Clonix & NoV's Configuration utility for Windows

Introduction

As the Clonix family has been growing up during the last years with the addition of NoVRAM and NoV-32, the number of different DOS based configuration utilities required to manage the whole range of devices has been also increasing. Currently there are different versions for Serial as well as USB programmers of ClonixLP, Clonix6P, NoVRAM-H, NoV-32-H; and even a few more specific ones.

During the last months I've been dedicated to the development of two new modules; namely: Clonix-D and -the long awaited- NoV-64.

Handling the configuration of these devices with the DOS utilities was sometimes cumbersome. There were very little filtering to user input, and most errors required the utility to be restarted and typing again all the configuration data.

While this tedious task was more or less acceptable when handling six .ROM image files, the new two upcoming members of Clonix family holds up to twelve pages, and re-entering all the required info from a rudimentary DOS application was certainly annoying; as I've been able to verify by myself in several occasions.

Therefore, I stopped hardware development for some time and started to build the Windows based utility you're about to run.

Features

- One single utility to handle the whole Clonix family: Clonix-41, NoVRAM, NoV-32, Clonix-D and NoV-64.

- Deals with both types of programmers: serial JMD and USB K149-BC.

- Error free entry of .ROM image file names via File selection window.

- Pre-settings for the most usual configurations: page numbers and bank 1(*) are configured by default.

Installation

Just download and un-zip the ClonixCfgWin.ZIP archive from www.clonix41.org into your working directory. This will add the files ClonixCfgWin.EXE, Flash12.EXE and Flash06.EXE.

Please note that these files must be in the same directory where your .ROM image files are.

(*) Page numbers can be modified but Bank # is fixed to 1. This only affects Advantage module that will still require the use of the DOS configuration to be programmed into a Clonix-41

Interface

The figure below shows the new interface window of the ClonixCfgWin utility, I've done my best in order to buid it as clean and intuitive as possible.

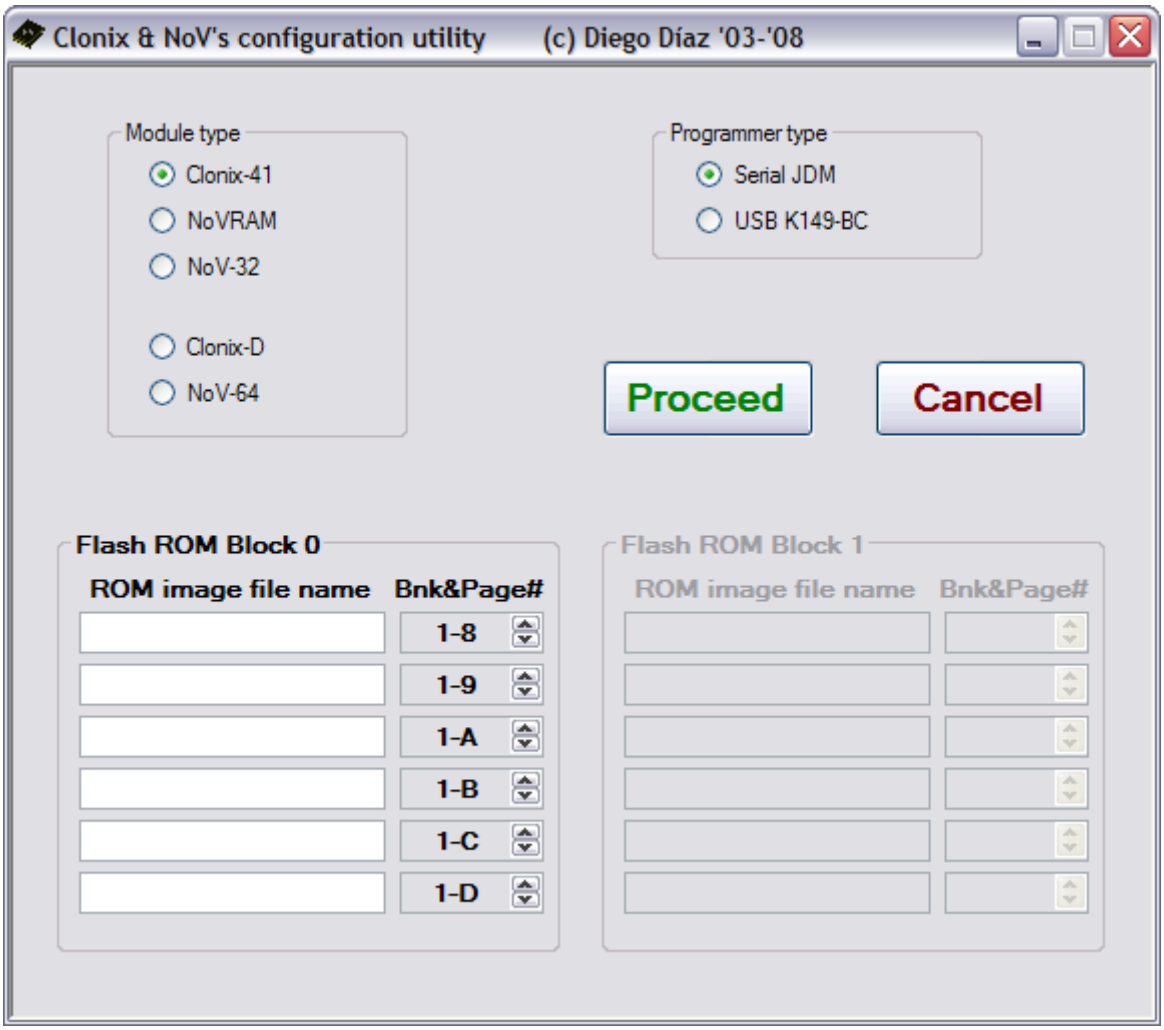

Fig.1 Main window.

By default, Clonix-41 and the Serial JMD programmer are selected at start-up. Choose the appropriate to your needs by clicking on the corresponding button.

Modules based on 32K Flash processors (Clonix-41, NoVRAM & NoV-32) will allow any “Programmer type” selection.

Modules based on 64K (Clonix-D & NoV-64) will switch to USB K-149-BC automatically, as they cannot be handled by the IC-Prog serial programming software.

Also, selection of any 32K Flash modules disables the “Flash ROM Block 1” area, as this is only useful for 64K Flash modules. Note that these “ROM Blocks” 0 and 1 are referred to the PIC's internal Flash ROM and not to the ROM Blocks defined for the NoV-64 which are explained below.

Page numbers are assigned by default and will change according to the “Module type” you choose to accomodate the most usual mapping.

For instance, if you select NoVRAM, your interface will look like this:

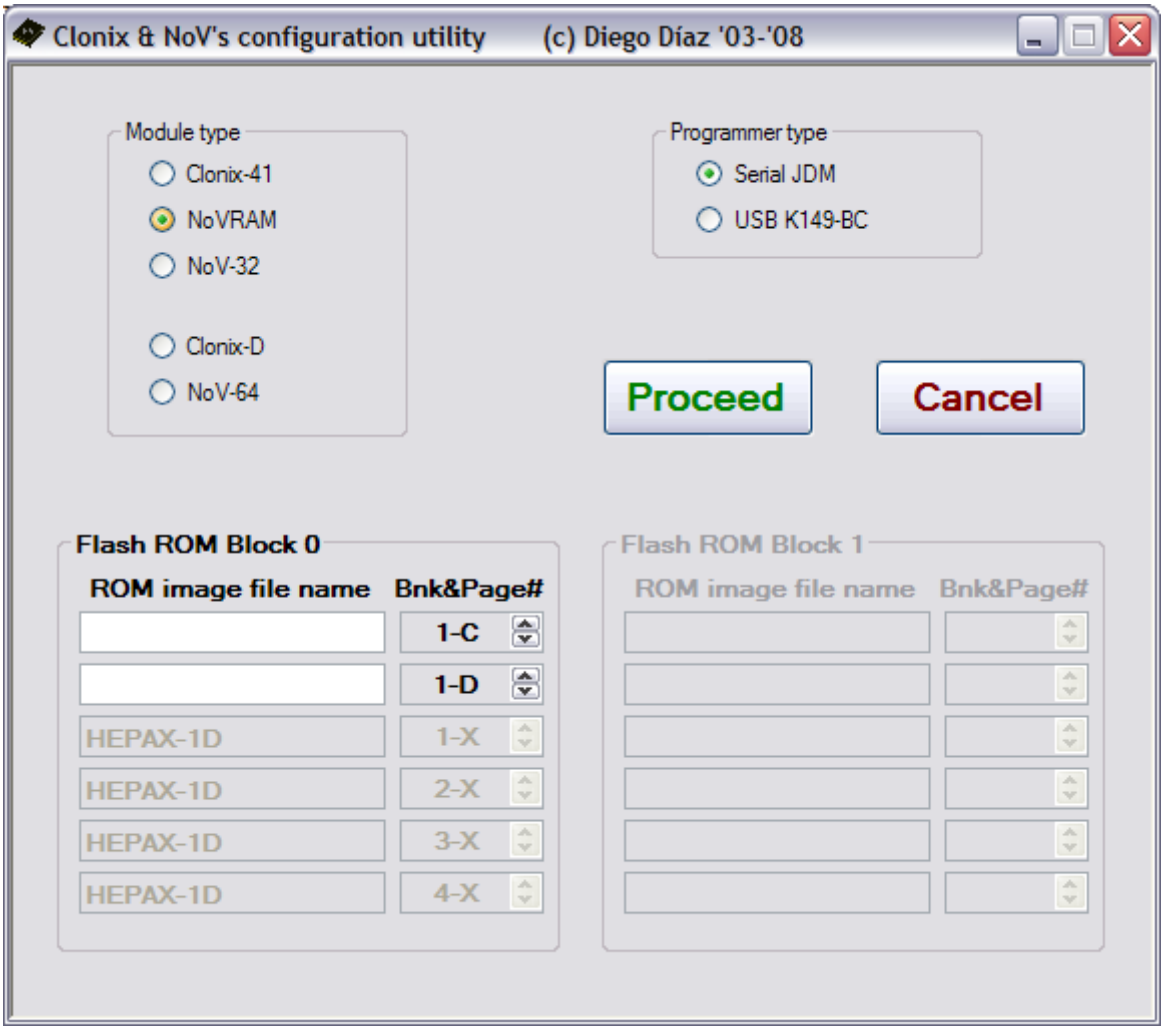

Fig.2 NoVRAM configuration (HEPAX emulation)

The four lowermost memory pages are reserved for HEPAX-1D.ROM files, therefore, they are no longer available. Only the two extra ROM pages can be used to load user selected .ROM files.

Also, “Page#” selection are limited form “C” to “F” as pages “8” to “B” are also reserved for the 16K HEPAX RAM.

To change the default “Page#” selection just click on the Down arrow of the corresponding field.

<u>Please be careful not to repeat any page number. This preliminary release does not filter such circumstance and will lead to a wrong final configuration.</u>

Selecting .ROM files

By clicking into any available “ROM image file name” field, a File seletion Window will pop-up showing the .ROM files currently present in the working directory. See figure below:

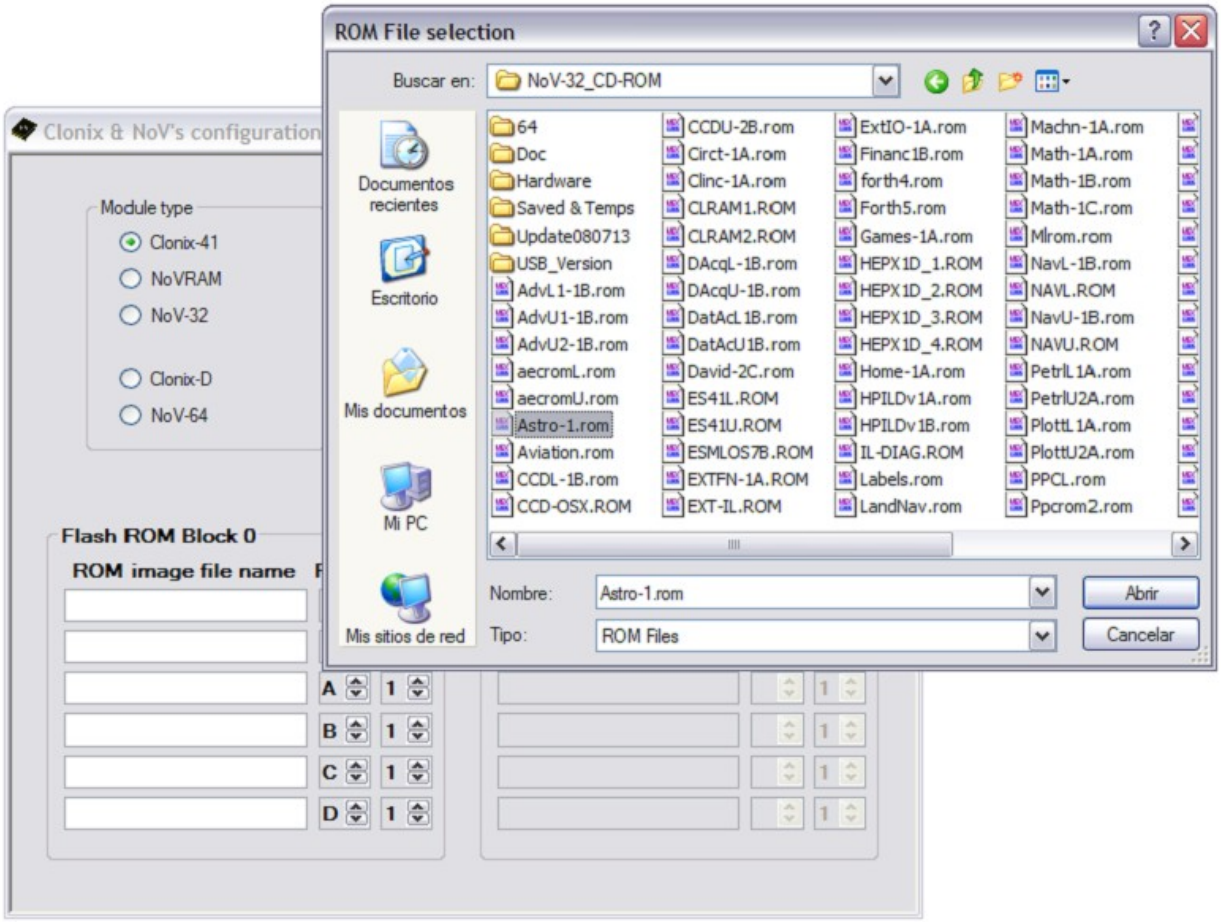

Fig. 3 ROM File selection window

Choose the file you want to load into that particular page by double ckicking on it. This will close the “ROM File selection” window and will bring the Filename (without extension) into the corresponding field.

.ROM image file names must be eight characters or less. Please make sure you don't have long names .ROM files, or shorten them in case you have, to meet DOS 8.3 file names format.

Please note that although the “ROM File selection” window allows you to navigate through your directory tree, you must select .ROM files in the default working directory; otherwise the configuration utility will not load the file into your module.

In case you need to replace any of the selected files, just click again into its field; the file name will be wiped out and the “ROM File section” window will pop-up again allowing you to replace the file, or press “Cancel” button in the “ROM File selection” window in case you want to leave this page empty.

Repeat until you have reached your desired configuration. See an example of a six pages Clonix-41 configuration in the next page:

Clonix-41 configuration example

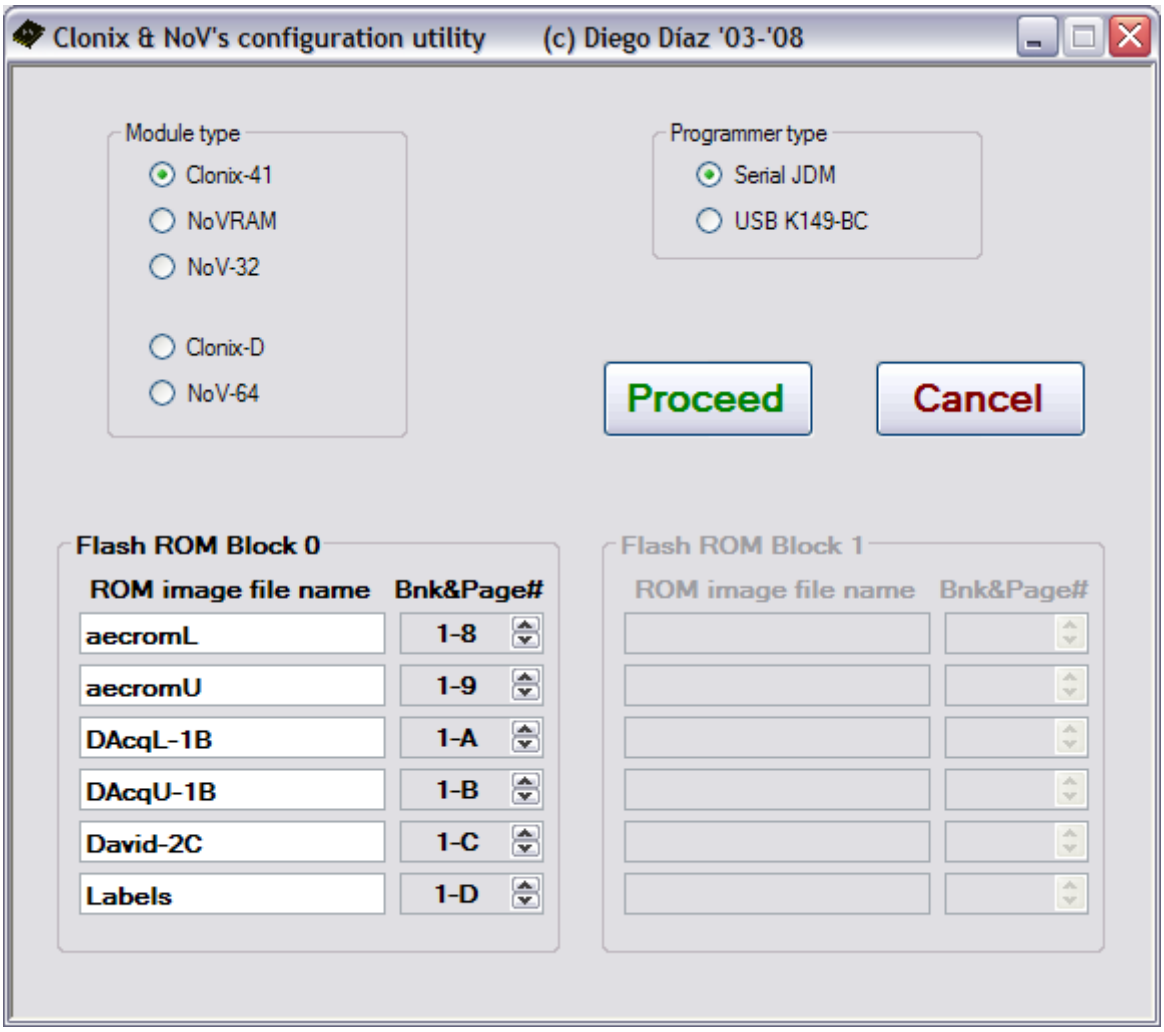

Fig. 4 Clonix-41 six pages configuration example.

Once you've finished your file selection jsut click the **Proceed** button to launch the assembler and programmer sequence as usual.

After completing of the programming process, once you close the programmer's window, you'll be back to the main Configuration window so you can continue with other module if required, or press **Cancel** button to exit.

NoV-64 configuration details.

Upon selection of “NoV-64” module type, the main window will look like the image below.

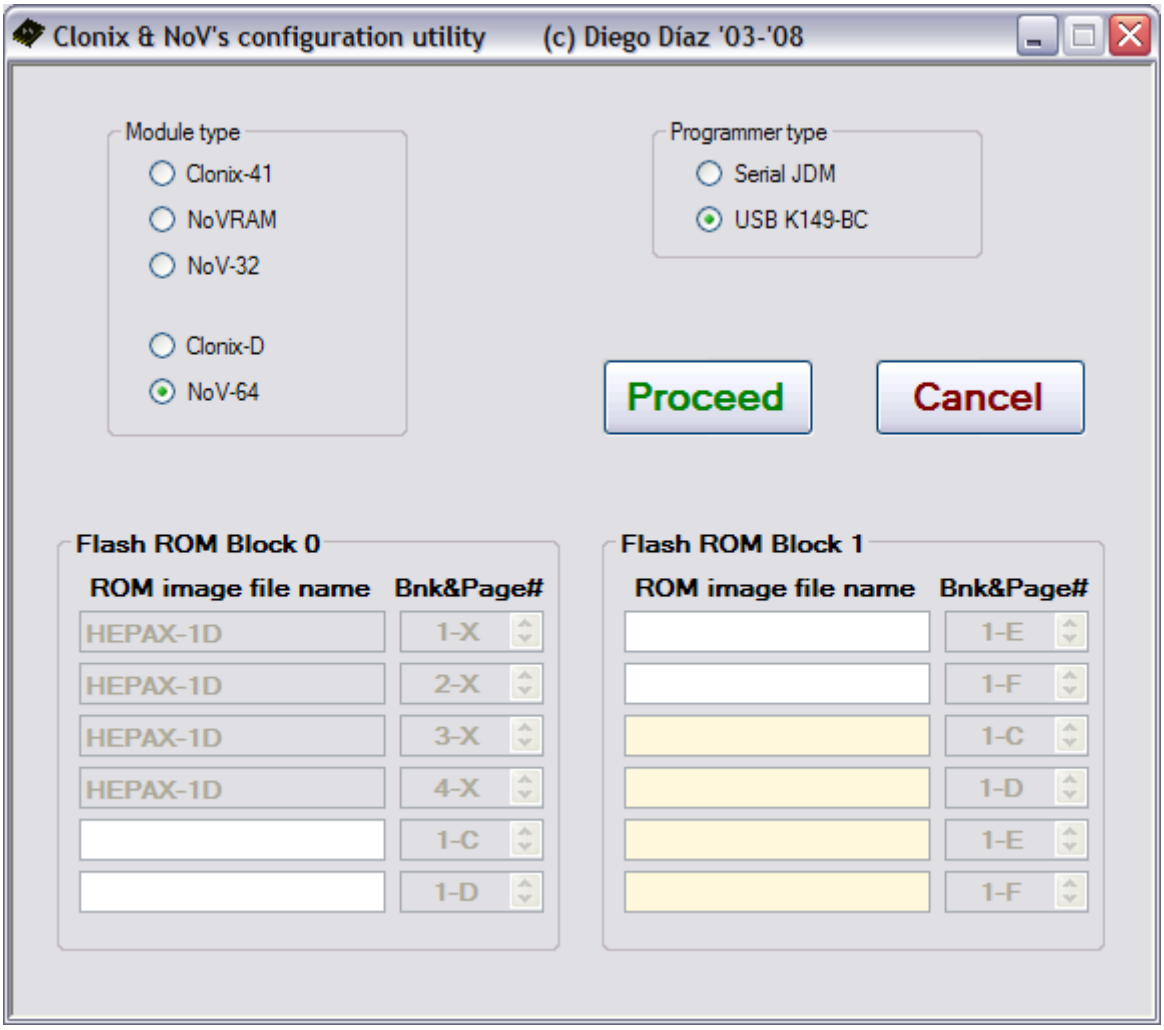

Fig. 5 NoV-64 configuration window.

You'll notice that the uppermost four pages have been reserved for HEPAX emulation code, the “Flash ROM Block 1” area has been enabled, and the four lowermost pages of Bank 1 show a “beige” background color. This is to identify this 4 pages as the ROM Block 2 of NoV-64.

ROM Block 1 of NoV-64 is composed by the pages with “white” background.

Also file names will appear in “black” into Bank1 pages and “blue” into Bank 2 pages.

“K149-BC” is selected automatically and “Bnk&Page#” are assigned by default as there are only four available pages: C to F for each Bank.

The figure in the next page shows a configuration example for NoV-64 module.

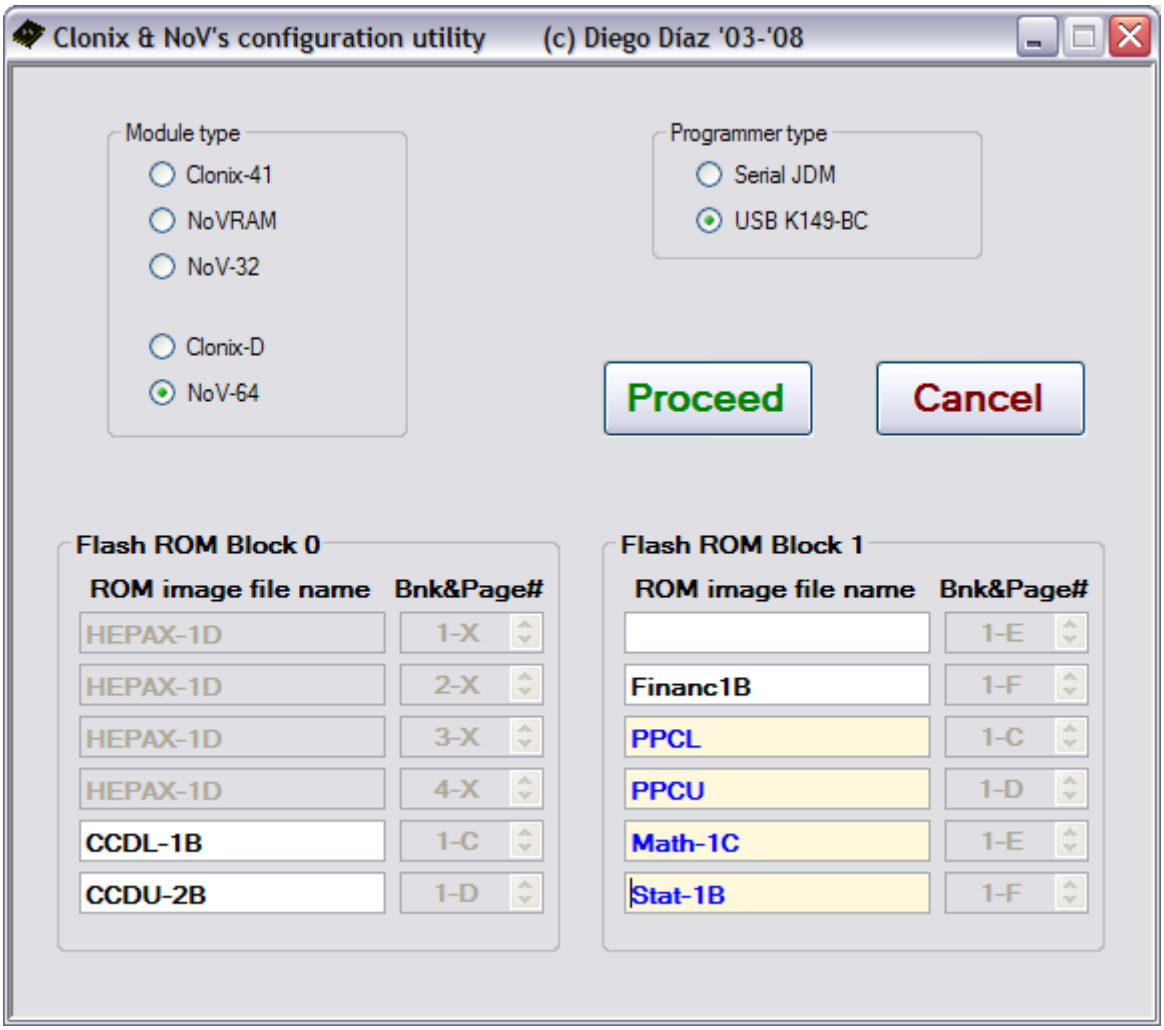

Fig. 5 NoV-64 configuration example.

Again, once you've selected the files to be loaded into the corresponding page, just clicl on the **Proceed** button to perform assembling and burning as usual.

Clonix-D configuration details.

The other new member of the Clonix family also handles 12 pages of ROM (4K each). As the total amount of memory surpasses the available addresses range of the HP-41 system they're organized into two different Blocks, each of which behaves a standard Clonix-41, holding up to six .ROM file images.

To facilitate the swapping process between both Flash ROM Blocks, this module senses the port it is plugged in, and selects the active Block according to this.

When the module is plugged into an odd port (1 or 3) the Block 0 is active, to toggle to Block 1 you must plug it into an even numbered port (2 or 4).

The configuration process is similar to the one used by standard Clonix-41, just you'll find the second Block enabled to fill it with the .ROM image files of your selection.

Please see an example of Clonix-D configuration on the figure below:

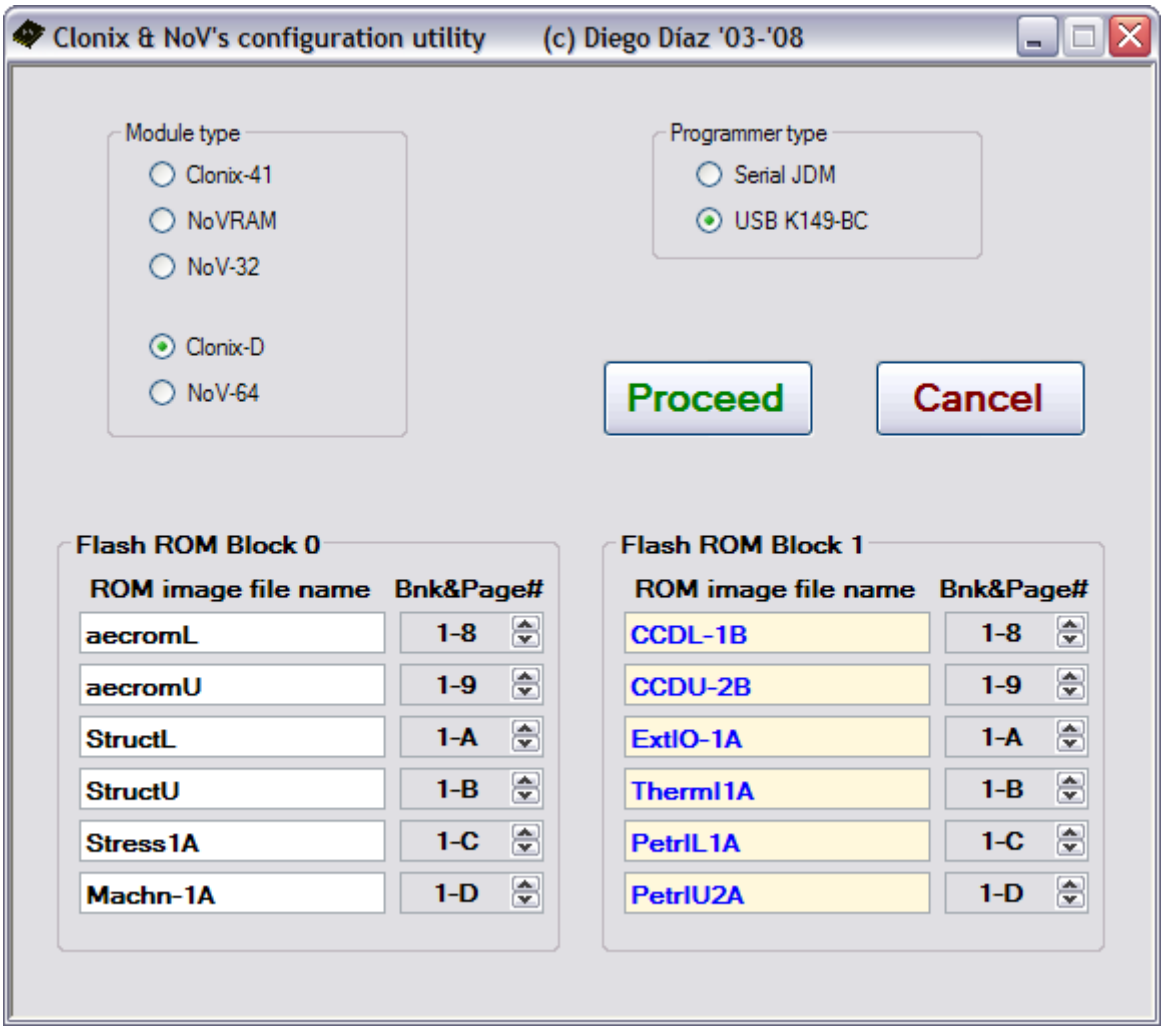

Fig. 6 Clonix-D configuration example.

As in the previous examples, just click **Proceed** button to go thru the Assembly and Programming process.

Hope this new tool will help you to get the most out of your Clonix and NoV's modules. Please let me know of any issue that you may encounter.

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