FLASH CLONING FOR THE BL600

Application Note *v1.1*

INTRODUCTION

The goal of this document is to explain the method of cloning the file system of a golden preconfigured BL600 to another in production, which is a faster process than downloading over the serial port. In all new firmware releases, the included zip file now contains a *FlashCloning* folder. This folder includes two utilities: One that allows you to take a snapshot of the BL600's file system and a second one that allows you to download the snapshot into a different module. This is a quick and easy process.
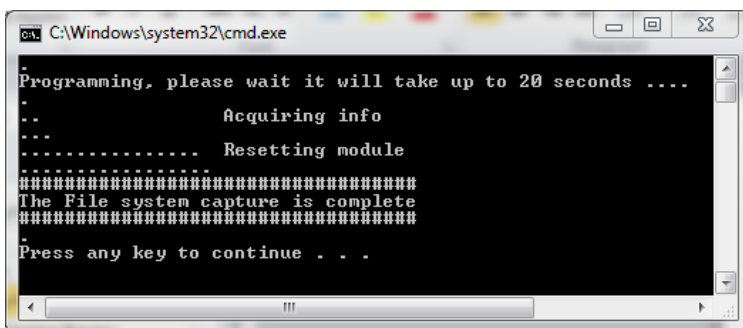
REQUIREMENTS

The following equipment and utilities are required:

- BL600 devkit (firmware 1.5.65.0 or newer)
- Windows PC
- UwTerminal
- Mini USB Cable (included in devkit)
- SEGGER J-Link LITE debugger (included in devkit)
- 10-way ribbon cable (included with the SEGGER J-Link LITE debugger)

FLASH CLONING PROCESS

To flash clone and download a snapshot of your BL600's file system, follow these steps:

1. In UwTerminal with the BL600 connected, send the following command: **AT&F***
2. Download any *smart*BASIC applications and data files that you want.
3. Use **AT+DIR** to confirm you have all of the desired files.
4. Connect the J-Link to the BL600 devkit via the 10-way ribbon cable supplied with the J-Link.
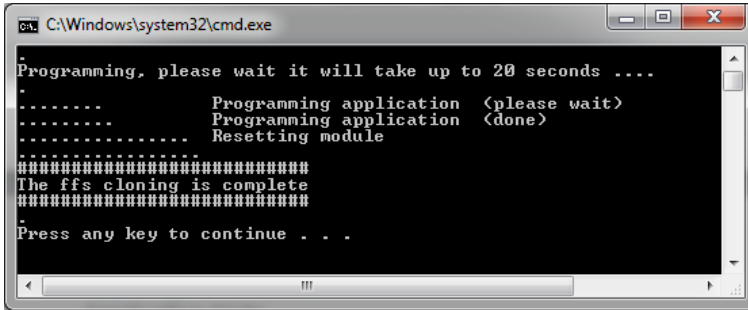5. Navigate to the *FlashCloning* folder and run the following batch file: **_CaptureFileSystem.bat** (Figure 1).

Figure 1: File System capture complete

6. Ensure that the following file has been generated: **ffs.hex**
7. Connect JLINK to a different module that has the same firmware as the original module.
8. Run the following batch file: **_CloneFfs.bat** (Figure 2).

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www.lairdtech.com/bluetooth

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Americas: +1-800-492-2320
Europe: +44-1628-858-940
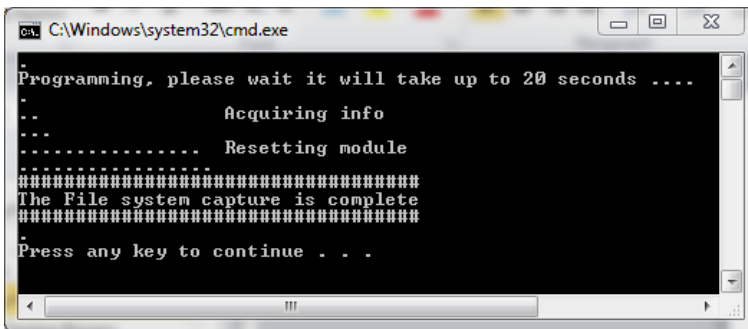Hong Kong: +852 2923 0610

Figure 2: File System clone complete

The download process should only take a couple of seconds.

USER RECORD CLONING PROCESS

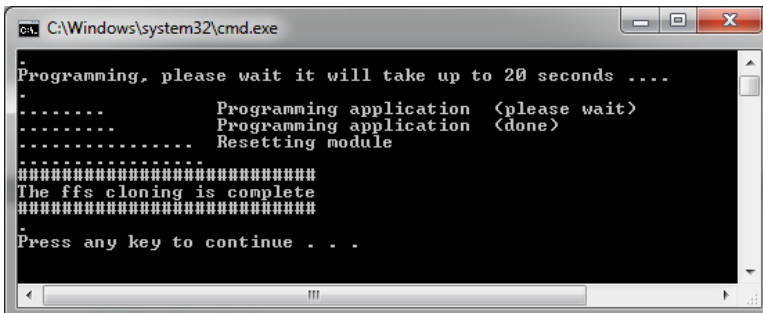To flash clone and capture user records, follow these steps:

1. In UwTerminal with the BL600 connected, send the following command: **AT&F***
2. Download any *smart*BASIC applications and data files that you want.
3. Use **AT+DIR** to confirm you have all of the desired files.
4. Connect the J-Link to the BL600 devkit via the 10-way ribbon cable supplied with the J-Link.
5. Navigate to the *FlashCloning* folder and run the following batch file: **_CaptureUserRecords.bat** (Figure 3).

Figure 3: User Records capture complete

6. Ensure that the following file has been generated: **UserRecords.hex**
7. Connect JLINK to a different module that has the same firmware as the original module.
8. Run the following batch file: **_CloneUserRecords.bat** (Figure 4).

Figure 4: User Records clone complete

The download process should only take a couple of seconds.

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LOCKING THE FLASH

In the Flash Cloning folder is a batch file called _LockFlash.bat which allows you to lock the flash to prevent it from being cloned. Once locked, the only way to unlock the flash is to erase it completely which requires a firmware reload.

WARNING: If you upgrade the firmware at any stage after doing this, you will NOT be able to restore the license as the upgrade utility won't be able to extract it. You will need to contact Laird with a request for the new license, providing the response to the command AT I 14 which provides a unique serial number for each module.

To lock the flash, follow these steps:

1. In UwTerminal with the BL600 connected, send the following command: **AT&F***
2. Download any *smart*BASIC applications and data files that you want.
3. Use **AT+DIR** to confirm you have all of the desired files.
4. Connect the J-Link to the BL600 devkit via the 10-way ribbon cable supplied with the J-Link.
5. Navigate to the *FlashCloning* folder and run the following batch file: **_LockFlash.bat**

FURTHER INFORMATION

Further information relating to firmware and the use of UWTerminal is available from the Laird Embedded Wireless Solutions Support Center: https://laird-ews-support.desk.com/?b_id=1945

… as well as the Laird website at:

http://www.lairdtech.com/products/bl600-series.

REVISION HISTORY

Revision	Date	Description	Approved By
1.0	25 Mar 2015	Initial Release	Jonathan Kaye
1.1	08 Jan 2015	Updated *Further Information* links to new website	Sue White

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