

# CCpilot XM

## Performing Operating System Recovery



## Contents

<b>Revision history .....</b>	<b>2</b>
<b>1. Introduction .....</b>	<b>3</b>
1.1. Conventions and defines.....	3
1.2. References.....	3
<b>2. Why do a recovery .....</b>	<b>4</b>
2.1. Recovery basics.....	4
2.2. Secondary boot media.....	4
2.3. Recovery pre-requisites.....	4
<b>3. ImageToDisk program .....</b>	<b>5</b>
3.1. Installation .....	5
3.2. Running ImageToDisk .....	8
<b>4. Performing the recovery .....</b>	<b>11</b>
4.1. BIOS boot menu.....	11
4.2. Booting recovery system.....	11
4.3. Trigger recovery .....	12
<b>Technical support.....</b>	<b>13</b>
<b>Trade Mark, etc. ....</b>	<b>13</b>

## Revision history

Rev	Date	Comments
1.0	2012-05-24	-

# 1. Introduction

This guide shows you how to create a recovery USB memory that can be used for operating system recovery on the CCpilot XM devices. It also covers the instructions for the recovery process.

## 1.1. Conventions and defines

Text formats used in this document.

Format	Use
<i>Italics</i>	Paths, filenames, definitions.
<b>Bolded</b>	Command names and important information



is used for highlighting important information.

The term CCpilot XM is used when the functionality applies for all product models

## 1.2. References

For further information on the CCpilot XM see the following references.

- [1] CCpilot XM – Software Guide
- [2] CCpilot XM – Technical Manual

## 2. Why do a recovery

### 2.1. Recovery basics

The operating system is installed on the removable Compact Flash disk inside the device. It acts as a typical computer hard drive, storing the operating system files in a file system architecture. In some rare cases, such as when an operating system update was unintentionally interrupted by a sudden power loss, or if specific changes were done to the operating system that cannot be undone, a full operating system recovery may need to be done.

It is also possible to perform the recovery steps to be able to install a newer operating system from scratch, if so chosen.



A recovery operation will erase all contents on the Compact Flash hard drive. If there is a need to save any data from the device, make sure it's done prior to the recovery operation begins.

### 2.2. Secondary boot media

A recovery cannot be done from within a running system, since it cannot overwrite itself while it's running. So there will be a need for a secondary bootable system and the CCpilot XM supports booting from USB memory. The following section will explain how to create such a memory that contains the recovery binaries.

### 2.3. Recovery pre-requisites

A recovery operation needs a couple of items available before the actual work can begin. First, make sure that you have:

- Host PC computer running Windows XP and higher
- USB memory, at least 4 GB in size. It must support booting from it. USB memory quality also tends to differ a lot between different manufacturers, so if one USB memory doesn't work properly, try a different brand first hand.
- Downloaded the correct recovery image from CrossControl customer site (FTP), there are different ones for each operating system. Choose one of the following:
  - *RecoveryUSB\_XM\_Linux\_x.x.x.x.img.zip*
  - *RecoveryUSB\_XM\_WES7\_x.x.x.x.img.zip*
  - *RecoveryUSB\_XM\_WinXP\_x.x.x.x.img.zip*

The operating system image version effects the Recovery USB image versions, and hence only the latest versions will be available as above. Note that these are not CCpilot XM Compact Flash images, these are USB memory images.

- Download the Windows based helper tool called ImageToDisk, located on FTP site in parallel with the recovery images.
- A recovery object, CCpilot XM with:
  - USB keyboard attached
  - Free USB connection for the USB memory mentioned above.

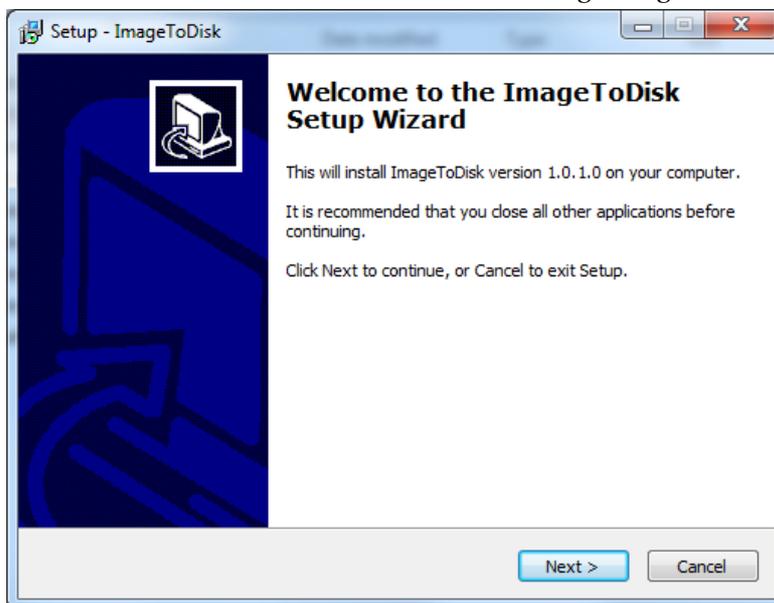
It is possible to use a USB hub to connect these to the CCpilot XM.

### 3. ImageToDisk program

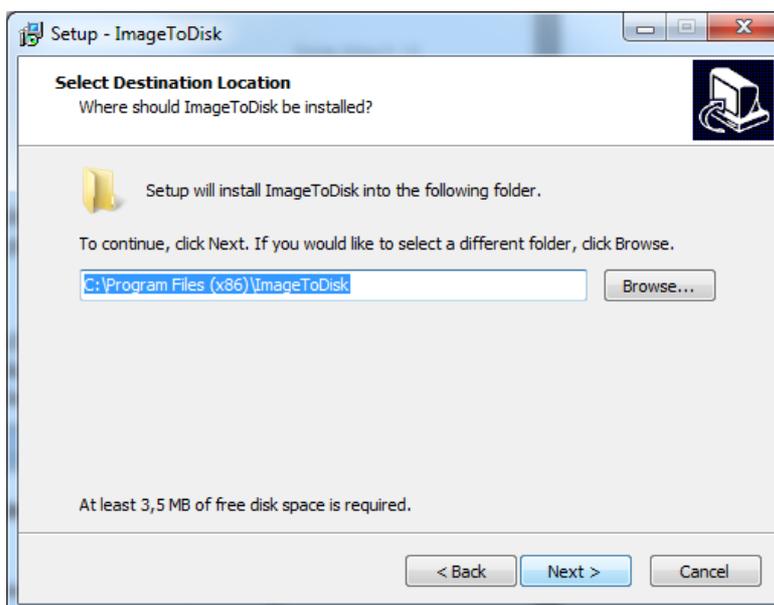
CrossControl has developed a simple tool that enables reading and writing image files from and to different removable storage media. This is a short guide to that program, which is called ImageToDisk.

#### 3.1. Installation

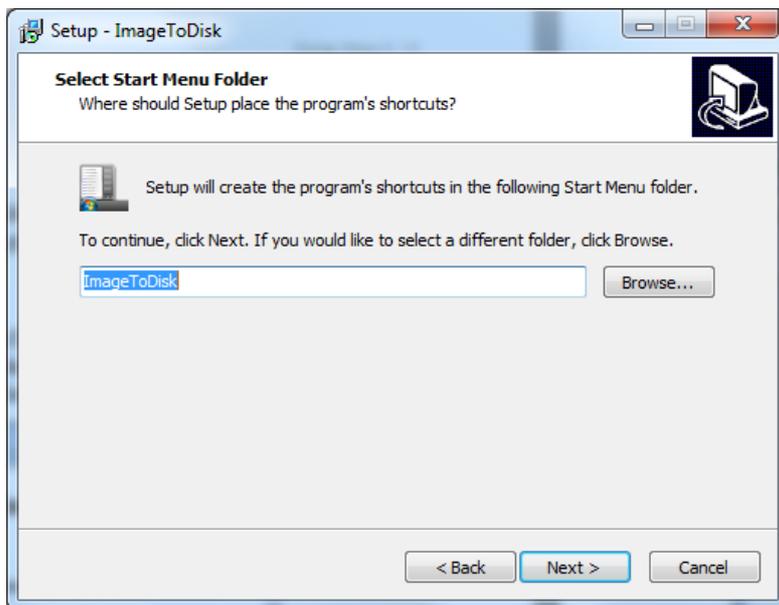
The installation package is an executable installer, *ImageToDisk.exe*, which is aimed for installation in a host PC computer running Windows XP or later, not the target CCpilot XM. Double click that executable to start the installation process. If User Access Control asks, please allow the installer to run. You should now see the following dialog:



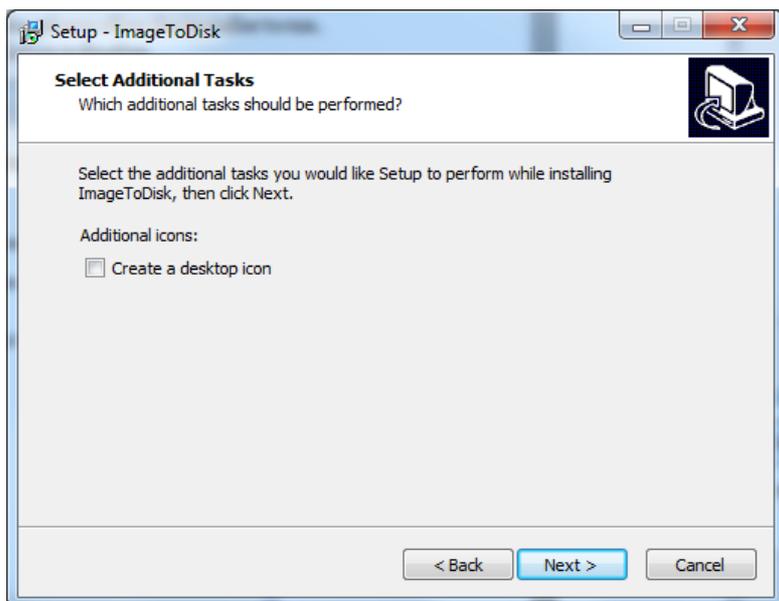
Press the next button.



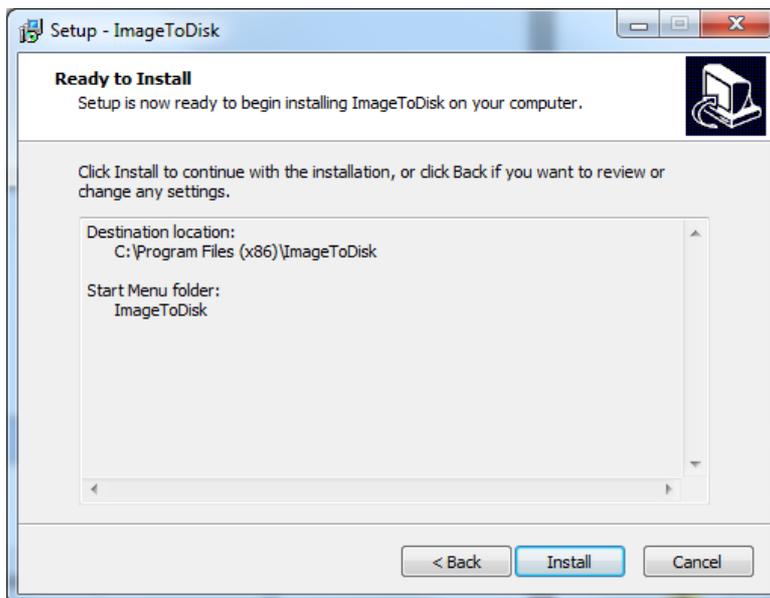
Choose your preferred installation directory and press next.



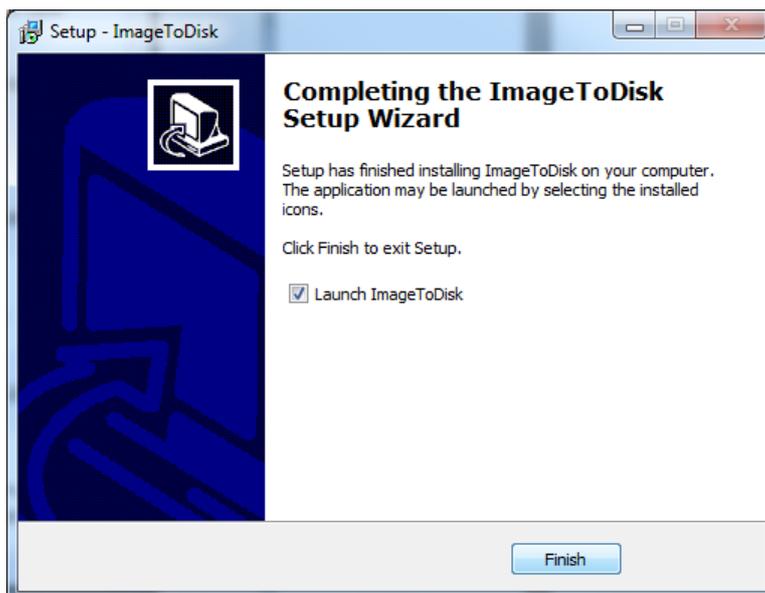
Choose the shortcut name and press next.



Determine if you want a desktop icon or not, and press next.



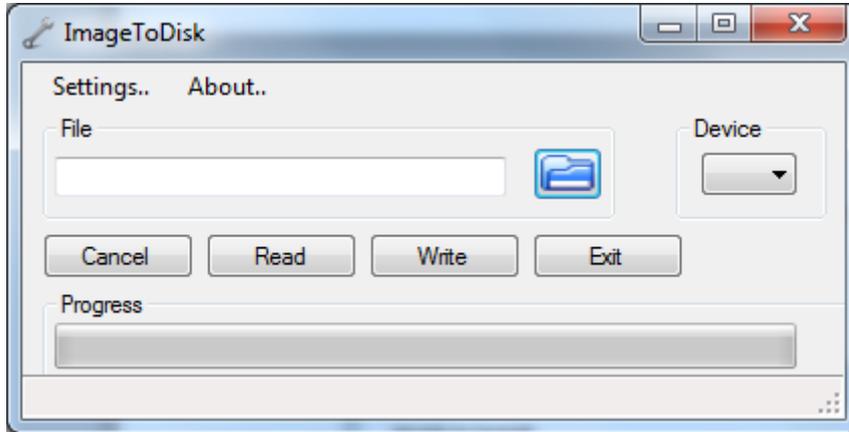
It's now ready to install, press Install.



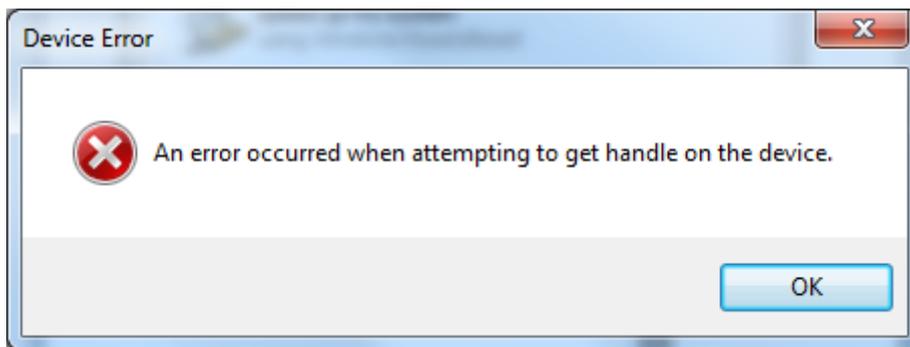
Installation is finished, now ImageToDisk can be run.

### 3.2. Running ImageToDisk

Once the ImageToDisk program is running, you should be able to see the following dialog box:

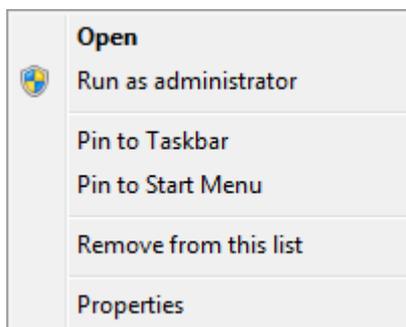


If you get an error when starting ImageToDisk, similar to this one:



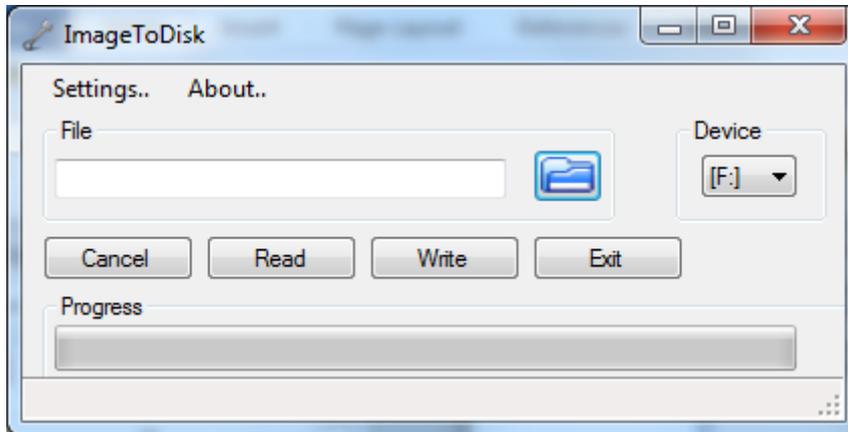
This means you need to start ImageToDisk in administrator mode. The above error means it cannot access the USB device properly unless run as an administrator.

Exit ImageToDisk if it is running and right-click on its installed executable, and choose Run as administrator, as seen below:



Now, ImageToDisk should be running properly. If the USB memory hasn't been inserted to host computer yet, now is the time to do that.

If the USB memory is inserted, you will see the device name in the device field of ImageToDisk. In the example below, the USB memory is identified as F:.

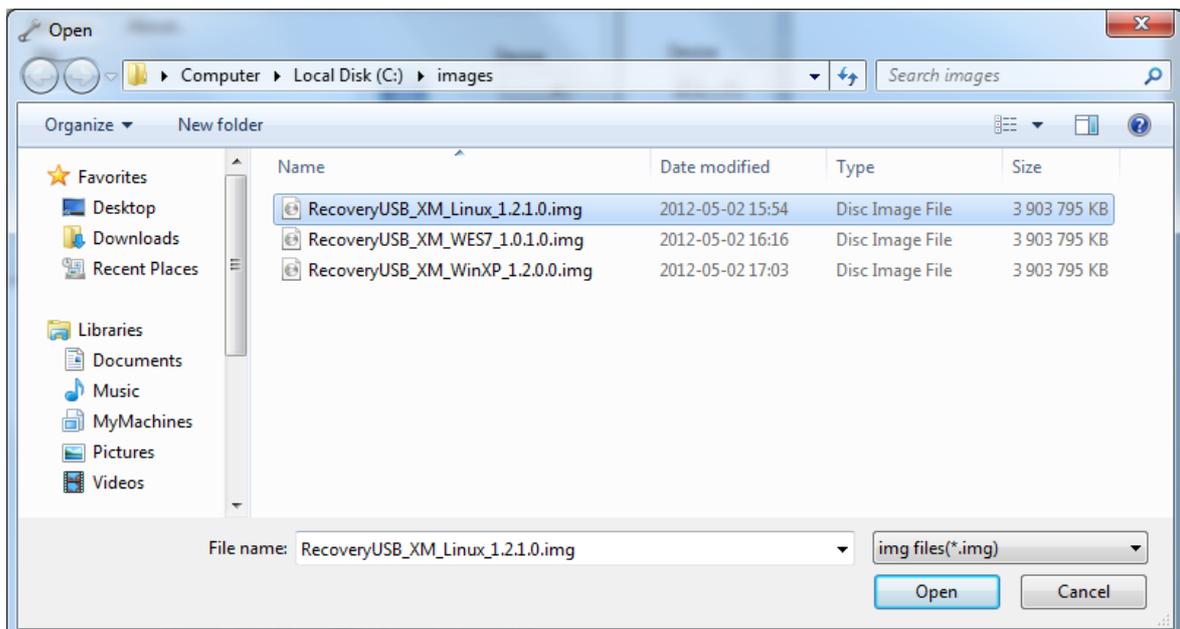


Please note that you must carefully choose the correct device (USB memory), and you must also be aware that the ImageToDisk program will erase the entire USB memory. It is also required with a USB memory that is at least 4 GB in size.

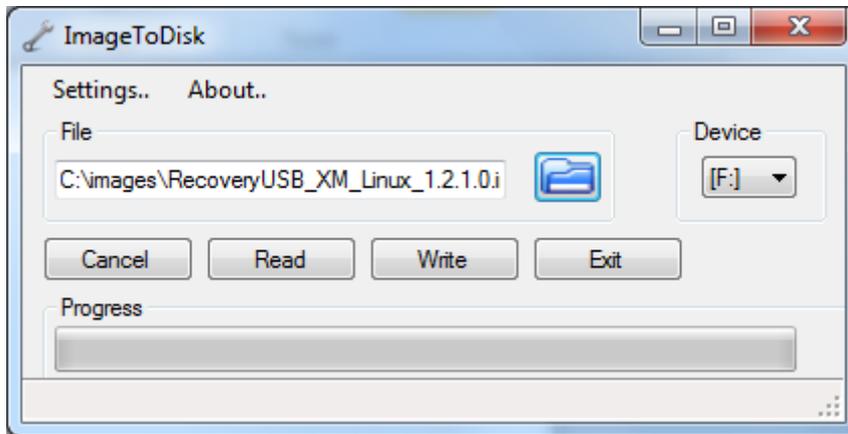
### 3.2.1. Finding image file

ImageToDisk needs to find the image file to write to the USB memory. You should choose the corresponding one from section 2.3, and additionally make sure that the image file is decompressed to a proper \*.img file.

Then, press the Open folder icon in the ImageToDisk program, browse for the image file you will use, choose it and press Open.



You should now have a ImageToDisk program that looks like:



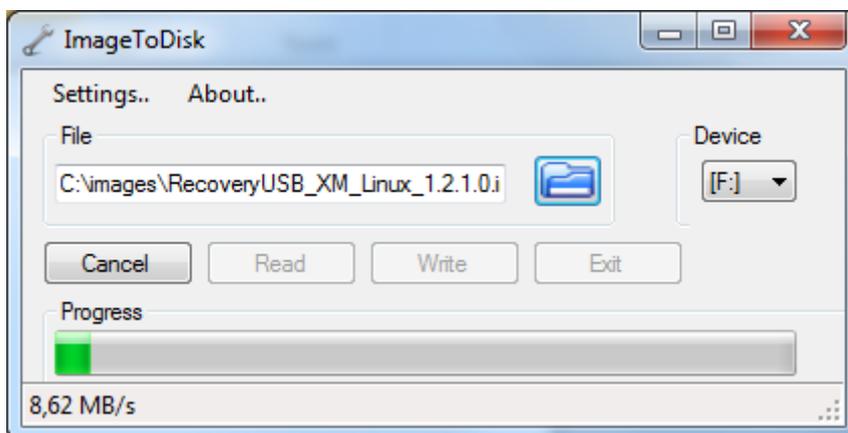
### 3.2.2. Write image to USB memory

To write the image to the USB memory, you now just need to press the Write button. The write process begins, and takes a couple of minutes, depending on the speed of the actual USB memory.

You will need to confirm the write operation with:



When allowing the write operation you should see the program as this, with a progress indicator increasing:



Once the write operation finished, remove the USB memory from the host computer in ordinary manner, and insert it to the CCpilot XM setup. The ImageToDisk program will simply return to its standard interface when finished.

## 4. Performing the recovery

Let's now shift focus to the CCpilot XM. Insert the USB memory we've just written to the available USB port of the CCpilot XM. It is possible to use a USB hub.

### 4.1. BIOS boot menu

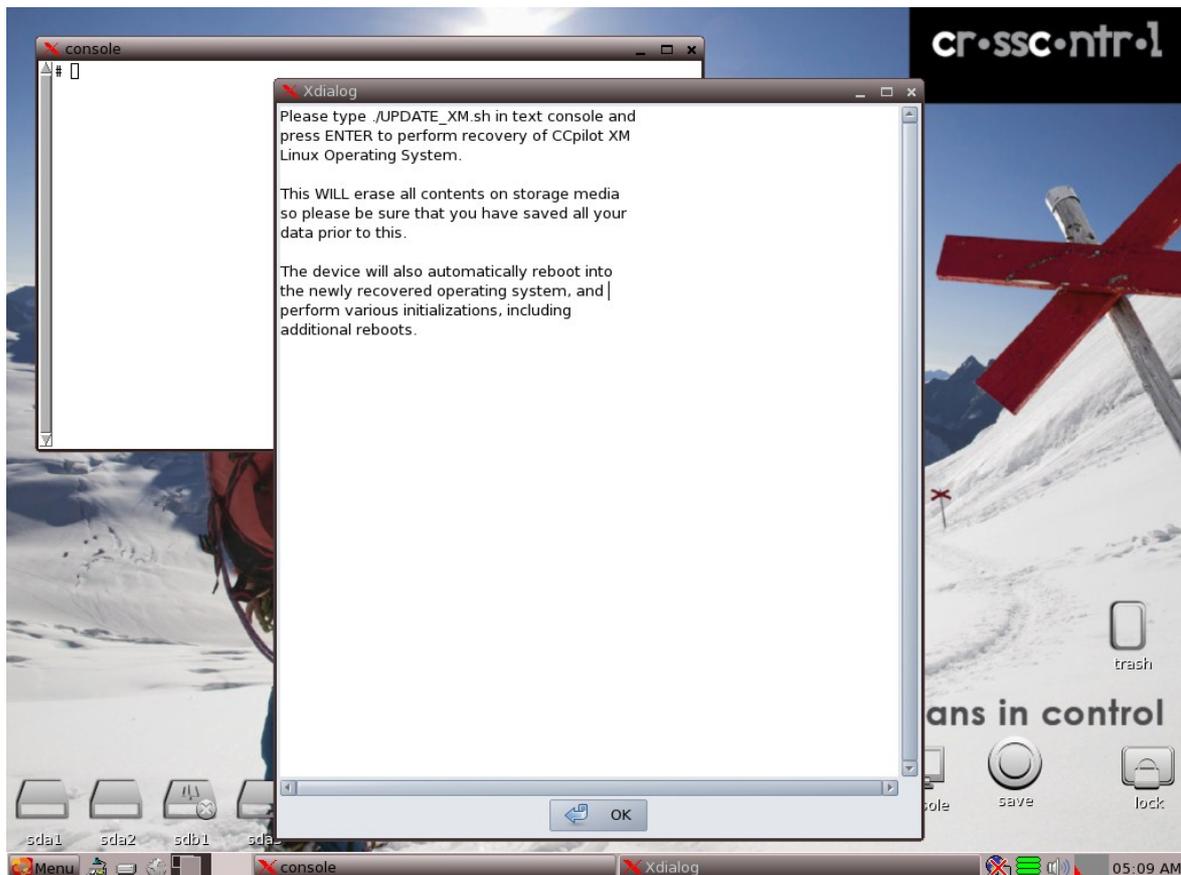
Power up the CCpilot XM and press the **F11** key at a certain point in the initial execution, to trigger the BIOS boot menu to appear. This key should be pressed as soon as the BIOS show its initial text about initializing USB controllers. It can be so that a couple of presses on the **F11** key are needed.

Once the BIOS boot menu appears, there should be a list of bootable devices to choose from. If only one USB memory is attached, the only two choices should be the internal hard drive (HDD) and the USB memory. Browse with arrow keys and choose the USB memory with Enter/Return key, and let the system startup.

### 4.2. Booting recovery system

The recovery system is a small Linux system that runs from the USB memory. It will start a graphical system by default, and it will also display some boot progress indicators while starting.

Once started, a small instruction dialog appears, as well as a command window, as seen below:

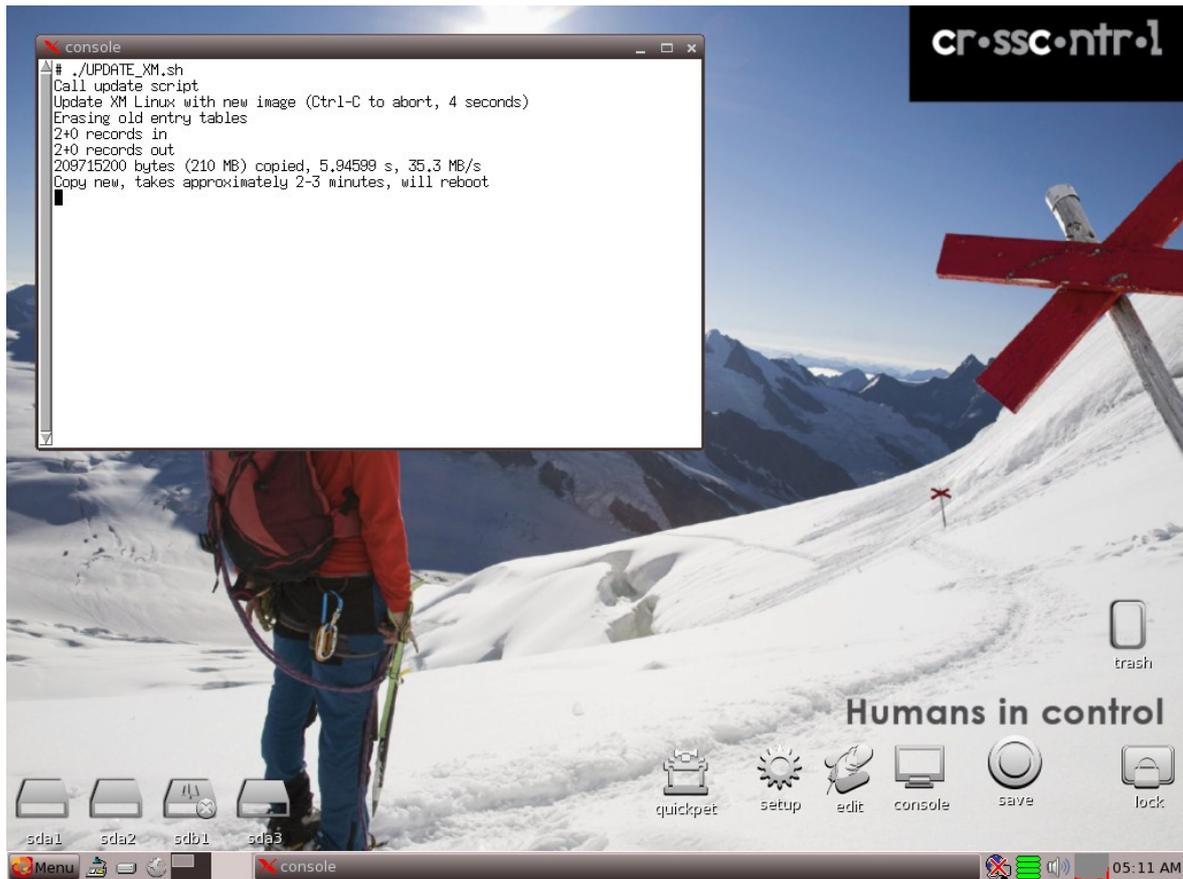


### 4.3. Trigger recovery

Read the instructions in the dialog and press the OK button when finished. Then write the command (as in the instructions)

**# ./UPDATE\_XM.sh**

Press Enter/Return key, and the recovery process begins. You should see a screen that looks something like:



After the recovery completes, the CCpilot XM device will reboot itself and begin operating system initialization processes. The actual initialization process can take several minutes and involves automatic reboots, so please keep the device powered until the initialization process is finalized.

Now, the CCpilot XM operating system should be fully recovered and you can start deploying your software!

## Technical support

Contact your reseller or supplier for help with possible problems with your CCpilot XM device. In order to get the best help, you should have access to your CCpilot XM device and be prepared with the following information before you contact support.

- The part number and serial number of the device, which you find on the brand label.
- Date of purchase, which is found on the invoice.
- The conditions and circumstances under which the problem arises.
- LED indicator flash patterns.
- Prepare a system report on the device, from within *CCsettings* (if possible).
- Detailed description of all external equipment connected to the unit (when relevant to the problem).

## Trade Mark, etc.

© 2012 CrossControl AB

All trademarks sighted in this document are the property of their respective owners.

CCpilot is a trademark which is the property of CrossControl AB.

Linux is a registered trademark of Linus Torvalds. Microsoft and Windows are registered trademarks which belong to Microsoft Corporation in the USA and/or other countries.

CrossControl AB is not responsible for editing errors, technical errors or for material which has been omitted in this document. CrossControl is not responsible for unintentional damage or for damage which occurs as a result of supplying, handling or using of this material. The information herein is supplied without any guarantees and can change without prior notification.