

# Spb Clone User Manual

## Table of Contents

Table of Contents .....	2
Overview.....	3
Software Features .....	3
About Clone Image.....	3
Clone Image Destination .....	3
Password Protection .....	3
Compression.....	4
Unique Names and IP Settings for Clone Devices.....	4
Installing Spb Clone.....	4
Creating a Clone Image .....	4
Creating a Clone Image Card .....	4
Creating a Clone Image File.....	6
Restoring .....	6
Resolving the Database Update Problem .....	7
Database Update File Format:.....	7
Providing the Unique Names and Network Settings for Clone Devices .....	9
Templates for Pocket PC Names .....	9
Templates for IP Addresses .....	9
Registry Update Initiation File Format .....	10
Support.....	10

## Overview

It often happens that a certain enterprise has in service a lot of identical Pocket PC devices. These devices have common interface (for example, used in kiosk mode only), are equipped with the same set of programs, store the same files and have the same registry settings and are used by personnel in the same way. However, it takes a lot of time to deploy the same applications and the same files and configure registry for every single device that must be configured from zero. When one needs to configure a new device, reconfigure an old one, or reconfigure the whole pack of devices he must perform all the same operations, like uninstalling and reinstalling programs, changing registry, adding or rewriting files, and providing kiosk mode, if necessary, etc. This often requires attention to details, good memory and, last but not least, some skills and knowledge.

Instead you can use Spb Clone to quickly solve the problem of Pocket PC identity. This program is easy-to-use and does not require any particular skills. With this program you will quickly clone a Pocket PC onto another one, keeping all its functionality.

The cloning is performed by means of an SD card. All the database, files and registry information from a Pocket PC can be transferred to an image on an SD card for further reproduction on another Pocket PC. The card can be kept as a prototype for further usage.

In this manual and in every other Spb Clone regarding text:

- **A cloned device** – a parent device, the content of which is cloned
- **A clone device (or just a clone)** – a device, where the cloned device content is restored

## Software Features

### About Clone Image

The cloning is performed by means of a clone image. The whole Pocket PC content is packed into such an image. You have an option to create this image in two different ways. First, this can be a file on your Pocket PC device. You can provide a custom location for it and use it later when necessary. Second, you can create the image on a storage card in a special manner so that when you insert this card into another Pocket PC device, it will be run automatically prompting you to start the restoration process. The clone image is self-contained and doesn't require any other application (including Spb Clone) on the target device.

### Clone Image Destination

When you run Spb Clone on your Pocket PC it will ask you where you want to create an image. You can choose to create an image on an SD card that you provide. After that you will need nothing but this card. You can keep this card and when necessary insert it into any other Pocket PC device and the self-executing image stored on the card will turn the device into the clone copy. Otherwise you can choose to create the image file on the cloned device. This will be an executable, which can be later copied to other Pocket PC devices.

### Password Protection

Spb Clone protects your data with encryption based on the AES algorithm (Rijndael). When a password is set, the clone image is encrypted and for restoration one should provide the correct password.

## Spb Clone User Manual

### Compression

A clone image can be compressed to reduce its size. The ZIP compression algorithm used in Spb Clone makes the image size twice as small compared to an uncompressed one.

### Unique Names and IP Settings for Clone Devices

After restoration clone devices become really the same. However, this sameness is not always welcome. Different Pocket PC devices should have different names and IP settings. Spb Clone supports configuring to provide different names and IP addresses. Please, read the corresponding section of this manual.

## Installing Spb Clone

Important: Spb Clone is installed and executed on the cloned device only. You do not need to install this application on devices supposed to be the clone copies.

After you download the Spb Clone product distribution file you should install it to your PC. For successful installation you will need Windows NT/2000/XP. You will also need Microsoft® ActiveSync™ software in order to install the built Spb Clone runtime to your mobile device.

## Creating a Clone Image

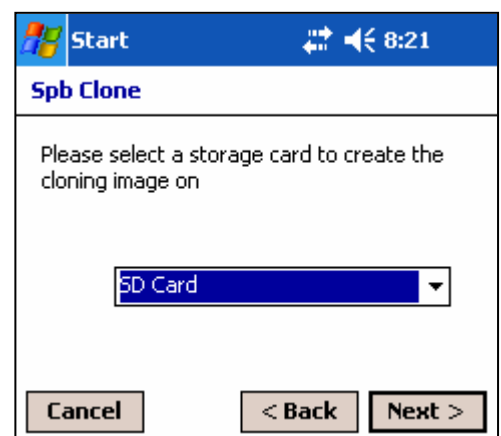
Now, you have a Pocket PC device, prepared for cloning. Quit all programs to save all your data. Run the Spb Clone application. Now you are prompted to select the image destination.

### Creating a Clone Image Card

You should choose the first variant if you want to create a clone image card. This card with the clone image on it will be used for further Pocket PC restoration. Tap Next.



At the next step you will be proposed to select a card. Choose an existing card plugged into your device. Tap Next.



## Spb Clone User Manual

At the next step you will be asked if you want to include the internal storage data into the clone image. You should also mention if the user of the target device should confirm this data restoration.

Start 10:01

**Spb Clone**

Save internal storage

iPAQ File Store

Ask user for restore confirmation

Cancel < Back Next >

Then you will be able to choose if the clone image should be compressed and/or encrypted. Provide the password and confirm it.

Start 8:32

**Spb Clone**

Compress

Encrypted

Password: \*\*\*\*\*

Confirm: \*\*\*\*\*

Cancel < Back Next >

If you want to provide unique device names at the cloning stage, you should go to **Tools**, and select **Advanced Options**. You will be prompted to enable assigning individual names for the clone devices. Names assigned by this method are created by a template: Pocket\_PC\_ + a random 4-character (letters and digits) postfix. In that very dialog you will also be proposed to skip the screen calibration data. If you select that check box, every clone device will have its original screen calibration (this calibration is set on every hard-reset). Otherwise these settings will be taken from a cloned device.

Start 9:44 ok

**Spb Clone**

Change device name

Ask for user confirmation

Do not clone screen calibration settings

Cancel < Back Next >

Finally right before launching the process you can see the summary of the clone settings. Now you can start cloning.

Start 8:33

**Spb Clone**

You have selected to create a cloning image storage card on "SD Card" storage

Cloning image options:  
Compression  
Encryption

WARNING! Spb Clone will do a soft reset when you tap "Finish" button. If you have applications with unsaved data please quit them first.

Cancel < Back Finish

## Spb Clone User Manual

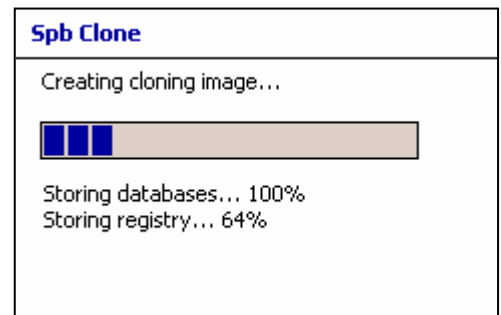
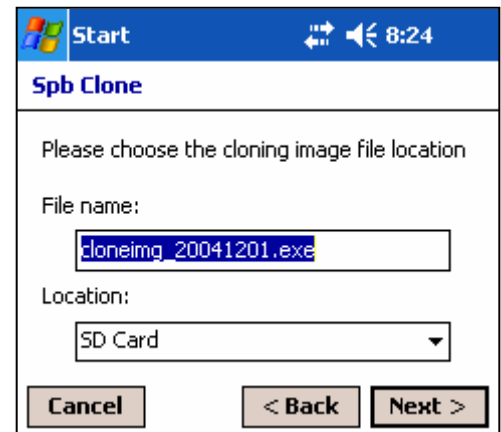
### Creating a Clone Image File

If you select the second variant, then you should provide the clone image file name and destination (which can also be on a storage card, by the way). By default the file name has the following format: *cloneimg\_YYMMDD.exe*, where YYMMDD is the current date. After that, similarly to the first variant you should switch the encryption and compression on or off, include or exclude the Internal storage data and launch the process.

The only difference between these two clone image destinations is that an image created with the first method will be a self-starting one (it will always start automatically when you insert the clone image storage card into a Pocket PC device). An image created with the second method will be an executable file. When this file is run (manually) the restoration process will start on the device it is stored on.

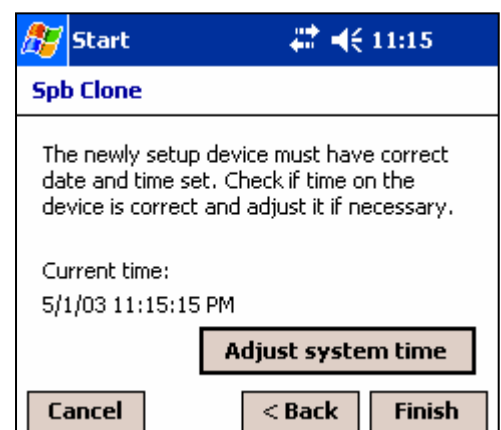
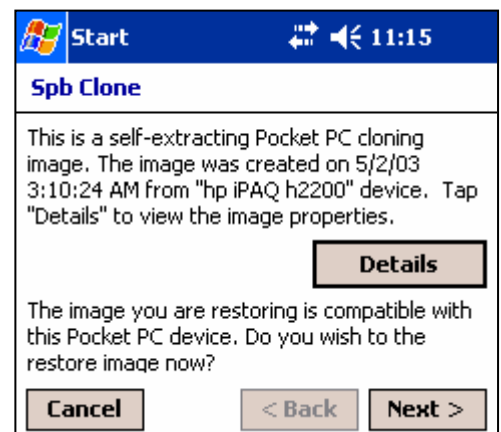
When you launch the cloning process:

1. You device will be soft-reset
2. Then it will be turned on in a special mode with the only one running application – Spb Clone. This process for an average device will take about 3 minutes. The real time depends on the occupied storage size and compression.
3. When finished, your device will be soft-reset again and return to normal mode.



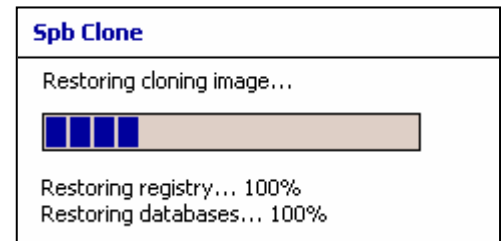
### Restoring

1. Take a device you want to turn into the clone copy. It is recommended to hard-reset it.
2. If you have a clone image card, just insert it into your device. The self-extracting and self-executing clone image will automatically start. If you have a clone image file, just run it with the same effect.
3. When the process starts you are first shown a screen with the information about the clone image and the cloned device. You can tap on Details to view more clone details. You may be asked if you want to restore the internal storage and/or change the device name (if the corresponding options were customized when creating a clone image). Confirm or decline and proceed with the restoration.
4. You will be also prompted to adjust the system time, which cannot be restored from the cloned image. Setting the correct time is especially important **before** the restoring process begins



## Spb Clone User Manual

- because some applications may behave incorrectly if the system time is shifted backwards.
5. Your device will be soft-reset.
  6. Then it will be turned into the special mode when the only process is running – the restoration mode.
  7. When finished, your device will be soft-reset again and return to normal mode.
  8. Unplug the card (if you used it). Now you have a device configured the same way as the original one.



## Resolving the Database Update Problem

Spb Clone makes its best in setting a clone device to the same state as the original one. But there is one problem which Spb Clone sometimes cannot resolve without administrator help - it's proper internal database restoring. Windows CE has internal storage feature called CE databases. CE databases are used for storing internal application data. For example the entire built-in PIM application (Inbox, Tasks, and Calendar) store email messages, appointments and tasks in such internal CE databases.

Each CE database consists of records. Each record has a unique ID (object ID). This ID is created by Windows CE storage manager and cannot be changed by any other application (which is Spb Clone in this case). However, if we cannot change these IDs, at least we can update the fields referring to these new IDs to keep relationships between database records.

Spb successfully resolved the problem of restoring PIM applications by means of a special file **dbupdate.txt** which can be found in Spb Clone installation folder (\Program Files\SpbClone). Spb Clone puts the content of this file into the resulting image and, when restoring, the referring database fields are updated in accordance with this file information.

### Database Update File Format:

When Spb Clone Wizard starts it searches for an ASCII text file called dbupdate.txt stored in the application installation folder (for English devices it is "\\Program Files\SpbClone").

- a. Lines beginning with a semicolon are comments;
- b. Lines beginning with **db** are referring to database update and have the following format:

```
db <database name> <Property ID> <Property ID> ... <Property ID>
```

For example if the database pmailMsgs has five fields containing referring record IDs which have identities 0x8001, 0xE09, 0x8006, 0x8011 and 0x8320, the file should contain the line

```
db "pmailMsgs" 0x8001 0xE09 0x8006 0x8011 0x8320
```

- c. Lines beginning with **reg** are registry update lines and have the following format:

```
reg <Registry Key> <Registry Value Name>
```

For example this line updates city code referring key for WorldMate Pro application:

```
reg HKEY_LOCAL_MACHINE\SOFTWARE\MobiMate\WorldMatePro\Clocks\City City1
```

Here is the sample file content:

```
; strings started with db will update the database properties
; format :
; db <database name> <Property ID> <Property ID> ... <Property ID>
db "pmailMsgs" 0x8001 0xE09 0x8006 0x8011 0x8320
db "pmailFolders" 0x8001 0x8005 0xE09 0xFFB 0x8006 0x8122
db "fldr%x" 0x8001 0x1A 0x8005 0x3D09
db "pmailMsgClasses" 0x8001
db "pmailServices" 0x8001
db "pmailNamedProps" 0x8001
db "MailActiveSync" 0x1 0x3

; strings started with reg update of the OIDs stored in registry

; World made pro settings
reg HKEY_LOCAL_MACHINE\SOFTWARE\MobiMate\WorldMatePro\Clocks\City
City1
reg HKEY_LOCAL_MACHINE\SOFTWARE\MobiMate\WorldMatePro\Clocks\City
City2
reg HKEY_LOCAL_MACHINE\SOFTWARE\MobiMate\WorldMatePro\Clocks\City
City3
reg HKEY_LOCAL_MACHINE\SOFTWARE\MobiMate\WorldMatePro\Clocks\City
City4
reg HKEY_LOCAL_MACHINE\SOFTWARE\MobiMate\WorldMatePro\Clocks\City
City5
reg HKEY_LOCAL_MACHINE\SOFTWARE\MobiMate\WorldMatePro\Currency
Base_Curr
reg HKEY_LOCAL_MACHINE\SOFTWARE\MobiMate\WorldMatePro\Currency Curr_3
reg HKEY_LOCAL_MACHINE\SOFTWARE\MobiMate\WorldMatePro\Currency Curr_2
reg HKEY_LOCAL_MACHINE\SOFTWARE\MobiMate\WorldMatePro\Currency Curr_1

; ADO databases
db "MSysFields" 0x0
db "MSysTables" 0x1
db "MSysIndexes" 0x0
```

After restoring the cloning image you can come into the following situations:

1. The clone device behaves correctly. All the programs work correctly and contain the correct data. In this case you can skip the chapter about database update – no changes should be made.
2. One or more applications are not working or contain corrupted data and these are publicly available application, for example shareware application downloaded from Handango.com. In this case please contact our support team [support@softspb.com](mailto:support@softspb.com) and we will provide an update for Spb Clone application that fixes that particular problem.
3. The application you are working with was not cloned correctly and this is a custom application used in your business environment. In this case you can either contact our support team to research this situation or contact the application development team with a request to provide database names they are using and the property IDs that contain links to other records. Then update the dbupdate.txt file with information you get. Here's a sample request letter to the developers' support team.

*Dear support,*

*We are a user of your application <name>. We use Spb Clone application to deploy your application <name> for multiple devices in business environment. While cloning a Pocket PC we met some problems referring improper database restoring. The OIDs*



## Spb Clone User Manual

*of the data base records are restored incorrectly. This problem could be easily resolved if we knew the database structure your application is using.*

*I would like to find out what databases are used by your application installed on my Pocket PC device. I am especially interested in such details as the database name and property IDs of this database that contain links to other records.*

When you get the response please use the obtained information for updating dbupdate.txt file in the form described above. If you encounter some problems at this step please forward this message to our support team [support@softspb.com](mailto:support@softspb.com).

## Providing the Unique Names and Network Settings for Clone Devices

The clone devices become identical to the parent one in all aspects including the device names and the network settings. Identical device names are not welcome because neither you nor the desktop PC could distinguish between them. Identical network settings are not welcome either because they will cause a network conflict. Each device should have a unique IP address and a host name. This would not be a hard problem to resolve if devices from different manufacturers had their network setting stored in the same place (but they don't). Moreover, your device may contain several network interface cards (NIC) from different manufacturers. For example you may have WiFi and Bluetooth cards on one device and each card should have its own unique IP address. Therefore you should configure network settings update for each and every card you have installed.

Most manufacturers store their network settings in registry. This makes possible to resolve the network settings update problem by means of a registry update initialization file.

The registry update file must be in Unicode format. It must be located in the same place with the image file and must have the same name with the .ini extension. After every image restoration the content of this file is changed. What changes in this file? The answer is: Pocket PC names and IP addresses.

### Templates for Pocket PC Names

For example the Pocket PC name is stored in registry under the key

```
[HKEY_LOCAL_MACHINE\Ident]
"Name"="Pocket_PC"
```

and we want the clone devices to have names Pocket\_PC\_1, Pocket\_PC\_2 and so on sequentially. To do so, in the .ini file we should prepare a template. We should mention, which key we want to update and how:

```
[HKEY_LOCAL_MACHINE\Ident]
"Name"="Pocket_PC_%d";1
```

Here "[HKEY\_LOCAL\_MACHINE\Ident]" is a key in question, "Pocket\_PC\_" is the common part of the future Pocket PC names, and "%d" is a changeable parameter, which is a placeholder for a number. After a semicolon there goes "1", as the first postfix to the common name. After the first restore, this number is changed to "2", then "3" and so on.

### Templates for IP Addresses

IP addresses also need to be changed for every new copy. The registry update initialization file can handle templates for IP addresses the same way. First of all you should find out in registry, in which key the network driver stores its settings. You

## Spb Clone User Manual

should install and use a registry editor to do it. In case of Dell Axim X50, the registry key is:

```
[HKEY_LOCAL_MACHINE\Comm\ODIM\TIACXWLN1\Parms\TCPIP]
```

Under this key we find a value containing the IP name:

```
"IpAddress"=multi_sz:"192.168.0.215"
```

If you want the clones to have IP's in range from 192.168.0.200 to 192.168.0.255, you should add the following lines to our initiation file:

```
[HKEY_LOCAL_MACHINE\Comm\ODIM\TIACXWLN1\Parms\TCPIP]  
"IpAddress"=multi_sz:"192.168.0.%d",200
```

As you may notice "%d" is a changeable parameter, which initially is equal to 200. After the first restoration 200 will be substituted with 201, then with 202, and so on. Important: Spb Clone will not warn you when you exceed the upper bound of the valid IP address, and when you get 254 in this key, Spb Clone will keep on generating IP's like 192.168.0.255(questionably valid), 192.168.0.256(not valid), 192.168.0.257(not valid) and so on.

### Registry Update Initiation File Format

1. It must be a UNICODE file. Open this file in Notepad and save it as a Unicode file.
2. It must have the same name as the image file, but with an *.ini* extension. E.g. if the image file has name *image.exe* (here we regard the Cloning image flash card case) then you should call it *image.ini*. If the name of the image is something like *cloneimg\_20041212.exe* then the name must be *cloneimg\_2004\_1212.ini*.
3. It must be placed in the same location with the image file.
4. The content of the file is the following:

[Registry Key]

"Value name"=template with %d parameter(s); initial number(s)

To make it short, this initiation file is very close to the registry format, with an exception that instead of an exact value it has a template and, after a semicolon, one or more values. Here are examples of the registry update initiation file lines (preceded with the Registry keys):

```
"IpAddress"=multi_sz:"192.168.0.%d",200  
"Name"="Pocket_PC_%d";1  
"ID"=dword:%d;1  
"StringValue"=sz:"%d:%d:%d";2004,12,2
```

## Support

If you have any questions regarding Spb Clone, please contact our support team [support@softspb.com](mailto:support@softspb.com).