



# Installation Instruction - Electrical

Applicable for P1i and P1c

## Contents

<b>1</b>	<b>General</b>	<b>2</b>
<b>2</b>	<b>Go/No Go Testing</b>	<b>2</b>
2.1	Test Set-up Go/No Go test	2
2.2	Test Set	3
2.3	RF Connections Antenna Coupler	3
2.4	RF Connections Antenna adapter (optional)	3
<b>3</b>	<b>Calibration</b>	<b>4</b>
3.1	Test set up – SERP (only authorized centers)	4
3.2	Test Set	4
3.3	Power Supply	4
3.4	Battery eliminator (Dummy Battery)	5
3.5	Battery Eliminator (Dummy Battery) Support	5
3.6	GPIO card and cable	5
3.7	RF Connection	5
3.8	SonyEricsson programming interface – SEPI	5
3.9	Sony Ericsson programming interface cable	5
3.10	USB PC cable	5
<b>4</b>	<b>Software Loading</b>	<b>6</b>
4.1	Set up	6
4.2	Computer	6
4.3	USB Activation Dongle	6
4.4	Service Card Reader and Service Card	6
4.5	Sony Ericsson programming interface – DCU-60	7
<b>5</b>	<b>Software</b>	<b>7</b>
5.1	EMMA III	7
5.2	SERP Go/No Go Test Script	7
5.3	SERP Calibration (only authorized centers)	7
<b>6</b>	<b>Lead-Free Electrical Repair</b>	<b>8</b>
<b>7</b>	<b>Revision History</b>	<b>9</b>

# 1 General

The Electrical Installation Instructions describes the procedures for installing all of the hardware and software needed to perform testing, calibration, software loading and repair activities at an Electrical level for the Sony Ericsson products specified.

## Lead-Free Electrical Repair

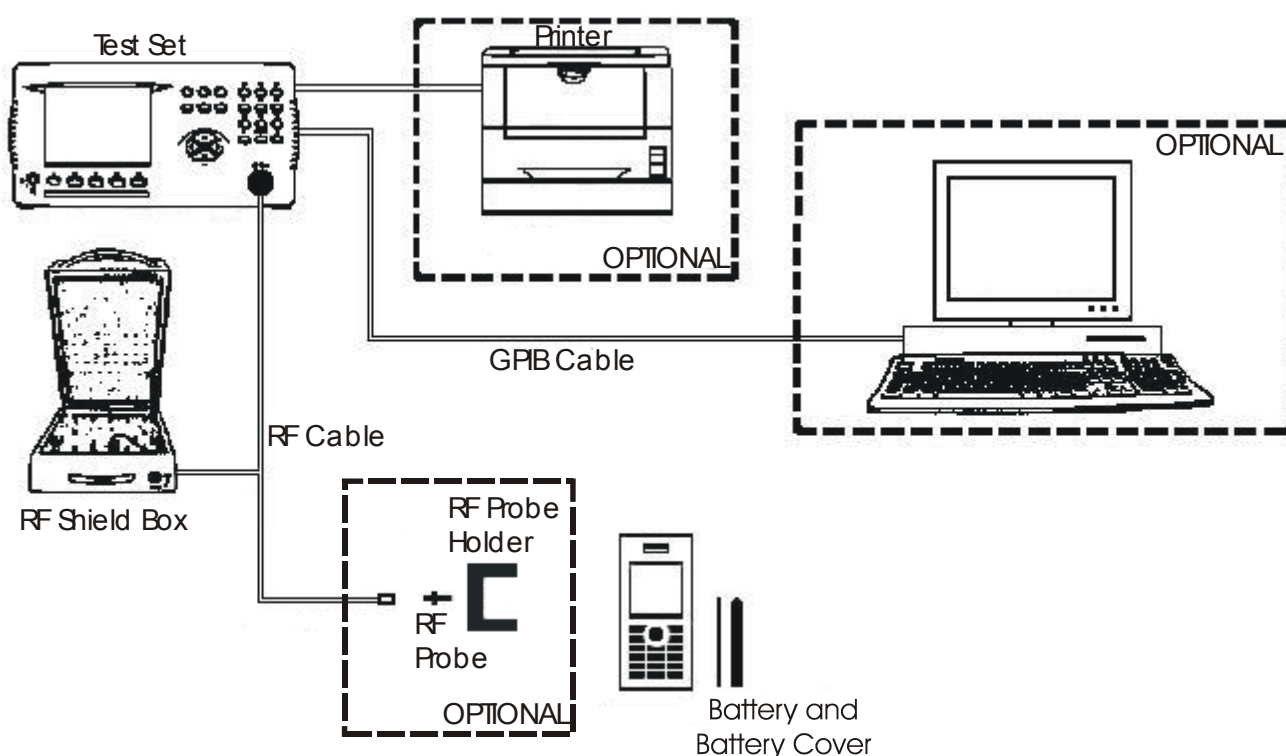
**NOTE!** This product is manufactured with lead-free solder and lead-free components. During electrical repair, it is critical to make sure that no lead is introduced into the product. For this reason, certain repair materials and equipment must be designated as lead-free and labelled accordingly. A lead-free work area must be setup that is completely separated from work areas that are used to make leaded repairs. Certain items must be designated for lead-free work only. Some of the items that need to be clearly labelled in this way are listed in the Equipment List Electrical. Note that any item that contacts the solder must be labelled and used for lead-free work only.

# 2 Go/No Go Testing

There are two options for performing a Go No/Go test. One is to use an RF Fixture and the other is to use an antenna coupler together with a shielding box.

## 2.1 Test Set-up Go/No Go test

All test hardware necessary for this test set up is documented in the Electrical Equipment List.





## **2.2 Test Set**

An E-GSM, 900/GSM, 1800/GSM, 1900/GSM and WCDMA Test Set approved according to the Equipment List must be used.

It should be installed according to the Instrument Manufacturer Instructions.

## **2.3 RF Connections Antenna Coupler**

Connect the RF Cable between the RF-port of the Test set and the RF Shield box. The Antenna Coupler should be installed into the RF Shield Box according to manufacturer instructions.

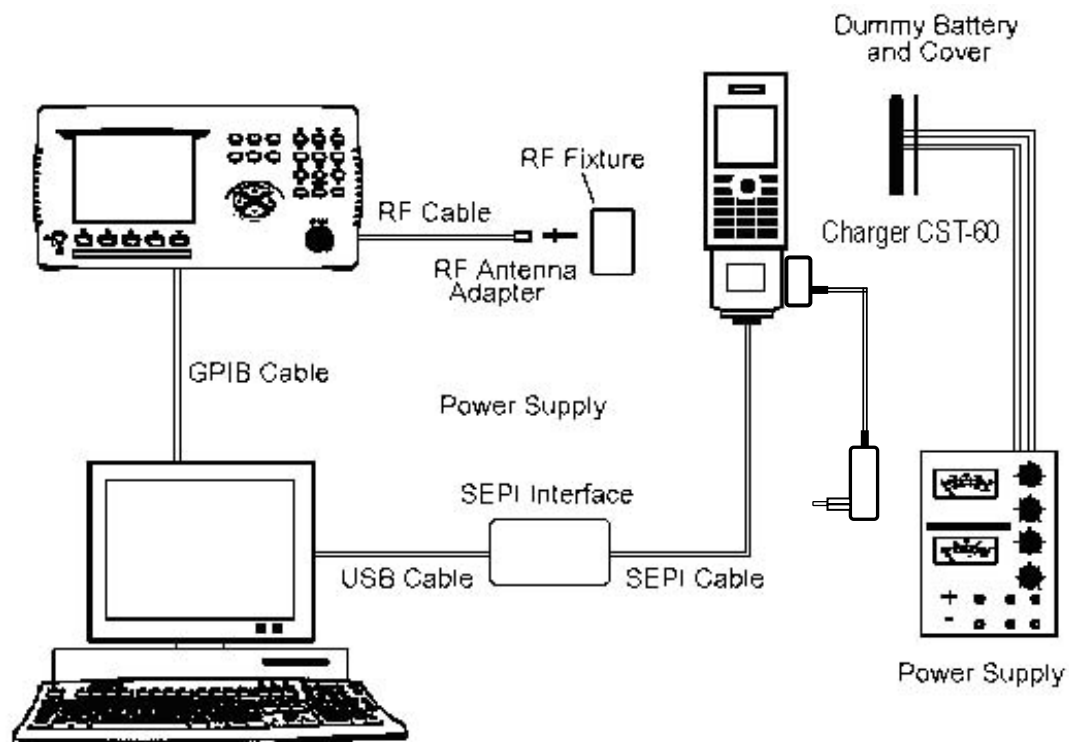
## **2.4 RF Connections Antenna adapter (optional)**

Connect the RF-cable between the RF-port of the Test set and the Antenna adapter. Assemble the RF adapter to the RF-holder according to the information in the Test Instruction Electrical.

## 3 Calibration

### 3.1 Test set up – SERP (only authorized centers)

All test hardware necessary for this test set up is documented in the Equipment List.



### 3.2 Test Set

A Test Set approved according to the Equipment List must be used. It should be installed according to the Instrument Manufacturer Instructions.

### 3.3 Power Supply

Power Supply according to Equipment List must be used.

Set the output of the Power Supply as follows

- Voltage: 3.8Vdc
- Current: 2.0Amps



### **3.4 Battery eliminator (Dummy Battery)**

Battery eliminator is to be used together with a power supply to power the phone during the calibration. Connect the cables from the battery eliminator to the power supply, red cable to positive output terminal and black cable to negative output terminal.

### **3.5 Battery Eliminator (Dummy Battery) Support**

In some situations, a device may be needed to hold the battery eliminator in place when it is being used. A simple device for supporting the battery eliminator can be created by following the set of instructions for making a battery eliminator support that is located in the Mechanical Installation instruction

### **3.6 GPIB card and cable**

GPIB card and cable according to the Equipment List. Use the GPIB cable to connect the GPIB card to the test instrument.

### **3.7 RF Connection**

RF-holder and RF adapter according to Equipment List. Connect the RF adapter to the RF cable. The RF adapter is held on the phone with the RF fixture.

### **3.8 SonyEricsson programming interface – SEPI**

The USB programming interface is delivered with the necessary software and instruction for installation. The USB programming interface (SEPI) should be connected to an USB-port on the computer.

### **3.9 Sony Ericsson programming interface cable**

The cable is the interface between the USB programming interface (SEPI) and the phone.

### **3.10 USB PC cable**

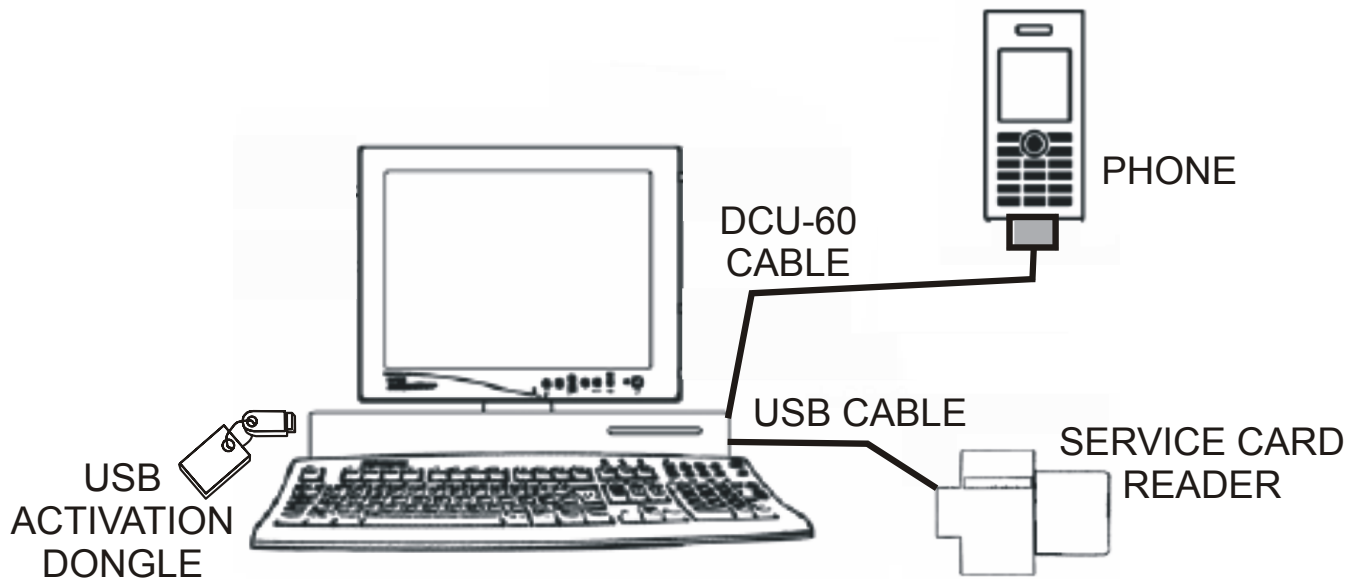
The A-B Plug-Plug cable is the interface between the computer and the USB programming interface (SEPI). Connect the cable between the USB programming interface and the computer.



## 4 Software Loading

### 4.1 Set up

General Test set up to perform SW loading. All necessary hardware for this test set up is documented in the Mechanical or Electrical Equipment list.



### 4.2 Computer

IBM compatible computer is required. The computer should include at least three USB-ports, if the computer has a Card Reader built in only two USB-ports are required. Refer to Equipment List for minimum requirements.

### 4.3 USB Activation Dongle

A USB Activation Dongle is required for activation in EMMA III. The USB Activation Dongle should be connected to an USB-port on the computer. Refer to the EMMA III Homepage available from CSPN, for installation instructions.

### 4.4 Service Card Reader and Service Card

**NOTE!** The Service Card is only needed for Activation and Flashing offline

The Service Card Reader is delivered with the necessary software and instructions for installation. The Service Card Reader should be connected to an USB-port on the computer. The Service Card should be inserted in the Service Card Reader.



## 4.5 Sony Ericsson programming interface – DCU-60

The cable is the interface between the computer and the phone. The DCU-60 cable should be connected to an USB-port on the computer.

# 5 Software

## 5.1 EMMA III

EMMA III contains all software required to service the product. Installation and user manuals are available in the EMMA III start page.

<http://ma3.extranet.sonyericsson.com/ma3/>

## 5.2 Labelmake II software

Label Make II is an application installed through Java Web Start.

Access the Labelmake software from [CSPN](#) Web page.

You will find Label Make II in the dropdown menu on the CSPN web page.

<http://cspn.extranet.sonyericsson.com>

Press "START Label Make II" button and you will be directed to the LABELMAKE II client page.

Product labels are downloaded on-line from a remote server database.

## 5.3 SERP Go/No Go Test Script

SERP stands for "**S**ony **E**ricsson **R**epair **P**latform". It is an application used for testing, calibrating and repairing Sony Ericsson mobile phones.

1. Download the latest revision of the SERP application from CSPN (**Repair Instructions/Standard/SERP Install Package**).
2. Unzip the file and open the file "Release Notes and Installation Guide" for installation instructions.
3. After SERP is installed a file titled "SERPINFO.htm" will be placed on the Windows Desktop. This file contains numerous documents including:
  - SERP Users Manual – This document contains detailed operating and fault reporting instructions.
  - R&S Grid plate for SERP – This document contains an overview and ordering information for the Rhode & Schwarz Grid Plate used with the Rhode & Schwarz coupler. Also there is a list of supported SEMC handsets and mounting positions.

- SERP Release Notes and Installation Guide – This document contains system requirements, release notes and an Installation Guide

## 5.4 SERP Calibration (only authorized centers)

Download the latest revision of SERP application from [CSPN](#). This application is located under [Repair Instructions/Standard/SERP Install package](#)

<http://cspn.extranet.sonyericsson.com>

1. Unzip the file and open the file “Release Notes and Installation Guide” for installation instructions.

## 5.5 Willtek 420x Go/No-Go Test Script

An approved Sony Ericsson Test Script must be installed in the Test Instrument. The Willtek 420x script can be downloaded from CSPN. The Test Script is located on CSPN under **Repair Instructions / Standard**.

The FEA number for the 420x test script is 11/03162-FEA 209 544/701 x when using the R&S Coupler or the RF Fixture.

**NOTE!** The “x” in the FEA number refers to the revision of the Test Script. Ensure the latest revision script posted to CSPN is installed.

# 6 Lead-Free Electrical Repair

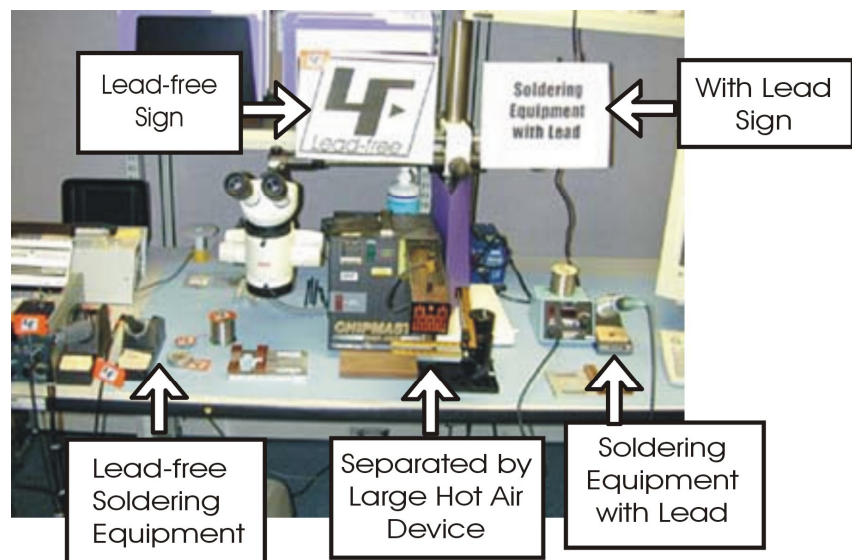
This product is manufactured with lead-free solder and lead-free components. During electrical repair, it is critical to make sure that no lead is introduced into the product. For this reason, certain repair materials and equipment must be designated as lead-free and labelled accordingly. A lead-free work area must be setup that is completely separated from work areas that are used to make leaded repairs. The lead-free work area must also be clearly labelled as shown in the figure below. Certain items must be designated for lead-free work only. Some of the items that need to be clearly labelled in this way are listed in the table below. Note that any item that contacts the solder must be labelled and used for lead-free work only.

Soldering Tips	Wicking Tape	Tip Cleaner (steel wool)
Solder	Tip Tinner	Soldering Iron





Because of cost and space limitations, some repair centers may not be able to assign a full bench to lead-free repairs. In this case, both lead-free and leaded repair setups can share the same bench, but they must be clearly marked with signs and separated by a physical divider. In the figure below, the large hot air device functions as the divider.



## 7 Revision History



Rev.	Date	Changes / Comments
A	2007-07-03	Initial release