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## Revision History

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<td>1.0</td>
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Table 1- Provides a revision history for this user guide.
1 Updating source and images

Updates to the Chameleon96® project are available from the VM via SVN. The following directories are maintained by SVN:

~/Projects/support_files
~/Projects/chameleon96/build/linux_custom
~/Projects/chameleon96/build/uboot_custom

These are available via SVN from

http://novtech.ddns.net/svn/Customer/chameleon96
with username: chameleon96
and password: Chameleon2017@NovTech

1.1 First update

Initially, it is a good idea to pull the latest support files from SVN and update the svn_script, overlay and buildroot .config files located at ~/Projects/chameleon96.

To do this, run the following commands:

cd ~/Projects/support_files
svn update
./load_files.sh

1.2 Updating from SVN with script

For your convenience, a script has been prepared which will update each of the three SVN repositories from within the “~/Projects/chameleon96” directory. This script is pre-installed at that location, but the SVN updated version of it can be found in the “~/Projects/support_files” directory.

To update the source and images, run the following commands (you may need to provide login credentials as indicated above):

    cd ~/Projects/chameleon96
    ./svn_script get support_files
    ./svn_script get linux
    ./svn_script get uboot
2 Building source and images

Please refer to the Chameleon96® User Guide (Document Number: 001-127-04-05-01) for instructions on retrieving and configuring the VM for use.

For convenience of development full source and pre-compiled images for console and GUI configurations are provided. The virtual machine is pre-configured with the necessary tools and packages for compilation.

2.1 Important VM directories

Open a terminal in the virtual machine.
Change directory to the “Projects” directory (cd ~/Projects)

This directory contains the following directories:
- buildroot-2015.08.01 – buildroot and associated support packages
- chameleon96 – The buildroot project directory, containing a buildroot tree pre-configured for the Chameleon96®.
- support_files – NovTech support files, including
  - scripts to update VM packages and download from SVN.

2.2 Compiling in Buildroot

Change directory to “~/Projects/chameleon96” by typing “cd ~/Projects/chameleon96”

Configure buildroot to include whatever packages you desire by typing “make menuconfig” and selecting packages.

Compile the buildroot tree by typing “make”. It will take some time to compile.
When completed, you should see something like this:

![Image of compilation output](image_url)

**Figure 1 - completed compilation**

### 2.3 Programming compiled images to SD/MMC cards

Once the compilation is complete, you will need to place the images onto an SD/MMC card for use in the Chameleon96®. The compiled buildroot images are located in:

`~/Projects/chameleon96/images`

For convenience, a script has been provided which will place the images onto an SD/MMC card. Insert the SD/MMC card into your PC and connect it to the VM by selecting it from the “Removable devices” menu.

From the `~/Projects/chameleon96` directory run:

```
./mk_chameleon96_sd -a sdb
```

This will program the contents of the `~/Projects/chameleon96/images` directory onto the SD/MMC card at `/dev/sdb`. If your card is NOT located on `/dev/sdb`, use the appropriate device handle.

**Warning** - this script can be destructive if the wrong device handle is used. Please verify your SD/MMC card is at the expected location before executing. The card location can be verified by running “`cat /proc/partitions`” and looking for `/dev/sdb`.

The script can also place individual portions of the compiled images. Run “`mk_chameleon96_sd`” without options for more information.
3 Programming pre-compiled images to SD/MMC cards

Pre-compiled images for both the console and graphical systems are available from https://novtech.sharefile.com in the “03 – Compiled SD Images” directory.

Images in “03.01 – Card Images” can be programmed directly to SD/MMC cards with “dd” or Win32DiskImager per instructions in the Chameleon96® User Guide (Document number 001-127-04-05-01)

Images in “03.02 – Card Contents” can be downloaded to the VM extracted. These images can be written to cards using the “mk_chameleon96_sd” script included in their respective directories.