



TOTALFLOW

Technical Bulletin #163

32-Bit TF Loader

Totalflow Technical Bulletin
Version 1.0, Revision AA (28 May 2008)

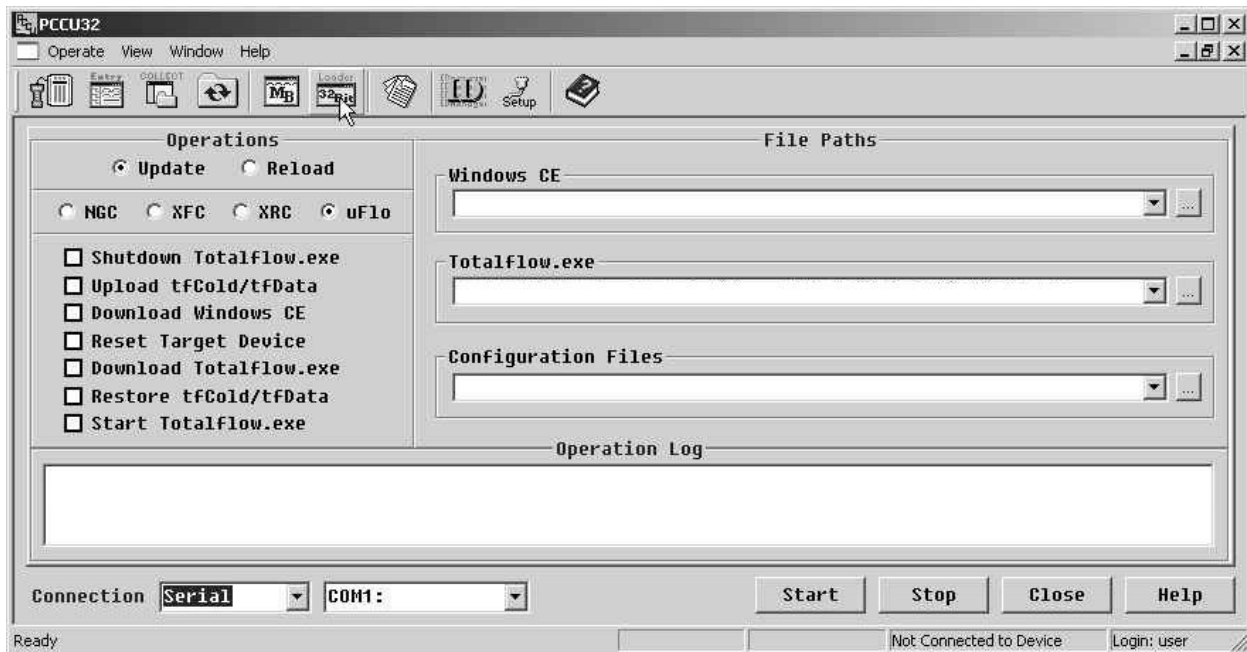


1. Purpose

The purpose of this Technical Bulletin is to clarify the use of the 32-bit TF Loader program. Some confusion has been experienced with regard to using the 32-bit loader. The following Technical Bulletin will discuss its usage and present a few typical examples of how it can be used.

2. Description

The following screenshot will be referenced in the discussion.



The 32 Bit X-Series Loader is a program for downloading files to a NGC, XFC, XRC or uFlo 32 bit X-Series devices referred to as G4 devices. This is a different loader than the Flash Loader used on 8 bit X-Series devices referred to as G3 devices.

For each different device, there are two separate sets of operations (Update & Reload) that can be performed. Selecting Update or Reload in conjunction with selecting a specific device type is a way of narrowing down only those operations that might be performed. Depending on what is being accomplished, only a subset of the displayed operations is typically used.



Update - This method provides selections for updating primary software platforms but not overwriting the user's configuration files.

Reload - This method provides selections for updating primary software platforms and the configuration files.

File Paths - To download any of the software platforms (Windows CE, Totalflow.exe, ISaGRAPH Runtime, Blackfin Firmware) or the Configuration Files, you must provide a path to the file.

Connection - After the selections and paths are entered, select the *Connection* that will be used to download the files. This will typically be *ActiveSync*, *Network* or *Serial*. *ActiveSync* is the communication application for using USB with Windows CE devices but is only used for the NGC. If you select *Network*, you would need to enter the network ID or IP address in the adjoining window. The *Serial* selection supports two connection options: 1- a RS-232 COM port or, 2- a USB port. With either method, you will need to select the appropriate COM port in the adjoining window. RS-232 COM ports are typically COM1 with PCs that have only one COM port and COM2 if the PC has a second RS-232 COM port. If you connect to a XFC, XRC or uFlo device using USB, the port will be assigned a virtual COM port number, typically COM4 or higher.

Below is a list of the loader *Operations* and a short definition of what the items are and why the *Operation* might be used. Again, the *Operations* displayed depends on the device and whether *Update* or *Reload* is selected. *Operations* will be listed on the loader screen in the order that they should be executed.

Shutdown Totalflow.exe	Totalflow.exe is the platform for running all Totalflow applications. Of course the operating system (Windows CE) must also be running. Totalflow.exe should be shutdown pretty much anytime any other operation is performed.
Upload tfCold/tfData	This option is typically not required and is a precautionary operation that uploads the tfCold and tfData directories to the hard drive on your PC. The device runs out of the tfData directory with tfCold as the backup directory and used for cold starts.
Download Windows CE	Windows CE is the Operating System on G4 devices and typically will not require downloading unless you receive a new version.
Reset Target Device	This operation restarts Windows CE and Totalflow.exe. This is similar to a warm start in prior devices.
Download Totalflow.exe	Totalflow.exe is the platform on which Totalflow applications run. You might receive an updated version of Totalflow.exe or there may be some circumstance where you need to reload your existing version.
Download ISaGRAPH	<i>ISaGRAPH Runtime</i> is a software platform on which IEC applications run. It typically would not need to be downloaded



Runtime	unless of course you receive a new version.
Download Blackfin Firmware	<i>Blackfin</i> is the software that runs in the analog board of an NGC, therefore you will only see this selection when NGC is selected. You might get an updated version of this software or there may be some circumstance where you need to reload your existing version.
Delete tfData Directory	Deleting tfData and tfCold would typically be done because you are downloading a new or existing configuration.
Delete tfCold Directory	Deleting tfData and tfCold would typically be done because you are downloading a new or existing configuration.
Download Configuration	With the exception of software platforms such as Windows CE and Totalflow.exe, <i>Configuration</i> files tell the device what applications to run and provides the setup information.
Restore tfCold/tfData	Restores the tfCold and tfData directories from your local hard drive to the device. You might do this if you had Uploaded tfCold/tfData above.
Start Totalflow.exe	Starts the Totalflow.exe application. This operation is almost always required since Totalflow.exe is shutdown prior to most other operations.



Certain *Operations* must be done to support the primary operation which is to download a software application (Windows CE, Totalflow.exe, ISaGRAPH, Blackfin) or download configuration files (Configuration). Use the following table of operations as a guide to accomplish those primary operations.

<u>Windows CE</u>	<u>Totalflow.exe</u>	<u>ISaGRAPH Runtime</u>
<ul style="list-style-type: none">• Shutdown Totalflow.exe• Download Windows CE• Reset Target Device	<ul style="list-style-type: none">• Shutdown Totalflow.exe• Download Totalflow.exe• Start Totalflow.exe	<ul style="list-style-type: none">• Shutdown Totalflow.exe• Download ISaGRAPH Runtime• Start Totalflow.exe
<u>Blackfin Firmware</u>	<u>Configuration</u>	
<ul style="list-style-type: none">• Shutdown Totalflow.exe• Download Blackfin Firmware• Start Totalflow.exe	<ul style="list-style-type: none">• Shutdown Totalflow.exe• Delete tfData Directory• Delete tfCold Directory• Download Configuration• Start Totalflow.exe	

3. Conclusion

The preceding information is intended to assist Users in downloading application software to their 32-bit devices (NGCs, XSeries^{G4}, etc.). Several typical software applications are involved in the overall operation and functionality of Totalflow's 32-bit devices. As was mentioned previously, Windows CE comprises the basic OS (operating system), Totalflow.exe runs within the CE environment and causes the device to behave as an NGC or XSeries^{G4} device. Configuration files supply Totalflow.exe with information regarding the setup and initialization of various applications running within the Totalflow.exe environment (i.e. AGA3, LevelMaster, PlungerLift, etc.).

Blackfin is only applicable to the NGC. It is the OS that runs the NGC's analog board.

ISaGRAPH is employed when running an IEC (generally a custom) application.