



# Troubleshooting Guide

## - electrical -



*MK16i, MK16a,  
Xperia™ Pro*



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# 1 Troubleshooting Flow

## 1.1 Display

<b>Symptom:</b>	Display problem	
<b>Replace:</b>	<b>X9802</b> , if damaged <b>Z9800</b> , <b>Z9801</b> or <b>Z9802</b>	vision check pins A27-A31,A34,B23,B27-B35



## Troubleshooting Flow

### 1.2 Illumination

<b>Symptom:</b>	No Display illumination
<b>Replace:</b>	<b>X9802</b> , if damaged vision check pins A32 – A33 and B23 <b>L7600</b> or <b>L7610</b> , if more than 1 $\Omega$ <b>C7603</b> , if short circuit to GND <b>V7601</b>

<b>Symptom:</b>	No Front Key Back Light
<b>Replace:</b>	<b>X9802</b> , if damaged vision check pin A21 A22

<b>Symptom:</b>	No Qwerty Key Back Light
<b>Replace:</b>	<b>X5200</b> , if damaged vision check pin B13 B14 B16

<b>Symptom:</b>	R G B MMI LEDs
<b>Replace:</b>	<b>V5107</b>

<b>Symptom:</b>	No Flash LED
<b>Replace:</b>	<b>L7801</b> , if more than 1 $\Omega$



## Troubleshooting Flow

### 1.3 Keys & Sensors

**Symptom:** On / Off key problem

**Replace:** **X5200**, if damaged vision check pin A6, B17

**Symptom:** Back Key problem

**Replace:** **X9802**, if damaged vision check pin A23, A26

**Symptom:** Home Key problem

**Replace:** **X9802**, if damaged vision check pin A23, A24

**Symptom:** Menu Key problem

**Replace:** **X9802**, if damaged vision check pin A23, A25

**Symptom:** QWERTY keys problem

**Replace:** **X5200**, if damaged vision check pins A7-A13, A15-A16, B6-B12

**Symptom:** Camera shutter key problem

**Replace:** **X9803**, if damaged vision check pin A3, A5, A6

**Symptom:** Display Touch Sensor problem

**Replace:** **X9802**, if damaged vision check pins A16-A20, B21, B22

**Symptom:** Volume Up key problem

**Replace:** **X9803**, if damaged vision check pin A3, A7

**Symptom:** Volume Down key problem

**Replace:** **X9803**, if damaged vision check pin A3, A4

**Symptom:** Proximity sensor problem

**Replace:** **X9802**, if damaged vision check pins A7-A10

**Symptom:** Ambient Light Sensor problem

**Replace:** **X9802**, if damaged vision check pin A2, A3

**Symptom:** Compass problem

**Replace:** **N5400**

**Symptom:** Slider sensor detection problem

**Replace:** **X5200**, if damaged vision check pin A14, B15



## Troubleshooting Flow

### 1.4 Alert

<b>Symptom:</b>	Vibrator problem
<b>Replace:</b>	<b>B5100</b>



## Troubleshooting Flow

### 1.5 Audio

Symptom:	No audio
Replace:	<b>L1001</b> , if more than 1 $\Omega$
Symptom:	No Primary Microphone
Replace:	<b>X9803</b> , if damaged vision check pin B6, B7 and B9 <b>L3500</b> , <b>L3501</b> or <b>L3502</b> , if more than 3 $\Omega$ <b>N2800</b>
Symptom:	No Secondary Microphone
Replace:	<b>X9803</b> , if damaged vision check pin B2-B4 <b>N2800</b>
Symptom:	No or bad Earphone / Ear speaker
Replace:	<b>X9802</b> , if damaged vision check pin B17, B18 <b>N2800</b>
Symptom:	No or bad Loudspeaker
Replace:	<b>X9803</b> , if damaged vision check pins B11- B14 <b>V3500</b> , if pin1 or pin 2 is short circuit to GND <b>R9859</b> or <b>R9860</b> , if more than 2 $\Omega$ <b>N3501</b> <b>N2800</b>
Symptom:	No or bad Hands-free (PHF) Microphone
Replace:	<b>X5200</b> , if damaged vision check pin B3, B4 <b>L3100</b> or <b>L3604</b> , if more than 2 $\Omega$ <b>N2800</b>
Symptom:	No or bad Hands-free (PHF) Aux Earphone / Ear speaker
Replace:	<b>X5200</b> , if damaged vision check pin A2, A4, B3 <b>L3602</b> or <b>L3603</b> , if more than 2 $\Omega$ <b>R3608</b> or <b>R3609</b> , if more than 10 $\Omega$ <b>N2800</b>
Symptom:	Phone not recognizes PHF set
Replace:	<b>X5200</b> , if damaged vision check pin B2, B3
Symptom:	No or bad FM Radio
Replace:	<b>X5200</b> , if damaged vision check pin B3 <b>V3100</b> <b>N8100</b> <b>N2800</b>



## Troubleshooting Flow

### 1.6 On/Off

<b>Symptom:</b>	Current draw greater than 300 mA
<b>Replace:</b>	<b>N2801</b> , if getting hot <b>N2900, N2902 or N2903</b> , if getting hot
<b>Symptom:</b>	Current draw when powered off
<b>Replace:</b>	<b>N2801</b> , if getting hot <b>N2900, N2902 or N2903</b> , if getting hot <b>V9815</b> , if X1300 pin4 or 5 is short circuit to GND
<b>Symptom:</b>	Using no current when On/Off key is pressed and will not start.
<b>Replace:</b>	<b>X5200</b> , if damaged      vision check pin A5, A6 <b>V9801</b> , if damaged
<b>Symptom:</b>	Draws current when On/Off key is pressed, returns to zero
<b>Replace:</b>	<b>L1000, L1003, L1004 or L2400</b> , if more than 1 $\Omega$
<b>Symptom:</b>	Other
<b>Replace:</b>	<b>X1300</b> , if damaged      vision check all pins





## Troubleshooting Flow

### 1.7 Charging & Capacity

<b>Symptom:</b>	No or bad Charging from USB
<b>Replace:</b>	<b>X2200</b> , if damaged vision check pin1, 5 <b>X1300</b> , if damaged vision check all pins <b>C2200</b> or <b>C1317</b> , if X2200 pin 1 is short circuit to GND <b>C1303</b> , if short circuit to GND (trickle charging problem) <b>L1300</b> , if more than 1 $\Omega$ <b>N1310</b> <b>N1303</b>

<b>Symptom:</b>	Wrong Battery indicator
<b>Replace:</b>	<b>N1302</b>



## Troubleshooting Flow

### 1.8 SIM

<b>Symptom:</b>	SIM not detected	
<b>Replace:</b>	X9803, if damaged	vision check pins A8-A15



## Troubleshooting Flow

### 1.9 Camera

<b>Symptom:</b>	Main Camera problem	
<b>Replace:</b>	<b>X7301</b> , if damaged	vision check all pins
	<b>L1002</b> , if more than 1 $\Omega$	
	<b>Z9803, Z9804 or Z9805</b>	

<b>Symptom:</b>	Chat Camera problem	
<b>Replace:</b>	<b>X9802</b> , if damaged	vision check pins A11-A15, B2-15, B24, B25
	<b>Z7300, Z7301 or Z7302</b>	



## Troubleshooting Flow

### 1.10 Data Communication

<b>Symptom:</b>	No communication via the USB Connector, charging via USB connector is working
<b>Replace:</b>	<b>X2200</b> , if damaged vision check pin 2 and 3 <b>Z2200</b> <b>N2200</b>
<b>Symptom:</b>	Bad Bluetooth and WLAN connection
<b>Replace:</b>	<b>X8402</b> , if damaged <b>X8401</b> , if more than 1 $\Omega$ between term A and C <b>Z8001</b>
<b>Symptom:</b>	No Bluetooth and / or WLAN connection
<b>Replace</b>	<b>N8101</b> <b>N8100</b> <b>N2800</b>
<b>Symptom:</b>	No GPS connection
<b>Replace:</b>	<b>X8403</b> , if damaged <b>Z8401</b> <b>N8400</b> <b>N2800</b>
<b>Symptom:</b>	No or bad HDMI
<b>Replace:</b>	<b>X6501</b> , if damaged vision check all pins <b>N6507</b>



## Troubleshooting Flow

### 1.11 Memory Stick / Card

<b>Symptom:</b>	Memory stick / Card (micro SD) not detected
<b>Replace:</b>	<b>X4100</b> , if damaged                      vision check all pins



## Troubleshooting Flow

### 1.12 Network & Signal

<b>Symptom:</b>	Phone fails to lock on to network during radiated (wireless) Go/ No Go test
<b>Action:</b>	Use RF probe to perform conducted Go / No Go test
<b>Symptom:</b>	Phone passes conducted (RF cable) Go / No Go test but fails radiated (wireless) Go / No Go test
<b>Check:</b>	<b>X2802, X8404, X8406, X8407</b> and <b>X8409</b> for damage and replace; if necessary <b>X2801</b> for damage and replace, if more than 1 $\Omega$ between A and C term
<b>Replace:</b>	Main Antenna ,Sub PCB or Antenna RF Cable
<b>Action:</b>	Rerun the phone through radiated (wireless) Go / No Go testing
<b>Symptom:</b>	Phone fails conducted (RF probe) Go / No Go test
<b>Action:</b>	Run the calibration routine
<b>Symptom:</b>	Fails conducted (RF probe) Go/No Go test, but passes calibration
<b>Action:</b>	Rerun the phone through Go/No Go testing
<b>Symptom:</b>	Fails any part of the calibration routine
<b>Check:</b>	<b>X2801</b> for damage and replace, if more than 1 $\Omega$ between RF probe and C term or A and C term is short circuit then the probe is inserted.
<b>Replace:</b>	<b>N2800</b> , if GSM Rx fault <b>N2800</b> , if WCDMA Rx fault <b>V9830, N2801, N2800</b> , if GSM Tx fault <b>N2900 or N2800</b> , if WCDMA Tx band 5 or 8 fault <b>N2903 or N2800</b> if WCDMA Tx band 1 fault <b>N2902 or N2800</b> , if WCDMA Tx band 2 fault



## 2 Revision History

Rev.	Date	Changes / Comments
1	2011-Aug-08	Released
2	2011-Aug-11	Commercial Model update
3	2011-Aug-22	N2900 & N2902 Added