

PAMS Technical Documentation
NSK-3 Series Transceivers

Service Software
Instructions

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Service Software

General

To run the Service Software, a parallel port software protection device (PKD-1) has to be connected. TDF-4 box must be connected to PC for flashing purposes. The user can use WinTesla functions in modules for testing NSK-1/3 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 3.11

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 phone module is active, i.e. other Windows packages are not running in the background.

Hardware requirements for Windows 95/98/NT

The recommended minimum hardware standard to run Service Software is any computer which has Pentium processor, memory 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 3.11 (enhanced mode) and Windows 95/98/NT. Detailed information about Windows and application usage can be found from the Microsoft Windows Users Guide.

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-9P (product code: 0730109)
- Audio cable ADS-1 (product code: 0730011)
- External Antenna Cable XRC-1B (product code 0730128)
- Modular T-adapter (product code: 4626134)

^{*)} Note: A number of PC's of an older generation use the Intel, National Semiconductor, or United Microelectronics IC 8250 as the serial port UART. This is a comparatively inefficient circuit for current purposes and does not necessarily support the M2BUS adapter at 9600 baud. The newer UART's NS16450 and NS16550AF of National Semiconductor offer solutions for these problems.

Installation

Mechanical Connections

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 !

The software controls the phone via a separate adapter connected to the serial port of the PC, and to the telephone's M2BUS (DAU-9P).

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

The PKD-1 should not affect devices working with it. If some errors occur (errors in printing are possible) please try printing without the PKD-1. If printing is OK without the PKD-1 please contact your dealer. We will offer you a new PKD-1 in exchange for your old one.

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 must be installed on the hard disk before use.

Keep the original diskette safe to enable upgrading of the program !

First time installation of WinTesla:

Do the following to make a complete WinTesla installation:

Insert the WinTesla software diskette into the floppy drive on your computer (i.e. Drive A:)

For Windows 3.1 and 3.11:

Start Windows, type `win <Enter>`

Open the File manager, open Main window and start File manager.

Select the floppy drive and:

Start installation, double-click the `wt_inst.exe` file.

Follow the instructions on the screen. Write down the directory where WinTesla is installed on your hard disk.

When installation has finished remove the WinTesla software disk from your floppy drive.

Insert the Dongle driver diskette into your floppy drive.

Select the floppy drive and:

Start installation, double-click the `dk2wn16.exe` file.

Follow the instructions on the screen.

When installation has finished remove the dongle driver software disk from your floppy drive.

Continue with the support modules installation.

For Windows 95 and NT:

Open Microsoft Explorer, Select `Start -Programs - Explorer`

Select the floppy drive and:

Start installation, double-click the `wt_inst.exe` file.

Follow the instructions on the screen. Write down the directory where WinTesla is installed on your hard disk.

When installation has finished remove the WinTesla software disk from your floppy drive.

Insert the Dongle driver diskette into your floppy drive.

Select the floppy drive and:

Start installation, double-click the *dk2wn32.exe* file.

Follow the instructions on the screen.

When installation has finished remove the dongle driver software disk from your floppy drive.

Continue with the support modules installation.

Installation of NSK-1/3 support modules (WinTesla already installed):

To install the new Service Software Program, follow the steps below:

Insert the new Service software diskette into the floppy drive on of your computer (i.e. Drive A:)

For Windows 3.1 and 3.11:

Start Windows, type *win <Enter>* and open the File manager.

Open Main window and start File Manager, select the floppy drive.

Start installation, double-click the *nsek13i.exe* file.

Follow the instructions on the screen.

For Windows 95 and NT:

Open Microsoft Explorer, select *Start –Programs– Explorer*

Select the floppy drive.

Start installation, double-click the *nsek13i.exe* file.

Follow the instructions on the screen.

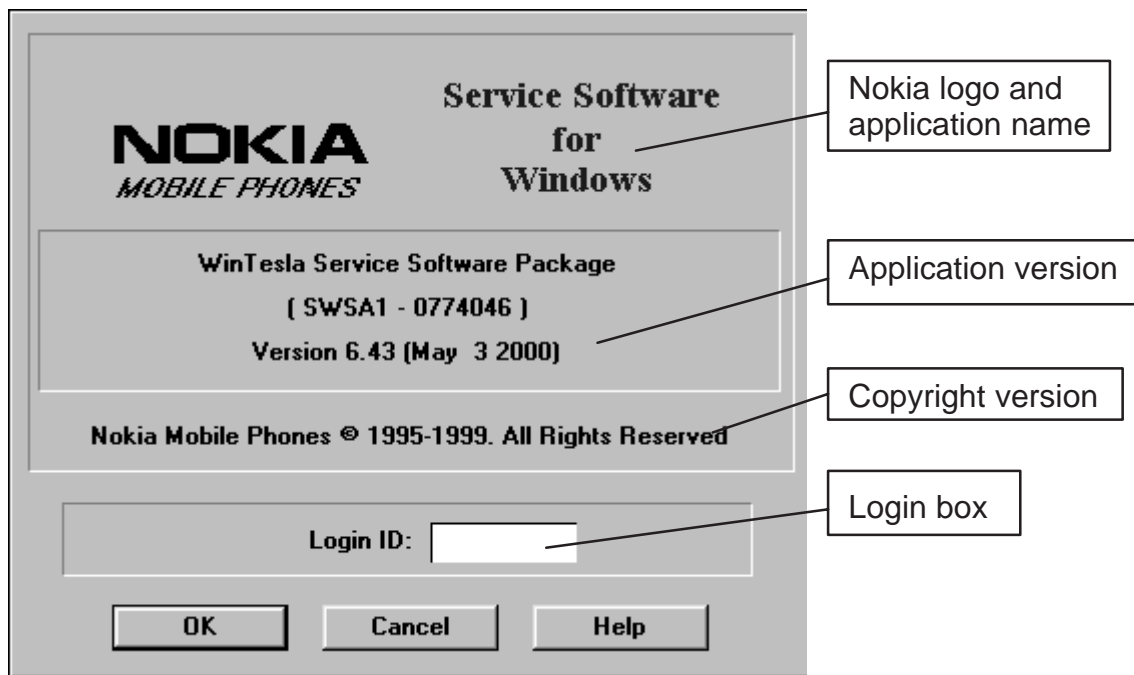
Common Properties of the User Interface

This chapter describes how the User Interface CLF must appear to the user.

The User Interface **MUST** be capable of being driven without the use of a mouse, as the service engineer rarely has space on the bench to use a mouse.

Login Dialog

When the Service Software application is invoked, by checking on the Service Software icon, the **Login** dialog box will be displayed on the screen.



Nokia logo and application name bitmap (-)

Displays Nokia logo and name of the application.

Application version static text (-)

Contains the name and version of the application.

Copyright notice static text (-)

Copyright is informed as: "**Nokia Mobile Phones (c) 1995-1999. All Rights Reserved**".

Login Box edit box (-)

The user Login ID edit box, where the user enters his faultlog user name. (See Faultlog User Guide)

OK button (default key)

The user name is stored in memory and the dialog box is closed. When the dialog box is closed, the application starts.

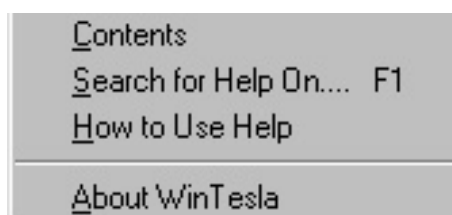
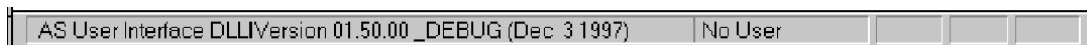
Cancel button (ESC)

The Dialog box is closed and application is started, but the Faultlog feature is disabled.

Help button (F1)

Activates the Windows Help application and displays context sensitive Help.

Main Window



Title bar

The *title bar* is located at the top of the window.

A title bar contains the following elements:

- Application Control–menu button
- Maximise button
- Minimise button
- Name of the application
- Restore button

The properties of these elements and their usage is described in Microsoft Windows Users Guide.

Menu bar

The *menu bar* is below the title bar and contains all available menu selections. The menu bar is a dynamic element and is dependent on the dongle type fitted, and whether a phone is connected.

Underlined characters in menu names and options indicates that the menu selection can be done by pressing *Alt+ underlined character*. Options can also be selected by activating menu bar with *Alt-* key (or *F10* key) and using arrow-keys to highlight the desired menu. In that case, selection is done by pressing *Enter*.

Menus can also be selected by using the mouse as described in Microsoft Windows Users Guide

Status bar

The *status bar* is displayed at the bottom of the Service Software main window. The status bar contains information about the menu selections and events.

The left area of the status bar describes the actions of menu items as the user uses the arrow keys to navigate through menus.

The status bar texts are explained in detailed in each of command's description.

The right areas of the status bar indicate which of the following keys are latched down:

Indicator	Description
USER	Entered Login ID.
CAP	The Caps Lock key is latched down.
NUM	The Num Lock key is latched down.
SCRL	The Scroll Lock key is latched down.

Tool bar

The *tool bar* is NOT defined and will not be implemented until specified by this document.

Configure

The Configure menu contains the following items:

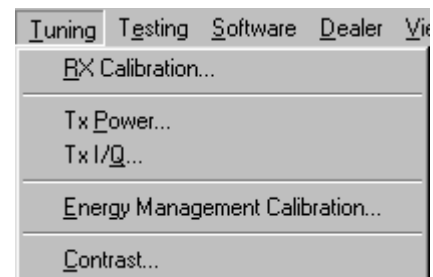
- Options...
- Buses...
- Directories...
- Faultlog...
- IWR Swap...
- Phone Type Specific configuration items
(where applicable)



Tuning

The Tuning menu contains the following menu sections:

- RX Calibration...
- Tx Power...
- Tx I/Q...
- Energy Management Calibration...
- Contrast...



Testing

The Testing menu contains the following sections:

- RF Controls...
- RSSI Reading ...
- Self Tests
- ADC Readings
- Audio
- User Interface
- Noise Sensitivity...
- IR Test
- Sleep Mode Test...
- Vibra Test...



Software

The Software menu contains the following menu sections:

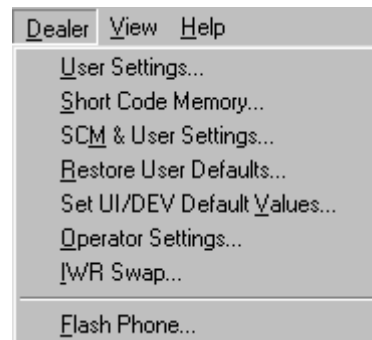
- Product Profile...
- Start Up Self-tests...
- Set Factory Values
- Phone Identify...
- Warranty State...
- Production Data Edit...



Dealer

The Dealer menu contains the following menu sections:

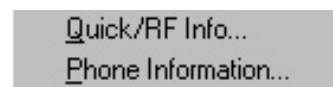
- User Settings...
- Short Code Memory...
- SCM & User settings ...
- Restore User defaults ...
- Set UI/DEV Default Values ...
- Operator Settings...
- IWR Swap...
- Flash Phone...



View

The View menu contains the following sections:

- Quick/RF Info...
- Phone Information...



Phone Information Window

The Phone Identity window should contain, as a minimum, the following data:

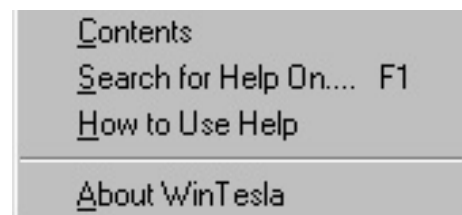
- Software Version(s)
- Hardware Version(s)
- Serial Number(s)
- Product Code

This window will only be used as a display window and therefore will not allow editing of the displayed data. This window will not contain any controls other than a scroll bar.

Help

The Help menu contains at least the following menu items:

- Contents
- Search for Help On...
- How to Use Help
- About WinTesla



Mouse Cursors

The standard Windows pointer will be used as the mouse cursor.

During time consuming tasks e.g. communication to phone, an hour glass will be shown informing the user that a task is in progress. The application uses the hour glass cursor to inform user that the application has taken the control and any actions from user will be ignored.

When a function is initiated, the hour glass will be displayed and when the function has finished the mouse pointer will return to normal.

Reserved Keys

The following Hot keys and Short Cut keys are reserved either as Microsoft standard keys or as part of the Common Look and Feel specified by this document.

Short Cut Function Keys

Key by	Description	Defined
F1	Context Sensitive Help	Microsoft
F5	Normal Mode	NMP
Shift+F5	Local Mode	NMP
F9	Activate Faultlog	NMP
F10	Goto Menu Bar	Microsoft
Ctrl+F4	Close Active Window	Microsoft

Alt Hot Keys

Key by	Description	Defined
Alt+F4	Exit Active Application	Microsoft
Alt+H	Help	Microsoft

Ctrl Hot Keys

Key by	Description	Defined
Ctrl+N	<u>F</u> ile – <u>N</u> ew	Microsoft
Ctrl+O	<u>F</u> ile – <u>O</u> pen	Microsoft
Ctrl+P	<u>F</u> ile – <u>P</u> rint	Microsoft

Ctrl+R	<u>P</u> roduct – <u>N</u> ew	NMP
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Shift Hot Keys

Key by	Description	Defined
Shift+F5	Local Mode	NMP

Key Strokes

Key by	Description	Defined
Alt+P	<u>P</u> roduct Menu	NMP
Alt+P,N	<u>N</u> ew	NMP
Alt+P,O	<u>O</u> pen	NMP
Alt+P,C	<u>C</u> lose	NMP
Alt+P,I	<u>I</u> nitialize Pop-up	NMP
Alt+P,I,N	<u>N</u> ormal Mode	NMP
Alt+P,I,L	<u>L</u> ocal Mode	NMP
Alt+P,F	<u>F</u> aultlog Pop-up	NMP
Alt+P,F,A	<u>A</u> ctivate Faultlog	NMP
Alt+P,F,E	<u>E</u> dit Faultlog	NMP
Alt+P,X	<u>E</u> xit Application	NMP
Alt+C	<u>C</u> onfigure	NMP
Alt+C,O	<u>O</u> ption	NMP
Alt+C,B	<u>B</u> uses	NMP
Alt+C,D	<u>D</u> irectories	NMP
Alt+C,F	<u>F</u> aultlog	NMP
Alt+C,G	GPIB instruments (disabled)	NMP
Alt+C,I	<u>I</u> WR Swap	NMP
Alt+T	<u>T</u> uning Menu	NMP
Alt+T,R	<u>R</u> X Calibration	NMP
Alt+T,P	Tx <u>P</u> ower	NMP
Alt+T,Q	Tx I/ <u>Q</u>	NMP
Alt+T,E	<u>E</u> nergy Management calibration	NMP
Alt+T,C	<u>C</u> ontrast	NMP

Alt+E	<u>T</u> esting Menu	NMP
Alt+E,R	<u>R</u> F Controls	NMP
Alt+E,E	R <u>S</u> SI R <u>e</u> ading	NMP
Alt+E,S	<u>S</u> elf Tests	NMP
Alt+E,A	<u>A</u> DC Readings	NMP
Alt+E,U	<u>A</u> udio	NMP
Alt+E,U	<u>U</u> ser Interface	NMP
Alt+E,N	<u>N</u> oise Sensitivity	NMP
Alt+E,I	<u>I</u> R Test	NMP
Alt+E,M	Sleep <u>M</u> ode Test	NMP
Alt+E,V	<u>V</u> ibra Test	NMP
Alt+S	<u>S</u> oftware Menu	NMP
Alt+S,P	<u>P</u> roduct Profile	NMP
Alt+S,S	<u>S</u> tart-up Self Tests	NMP
Alt+S,V	Set Factory <u>V</u> alues	NMP
Alt+S,I	Phone <u>I</u> dentify	NMP
Alt+S,W	<u>W</u> arranty State	NMP
Alt+S,D	Production <u>D</u> ata Edit	NMP
Alt+D	<u>D</u> ealer Menu	NMP
Alt+D,U	<u>U</u> ser Settings	NMP
Alt+D,S	<u>S</u> hort Code Memory	NMP
Alt+D,M	<u>S</u> CM & User Settings	NMP
Alt+D,R	<u>R</u> estore User Defaults	NMP
Alt+D,V	Set UI/DEV Default <u>V</u> alues	NMP
Alt+D,O	<u>O</u> perators Settings	NMP
Alt+D,I	<u>I</u> WR Swap	NMP
Alt+D,F	<u>F</u> lash Phone	NMP
Alt+V	<u>V</u> iew Menu	NMP
Alt+V,Q	<u>Q</u> uick/RF Info	NMP
Alt+V,P	<u>P</u> hone Identity	NMP
Alt+H	<u>H</u> elp Menu	Microsoft
Alt+H,C	<u>C</u> ontents	Microsoft
Alt+H,S	<u>S</u> earch for Help On /F1	Microsoft
Alt+H,H	<u>H</u> ow to Use Help	Microsoft
Alt+H,A	<u>A</u> bout WinTesla	NMP

Help Functions

The Help User Interface will be the standard Windows help tool called WinHelp.

The context sensitive help is activated with **F1**-key. Help contains also Using Help which describes how to use help facility. Refer to the Windows manual for detailed description on the Windows Help.

Dialog boxes

The Service Software application uses many different dialog boxes. Dialog boxes are used to display data and prompt the user for input.

Dialog boxes are opened from menus or with shortcut keys. Dialog boxes have different properties but some features are common.

All service dialog boxes must be modal, that is, the user will not be able to start another operation without first closing the present dialog box.

All dialog boxes will contain the following entities:

- Help button
- Title bar
- At least one button other than Help
- Application Control-menu Button

Common Dialog boxes

This sections describes the common dialog boxes used in the Service Software package, and the context in which they will be used.

Note Message Box

When the user has made an illegal selection, a *note message box* dialog will be opened and message text is displayed. The message box is also opened when the program has some information for the user. The size of the dialog box may vary. An information dialog box is recognized by the !-icon.



The dialog box will also contain an OK button and a Help button.

OK button (default key):

Acknowledge displayed information and continue. The dialog box is closed after selection.

Help button (Alt+H):

Opens context sensitive help as F1-key does.

Query Message Box

Confirmations and questions are asked in a *query message box*. A query dialog box is recognized by the ?-icon.



The dialog box will also contain a Yes button, a No button, and a Help button.

Yes button (Alt+Y or Y) (default key):

Accepts confirmation or question.

No button (Alt+N or N):

Denies confirmation or question.

Help button (Alt+H):

Opens context sensitive help as F1-key does.

The buttons may also be OK and Cancel. The operation of these buttons are the same as in the Note dialog box.

Error Message Box

Error message dialog boxes use the Stop-icon. When a "Stop"-dialog box is shown, the current operation is terminated.

The dialog box has a description about the failed operation and reason. Pressing F1 (Help) application opens the appropriate help topic that gives information about recommended actions.



The dialog box will also contain an OK button and a Help button.

OK button (default key):

Acknowledges displayed information and terminate current operation. The dialog box is closed after selection.

Help button (Alt+H):

Open context sensitive help as F1-key does.

Custom Dialog boxes

All custom dialog boxes will contain the predefined buttons as defined below in the section – *Buttons*. However, it is recognised that features may require additional button types, but the addition of these non-standard buttons should be carefully considered to minimise any inconsistencies between implementations.

The buttons will be positioned down the right-hand side of the dialog boxes. The default action will be **OK**, except where that default action could result in an irretrievable failure.

All tuning dialogs that contain tuning results, will display the old tuned data read from the phone before the tuning was performed, as well as the newly tuned data.

List boxes will be used to display lists of data, such as tuning data, test results etc.

The use of Radio buttons should be limited and carefully considered. The use of radio buttons defines the number of possible choices available to the user, which may be acceptable for one project, but not for another.

Buttons

All buttons must be the Microsoft style of buttons.

In general, the default button will be the action button, the Close button or the Yes button, but this will depend on the context of the dialog box that the button is associated with.

(action) button:

Accepts and validates entered settings and values and closes the dialog. If the values have not been changed, then no action will be taken. The status bar will reflect the status. The user should only be queried, if the settings or values accepted will over-write data that CAN NOT be reproduced.

A greyed **OK** button indicates that settings selected by the user are not acceptable.

Close button:

Closes the current dialog box. Does not send or store anything and closes the dialog. The Close button is only used for dialogs that do not set or change any data.

Cancel button (Esc):

Cancel operation. Does not send or store anything and closes the dialog box.

A greyed **Cancel** button indicates that it is not possible to quit from this dialog box.

Yes button (ALT+Y or Y):

Replies Yes to a question asked of the user.

No button (ALT+N or N):

Replies No to a question asked of the user.

Help button (ALT+H):

Opens context sensitive help as F1-key does.

Reporting Status

The status bar will be used to report the present status to the user. When a feature is initiated, the status bar will be updated with a brief description of the function. The status bar will also be updated at key points in a time consuming function.

If an error is to be reported to the user, it will be displayed in the status bar as well as displayed in a common error dialog box. This will mean the user is not delayed from progressing on to the next operation unless an error occurs, in which case, the user will have to acknowledge the error by pressing the OK button.

NSK-3 FEATURES

Menu bar

After Sales SW's menus follows the menu structure specified in WinTesla User Interface Specification. This specification will describe functionality that differs from WinTesla specification.

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 to local/normal mode (selected in TESLA.INI). 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.</p> <p>If Phone Information view is open, window will be automatically updated.</p> <p>NOTE: When different type of phone is changed user should select Product/New, so that application recognises phone type change and loads correct menu.</p>	

Open... command

Activation	Status Bar Text
Alt, P, O	Force load phone specific functionality
<p>Phone is set to local/normal mode. If no phone is found, connection parameters (from Configure/Busses) are displayed to user and application asks from user does (s)he want to use that connection to flash a phone. If user selects Yes, current connection is used and flash only menu is loaded. If user selects No, application tries next connection, if there is one.</p>	

Initialise... command

Activation	Status Bar Text
Alt, P, I	Opens a submenu which contains the following options:

Normal Mode

Activation	Status Bar Text
Alt, P, I, 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.</p> <p>Initialisation routine checks phone's cellular type and if unsupported phone is detected, application unloads the DLLs.</p> <p>The After Sales SW sets automatically the MS state to normal mode when needed.</p> <p>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.</p>	

Local Mode

Activation	Status Bar Text
Alt, P, I, 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 normal mode when needed.</p> <p>Also if quick info view is open it will be updated to RF Information view.</p>	

Tuning

The tuning menu offers functions for ME adjustments.

RX Calibration... command

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

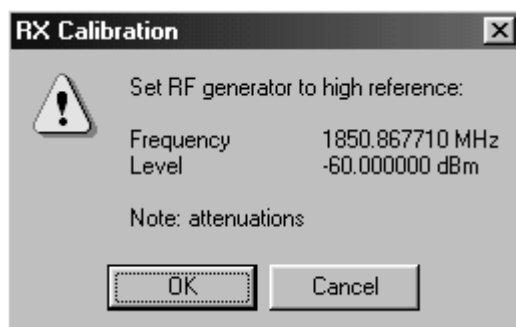
Alt, T,R Starts RX calibration.	Open RX Calibration dialog box
------------------------------------	--------------------------------

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

- Phone is set to local mode (Note! Shift F5 sets local mode)
- Update RF information window

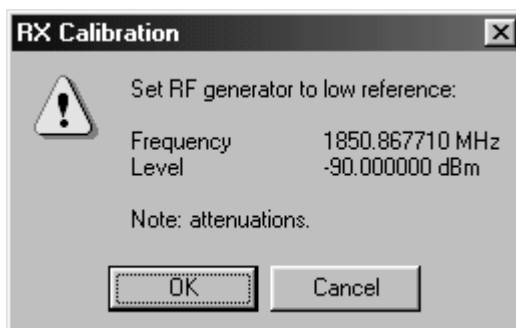
The measurement is started automatically when RX calibration is entered. The measurement is done in five steps:

1. User is requested to put signal generator to high input level (read from .INI file).

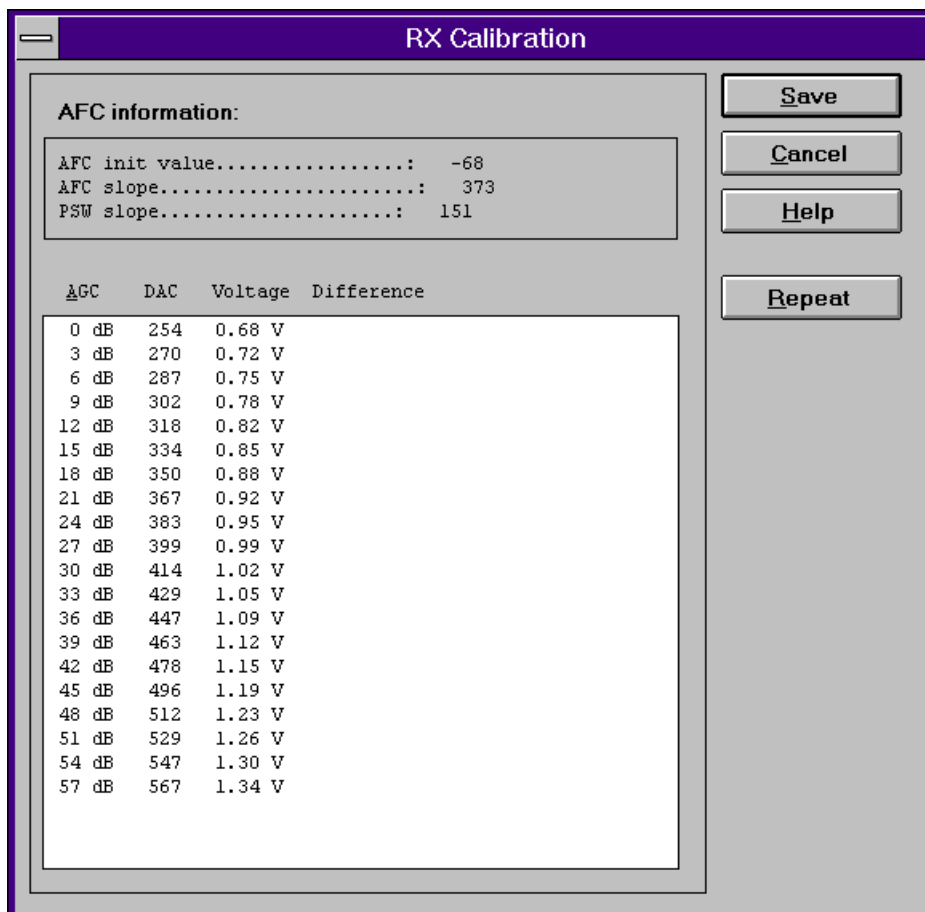


2. Measurement with high input level is executed

3. User is requested to put signal generator to low input level (read from .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:

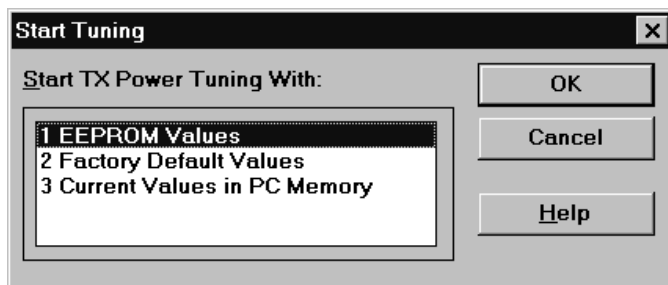
T_x Power... command

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

Alt, T,P	Open TX Power Tuning dialog box
----------	---------------------------------

Starts TX power tuning.

When user has PKD-1 dongle in place, then tuning is started automatically with EEPROM values. If values read from EEPROM are not valid then user is able to start the tuning with factory values. There is a notification shown if this happens. With other dongles user is first requested to select with which values tuning is started in **Start Tuning** dialog.



Start Tuning dialog has following items:

Start Tuning With list box (ALT+S):

1 EEPROM Values

Tuning values are load from ME's EEPROM.

2 Factory Default Values

Tuning values are load from ME's flash.

3 Current Values in PC memory

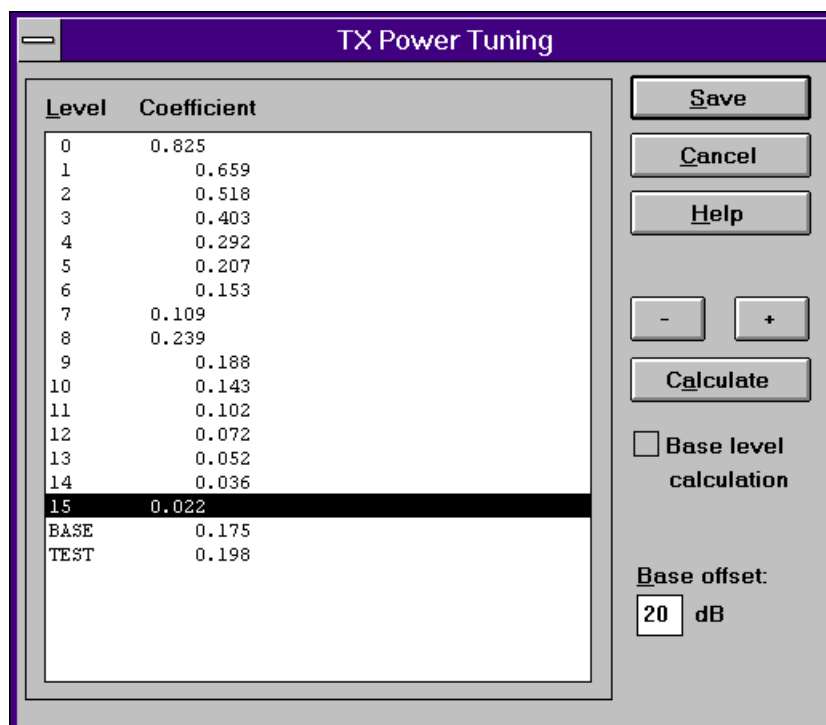
Tuning values are load from program's internal memory.

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

the BASE 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 base power is selected automatically when the dialog is opened. 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 four power coefficients (0,7,8,15) are needed to tune and the rest of them are calculated.

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

Calculate button (ALT+A):

The calculation is activated with this button. The power coefficients which are calculated from the tuned coefficients are displayed on the different columns than the others. All values can be tuned if needed.

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.

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

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.

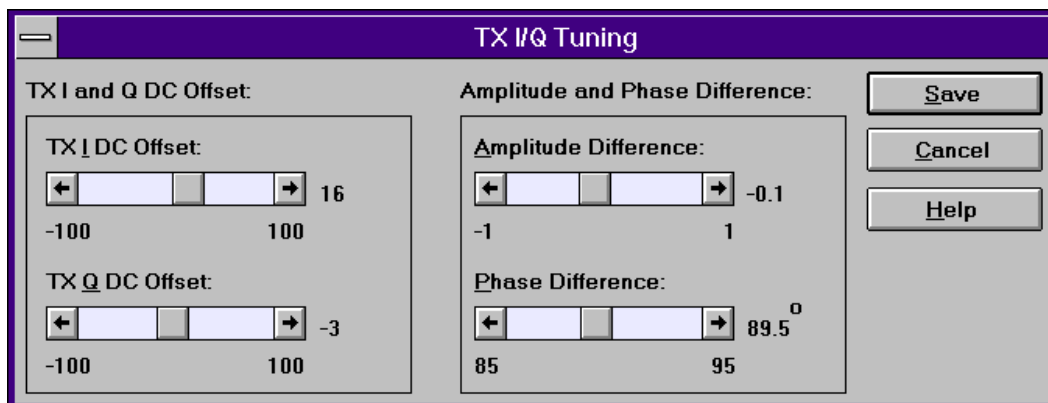
The function opens same **Start Tuning** dialog as with TX Power Tuning.

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 $-100\% \dots 100\%$. 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 $-100\% \dots 100\%$. 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 $-1 \dots 1$.

Tune Phase Difference scroll bar (ALT+P):

When this selection is made user can increase or decrease the phase difference within 0.5° steps. The current phase difference is shown on the tuning window with numbers and bar figure. The value range is $85 \dots 95$.

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

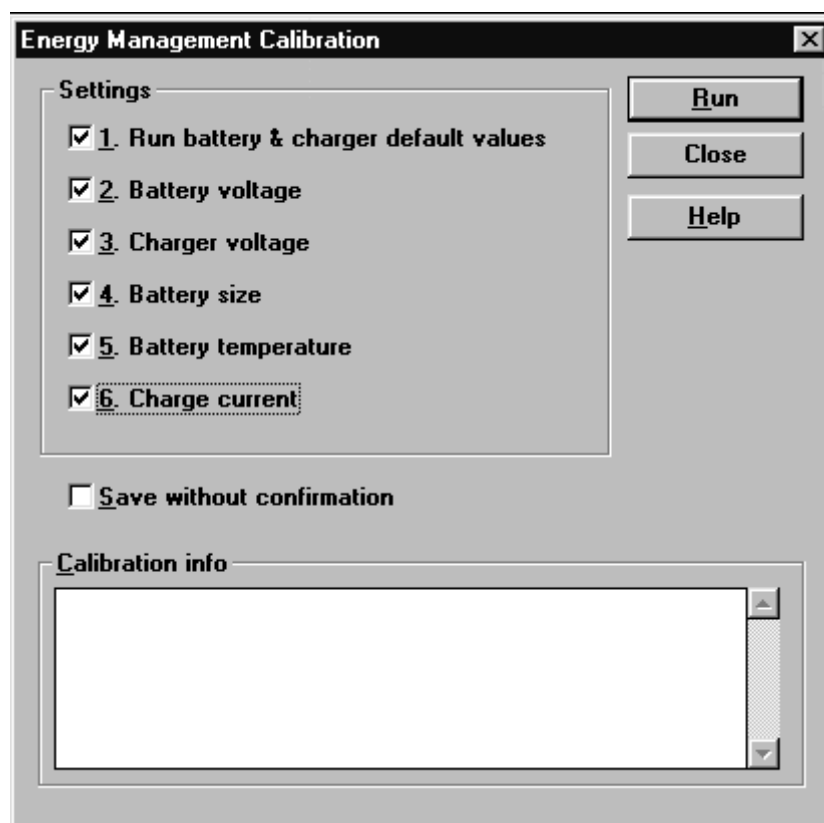
Update RF Information window

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) or ENTER:

Energy management calibration is performed,

Close button :

The dialog box is closed without performing energy management calibration.

Help button (ALT + H):

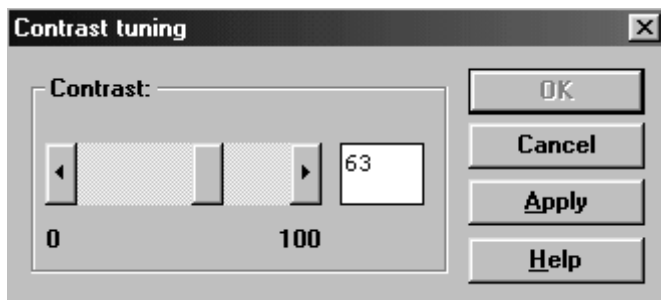
Displays context sensitive help.

Contrast... command

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

Alt, T,C	Contrast Tuning
----------	-----------------

This command opens the **Contrast Tuning** dialog box:



The Contrast Tuning dialog box contains the following options:

Contrast Scroll Bar:

Move scroll bar to the right to increase the contrast and to the left to decrease the contrast.

OK button:

Applied contrast value is set to the phone.

Cancel button :

The dialog box is closed without performing Contrast Tuning.

Apply button (ALT + A):

Contrast value set by the scroll bar is applied to the display.

Help button (ALT + H):

Displays context sensitive help.

Testing

The Testing sub menu offers functions for ME testing.

RF Controls... command

Activation

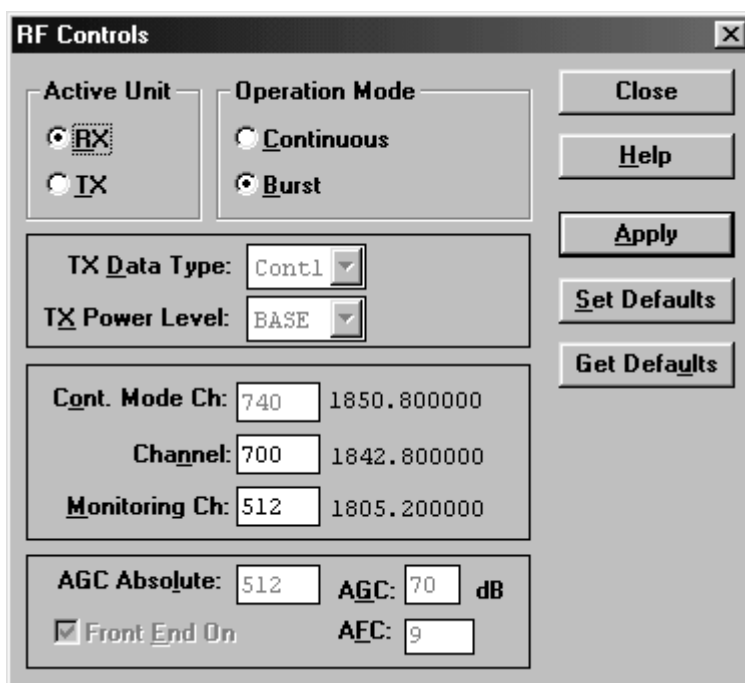
Status Bar Text

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:

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):

This list changes the transmission data type. List consists following options: 0, 1, Random and User. After Random data selection 0 is used. If Operating Mode is *continuous*, TX Data Type Random causes different data sending than in burst mode. User data is defined in TESLA.INI file by the user (open).

TX Power Level edit box (ALT+X):

With this value is possible to change the transmission power. The user can give 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*.

Channel edit box (ALT+N):

User can enter here channel number that is used for both transmission and receiving. The frequency of the selected channel is shown after selection.

Monitoring Channel edit box (ALT+M):

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

Continuous Mode Channel edit box (ALT+C):

To this edit box user can type 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.

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 AGC absolute value (value from A/D converter).

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 application sends corresponding messages to ME. Closes dialog and updates Info Window.

Note! Active Unit and Operation mode are not send with because they are activated immediately.

Set Defaults button (ALT+S):

Sets current values as default Rf Controls values.

Get Defaults button (ALT+E):

Gets default Rf Controls values as current values.

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

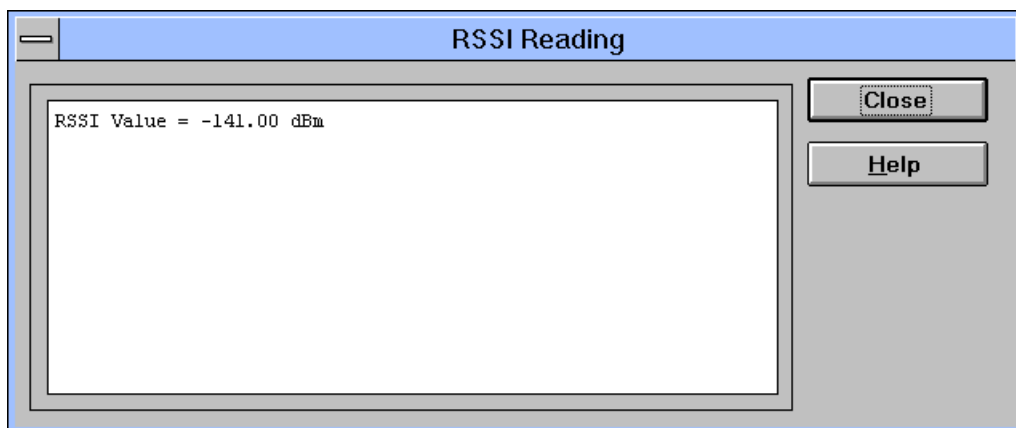
Alt, E,E

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

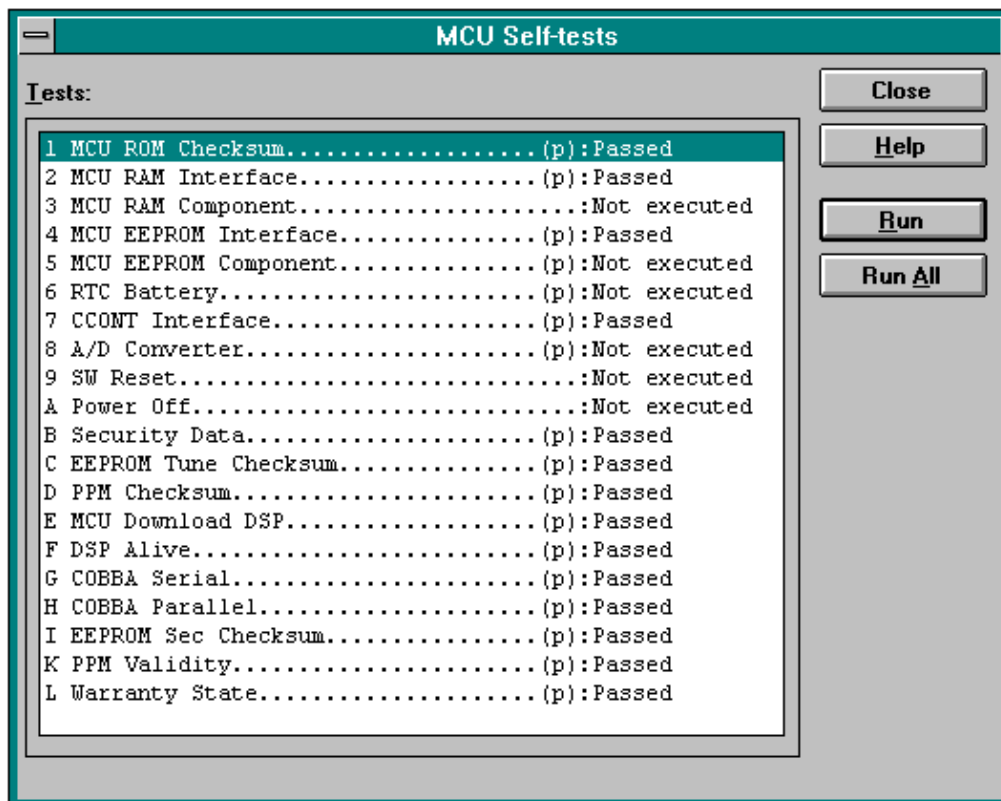
Status Bar Text

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 or ENTER):

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:

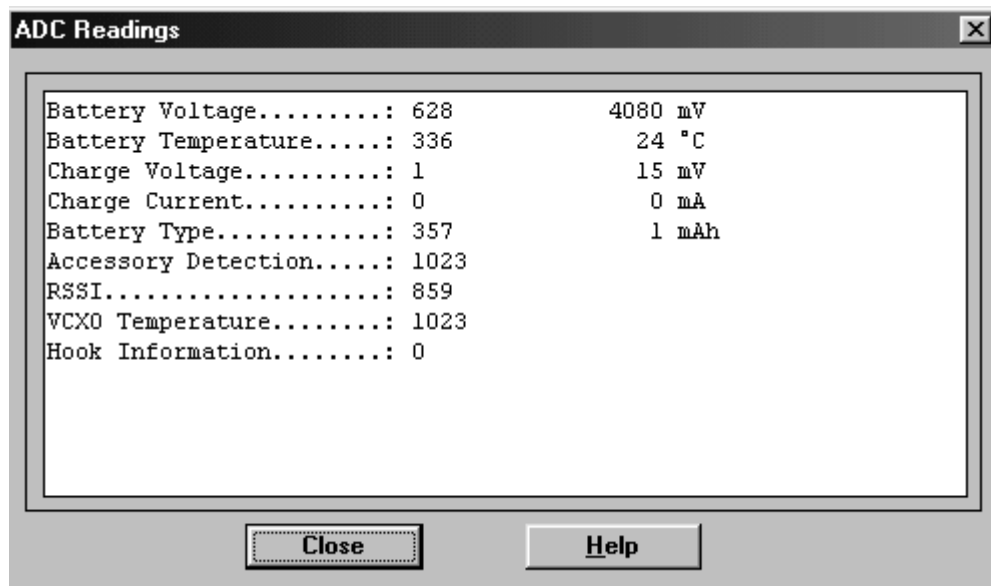
- 1 MCU ROM Checksum.....
- 2 MCU RAM Interface.....
- 3 MCU RAM Component.....
- 4 MCU EEPROM Interface.....
- 5 MCU EEPROM Component.....
- 6 RTC Battery.....
- 7 CCONT Interface.....
- 8 A/D Converter.....
- 9 SW Reset.....
- A Power Off.....
- B Security Data.....
- C EEPROM Tune Checksum.....
- D PPM Checksum.....
- E MCU Download DSP.....
- F DSP Alive.....
- G COBBA Serial.....
- H COBBA Parallel.....
- I EEPROM Sec Checksum.....
- K PPM Validity.....
- L 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**

ADC Readings dialog has static text field where measurements are updated to window every one 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.

A/D Readings

Following a/d readings are measured:

Battery Voltage.....:

Battery Temperature.....:

Charge Voltage.....:

Charge Current.....:

Battery Type.....:

Accessory Detection.....:

RSSI.....:

VCXO Temperature.....:

Hook Information.....:

Audio... command

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

Alt, E,

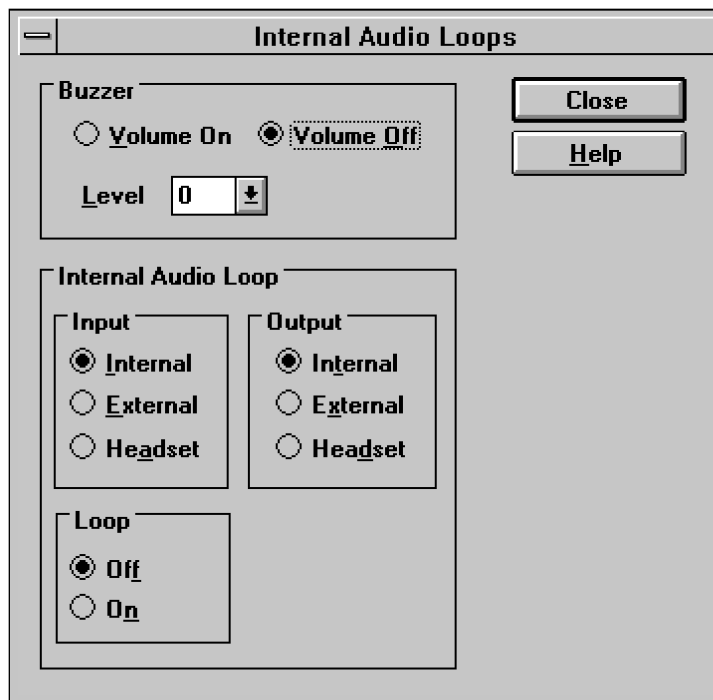
Opens a submenu which contains following options:

Internal Audio Loops

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

Alt, E,

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 Volume group:

Next three different values can be selected for Buzzer volume:

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

Internal Audio Loop group:

Input group:

Next two different values can be selected for input:

Internal radio button (ALT+I):

Turns internal input.

External radio button (ALT+E):

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 dialog is closed with the Buzzer Volume is switched always off.

Also internal audio loop is turned off.

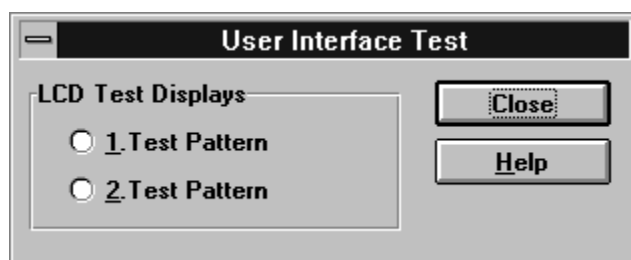
User Interface... command

Activation

Status Bar Text

Alt, E,U

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 all indicators are displayed and the display is filled with chessboard letters.

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

In test display 2 none of the indicators are displayed and the display is filled with inverse chessboard letters.

When dialog is closed the phone LCD display is cleared.

Noise Sensitivity... command

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

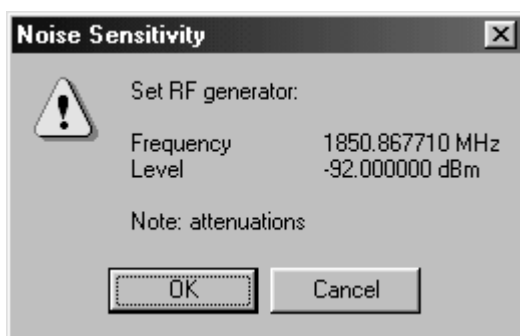
Alt, E,N Opens Noise sensitivity dialog box

Command is used for noise sensitivity measurement.

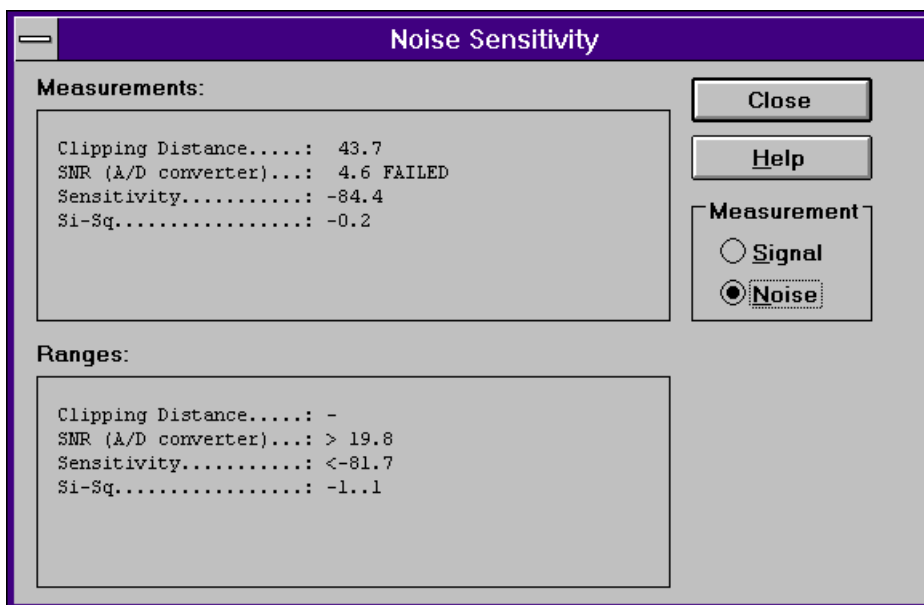
The next automatic selections are made when this tuning function is activated:

- 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.

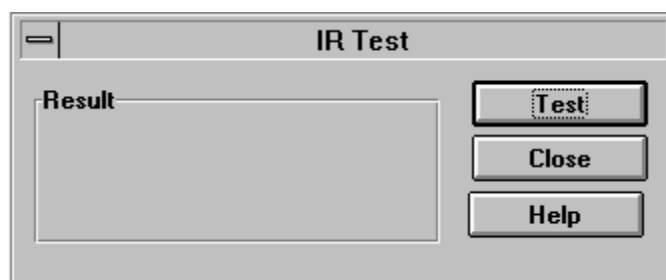
- Operation mode
- AGC value

IR Test... command

NOTE: Applies only to the phones equipped with IR port!

Activation	Status Bar Text
Alt, E,I	IR module test

Command is used for making IR module test. Function opens **IR Test** dialog:



Dialog mode: **modal**

IR Test dialog has following items:

Result box:

Result can be OK/FAILED

Test (ENTER) button:

Starts IR Test.

Close button:

Closes the IR Test dialog.

Vibra Test... command

NOTE: Applies only to the phones equipped with vibrator!

Activation Status Bar Text

Alt, E, V Vibrator module test

This command is used for testing phone's or battery's vibrator. Function opens **Vibra Test** dialog:



Dialog mode: **modal**

Vibra Test dialog has following items:

Vibra Value box:

 Edit box where you can enter value from 0 to 255.

Test (ENTER) button:

 Starts Vibra Test.

Close button:

 Closes the Vibra Test dialog. When dialog box is closed also the vibra test is stopped.

Software

Product Profile... command

Activation

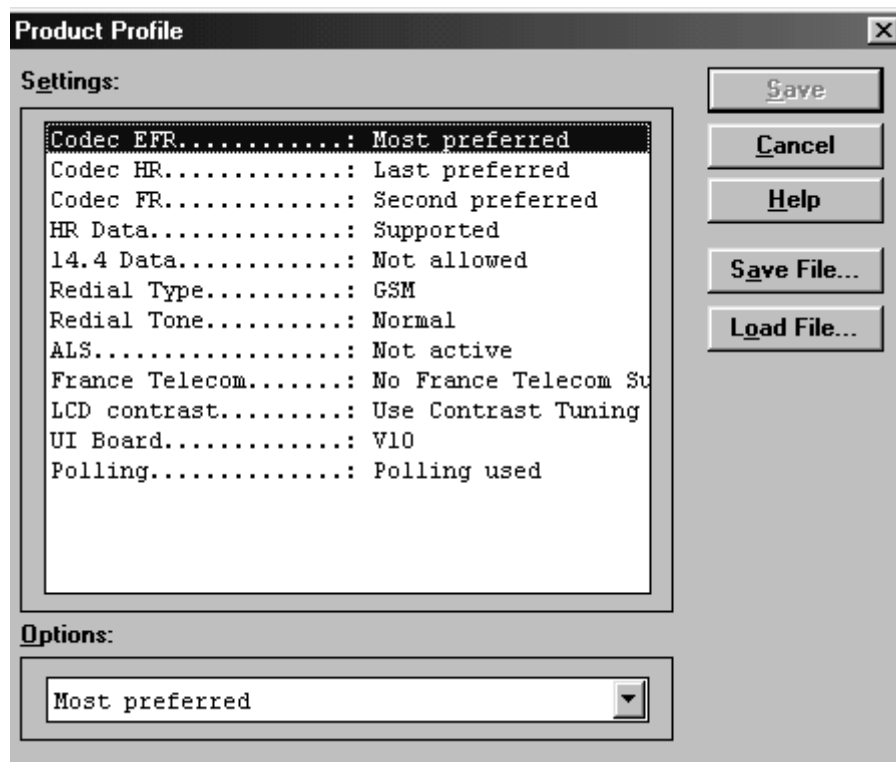
Status Bar Text

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 **O**ptions 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 **S**ettings 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

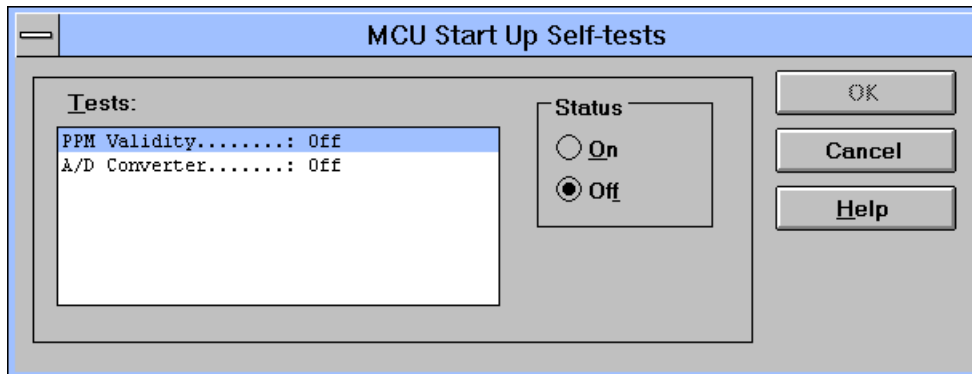
Activation

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).

OK 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:

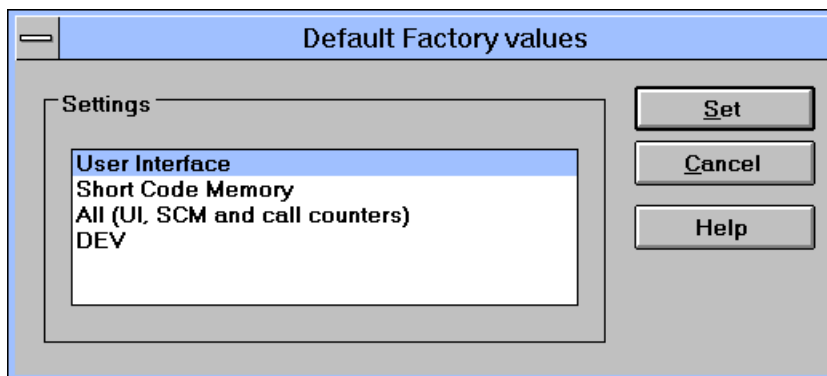
1. PPM Validity
3. A/D Converter

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**

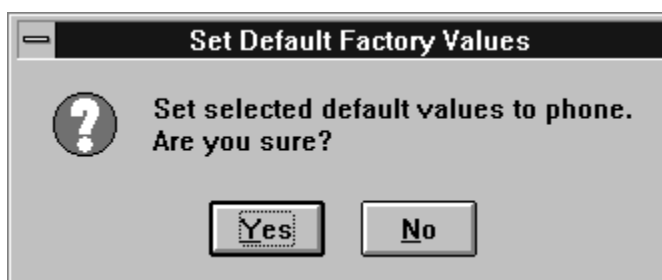
Default Factory Values dialog has following items:

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. **NOTE:** product code cannot be changed with this dialog, if product code is invalid, e.g. after EEPROM change, change product code first with **Production Data Edit**. 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 and Product Code, if they were not read correctly from phone. But if you have to change product code it must be done in the Production Data edit dialog. To edit other fields than User Name and IMEI, Input entries from FAX must be checked)
- dialog information is saved to file, which is sent to secure place where actual programming information may be constructed
- programming information is received 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 (Input values are compared with values read from 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.

Dongle Serial nr edit box (ALT+N):

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

IMEI radio button (ALT+E):

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+G):

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):

Cancel 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

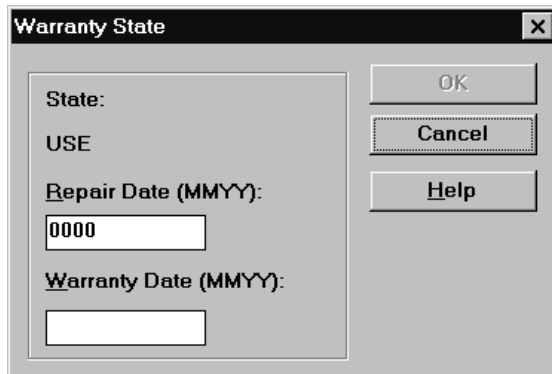
Activation

Status Bar Text

Alt, S,W

Open Warranty State dialog box

This command is used to set the warranty state of a phone. When selected application opens **Warranty State** dialog box.

Dialog mode: **modal**

Warranty State dialog has the following items:

State static text:

USE For normal phones.

DEFECTIVE

For phones which are being swapped. A warranty and other information is transferred to the working phone.

EXCHANGE

For phones which are already repaired from **DEFECTIVE** one.

Repair Date edit box (ALT+R):

When Warranty State is **USE** user can edit repair date. Otherwise field is read only. Format is MMY, where MM stands for month digits and YY stands for year digits.

Warranty Date edit box (ALT+W):

When state is **DEFECTIVE** user can edit warranty date. When warranty date is saved warranty state will be **EXCHANGE**. Format is MMY. MM stands for month digits and YY stands for year digits.

OK button (ENTER):

Closes the dialog box and saves the edited date to the phone. This button is enabled only when phone is Repair Date or Warranty Date is changed.

Cancel button (ESC):

Closes the dialog box and *does not* save the warranty state to the phone.

Production Data Edit... command

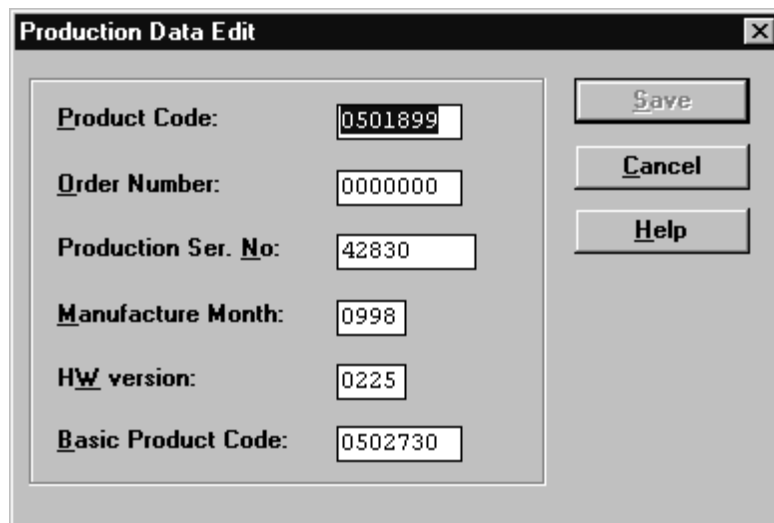
Activation

Status Bar Text

Alt, S,D

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.

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

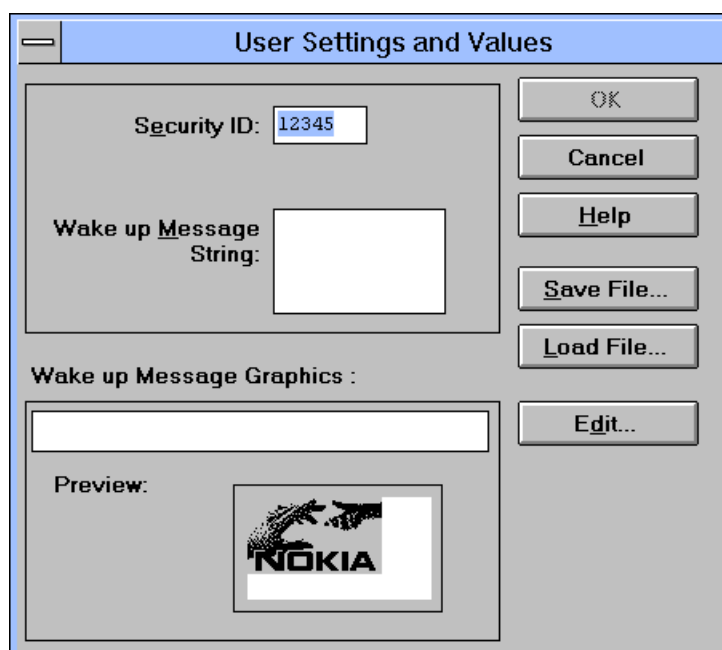
The dealer sub menu offers functions for ME settings for dealers.

User Settings... command

Activation Status Bar Text

Alt, D,U Open User Setting dialog box

This command is used to edit some user settings. When this command is selected user is asked to read settings from the phone. After answering that dialog following **User Settings and Values** dialog is displayed.



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.

Edi... 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

Alt, D,S Open Edit SCM dialog box.

This command is used for reading, storing and modifying the SIM/ME SCM values. Function opens the following Edit SCM dialog:

Loc:	Name:	Number:	Group:
1			239

SCM:	Loc:	Name:	Number:
	1:		255
	2:		255
	3:		255
	4:		255
	5:		255
	6:		255
	7:		255
	8:		255
	9:		255
	10:		255
	11:		255
	12:		255
	13:		255
	14:		255
	15:		255
	16:		255
	17:		255

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

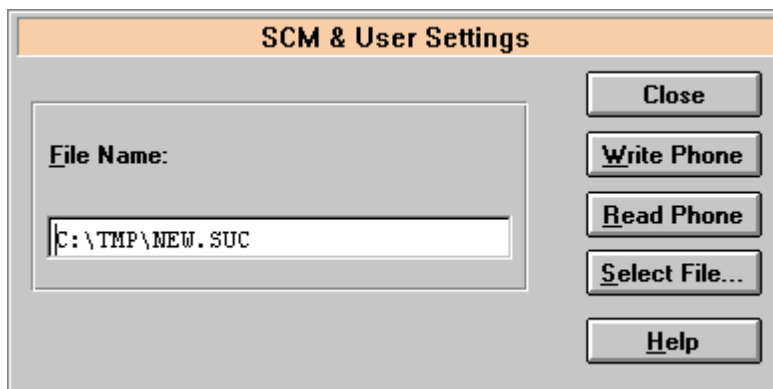
Status Bar Text

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. Following information is loaded/saved with this dialog: all user settings, graphical/text wake up message, SCM, alarms, calendar items and CLI logos and groups

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

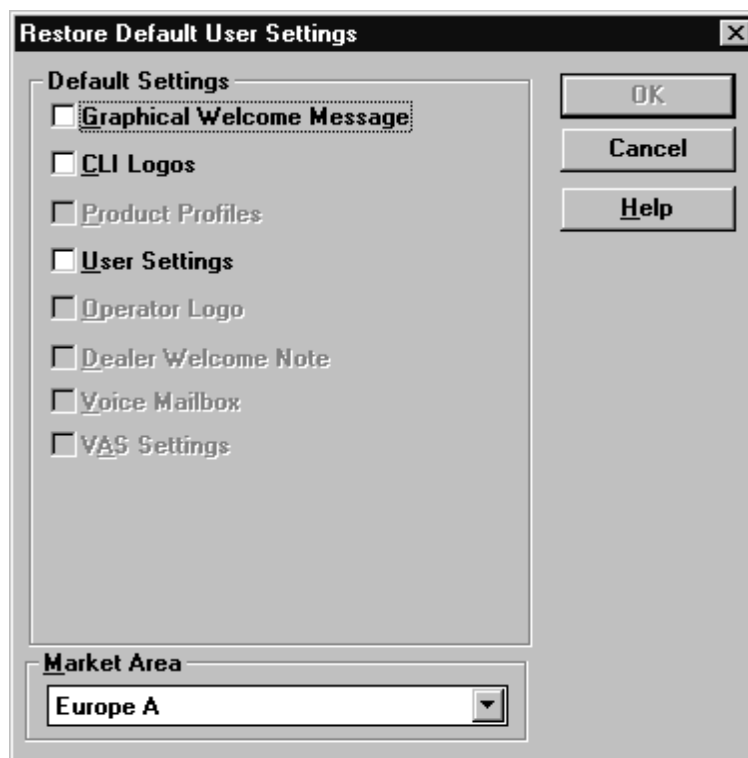
Alt, D,R

Open Restore Default User Settings.

This command is used to restore Default User Settings, if they have de-generated. Dialog may be opened from menu, or is opened automatically, when loading or saving user settings fails or is skipped during flashing (see Flash Phone... command). The dialog is also opened after full factory set.

Default settings are loaded from files in product specific subdirectory of WinTesla directory e.g. for NSK-X this directory could be *c:\wintesla\NSK-X*. Into these directories user should unpack all flash packages. Market areas and corresponding files are described in INI-file in product specific subdirectory e.g. for NSK-X this file would be *c:\wintesla\NSK-X\NSK-X.ini*. INI-file is common to all flash packages, but market areas are added to Market Area list, when new flash packages are unpacked to product specific subdirectory.

Selecting Restore User Defaults opens following Restore Default User Settings dialog.



NOTE: This is a screen example. Actually enabled settings may differ.

Dialog mode: **modal**

Restore Default User Settings dialog box has following items:

Default Settings static text:

User can check one or more check boxes to restore corresponding defaults from file to ME. Check boxes are disabled/enabled according to settings available in selected Market Area.

Graphical Welcome Message check box (ALT+G):

When checked user selects to restore default graphical welcome message.

CLI Logos check box (ALT+C):

When checked user selects to restore default CLI logos.

Product Profiles check box (ALT+P):

When checked user selects to restore default product profiles.

User Settings check box (ALT+U):

When checked user selects to restore default user settings.

Operator Logo check box (ALT+O):

When checked user selects to restore default operator logo.

Dealer Welcome Note check box (ALT+D):

When checked user selects to restore default dealer welcome note.

Voice Mailbox check box (ALT+V):

When checked user selects to restore default voice mailbox number.

Market Area drop list (ALT+M):

User selects market area of the phone.

Write Phone button (ALT+W):

Loads settings from files and writes them to phone.

Close button (ESC):

Closes the dialog box.

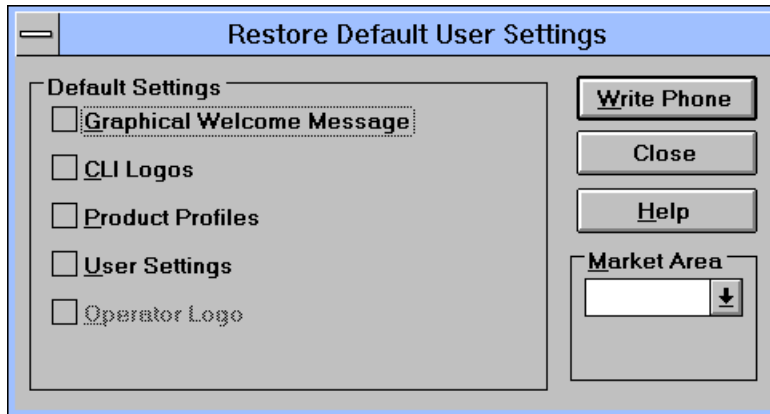
Set UI/DEV Default Values... command

Activation

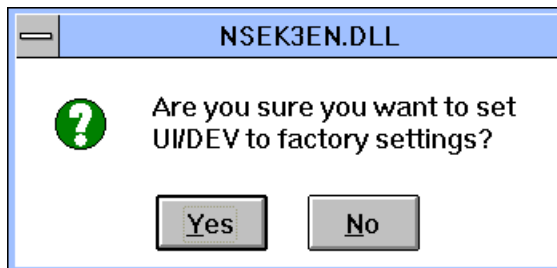
Status Bar Text

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 re-set to phone.



Operators Settings... command

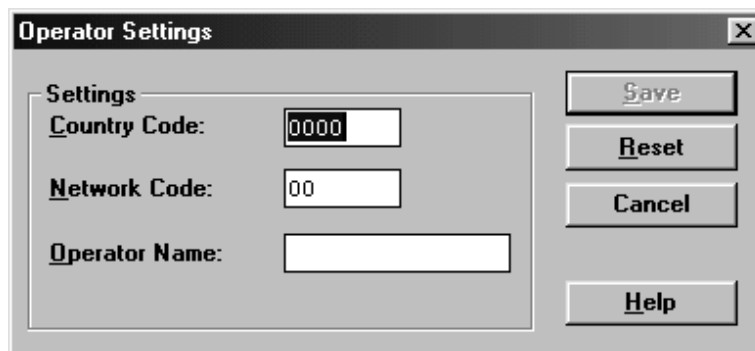
Activation

Status Bar Text

Alt, D,O

Open Operator Settings dialog.

This command is used to set operator settings This selection opens following **Operator Settings** dialog.



Dialog mode: **modal**

Operator Settings dialog box has following items:

Settings group:

Country Code edit box (ALT+C):

User can edit country code (3 or 4 digits).

Network Code edit box (ALT+N):

User can edit network code (2 digits).

Operator Name edit box (ALT+O):

User can edit operator name (10 characters).

Save button (ENTER, ALT+S):

Saves settings to phone and closes dialog.

Reset button (ALT+R):

Clears operator settings form phone and closes dialog.

Cancel button (ESC):

Closes the dialog box and do not save settings to phone.

IWR Swap... command

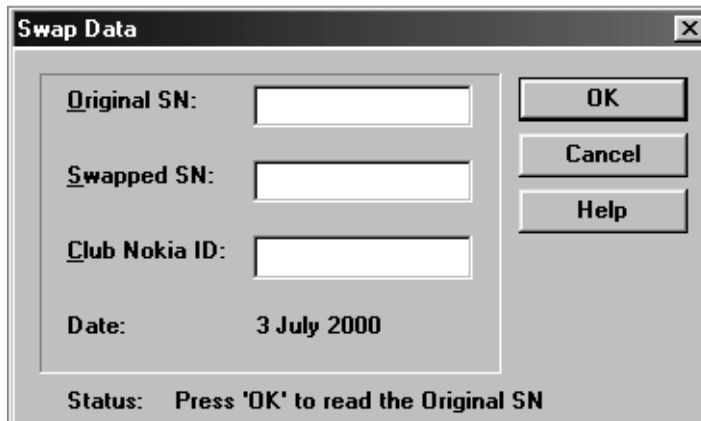
Activation

Status Bar Text

Alt, D,I

Open IWR Swap dialog.

This command is used to swap serial numbers of two phones. This selection opens following **IWR Swap** dialog.

Dialog mode: **modal**

IWR Swap dialog box has following items:

Original SN: edit box (ALT+O):

Edit box where the original serial number is shown

Swapped SN: edit box (ALT+S):

Edit box where the swapped serial number is shown

Club Nokia ID: edit box (ALT+C):

Edit box where the Club Nokia ID is shown

Flash Phone... command

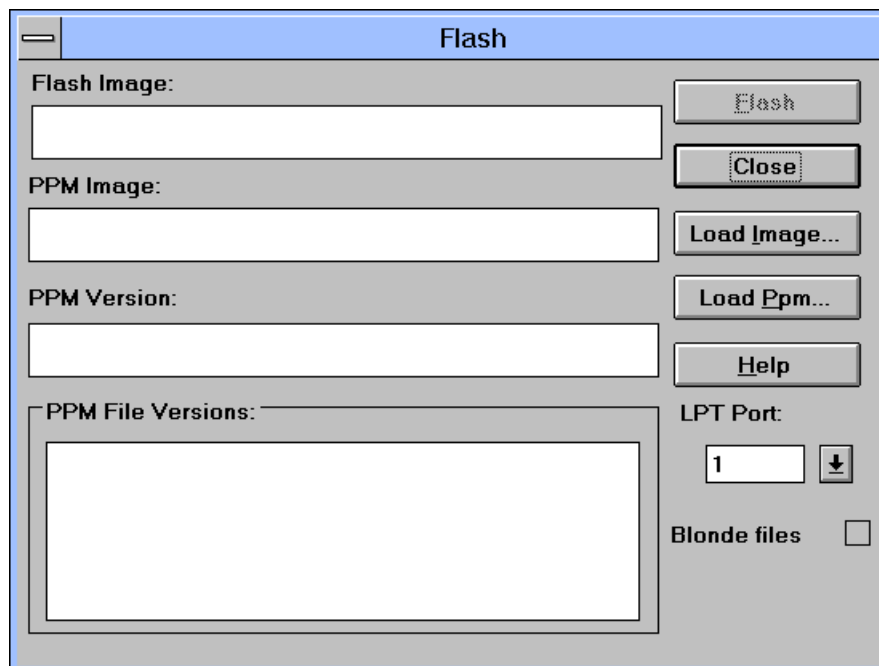
Activation

Status Bar Text

Alt, S,F

Open service Flash dialog box

This command is used for flashing new software into the phone. Function opens the following **Flash** dialog box. When flashing is started, waiting window is showed to tell the user approximated flashing time.

Dialog mode: **modal**

Flash dialog box has following items:

Flash Image edit field (read only):

Displays path of image file to be flashed.

PPM Image edit field (read only):

Displays path of PPM package file to be flashed.

PPM Version edit field (read only):

MCU SW version string of the PPM package.

PPM File Version edit field (read only):

Lists the file versions of PPM package.

Flash button (ENTER):

Starts flashing of selected file to phone. Before flashing asks, does user want to save all user settings to file (and load them after flashing). If reading user settings to ME or writing them to ME failed, Restore Default User Settings dialog is opened and user can restore default settings to phone.

Close button (ESC):

Closes the dialog box and *does not* start flashing.

Load Image... button (ALT+I):

Opens Open File dialog, with which user can select a image file to be flashed to ME. If user selects OK button, the name of selected file is copied to Flash Image edit field.

Load Ppm... button (ALT+P):

Opens Open File dialog, with which user can select a PPM package file to be flashed to ME. If user selects OK button, the name of selected file is copied to PPM Image edit field.

LPT Port list box:

User can select parallel port to be used when flashed.

Blonde files check box:

When control is checked, application searches from file **blonde.ini** for section corresponding product and HW version (e.g [NSK-1_2304]). If section is found and contains entries Ppm and Image, those files are loaded for flashing.

[NSK-1_2502]

Ppm=*ppm_file_path*

Image=*image_file_path*

Blonde settings are checked when dialog is opened and check box status tells, is there blonde settings for current phone.

Notice: if user wants to load other files than succeeded in blonde.ini file, then Blonde files check box must be unchecked.

During flashing status dialog is showed. After phone is flashed current time in PC is set to phone and user is asked to check that the time is correct.

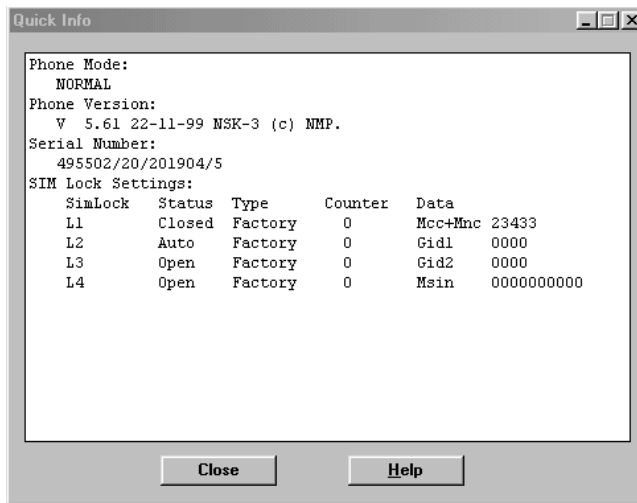
View

Quick/RF Info... command

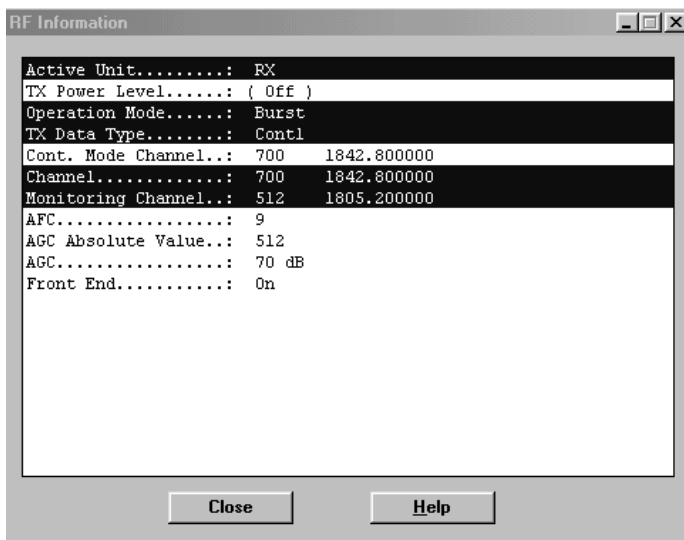
Activation Status Bar Text

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 Information... command

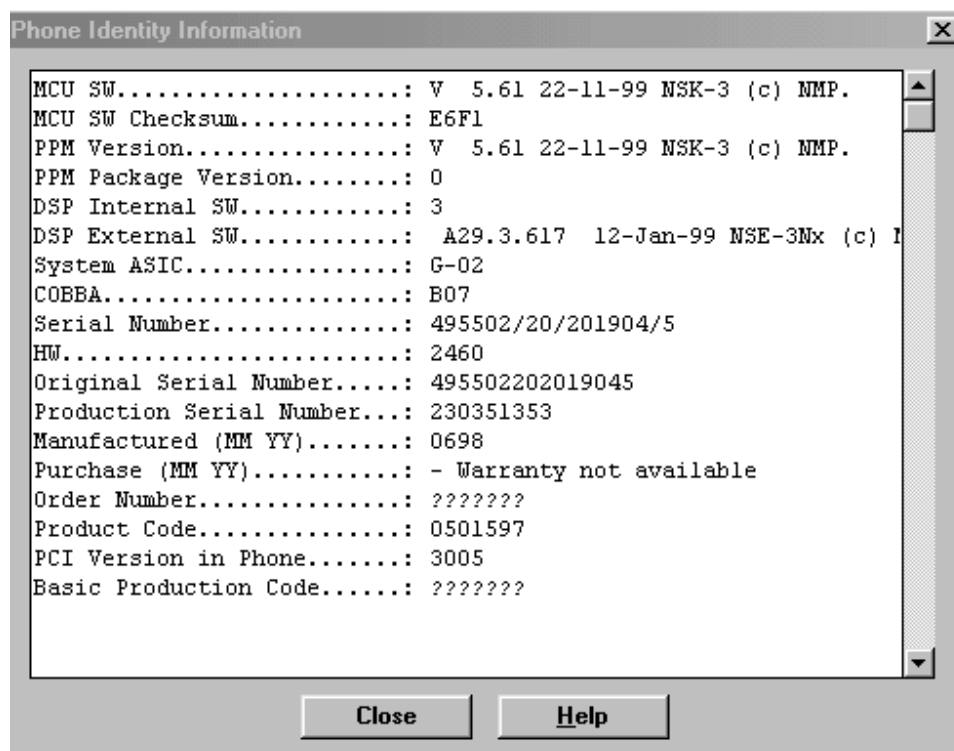
Activation

Status Bar Text

Alt, V,P

View Phone Information.

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.



The After Sales Software has an initialisation file which has extension .INI. Initialisation file is TESLA.INI which includes all next selections (on mentioned menus or dialogs) and parameters:

- RF Controls dialog ([NSB/E/K-3RF])
- Active Unit (Active Unit=)
- TX Power Level (TX Power Level=)
- Operation Mode (Operation Mode=)
- TX Data Type (TX Data Type=)
- Continuous Mode Channel (Cont Mode Channel=)
- Channel (Channel=)
- Monitoring Channel 1 (MonitoringChannel=)
- AGC dB value (AGC=)
- AGC Absolute Value (AGCAbsolute=)
- Front End (FrontEnd=)

Call Simulation dialog ([NSB/E/K-3CALLSIM])

Monitoring Channel 2 (Monitoring Channel 2 =)

Monitoring Channel 3 (Monitoring Channel 3 =)

Monitoring Channel 4 (Monitoring Channel 4 =)

Monitoring Channel 5 (Monitoring Channel 5 =)

Monitoring Channel 6 (Monitoring Channel 6 =)

All selections and parameters which are not same as in the RF Controls menu.

TX Power Tuning dialog ([TX Power Tuning])

TX power coefficients

TX I/Q Tuning dialog ([TX I/Q Tuning])

TX I/Q

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

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