

Power supply

Creating a configuration file with EASY Rack Builder

CAEN EASY Rack Builder is a Java(TM) application which allows EASY Users to create their customised EASY Crate configurations. The software tool can be downloaded from the web page:

<http://www.caen.it/nuclear/product.php?mod=A1676A>

Click on the Software menu and download the CaenEASYRackBuilder-x.y.zip file. The program works well also for MAC. The only problem is that it cannot be open directly from the icon. The procedure is to open it from the terminal executing the following command under the folder where the .jar file is located:

```
java -jar CaenEASYRackBuilder.jar
```

The EASY Rack Builder shows six empty EASY crates, as shown on Fig. . Clicking on the “Crate button” it is possible to choose between EASY3000 and EASY4000 crates. In our case select “EASY4000”.

The menu on the white box on the left lists the EASY boards available to fill the crates. The operating parameters of such boards are stored in the board.xml files included in the folder: \CaenEASYRackBuilder\Boards. Make sure that your file is inside this folder and that has all capital letters, because the program is case sensitive. Each time CAEN EASY Rack Builder is launched, such xml files are compared to those present in the CAEN data base and, if the comparison is successful, the corresponding boards are added in the white box list. In order to configure the crates it is necessary to select the desired board by left clicking on its name and dragging it on the selected crate slot. Left click again to drop. Boards can be removed from the crates left clicking on them and dragging and dropping them on the white box.

When the crate configuration is complete, it is necessary to save the file:

```
EASY Rack Configuration > Save as...
```

This allow to create an xml file which can be used for future purposes (modify, update etc.).

```
EASY Rack Configuration > Generate Branch Controller update file
```

This allow to create a binary file that must be used to configure the A1676A via SY1527.

Now it is necessary to connect the PC to the SY1527 System which hosts the A1676A to be configured.

Saving file on power supply flash memory

For the setup of our lab, the best procedure to add a file in the flash memory of the power supply is via TFTP. The procedure for this mode is described in the following, while the other possible methods can be found on the manual.

The first thing is to verify the network connection between the SY1527 system and the PC from which the files will be sent. This can be done using the "ping" command, i.e. `ping < SY 1527 IP address >` where `< SY 1527 IP address >` is the IP address assigned to the SY1527 system.

The IP address of the SY1527 system can be checked or changed selecting: Set-Up Menu → Communications → TCP/IP settings.

With the MAC it is also possible to use the PumpKIN program. In this case, you have to create a folder where to place the files you want to send. The instructions to send the file are the following:

1. open PumpKIN;
2. press "Put file" button;
3. on "Local file" type the location of the folder where you have the files to be sent;
4. on "Remote host" put the IP address and port of the other machine you want to send the files. In our case 172.19.4.176 and 69 respectively;
5. Press "Start transfer";
6. enter the Utility menu Board Upgrade Add File (via TFTP) of the SY1527 Software User Interface (you can also be running the SY1527 software also via a type of connection different from the TCP/IP protocol): a pop up window will ask for the filename to add to the flash memory;
7. type the Filename you want to load in the flash memory (in this case the filename must be the real filename of the file you want to add), select OK and press ENTER;
8. type the IP Address of the computer where the file is, select OK and press ENTER (the Status Bar at the bottom of the window will display a Downloading ... message and finally Download completed).

Remote board upgrade

It is possible to upgrade the Remote boards handled by the A1676A Branch Controller, in our case the A4603D board. Select "Remote Board Upgrade" in the Utility Menu, and the procedure to install the file is the following:

1. select the file you want to download in the upper area of the Board Upgrade window;

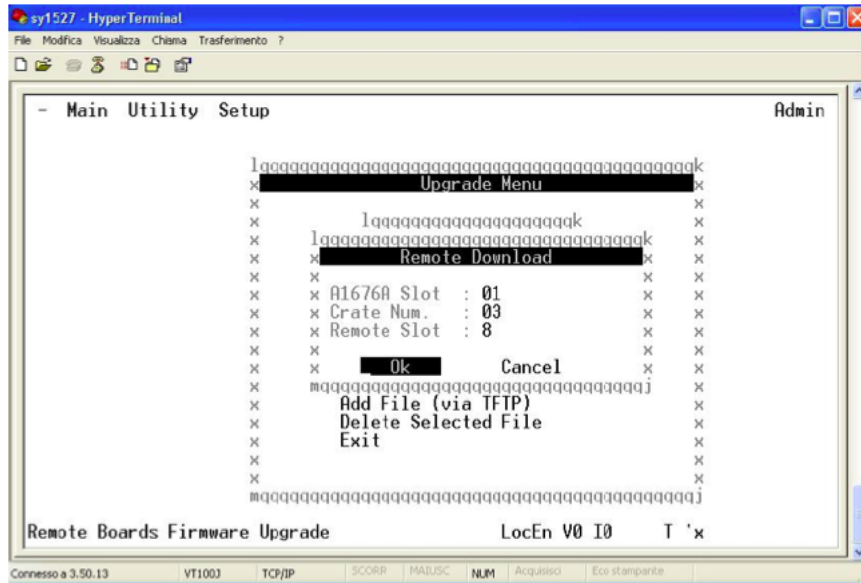


Figure 1: Remote Board Upgrade menu

2. select the “Download Selected File on Board” command by means of the TAB key and then press enter: as this command is entered;
3. the window presented on Fig. 1 will open.
4. type in the Remote Download window the “parameters” of the board to be upgraded.

A1676A slot = the slot where the A1676A which handles the board. The exact slot position of the A1676A branch controller appear on the screen when turning on the power supply.

Remote Crate Number = the number of the remote crate where the the board to be upgraded is plugged. In our case the number of the crate is 0.

Remote Slot = the number of the slot in the remote crate where the the board to be upgraded is plugged. The numbering of the slots in the crate starts with 0 from the left-end side.

To exit the Remote Board Upgrade window select the Exit command and press ENTER.

Board upgrade

This command allows to upgrade the firmware of the boards plugged into the crate, in our case the A4603D board. In th upper part of the window, as shown in Fig. , there is the list of files present in the system flash memory, and in the lower one a list of the commands available.

The standard filename format from the factory for board firmware upgrade is:

$$\text{Board Firmware Filename} = [\text{boardname}] . \text{lmn}$$

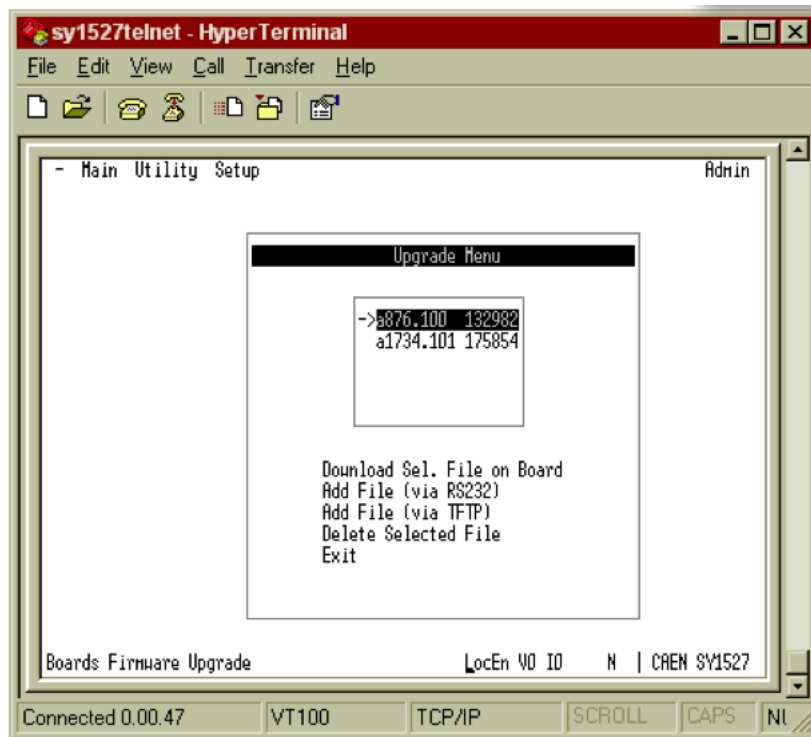


Figure 2: Board Upgrade menu

Where [boardname] is the board model and lmn is the Firmware Release l.mn. In our case, the firmaware release to be used is 1.00, i.e. the name of the file will be “A4603D.100”.

The procedure to upgrade the firmware on the board is the following:

1. select the file you want to download in the upper area of the Board Upgrade window;
2. select the “Download Selected File on Board” command by means of the TAB key and then press enter: as this command is entered, the software will ask you for the slot where to download the firmware. The numbering is the same as in the previous step;
3. type the number of the Slot where the board you want to upgrade is plugged into, select OK and press ENTER. If the procedure is done correctly it will appear a message showing the progress of the upgrad;
4. to exit the Board Upgrade window select the Exit command and press ENTER.

Possible problems and solutions

- When opening the EASY Rack builder no boards are shown in the left-hand side, even if the boards file as been inserted in the corresponding folder:

It could be that the wrong file is been inserted in the board folder.

- The boards put on the corresponding folder for the EASY Rack builder are shown on the left hand-side menu but it is not possible to save the created configuration:

It could be happen when the name of the file in the board folder is not in upper case. In fact, under Linux the EASY Rack builder is case sensitive for what concerns the name of the boards.

- When trying to turn on the different channel on the power supply an Unv (under voltage) error message appears:

Make sure that the “Loc enable” switch is the upper position. This allows to use the power supply in local mode and it is the one that should be used when everything is operated manually.

- In the power supply window no channels are shown:

Most likely this problem is due to wrong files installed for the boards or wrong positions assigned during the installation.