

CCS Technical Documentation

NPD-4 Series Transceivers

Service Tools

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Service Tools

3585i





Photo	Code	Service Tool	Code	Description Info
	JBV-1	Docking Station	0770298	<p>The Docking Station and the Docking Station Adapter are needed for Mbus, Fbus, RF, and audio connections.</p> <p>This setup allows connection between flash promoters. When the audio box is connected, it has to be connected to the phone's audio connector. The Docking Station can be powered by FPS-8 or external power supply.</p>
	MJF-19	Docking Station Adapter	0770359	<p>The flash adapter allows FBUS/MBUS connections for flashing.</p>
	FLA-33	Flash Adapter	0770358	<p>To be used with the Spirent UPST and UMPP service software.</p> <p><i>Note: The cable cannot be used as a straight-through USB connection cable.</i></p>
	DKU-5F	Flash Cable	0730281	<p>To be used with the Spirent UPST and UMPP service software.</p> <p><i>Note: The cable cannot be used as a straight-through USB connection cable.</i></p>

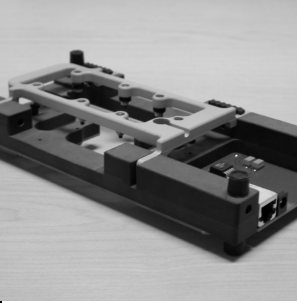

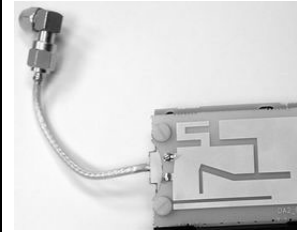

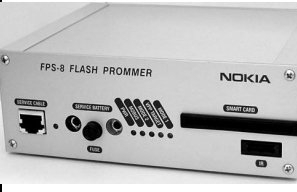
Photo	Code	Service Tool	Code	Description Info
	MJS-57	Module Jig	0770356	This jig allows phone PWB level service and troubleshooting for authorized service centers.
	JBA-12	Audio Box	0770536	The JBA-12 is required for audio testing at authorized service centers.
	CPL-11	GPS RF Coupler	0770576	Allows testing of the GPS antenna at AMS locations. Shield Box JSX-1A is required.
	JSX-1A	Shield Box	N/A	Allows testing of the GPS antenna with CPL-11 coupler. Contact your local Nokia Regional AMS center for details.
	FPS-8	Flash Prommer	0080321	The Flash Prommer FPS-8 is used for heavy flash.






Photo	Code	Service Tool	Code	Description Info
	ADS-8	Audio Cable	0730268	The Audio Cable connects to the Audio Box JBA-12.
	XCS-4	Mbus/Fbus Cable	0730178	The XCS-4 Service Cable is a modular cable for flashing DCT4 products.
	SCB-3	DC Cable	0730114	The DC Cable SCB-3 is used to connect the docking station to the charger connection (Vin) of the phone to conduct the charger calibration service procedure.
	PCS-1	Power Cable	0730012	The Power Cable PCS-1 is used to connect the service tools (JBV-1, MJS-57) to an external power supply.
	XRF-1	RF Cable	0730085	RF Cable XRF-1 is used to connect the service tools to RF measuring equipment.







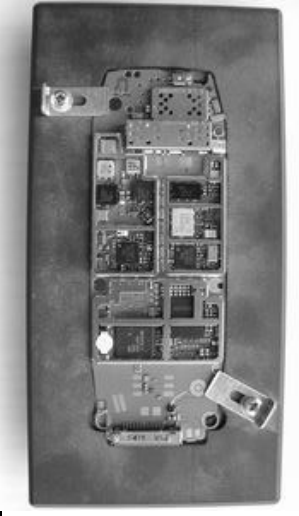

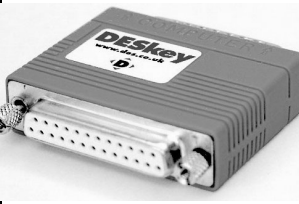
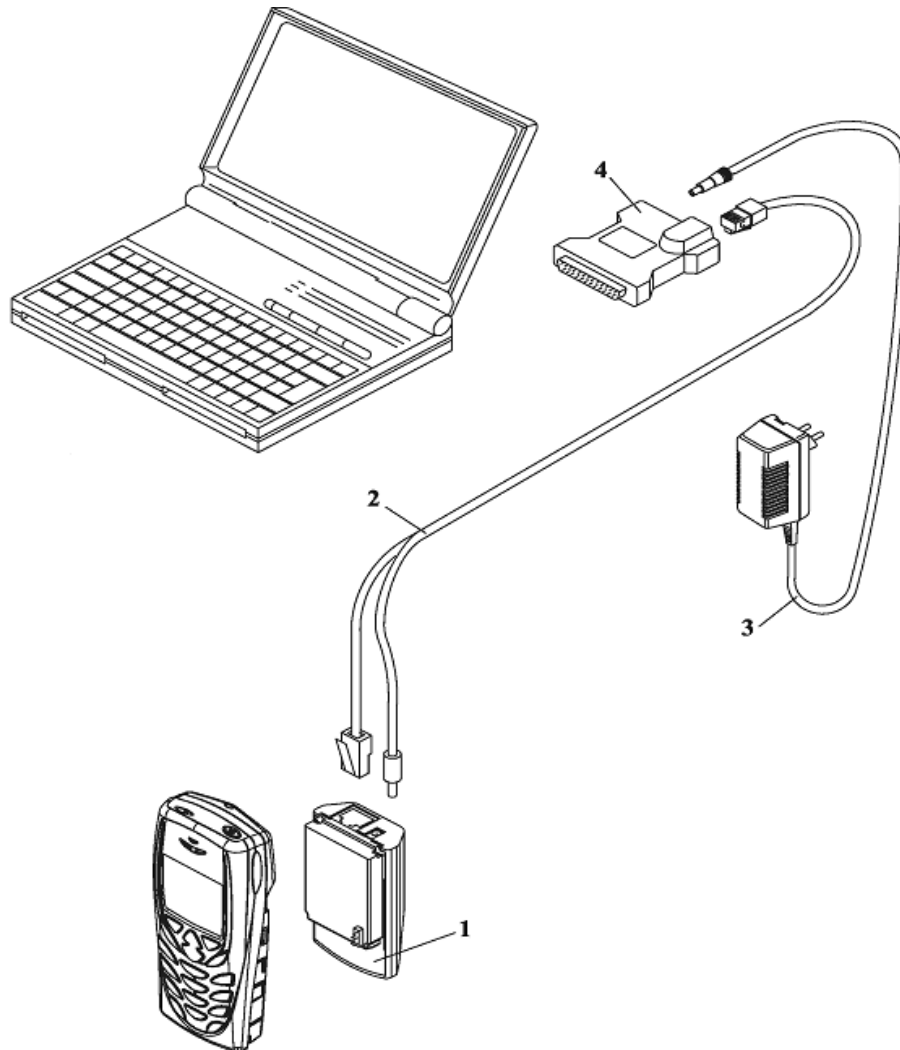
Photo	Code	Service Tool	Code	Description Info
	FLS-4S	POS Flash Adapter	0080543	The Point of Sale (POS) flash is a low-cost software upgrade tool. This requires the XCS-1 cable and ACP-8U for operation.
	DAU-9T	FBUS Cable	0730267	The MBUS cable DAU-9T provides a connection from the serial port of the computer to the system connector of the phone.
	XRS-11	RF Test Cable	0730265	Allows testing of the CDMA RF (requires the SA-7 RF Support)
	SA-7	RF Support	0770562	Serves as a guide for the RF test cable when performing Galvanic CDMA measurements. Use with XRS-11 RF Cable.
	XRS-4	RF Test Cable	0730221	Allows testing of the GPS RF (Requires the SA-8 RF Support).
	SA-8	RF Support	0770563	Serves as a guide for the RF test cable when performing Galvanic GPS measurements. Use with XRS-4 RF Cable.

Photo	Code	Service Tool	Code	Description Info
	MJS-58	Rework Jig	0770357	Allows easy soldering or desoldering of components during repairs.
	SS-1	Test A-cover	0770568	The accessory allows the technician to replace the handset's original A-cover with one that provides access to the CDMA RF connector. This accessory is best suited for test cases where the UI (Keypad + LCD) functionality is required. This accessory only supports the XRS-4 RF Test Cable.
	PKD-1	SW Security Device	0750018	<p>SW security device PKD-1 is hardware device that, when connected to the parallel (LPT) port of the PC, enables the use of the service software. Without the dongle present, it is not possible to use the service software. Printers or other peripheral devices can be connected to the PC through the dongle, if needed.</p> <p><i>Caution: Make sure that you have switched off the PC and the printer before making connections!</i></p> <p><i>Caution: Do not connect the PKD-1 to the serial port. You may damage your PKD-1!</i></p>

Flashing and Testing Setups

POS Flash Setup 1

Figure 1: View of POS flash

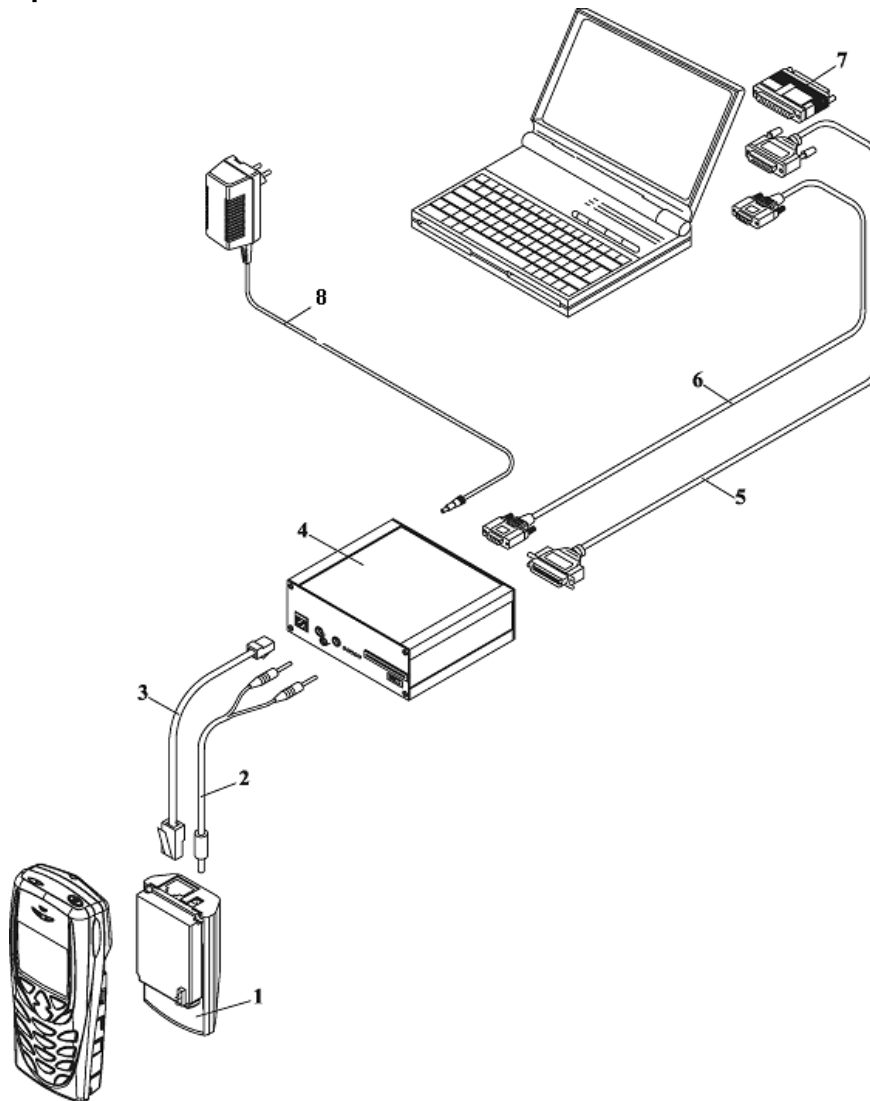


Item	Name	Type	Code
1	POS Flash loading adapter	FLA-33	0770358
2	Service cable	XCS-1	0730218
3	AC charger	ACP-8F	0680032
4	POS flash dongle	FLS-4S	0080543
	Software		

Flashing, testing, and tuning with covers on (Setups 2a, 2b, 2c, 2d)

Tightened performance specifications require more precise equipment and methods for testing and alignment. Manual tuning can't provide accurate results for NPD-4 products, which means that this task has to be automated.

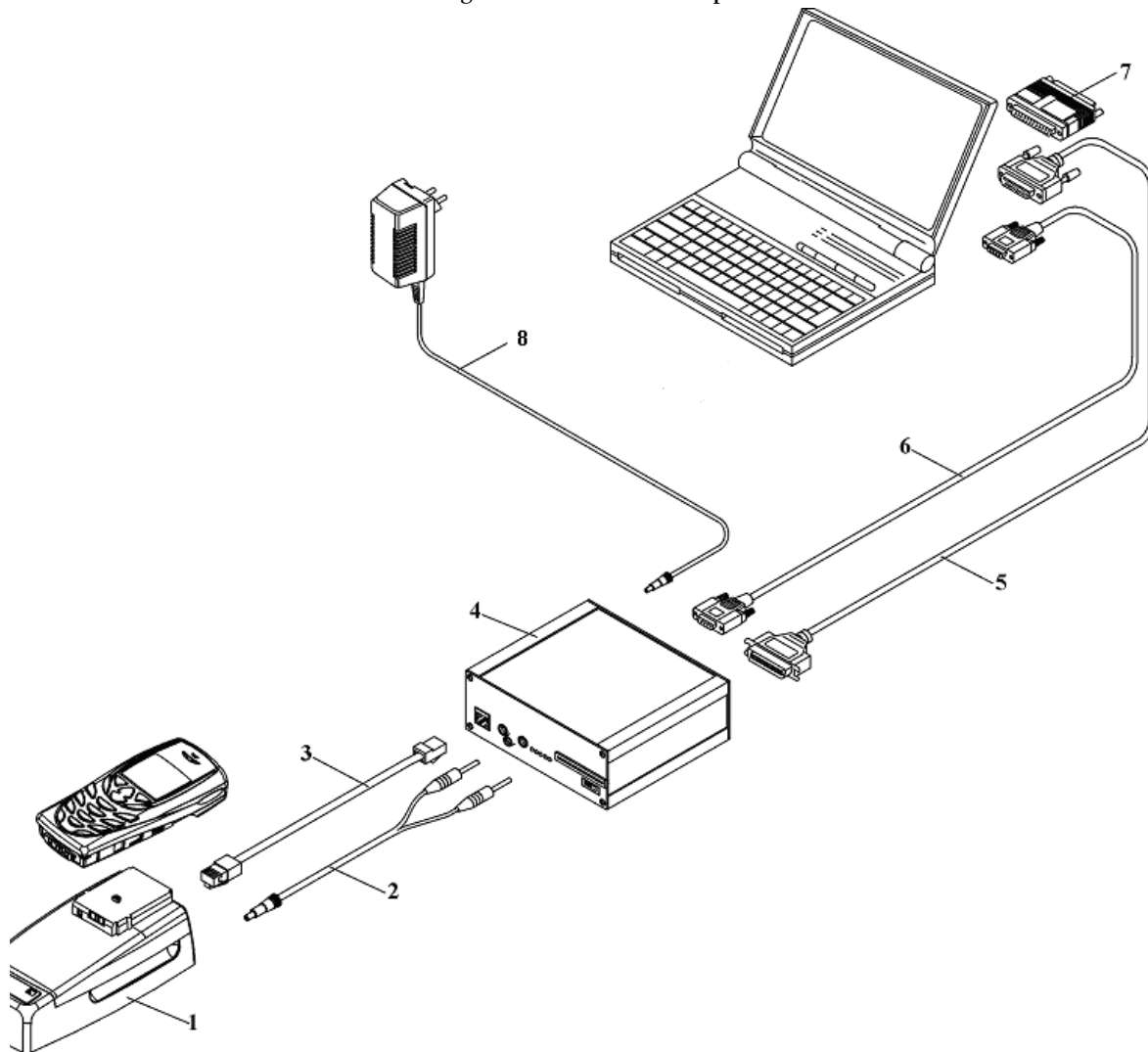
Service Setup 2a



Item	Name	Type	Code
1	POS flash loading adapter	FLA-33	0770358
2	Power cable (included in FLA-14 sales pack)	FLC-2	0730185
3	Modular cable	XCS-4	0730178
4	Flash programmer box	FPS-8	0080321
5	Printer cable (included in FPS-8 sales pack)		0730029
6	D9-D9 cable (included in FPS-8 sales pack)		0730090
7	Software protection key	PKD-1	0750018
8	AC charger	ACP-8F	0680032

Service Setup 2b

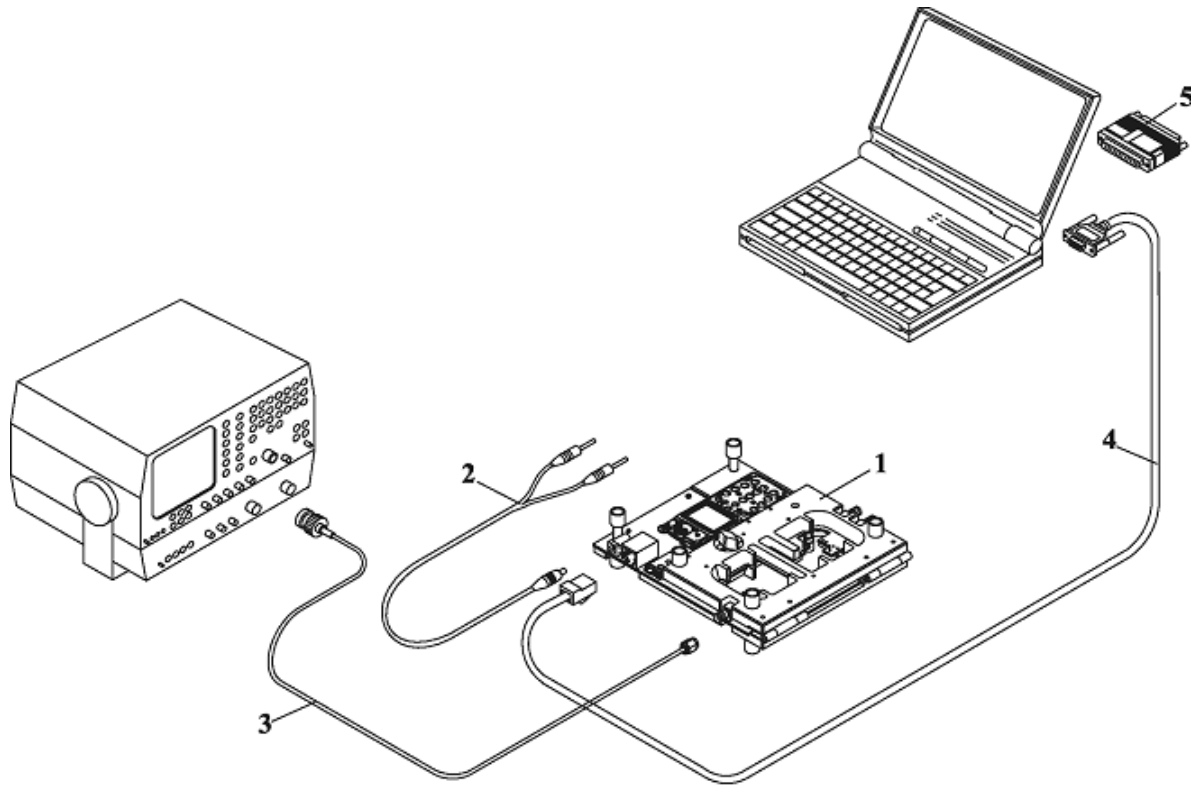
Figure 2: Service tool setup 2b



Item	Name	Type	Code
1	Docking station Docking station adapter	JBV-1 MJF-19	0770298 0770359
2	DC power cable	PCS-1	0730012
3	Modular cable	XCS-4	0730178
4	Flash prommer box	FPS-8	0080321
5	Printer cable (included in FPS-8 sales pack)		0730029
6	D9-D9 cable (included in FPS-8 sales pack)		0730090
7	Software protection key	PKD-1	0750018
8	AC charger	ACP-8F	0680032

Service Setup 2c

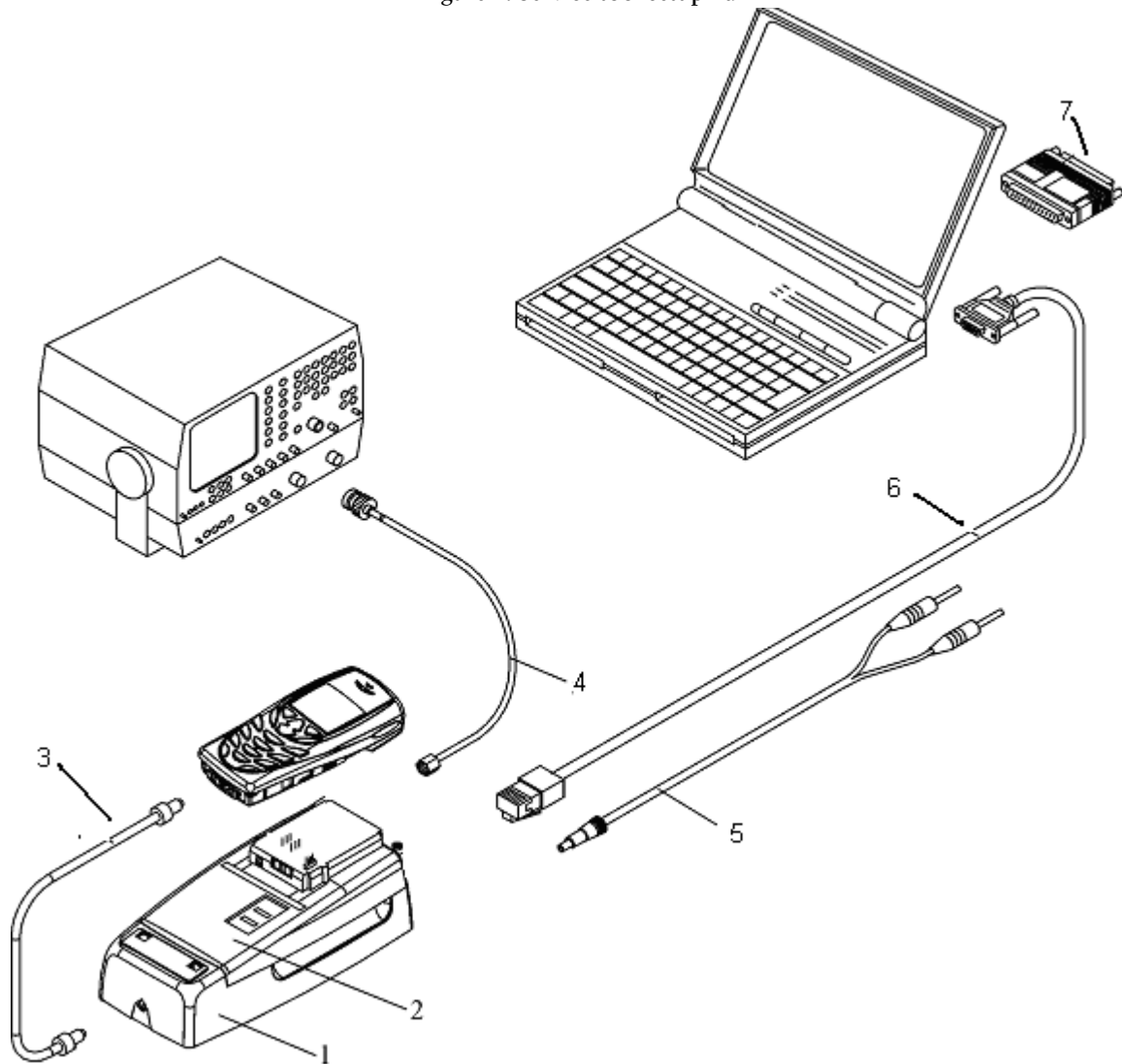
Figure 3: Service tool setup 2c



Item	Name	Type	Code
1	Module jig	MJS-57	0770356
2	DC power cable	PCS-1	0730012
3	RF antenna cable	XRF-1	0730085
4	Service MBUS cable	DAU-9S	0730108
5	Software protection key	PKD-1	0750018

Service Setup 2d

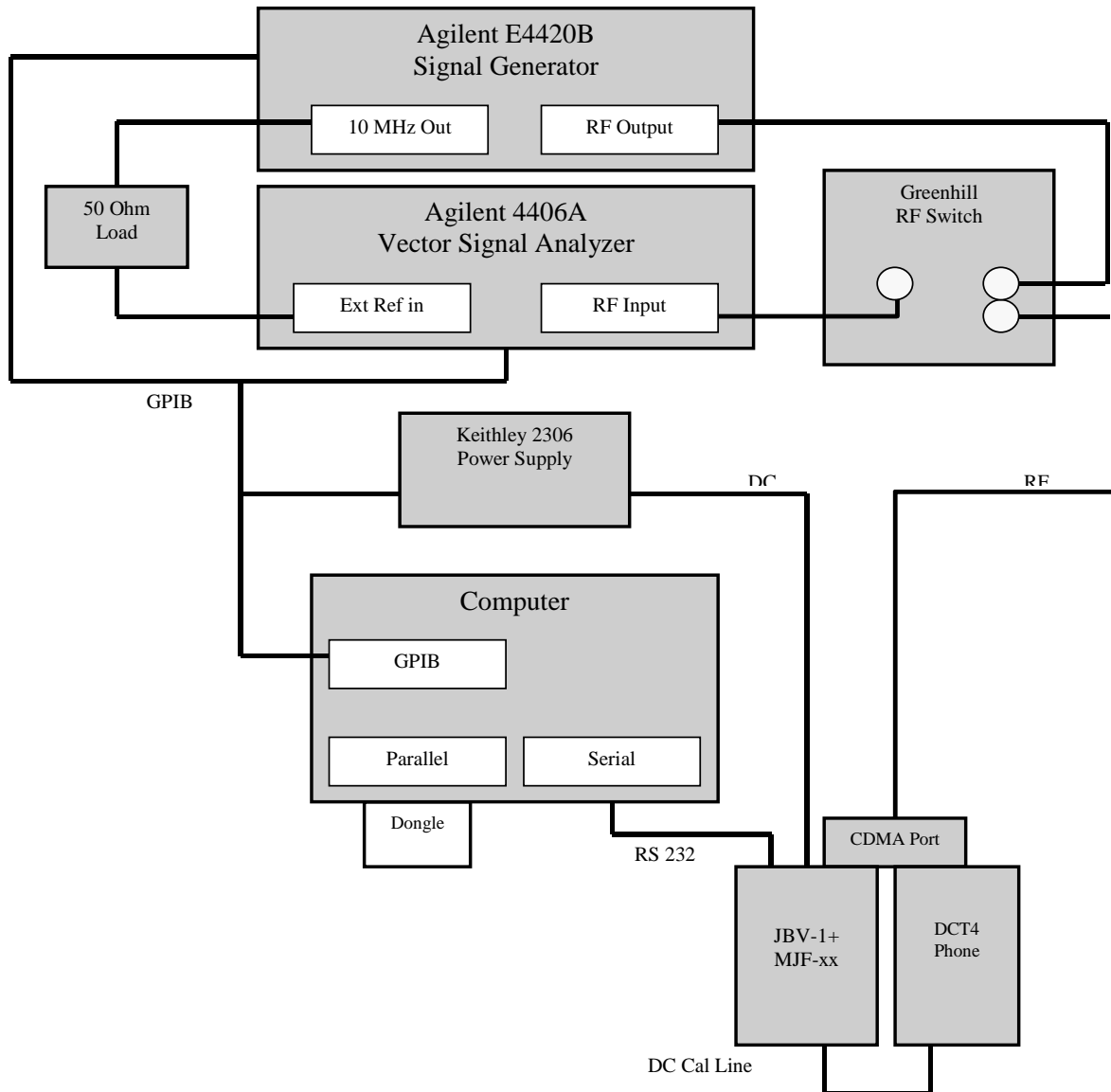
Figure 4: Service tool setup 2d



Item	Name	Type	Code
1	Docking station	JBV-1	0770298
2	Docking station adapter	MJF-19	0770359
3	DC-DC cable	SCB-3	0730114
4	RF antenna cable	XRS-6	0730231
5	DC power cable	PCS-1	0730012
6	Service MBUS cable	DAU-9S	0730108
7	Software protection key	PKD-1	0750018

Automated Tuning and Alignment

This typical setup is used for tuning CDMA handsets at Nokia Authorized Service Centers. Consult with your local Nokia Regional AMS Center for specific details on how to perform automated tuning.



Automated Tuning and Alignment Equipment List

ITEM	NAME	MFR	Model #	QTY	COMMENT
1	Vector Signal Analyzer	Agilent	E4406A	1	Options B78, BAC and BAE
2	Signal Generator	Agilent	E4421B	1	Digital signal generator with high stability oscillator and high spectral purity.
3	Momentum Series	Agilent	8960C	1	CDMA tester for IS-95, IS-2000 and AMPS protocols.
4	Power Supply	Keithly	K2306	2	Programmable with sense wire.
5	Win2000 PC			1	Dell with Pentium III or above, network card, 256M RAM, 20GB HD, CD-ROM, etc.
6	NI-GPIB Interface	NI	GPIB-USB-A	2	USB to GPIB adapter (184983G-01)
7	Docking Station	Nokia	JBV-1	1	Consult your local Nokia After Market Services office for more information.
9	RF Switches	Green Hill	TVi9901	1	Consult your local Nokia After Market Services office for more information.

Note: A Test Sequence File is required to perform "Auto tune" on this phone. In addition, Phoenix needs to have the Auto Tune function installed. Consult you local Nokia After Market Services office more information.

GPS Engine Testing

This setup will be used for testing of the GPS Engine at Nokia Authorized Service Centers. Both Galvanic and Radiated tests will be supported. The GPS Test component in Phoenix will provide functionality to perform these tests. Refer to the GPS Troubleshooting Guide for more details regarding GPS Engine troubleshooting.

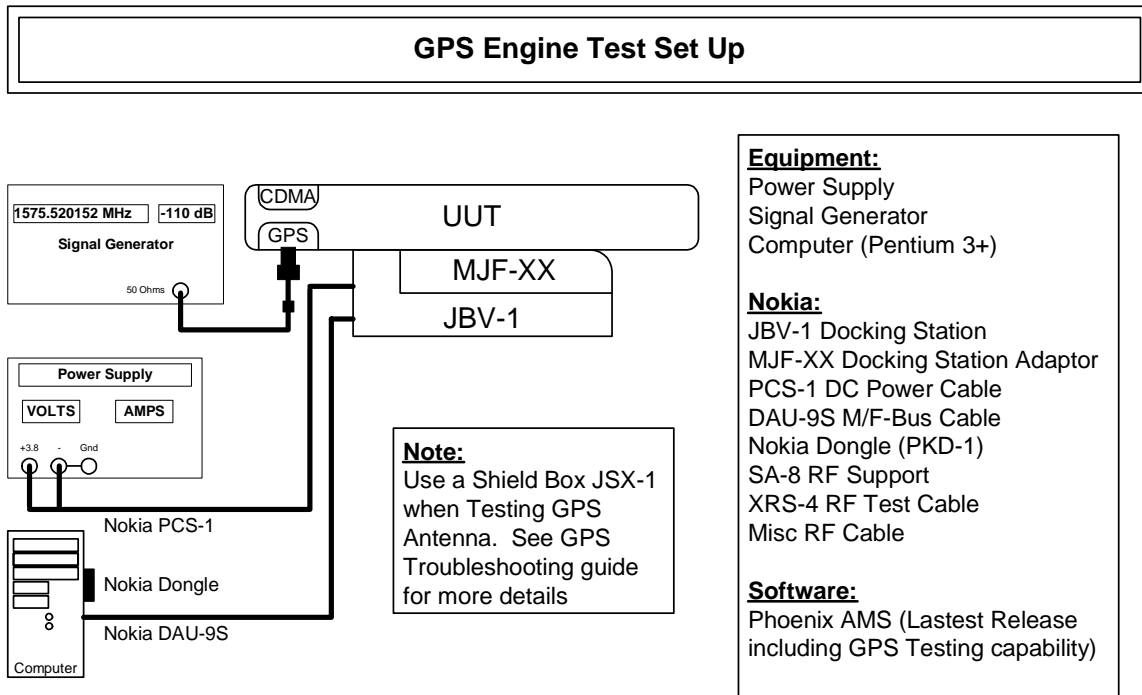


Figure 5: GPS Galvanic Testing

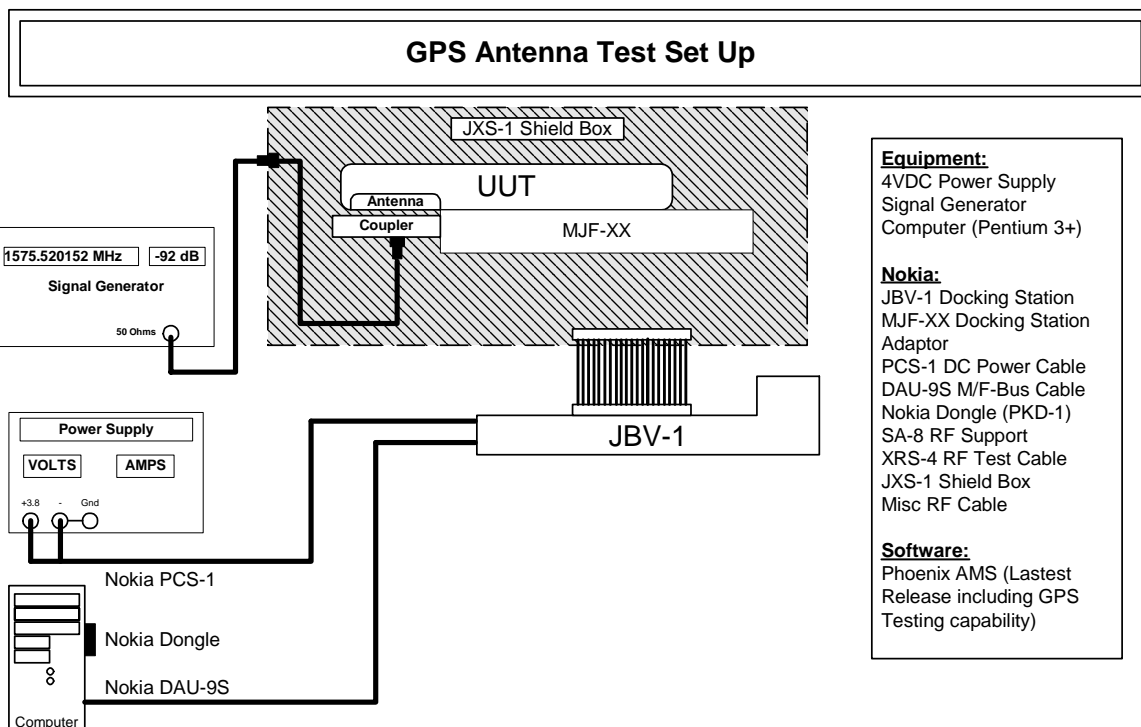


Figure 6: GPS Radiated Testing

GPS Testing Equipment

- Power Supply
- Signal Generator up to 2 GHz
- Computer (Pentium 3, W2000)
- JBV-1 Docking Station
- MJF-19 Docking Station Adaptor
- PCS-1 DC Power Cable
- DAU-9S M/F-Bus Cable
- RF Test Cables (for GPS RF Port)
- Latest Release Phoenix AMS version w/ GPS Test Component

