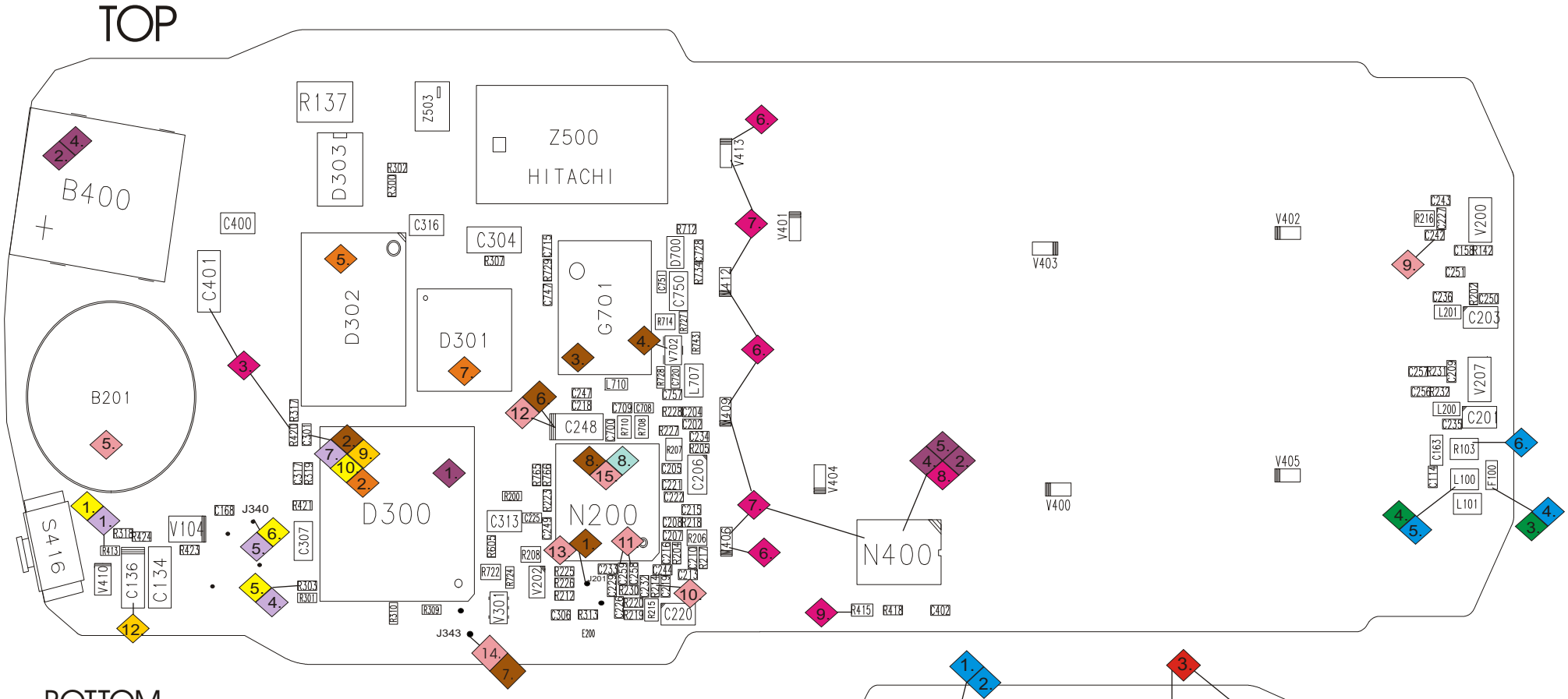
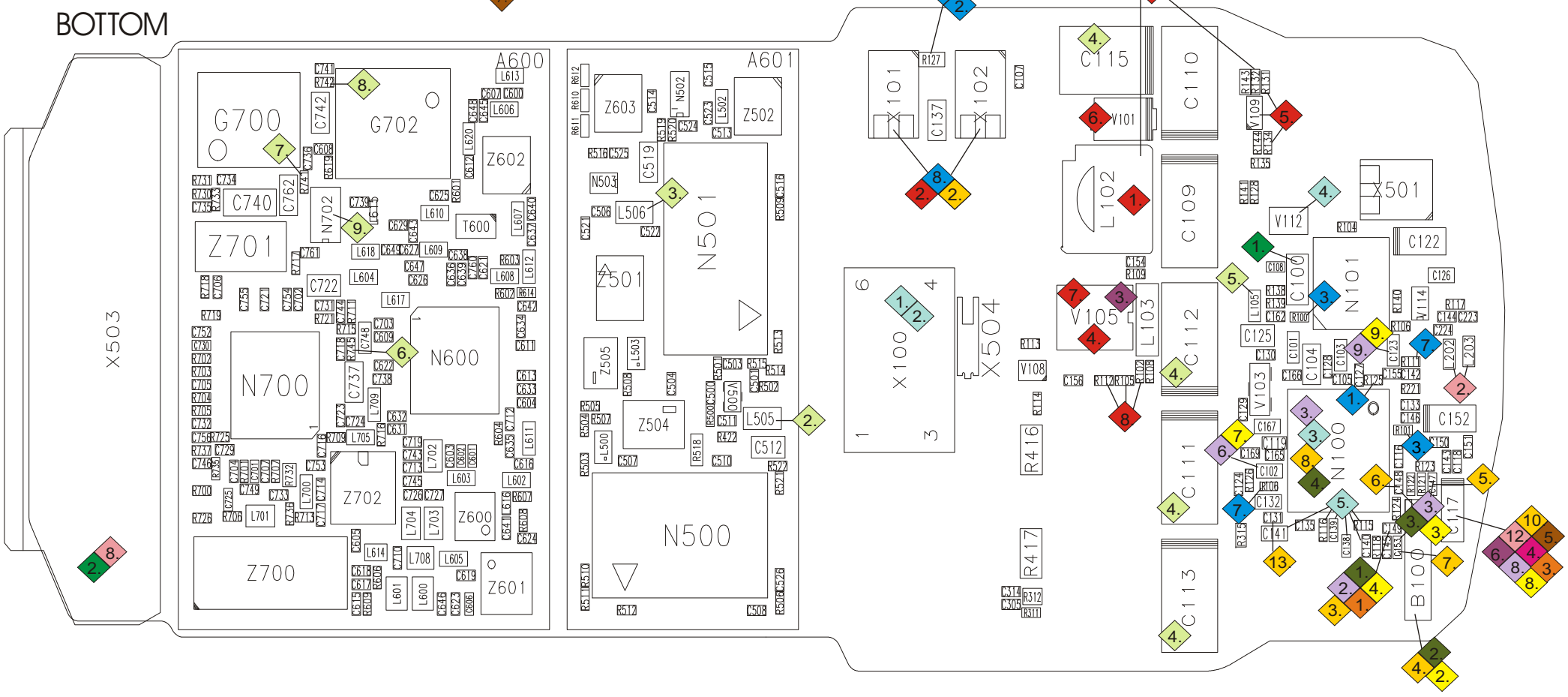
Quick Repair Hints Layout

NSE-8

TOP



BOTTOM



Phone doesn´t switch on DC / DC converter

1. Check VB on L102 (check soldering and resistance) / bottom
2. Check connector X101 and X102 / bottom
3. Check the connection between L102 and R132 (No 0 Ohm swap) / bottom
4. Check pin 3 from V105 on="low" status 0 Ohm. Yes go to No. 6. / bottom
5. Check V109 and R131,132,134,143,144 / bottom
6. Check the voltage on V101 anode 2,6V; cathode 3,2V. OK then go to No. 9 / bottom
7. Check 600kHz switching frequency on Pin 4,5,12,13 of V105 (No then change) / bottom
   Check 1,2V operation voltage on Pin 15 of V105 and solder.
8. Check R102, R105 and R112 / bottom
9. DC / DC converter is OK! Continue with CCONT.

Phone doesn´t switch on (CCONT part)

1. Check if PWRON (3,2V DC on R413) drops to 0V during pressing S416 / top
2. Check 32,768 kHz on B100. Yes go to No. 4
   Change B100 if frequency or amplitude of the signal is not OK / bottom
3. Check C147, C148, C153 / bottom
4. Check 32,768 kHz squarewave signal on C149. No then change N100 / bottom
5. Check PURX (2,8V DC) on R303 after pressing S416. No then change N100 / top
6. Check VXO PWR (2,8V DC) on J340. No then is MAD faulty, swap then Mad is not changeable. / to
7. Check VXO (2,8V DC) on C102. No change N100 / bottom
8. Check Vbb 2,8V DC)C117. No change N100
9. Check Vref (1,5V DC) on C123. No change N100 / bottom
10. Check 13 Mhz clk frequency on C301. No, check G700 / top

Display failure

1. Missing line segments or no Display function. No go to No.5
2. Check the display of mechanical appearance (not OK change the Display)
3. Check VBB 2,8V DC on C400 and R420 (OK change the Display) / top
4. Check the VBB voltage on C117 (OK PCB is faultly) / bottom
5. No display back light
6. Check VDC_OUT 3,2V on V406, V409, V412, V413 (not OK PCB will broken) / top
7. Check the LCD_LED line pin 9 N400 to V406, V409, V412, V413 "on"=1,2V, "off"=1,9V / top
8. Check pin 1 N400 VDC_OUT, pin2 VBB, LCD_LIGHT pin7 "on"=2,8V / top
9. Check R415 12K Ohm pin8 to ground / top

Buzzer failure

1. Check buzzer control signal from MAD (2,8Vpp on pin3) / top
   Use WINTESLA / testing / audio / level1 / 1000 Hz No swap the phone
2. Check 3,9V VDC_OUT on pin 1 of N400 and "+" of B400. OK go to No. 4 / top
3. Check connection to VDC_OUT on V105 pin 1,16 / bottom
4. Check buzzer signal 5Vpp on pin6 of N400 and "-" of B400. Ok change B400 / top
5. Check VBB 2,8V DC on pin 2 of N400. OK change N400 / top
6. Check connection to Vbb 2,8V DC on C117 / bottom

Contact Service, COBBA parallel / serial bus failed

1. Check COBBACLK 13MHz / 3,2 Vpp on J201 (OK go to No.5) / top
2. Check 13MHz RFC on C301 OK swap because MAD or PCB should be the reason / top
3. Check soldering or change G701 / top
4. Check soldering or change V702 / top
5. Check VBB 2,8V on C117 (not OK change N100 and C117) / bottom
6. Check VCOBBA 2,8V DC on C248(top) (not OK change N100(bottom) and C248)
7. Check COBBA reset on J343 (not OK swap because MAD or PCB should be the reason) / top
8. Change the COBBA / top

Internal audio failure

1. Speaker doesn´t work (No go to No. 6)
2. Check connection between L202, L203 to earphone pads (OK go to No. 5) / bottom
3. Change L202 or L203
4. Check the resistance between the lines and ground >1M Ohm
5. Check the mechanic and impedance of speaker (about 30 Ohm) / top
6. Microphone doesn´t work
7. Check contacts and impedance of microphone (OK go to No. 9)
8. Change microphone, not OK check the connection X503-->PCB for soiled / bottom
9. Check the microphone bias voltage 1,7V on C242 (OK go to No. 11) / top
10. Check voltage on R214. Not OK change N200 / top (check first the connection R214 to A4 N200)
11. Check audio signal on C258, 259. (Not OK follow signal back to microphone) / top
12. Check 2,8V VBB on C117(bottom) and 2,8V VCOBBA on C248 (top)(Not OK check CCONT)
13. Check COBBACLK 13MHz 3,2Vpp on J201 (Not OK swap MAD failed) / top
14. Check COBBARESET on J343 (Not OK swap MAD failed) / top
15. Change N200 / top

Phone intermittend switches off

1. Check if this happens only with 5V SIM-cards and if the phone works probably with 3V SIM´s
   Not OK go to No.12
2. Check X101 and X102 i poor soldered, bent or soiled / bottom
3. Check amplitude of 32,768 kHz square wave at C149 (OK go to No. 9) / bottom
4. Change or check soldering of B100 / bottom
5. Change or check soldering of C147 / bottom
6. Change or check soldering of C148 / bottom
7. Change or check soldering of C153 / bottom
8. Change or check soldering of N100 / bottom
9. Check amplitude of 13 Mhz, RF Clk C301, 2,8Vpp (Not OK change G701, V702) / top
10. Check VBB 2,8V DC on C117 / bottom
11. Change or check soldering of N100, C117
12. Check the 5V supply voltage on C136 with an oscilloscope / top
13. Change C136 if the noise is higher than 350mVpp / bottom

Not charging error massage / beep is coming from phone if charger is plugged in

1. BTEMP A/D are OK go to No.3, not OK check connection between R125, R127 not OK = swap / bottom
2. Check NTC resistor R127 / bottom
3. Charge voltage failed (No go to Nr. 7) R100/R101 =0,8V (OK change N100) / bottom
4. Check resistance of F100 / top
5. Check resistance of L100 / top
6. Check R103 if it is broken Yes, change R103 and N101 / top
7. Battery voltage failed, check R106/R111 (1:2) OK change N100 / bottom
8. Check X101 and X102 / bottom

Contact Service, CCONT interface failed

1. Check if PWRON 3,2V drops to 0V on R413 during pressing S416 (No check R413,S416) / top
2. Check the 32,768 kHz square wave on C149 (OK go to No. 4) / bottom
3. Change or check soldering of B100, C147, C148, C153, N100 / bottom
4. Check if PURX goes up to 2,8V DC on R303 (No change N100) / top
5. Check if VCXOPWR goes up to 2,8V DC on J340 (No, MAD or PCB should be the reason) / top
6. Check if VXO goes up to 2,8V DC on C102 (No change N100) / bottom
7. Check if RFC 13MHz at C301 (2,8Vpp)(No, change or check soldering of G701,V702) / top
8. Check if VBB goes up to 2,8V DC on C117 (No, change N100) / bottom
9. Check if VREF goes up to 1,5V DC on C123 (No, change N100) / bottom

Doesn´t switch on, section: FLASH (update not possible)

1. Check 32,768 kHz sleep clock on C149. Wrong see section CCONT / bottom
2. Check 13MHz Rfclk on C301. Wrong see section CCONT / top
3. Check VBB 2,8V. Wrong see section CCONT
4. External RAM error. No, go to No. 6
5. Change RAM or resolder (D302) / top
6. MCU boot failure
7. Change FLASH (D301) / top
8. Swap phone, because MAD or PCB should be the reason.

Insert SIM card, SIM card not accepted

1. Check solderings and contacts of X100 / bottom
2. Check pin4, pin3, pin2, pin1/5 of SIM-CARD reader / bottom
3. Change N100 / bottom
4. Change V112 if SIM-DATA,-CLOCK,-RESET or VSIM is short circuited to ground. / bottom
5. Check also R115, R116, C137, C138, C139, C140, C141 / bottom
6. SIM card not accepted
7. SIM LOCK active (correct the SIM LOCK settings)
8. Change N200 / top

Not charging beep is not coming from phone if charger is plugged in

1. Check V_CHARGE_IN on C100 OK = Change N101 / bottom
2. Check system connector, clean contacts & PCB or change if necessary / bottom
3. Check resistance of F100 / top
4. Check resistance of L100 / top

Clock time problems / wrong ringingtone speed

1. Check 32.768 kHz on C149 / bottom
2. Change B100 / bottom
3. Change C147, C148, C153 / bottom
4. Change N100 / bottom

Low standby / operation mode time

1. Check power consumption of the phone off state >0-1mA, sleep mode >2-8mA
   call mode GSM900 / GSM1800 >0-1A (OK go to No. 11)
2. Lift L505 (OK change N500) / bottom
3. Lift L506 (OK change N501) / bottom
4. Lift capacitors C111-113, C115 (OK change capacitors) / bottom
5. Lift L105 (not OK go to No. 10) / bottom
6. Lift R745 (OK change N700) / bottom
7. Lift R741 (OK change G700) / bottom
8. Lift R742 (OK change G702) / bottom
9. Change N702 / bottom
10. Check outputvoltages of CCONT
11. Check the charging circuit
12. Calibrate RX and TX