CCS Technical Documentation NSB-9 Series Transceivers

# **Service Software Instructions**

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# Quick Guide for Phoenix Service SW Installation



# Phoenix Installation Steps in Brief

DCT-4 generation Test and Service Software is called "Phoenix"

These are the basic steps to install the Phoenix

- Install the Phoenix Service SW
- Install the Data Package for Phoenix (product specific data and flash update package)
- Manage connection settings (depends on the tools you are using)
- Update FPS-8 SW (if you use FPS-8)
- Activate FPS-8
- Update JBV-1 Docking Station SW (only when needed)

The flash update files are delivered with then Phoenix Data Package so unless you want to use certain version of this package, separate installation package is not needed anymore. If you want to use it, it should be installed after connection management, before FPS-8 update.

Please refer to Service Manual and Technical Bulletins for more information concerning phone model specific service tools and equipment setup.

# **Phoenix Service SW**

# **Before Installation**

- Check that a Dongle is attached to the parallel port of your computer.
- Download the installation package (e.g. phoenix\_service\_sw\_a3\_03\_83\_005.exe) to your computer (e.g. C:\TEMP)
- Close all other programs
- Run the application file (e.g. *phoenix\_service\_sw\_a3\_03\_83\_005.exe*) and follow instructions on the screen
- Administrator rights may be required to be able to install Phoenix depending on the Operating System
- If the dongle driver is installed or updated, you need to reboot your PC before the installation can continue.
- If uninstalling or rebooting is needed at any point, you will be prompted by the Install Shield program.

If at any point during installation you get this message, Dongle is not found and installation can't continue.

Possible reasons may be defective or too old PKD-1Dongle (five digit serial number Dongle when used with FPS-8 Prommer) or that the FLS-4S POS Flash Dongle is defective or power to it is not supplied by external charger.

Check the COM /parallel ports used first! After correcting the problem Installation can be restarted.



### Startup

Run the *phoenix\_service\_sw\_a3\_03\_83\_005.exe* to start installation.

When you choose "Next" the files needed for installation will be extracted. Kindly wait.

🚰 Phoenix Service Software A3 03.83.005 - InstallShield Wizard	×
<b>Location to Save Setup Files</b> Where would you like to save the setup files?	
Please enter the folder where you want these files saved. If the folder does not exist, it will be created for you. To continue, click Next.	
Save files in folder:	
C:\TEMP\Phoenix	
Change	
InstallShield-	
< <u>B</u> ack <u>N</u> ext > Cancel	

If the setup files are already extracted (left in the file system from previous installation) following dialog appears. Always click "Yes to All" to overwrite the existing setup files.

Overwrite Protection
The following file is already on your computer:
c:\windows\TEMP\Phoenix\data1.cab
Do you wish to overwrite this file?
Yes Yes to All <u>No</u> to All <u>Cancel</u>

### **Dongle Driver Installation and Version Check**

If there is no previously installed Dongle driver, installation will take place...



If the Dongle driver is installed and it is older than the latest supported version, the latest version will be installed when you choose "Yes". The latest version is always included in the latest Phoenix installation package.

Update [	DESkey dongle driver 🛛 🕅
⚠	You have an older DESkey driver than recommended. Recommended version is 4.63 and your version is 4.36.
	Click Yes to update DESkey driver or No to keep the old version.
	Yes No

PC needs to be rebooted before installation can continue. Click "Yes" to reboot the PC.

Setup is restarted automatically after reboot.

DESkey	dongle driver updated. 🛛 🕅
♪	PC needs to be restarted in order to continue the installation.
	and manually restart the PC.

# **First Time Installation of Phoenix**

After Dongle driver installation / update (if needed) installation continues from this step. Click "Next" in Welcome dialog to continue.

InstallShield Wizard		×
Welcome to the InstallShield Wizard for Phoenix Service Software A		No.
This program will install Phoenix Service Software	A3 03.83.005 on your com	puter.
Supported products:		
NHL-2NA, NHL-4, NHL-4U, NHM-4, NHM-7, NH and RH-9.	M-8, NPE-4, NPL-1, NPM-9	, NSB-8, NSM-9
InstallShield		
	< Back	Cancel

Choose the destination folder, it is recommended to use the default folder **C:\Program-Files\Nokia\Phoenix**.

Choose "Next" to continue. You may choose another location by selecting "Browse" (not recommended)

oose Destination	Location					A
Select folder where	Setup will install h	les.				
Setup will install Ph	oenix Service Soft	ware in the	e following fol	der.		
To install to this fold another folder.	der, click Next. To	install to a	different fold	er, click Brow	se and select	t
□ Destination Folde	1					

Setup copies the components, please wait.

Progress of the setup is shown. Please wait...

InstallShield Wi	zard	×
Setup Status		
Phoenix NHM	I-7 / NPE-4 / NPM-9 Release Setup is performing the requested operations.	
Installing: Pho	enix application files	
	15%	
InstallShield ——	Cancel	

If restarting of your computer is needed the Install Shield Wizard will tell you about it.

Select "Yes..." to reboot the PC immediately and "No..." to reboot the PC manually.

continue. Install5 hield Wizard InstallShield Wizard Complete The InstallShield Wizard has successfully installed Phoenix Service Software. Before you can use the program, you must restart your computer. Yes, I want to restart my computer now. C No, I will restart my computer later. Remove any disks from their drives, and then click Finish to complete setup. Finish

Note that Phoenix doesn't work, if components are not registered. Click "Finish" to

After the reboot components are registered and Phoenix is ready for use.

If reboot is not needed components are registered after copying them.

Registering... C:\Program Files\Nokia\Phoenix\Framework\cmnisaeventmanagerfn.dll

If restarting of your computer is not needed, Click "Finish" to exit the setup.

Phoenix is now ready for use.

Now the installation of Phoenix Service SW is ready and it can be used after:

- Installing Phone model specific Phone Data Package for Phoenix
- Configuring the connections
- Updating the Flash Update Package files used with FPS-8\* and FLS-4\* tools

### **Update Installation of Phoenix**

If you already have the Phoenix Service SW installed on your computer, sooner or later there will be need to update it when new versions are released.

<u>Please note that very often the Phoenix Service SW and the Phone Specific Data Package</u> <u>for Phoenix come in pairs</u>, meaning that certain version of Phoenix can only be used with certain version of Data Package. Always use the latest available versions of both. Instructions can be found in phone model specific Technical Bulletins.

To update the Phoenix you need to take exactly the same steps as when installing it for the first time.

- Download the installation package to your computer hard disk
- Close all other programs
- Run the application file (e.g. *phoenix\_service\_sw\_a3\_03\_83\_005.exe*)
- Dongle driver version will be checked and if need be, updated
- After reboot installation starts automatically
- Newer version of Phoenix will be installed

When you update the Phoenix from old to new version (e.g. update from 3.83.005 to 3.83.0055), the update will take place automatically without uninstallation

If you try update the Phoenix with the same version that you already have (e.g. 3.55 to 3.55) you are asked if you want to uninstall the version of Phoenix you have on your PC. Answer "OK" to uninstall Phoenix, "Cancel" if you don't want to uninstall.

Uninstall Phoenix Service Software A	×
Do you want to completely remove the Phoenix Service Software A3 03.83.005 application and all of its components?	
Cancel	

If you try to install an older version (e.g. downgrade from 3.83.005 to 3.83.005) installation will be interrupted.

Always follow the instructions on the screen.

# How to Uninstall Phoenix

Uninstallation can be done manually from Windows Control Panel - Add / Remove Programs.

Choose "Phoenix Service Software" and click "Add/Remove".

Choose "OK" to uninstall

Uninstall Phoenix Service Software A	×
Do you want to completely remove the Phoeni and all of its components?	x Service Software A3 03.83.005 application
<u>ок</u>	Cancel

Progress of the uninstallation is shown.

InstallShield Wizard	×
Setup Status	N2A
Phoenix Service Software Setup is performing the requested operations.	
Uninstalling: Product files	
C:\Program Files\Nokia\Phoenix\wapbookmarks.dll	
16%	
InstallShield	
	(Cancel )

#### You may have to reboot the PC after uninstallation.



If restarting is not needed, the following dialog will appear:



<u>Note!</u> If you have different product packages installed, components are uninstalled only if they are not included in other product packages.

# **Data Package for Phoenix (Product Specific)**

### **Before installation**

Product Data Package contains all product specific data to make the Phoenix Service Software and tools usable with a certain phone model.

It also includes the latest version of flash update package for FLS-4\* and FPS-8\*

- Check that the Dongle is attached to the parallel port of your computer.
- Install Phoenix Service SW
- Download the installation package (e.g. **NSB-9\_dp\_1.00.exe**) to your computer (e.g. C:\TEMP)
- Close all other programs
- Run the application file (e.g. NSB-9\_dp\_1.00.exe) and follow instructions on the screen

If you already have the Phoenix Service SW installed on your computer, sooner or later there will be need to update it when new versions are released.

<u>Please note that very often the Phoenix Service SW and the Phone Specific Data Package</u> for Phoenix come in pairs, meaning that certain version of Phoenix can only be used with certain version of Data Package. Always use the latest available versions of both. Instructions can be found in phone model specific Technical Bulletins.

# **Installation of Phoenix Data Package (Product Specific)**

Run the *NSB-9\_dp\_v\_1.00.exe* to start installation.

When you choose "Next" the files needed for installation will be extracted. Please wait...

🚰 NHL-4 Phone Data Package Version 1.00 - InstallShield Wizard	×
Extracting Files The contents of this package are being extracted.	
Please wait while the InstallShield Wizard extracts the files needed to install NHL-4 Phone Data Package Version 1.00 on your computer. This may take a few moments.	
Reading contents of package	
InstallShield <u>Raok N</u> ext > Cance	1

Choose "Next" to continue.



From this view you can see the contents of the Data Package.

#### Read the text carefully.

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There should be information about the Phoenix version needed with this data package. Choose "Next".

InstallShield Wizard	×
Information Please read the following text.	R4
NHL-4 Phone Data Package Installation	
Note! AMS Phoenix release 03.83.005 or newer is required. Close Phoenix before starting installation of the Data Package.	
NHL-4 Phone Data Package includes: - MCU software release 03.08 + language packages (PPM) + content p.	ackages 🗸
InstallShield	Cancel

Confirm location and choose "Next" to continue.

Install Shield checks where the Phoenix application is installed and the directory is shown. Choose "Next" to continue.

InstallShield Wizard			×
Start Copying Files			24
To start installing the files, click Next.			
Current Settings:			
Installation path: C:\Program Files\Nokia\Pho	enix		A
			¥ 1
Installahteid	< <u>B</u> ack	<u>N</u> ext >	Cancel

Phone model specific files will be installed... please wait.



Choose "Finish" to complete installation.



You now have all phone model specific files installed in your Phoenix Service SW.

### How to Uninstall Data Package

Uninstallation can also be done manually from Windows Control Panel / Add / Remove Programs/ "NSB-9 Phone Data Package".

If you try to install the same version of Phoenix Data Package that you already have, you are asked if you want to uninstall the version you have on your PC. Answer "OK" to uninstall, "Cancel" if you don't want to uninstall. Older versions of data packages do not need to be uninstalled.



Once the previously installed Data package is uninstalled, choose "Finish".



Run the *NSB-9\_dp\_v\_1.00.exe* again to continue installation from the beginning.

# How to Manage Connections

Start Phoenix Service SW and Login.



Choose "Manage Connections" From "File" - Menu



Existing connections can be selected, edited, deleted and new ones created by using this dialog.

A connection can be created either manually or by using a Connection Wizard.

To add new connection, choose "Add" and select if you want to create it manually or by using the Wizard.

🕂 Manage Connections	×
Priority list: FPS8 COM1 FBUS FBUS COM1 FBUS COM3 NO CONNECTION	App <u>ly</u> Re <u>v</u> ert <u>A</u> dd <u>E</u> dit <u>R</u> emove
1	

Choose "Next" to continue.

In the ne	ext dialogs you will be asked to select some settings for	the connection
🔞 Man	age Connections	- I X
Priority	list: DNNECTION	Apply Revert
		Add
	Select mode	×
	Mode Wizard Manual Select mode to use. If your system has a connection wizard installed you can use it to add or modify connection, else you must use manual mode.	
	< <u>₿</u> ack <u>N</u> ext > Canc	el Help

#### Manual Settings

A) For FLS-4S POS Flash Device choose following connection settings Media: FBUS

COM Port: Virtual COM Port used by FLS-4 Please check this always!

(To check please go to Windows / Control Panel / FLS Virtual Port / Configuration)

B) For FPS-8 Flash Prommer choose following connection settings: Media: FPS-8

Port Num: COM Port where FPS-8 is connected

#### COMBOX\_DEF\_MEDIA: FBUS

Choose "Finish" to complete.

If you use the Wizard, connect the tools and a phone to your PC and the wizard will automatically try to configure the correct connection.

Activate the connection you want to use by clicking it and use up/down arrows to move it on top of the list. Choose "Apply".

The connection is now selected and can be used after closing the "Manage Connections" window.

Priority list: Apply FBUS COM3 FPS8 COM1 FBUS NO CONNECTION Add Add Add Edit	K Manage Connections	
Help	Priority list: FBUS COM3 FPS8 COM1 FBUS NO CONNECTION	Apply Revert Add Delete Edit

Selected connection will be shown on the right hand bottom corner of the screen.



To use the selected connection, connect the phone to Phoenix with correct service tools, make sure that it is switched on and select "Scan Product".

🌃 Р	hoeni	x		
<u>F</u> ile	<u>E</u> dit	<u>P</u> roduct	Flashing	<u>M</u> ainl
<u>1</u>	<u>v</u> ew Pi	ofile		
<u>(</u>	<u>]</u> pen F	rofile		
9	<u>ave</u> F	rofile		
9	Gave F	'rofile <u>A</u> s…		
<u>h</u>	<u>M</u> anag	e Connect	ions	
Ş	Scan <u>F</u>	roduct	Ctrl	·R
<u>[</u>	Choose	Product		
(	Close F	roduct		

When the Product is found, Phoenix will load product support and when everything is ready, name of the loaded product support module and its version will be shown on the bottom of the screen.

V 3.08 , 24-09-02 , NHL-4 , (c) NMP.

# How to Update Flash Support Files for FPS-8\* and FLS-4\*

### **Before Installation**

- Install Phoenix Service SW and Phoenix data package.
- Install the phone model Specific Datapackage for Phoenix
- The flash support files are delivered in the same installation package with Phoenix data package.
- Normally it is enough to install the data package only before updating the FPS-8.
- Separate installation package is for flash support files are available, and the files can be updated according to this instruction.

### Installing the Flash Support Files

Start h	/ double	clicking	en flash	undate	02 10	00 040	Installation	heains
Start Oy	uouoie	CIICKING	ey. nasn	_upuale_	_02_10	_00.exe.	Instanation	ocyms.

InstallShield Wizard				
2	Flash Update Setup is preparing the InstallShield® Wizard, which will guide you through the rest of the setup process. Please wait.			
	Cancel			

If you already have the same Flash Update package files installed, you need to confirm if you want them to be reinstalled.



If you try to downgrade the existing version to older ones, the setup will be aborted. If you really want to downgrade, uninstall newer files manually from Control Panel and then rerun the installation again.

8	You have newer version of the application. If you want to install older version you need to uninstall the current version before.
	Setup will exit.
	(OK]

If an older version exists on your PC and it needs to be updated, choose "Next" to continue installation



It is **highly** recommended to install the files to the default destination folder *C:|Program Files|Nokia|Phoenix*.

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Choose "Next" to continue. You may choose another location by selecting "Browse" (not recommended).

InstallShield Wizard	×
<b>Choose Destination Location</b> Select folder where Setup will install files.	
Setup will install Flash Update in the following fo	older.
To install to this folder, click Next. To install to a another folder.	a different folder, click Browse and select
Destination Folder C:\Program Files\Nokia\Phoenix	B <u>r</u> owse
	< <u>B</u> ack <u>Next</u> > Cancel

#### Installation continues...

InstallShield Wizard		×
Setup Status		
Flash Update Setup is perfo	rming the requested operations.	
Installing: Flash Update file		
C:\Program Files\Nokia\Ph	oenix\Flash\fpga0306.mcs	
	31%	
InstallShield		
		Cancel

Choose "Finish" to complete procedure.

• FLS-4 can be used right after Flash Update Package is installed.

• FPS-8\* must be updated by using Phoenix!



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# How to Update The FPS-8\* Flash Prommer SW

Start Phoenix Service Software



Select"FPS-8 / FPS-8C maintenance" from "Flashing" menu.

🌃 Phoenix							
<u>F</u> ile	<u>E</u> dit	<u>P</u> roduct	Flashing	<u>T</u> ools	$\underline{W}\text{indow}$	<u>H</u> elp	
ΙD	Ê		<u>F</u> PS-8 Flash				
	_		FPS-8 <u>C</u> Flash				
			FPS-8 / FPS-8C <u>M</u> aintenance				

When new FPS-8 flash update package is installed to computer you will be asked to update the files to your FPS-8 Prommer. Select"Yes" to update files..

Prommer S₩ Update	×
There is new prommer software package installed on this computer. Do you want to update prommer?	
Version 02.10.000	
Do not show this dialog again	
Yes No	

Update procedure takes a couple of minutes.

Update D	lone	×
•	Prommer SW updated succesfully.	
	, [0K]	

16 FPS-8 / FPS-8C Maintenance					_ 🗆 ×
FPS-8 FPS-8C					
FPS-8 Info	Flash box files				
S/N 70943	File name	Туре	File ID	Version	
HW SE11.09	u_amd.fia	Algo	1	004.015.000	<u>D</u> elete
Flash size	u_amo_b.ria u_cbusb.fia	Algo Algo	2	004.015.000	Beport
	u_int_b.fia	Algo	4	004.015.000	
Free Flash (b) 16777216	u_intel.fia	Algo	5	004.015.000	<u>R</u> eset
SRAM size 8MB	u_st.ifia	Algo	7	004.015.000	
5 CDAM (b) [2200000	t1_amd.fia	Algo	8	004.015.000	
Free SRAM (b) 0300000	t1_amd_b.fia	Algo	9	004.015.000	
Boot sw B0.09	t1_cousp.na	Algo Algo	10	004.015.000	
EPGA [fpga0306.mcs v0	t1_int_b.fia	Algo	12	004.015.000	
	t2_amd.fia	Algo	13	004.015.000	
Application JA2.10	t2_amd_b.fia	Algo	14	004.015.000	Activation/Deactivation
- Selftest status		Algo	13	004.013.000	<u>A</u> ctivate
					Deactivate
Details	Log file write				
Progress info					
Getting file information					
File information got					
FLASH size:16MB.					
SRAM size:8MB,					
Serial nbr: 70943, SBAM memory used 0 of 8388608	8388608 butes left				
FLASH memory used 0 of 16777216	6. 16777216 bytes left.				

FPS-8 sw can also be updated by pressing"Update" button and selecting appropriate **fps8upd.ini** file under *C:|Program Files|Nokia|Phoenix*\Flash - directory

Open				?	×
Look jn: 🔂	Flash	•	🖻 💆	🖻 🔳	
fps8upd.in					
File <u>n</u> ame:	fps8upd.ini			<u>O</u> pen	
Files of type:	Ini files (*.ini)		•	Cancel	

All files can be loaded separately to FPS-8. To do this, just press right mouse button in Flash box files" window and select file type to be loaded.

More information and help can be found from the "Help" dialog.

# **FPS-8** Activation and Deactivation

- Before the FPS-8 can be successfully used for phone programming, it must be first <u>activated.</u>
- If there is a need to send FPS-8 box to somewhere e.g. for repair, box must be first <u>deactivated.</u>

# Activation

Before FPS-8 can be successfully used for phone programming, it must be first activated.

Fill in first "FPS-8 activation request" sheet, in the FPS-8 sales package and follow the instructions in the sheet.

When activation file is received (e.g. 00000.in), copy it to **C:\Program-Files\Nokia\Phoenix\BoxActivation -** Directory on your computer (This directory is created when Phoenix is installed).

Start Phoenix Service Software.

Select "FPS-8 / FPS-8C maintenance" from "Flashing" menu.

🌠 P	🌾 Phoenix					
<u>F</u> ile	<u>E</u> dit	<u>P</u> roduct	Flashing	<u>T</u> ools	$\underline{W} indow$	<u>H</u> elp
D 🚅 🔲		<u>E</u> PS-8	) Flash			
	_		FPS-8	) <u>C</u> Flash		
			FPS-8	7 FPS-	BC <u>M</u> ainter	iance

Select "Activate" from the "FPS8/8C Maintenance" - UI.

FPS-8 FPS-8	S-8C Maintenance	<u>.</u>				
FPS-8 Info		Flash box files				
S/N	70943	File name	Туре	File ID	Version	
HW	SF11_09	u_amd.fia u_amd_b.fia	Algo Algo	1	004.015.000 004.015.000	<u>D</u> elete
Flash size	16MB	u_cbusb.fia u_int_b_fia	Algo	3 4	004.015.000 004.015.000	Report
Free Flash (b)	16777216	u_intel.fia	Algo	5	004.015.000	<u>R</u> eset
SRAM size	8MB	u_st_i.fia	Algo	7	004.015.000	<u>H</u> elp
Free SRAM (b)	8388608	t1_amd_b.fia	Algo	9	004.015.000	
Boot sw	B0.09	t1_cbusb.fia t1_intel.fia	Algo Algo	10 11	004.015.000	
FPGA	fpga0306.mcs v0	t1_int_b.fia t2_amd.fia	Algo Algo	12 13	004.015.000	
Application	JA2.10	t2_amd_b.fia t2_cbusb.fia	Algo Algo	14 15	004.015.000	Activation/Deactivation
- Selftest status		1		0.00		<u>A</u> ctivate
TEST OK	Details	🗖 Log file write				Deactivate
Progress info						
Getting file inf	ormation n got					
HW ver:SF11 FLASH size:1 SRAM size:8	_09, 6MB, 4B,					
Serial nbr: 709 SRAM memor FLASH memor	143, y used 0 of 8388608. ry used 0 of 1677721	8388608 bytes left 6. 16777216 bytes left.				Ţ

The activation file you saved to C:\ProgramFiles\Nokia\Phoenix\BoxActivation - directory will be shown (e.g. 00000.in), check that it is correct.

Open			? ×
Look in: 🔁	BoxActivation	- 🗈 🧭	
File <u>n</u> ame:			<u>O</u> pen
Files of <u>type</u> :	Supported files (.in)	•	Cancel

Box will be activated when you choose "Open"

Turn FPS-8 power off and on to complete activation

### Deactivation

Start Phoenix Service Software.

Select "FPS-8 / FPS-8C maintenance" from "Flashing" menu

Select "Deactivate" from the "FPS8/8C Maintenance" - UI.

Confirm Deactivation by choosing "Yes", Box will be deactivated.

WARNIN	G WARNING 🛛 🕅
?	Do you really want to deactivate selected card? Card can not be used before activated with a proper activation file again! Deactivate?
	Yes <u>N</u> o

Turn FPS-8 power off and on to complete deactivation

# JBV-1 Docking Station SW

The JBV-1 Docking Station is a common tool for all DCT-4 generation products. In order to make the JBV-1 usable with different phone models, a phone specific Docking Station Adapter is used for different service functions.

The JBV-1 Docking Station contains Software (Firmware) which can be updated.

You need the following equipment to be able to update JBV-1 software:

- PC with USB connection
- Operating System supporting USB (Not Win 95 or NT)
- USB Cable (Can be purchased from shops or suppliers providing PC hardware and accessories)
- JBV-1 Docking Station
- External Power Supply 11-16V

### **Before Installation**

- Download *Jbv1\_update.zip* file to your computer (e.g. C:\TEMP) from your download web site.
- Close all other programs
- Follow instructions on the screen

# Installing SW Needed for the JBV-1 SW Update

Note: <u>DO NOT</u> CONNECT THE USB CABLE / JBV-1 TO YOUR COMPUTER YET!

Run Jbv1\_update.zip file and start SW Installation by double clicking Setup.exe.

Files needed for JBV-1 Package setup Program will be extracted.



Installation begins, please read the information shown and Choose "Next" to continue.



Use suggested destination folder where JBV-1 SW Package will be installed and choose

#### "Next" to continue.

Choose Destination Loca	ation	×
Choose Destination Location         Setup will install JBV-1 SW Package in the following folder         To install to this folder, click Next.         To install to a different folder, click Browse and select and folder.         You can choose not to install JBV-1 SW Package by clic Cancel to exit Setup.		×
InstallS	Destination Folder C:\\Nokia\JBV-1 SW Package <u>Browse</u> <u>&lt; B</u> ack <u>Next &gt;</u> Cancel	

#### Select "Full" Installation and choose "Next" to continue

Select Components		×
	Select full or custom installation	
InstallSheld	• Ful • Custom	
	< <u>B</u> ack <u>N</u> ext > Cancel	

Program Folder will be created. Choose "Next" to continue, Software files will be



#### After successful installation, choose "Finish" to complete.

Setup Complete	
	Setup has finished installing JBV-1 SW Package. To load the device driver for JBV-1 just plug-in a JBV-1 into USB port. Dialog should appear asking for driver files. Drivers are found at the installation disk and at C:\Program Files\Nokia\JBV-1 SW Package\JBV-1 USB DRIVERS
Instel Bhield	To finish installation click Finish.
	< <u>B</u> ack <b>Finish</b>

#### NOW YOU CAN CONNECT THE USB CABLE / JBV-1 TO YOUR COMPUTER!

Connect power to JBV-1 (11-16V DC) from external power supply, then connect USB

Cable between JBV-1 USB connector and PC.

Windows will detect connected USB cable and detect drivers for new HW.

Follow the instructions and allow Windows to search and install the best drivers available. After this procedure the actual JBV-1 SW update can begin.

Add New Hardware Wiz	ard
	This wizard searches for new drivers for: USB Device A device driver is a software program that makes a hardware device work.
	< Back Next > Cancel

# Updating the JBV-1 Docking Station Software

Go to folder C:\Program Files\Nokia\ JBV-1 SW Package\ FIRMWARE UPDATE and start JBV-1 Update SW by double clicking fwup.exe.

JBV-1 Firmware update starts and shows current status of the JBV-1 connected.

If firmware version read from your JBV-1 is not the latest one available, it needs to be updated by choosing "Update Firmware".

IBV-1 Firmware Update		. 🗆 🗡
Device Status		
JBV-1 Connected		
External powersupply connected		
Firmware version 11		
Serial number 000000240007		
Defeath Chabus	Lindata Eirennaa	1
<u>neiresn Status</u>	<u>Update</u> Firmware	

Choose file JBV1v11.CDE (example used here is for v 11) and "Open" to update your JBV-1.

Select Firmwa	are File				? >	4
Look in: 🔁	FIRMWARE UPDATE	 <u> </u>	. 🗹	Ĕ		
JBV1V11.0	DE					1
🛛 🔊 resi2357.co	de					
File name:					Open	
The <u>H</u> ame.						
Files of <u>type</u> :	JBV-1 Firmware File		-		Cancel	
		 				//_
	<u>R</u> efresh Status	<u>U</u> pda	te Firmwa	re		

After Successful update, current JBV-1 status will be shown. You have now updated the

software of your JBV-1 docking station and it is ready for use.

	Success	×	
	JBV-1 firmware su	ccesfully updated	
	0	K	
🚺 JBV-1 Firm	ware Update		
-Device Status-			
JBV-1 Connec	cted		
External powe	ersupply connected		
Firmware vers	ion 11		
Serial number	000000240007		
<u>R</u> efre	esh Status	Update Firmwa	ire

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# **Quick Guide for Tuning With Phoenix**



### **General remarks**

If baseband tunings are needed, they should be completed before the RF tunings.

Avoid unnecessary tuning – factory-tuning values are always the most accurate ones.

Screen shots described in this document may change as the service software is developed.

Kindly refer to the Phoenix help files, the phone model specific service manual and bulletins for help.

# **RF Tuning and Calibration Instructions for Iris HDB58**

### Introduction

This document describes the methods of RF tunings and calibrations for Iris NSB-9 transceiver. RF tunings are made using automatic setup in which Phoenix software controls the phone via FBUS and the measurement equipment via GPIB bus.

Autotune feature is designed to align the product's RF part easier and faster. By this autotune component the product is tuned automatically. Manual tuning is not available.

RF tunings must be performed if any RF components are changed. RF tunings shall be done using MJS-48 module jig. MJS-48 jig loss figures can be found from "RF Service Tools" chapter. MJF-32 with a coupler is not allowed to use for RF tuning purpose.

EQUIPMENT NEEDED:

- NSB-9 module jig MJS-48, power- and DAU-9S cables
- DC power supply 3.9 VDC >3A
- Transmitter tester (e.g. Agilent VSA E4406A)
- Signal generator for RX tuning (e.g. Agilent E4433B)
- RF splitter (e.g. Mini-Circuits ZAPD-21)
- 6 dB attenuator, between module jig and RF cable to the splitter (e.g. Suhner)
- PC with GPIB bus adapter, Phoenix software and security dongle (PKD1xx)

#### Figure 1: RF tuning concept



ltem	Туре	Description	Code
1	MJS-48	Module jig	0770392
2	PCS-1	DC power cable	0730012
3	XRF-1	RF antenna cable	0730085
4	DAU-9S	Service MBUS cable	0730108
5	PKD-1	Software protection key (Dongle)	0750018

#### Figure 2: Setup environment



# Autotuning

The Autotune component can be found under Tuning menu:

Figure 3: Autotune menu in Phoenix

16	Phoen	iх								
File	Edit	Product	Flashing	Testing	Tuning	Tools	RD	Window	Help	
Т	ነ 🚘		Connections	EBUS	Auto	tune				
		•••• [] •			Set L	oss				- F

When tuning, one only needs to click the Tune button to start automatic tuning procedure.



Figure 4: Autotune menu - RX/TX menu

The tuning results are shown in RX and TX windows.

# NOKIA

### **CCS** Technical Documentation

#### Set Loss

Figure 5: Set Loss menu



This is the component for saving RF-losses (of cables and jigs) to file. These loss values are needed when you tune the phone with Phoenix (using Auto-Tune component). When you measure the losses you have to be very careful, because these values affect directly how well the phone is tuned.

Note! Components are protected by PKD-1CS, PKD-1NS, PKD-1 and PKD-1P dongles using standard TSS protection procedure. Autotuning itself is possible with all these dongles but with PKD-1P and PKD-1 dongles user is not able to set the loss.

Cable Jig Prod	duct		
Frequency	Loss		Load
80000000	5.00		<u>S</u> ave
853000000	5.70		<u>H</u> elp
857000000	5.50	-	
854000000	5.30		

#### Figure 6: Loss values

# **RX tunings**

#### Channel Select Filter Calibration

#### Description

Rx Channel select filter is tuned only in one band. The Hagar RF IC contains tunable filters for the I and Q channels. The calibration of these filters is carried out with a calibration circuit integrated in the IC.

By writing different control words to the Calibration Control Register in Hagar, internal switches will connect various RC combinations between the TXC input line and the RXQ output line.

During the calibration, the DSP generates a 67.71 kHz sine wave on the TXC line and simultaneously receive the measured response from the Hagar on the RXQ line.

Altogether 6 measurements are made. The first measurement is a reference measurement where the TXC signal is routed directly to the RXQ line without going through any filter. The remaining 5 measurements are all done on first order low pass filters with a nominal corner frequency of 67.71 kHz. This means that the received signal on the RXQ line ideally will have an amplitude of 0.707 times the amplitude of the TXC.

Saved tuning values are:

DTOS_I	Calibration of I-channel DtoS collector resistances
DTOS_Q	Calibration of Q-channel DtoS collector resistances
BIQUAD_I_R	Calibration of I-channel filter resistances
BIQUAD_Q_R	Calibration of Q-channel filter resistances
BIQUAD_I_C	Calibration of I-channel filter capacitances
BIQUAD_Q_C	Calibration of Q-channel filter capacitances

Item	Typical value	Low limit *)	High limit *)				
DTOS_I	1218	-6	37				
DTOS_Q	1218	-6	37				
BIQUAD_I_R	1220	-6	37				
BIQUAD_Q_R	1220	-6	37				
BIQUAD_I_C	616	-6	37				
BIQUAD_Q_C	616	-6	37				

#### Table 1: Channel Select Filter Calibration Limits

\*) Tuning may return values between -6...37 but values between 0...31 are saved to phone permanent memory. Values -6...0 are round up to 0 and values 31...37 are round down to 31.

#### **RX** Calibration

#### Description

Calibrates 26 MHz voltage controlled reference oscillator VCTCXO at the beginning of GSM850 receiver gain (RSSI) tuning. AFC control voltage for VCTCXO is produced using 11-bits DA-converter inside UEM RF IC. AFC DAC value (AFC VALUE) which gives correct VCTCXO output frequency is defined by measuring RX I/Q signal frequency and by adjusting AFC to set correct frequency. AFC VALUE is used as an init value when phone has not found a base station signal yet.

After correct AFC VALUE is found, AFC value is changed to different value. RX I/Q frequency is measured again and AFC SLOPE (frequency change divided by AFC value change) is calculated.

GSM850 and GSM1900 RX chains gain are tuned at middle channel.

Band	GSM850			GSM1900		
ltem	Typical value	Low limit	High limit	Typical value	Low limit	High limit
AFC VALUE	-3000	-350	350	NA	NA	NA
AFC SLOPE	240260	150	350	NA	NA	NA
RSSI 0	7476	65	85	6771	59	79
RSSI 1	8486	75	95	7781	69	89
RSSI 2	9496	85	105	8791	79	99
RSSI 3	101103	91	111	9699	88	108
RSSI 4	111113	101	121	106129	98	118
RSSI 5	121123	111	131	116119	108	128
RSSI 6	131133	121	141	126129	118	138
RSSI 7	141143	131	151	136139	128	148
RSSI 8	151153	141	161	146149	138	158

#### **RX AM Suppression Calibration**

#### Description

Calibrates GSM850 and GSM1900 RX mixer local signal DC-levels to achieve best rejection for AM modulated interferences. Calibration needs external AM modulated signal applied to the phone. If tuning is successful, either LOP or LOM result in both branch (I and Q) has always zero value.

Saved tuning values are:

LOP_I	Calibration of Rx lower or upper band I channel positive lo bias
LOM_I	Calibration of Rx lower or upper band I channel negative lo bias
LOP_Q	Calibration of Rx lower or upper band Q channel positive lo bias
LOM_Q	Calibration of Rx lower or upper band Q channel negative lo bias

AM Suppression Calibration Limits

Band	GSM850			GSM1900		
ltem	Typical value	Low limit	High limit	Typical value	Low limit	High limit
RSSI	-11085	-140	-80	-11090	-140	-80
LOP_I *)	01023	0	1023	01023	0	1023
LOM_I *)	01023	0	1023	01023	0	1023
LOP_Q *)	01023	0	1023	01023	0	1023
LOM_Q *)	01023	0	1023	01023	0	1023

\*) 10-bits LOP/LOM results may also be introduced in two separate 5-bits results. Then limits are 0 and 31 for each item.

#### **RX Band Filter Response Compensation**

#### Description

Calibrates GSM850 and GSM1900 RX chain gain over whole band. Calibration needs external signal applied to the receiver. Calibration is done in 9 frequencies.

Band	GSM850			GSM1900		
ltem (850/1900)	Typical value	Low limit	High limit	Typical value	Low limit	High limit
ch 118 / 496	-2.61.3	-10	5	-1.9 +0.5	-10	5
ch 128 / 512	-1.30.3	-5	5	-0.3 +0.8	-5	5
ch 140 / 537	-0.4 +0.3	-5	5	0.0 +1.0	-5	5
ch 172 / 586	+0.3 +0.9	-5	5	+0.4 +1.1	-5	5

Table 3: RX Band Filter Response Compensation Limits

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ch 190 / 661	+0.5 +1.0	-5	5	+0.4 +0.9	-5	5
ch 217 / 736	+0.1 +0.7	-5	5	-0.3 +0.3	-5	5
ch 241 / 794	-0.70.1	-5	5	-0.9 0.0	-5	5
ch 251 / 810	-1.20.3	-5	5	-1.0 0.0	-5	5
ch 261 / 835	-1.80.8	-10	5	-2.10.7	-10	5

# TX tunings

### **Tx Power Level Tuning**

Calibrates GSM850 and GSM1900 TX power at middle channel. Power control loop keeps TX power same in all channels. Tuning is done at 4 power levels – other values can be linearized using these points.

GSM850	GSM850			GSM1900			
Power Level	Target value	Tuning target	Testing limits *)	Power Level	Target value	Tuning target	Testing limits *)
5	32.5	+/- 0.1	+0.2 / -0.5	0	29.5	+/- 0.1	+0.2 / -0.5
6	31	+/- 0.5	+/- 1	1	28	+/- 0.5	+/- 1
7	29	+/- 0.5	+/- 1	2	26	+/- 0.5	+/- 1
8	27	+/- 0.5	+/- 1	3	24	+/- 0.5	+/- 1
9	25	+/- 0.5	+/- 1	4	22	+/- 0.5	+/- 1
10	23	+/- 0.5	+/- 1	5	20	+/- 0.5	+/- 1
11	21	+/- 0.5	+/- 1	6	18	+/- 0.5	+/- 1
12	19	+/- 0.5	+/- 1	7	16	+/- 0.5	+/- 1
13	17	+/- 0.5	+/- 1.5	8	14	+/- 0.5	+/- 1
14	15	+/- 0.5	+/- 1.5	9	12	+/- 0.5	+/- 1.5
15	13	+/- 0.5	+/- 1.5	10	10	+/- 0.5	+/- 1.5
16	11	+/- 0.5	+/- 1.5	11	8	+/- 0.5	+/- 1.5
17	9	+/- 0.5	+/- 1.5	12	6	+/- 0.5	+/- 1.5
18	7	+/- 1	+/- 2	13	4	+/- 0.5	+/- 1.5
19	5	+/- 1	+/- 2	14	2	+/- 1	+/- 2
Base	-30	+/- 5	+/- 10	15	0	+/- 1	+/- 2
				Base	-30	+/- 5	+/- 10

\*) This tolerance shall be used only for tuning channel (middle channel) at +25°C temperature.

# TX IQ Tuning

Calibrates GSM850 and GSM1900 TX I/Q signal DC-offset, amplitude and phase difference at middle channel. Tuning is done by sending '1'-bits to the modulator. Best modulator balance is achieved when spikes at carrier frequency f0 and f0+67.71 kHz reach minimum value.

Saved tuning values are:

TX I-channel DC-offset

TX Q-channel DC-offset

Amplitude difference between TX I- and Q-channels

Phase difference between TX I- and Q-channels

Tuning correctness is checked by measuring TX output spectrum at frequencies:

TX IQ f0

TX IQ f0 + 67.71 kHz

Band	GSM850			GSM1900		
ltem	Typical value	Low limit	High limit	Typical value	Low limit	High limit
TX I DC offset	-21	-6	6	-31	-6	6
TX Q DC offset	-21	-6	6	-1.5 2	-6	6
Amplitude difference	-0.3 0.2	-1	1	-0.5 0.1	-1	1
Phase difference	8892	84	96	90.5 95.5	86	100
TX IQ fO	-5532	-90	-30	-4934	-90	-30
TX IQ f0 + 67.71 kHz	-6848	-90	-35	-6340	-90	-35

Table 4: TX IQ Tuning Limits

# Service Tool Concept For Baseband Tuning Operations

EM calibrations should be carried out in JBV-1 Docking Station equipped with MJF-32 Docking Station Adapter

Power to JBV-1 should be supplied from an external DC power suply, not FPS-8 prommer

JBV-1 input voltages:

Maximum + 16 VDC

Nominal input for BB tunings is +12 V DC.

#### Service Concept for NSB-9 Baseband tunings



Item:	Service accessory:	Туре:	Product code:
1	Docking station	JBV-1	0770298
2	Docking station adapter	MJF-32	0770528
3	DC-DC cable	SCB-3	0730114
4	RF antenna cable	XRF-1	0730085
5	DC power cable	PCS-1	0730012
6	Service MBUS cable	DAU-9S	0730108
7	Software protection key	PKD-1	0750018
8	Phoenix Service SW		8409031
	Phoenix Service SW	CD-ROM	0775311
	NSB-9 Flash SW data		8415951
	NSB-9 Flash SW data	CD-ROM	0775344

# **Baseband Tuning operations**

# **Energy Management Tuning**

External power supply needed.

EM Calibration is used for calibrating Battery and Charger settings of the phone.

Preparation for EM Calibration:

- Connect DC Cable SCB-3 between JBV-1 and charger socket of Phone for Charger calibration.

- Connect 12...15 V from Power Supply to JBV-1.

- NOTE! Check that connection is F-BUS (does not work with M-BUS!).

Select Maintenance => Tuning => Energy Management Calibration.



Energy Management values to be calibrated are checked.

Select "Read from Phone" to show the current values in the phone memory and to check that the communication with the phone works.

		Calibrated	Phone Values	
	ADC Offset [mV]			
	ADC Gain [0.0001 mV/bit]			<u>C</u> alibrate
Battery Size	BSI Gain (100 Ohm)			Save To Phon
🔽 Battery Temperature	BTEMP Gain			
Rattern Voltage	SCAL Offset [mV]			Read From Phor
je pakoly Tokago	SCAL Gain			Help
🔽 Charger Voltage	VCHAR Gain			
Charge Current	ICHAR Gain			

Select "Calibrate" to run the selected calibrations.

Limits for Energy Management Calibration:

Parameter	Min.	Мах	Note
ADC gain	25400	29000	VBatt, BSI, BTemp
DC offset	-100	100	ADC voltage offset
BSI gain	860	1180	ADC BSI calibration gain
BTEMP gain	1980	2280	ADC BTEMP calibration gain
VBAT gain	10000	11000	ADC VBATT Voltage gain
VBAT offset	2300	2700	ADC VBATT Voltage offset scale
VCHAR	58000	62000	Charge voltage
ICHAR	4050	4900	charge current

If values shown are within limits select "Save To Phone" to save the values in the phone.

NOTE! Only the values of the checked tunings (Battery size, Battery Temperature etc...) are saved.

Close the "Energy Management Calibration" – dialog to end tuning.

You must manually switch the phone on after exiting "Energy Management Calibration" – dialog.

# LCD Contrast Tuning

Extra equipment not needed.

This function is used to calibrate the LCD Contrast (brightness).

Must be done when LCD module is changed and there is considerable difference in the contrast.

Select Maintenance => Testing => Display Tune



Move the Contrast factory offset slider to reach good LCD contrast.

Both sliders are relative. The Default button resets the bottom Contrast factory offset slider to default value 41. The Contrast offset slider should always be set to 0% (middle of the scale), because that setting is visible on the phone screen.

🔏 Display Tune	
Contrast tuning	Display metrics
Contrast factory [ 50 % ]	Display width: Not available
	Display height: Not available
Contrast offset [ -12 % ]	Display type: Not available
Contrast factory offset [ 15 52 ]	<u>D</u> efault
	<u>H</u> elp

Close the "Display tune" dialog to end tuning. The tuned values are saved automatically.

# **Flashing Setup Instructions**

# POS (Point of Sale) Flash Concept



Figure 1: POS flash

ltem	Туре	Description	Code
1	FLA-29	Point Of sales flash loading adapter	0775306
2	XCS-1	Service cable	0730218
3	ACF-8	AC Charger	0680032
4	FLS-4S	POS flash dongle, for Americas area	0080543
5	Phoenix Serv- ice SW		8409031
	Phoenix Serv- ice SW	CD-ROM	0775311



ltem	Туре	Description	Code
	NSB-9 Flash SW data		8415951
	NSB-9 Flash SW data	CD-ROM	0775344

Flash Concept with flashing adapter



ltem	Туре	Description	Code
1	FLA-29	Point of sales flash loading adapter	0775306
2	FLC-2	Power cable	0730185
3	XCS-4	Modular cable	0730178
4	FPS-8	Flash prommer box	0080321
5		Centronics (printer) cable, incl. in FPS- 8 slaes package	0730029
6	AXS-4	RS-232 (D9-D9) cable, incl. in FPS-8 sales package	0730090
7	PKD-1	Software protection key (Dongle)	0750018
8	Phoenix Serv- ice SW		8409031
	Phoenix Serv- ice SW	CD-ROM	0775311

ltem	Туре	Description	Code
	NSB-9 Flash SW data		8415951
	NSB-9 Flash SW data	CD-ROM	0775344
9	ACF-8	AC-charger, incl. in FPS-8 sales package	0680032

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# Module Jig Concept



#### Figure 2: Module jig concept

ltem	Туре	Description	Code
1	MJS-48	Module jig	0770392
2	PCS-1	DC power cable	0730012
3	XRF-1	RF antenna cable	0730085
4	DAU-9S	Service MBUS cable	0730108
5	PKD-1	Software protection key (Dongle)	0750018
6	Phoenix Serv- ice SW		8409031
	Phoenix Serv- ice SW	CD-ROM	0775311
	NSB-9 Flash SW data		8415951
	NSB-9 Flash SW data	CD-ROM	0775344

# JBV-1 Flash Concept



#### Figure 3: JBV-1 Flash concept

ltem	Туре	Description	Code
1	JBV-1	Docking station	0770298
2	MJF-32	Docking station adapter	0770528
3	PCS-1	DC power cable	0730012
4	XCS-4	Modular cable	0730178
5	FPS-8	Flash prommer box	0080321
6		Centronics (printer) cable, incl. in FPS-8 sales package	0730029
7	AXS-4	RS232 (D9 – D9) cable, incl. in FPS-8 sales pack	0730090

ltem	Туре	Description	Code
8	PKD-1	Software protection key (Dongle)	0750018
9	Phoenix Serv- ice SW		8409031
	Phoenix Serv- ice SW	CD-ROM	0775311
	NSB-9 Flash SW data		8415951
	NSB-9 Flash SW data	CD-ROM	0775344
10	ACF-8	AC Charger, incl. in FPS-8 sales pack	0680032

# Service Concept



#### **Figure 4: Service Concept**

ltem:	Service accessory:	Туре:	Product code:
1	Docking station	JBV-1	0770298
2	Docking station adapter	MJF-32	0770528
3	DC-DC cable	SCB-3	0730114
4	RF antenna cable	XRF-1	0730085
5	DC power cable	PCS-1	0730012
6	Service MBUS cable	DAU-9S	0730108
7	Software protection key	PKD-1	0750018
8	Phoenix Service SW		8409031
	Phoenix Service SW	CD-ROM	0775311
	NSB-9 Flash SW data		8415951
	NSB-9 Flash SW data	CD-ROM	0775344

# Parallel Flash concept



Figure 5: Parallel flash concept

Item	Туре	Description	Code
1	JBV-1	Docking station	0770298
2	MJF-32	Docking station adapter	0770528
3	XCS-4	Modular cable	0730178
4	PCS-1	DC power cable	0730012
5	FPS-8C	Parallel flash prommer	0080396
6	AXS-4	RS232 (D9 – D9) cable, incl. in FPS-8C sales package	0730090
7	Printer cable	Centronics (printer) cable, Incl. in FPS-8C sales pack	0730029
8	PKD-1	Software protection key (Dongle)	0750018
9	Phoenix Serv- ice SW		8409031
	Phoenix Serv- ice SW	CD-ROM	0775311



ltem	Туре	Description	Code
	NSB-9 Flash SW data		8415951
	NSB-9 Flash SW data	CD-ROM	0775344