



# Troubleshooting Guide

## - electrical -



*Xperia™ X8*

*E15i, E15a, E16i, E16a*



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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:** **X7000**, if damaged vision check all pins

## 1.2 Illumination

**Symptom:** No Display illumination

**Replace:** **X7000**, if damaged vision check pin 4, 20 and 21  
**L7100**, if more than 1  $\Omega$   
**C7103**, if short circuit  
**V7100**  
**N7100**

**Symptom:** R G B MMI LED s

**Replace:** **V5101**



## Troubleshooting Flow

### 1.3 Keys & Sensors

**Symptom:** On / Off key problems

**Replace:** **S5200**

**Symptom:** Back, Home, Menu Keys problems

**Replace:** **X5300**, if damaged vision check pin 1-6

**Symptom:** Volume Up key problems

**Replace:** **S5201**

**Symptom:** Volume Down key problems

**Replace:** **S5202**

**Symptom:** Camera AF and Snap key problems

**Replace:** **S5203**

**Symptom:** Proximity sensor

**Replace:** **V5500** or **V5501**  
**N5500**

**Symptom:** Light Sensor

**Replace:** **N5503**

**Symptom:** Compass problems

**Replace:** **N5400**

### 1.4 Alert & RTC

**Symptom:** Vibrator problems

**Replace:** **B5100**



## Troubleshooting Flow

### 1.5 Audio

**Symptom:** No or bad Microphone

**Replace:** **B3500**

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

**Replace:** **X3502** or **X3503**, if damaged  
**V3500**, if short circuit

**Symptom:** No or bad Loudspeaker

**Replace:** **L3503** or **L3504**, if more than 2  $\Omega$

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

**Replace:** **L3600** or **L3102**, if more than 2  $\Omega$   
**N3600**

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

**Replace:** **L3601**, **L3602**, **L3603**, **L3604** or **L3102**, if more than 2  $\Omega$   
**N3600**  
**N3500**

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

**Replace:** **L3102**, if more than 2  $\Omega$   
**R3601**, if more than 6 K $\Omega$

**Symptom:** Phone recognizes wrong accessory

**Replace:** **N3600**  
**V3602**

**Symptom:** No or bad FM Radio

**Replace:** **N8100**



## Troubleshooting Flow

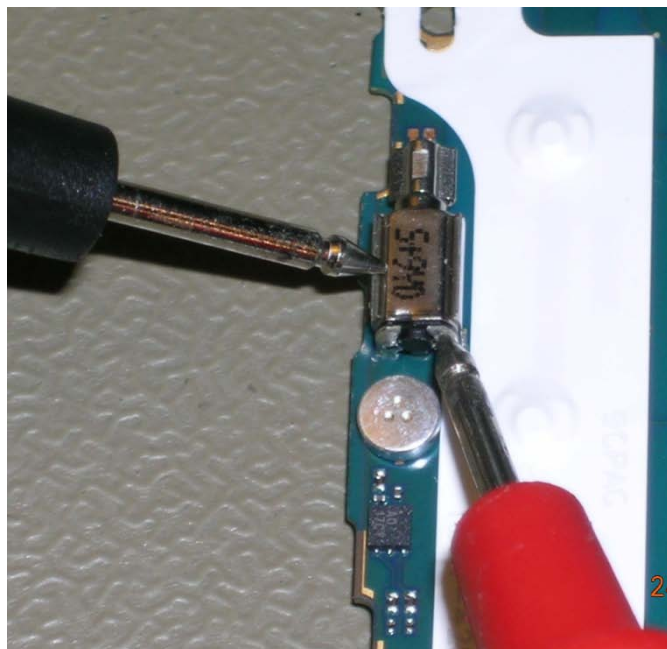
### 1.6 On/Off

#### Performing

#### VBAT measurement

Set Instrument to Ohm measurement  
Connect Red probe to Vibrator +  
Connect Black probe to Vibrator GND.

**If less than 20 K $\Omega$  the PBA is faulty**



**Symptom:** Current draw when powered off

**Replace:** **N2901**

**If VBAT measurement is less than 20 K $\Omega$ . Typical 50  $\Omega$ -700  $\Omega$**

**C8140**

**N2810**, if getting hot

**N2904** or **N2905**, if getting hot

**N7100**, if getting hot

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

**Replace:** **N2901**, if getting hot

**C8140**, if getting hot

**N2810**, if getting hot

**N2904** or **N2905**, if getting hot

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

**Replace:** **S5200**

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

**Replace:** **L1000**, **L1001** or **L1003**, if more than 1  $\Omega$

**Symptom:** Other

**Replace:** **X1300** if damaged



## Troubleshooting Flow

### 1.7 Charging & Capacity

**Symptom:** Bad Capacity

**Replace:** **N2901**, if VBAT measurement is less than 20K $\Omega$

**Symptom:** No Charging from USB

**Replace:** **C1306**, if short circuit

**L1350**, if more than 1  $\Omega$

**V1300**, if short circuit

### 1.8 SIM

**Symptom:** SIM not detected

**Replace:** **X4000**, if damaged

**V4001**

**V4000**

vision check pin 1-7

### 1.9 Camera

**Symptom:** Main Camera problems

**Replace:** **X7300**, if damaged

**N7401**

vision check all pins



## Troubleshooting Flow

### 1.10 Data Communication

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

**Replace:** **V2200**, if short circuit  
**Z2200**, if more than 3  $\Omega$   
**N1000**

**Symptom:** Bad Bluetooth and WLAN connection

**Replace:** **X8400** or **X8402**, if damaged vision check  
**X8401**, if more than 1  $\Omega$  between pin 1 and 2 (in / out)  
**N8401**  
**Z8000**  
**N8000**

**Symptom:** No Bluetooth and WLAN connection

**Replace:** **L8140**, if more than 1  $\Omega$   
**N8101**  
**N8100**  
**N8300**

**Symptom:** No GPS connection

**Replace:** **X8400**, **X8402** or **X1006**, if damaged vision check  
**X8401**, if more than 1  $\Omega$  between pin 1 and 2 (in/out)  
**N8401**  
**Z8400** or **Z8401**  
**N8402**  
**N2800**

### 1.11 Memory Card

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

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





## Troubleshooting Flow

### 1.12 Network & Signal

**Symptom:** Bad WCDMA network

**Action:** Perform VBAT measurement, if less than 20K $\Omega$

**Replace:** **N2901**

**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:** **X1001, X1003, X1004, X1005, X2800 and X2801** for damage and replace, if necessary

**Replace:** **X2804** if more than 1  $\Omega$  between pin 1 and 2 (in / out)

**Check:** Antenna 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

**Replace:** **X2804**, if damaged

**L1002**, if more than 1  $\Omega$

**N2800** or **N2801**, if GSM or WCDMA RX fault

**N2810** or **N2801**, if GSM TX fault

**N2803**, if GSM 850 or 900 TX fault

**N2904** or **N2801**, if WCDMA TX band 5 or 8 fault

**N2901** or **N2801**, if WCDMA TX band 1 fault

**N2905** or **N2801**, if WCDMA TX band 2 or 4 fault



## 2 Revision History

Rev.	Date	Changes / Comments
1	2010-Sept-27	Initial release
2	2010-Nov-10	No changes, due to system failure.
3	2010-Dec-01	Added VBAT measurement to 1.6 On/Off Added N2901 to 1.7 Charging & Capacity Added perform VBAT measurement and N2901 to 1.12 Network & Signal
4	2011-May-16	Two new commercial models included – E16i and E16a B2000 removed due to SI 18292-XXXXX
5	2011-Jun-07	Values for R3601 changed to 6K $\Omega$ in 1.5 Audio / No Hands-free (PHF)
6	2011-Sep-20	Added <b>C8140</b> to 1.6 On/Off
7	2011-nov-09	Aux added to Ear speaker in 1.5 Audio / No Hands-free (PHF)