

# Nokia Customer Care RH-47 Series Cellular Phones

## 4 – Service Tools

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## List of Recommended Service Tools

### New service accessories for RH-47

Type designator	Part code	Description
MJ-21	770646	Module Repair Jig
SF-20	770702	POS flash adapter
DA-17	770701	Adapter for JBV-1
SS-33	780340	A-cover opening Tool
RJ-43	0780348	Soldering Jig (Lead Free process compatible)
SK-10	0080986	Coupler Kit BT and GSM, consisting of SA-32 and SA-52

### Spare parts for RH-47 service accessories

Type designator	Part code	Description
No type	0770557	Testpins DE-50-T45 for MJ-21 Test-IF, MMC, Audio IF (10 pcs.)
No type	0770442	Testpins 100-GSS-10-3.8-G for MJ-21 UI board connection (10 pcs.)
No type	0770450	Testpins SX-1-J-2.0-G for SF-20 (10 pcs.)
No type	0770445	Testpins RSS-100-CR-PLTD for MJ-21 SIM / Battery IF (10 pcs)
No type	0770446	Testpins 100-GSS-19-3.8-G for MJ-21 RF board (10 pcs.)
No type	0770543	Testpins IDI S-0-J-2.2G for DA-17 Test-IF (10 pcs.); disassembly needed !
No type	780360	AQFLX Spare Flex Foil for MJ-21 (1 pcs.)

## Re-used service accessories

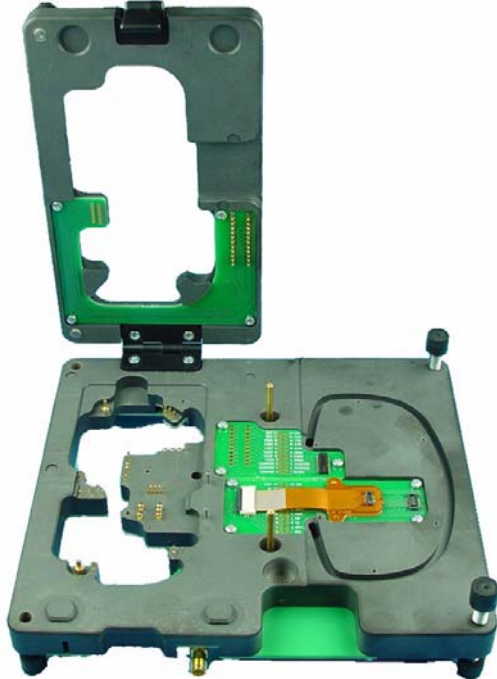

Type designator	Part code	Description
ACF-8	0680032	Power supply (part of FPS-8 sales package)
ACP-8E	0675195	Charger for JBT-9 Output: 5.3V DC, 500 mA; EU version
ACP-8U	0675196	Charger for JBT-9 Output: 5.3V DC, 500 mA; US. version
ADS-4	0730222	Audio testcable for JBA-8
ADS-7	0730261	Coaxial cable SMA m to BNC m; 0,9m; 500hm
AXP-8	0730298	Parallel bi-directional printer cable (part of FPS-8 sales package)
AXS-4	0730090	Serial cable 9 pol. Sub-D (part of FPS-8 sales package)
CA-5S	0730283	DC cable for e.g. phone to JBV-1 connection for EM calibration
DAU-9S	0730108	Serial data cable with modular connector.9 pole Sub-D f <=> 8 pole modular
FLC-2	0730185	Power supply cable from FPS-8/C to SF-20.Banana connectors to 3,5 mm DC plug, 1,2 meters
FLS-4S	0080541	POS flash prommer for E&A incl. ACF-8 Power supply
FLS-4S	0080542	POS flash prommer for for APAC incl. ACF-8 Power supply
FLS-4S	0080543	POS flash prommer for for US incl. ACF-8 Power supply
FPS-8	0080321	Flash prommer to be used with SF-20 or JBV-1 plus product specific adapter.Sales pack includes:FPS-8 Prommer, FPS-8 SW activation & installation instr., FPS-8 activation sheet, power supply ACF-8, AXS-4 service cable (2x 9 pol. Sub-D), AXP-8 Bi-directiona
FPS-8C	0080396	8 x parallel flash prommer box
JBA-8	0770320	Audio testbox (differential to single ended)
JBT-9	81490	Bluetooth Test & Interface Box
JBV-1	770298	Flash/Test docking station with generic data&power interfaces
JXS-2	0770673	Optional shielded box for RF autotuning and testing in specific service environment in US. To be used with DA-1 adapter
MJS-54	0770349	Soldering Jig for PA
PCS-1	0730012	Power cable to connect e.g. JBV-1 to FPS-8.2 x Banana connectors to 5,5 mm DC plug.
PKD-1	0750018	Software Security Dongle for service SW
SCT-10	0730207	Coaxial cable SMA m to BNC m; 1,5m; 500hm
SF12	0080346	8 MB SRAM memory for FPS-8 (2 pcs. needed = +16MB )
SPS-1	0770381	Stencil paste spreader
SRT-6	0770431	Opening tool
ST-10	0770741	Stencil for PA

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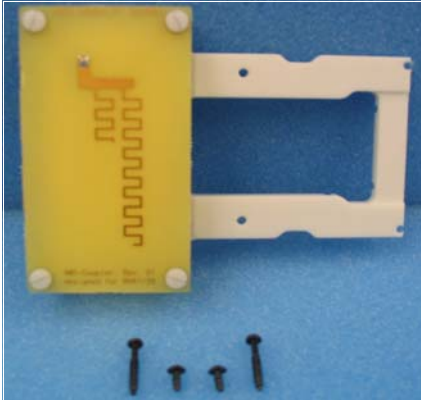
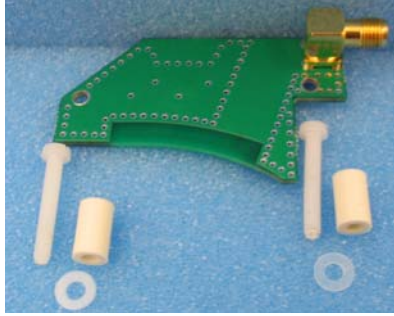
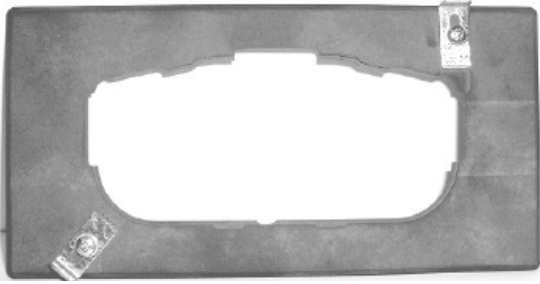
XCS-1	0730218	Service cable for connection between FLS-4S and SF-20.
XCS-4	0730178	Modular cable for e.g. connection between FPS-8 and SF-20.
XRE-2	0730237	Coaxial Cable SMA m to SMA m; 1m; 50 Ohm
XRF-1	0730085	RF cable to connect e.g. module repair jig to RF meas-urement equipment.SMA to N-Connector ca. 610mm
XRS-6	0730231	RF cable to connect e.g. module repair jig to RF meas-urement equipment.SMA to N-Connector ca. 610mm
No type	No code	Standard USB A to USB B cable for FLS-4 USB flash-ing and JBV-1 SW update.


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## New Service Tools for RH-47


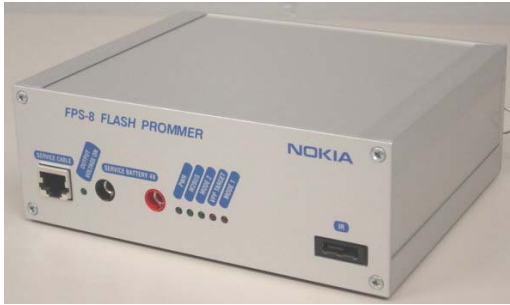
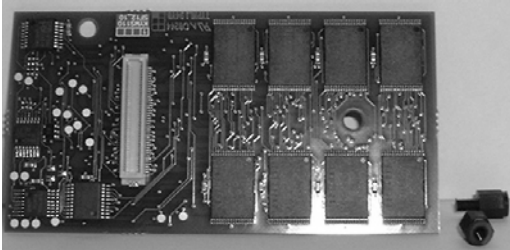

Type / Code	Description	Picture
<b>MJ-21</b> 0770646	<p>The module repair jig is used for testing and alignment of the engine module's RF and BB part. Optional support for connecting complete user interface board.</p> <p>Implemented are:</p> <ul style="list-style-type: none"> <li>- SIM interface</li> <li>- MMC interface</li> <li>- BT coupler</li> <li>- RF coupler</li> <li>- Headset connector</li> <li>- External speaker</li> <li>- External microphone</li> </ul> <p>Nominal supply voltage in "regulated" mode is 6-12V DC.</p> <p>In "bypass" mode the supply voltage can be up to 4.3 V DC secured by an overvoltage protection.</p>	
<b>SF-20</b> 0770702	<p>POS flash adapter is used with FLS-4S or FPS-8 flash adapter as a battery interface. It interfaces to battery and FBUS for SW updates of the device.</p> <p>The supply voltage can be up to 4V DC and is secured via overvoltage protection.</p>	



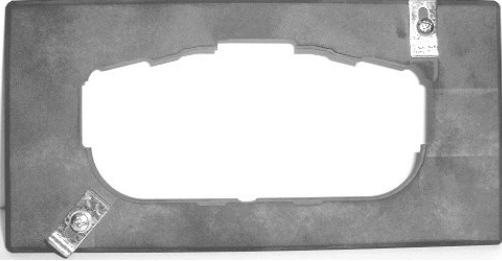


<p><b>DA-17</b> 0770701</p>	<p>Docking station adapter for JBV-1 adapter. 850-1900 MHz GSM coupler (SA-32) and BT coupler (SA-52) are optional assemblies. Together with JBV-1 it supports:</p> <ul style="list-style-type: none"> <li>- RF and BB testing</li> <li>- RF and BB calibration</li> <li>- SW updating</li> <li>- IMEI re-programming</li> </ul> <p>Interfaces with the battery connector, SIM and FBUS. DA-17 has a switch to select either "JVB-1 MODE" or "4V LOCAL MODE".</p> <p>In "JBV-1 MODE", DA-17 operates as any other docking station adapter.</p> <p>The "4V LOCAL MODE" is implemented for two specific reasons:</p> <ul style="list-style-type: none"> <li>- RF autotuning</li> <li>- SW update/re-flashing</li> </ul> <p><b>Do not use "4V LOCAL MODE" for any other operations, such as EM calibration.</b></p>	
<p><b>SK-10</b> 0080986</p>	<p>BT &amp; GSM coupler kit. The kit is an optional assembly for the DA-17 adapter. The kit consists of:</p> <ul style="list-style-type: none"> <li>- SA-32 coupler for GSM850/1900 testing and alignment and also for GSM 900/1800 testing with frame and screws.</li> <li>- SA-52 BT coupler for Bluetooth BER testing under critical environment. Includes screws and assembly material.</li> </ul>	<p>SA-32:</p>  <p>SA-52:</p> 
<p><b>RJ-43</b> 0780348</p>	<p>Soldering jig to hold the main PWB during soldering machine solder process with Lead Free Process tested material.</p>	





<p><b>SS-33</b> 0780340</p>	<p>Opening tool for removing the A-cover.</p>	
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## Re-used Service Tools for RH-47




Type Designator	Description	Picture
JBV-1 0770298	Flash/Test docking station with generic data and power interfaces. Main functions are: <ul style="list-style-type: none"> <li>- adjustable VBATT calibration voltage, current measurement limit voltage, "VCHAR", current measurement calibration current "ICHAR"</li> <li>- adjustable ADC calibration voltage via BTEMP and BSI signal</li> <li>- BTEMP and BSI calibration resistor</li> <li>- signals from FBUS to the phone via parallel jig</li> <li>- control via FBUS or USB</li> <li>- Flash OK/FAIL indication</li> <li>- RF alignment via coupler (with shielded JXS-2 box)</li> <li>- RF testing via coupler with DA-17 plus SK-10</li> <li>- BT testing via coupler with DA-17 plus SK-10</li> </ul> <p>In the calibration mode JBV-1 is powered by an external 11-16V DC power supply . In flashing, power for the phone can be taken from FPS-8 or external power supply 11-16V DC.</p>	
FPS-8 0080321	Flash prommer is used with SF-20 or JBV-1 plus product specific adapter. Sales pack includes: FPS-8 Prommer, FPS-8 SW activation & installation instr., FPS-8 activation sheet, power supply ACF-8, AXS-4 service cable (2x 9 pol. Sub-D), AXP-8 Bi-directional parallel cable	
SF12 0080346	8 MB SRAM memory for FPS-8 2 additional modules needed to be assembled in FPS-8 to get the minimum SRAM of 24MB.	
FLS-4S 0080541	POS flash prommer for E&A incl. ACF-8 Power supply	
FLS-4S 0080542	POS flash prommer for APAC incl. ACF-8 Power supply	
FLS-4S 0080543	POS flash prommer for US incl. ACF-8 Power supply	





<p><b>FPS-8C</b> 0080396</p>	<p>8 x parallel flash prommer box</p>	
<p><b>PKD-1</b> 0750018</p>	<p>Software security dongle for service SW</p>	
<p><b>MJS-74</b> 0770464</p>	<p>Soldering jig to hold the main PWB during machine soldering process</p>	

<p><b>JXS-2</b> 0770673</p>	<p>Shielded box for RF autotuning and testing in specific service environment in USA. Internal RF cables are included. Used with the DA-17 adapter.</p>	
<p><b>JBT-9</b> 0081490</p>	<p>Bluetooth test &amp; interface box</p>	
<p><b>ACP-8U</b> 0675196</p>	<p>Charger for JBT-9 Output: 5.3V DC, 500 mA; US Version</p>	<p>No picture available</p>




<p><b>JBA-8</b> 0770320</p>	<p>DCT-4 audio test-box for audio signal measuring.</p>	<p>Front view:</p>  <p>Back view:</p> 
<p><b>DAU-9S</b> 0730108</p>	<p>Serial data cable with modular connector. 9 pole Sub-D f &lt;=&gt; 8 pole modular</p>	
<p><b>XCS-4</b> 0730178</p>	<p>Modular cable for connecting FPS-8 and SF-20, for example.</p>	






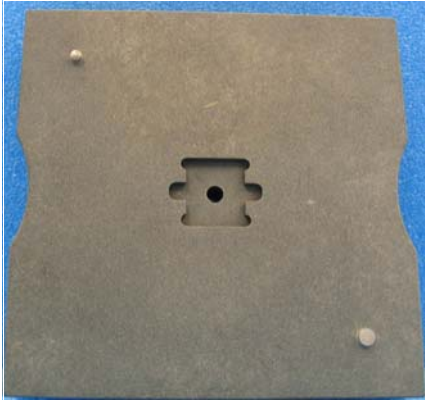

<p><b>XCS-1</b> 0730218</p>	<p>Service cable for connecting FLS-4S and SF-20.</p>	
<p><b>FLC-2</b> 0730185</p>	<p>Power supply cable from FPS-8/C to SF-20. Banana connectors to 3,5 mm DC plug, 1,2 meters.</p>	
<p><b>CA-5S</b> 0730283</p>	<p>DC cable for a phone to JBV-1 connection, used in EM calibration, for example.</p>	

<p><b>PCS-1</b> 0730012</p>	<p>Power cable to connect e.g. JBV-1 to FPS-8. 2 x Banana connectors to 5,5 mm DC plug.</p>	
<p><b>XRS-6</b> 0730231</p>	<p>RF cable to connect e.g. module repair jig to RF measurement equipment. SMA to N-Connector ca. 610mm</p>	
<p><b>XRF-1</b> 0730085</p>	<p>RF cable to connect e.g. module repair jig to RF measurement equipment. SMA to N-Connector ca. 610mm</p>	
<p><b>ADS-4</b> 0730222</p>	<p>Audio and power supply cable for JBA-8 test box.</p>	



<b>ADS-7</b> 0730261	Coaxial cable SMA m to BNC m; 0,9m; 500hm	 A black coaxial cable with a BNC connector on one end and an SMA connector on the other. The cable is coiled and has a small white label near the SMA connector.
<b>SCT-10</b> 0730207	Coaxial cable SMA m to BNC m; 1,5m; 500hm	 A black coaxial cable with a BNC connector on one end and an SMA connector on the other. The cable is coiled and has a small white label near the SMA connector.
<b>XRE-2</b> 0730237	Coaxial cable SMA m to SMA m; 1m; 50 Ohm	 A black coaxial cable with SMA connectors on both ends. The cable is coiled and has a small white label near one of the connectors.

<b>AXS-4</b>	<p>The AXS-4 D9-D9 service cable is used to connect two 9 pin D connectors e.g. between PC and FPS-8. Cable length is 2 meters.</p>	
<b>Commodity item</b>	<p>Standard USB A to USB B cable for FLS-4 USB flashing and JBV-1 SW update.</p>	
<b>SRT-6</b> 0770431	<p>Opening tool</p>	
<b>ST-10</b> 0770741	<p>Stencil PA (10 x 12 mm, for Hitachi PF08130-TB CAS)</p>	

<p><b>MJS-54</b> 0770349</p>	<p>Soldering jig for LGA's 10x12 mm</p>	
<p><b>SPS-1</b> 0770381</p>	<p>Stencil paste spreader</p>	

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