



Trouble Shooting Guide Repair Instruction Additional Soldering Process/, Electrical

Applicable for C905

Contents

1	General	2
2	Repair Actions for Manual Test Failures	3
2.1	Power On / Off.....	3
2.2	Software Flash/USB	3
2.3	Charging.....	3
2.4	Hands-Free connection (PHF).....	3
2.5	SIM	3
2.6	Slide Sensor	3
2.7	Display.....	4
2.8	Displays Illumination.....	4
2.9	Trickle Charge LED	4
2.10	All LEDs beside Trickle Charge LED	4
2.11	Auto Focus LED	4
2.12	Tally LED.....	4
2.13	Back Side LEDs	4
2.14	Keypad Numeric LEDs	4
2.15	Camera Snap Button LED	4
2.16	Keypad Navigation LEDs.....	4
2.17	Camera navigation LEDs.....	4
2.18	Volume Up Button	4
2.19	Volume Down Button.....	4
2.20	Camera Rec Button	4
2.21	Camera Play Button	4
2.22	Camera Snap Button.....	4
2.23	Camera Cover Detect.....	4
2.24	Keypad Numeric.....	4
2.25	Keypad Navigation	4
2.26	Game A and B Buttons.....	5
2.27	Real Time clock.....	5
2.28	Ear Speaker	5
2.29	Polyphonic Speaker (Loudspeaker, Base Speaker)	5
2.30	Hands-free (PHF) Aux Ear Speaker	5
2.31	Microphone Primary	5
2.32	Microphone Secondary.....	5
2.33	Hands-Free (PHF) Aux Microphone	5
2.34	Accelerometer	5
2.35	Camera.....	5
2.36	Opto Sensor (to dark or to light pictures).....	5
2.37	Xenon Flash	6
2.38	Bluetooth and FM Radio.....	6
2.39	Bluetooth and WLAN.....	6
2.40	Bluetooth	6
2.41	FM Radio.....	6
2.42	TV OUT	6
2.43	A-GPS	6
2.44	Memory Stick Note only C905c	6
2.45	Network problems	6
3	Repair Actions for Go/No Go Test Failures.....	7
4	Repair Actions for Calibration Failures	7
5	Revision History.....	8



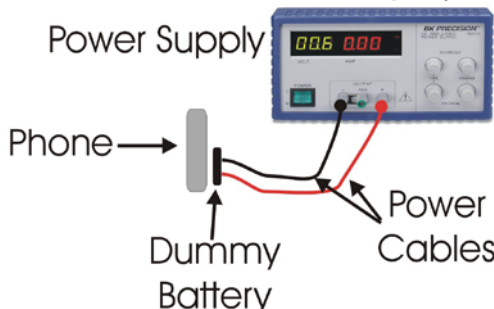


1 General

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"> • N1200
	Current draw when powered off	<ul style="list-style-type: none"> • N1200
	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"> • L2200 if more than 1 Ohm • L2201 if more than 1 Ohm • N2200 • N1211 • N1200
	Draws no current when On/Off is pressed	<ul style="list-style-type: none"> • X4200 if damaged
	Will not power off	<ul style="list-style-type: none"> • V2470
	Other symptoms	<ul style="list-style-type: none"> • X2201 if damaged
2.2 Software Flash/USB		<ul style="list-style-type: none"> • X2405 if damaged • N2421 if not charging via USB • V2415 if pin 10 are short circuit to pin 9 at X2405 • V2416 if pin 11 are short circuit to pin 9 at X2405 • N2420 • Z2400
2.3 Charging	Charging from power outlet	<ul style="list-style-type: none"> • X2405 If damaged • V2412 if pin 12 are short circuit to pin 9 at X2405 • V2200 if short circuit • V2202
	Charging from computer via USB	<ul style="list-style-type: none"> • X2405 If damaged • L2407 if more than 1 Ohm • N2421
2.4 Hands-Free connection (PHF)	Phone stuck in PHF mode when PHF is not attached	<ul style="list-style-type: none"> • V2417 if pin 8 are short circuit to pin 9 at X2405 • N2422
	Phone not recognize PHF set	<ul style="list-style-type: none"> • X2405 if damaged • R2448 if more than 1 Ohm • N2422
2.5 SIM		<ul style="list-style-type: none"> • X2402 if damaged
2.6 Slide Sensor		<ul style="list-style-type: none"> • X2410 if damaged



Failure	Failure Symptom	Repair Action
2.7 Display		<ul style="list-style-type: none"> • X4200 if damaged • Z4200 • Z4201 • Z4202
2.8 Displays Illumination		<ul style="list-style-type: none"> • X4200 if damaged • L4200 if more than 1 Ohm • V4200 • V4201 • V4203
2.9 Trickle Charge LED		<ul style="list-style-type: none"> • V4206
2.10 All LEDs beside Trickle Charge LED		<ul style="list-style-type: none"> • N4400
2.11 Auto Focus LED		<ul style="list-style-type: none"> • X4400 if damaged • N4400
2.12 Tally LED		<ul style="list-style-type: none"> • X4400 if damaged • N2410
2.13 Back Side LEDs		<ul style="list-style-type: none"> • X4400 if damaged
2.14 Keypad Numeric LEDs		<ul style="list-style-type: none"> • X2410 if damaged
2.15 Camera Snap Button LED		<ul style="list-style-type: none"> • X2410 if damaged
2.16 Keypad Navigation LEDs		<ul style="list-style-type: none"> • X4200 if damaged
2.17 Camera navigation LEDs		<ul style="list-style-type: none"> • X4200 if damaged
2.18 Volume Up Button		<ul style="list-style-type: none"> • S2453
2.19 Volume Down Button		<ul style="list-style-type: none"> • S2454
2.20 Camera Rec Button		<ul style="list-style-type: none"> • S2415
2.21 Camera Play Button		<ul style="list-style-type: none"> • S2424
2.22 Camera Snap Button		<ul style="list-style-type: none"> • X2411 if damaged • X2410 if damaged
2.23 Camera Cover Detect		<ul style="list-style-type: none"> • X4400 if damaged
2.24 Keypad Numeric		<ul style="list-style-type: none"> • X2410 if damaged • V2478 if short circuit or missing • V2479 if short circuit or missing
2.25 Keypad Navigation		<ul style="list-style-type: none"> • X4200 if damaged



Failure	Failure Symptom	Repair Action
2.26 Game A and B Buttons		<ul style="list-style-type: none"> • X4200 if damaged
2.27 Real Time clock	The clock has to be set after the battery has been detached	<ul style="list-style-type: none"> • C2214
	The clock gain or lose time SERP calibrating is performed	<ul style="list-style-type: none"> • B2100
2.28 Ear Speaker		<ul style="list-style-type: none"> • X4200
2.29 Polyphonic Speaker (Loudspeaker, Base Speaker)		<ul style="list-style-type: none"> • X3102 if damaged • X3103 if damaged • V3101 if X3102 or X3103 are short circuit to GND. • N3100 • N2410
2.30 Hands-free (PHF) Aux Ear Speaker		<ul style="list-style-type: none"> • X2405 if damaged • L2403 if more than 2 Ohm • L2404 if more than 2 Ohm • L2406 if more than 1 Ohm • N3101
2.31 Microphone Primary		<ul style="list-style-type: none"> • X4200 if damaged
2.32 Microphone Secondary		<ul style="list-style-type: none"> • X4400 if damaged
2.33 Hands-Free (PHF) Aux Microphone		<ul style="list-style-type: none"> • X2405 if damaged • L2401 if more than 2 Ohm • L2402 if more than 2 Ohm • N3101
2.34 Accelerometer		<ul style="list-style-type: none"> • N2411
2.35 Camera		<ul style="list-style-type: none"> • N4400 if phone hangs after discharge in service menu • C4416 if missing • X4300 if damaged • X4311 if damaged • X4312 if damaged • X4313 if damaged • X4314 if damaged • X4315 if damaged • N2205 • N2206 • N2213 • N2212 • N2500
2.36 Opto Sensor (to dark or to light pictures)		<ul style="list-style-type: none"> • X4200 if damaged • N2201



Failure	Failure Symptom	Repair Action
2.37 Xenon Flash		<ul style="list-style-type: none"> • N4400 if phone hangs after discharge in service menu • C4416 if missing • X4400 if damaged • X4410 if damaged • N2410
2.38 Bluetooth and FM Radio		<ul style="list-style-type: none"> • N1300
2.39 Bluetooth and WLAN		<ul style="list-style-type: none"> • X1530 if damaged • X1500 if only short distance • N1510 • N2300 • N2410
2.40 Bluetooth		<ul style="list-style-type: none"> • N1300
2.41 FM Radio		<ul style="list-style-type: none"> • X2405 if damaged • L2408 if more than 1 Ohm • N1300
2.42 TV OUT		<ul style="list-style-type: none"> • X2405 if damaged • R2443 if more than 1 Ohm • V2414 if pin 7 are short circuit to pin 9 at X2405 • N2208 • N2209 • N2700
2.43 A-GPS		<ul style="list-style-type: none"> • X4200 if damaged • N2410
2.44 Memory Stick Note only C905c		<ul style="list-style-type: none"> • X2401 if damaged
2.45 Network problems (bad or no network)		<ul style="list-style-type: none"> • Z1200



3 Repair Actions for Go/No Go Test Failures

Failure	Repair Action
Fails any part of Go/No Go testing using cable	Run the calibration routine
Fails Go/No Go test in box but passes Go/No Go using cable	Replace Z1200 Replace the antenna Check X1210 and X1211 for damage and replace if necessary Rerun the phone through Go/No Go testing in box
Fails Go/No Go test after passing calibration	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• N1211 GSM Note not C905c• N1200 GSM• N1210 UMTS• N1200 UMTS



5 Revision History

Rev.	Date	Changes / Comments
1	2008-10-24	First release
2	2009-03-06	N4400 added to Camera and Xenon flash problems
3	2009-04-22	Z1200 added to Network problems cap.2.45 and Repair Actions for Go/No Go Test Failures
4	2009-05-19	C4416 added to Camera and Xenon Flash problems
5	2010-09-02	V2478 and V2479 added to 2.24 Keypad Numeric problems