, charging via USB connector is working

**Replace:** **X2200**, if damaged vision check pin 2 and 3  
**N2200**, if X2200 pin 2, 3 or 4 are short circuit to GND  
**Z2200**, if more than 4  $\Omega$  between pin 1-2 and more than 4  $\Omega$  between pin 3-4

**Symptom:** Bad Bluetooth and WLAN connection

**Replace:** **X8421** or **X8420**, if damaged  
**X8401**, if more than 1  $\Omega$  between term A and C  
**Z8001**

**Symptom:** No Bluetooth and / or WLAN connection

**Replace:** **L8100**, if more than 1  $\Omega$   
**N8102**  
**N8100**  
**N8101**

**Symptom:** No GPS connection

**Replace:** **X8422** or **X8423**, if damaged  
**Z8401** or **Z8403C**  
**N8401**

### 1.11 Memory Card

**Symptom:** Memory Card (micro SD) not detected

**Replace:** **X4100**, if damaged vision check pin all pins  
**V4100**



## Troubleshooting Flow

### 1.12 Network & Signal

**Symptom:** Phone fails to lock on to network during radiated (wireless) Go/ NoGo test

**Action:** Use RF probe to perform conducted Go / NoGo test

**Symptom:** Phone passes conducted (RF cable) Go / NoGo test but fails radiated (wireless) Go / NoGo test

**Check:** **X1006, X1007, X1008, X1010, X2802, X2803** and **X2804** for damage and replace, if necessary

**Replace:** **X2801** for damage and replace, if more than 1  $\Omega$  between R and C term

**Check:** RF Antenna in the Inner Frame for damage and replace, if necessary

**Action:** Rerun the phone through radiated (wireless) Go / NoGo testing

**Symptom:** Phone fails conducted (RF probe) Go/NoGo test

**Action:** Run the calibration routine

**Symptom:** Fails conducted (RF probe) Go/NoGo test, but passes calibration

**Action:** Rerun the phone through Go/NoGo testing

**Symptom:** Fails any part of the calibration routine

**Check:** **X2801** for damage and replace, if more than 1  $\Omega$  between RF probe and C term or R and C term is short circuit then the probe is inserted.

**Replace:** **Z2800C** or **N2803C**, if GSM Rx fault

**N2803C**, if WCDMA Rx fault

**V1305, N2801C** or **N2803C**, if GSM Tx fault

**N2900C** or **N2803C**, if WCDMA Tx band 5 or 8 fault

**N2903C** or **N2803C**, if WCDMA Tx band 1 fault

**N2902C** or **N2803C**, if WCDMA Tx band 2 or 9 fault



## 2 Revision History

Rev.	Date	Changes / Comments
1	2011-July-15	Initial release
2	2011-Nov-22	No change. System error.
3	2011-Nov-22	One new commercial model included – S51SE