



Trouble Shooting Guide, Electrical

Applicable for M600

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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. Perform current measurements using a dummy battery and power supply with digital current display. The phone should be fully assembled. Perform voltage and resistance measurements with a multimeter. Purchasing this equipment and performing these measurements is optional but recommended.

2 Repair Actions for Manual Test Failures

Failure	Failure Symptom	Repair Action
2.1 Audio	No microphone or low gain	Replace D5001 Replace N2000
	No or low audio using headset	Replace N5500
	No audio in ear speaker	Replace N5010 Replace N2000
	Phone always start up in headset profile	Replace N5010
	No or poor audio in loudspeaker	Replace N5505 Replace X5500 if damaged Replace X5501 if damaged
2.2 Bluetooth	Hang when using bluetooth or not possible to use bluetooth	Replace B2510
	Other problems	Replace X3002 if damaged Replace N3001 Replace N4100 Replace B2510
2.3 Charging	Can't charge	Replace V4002, V4005 Replace V4006 Replace V4003 Replace N2000
	Can't charge with USB cable	Replace V4004
	Charging "alien battery" <i>Note: When the phone identifies the battery as alien (No original) it will charge it with a very low current.</i>	Replace V4001



2.4 Display		Replace X2824 if damaged
2.5 Illumination	No display illumination	Replace N4070
	No keyboard illumination	Replace V4073
2.6 IrDA		Replace H2660
2.7 Key	Problem related to QWERTY keyboard	Replace X2823 if damaged
	Internet access key (@ key)	Replace S2821 if damaged
	Back key (↵ key)	Replace X5502 if damaged
	Touch screen	Replace X2824 if damaged
2.8 Memory stick		Replace X5502 if damaged
2.9 On/Off	Can't power on	Replace S2820 If damaged Replace X2821 If damaged Replace B2500 (32kHz clk) Replace D2501 Replace N2000
	Current draw when powered off	Replace D1100
	Turns off by itself	Replace X2821 If damaged
2.10 RTC	The clock has to be set after the battery has been detached.	Replace V4001
2.11 SIM		Replace X5502 if damaged
2.12 USB		Replace N2662 Replace D2663 Replace B2510

3 Repair Actions for Go/No Go Test Failures

Failure	Repair Action
Fails any part of Go/No Go testing	Run the calibration routine.
Fails Go/No Go test, but passes calibration	Replace the antenna. Replace X1010-X1012 Rerun the phone through Go/No Go testing.
Fails Go/No Go test after passing calibration	Change X1001 and retest.

4 Repair Actions for Calibration Failures

Failure	Repair Action
Fails any part of the GSM calibration routine	Replace X1001 if damaged Replace N4030 Replace D1100 – Approved Centers Only Replace N2000 – Approved Centers Only



Failure	Repair Action
Fails any part of the UMTS calibration routine	Replace X1001 if damaged Replace N4030 Replace N1400 – Approved Centers Only Replace D2005 – Approved Centers Only Replace D1100 – Approved Centers Only



5 Revision History

Rev.	Date	Changes / Comments
A	2006-05-24	First release
2	2009-02-18	Removed S2823 Jog dial