GTEC UPS MODEL:

DISCOVERY

DSPFlash 2
Technical Information

USER MANUAL

Subject: IT-DSPFlash 2 (User Manual)
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Approved: M. Scarpone
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Variation: See Document variation paragraph

Technical Information

DSPFlash 2
User Manual

Service Manual Structure

1. General information

The purpose of this manual is to provide a guide to program the boards

- 2148 (NXE over USB)
- 2112 (MHT over RS232)
- 2124 (Graphic Panel B/W over RS232)

with the program DSPFlash 2.

1.1. Hardware and Software requirements

- A PC with Windows operating system x86 or x64 (7, 8, 10)
- Software DSPFlash 2.xx.zip
- PKUNZIP
- FTDI driver
- NET Framework 4.0 or higher
- Cable USB-A USB-B (limits length of a cable to 3 meters)
- Updating file

2. General precautions

Refer to the User and Service Manuals for detailed instructions on use and maintenance of the UPS.

In Service programming is required to open the UPS: use all necessary safety precautions, and consult the UPS manuals for detailed instructions on use and maintenance.

3. NET Framework 4.0 or higher Installation

DSPFlash 2.xx requires the Microsoft .NET Framework 4.0 installed on your system to run the application. This can be obtained from the Microsoft Website
http://www.microsoft.com/download/en/details.aspx?id=17851&WT.mc_id=MSCOM_EN_US_DLC_DETAILS_121LSUS007996
If your system does not have .NET 4.0 installed please download the file from the above link. To install, double click on the dotnetfx.exe and follow the instructions in the wizard.

4. FTDI Device Drivers Installation

For proper communication of the PC with the UPS is required the load the FTDI driver (D2XX Driver).
This is necessary only to program the board 2148.
The driver is downloadable from FTDI website found at the following link:
http://www.ftdichip.com/Drivers/D2XX.htm

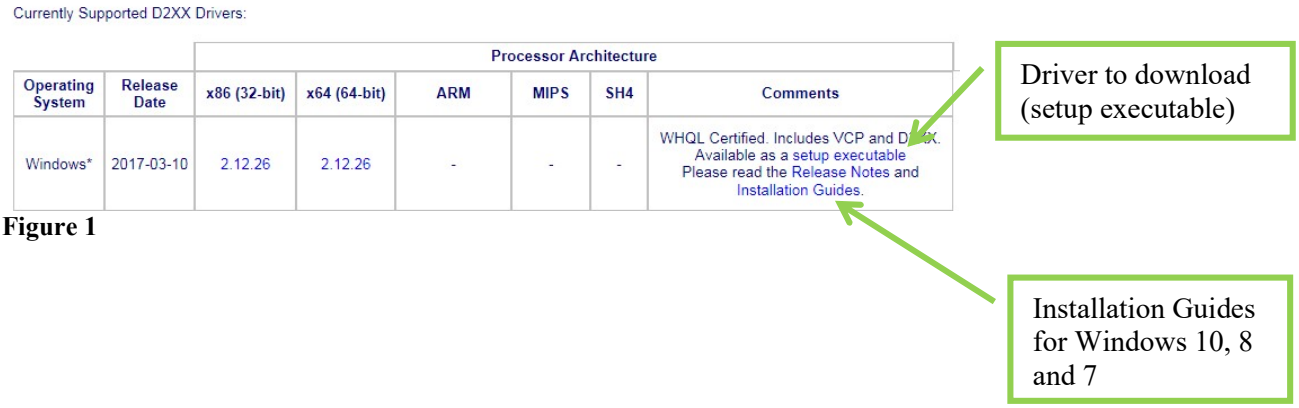


Figure 1

Click on “Installation Guide” for more detail about the driver installation on selected operating systems.

5. DSPFlash 2 Installation

To install is enough to unpack the file *“DSPFlash 2.xx.zip”*
Do not remove any file ore directory created during Unpack.
An easy way to start DSPFlash 2.xx.exe is to create a shortcut icon on the desktop and use it to start the program

6. NXE (board 2148) On-Line Programming

The On-Line programming mode can be used when the UPS is operating normally or is in DEBUG mode without open the UPS.

Note that **during the On-Line programming the machine is not working like UPS**, and might have to first be put into manual bypass mode (SWMB=closed).

For upgrading is necessary to predispose the switch of UPS:

- SWOUT → Open
- SWIN → Open
- SWMB → Open or Close
- SWBY →Close

Step 1

Connect the PC to the UPS (SK2164 J1) through a USB cable as picture below

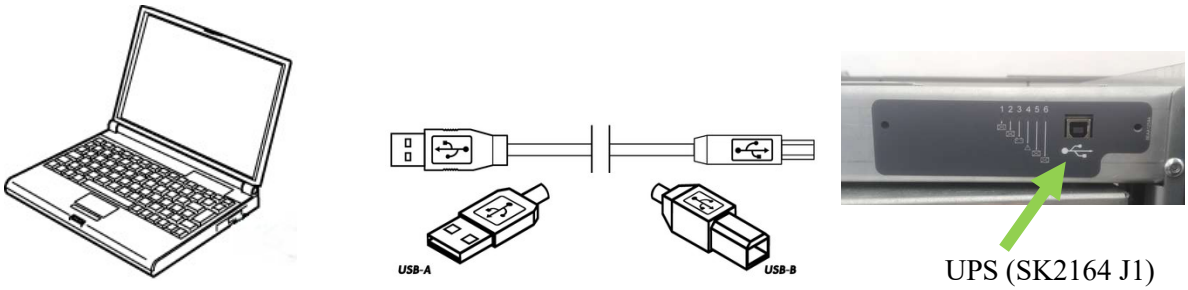


Figure 2

Step 2

Double click on PC icon  to launch the program DSPFlash 2.xx.exe.

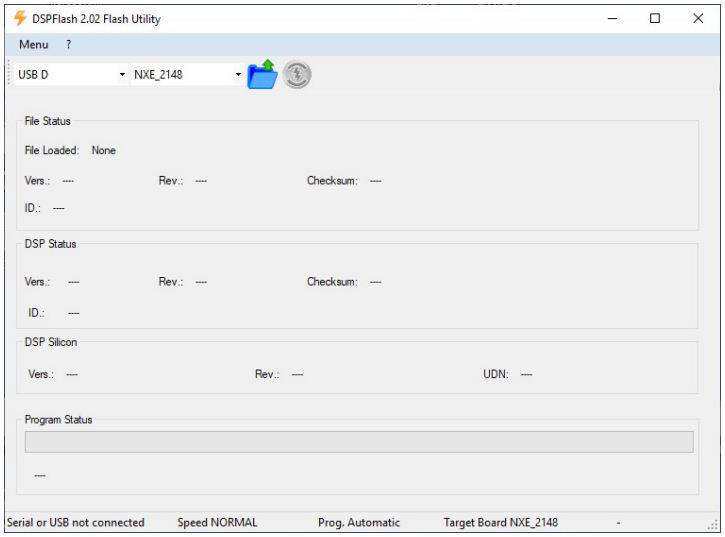


Figure 3 : Windows program DSPFlash

After start, control program DSPFlash 2 automatically scans all existing ports (RS232/USB).

If the Pc is properly connected with the board on the menu “Connection” will appear the “USB X”.

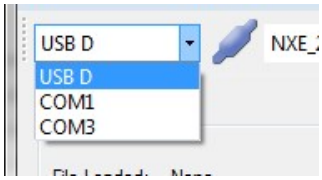


Figure 4

Select “USB X”

Step 3

Figure 5

Step 4

Push on the button  to load the update program.

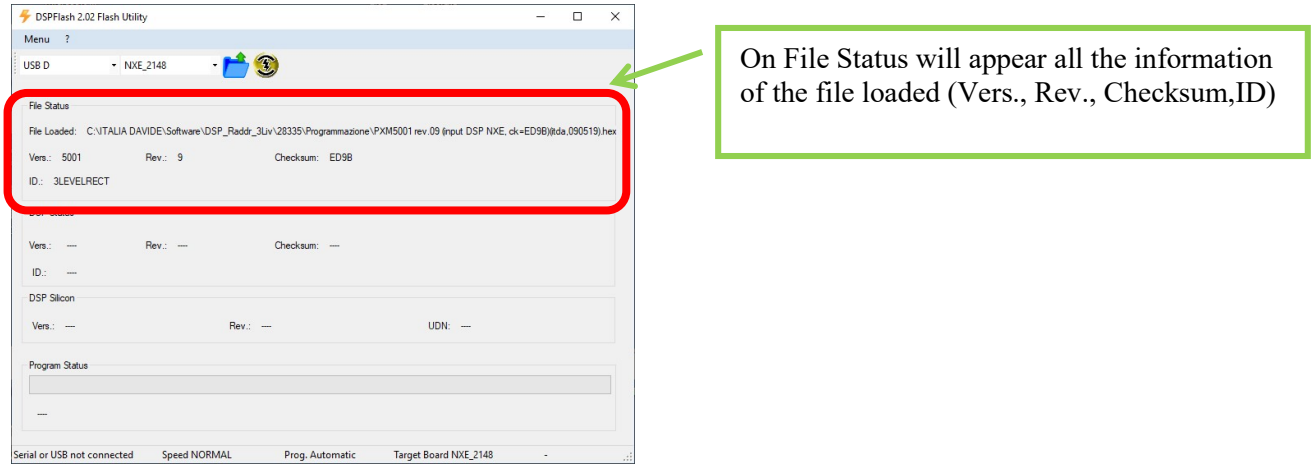


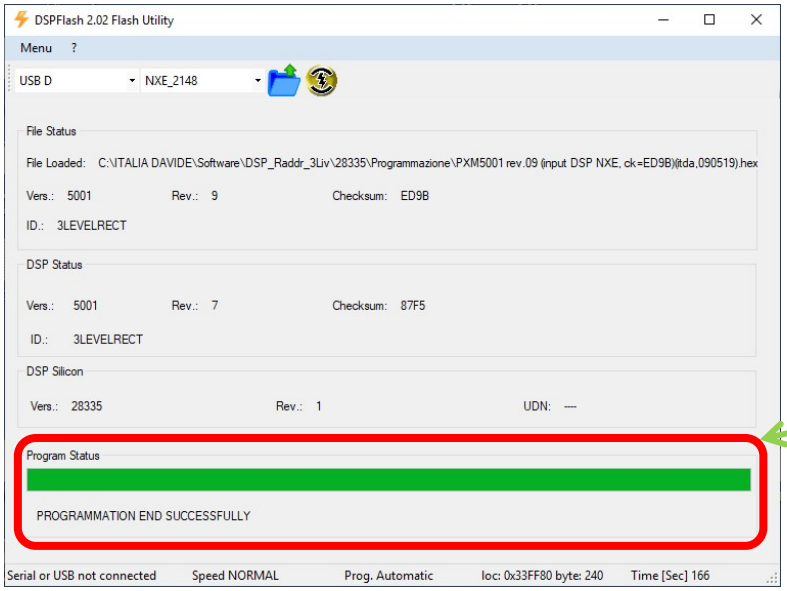
Figure 6

Check that all information on File Status Vers., Rev., Checksum,ID are corrected

Step 5

Push on the button  to start the flash programming.

If the flash programming end successfully will appear the image below



On Program Status will appear "PROGRAMMATION END SUCCESFULLY"

Figure 7

6.1. Error Message during On-Line Programming

Step 2

"USB X" Missing

If don't appear "USB X" it means that the FTDI driver are not correctly installed
Note that to program the board is it possible also use the "Virtual Com".

Step 5

Cable error

If the following error will appear, check the connection between the PC and the UPS

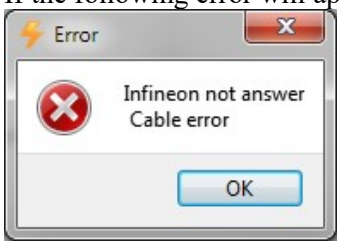


Figure 8

For communication problem try to reduce the COM Speed

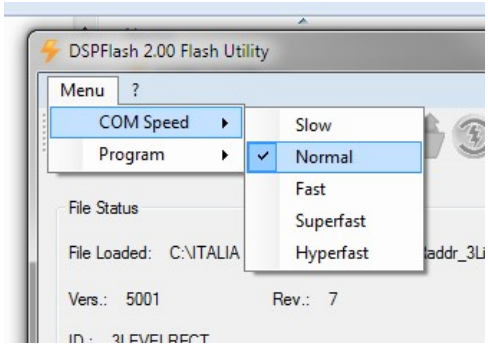


Figure 9

6.2. NXE (board 2148) Service Programming

The Service programming is required when is not possible to use the On-Line Programming for example when the System Board 2143 is not programmed.

In Service Programming is required to open the UPS to access to the boards: use all necessary safety precautions, and consult the UPS manuals for detailed instructions on use and maintenance.

For upgrading is necessary to predispose the switch of UPS:

- SWOUT → Open
- SWIN → Open
- SWMB → Open or Close
- SWBY →Close

To activate this mode, you must first switch-off the UPS, place a Jumper on ***JP16 (BOOT)*** on the board 2148 Rectifier DSP 3L Board (**fig. 12**)
Place and remove a Jumper on ***JP1 (RESET)*** always on the board 2148.

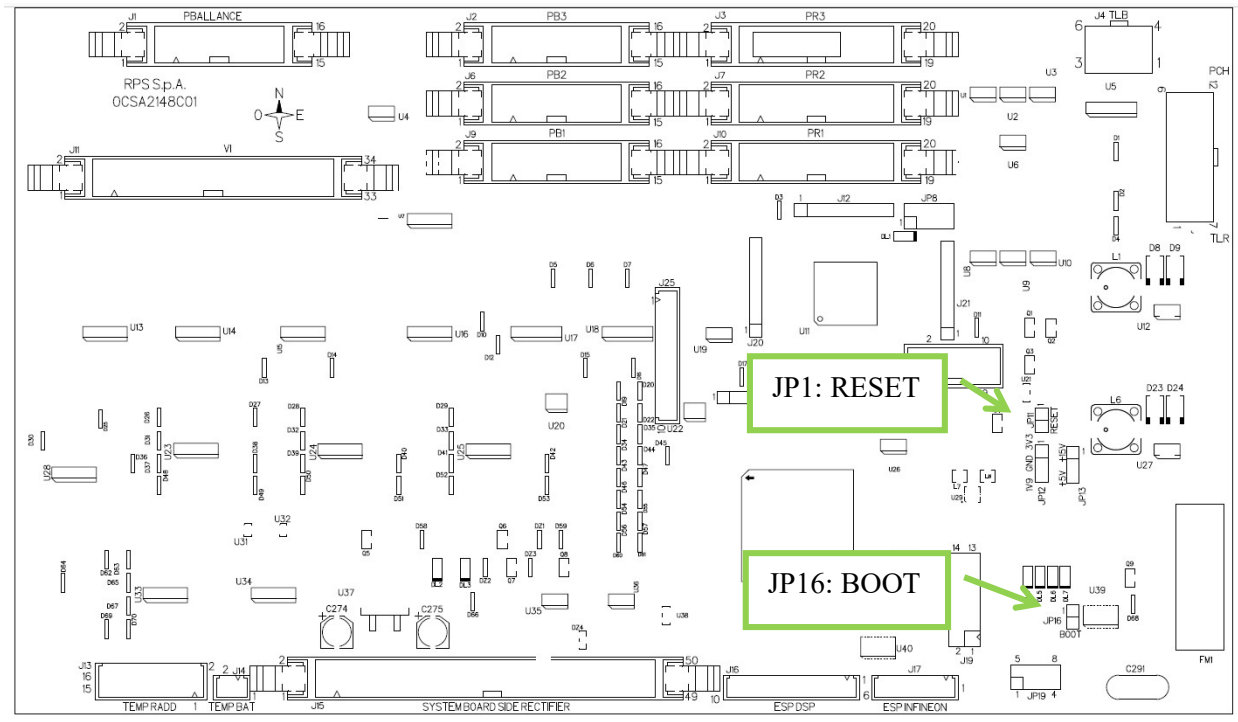


Figure 10

Phase 1

Connect the PC to the UPS (SK2164 J1) through a USB cable see Figure 1

Phase 2

Launch the program DSPFlash 2.xx.exe 

Select from Menu → Program → Manual

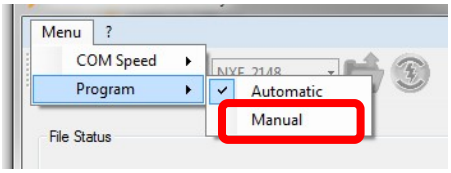


Figure 11

In this way the toolbar will be modify creating two buttons

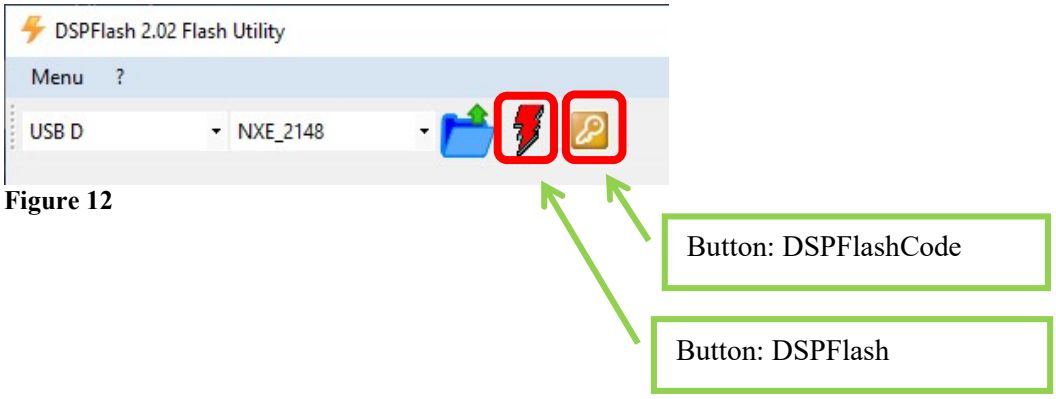


Figure 12

Phase 3

Select "USB X"

Push on the button  to select "USB X".

Push on the button  to load the program.

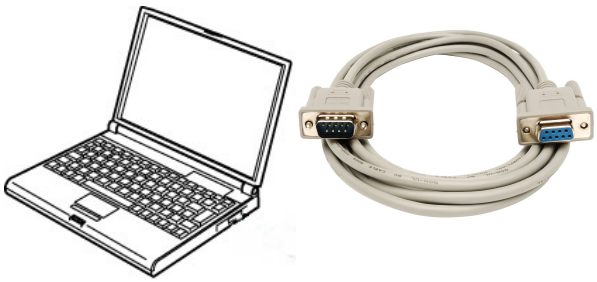
Push on the button  to start the programming of the board

If the programming of the board fail will be necessary, reset the board (JP1) and restart the procedure

7. MHT (board 2112) On-Line Programming

Phase 1

Connect the PC to the UPS serial port **RS232-1** (SK2113 J1) through a cable **pin-to-pin cable** (3 wires – pins 2,3,5 - plus shield) as picture below.



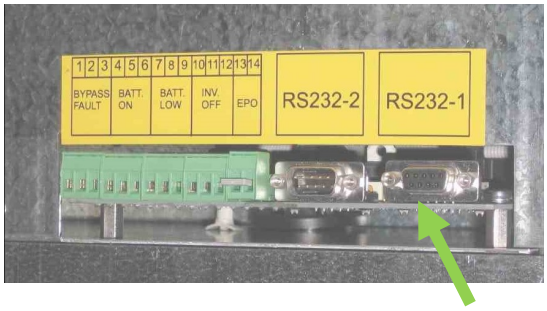


Figure 13

Cable note: 9 or 25 pin DSUB **female** connector on PC side and 9 pin DSUB **male** connector on UPS side

If the PC do not have the RS232 output could be used a USB/RS232 FTDI Converter.

Phase 2

Launch the program DSPFlash 2.xx.exe 

Select Target Board → MHT_2112 (DSP2810)

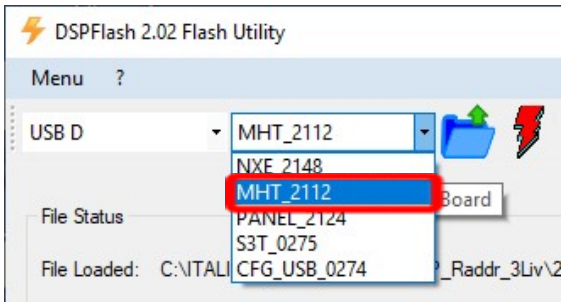


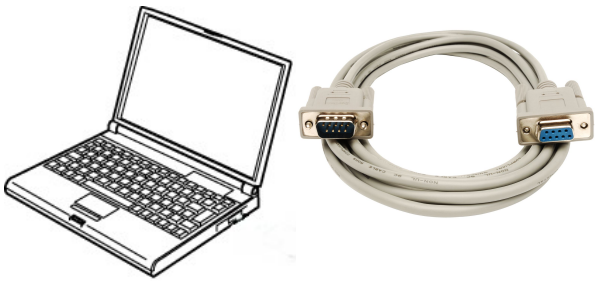
Figure 14

Proceed with the programming as show on the paragraph "**On-Line programming**"

8. PANEL (board 2124) On-Line Programming

Phase 1

Connect the PC to the UPS serial port **RS232-1** (SK2113 J1) through a cable **pin-to-pin cable** (3 wires – pins 2,3,5 - plus shield) as picture below.



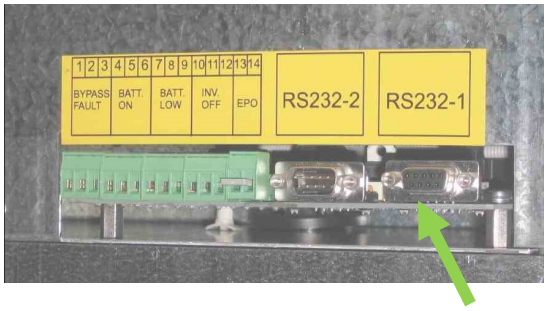


Figure 15

Cable note: 9 or 25 pin DSUB **female** connector on PC side and 9 pin DSUB **male** connector on UPS side

If the PC do not have the RS232 output could be used a USB/RS232 FTDI Converter.

Phase 2

Launch the program DSPFlash 2.xx.exe 

Select Target Board → PANEL_2124

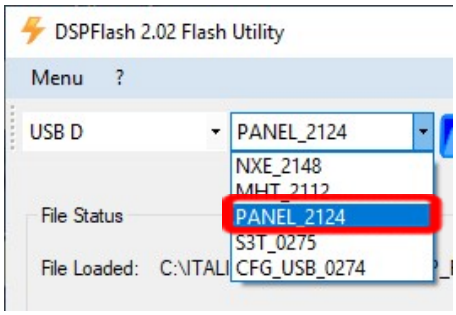


Figure 16

Proceed with the programming as show on the paragraph "**On-Line programming**"

9. Notes

DSPFlash 2.xx log all the operation executed during the use of the program in a file “logDSPFlash.txt” (present in the directory where is installed DSPFlash 2.xx.exe). In case of problem, send this file to the technical assistance in order to resolve the issue.

10. Software variation

DSPFlash 2.02
- Added management of S3
- Removed the button connection
- Improved the programming speed

DSPFlash 2.01
- Only for internal use

DSPFlash 2.00
- First edition

11. Document variation

REV 01 - 07/10/19
- First edition

REV 00 - 12/03/19
- First edition