



Trouble Shooting Guide, Electrical

Applicable for W980

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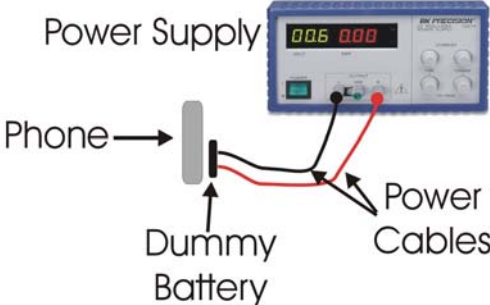


1 General

The purpose of this document is to indicate the electrical level repair actions associated with the different failure symptoms.

For symptoms that have multiple repair actions, the repair actions are listed in order of their probability of creating a successful repair. The first action has the highest probability, and subsequent actions have lower probabilities. The intention is for the repair technician to implement the first repair action and then retest the phone. If the phone continues to fail the same test, then the technician should continue to the second repair action. If the phone continues to fail the same test after all of the repair actions are exhausted, then the phone will be considered not repairable at this level.

This document should be used only after the actions from the Mechanical Trouble Shooting Guide have been exhausted for the specific symptom.

Voltage, current, and resistance information is provided for some symptoms to enable faster repairs. Purchasing this equipment and performing these measurements is optional but recommended.

<p>Measure Current in Milliamps (mA)</p>  <p>Power Supply</p> <p>Phone</p> <p>Dummy Battery</p> <p>Power Cables</p>	<p>Perform current measurements using a dummy battery and power supply with digital current display. The phone should be fully assembled.</p>
<p>Measure Diode Voltage (VDC →)</p>  <p>Multimeter</p>	<p>Perform voltage measurements with a multimeter.</p>
<p>Measure Resistance in Ohms (Ω)</p>  <p>Multimeter</p>	<p>Perform resistance measurements with a multimeter.</p>

2 Repair Actions for Manual Test Failures

Failure	Failure Symptom	Repair Action
2.1 Power On / Off	Current draw greater than 300 mAmps	<ul style="list-style-type: none"> • N1002 inside module N1200 • N1200 • N1210
	Current draw when powered off	<ul style="list-style-type: none"> • N1002 inside module N1200 • N1200 • N1210
	Hangs at gray display. Constant vibration. Will not power off.	<ul style="list-style-type: none"> • B2100
	Draws current when pushing On/Off key, returns to zero	<ul style="list-style-type: none"> • N2202 • L2200 • L2210
	Will not power off	<ul style="list-style-type: none"> • V2408
	Other symptoms	<ul style="list-style-type: none"> • X2200 if damaged • R2200 if more than 1 Ohm
2.2 Software Flash		<ul style="list-style-type: none"> • X2400 if damaged • N2402 if not charging via USB • N2424 if pin 10 or pin 11 are short circuit to pin 9 at X2400 • Z2450
2.3 Charging	Charging from power outlet	<ul style="list-style-type: none"> • X2400 If damaged • R2417 if more than 1 Ohm • R2418 if more than 1 Ohm • V2421 if short circuit • V2200 if short circuit • V2202
	Charging from computer via USB	<ul style="list-style-type: none"> • X2400 If damaged • N2402
2.4 Hands-Free connection (PHF)	Phone stuck in PHF mode when PHF is not attached	<ul style="list-style-type: none"> • V2420 if short circuit • V2405 • N2400
2.5 SIM		<ul style="list-style-type: none"> • X2410 if damaged
2.6 Flip Sensor		<ul style="list-style-type: none"> • B4240
2.7 Display		<ul style="list-style-type: none"> • X4200 if damaged • Z4200 • Z4201 • Z4202 • Z4203
2.8 Displays Illumination (main and sub), Rocker and Key LED		<ul style="list-style-type: none"> • N4200

Failure	Failure Symptom	Repair Action
2.9 Display Illuminations (main and sub)		<ul style="list-style-type: none"> • X4200 if damaged
2.10 Rocker White LED		<ul style="list-style-type: none"> • V2450, V2451 and V2455 If left side problem • V2459, V2460 and V2463 If right side problem
2.11 Rocker Orange LED		<ul style="list-style-type: none"> • V2453, V2454, V2457 and V2458 If left side problem • V2461, V2462, V2465 and V2466 If right side problem
2.12 Keypad LED		<ul style="list-style-type: none"> • V2441, V2442, V2443 and V2444 If left side problem • V2445, V2446, V2447 and V2448 If right side problem
2.13 Tally LED		<ul style="list-style-type: none"> • X2410 if damaged
2.14 Trickle Charge LED		<ul style="list-style-type: none"> • V2220
2.15 Touch Key LEDs		<ul style="list-style-type: none"> • X4200 if damaged • N4401
2.16 Volume Up Key		<ul style="list-style-type: none"> • S2426
2.17 Volume Down Key		<ul style="list-style-type: none"> • S2427
2.18 Camera Button (Key Mode)		<ul style="list-style-type: none"> • S2424
2.19 Key lock (Hold switch)		<ul style="list-style-type: none"> • S2440
2.20 Touch Key		<ul style="list-style-type: none"> • X4200
2.21 Real Time clock	The clock has to be set after the battery has been detached	<ul style="list-style-type: none"> • X2410 if damaged
	The clock gain or lose time SERP calibrating is performed	<ul style="list-style-type: none"> • B2100
2.22 Earphone		<ul style="list-style-type: none"> • X4200
2.23 Polyphonic Speaker (Loudspeaker, Base Speaker) Right		<ul style="list-style-type: none"> • N3100
2.24 Polyphonic Speaker (Loudspeaker, Base Speaker) Left		<ul style="list-style-type: none"> • N3102
2.25 Hands-free (PHF) Aux Earphone		<ul style="list-style-type: none"> • X2400 if damaged • L2403 if more than 1 Ohm • L2404 if more than 1 Ohm • R2428 • N3101

Failure	Failure Symptom	Repair Action
2.26 Microphone		<ul style="list-style-type: none"> • B3105
2.27 Hands-Free (PHF) Aux Microphone		<ul style="list-style-type: none"> • X2400 if damaged • L2401 if more than 1 Ohm • L2402 if more than 1 Ohm • N3101
2.28 Vibrator		<ul style="list-style-type: none"> • X2410 if damaged
2.29 Main and VGA Camera		<ul style="list-style-type: none"> • N4310 • N4311
2.30 Main Camera		<ul style="list-style-type: none"> • X4301 if damaged
2.31 VGA Camera		<ul style="list-style-type: none"> • X4200 if damaged
2.32 Opto Sensor (to dark or to light pictures)		<ul style="list-style-type: none"> • N2430
2.33 Accelerometer		<ul style="list-style-type: none"> • X2410 if damaged
2.34 Memory 8Gbyte		<ul style="list-style-type: none"> • X2410 if damaged
2.35 Bluetooth		<ul style="list-style-type: none"> • X1402 if damaged • X1403 if damaged
2.36 FM Radio PHF antenna		<ul style="list-style-type: none"> • X2400 if damaged
2.37 FM Radio Transmitter		<ul style="list-style-type: none"> • X1404 if damaged • X1405 if damaged • N3400

3 Repair Actions for Go/No Go Test Failures

Failure	Repair Action
Fails any part of Go/No Go testing	<ul style="list-style-type: none"> • Run the calibration routine
Fails Go/No Go test, but passes calibration	<ul style="list-style-type: none"> • Replace the antenna • Rerun the phone through Go/No Go testing
Fails Go/No Go test after passing calibration	<ul style="list-style-type: none"> • L3113 if crakes in component • L3114 if crakes in component • L3115 if crakes in component • L3116 if crakes in component • L3118 if crakes in component • L3119 if crakes in component • Change X1200 and retest

4 Repair Actions for Calibration Failures

Failure	Repair Action
Fails any part of the calibration routine	<ul style="list-style-type: none"> • X1200 if damaged • N1210 UMTS – Approved Centers Only • N2205 UMTS • N1200 GSM – Approved Centers Only

5 Revision History

Rev.	Date	Changes / Comments
1	2008-07-28	Initial release
2	2008-08-04	Touch Key and Touch Key LEDs added.