

**PAMS Technical Documentation**  
**NSE 8/9 Series Transceivers**

**Service Software**  
**Instructions**

## CONTENTS

Installing the Software .....	5
Hardware requirements for Windows 3.1x .....	5
Hardware requirements for Windows 95 .....	5
Software Environment of the Support Modules .....	5
Required Servicing Equipment .....	6
Equipment Setup .....	7
Installing the Software on PC Hard Disk .....	8
Using the Software with a Hard Drive .....	8
Equipment Setup for Tuning a Phone without Removing Covers .....	9
Flash Concept for NSE-8/9 (covers on) .....	10
Flash Concept for NSE-8/9 (covers off) .....	11
Tuning With Covers Off .....	12
Warranty Transfer .....	13
Tuning Steps .....	14
1. RX Calibration (AGC + AFC) .....	14
2. Alignment of Transmitter Power Levels .....	15
3. I/Q Modulator Alignments .....	17
4. Energy Management Calibration .....	19
Common User Interface .....	20
NSE-8 Features .....	21
Product .....	21
New command .....	21
Open... command .....	21
Initialise... command .....	21
Normal Mode .....	21
Local Mode .....	22
Band command .....	22
GSM .....	22
PCN .....	22
Faultlog command .....	22
Activate Faultlog .....	23
Edit Faultlog .....	23
FastNAM command .....	23
FLS-1 Remote Update command .....	23
Exit command .....	23
Tuning .....	24
RX Calibration... command .....	24

Tx Power... command .....	26
Tx I/Q... command .....	30
Energy Management Calibration... command .....	32
DC/DC Tuning Command .....	34
Testing .....	36
RF Controls... command .....	36
RSSI Reading... command .....	40
Self Tests... command .....	41
Supported Self Tests .....	42
ADC Readings... command .....	43
Audio... command .....	44
Internal Audio Loops .....	44
User Interface... command .....	46
Call Simulation... command .....	46
Noise Sensitivity... command .....	48
Vibra test....command .....	49
Software .....	50
Product Profile... command .....	50
Start Up Self-tests... command .....	51
Set Factory Values... command .....	52
Phone Identity... command .....	53
Warranty State... command .....	55
Production Data Edit... command .....	56
Dealer .....	57
User Settings... command .....	57
Short Code Memory... command .....	58
SCM & User Settings... command .....	59
Restore User Defaults... command .....	61
Set UI/DEV Default Values... command .....	62
Flash PPM... command .....	63
Operator Settings.....command .....	64
IWR Swap data .....command .....	64
Flash Phone... command .....	65
View .....	66
Quick/RF Info... command .....	66
Phone Identity... command .....	67
Appendix 1, Vocabulary .....	68

[This page intentionally left blank]

## Installing the Software

To run the After Sales SW, a parallel port software protection device (PKD-1) has to be connected. TDF-4 box must be connected to the PC for flashing purposes. The user can use PC-locals functions in modules for testing NSE-8 mobile stations (MS). The test functions send test messages from PC to MS and receive results and show them in the PC display. The messages can be sent via M2BUS or FBUS.

*Note: if this software is to be run on laptops, the power saving feature MUST be switched off.*

### Hardware requirements for Windows 3.1x

The recommended minimum hardware standard to run Service Software is any computer which is 386 33 MHz or greater with at least 4 MB of memory and VGA type display (640 x 480). This assumes that only the WinTesla with After Sales Support Modules is active, i.e. other Windows packages are not running in the background.

### Hardware requirements for Windows 95

The recommended minimum hardware standard to run Service Software is any computer which has a Pentium processor, memory of 8 MB and meets HW requirements recommended by Microsoft.

### Software Environment of the Support Modules

The Service Software user interface is intended for the following environments: Microsoft Windows 3.1x (enhanced mode) and Windows 95 environment running in enhanced mode. Support for Microsoft NT may be added, if required. Detailed information about Windows and application usage can be found from the Microsoft Windows Version 3.1 Users Guide chapter one (Windows Basics) and chapter two (Application Basics).

As an ordinary Windows application, the main idea in the user interface is that selections are made with menus, push buttons and shortcut keys. Selections can be done by using keyboard and/or mouse. There is always a status bar displayed at the bottom of the main window which contains information about current actions.

## Required Servicing Equipment

- Computer: At least IBM 80386 or compatible with one unused serial port (COM1 or COM2)\*, one parallel port (LPT1), hard disk recommended
- Operating System: DOS Version 3.2 or later
- If PCLStart in use: DOS 6.22 and IBM 80486 or compatible
- Display: Any 80-character text display
- Service software version for 3.5" disk (product code: 0774080)
- Software protection key PKD-1 (product code: 0750018)
- Service MBUS Cable DAU-9S (product code: 0730108)
- Audio cable ADS-1 (product code: 0730011)
- Modular T-adapter (product code: 4626134)
- Service Box JBU-5 (product code: 0770120)
- PC with service software; see separate section for instructions on installation and use.
- Service accessories; see equipment setup pictures.
- Multimeter or DVM.
- GSM radio telephone test station or separate measuring equipment as follows:
  - RF generator
  - pulse power meter
  - spectrum analyzer
  - attenuator and branching unit

## Equipment Setup

*Caution: Make sure that you have switched off the PC and the printer before making connections !*

*Caution: Do not connect the PKD-1 key to the serial port. You may damage your PKD-1 !*

Attach the protection key PKD-1 to parallel port one (25-pin female D-connector) of the PC. When connecting the PKD-1 to the parallel port be sure that you insert the PC end of the PKD-1 to the PC (male side). If you use a printer on parallel port one, place the PKD-1 between the PC and your printer cable.

Next connect the M2BUS service cable, DAU-9P, to the serial port (RS-232) of the computer. Attach one end of the service cable to the PC serial port and the other end to TDS-7 or MJS-13.

When the phone covers are removed the jigs should be used.

For audio measurements connect the audio cable, SCB-5 from the bottom connector on the phone, or MJS-13, to service box JBA-4.

For JBA-4 and ADS-1 connect as follows:

- EAR line to AF INPUT of test equipment
- MIC line to MOD GEN OUTPUT of test equipment

## Installing the Software on PC Hard Disk

The program is delivered on a diskette and is copy protected with a dongle PKD-1. It must be present in parallel port when using Service software.

The program can also be installed on the hard disk, which is recommendable to obtain a maximum data access rate.

Keep the original diskette safe to enable re-installing of the program !

If you plan to use PCL Start service software, you must install it before installing Service software, see PCL Start installation instructions.

To install the new Service software program, follow the steps below:

---

1. Insert the new Service software diskette into drive A
2. Start Windows, open File Manager, select drive A
3. Start INSTALL.EXE and

## Using the Software with a Hard Drive

### Windows 3.x

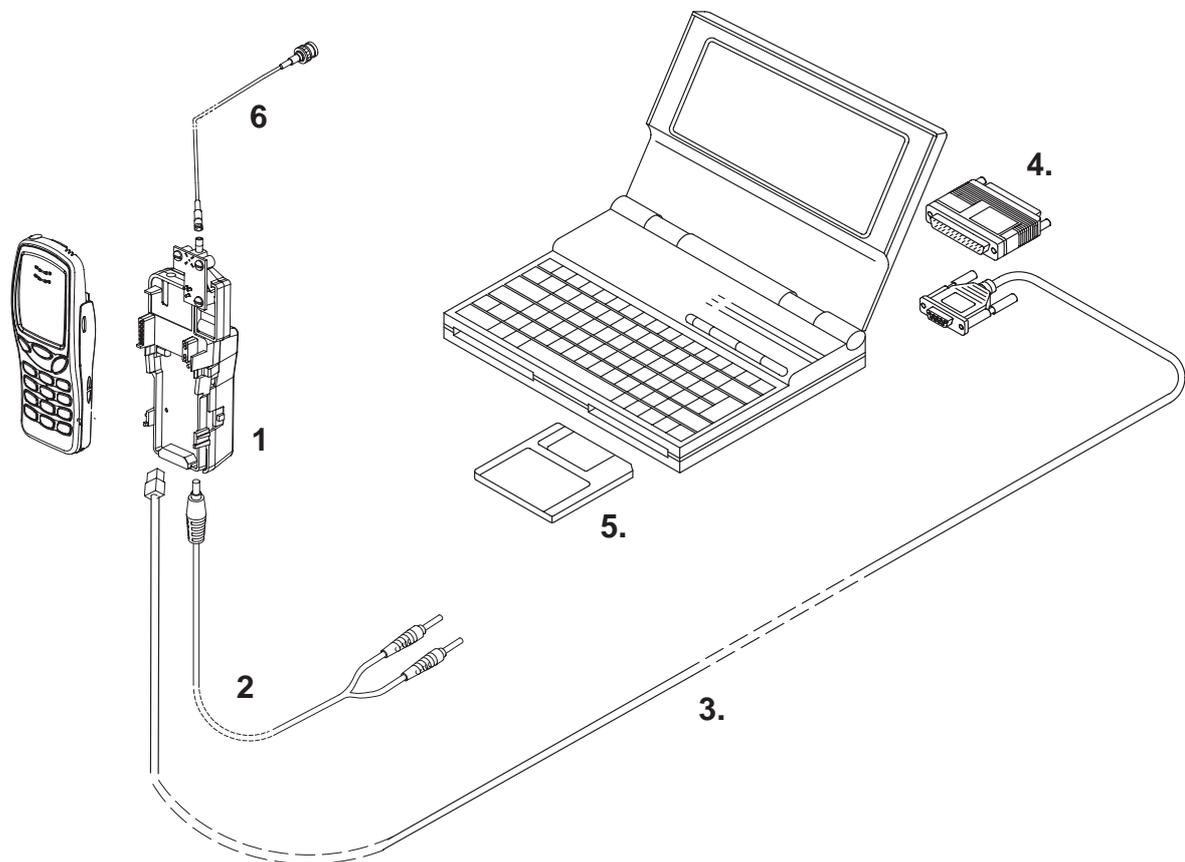
Open Programs group: *Service Software*

Double Click: *WinTesla Service Software*

### Windows 95

Press Start, Programs, *Service Software*, *WinTesla Service Software*

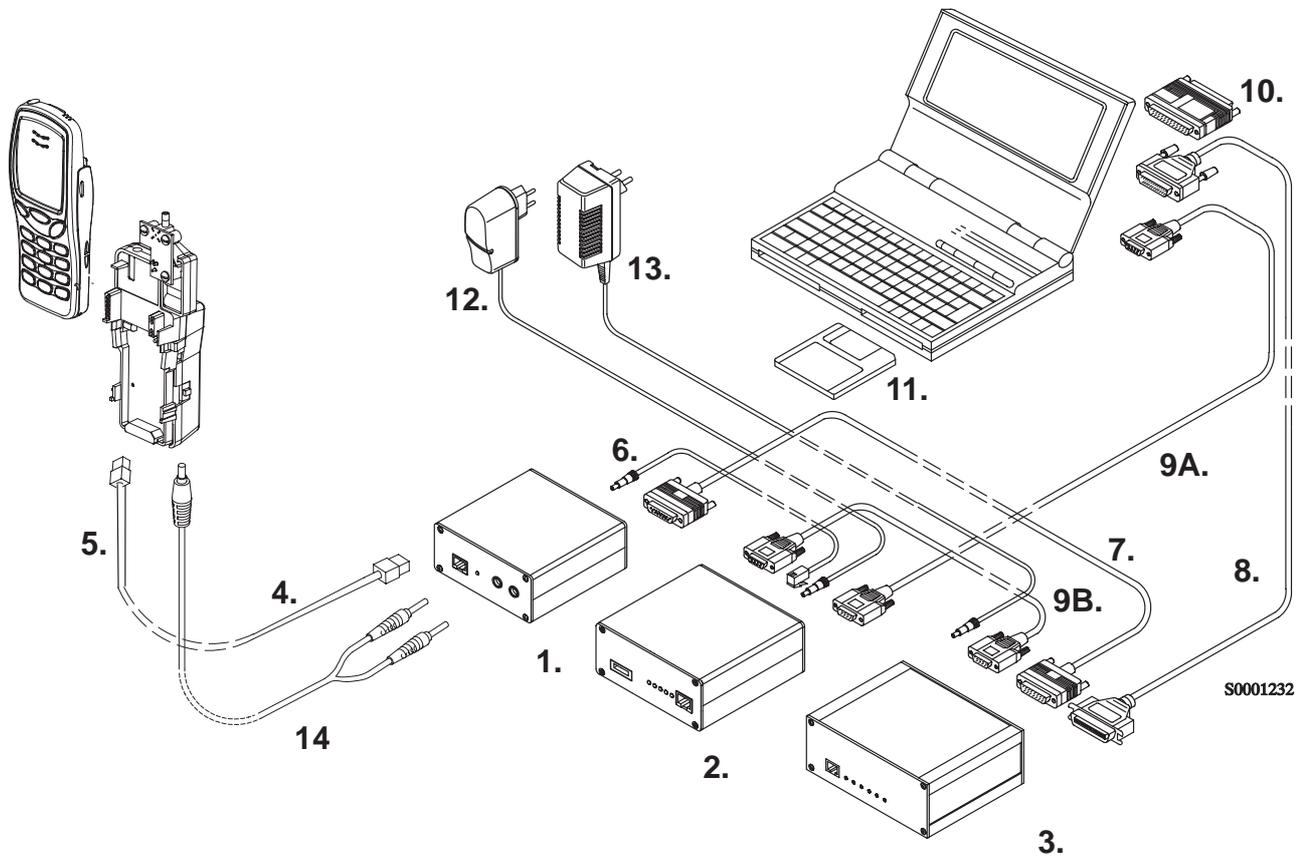
## Equipment Setup for Tuning a Phone without Removing Covers



Item: code:	Service accessory:	Product
1	Service Interface Cable TDS-7	0770160
2	DC Cable PCS-1	0730012
3	Service MBUS Cable          DAU-9S	0730108
4	Software Protection Key PKD-1	0750018
5	Service SW Disk 3.5	0774080
6	RF Coaxial Test Cable	4626009

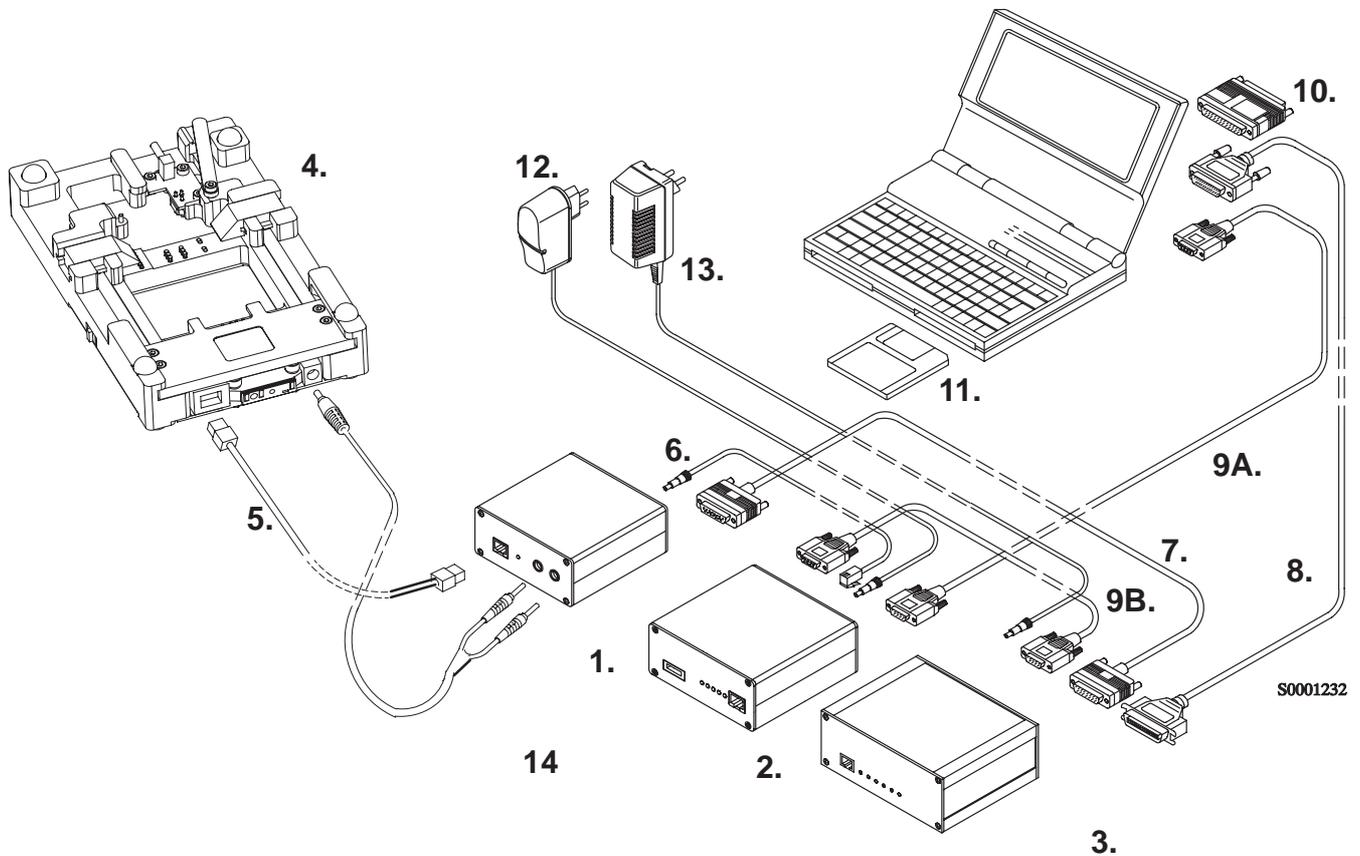
**Note:** Nominal operating voltage range for TDS-7 is 9-15VDC

**Flash Concept for NSE-8/9 (covers on)**



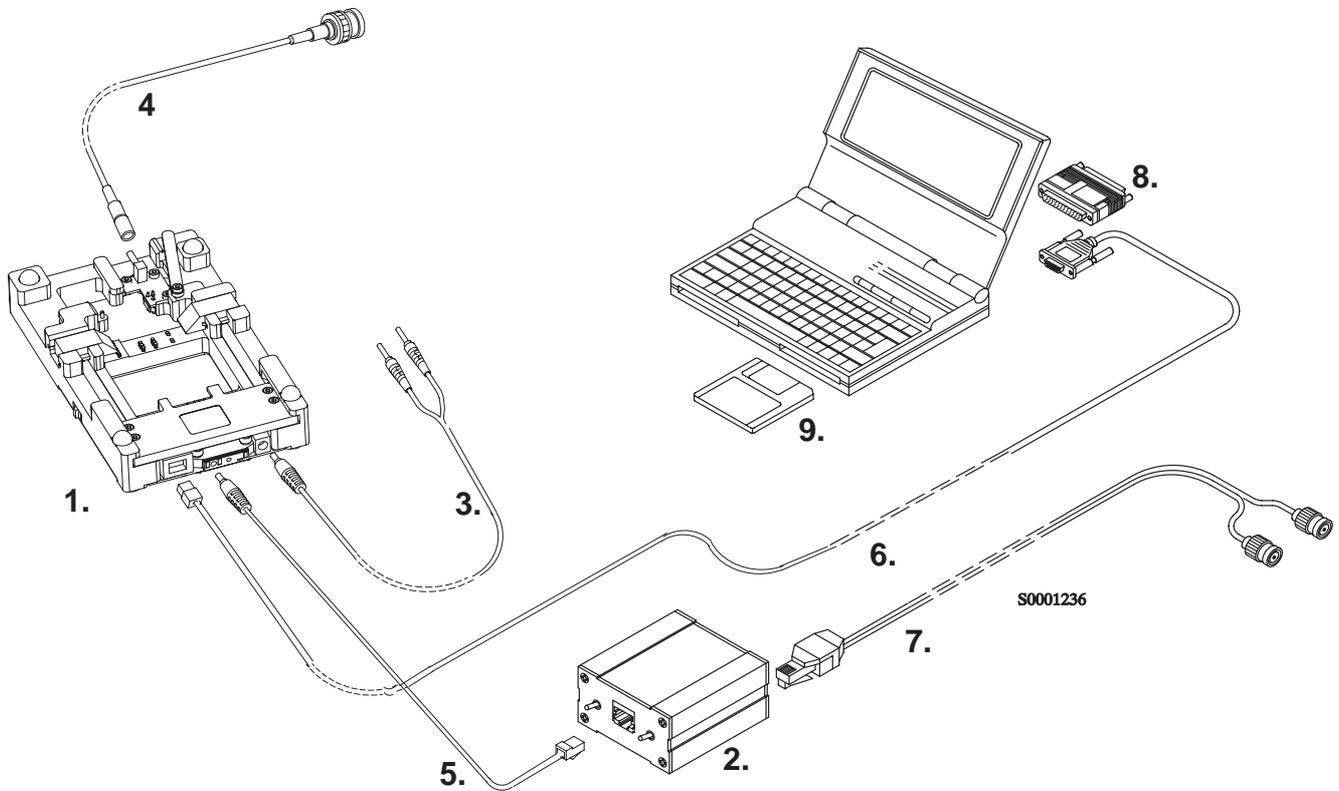
Item:	Service accessory:	Product code:
1	Flash Loading Adapter FLA-5	0080178
2	Flash Security Box TDF-4	0770106
3	Prommer FPS-4S	0085095
4	Service Interface Cable TDS-7	0770160
5	Modular Cable XMS-3	0730174
6	DC Cable PCC-1B	0730053
7	D15 – D15 Cable AXS-5 (Included in FLA-5 sales pack)	0730091
8	Printer Cable (Included in FPS-4 sales pack)	0730029
9A	D9 – D9 Cable AXS-4 (Included in FPS-4 sales pack)	0730090
9B	D9 – D9 Cable AXS-4	0730090
10	Software protection key PKD-1	0750018
11	Service SW diskette 3.5"	0774080
12	Travel Charger ACH-6E (Euro)	0270381
	Travel Charger ACH-6U (USA/Japan)	0270382
	Travel Charger ACH-6X (UK)	0270380
13	AC Charger ACL-3E (part of FPS-4 kit)	0680015
14	DC Cable PCS-1	0730012

**Flash Concept for NSE-8/9 (covers off)**



Item:	Service accessory:	Product code:
1	Flash Loading Adapter FLA-5	0080178
2	Flash Security Box TDF-4	0770106
3	Prommer FPS-4S	0085095
4	Service Interface Cable MJS-13	0770158
5	Modular Cable XMS-3	0730174
6	DC Cable PCC-1B	0730053
7	D15 - D15 Cable AXS-5	0730091
	(Included in FLA-5 sales pack)	
8	Printer Cable (Included in FPS-4 sales pack)	0730029
9A	D9 - D9 Cable AXS-4	0730090
	(Included in FPS-4 sales pack)	
9B	D9 - D9 Cable AXS-4	0730090
10	Software protection key PKD-1	0750018
11	Service SW diskette 3.5"	0774080
12	Travel Charger ACH-6E (Euro)	0270381
	Travel Charger ACH-6U (USA/Japan)	0270382
	Travel Charger ACH-6X (UK)	0270380
13	AC Charger ACL-3E (part of FPS-4 kit)	0680015
14	DC Cable PCS-1	0730012

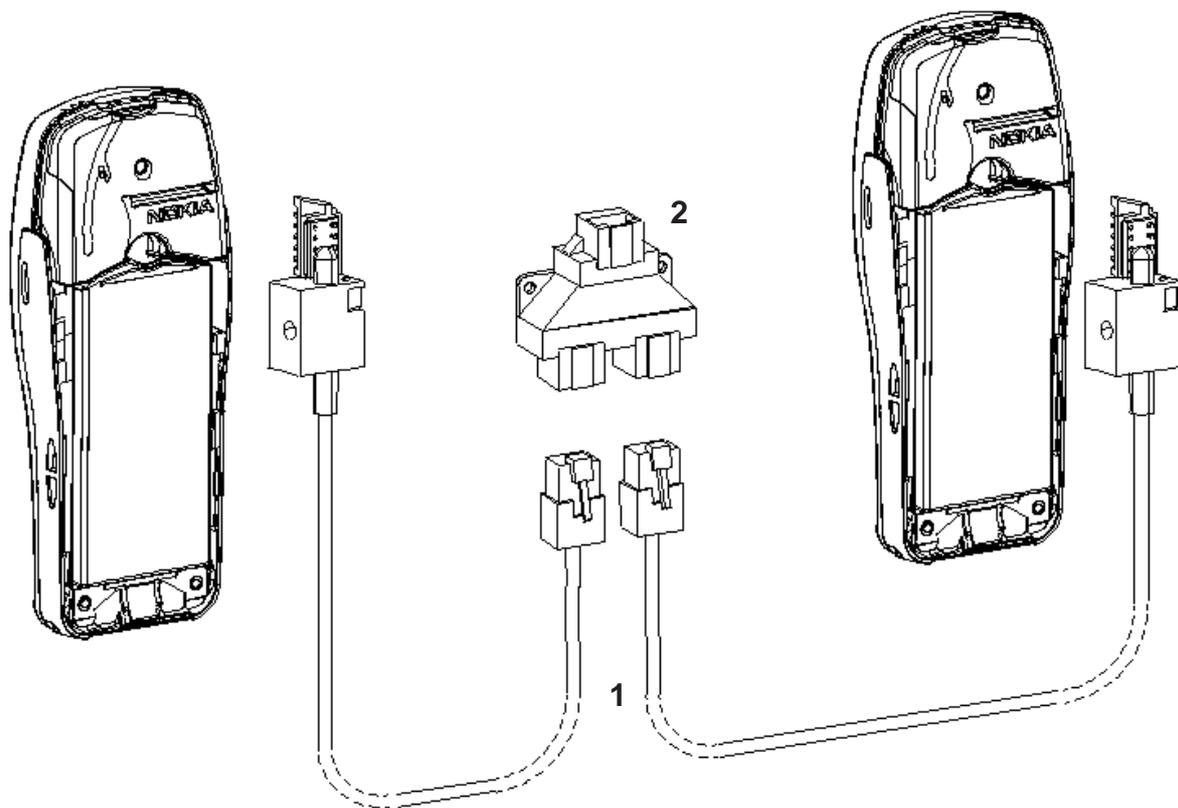
### Tuning With Covers Off



Item:	Service accessory:	Product code:
1	Module Jig MJS-13	0770158
2	Service Audio Box JBA-4	0770094
3	DC Cable PCS-1	0730012
4	RF Coaxial Test Cable	4626009
5	Audio Test Cable SCB-5	0775211
6	Service MBUS Cable DAU-9S	0730108
7	Audio Cable ADS-1	0730011
8	Software Protection Key PKD-1	0750018
9	Service SW diskette 3.5	0774080

**Note** The nominal operating voltage for MJS-13 is 9-15VDC

## Warranty Transfer



Item:	Service accessory:	Product code:
1	Warranty Transfer Tool SCW-1	0770161 (2pcs reqd.)
2	Modular T Adapter	4626134

## Tuning Steps

### 1. RX Calibration (AGC + AFC)

#### Procedure

Follow the steps described in chapter "Service Software Instructions" section "RX calibration... command".

Software reports the following:

AFC init value

AFC slope

PSW slope

AGC DAC values and the corresponding voltages for each gain step (0 - 57 dB)

#### Limits for the reported values

If everything went well the reported values should **approximately** be the following:

Parameter	Low limit	High limit
AFC init value	-80	80
AFC slope	130	230
PSW slope	250	350
AGC 0 dB	400	640
AGC 57 dB	100	300
Difference between the two neighbour AGC steps	10	20

#### Troubleshooting

If the calibration does not succeed the software normally reports "Unable to read data from phone" or "Failed to set high reference" or "Failed to set low reference".

In this case check first the basic functionality of the receiver chain: RF generator frequency set as in the calibration and level for example to the high reference value.

Then go to the RSSI reading menu (under RF controls). If the reading is very low there is something broken in the receiver and must be found by measuring voltages and signal levels at different places (information of these can be found elsewhere in this manual).

If the RSSI reading seems to be within 5 - 10 dB the same as the RF input level check that the VCTCXO (G650) frequency is close enough the wanted frequency. This is most easiest done by measuring the UHF VCO (G550) frequency because the absolute value of the deviation is biggest there. In the GSM mid channel the UHF-VCO frequency should be 2040.0 MHz. If the deviation is bigger than about  $\pm 20$  kHz it is probable that the VCTCXO is not operating correctly.

If both of these (RSSI reading and the frequency) seem to be correct and calibration still fails the most probable reason is that there is a little lack of gain somewhere or the AGC gain control slope in N600 is out of the limits.

This can be verified by changing the generator reference levels from the demanded ones in the calibration procedure in 1 dB steps up and down. If the calibration goes through with some reference levels the corrective action is most probably changing N500 or N600.

## 2. Alignment of Transmitter Power Levels

### Equipment:

- Pulsed power meter or spectrum analyzer and 10 dB attenuator.
- MSJ-13 voltage source within 9–15VDCV.

The following **settings** for the spectrum analyzer are recommended when aligning the power levels: zero span, resolution and video bandwidths 1 MHz, input attenuation 40 dB, sweep time 1 ms, video triggering.

### Procedure:

Follow the instructions given in chapter "Service Software Instructions" section "TX power... command".

For GSM the alignment channel is 60 (902 MHz) and for PCN 700 (1747.8 MHz).

**Targets in dBm:**

Power level	GSM	PCN
0		29.5
1		28
2		26
3		24
4		22
5	32.5	20
6	31	18
7	29	16
8	27	14
9	25	12
10	23	10
11	21	8
12	19	6.5
13	17	5
14	15	3.5
15	13	2
16	11.5	
17	10	
18	8.5	
19	7	
Base	0.06 below lowest power coefficient	0.06 below lowest power coefficient

- Align the three levels.
- Switch off base level calculation and re-calculate.
- Set baselevel coefficient to 0.06 below the lowest coefficient.
- Check that the power is within 0.5dB from target, adjust if not.

### 3. I/Q Modulator Alignments

I/Q modulator alignments are performed in PCN band. If GSM band has been selected and I/Q alignment is started, the service software asks to change to PCN band. If the user wants to continue in GSM, the adjusted values can only be saved to PC memory, not to phone's EEPROM. After changing to PCN band values from PC memory are available, and if the modulator adjustment is good, also the values can be saved to phone's EEPROM. See chapter "Service Software Instructions" and section "TX I/Q... command" for further information.

#### Procedure:

Connect the spectrum analyzer to the phone antenna connector. The recommended spectrum analyzer settings are: span 200 kHz, resolution BW 10 kHz, video BW 1 kHz, sweep 500 ms, input attenuation 30 dB.

- From *RF controls* menu make sure that TX data type is 1.
- Go to *TX I/Q tuning* menu. The alignment channel for PCN is 700 (1747.8 MHz).
- Select the "TX I DC offset" option and adjust the level of the centre frequency (CHF) to minimum.
- Select the "TX Q DC offset" option and adjust the level of the CHF again to minimum.
- After finding both minima change "TX I DC offset" by step or two from the current value to both directions to see, whether better minimum can be found for CHF.
- Select the "Amplitude Difference" option and adjust the level of the unwanted sideband CHF + 67.71 kHz to minimum.
- Select the "Phase Difference" option and adjust the level of CHF + 67.71 kHz again to minimum.
- After all the minima have been found press "Save" button to store the values to phone EEPROM.

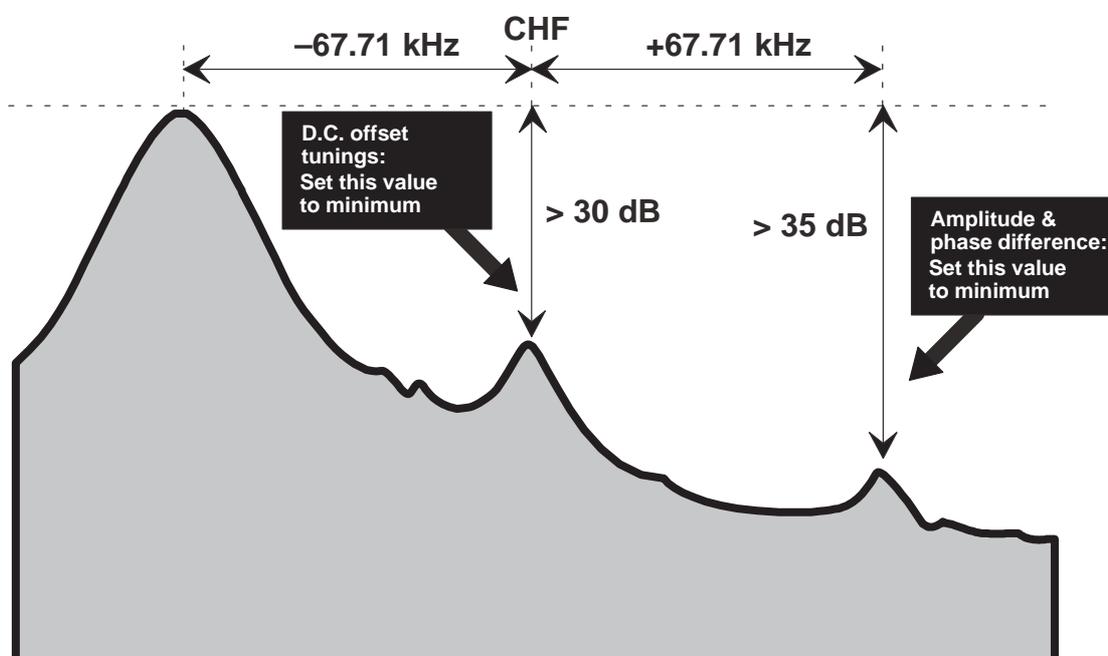
#### Targets:

The level of the centre frequency CHF should be at least **30 dB** down to the wanted sideband CHF - 67.71 kHz.

The level of the unwanted sideband CHF + 67.71 kHz should be at least **35 dB** down to the wanted sideband CHF - 67.71 kHz.

**Alignment verification in GSM band:**

- Go to *Product* → *Initialize* → *Normal mode*. This is needed to give a SW reset for the phone. Which in turn is needed to get the aligned I/Q values in use.
- Go to *Product* → *Band* → *GSM*
- Go to *RF controls* menu and start transmission on channel 60, power level 10, TX data type 1.
- Check the levels of CHF and CHF + 67.71 kHz. **Both the levels should be at least 30 dB down** to the wanted sideband CHF - 67.71 kHz. If both or either of the specifications is not met adjust the required values (I and Q DC offsets for CHF and amplitude and phase for CHF + 67.71kHz) to meet the specifications.



- Store the results in PC memory.
- Go to *Product* → *Band* → *PCN* and then to *TX I/Q Tuning* to check the alignment with the values which are in PC memory. If the specifications are not met in PCN the solution is to find compromise values which are not optimum for either bands but still meet the specifications.
- If the PCN band alignment is good with the values from PC memory, the TX I/Q tuning procedure can be stopped by pressing the "Save" button.

## 4. Energy Management Calibration

### Equipment

- Voltage source – within 9–15VDC range.
- MJS–13 Module Repair Jig.

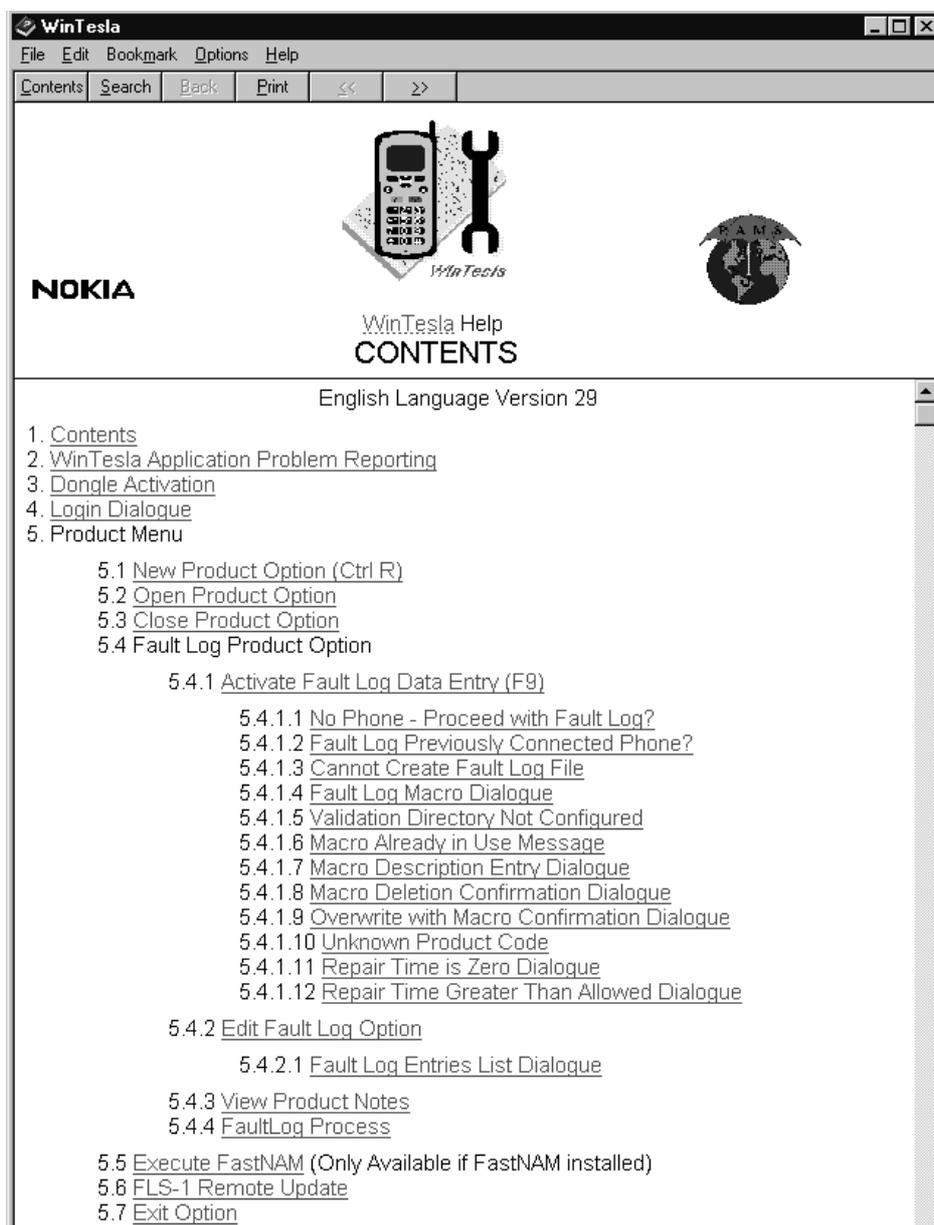
### Procedure

- Connect power supply to MJS–13.
- Start up WinTesla.
- Set switch on MSJ–13 to ( local position)\*
- Choose *Tuning* menu and then *Energy Management Calibration*.
- Select no.2 *Battery Voltage* and no.3 *Charger Voltage*.
- Press *Run*.
- Press OK to save *Battery Voltage*.
- Press OK to save *Charger Voltage*.

\* MJS–13 supplies the system board with 8.4VDC via X5 pin 11, when the test switch is in (local position).

## Common User Interface

All WinTesla files share a common interface which are detailed in the WinTesla help files once the software is installed. A typical example is shown in the figure below.



## NSE-8 Features

### Product

#### New command

Activation	Status Bar Text
Alt, P, N Ctrl+R	Rescan a new phone
<p>If phone is changed (with same phone type only serial number is changed) phone will be initialised. If phone is changed to different phone type the current DLLs are unloaded and new ones are loaded for that phone.</p> <p>If the Quick/RF Info view is open, window will be automatically updated. If Phone Information view is open, it will be automatically updated.</p>	

#### Open... command

Activation	Status Bar Text
Alt, P, O	Force load phone specific functionality
Phone is set to normal mode.	

#### Initialise... command

Activation	Status Bar Text
Alt, P, I	
Opens a submenu	

#### Normal Mode

Activation	Status Bar Text
Alt, P, N F5	Initialises phone to normal mode
<p>When normal mode has been activated or program has been started, self-test results will be asked from MCU. If any fault was found in the tests, an error message is shown. If normal mode has been set successfully (no self test error has been found), and paging listening has been started, the used AFC value is requested from MS. Initialisation routine checks phone's cellular type and if unsupported phone is detected, application unloads the DLLs.</p>	

The After Sales SW sets automatically the MS state to local mode when needed. If phone identification view is open, window will be automatically updated. Also if RF Information Window is open it will be updated to quick info view.

### **Local Mode**

Activation	Status Bar Text
Alt, P, L Shift+F5	Initialises phone to local mode
<p>Selection will change the MS state to <i>local</i>. When user selects item from Testing or Tuning menus, the After Sales SW software will change automatically the MS state to local.</p> <p>The After Sales SW sets automatically the MS state to local mode when needed.</p> <p>Also if quick info view is open it will be updated to RF Information view.</p>	

### **Band command**

Activation	Status Bar Text
Alt, P, B	Opens a submenu

### **GS**M

Activation	Status Bar Text
Alt, P, B, G	Selects the GSM band on the MS

### **PC**N

Activation	Status Bar Text
Alt, P, B, P	Selects the PCN band on the MS

### **Faultlog command**

Activation	Status Bar Text
Alt, P, F	Opens a submenu. Only enabled when a user has logged in.

**Activate Faultlog**

Activation	Status Bar Text
------------	-----------------

Alt, P, F, A

F9

Activates the faultlog. Only enabled when a user has logged in.

**Edit Faultlog**

Activation	Status Bar Text
------------	-----------------

Alt, P, F, A

Allows user to edit faultlog entries. Only enabled when a user has logged in.

**FastNAM command**

Activation	Status Bar Text
------------	-----------------

Alt, P, N

F8

This menu is only enabled when FastNAM functionality is included in WinTesla.

**FLS-1 Remote Update command**

Activation	Status Bar Text
------------	-----------------

Alt, P, 1

This menu is only shown if the FLS-1 License Update Control Centre program has been installed into the WinTesla directory.

With this program it is possible to request and update the number of flash licenses in the FLS device.

**Exit command**

Activation	Status Bar Text
------------	-----------------

Alt, P, X

Exits the WinTesla application.

## Tuning

The tuning menu offers functions for ME adjustments.

### **RX Calibration... command**

Activation	Status Bar Text
Alt, T,R	Open RX Calibration dialog box
Starts RX calibration.	
When calibrating the RX it is nessessary to first calibrate in GSM and then in PCN. WinTesla will automatically change to GSM if the calibration is started in PCN.	



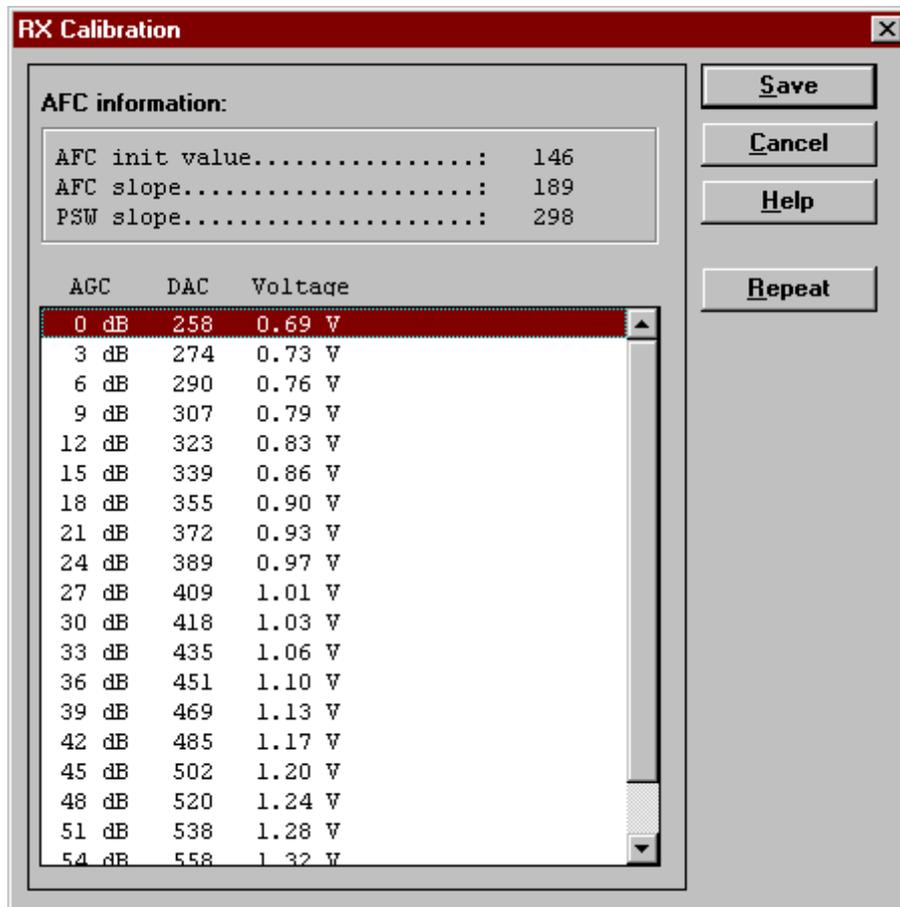
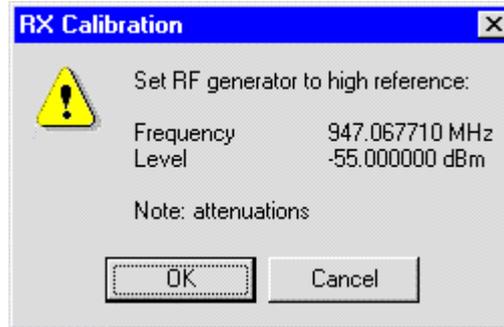
The next automatic selections are made when this tuning function is activated:

- Phone is set to local mode
- Update RF information window

The measurement is started automatically when RX calibration is entered. The measurement is done in five steps:

1. User is requested to put signal generator to high input level (read from Tesla .INI file).
2. Measurement with high input level is executed
3. User is requested to put signal generator to low input level (read from Tesla .INI file).
4. Measurement with low input level is executed

5. The **RX Calibration** dialog will be updated when previous steps are done.



Dialog mode: **modal**

RX Calibration dialog has the following items:

AFC information box:

Shows AFC init value, AFC slope and PSW slope values.

AGC List box (ALT+A):

AGC, DAC, Voltage and Difference. The difference column shows the difference between tuned DAC values and mean straight line calculated from part slopes in dBs (see /1/). This can be calculated when all measurement results have been received from phone.

Repeat button (ALT+R):

The measurement can be started again by pressing this button.

Save button (ALT+S):

Dialog is closed and tuning *is saved* to phone.

Cancel button (ESC):

Dialog is closed and tuning *is not saved* to phone.

When calibration is ended, the DAC value checking is made and if it is not succeeded, error message is shown.

When exit is made, the next selections are set to the values which were selected before this adjustment.

Operation Mode

Update RF Information window

The exit and the use of AGC–control values is done same way as exit from power level tuning and power coefficient use:

### **Tx Power... command**

Activation	Status Bar Text
Alt, T,P	Open TX Power Tuning dialog box

Starts TX power tuning.

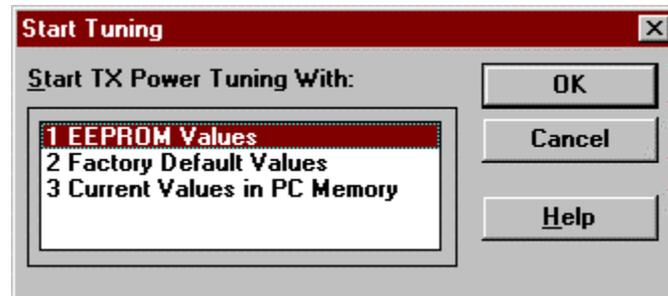
Before the TX power tuning starts the DC/DC converter is set to the mode specified in TESLA.INI in the section:

[NSE–8TXPOW]

DC2DC\_Startup=2 ;0=Auto Mode 1=Abs Mode and 2=Max Mode

Max Mode is the default mode set at installation time and is recommended because it will ensure, that the phone will not shut down due to too big supply voltage drops when tuning the higher power levels.

Then the user is requested to select in the **Start Tuning** dialog which tuning values to use. If the **Start Tuning** dialog is not shown the tuning will use the EEPROM values directly.



Start Tuning dialog has following items:

Start Tuning With list box (ALT+S):

Current Values in PC memory

Tuning values are load from program's internal memory.

EEPROM Values

Tuning values are load from ME's EEPROM.

Factory Default Values

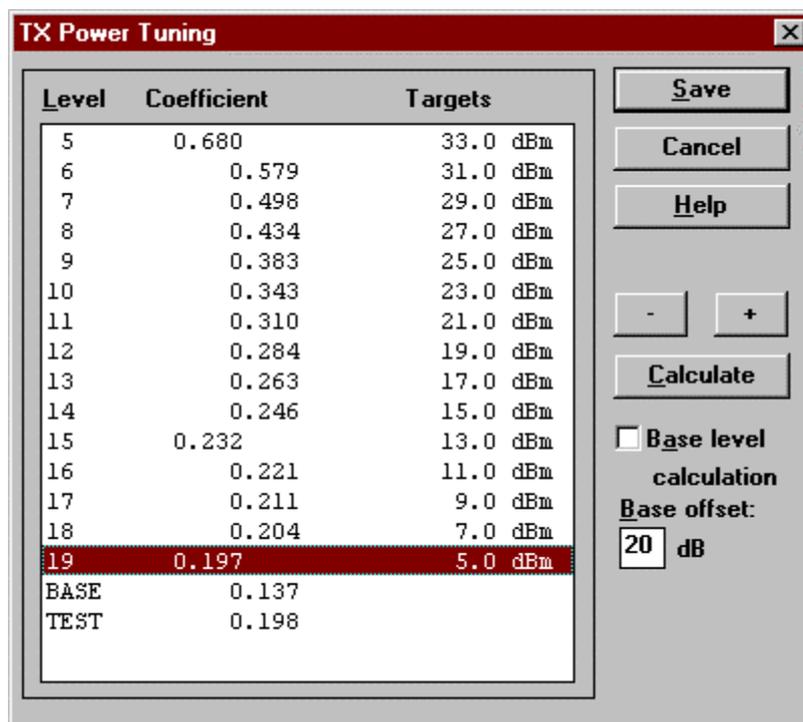
Tuning values are load from ME's flash.

The next automatic selections are made when this tuning function is activated:

the lowest power level is selected

Operation mode = TX pulsed

The **TX Power Tuning** dialog will be activated automatically after value selection.



Dialog mode: **modal**

TX Power Tuning dialog has following items:

Power Level & Coefficients list box (ALT+L):

The power is presented in GSM or PCN values. The test value is not saved to the EEPROM. The test value can be changed during tuning as other power coefficients and the program remembers its value when tuning function is activated later again.

If there is more power levels in the phone that can fit into window the window is scrollable. When phone is initialised the program asks the number of power levels used in the phone.

Only three power coefficients (highest, third smallest and lowest) are needed to tune (left justified Coefficients) and the rest of them are calculated.

The highlighted tuning position can be tuned with +/- keys or left/right cursor keys.

Calculate button (ALT+C):

The calculation is activated with this button. The power coefficients which are calculated from the tuned coefficients are displayed.

Base level calculation check box:

If this box is checked the base level is calculated.

+/- buttons (+/- and left/right cursor keys):

+ and - buttons will cause power changing by 0.25dB steps. When these keys are used the coefficient value is updated on the tuning window.

Save button (ENTER):

Dialog is closed and tuned values are *saved* to phone.

Cancel button (ESC):

Dialog is closed and tuning *is not saved* to phone.

When selections are used, the power value checking is made and if it is not succeeded, error message is shown. The test checks that all power coefficients are in descending order (same order than power levels).

If the power tuning function is ended and EEPROM values are not received or EEPROM fault is noticed, an error message is shown.

When all power coefficients have such values that they don't cause any error messages, save can be made. The last used tuning power is in use after exit.

The next automatic selection is made when this tuning function is ended:

Operation Mode = RX pulsed

When the tuning dialog is closed the DC/DC converter is set to the mode specified specified in TESLA.INI in the section:

[NSE-8TXPOW]

DC2DC\_Exit=0 ;0=Auto Mode 1=Abs Mode and 2=Max Mode

Auto Mode is the default mode set at installation time.

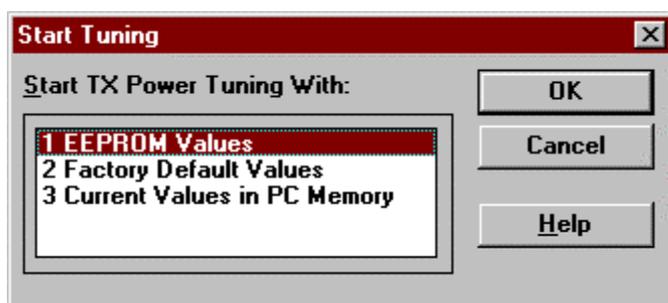
**Tx I/Q... command**

Activation	Status Bar Text
------------	-----------------

Alt, T,Q	Open TX I/Q Tuning dialog box
----------	-------------------------------

This function is used for tuning TX I and Q branch DC offset, amplitude difference and phase difference.

It is not possible to tune TX I/Q in GSM. WinTesla will automatically change to PCN if the calibration is started in GSM.



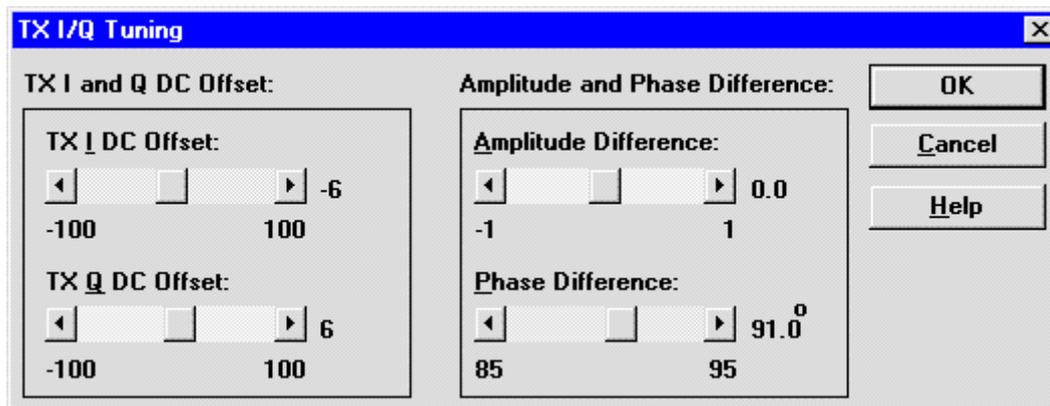
Then the user is requested to select in the **Start Tuning** dialog which tuning values to use. If the **Start Tuning** dialog is not shown the tuning will use the EEPROM values directly.

The next automatic selections are made when this function is activated:

Operation Mode = TX pulsed

Update RF Information window

The **TX I/Q Tuning** dialog is opened.



Dialog mode: **modal**

TX I/Q Tuning has following items:

Tune TX I DC Offset scroll bar (ALT+I):

The DC Offset is shown as percents (%) from the  $\pm$  maximum value. 0% means that there is no DC. The value range is  $-100\%...100\%$ . The value is rounded to the nearest integer value.

Tune TX Q DC Offset scroll bar (ALT+Q):

The operation of this function is the same as one above, except with this selection the Q branch DC Offset is tuned. The value range is  $-100\%...100\%$ . The value is rounded to the nearest integer value.

Tune Amplitude Difference scroll bar (ALT+A):

When this selection is made user can increase or decrease the amplitude difference within 0.1 dB steps. The value range is  $-1...1$ .

Tune Phase Difference scroll bar (ALT+P):

When this selection is made user can increase or decrease the phase difference within  $0.5^\circ$  steps. The current phase difference is shown on the tuning window with numbers and bar figure. The value range is  $-85...90$ .

Save button (ENTER):

Dialog is closed and tuning *is saved* to phone.

Cancel button (ESC):

Dialog is closed and tuning *is not saved* to phone.

After each value change the new value is sent to the phone.

The next automatic selection is made when TX I / Q tuning function is ended:

Operation Mode = RX pulsed

Update RF Information window

**Energy Management Calibration... command**

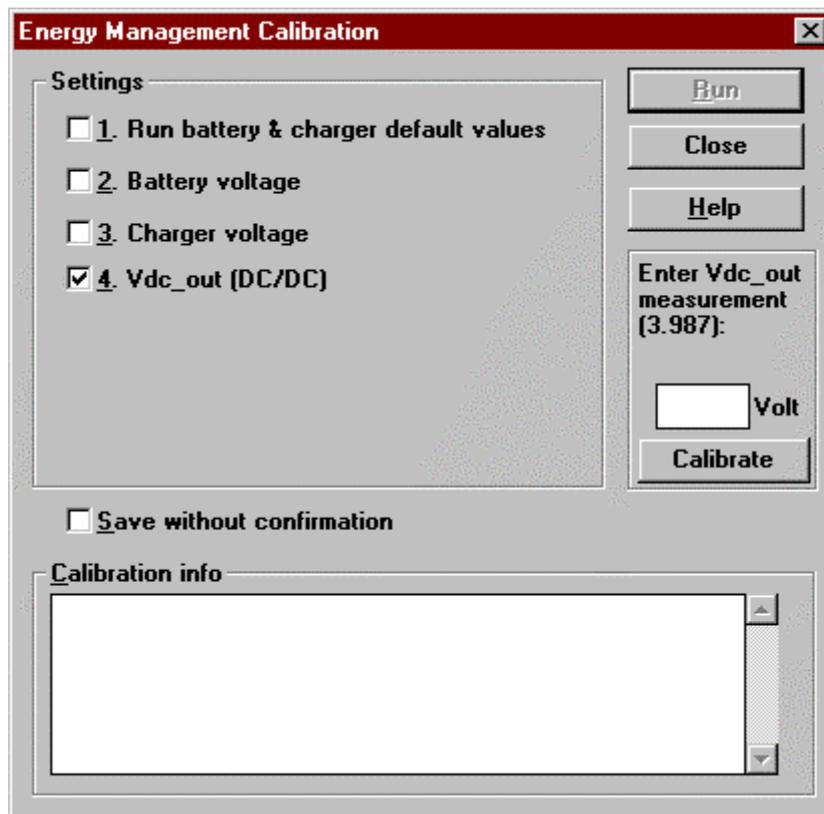
Activation

Status Bar Text

Alt, T,E

Energy Management Calibration

This command opens the **Energy Management Calibration** dialog box:



The Energy Management Calibration dialog box contains the following options:

Run button (ALT+R):

The selected energy management calibrations are performed,

Close button (ENTER):

The dialog box is closed without performing energy management calibration.

Help button (ALT + H):

Displays context sensitive help.

The settings to be selected are:

1. **Run battery & charger default values** checkbox (ALT+1):

Loads battery & charger default values to phone when selected.

2. **Battery voltage** checkbox (ALT+2):

Calibrates battery voltage A/D value.

3. **Charger voltage** checkbox (ALT+3):

Calibrates charge voltage A/D value.

The user is asked to connect the correct charging voltage and current limit.

4. **VDC Out** (DC/DC) checkbox (ALT+7)

Calibrates the VDC Out voltage from the DC/DC converter.

This calibration is special for the NSE-8 phone. When this calibration is executed a VDC Out input field is shown. The voltage must be measured and entered into this field and then the Calibrate button completes the calibration.

## DC/DC Tuning Command

Activation	Status Bar Text
------------	-----------------

Alt, T,D	DC/DC (Vdc_out) tuning
----------	------------------------

This command opens the **DC/DC Tuning** dialog box.

This dialog box allows you to set the DC/DC mode used and to check the different voltage levels for the all power levels when in Auto mode.

The tuning is done for the currently selected band (GSM/PCN).

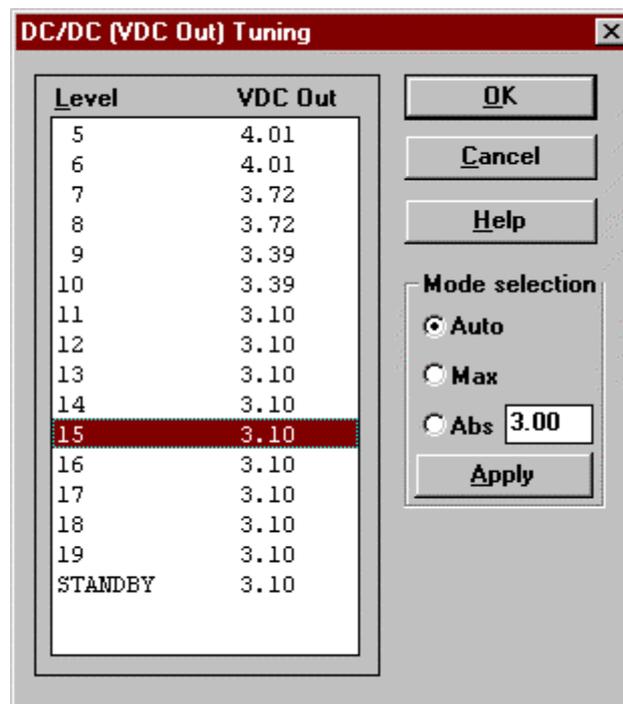
The modeless RF Information window is opened.

**OK** button:

The dialog is closed and the selected mode will be preserved.

**Cancel** button:

The dialog is closed and the mode used before starting the DC/DC tuning is restored.



The DC/DC converter can be set to 3 different modes. When opening the DC/DC tuning dialog the currently used mode is shown.

1) Auto mode.

The Auto mode is the default mode and is active when the phone powers up and after a reset. When the phone is in automatic mode the DC/DC output voltage is changed by the phone itself.

This is done to save power. In standby, idle and the lower power levels the voltage is low and only when transmitting on the higher power levels, the vibrator is on or the buzzer is on is a high output voltage required.

When Auto mode is selected the phone is set to the TX power level highlighted in the listbox. The phone will set the DC/DC output voltage according to the VDC Out value shown.

Changing the selected power level can test the DC/DC converter in Auto Mode.

#### 2) Max mode

In maximum output voltage mode the DC/DC converter constantly supplies the highest possible voltage. Only changing mode or resetting the phone will change the voltage level.

#### 3) Abs mode

In absolute output voltage mode the DC/DC converter constantly supplies the voltage level requested by the user. Only changing the requested voltage level, mode or resetting the phone will change the voltage level.

The voltage level can be entered directly and is limited to the range from 3volt to 4.49volt. The phone set the DC/DC output voltage to the nearest possible value when clicking on the **Apply** button.

## Testing

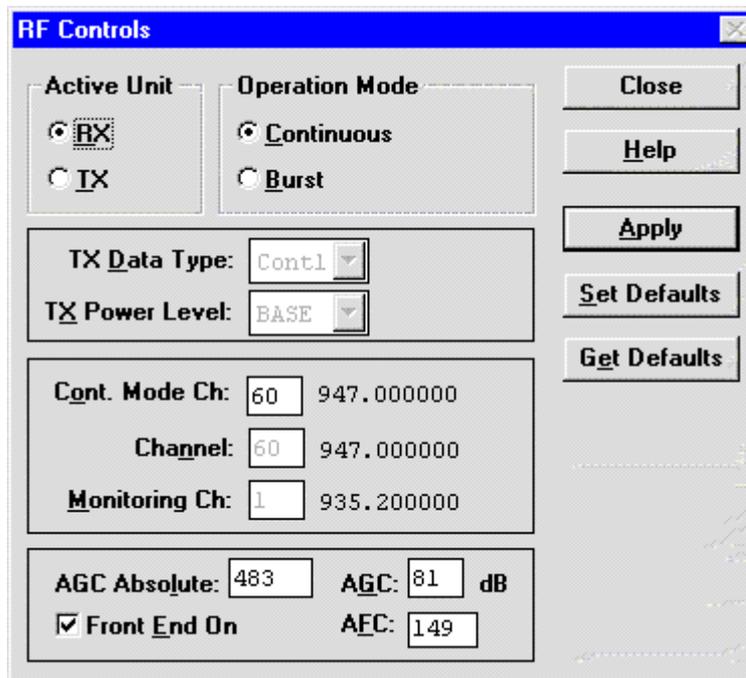
The Testing sub menu offers functions for ME testing.

### RF Controls... command

Activation	Status Bar Text
Alt, E,R	Open RF Controls dialog box

This function is used for RF testing.

Command opens **RF Controls** dialog, which contains data for testing and adjustments.



Dialog mode: **modal**

RF Controls dialog has following items:

Active Unit group:

RX radio button (ALT+R):

When *RX* is selected, the next functions are made:

- Data transmission is deactivated

- TX power is deactivated

If operation mode is continuous,

- AGC is controlled

- RX continuous mode channel is activated

RF Information window is updated

The RX value is always given as default.

**Note!** Function is activated immediately, Apply is not needed.

TX radio button (ALT+T):

When TX is selected, the next functions are made:

Data transmission is activated

If operation mode is continuous,

– Operation mode is set to burst

RF Information window is updated

Continuous mode radio button is disabled.

**Note!** Function is activated immediately, Apply is not needed.

Operation Mode group:

Continuous radio button (ALT+C):

When *continuous* selection is used,

synthesiser is set to constant frequency

synthesiser channel number is as given with Continuous Mode  
Channel selection

transmitter power is not connected

if Active Unit is RX, AGC is controlled

**Note!** Function is activated immediately, Apply is not needed.

Burst radio button (ALT+B):

When *burst* selection is used,

synthesiser is controlled by using  
receiving/transmission/measuring synthesiser control sequence

synthesiser channel numbers are as given with  
Channel/Monitoring Channel selections

if Active Unit is TX, data (selected with TX Data Type) is sent  
and the TX power is connected

**Note!** Function is activated immediately, Apply is not needed.

TX Data Type drop list (ALT+D):

TX Power Level edit box (ALT+T):

It is possible to change the transmission power in TX mode. The user can select the needed power value or select the test value, which is tuned with TX power tuning function. The test value is found at the end of the list.

TX Power have value *OFF* and is disabled (*greyed*) when active unit is RX. When the TX power is tuned with test value (smallest value) the TX Power has value *TEST*.

Continuous Mode Channel edit box (ALT+C):

Here the user can enter the continuous mode channel which may have all channel numbers. The used frequency depends on the Active Unit. If Active Unit is RX, then RX frequency is used, else TX frequency. The frequency of the selected channel is shown after selection.

Channel edit box (ALT+H):

Here the user can enter the channel number that is used for both transmission and receiving. The frequency of the selected channel is shown.

Monitoring Channel edit box (ALT+M):

This field selects the neighbour monitoring channel. The frequency of the selected channel is shown.

AGC Absolute edit box (ALT+A):

This selection allows user to edit AGC absolute value (value from A/D converter). When AGC Absolute value is changed the AGC dB value will be calculated depending on the AGC Absolute value.

Front End On check box:

This selection allows user to change whether the Front End amplifier is On or Off.

AGC edit box (ALT+G):

This selection allows user to edit the AGC dBvalue. The AGC value is shown only when its value is controlled by PC. When Active Unit has value RX and Operation Mode is continuous, AGC is controlled by PC except when next adjustment functions are activated:

RSSI Calibration

AFC Diagram

Apply button (ALT+A):

Accepts entered values and validates them. After validation all values are sent to ME and the RF information window is updated.

**Note!** Active Unit and Operation mode are not included because they are activated immediately.

Set Defaults button (ALT+S):

Sets current values shown as default RF Controls values. Stores the values in *Tesla.ini*

Get Defaults button (ALT+G):

Gets default RF Controls values from the *Tesla.ini* file and shows them.

The next automatic selection is made when Quick testing function is ended:

Active Unit = RX

Update RF Information window

The next table shows the dialog's properties on different situations:

ACTIVE UNIT = TX:

TX Data Type: Updated

AGC values: Greyed

Monitoring Channel: Greyed

OPERATION MODE = BURST:

TX Power Level: Updated

Continuous Mode Channel: Greyed

Channel: Updated

ACTIVE UNIT = RX:

TX Data Type: Greyed

TX Power Level: OFF, Greyed

OPERATION MODE = BURST:

AGC values: Greyed

Continuous Mode Channel: Greyed

Channel: Updated

Monitoring Channel: Updated

OPERATION MODE = CONT:

AGC values: Updated

Continuous Mode Channel: Updated

Channel: Greyed

Monitoring Channel: Greyed

### RSSI Reading... command

Activation

Status Bar Text

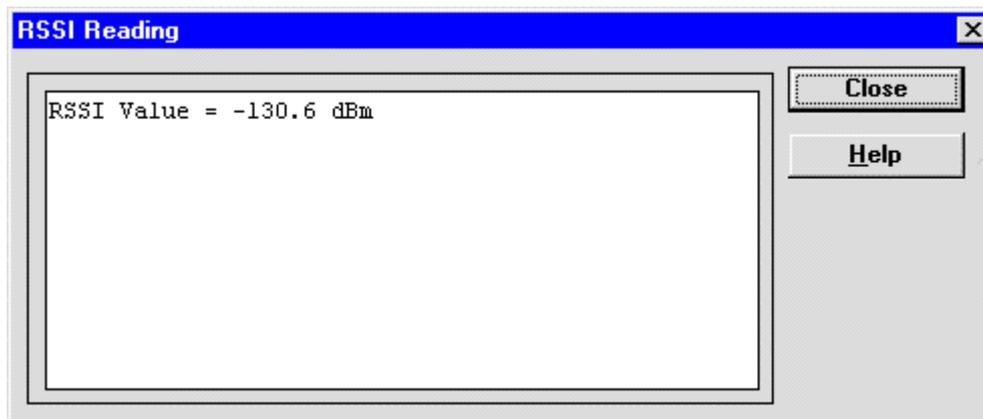
Alt, E,R

read continuously RSSI value

Command opens RSSI Reading dialog:

Dialog mode: **modal**

RSSI value is read continuously until user presses ESC-key or Close button to cancel reading.



RSSI Reading dialog has following items:

**Close** (ENTER) button:

Closes the RSSI Reading dialog. Does not send anything to phone.

**Help** button:

Context sensitive help.

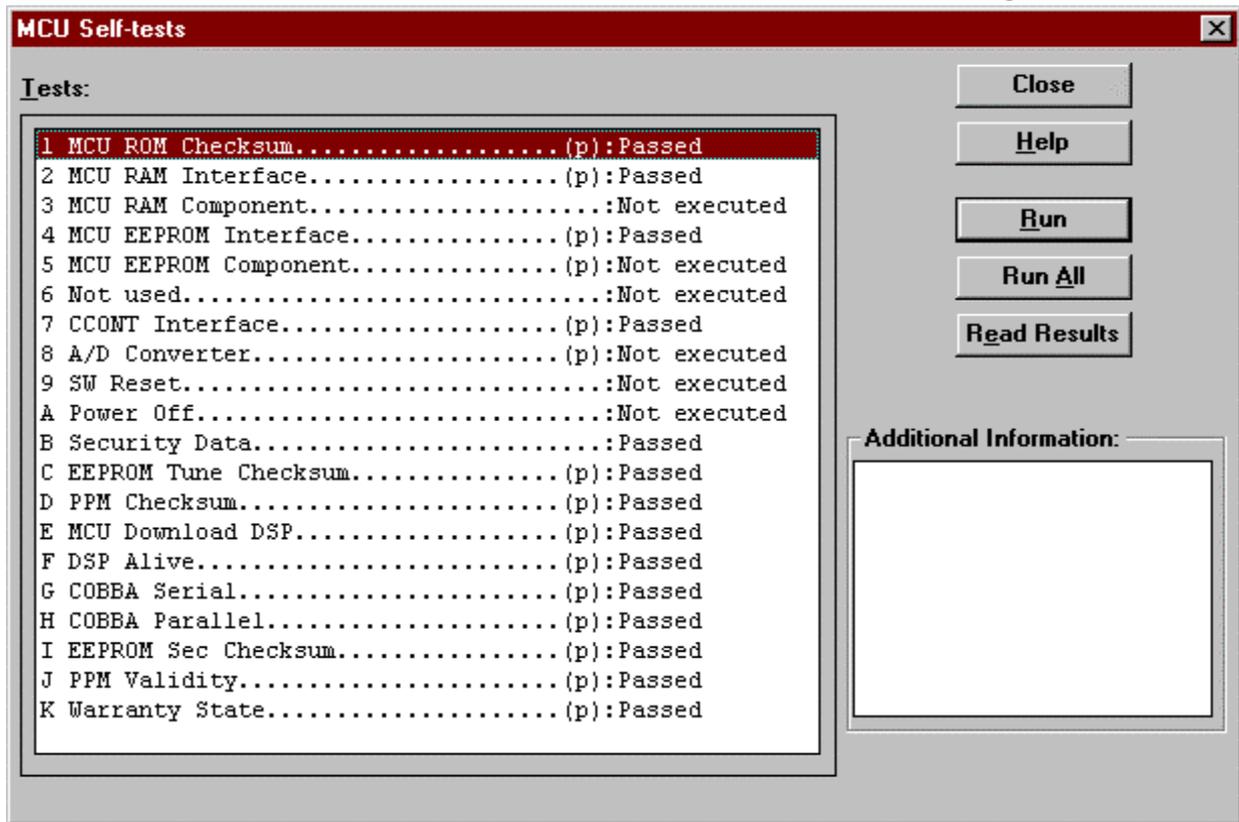
**Self Tests... command**

Activation	Status Bar Text
------------	-----------------

Alt, E,S	Open MCU Self-tests dialog box
----------	--------------------------------

Command is used for reading self test results and running self tests.

When the selection is made, the test result is read from ME. The test result will be shown to the user within **MCU Self-test** dialog.



Dialog mode: **modal**

MCU Self-test dialog has following items:

Tests list box (ALT+T):

The field "(p)" in the screen example means that the test is also run in power up. The field "(/s)" means that this test is selectable one.

Test states are updated according to results received from the phone. Possible test states will be one of the next:

- Passed
- Failed
- No response
- Not executed

Not valid

RUNNING....

***Note** that power-off test have no values, because if test has been passed, power has been turned off. If power-off test fails a special error message window is shown. If no response is received to power off test message in a few seconds, the user is informed by special info window, where user is asked to turn the power on and then press the return key.*

***Note** also that power-off test (if passed) turns power off and power should be reconnected by using the phones keypad after the successful test. After the power has been connected to phone, the normal start-up routines are made and the self-test results are shown in the MCU self-tests menu (i.e. all other than power-up self-tests are in Not executed state after the power-up routines).*

Run button (ALT+R):

User can select desired test from list and hit **Run** button. When user selects test to be run the text *RUNNING...* is shown in test state field and test is run. When results are received the test state field is updated according to the result.

If no response was received in the defined time, a *error message box* will be shown and the test state is changed to *No response*. Phone is set to local mode if it is not already there.

Run All button (ALT+A):

User can run all listed tests. The text *RUNNING...* is shown in test state field and test is run. When results are received the test state field is updated according to the result. When state field is updated application moves to next test and repeats previous cycle. Phone is set to local mode if it is not already there.

### Supported Self Tests

The following tests are available:

- 1 MCU ROM Checksum.....
- 2 MCU RAM Interface.....
- 3 MCU RAM Component.....
- 4 MCU EEPROM Interface.....
- 5 MCU EEPROM Component.....
- 6 Not Used.....
- 7 CCONT Interface.....
- 8 A/D Converter.....
- 9 SW Reset.....
- A Power Off.....

- B Security Data.....
- C EEPROM Tune Checksum.....
- D PPM Checksum.....
- E MCU Download DSP.....
- F DSP Alive.....
- G COBBA Serial.....
- H COBBA Parallel.....
- I EEPROM Sec Checksum.....
- J PPM Validity.....
- K Warranty State.....

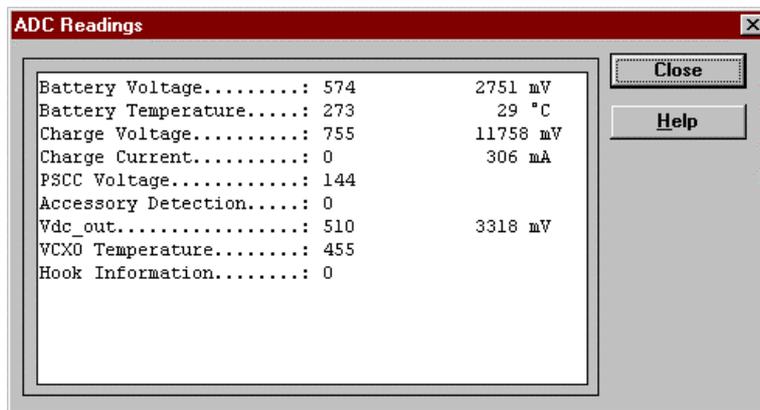
**ADC Readings... command**

Activation	Status Bar Text
------------	-----------------

Alt, E,A	Open ADC Readings dialog box.
----------	-------------------------------

Command is used to read and show A/D values from phone.

Command opens **ADC Readings** dialog.



Dialog mode: **modal**

The ADC Readings are updated every second.

ADC Readings dialog has following items:

Close (ENTER) button:

Closes the ADC Readings dialog. Does not send anything to phone.

Help button: Context sensitive help.

Following A/D values are measured:

- Battery Voltage.....:
- Battery Temperature.....:
- Charge Voltage.....:
- Charge Current.....:
- PSCC Voltage.....:
- Accessory Detection.....:
- VDC Out.....:
- VCXO Temperature.....:
- Hook Informaton.....:

**Audio... command**

Activation	Status Bar Text
------------	-----------------

---

Alt, E,U

Opens a submenu which contains following options:

**Internal Audio Loops**

Activation	Status Bar Text
------------	-----------------

---

Alt, E,U,I            Open Internal Audio loops dialog box.

Command is used for making internal audio loop tests in **Internal Audio Loops** dialog.



Dialog mode: **modal**

Internal Audio Loops dialog has following items:

Buzzer group:

Next three different values can be selected for Buzzer:

Volume On radio button (ALT+V):

Turns buzzer on.

Volume Off radio button (ALT+O):

Turns buzzer off.

Level drop down list (ALT+L):

Sets level of a buzzer. Allowed range 0...127

Frequency edit box

Sets the sound frequency

Internal Audio Loop group:

Input group:

Next three different values can be selected for input:

Internal radio button (ALT+I):

Turns internal input.

External radio button (ALT+I):

Turns external input.

Headset radio button (ALT+A):

Turns headset input.

Output group:

Next two different values can be selected for output:

Internal radio button (ALT+T):

Turns internal output.

External radio button (ALT+X):

Turns external output.

Headset radio button (ALT+D):

Turns headset output.

Loop group:

Next two different values can be selected for loop:

Off radio button (ALT+F):

Turns audio loop off.

On radio button (ALT+N):

Turns audio loop on.

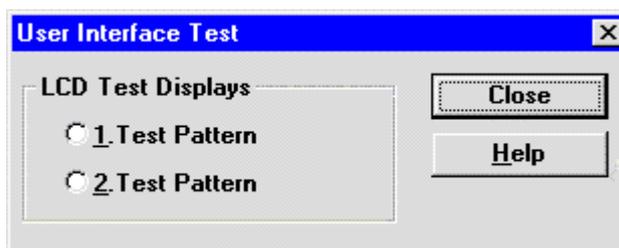
When the dialog is closed, the Buzzer Volume is always switched off. Also internal audio loop is turned off.

### User Interface... command

Activation	Status Bar Text
------------	-----------------

Alt, E,T	Open User Interface Tests dialog box
----------	--------------------------------------

Command is used for making display tests in **Display Tests** dialog.



Dialog mode: **modal**

Display Tests dialog has following items:

1. Test Pattern radio button (ALT+1):

In test display 1 the display is filled with chessboard letters.

2. Test Pattern radio button (ALT+2):

In test display 2 the display is filled with inverse chessboard letters.

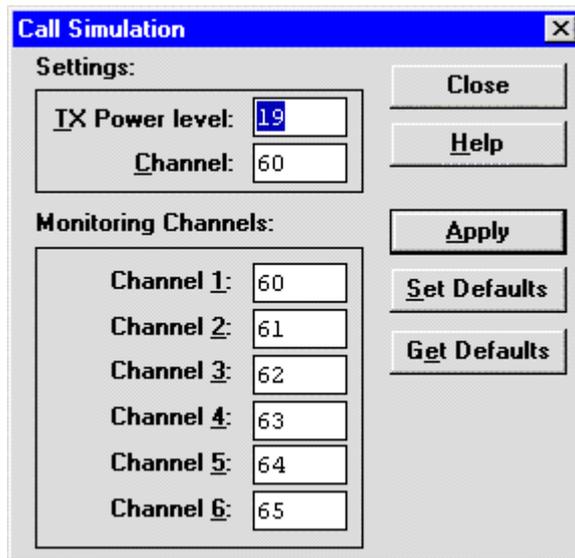
When dialog is closed the phone LCD display is cleared.

### Call Simulation... command

Activation	Status Bar Text
------------	-----------------

Alt, E,C	Open Call Simulation dialog box
----------	---------------------------------

Command is used for making call simulation. Function opens **Call Simulation** dialog.



Dialog mode: **modal**

Call Simulation dialog has following items:

TX Power Level edit box (ALT+T):

All power levels can be selected. This updates same parameter as **TX Power Level** in the **RF Controls** dialog. Note that TEST value cannot be selected. If TEST value was in use when Call simulation menu selected, power level is changed to smallest value.

Channel edit box (ALT+C):

This tells the normal operating RF channel number. Normal GSM/PCN channel numbers can be selected. Same channel is used both for transmission and receiving. This updates same parameter as **Channel** in the **RF-Controls** dialog.

Channel 1,2,3,4,5,6 edit box (ALT+1,2,...):

Channels for monitoring are specified with these six selections. All GSM/PCN channel numbers can be used. If more than one selection has same number, the monitoring channel list (neighbour list) will have less than 6 selected channels. The minimum number of monitoring channels is one (all channels have same value). The monitoring channel can also have same value as normal operating channel.

The first monitoring channel updates same parameter as **Monitoring Channel** in the **RF-Controls** dialog.

Apply button (ALT+A):

Validates and sends entered data to ME.

Set Defaults button (ALT+S):

Sets current values as default Call Simulation values.

Get Defaults button (ALT+G):

Gets default Call Simulation values as current values.

**Noise Sensitivity... command**

Activation	Status Bar Text
------------	-----------------

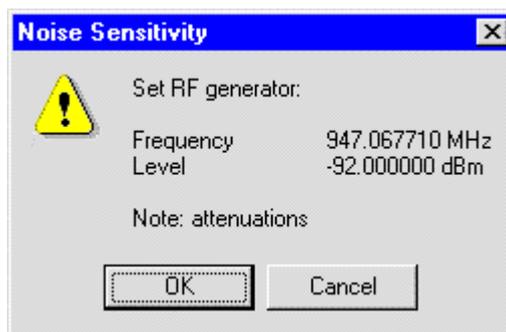
Alt, E,N                      Opens Noise sensitivity dialog box

Command is used for noise sensitivity measurement.

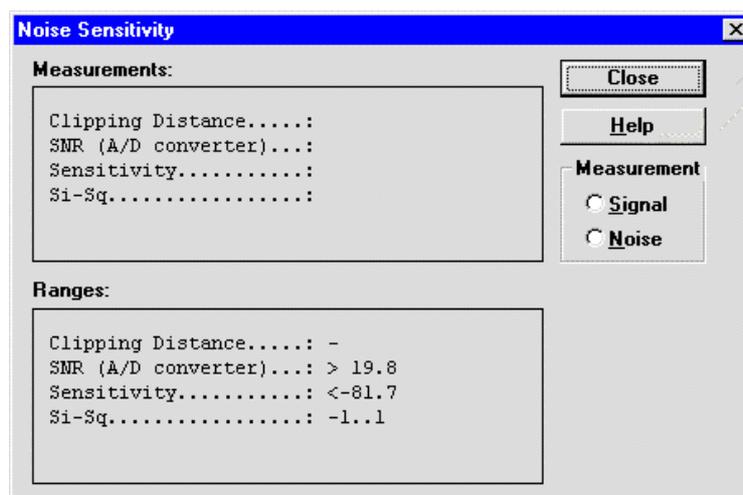
The next automatic selections are made when this tuning function is activated:

- Operation mode = RX cont
- AGC = 81 dB

Before function opens **Noise Sensitivity** dialog application prompts:



Then application opens **Noise Sensitivity** dialog:



Dialog mode: **modal**

Noise Sensitivity dialog has following items:

Measurements group:

Clipping distance is the difference to the signal clipping value. SNR is measured in AD converter.

The last value on the display is signal power difference between I and Q branch. The numbers are shown in 0.1dB accuracy. The error messages, "OUT OF RANGE", are shown only if the SNR and/or amplitude difference values are not acceptable.

Signal/Noise radiobutton (ALT+S/ALT+N):

When buttons are pressed, the RX I and Q burst data is asked, text "SIGNAL MEASURING..." or "NOISE MEASURING..." will come to the measurement group window. The power level value should be -92 dBm during signal measurement.

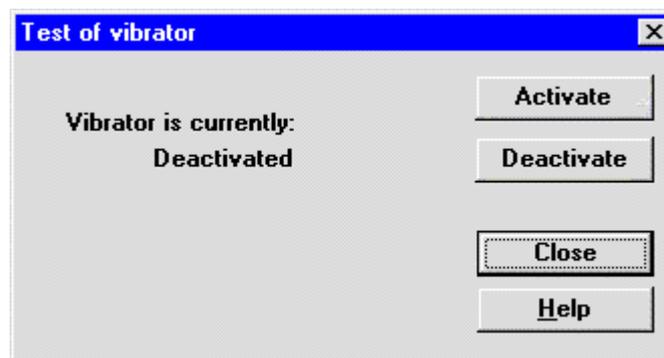
When signal data is received, distance to clipping signal level is shown as dBs on the display. When either signal or noise measurement results are received "MEASURING" text is removed and measurements are updated to screen. When both measurements (signal and noise) are done at least once, the signal to noise relation and difference are also shown on the display.

When exit is made, the next selections are set to the values which were selected before this adjustment.

- Operation mode
- AGC value

### Vibra test....command

Activation	Status Bar Text
Alt, E, V	Initialising phone to local mode
Command used to test vibrator functionality	



Dialog mode: **modal**

## Software

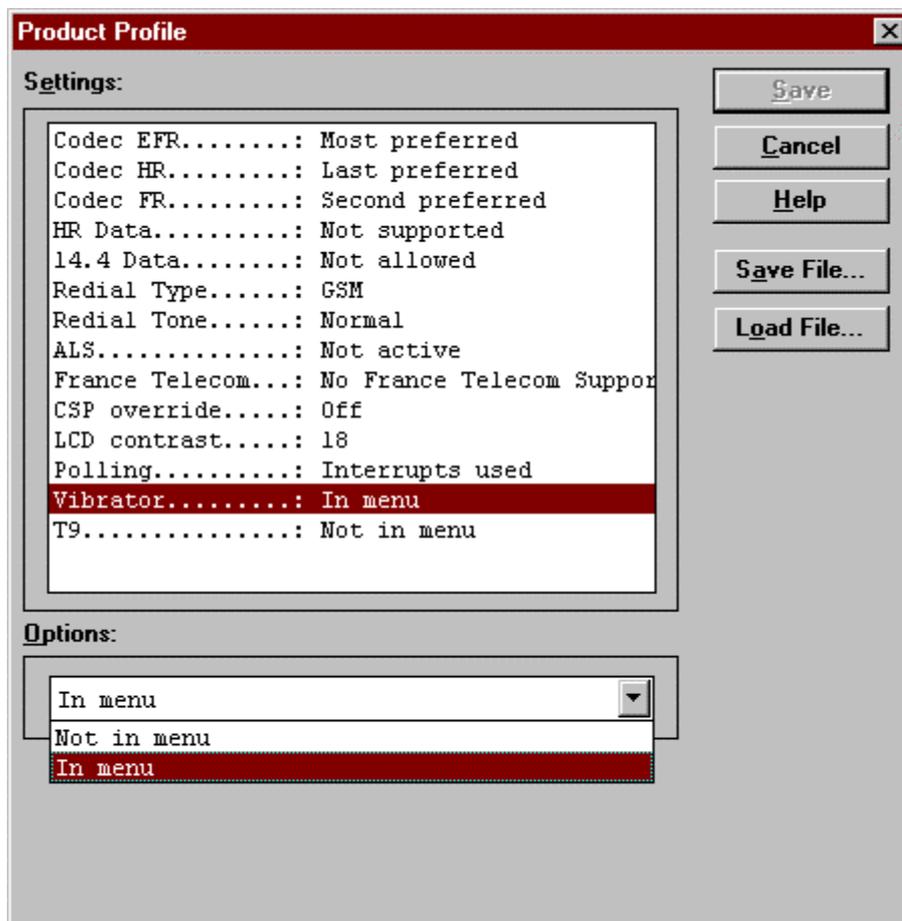
### Product Profile... command

Activation	Status Bar Text
------------	-----------------

Alt, S,P                      Open Product Profile settings dialog box.

Function is used for making product profile settings.

When command is activated the product profile information is read from EEPROM and **Product Profile** dialog is opened.



Dialog mode: **modal**

Product Profile dialog has following items:

Settings list box (ALT+E):

A list where user can select desired setting.

User can toggle setting with following **Options** drop list or by double clicking desired setting in list box.

Options drop list (ALT+O):

List allows user to set options to each settings which are listed in **Settings** list box.

Save(OK) button (ENTER)

Selections are accepted and saved to EEPROM.

Cancel button (ESC)

Selections are ignored and control is returned back to main menu.

### **Start Up Self-tests... command**

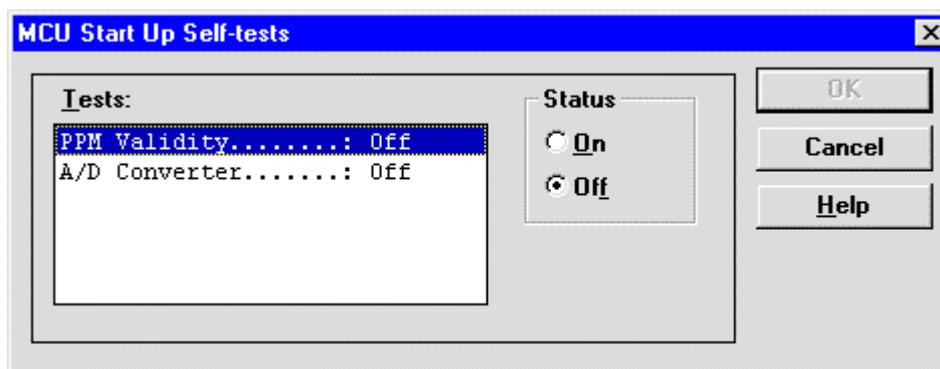
Activation

Status Bar Text

Alt, S,S

Open MCU start Up self-tests dialog box.

Function is used for changing the state of the EEPROM selectable tests in **MCU Start Up Self-tests** dialog.



Dialog mode: **modal**

MCU Start Up Self-tests dialog has following items:

Tests list box (ALT+T):

When dialog is opened, the previous values will be read from the MCU EEPROM and shown on the list box.

Status group:

When radio button **On** is selected, the test will be run every time when automatic start up self-tests are activated (e.g. in power up).

Save button (ENTER)

Selections are accepted and saved to EEPROM. A power up routine is made to phone.

Cancel button (ESC)

Selections are ignored and control is returned back to main menu.

Selectable Start-Up self tests:

1. PPM Validity
3. A/D Converter

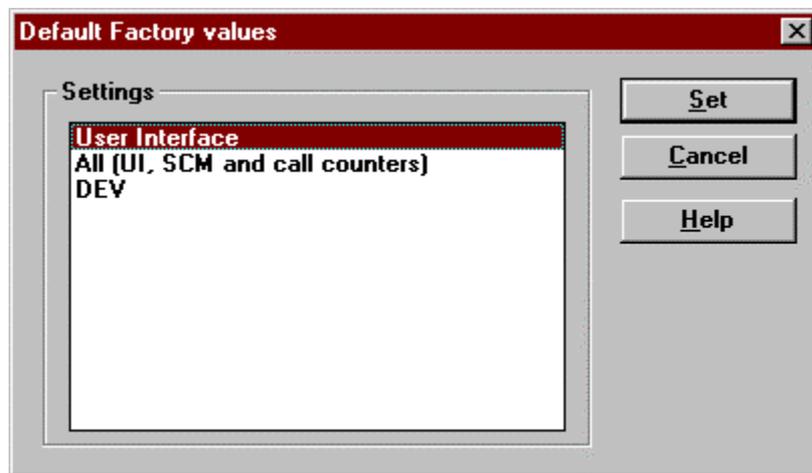
**Set Factory Values... command**

Activation	Status Bar Text
------------	-----------------

Alt, S,V	Set factory values
----------	--------------------

Application does not ask confirmation. Next kind of text will be shown to user:

“Setting UI and SCM Factory values...”



Dialog mode: **modal**

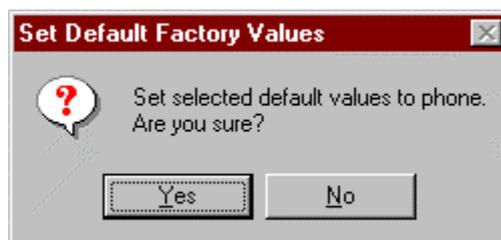
Default Factory Values dialog has following items:

Settings list box:

Contains the selectable factory values.

Set button:

Sets the selected factory value to phone. Before setting software asks confirmation:



Cancel button:

Closes the Default Factory Values dialog.

**Phone Identity... command**

Activation	Status Bar Text
------------	-----------------

Alt, S,I	Open Phone Identity dialog box for editing
----------	--

Function is used to edit phone identity. With this dialog IMEI or SIM locks may be changed in following manner:

- current phone information is read from phone
- user edits User Name (and IMEI, Product Code and Product Id, if they were not read correctly from phone)
- dialog information is saved to file, which is sent to secure place where actual programming information may be constructed
- programming information is got from secure place in an other file, which is loaded to dialog
- program checks input values and if they are correct programming information is written to phone

Function opens **Phone Identity** dialog.

Dialog mode: **modal**

Phone Identity dialog has following items:

User Name edit box (ALT+U):

Field where user can enter user identification.

IMEI edit box (ALT+I):

Field where user can enter IMEI value. Field can contain up to 40 digits.

This field is automatically filled, if ME is connected to the PC when dialog is loaded.

Product Code edit box (ALT+P):

Field where user can enter Product Code value.

This field is automatically filled, if ME is connected to the PC when dialog is loaded.

MS Id edit box (ALT+M):

Field where user can enter MS Id corresponding programming data. This field is automatically filled, if ME is connected to the PC when dialog is loaded.

Product Id edit box (ALT+R):

Field where user can enter Product Id. This field is automatically filled, if ME is connected to the PC when dialog is loaded.

Data edit box (ALT+A):

Field where user can enter Data entry. This field is automatically filled, when file is loaded or data is saved.

IMEI radio button:

File and ME operations contains only IMEI data.

SIM Lock radio button:

File and ME operations contains only SIM Lock data.

IMEI Programming Data edit box (ALT+I):

IMEI programming data is read from file or entered by user to this field.

SIM Lock Programming Data edit box (ALT+D):

SIM Lock programming data is read from file or entered by user to this field.

Close button (ESC):

Cancels all edits and does not save values to phone.

Help button

Opens a help text.

Write button (ALT+W):

Writes programming data to phone. Actions are selected with Action Selection radio button.

Read button (ALT+R):

Reads identification data from phone and shows it in dialog controls. Needed data is selected by Action Selection radio button.

Save File... button (ALT+S):

Writes a file containing data needed by security place application to create needed programming data. File is selected with File Save As dialog.

Load File... button (ALT+L):

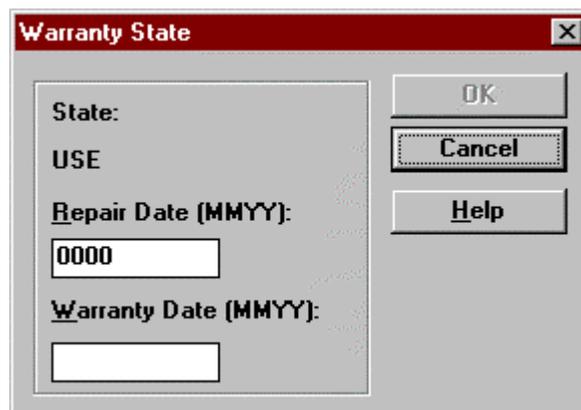
Reads a file containing data needed to program selected data. File is selected with File Open dialog.

### **Warranty State... command**

Activation	Status Bar Text
------------	-----------------

Alt, S,W	Warranty state: Reading from ME.....
----------	--------------------------------------

Command used to read warranty information from MS



Dialog Mode: **Modal**

**\_Production Data Edit... command**

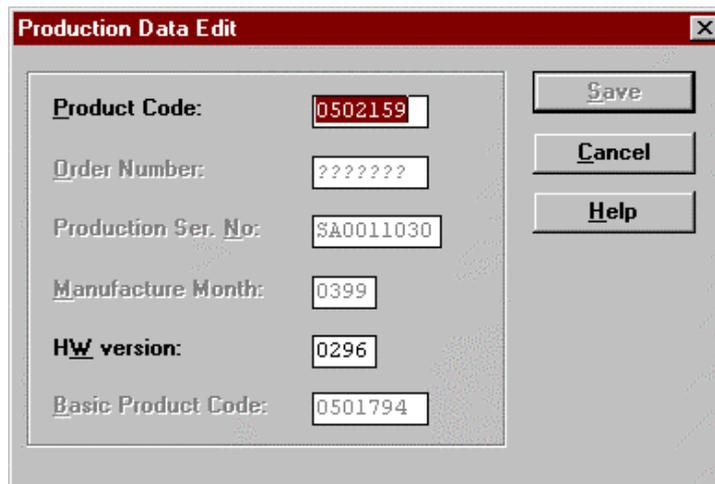
Activation

Status Bar Text

Alt, S,P

Open Production Data Edit dialog box

This command is used for programming HW version to phone. Function opens the following **Production Data Edit** dialog box.



Dialog mode: **modal**

Production Data dialog has the following items:

Production Code edit box (read only):

Displays production code.

Order Number edit box (read only):

Displays order number.

Production Ser. No edit box (read only):

Displays production serial number.

Manufacture Month edit box (read only):

Displays manufacturing month.

HW Version edit box:

User can edit HW version.

Basic Product Code edit box (read only) displays the product code

OK button (ENTER):

Closes the dialog box and writes HW version to ME.

Cancel button (ESC):

Closes the dialog box and *does not* write HW version to ME.

## Dealer

The dealer sub menu offers functions for ME settings for dealers.

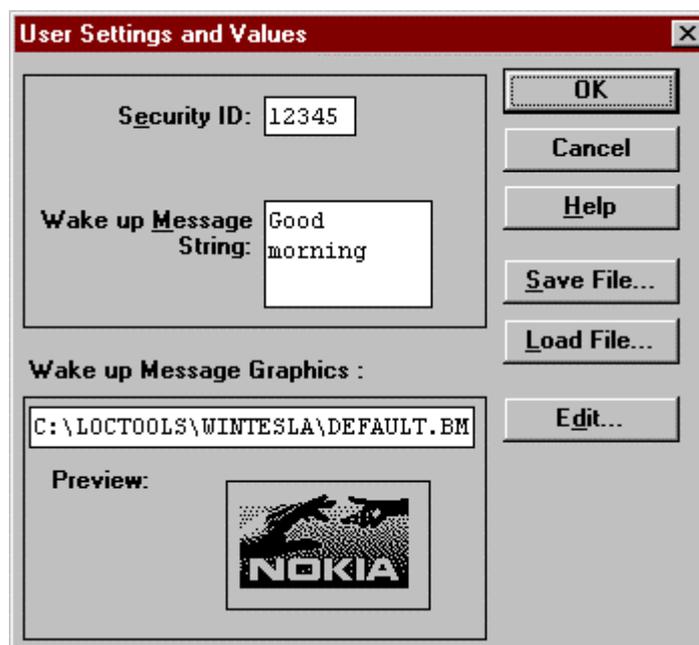
### User Settings... command

Activation                      Status Bar Text

---

Alt, D,U                      Open User Setting dialog box

This command is used to edit user settings.



Dialog mode: **modal**

User Settings dialog box has following items:

Save File... button (ALT+S):

User can save user settings to file.

Load File button (ALT+L):

User can load user settings from file.

Edit... button (ALT+D):

Start Windows Paintbrush to edit loaded or saved graphical Wake up message.

Preview picture:

Shows graphical Wake up message.

Ok button (ENTER):

Writes user settings to phone.

Cancel button (ESC):

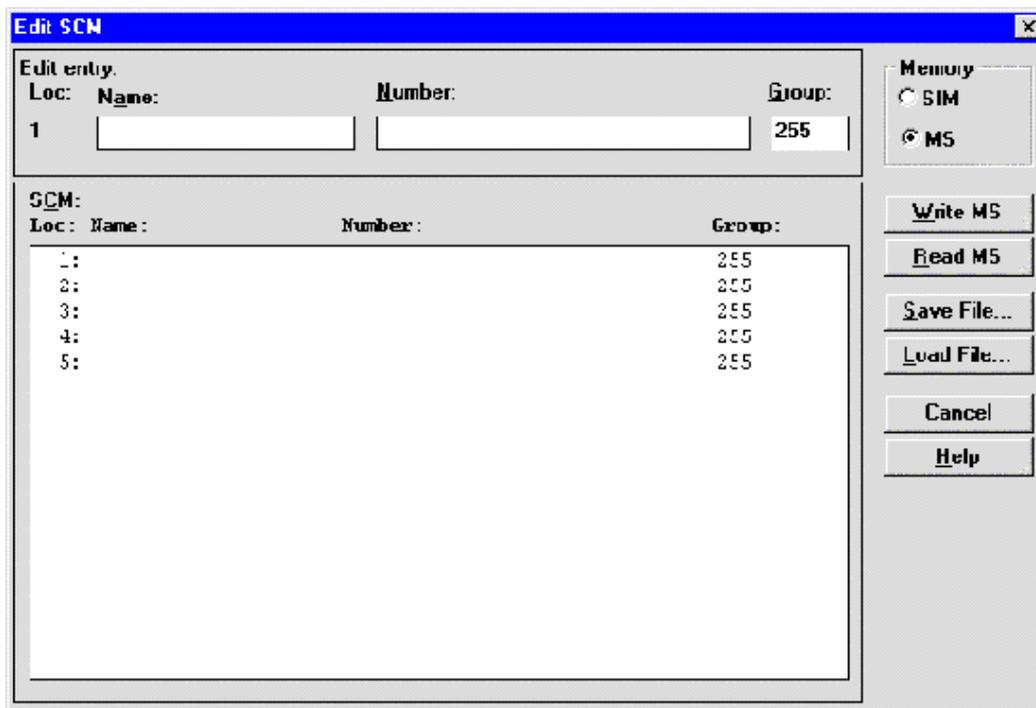
Closes the dialog box

### Short Code Memory... command

Activation

Status Bar Text

The NSE-8 phone does not contain a ME short code memory and the MS selection is disabled. Only the SIM SCM can be used and if no SIM card is present in the phone the SCM dialog will not open.



Dialog mode: **modal**

Edit SCM dialog has the following items:

Loc static text:

Display current location.

Name edit box (ALT+A):

Edit the Name.

Number edit box (ALT+N):

Edit the Number.

Group edit box:

Edit the Group number.

SCM list box (ALT+C):

List for available names and numbers.

Write button (ALT+W):

Write SCM values to phone and checks the validity of names and numbers.

Read button (ALT+R):

Read SCM values from phone.

Save File... button (ALT+S):

Opens a default Windows **File Save As** dialog and asks filename where to save SCM values.

Load File... button (ALT+L):

Opens a default Windows **File Open** dialog and asks filename where from load SCM values. Checks the validity of names and numbers.

Memory group box selection:

SCM memory can be defined to ME or SIM.

When all values are sent and responses received, waiting window is removed and **Edit SCM** is back in control. The waiting state can be broken with **Cancel** (ESC) button. If writing to the ME is broken, only part of the SCM entries in the ME may be changed.

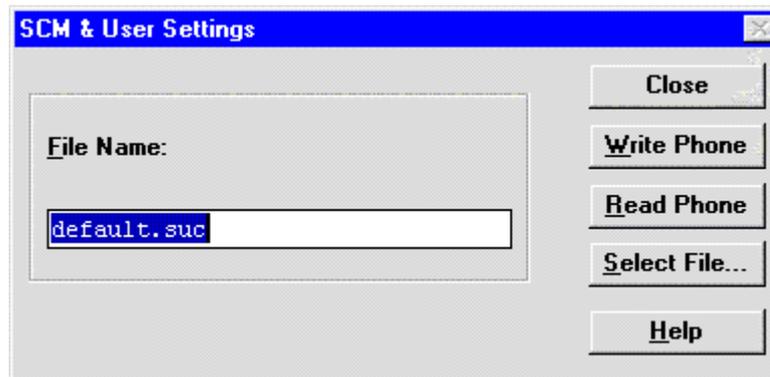
### **SCM & User Settings... command**

Activation	Status Bar Text
Alt, D,M	Open SCM & User settings dialog box.

This command is used to get SCM and user settings from phone to file and vice versa. The following information is loaded/saved with this dialog:

- All user settings
- Speed dial keys
- Operator Logo
- Over The Air / Composed Ringing tones
- Graphical / Text wake up message
- Alarms
- Graphical Messages pictures
- T9 User dictionary
- CLI Ringing tones

When data is written or read phone waiting dialog is showed to user.



Dialog mode: **modal**

SCM & User Settings dialog box has following items:

File Name edit field (ALT+F):

User can edit file name or select file with Open File dialog. When dialog is opened, it contains name of the previously saved or loaded file.

Write Phone button (ALT+W):

Loads settings from file and writes them to phone.

Read Phone button (ALT+R):

Reads settings from phone and writes them to file.

Select File button (ALT+S):

Opens Open File dialog, with which user can select the file, that contains the data to be loaded to ME or file to which data is saved from ME. If user selects OK button, the name of selected file is copied to File Name edit field.

Close button (ESC):

Closes the dialog box.

**Restore User Defaults... command**

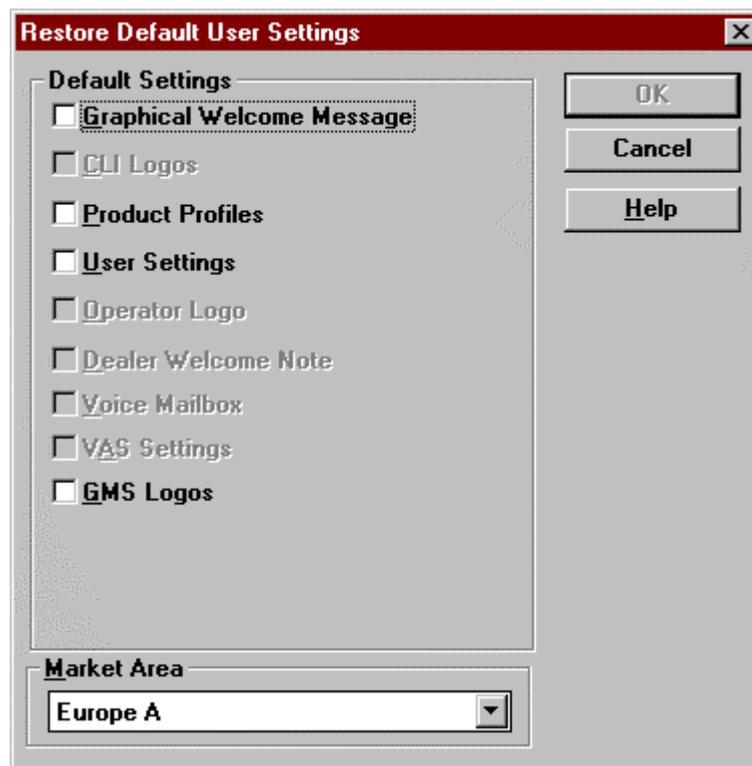
Activation

Status Bar Text

Alt, D,R

Restore user default settings: Reading from ME....

Command is used to restore the user settings of the MS



All settings specified in the selected market area and with setting files present are enabled and can be selected.

The files to be used are defined for each market area in the ini-file `wintsla\nse-8\nse-8.ini`. This ini-file is maintained by phone software installation packages and all setting files are contained in the package.

Example:

```
[EURO_A]
```

```
WugFile=NSE8EURO.WUG
```

```
//CliFile=
```

```
PpFile=NSE8EURO.PP
```

```
//PpFileBody=EURO
```

```
//OlgFile=
```

```
//DwnFile=
```

```
//MbxFile=
```

```
//VasFile=
```

```
GMSFile=NSE8EURO.GMS
```

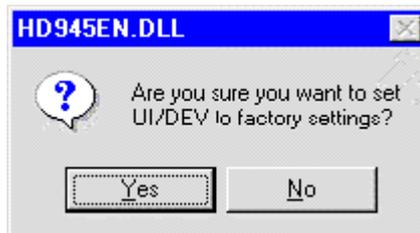
CLI Logos and VAS Settings are not supported by the NSE-8 and NSE-9 phones and must not be specified.

### Set UI/DEV Default Values... command

Activation	Status Bar Text
------------	-----------------

Alt, D,V	Reset phone to UI and SCM factory settings
----------	--

After selection application asks confirmation: "Are you sure you want to set UI to factory settings?". If Yes is answered, default settings are reset to phone.



**Flash PPM... command**

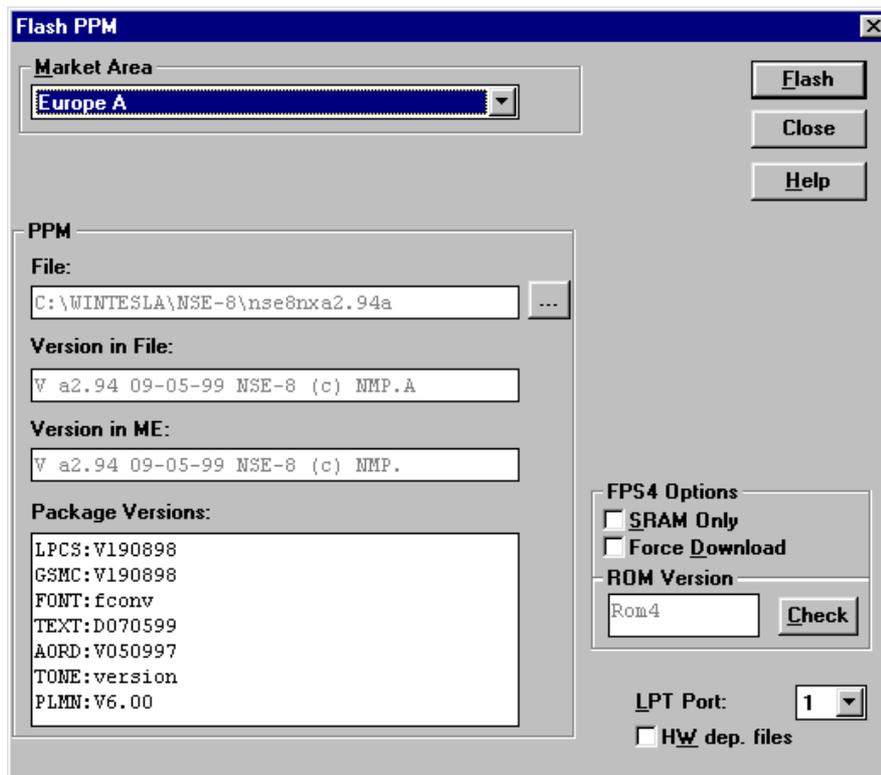
Activation

Status Bar Text

Alt, D,P

Open Post-programmable Memory dialog box.

This command is used to load PPM from file to phone. Application checks version numbers of PPM package and ME, when file is loaded.

Dialog mode: **modal**

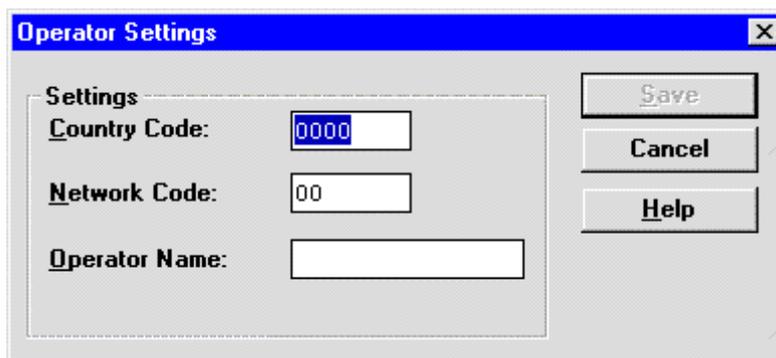
**Operator Settings.....command**

Activation                      Status Bar Text

---

Alt, DO                              Operator settings: Reading from ME.....

Command is used to set the operator settings to the MS



**IWR Swap data .....command**

Activation                      Status Bar Text

---

Alt, D, I

Command is used to swap IWR data.



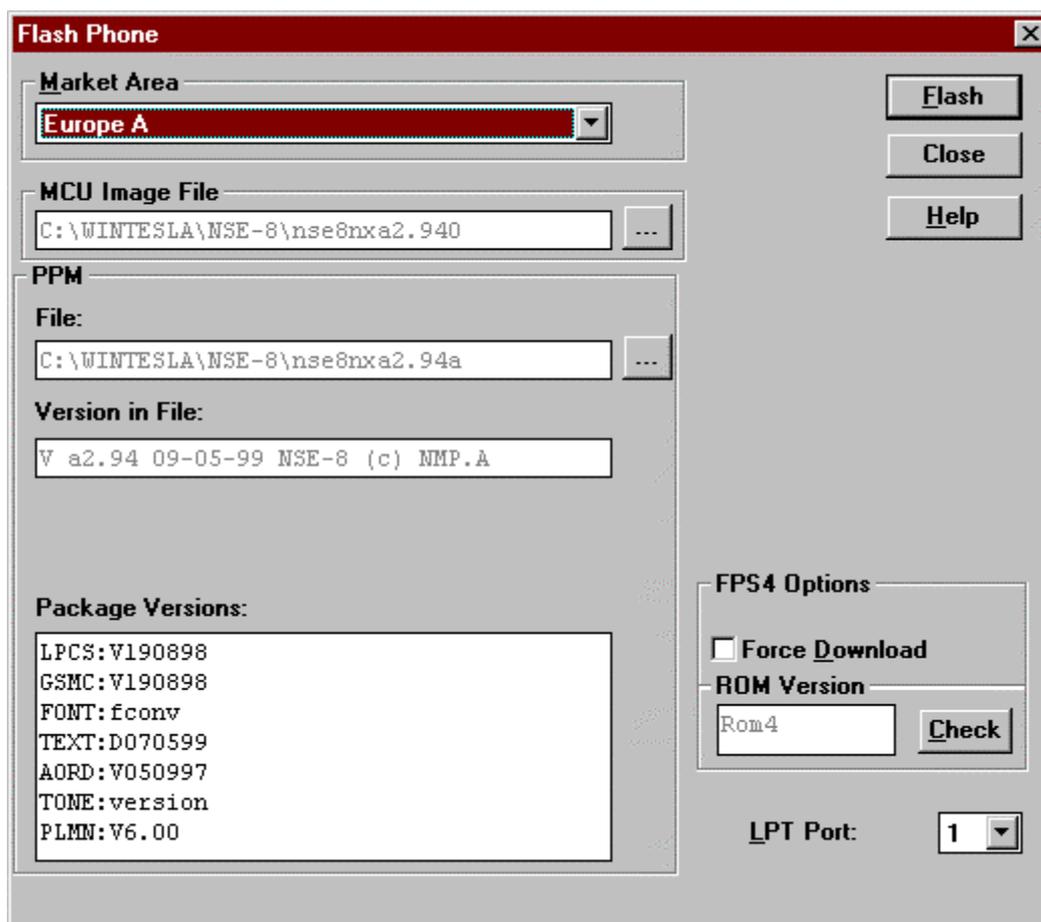
**Flash Phone... command**

Activation

Status Bar Text

Alt, S,F

This command is used for flashing new software into the phone. Function opens the following **Flash Phone** dialog box. When flashing is started, a window will show status and progress.



Flashing the phone supports both the FPS4 flash prommer setup and the FLS-X device. The device used is selected in the menu **Configure | FLS-1**. If **Use FLS-X** is checked then the FLS-X device is activated or else is the FPS4 prommer activated.

Both the image file and the PPM file are flashed to the phone. The files to be used are defined for each market area in the ini-file `wintesla\nse-8\nse-8.ini`. This ini-file is maintained by phone software installation packages.

Example:

[EURO\_A]

// flash files 1.priority

Rom4ImageFile=nse8nx03.000

Rom4PpmFile=nse8nx03.00a

If the image file entry is missing in the market area section then the common reference is searched for:

[NSE-8\_RESTOREFILES]

// image file 2.priority

Rom4ImageFile= nse8nx03.000

The flash files can also be selected directly using the  buttons.

Flash button:

Starts flashing.

Close button:

Closes the flash dialog.

## View

### Quick/RF Info... command

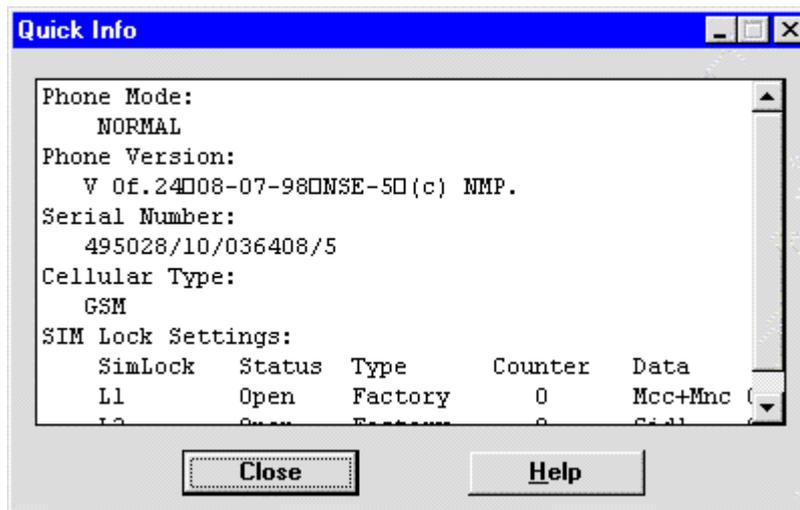
Activation

Status Bar Text

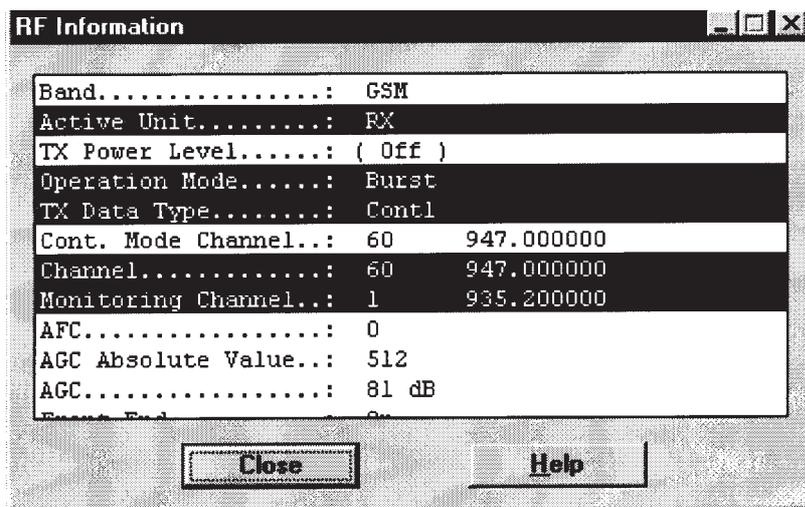
Alt, V,Q

View Quick/RF information.

If phone is in *normal* mode following **Quick Info** is shown:



If phone is in local mode following **RF Information** is shown. Information is shown in a modeless dialog which may be left open during other operations. It is also updated when ever needed.

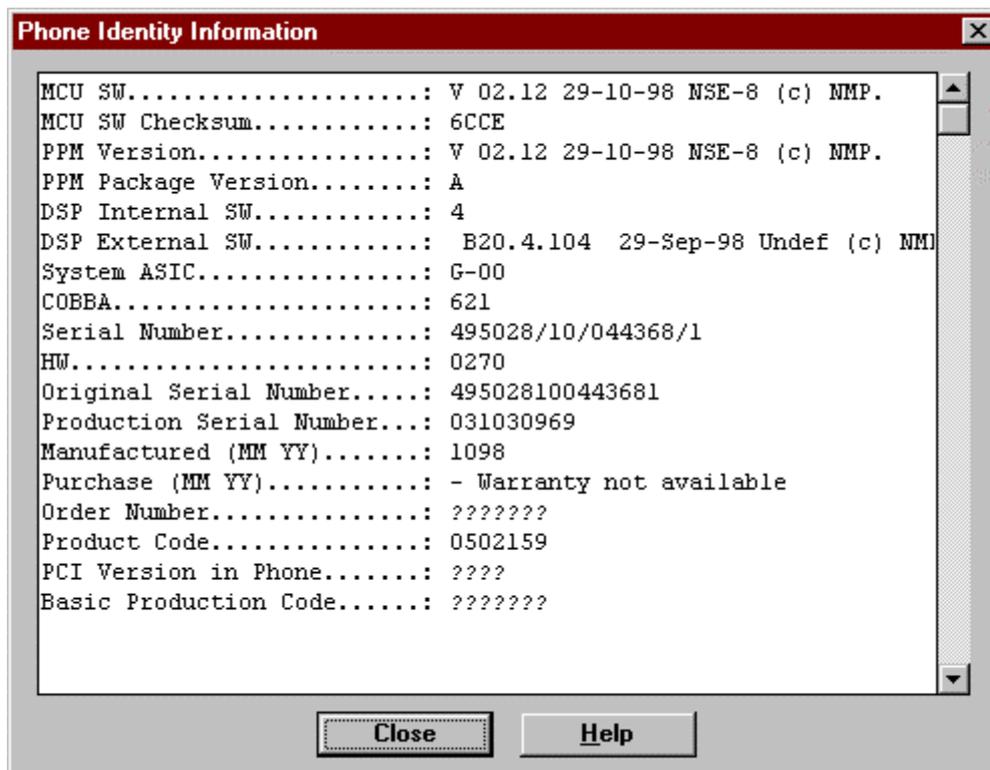


**Phone Identity... command**

Activation                      Status Bar Text

Alt, V,P                      View Phone Identity.

Command opens **Phone Identity Information** dialog, which shows identification information. Information is shown in a modeless dialog which may be left open during other operations. It is also updated when ever needed.



## Appendix 1, Vocabulary

Abbreviation	Description
ASIC	Custom circuit which for instance controls communication between MCU and DSP
BBD-3	Service battery
CLF	Common Look and Feel
CLI	Calling Line Identification
COBBA	Common Base Band Analog
DATA	DATA interface module
DAU-9S/P	MBUS/FBUS cable
DLL	Dynamic Link Library
DSP	Digital Signal Processor which controls radio interface and speech coding/decoding
EEPROM	Memory for adjustment parameters (Electrically Erasable and Programmable Read Only Memory)
FBUS	Fast serial bus
IMEI	International Mobile Equipment Identification code
IR	Infra Red transmitter
M2BUS	Serial communication bus which can be connected to accessory devices and test PC
MCU	Master Control Unit processor
MDI	MCU DSP Interface; message interface via ASIC registers
ME	Mobile Equipment
MODAL (dialog box)	A modal dialog box requires the user to complete interaction within a dialog box, and close it before continuing with any further interaction outside the window.
MODELESS (dialog Box)	A modeless dialog box allows the user to interact with other windows and applications.
MS	Mobile Station
PC	IBM PS/AT or compatible personal computer
PCI	Phone Controlling Interface SW for PC

PKD-1/1NS/1CS	Hardware protection key (DESKEY DK2) for protecting service software from illegal copying. The software will not work without this key !
RF	Radio Frequency parts
RTC	Real Time Clock
SW	Software
TDF-4	Flash security box
UI	User Interface

[This page intentionally left blank]