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32-BIT TFLOADER PACKAGES

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Totalflow[®]

32-Bit TFLoader Packages

Application Information



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1.0 INTRODUCTION

1.1 Product Definition

In PCCU32, the 32-Bit XSeries Loader is the program that allows for the downloading of specific files to an NGC, XFC, XRC or XFC6200EX XSeries device. The 32-Bit XSeries Loader application allows packages containing a combination of Flash, WinCE OS (nk.bin), ISaGRAF Runtime, Blackfin Firmware (NGC) and configuration files to be downloaded to XFCs, XRCs, NGCs or XFC6200EX machine types. These same packages can be downloaded to other machines of the same type to expedite configurations for machines having the same purpose. With the creation of these packages, the user is then prevented from accidentally loading incompatible packages to the wrong device.

1.2 Purpose

The following information provides an outline for the implementation of Packages within PCCU32 when working with the G4 XSeries devices.

2.0 DOWNLOADING THE PACKAGE

The operations detailed within this section revolve around whether the user wants to update the existing information on the target board or reload them entirely. The list of operations that accompany each selection are then performed sequentially, with each selected (checked) item in the operations tree performed in order from top to bottom.

Upload tfCold/tfData and Restore tfCold/tfData do warrant further explanation. When Upload tfCold/tfData is selected, the system replaces the tfCold and tfData configuration files to the local PC's hard disk. This ensures that existing configuration data is not destroyed on subsequent operations.

Once all preceding steps are accomplished, if Restore tfCold/tfData is checked, the stored tfCold and tfData configuration files are downloaded to the target device. This results in restoring the configuration of the device. This ensures that field operations are maximized by guarantees that configuration files remain the same, even if the entire computer system is replaced with new firmware.

The following information will walk the user through the process of accomplishing both of these tasks.

2.1 Update Package

The Update option within the 32-Bit Loader application window enables the user to update existing files on the target board with the files that are included in the package.

- 1) In the 32-Bit Loader window, ensure that the Update radio button is selected.
- 2) Upon selection, locate the package file that will update the pre-existing files on the target board. The user can accomplish this by clicking the browse button and navigating to the area where the target package file was stored.
- 3) Once a package file is selected, the system will automatically place a checkmark next to the appropriate selections on the left hand side of the screen. If the user wants to de-select any of the files contained in the package to be updated, they may do so by clearing the check next to the appropriate fields

(listed below). Likewise, de-selected files may be re-selected by re-checking the empty box.

- Shutdown Flash
 - Upload tfCold/tfData
 - Download Windows CE
 - Reset Device
 - Download Flash
 - Download Blackfin Firmware (NGC Only)
 - Download ISaGRAF Runtime (G4 XSeries Only)
 - Restore tfCold/tfData
 - Start Flash
- 1) In the 32-Bit Loader window, locate the Connection method at the bottom of the window. This enables the user to change the communication method between the PC and Totalflow unit. From the drop-down list, select the connection type. If Serial/USB is selected, set the com port in the corresponding drop-down list. If Network is selected as the connection type, type in the IP address of the machine where the package is to be downloaded.
 - 2) Click the Start button.
 - 3) The user will then need to move to the G4 board, and press the Reset button. The board will then reset.
 - 4) View the G4 display. When the Startup caption displays on screen, click the Reset button again.
 - 5) Return to the G4 display. The Loader caption will appear on the screen. Move back to the 32-bit Loader, and click the OK button on the dialog box.
 - 6) The 32-Bit Loader will then begin to load the components onto the target device.

2.2 Reload Package

The Reload option enables the user to completely erase the target board data and load the newly created package onto the device.

- 1) In the 32-Bit Loader window, ensure that the Reload radio button is selected.
- 2) Locate the package file that will reload onto the target device. The user can accomplish this by clicking the Browse button and navigating to the area where the package file is stored.
- 3) Once a package file is selected, the system will automatically place a checkmark next to the appropriate selections on the left hand side of the screen. If the user wants to de-select any of the files contained in the package to be updated, they may do so by clearing the check next to the appropriate fields (listed below). Likewise, de-selected files may be re-selected by re-checking the empty box.
 - Shutdown Flash
 - Download Windows CE
 - Reset Device
 - Download Flash
 - Download Blackfin Firmware (NGC Only)

- Download ISaGRAF Runtime (G4 XSeries Only)
 - Delete tfData Directory
 - Delete tfCold Directory
 - Download Configuration
 - Start Flash
- 4) In the 32-Bit Loader window, locate the Connection method at the bottom of the window. This enables the user to change the communication type between the PC and Totalflow unit. From the drop-down list, select the connection type. If Serial is selected, set the com port in the corresponding drop-down list. If Network is selected as the connection type, type in the IP address of the machine where the package is to be downloaded.
 - 5) Click the Start button.
 - 6) The user will then need to move to the G4 board, and press the Reset button. The board will then reset.
 - 7) View the G4 display. When the Startup caption displays on screen, click the Reset button again.
 - 8) Return to the G4 display. The Loader caption will appear on the screen. Move back to the 32-bit Loader, and click the OK button on the dialog box.
 - 9) The 32-Bit Loader will then begin to load the components onto the target device.

3.0 UPLOAD PACKAGE

The following details the steps necessary to perform an upload from the device. When performing this operation, the user is able to customize what they are choosing to upload from the device to the PC. The available options are:

- Flash – This option uploads the Totalflow application.
- tfCold Directory – This option uploads the tfCold directories to the hard drive on the user's PC.
- IEC Application – This option uploads any IEC applications that are available on the corresponding unit.
- ISaGRAF Runtime – This option uploads the software platform that runs IEC applications.

Based on the options that the user has selected, PCCU32 communicates with the XSeries device and uploads the selected files to the user's PC. Once all the individual files are uploaded from the device, the user is asked to choose a name to create its own individual package. Packages can then be downloaded to other XSeries devices of the same type.

3.1 Instructions

- 1) Open PCCU32.
- 2) Click the 32-Bit Loader icon on the main toolbar. The Loader window displays.
- 3) Select the appropriate device type for the package from the available radio buttons.
- 4) Click Package from the 32-Bit menu bar.

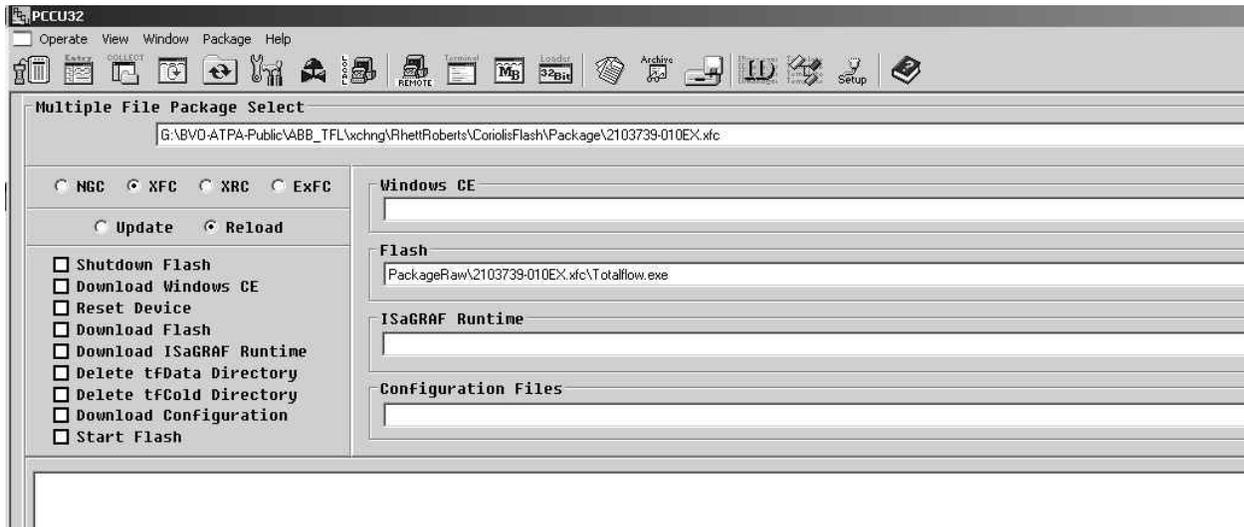


Figure 1 32-Bit Loader Window

- 5) From the drop-down menu, select Upload Package. The Upload Package dialog displays.

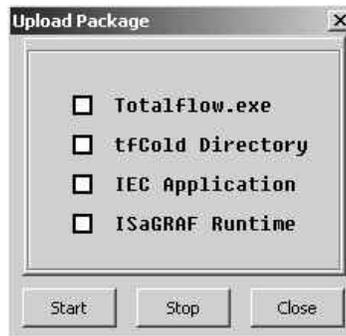


Figure 2 Upload Package

- 6) Based on the options that the user wants, place a check in the corresponding checkbox(s).

FYI



It should be noted that the user is electing to upload information from the machine that they are currently connected to. The information contained within that board is then compiled into a package that can then be downloaded to subsequent machines.

- 7) When uploading a Flash while connected via a Serial/USB cable, the user will need to reset the machine's motherboard. A dialog box displays that has the steps necessary to complete this.



Figure 3 Reset Device on Serial/USB connection

FYI  It should be noted that the user will only need to do this when they are connecting to the device using Serial/USB.

- 8) Press the OK button. The upload process begins.
- 9) Upon completion, the user needs to name the package. By default, the package is saved to C:\PCCU70\PackageDir. Upon saving the file, the package is created and is ready for downloading to other machines.

FYI  The file extension will denote the type of machine that the package was built for, based on the device type selected by the user. For example, an XRC will have the package file extension of *.xrc.

FYI  Do not perform step 9 until the operator has saved the package files to the local PC.

- 10) On the motherboard, press the Reset button to complete the process.



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