



Trouble Shooting Guide, Electrical

Applicable for P990

Contents

1	General	2
2	Repair Actions for Manual Test Failures.....	2
2.1	Audio	2
2.2	Bluetooth	2
2.3	Camera.....	2
2.4	Charging.....	2
2.5	Display.....	3
2.6	FM-Radio.....	3
2.7	Illumination	3
2.8	IrDA	3
2.9	Key	3
2.10	Memory stick	3
2.11	On/Off.....	3
2.12	SIM	3
2.13	USB	3
2.14	WLAN	3
3	Repair Actions for Go/No Go Test Failures	3
4	Repair Actions for Calibration Failures.....	4
5	Revision History	5



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 reparable 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		Replace X3001 if damaged Replace N3001
2.3 Camera	Video call camera	Replace X2741 if damaged
	Camera flash does not work	Replace X2742 if damaged
	Mega pixel Camera will not start or show open camera shutter	Replace X2743 if damaged
	Mega pixel Camera does not work	Replace x2740 if damaged
2.4 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
2.5 Display		Replace X2824 if damaged
2.6 FM-Radio		Replace N5502
2.7 Illumination	No display illumination	Replace X2824 if damaged
	No keyboard illumination QWERTY	Replace X2823 if damaged
2.8 IrDA		Replace H2660
2.9 Key	Problem related to QWERTY keyboard	Replace X2823 if damaged
	Back key (↵ key) Internet access key (@ key) Camera key Media player key	Replace X2823 if damaged
	Jog dial (navigation wheel)	Replace S2822 if damaged
	Touch screen	Replace X2824 if damaged
	Problem related to 1,2,3 keyboard	Replace X2830 if damaged
	Key lock switch	Replace S2821 if damaged
2.10 Memory stick		Replace X5580 if damaged
2.11 On/Off	Can't power on	Replace S2820 If damaged Replace X4000 If damaged Replace B2500 (32kHz clk) Replace D2501 Replace N2000
	Current draw when powered off	Replace N1300 – Approved Centers Only
2.12 SIM		Replace X2100 if damaged
2.13 USB		Replace N2662 Replace D2663
2.14 WLAN		Replace X6000 if damaged Replace D6000 Replace N6000

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 TX calibration routine	Replace X1001 if damaged Replace W1300 GSM 900 only Replace W1301 GSM 1800/1900 (DCS/PCS) only Replace N1300 – Approved Centers Only Replace N1100 – Approved Centers Only Replace N1000 – Approved Centers Only Replace N2000 – Approved Centers Only
Fails any part of the GSM RX calibration routine	Replace X1001 if damaged Replace N1100 – Approved Centers Only Replace N1000 – Approved Centers Only Replace N2000 – Approved Centers Only
Fails any part of the UMTS calibration routine	Replace X1001 if damaged Replace N1400 – Approved Centers Only Replace D2005 – Approved Centers Only Replace D1100 – Approved Centers Only



5 Revision History

Rev.	Date	Changes / Comments
A	2006-07-14	Initial Release
C	2006-07-27	Was an attempt to fix CSPN.
D	2006-08-22	Applicable info was incorrect on rev. C, so this document is created to correct that problem. No content changes were made.