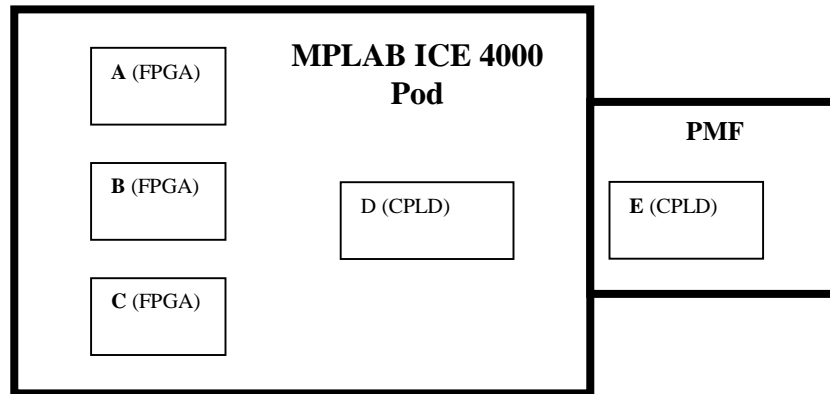


**ICE4KUpdate Program**  
**For**  
**MPLAB<sup>®</sup> ICE 4000**  
**In-circuit Emulator**

<b>Version</b>	<b>Date</b>	<b>By</b>	<b>Reason</b>
1.0	01/30/2004	Jose Diaz	Initial revision

## 1 MPLAB ICE 4000 Programmable Parts

The MPLAB ICE 4000 pod contains four (4) programmable chips: three (3) FPGA chips and one (1) CPLD. In addition, each processor module (PMF) supported by the emulator includes another CPLD.



These parts are referred to by the letters A through E both in this document as well as by the ICE4Kupdate utility.

## 2 Setup

ICE4Kupdate is stored as part of the standard MPLAB IDE installation process. It is stored in the folder:

- MPLAB IDE Installation Directory\Utilities\ICE4Kupdate

In order to successfully run ICE4Kupdate, the PC must have the MPLAB ICE 4000 USB driver already installed. ICE4Kupdate uses this driver. There are two ways in which ICE4Kupdate is executed:

- As a stand-alone application
- Automatically run by MPLAB IDE when it detects that MPLAB ICE 4000 or the PMF a firmware update.

### 2.1 Running ICE4Kupdate as a stand-alone application

If you are also running MPLAB IDE, please make sure that MPLAB ICE 4000 is **not** selected as the current debug tool at the same time that you run ICE4Kupdate. To run ICE4Kupdate, simply double-click on the **ICE4Kupdate.exe** file using windows explorer.

**Note:** If you can connect to MPLAB ICE 4000 using MPLAB IDE (*Debugger>Select Tool>MPLAB ICE 4000*), you should be able to run ICE4Kupdate as a stand-alone application.

### 2.2 Running ICE4Kupdate from within MPLAB IDE

When you select MPLAB ICE 4000 as the debug tool, MPLAB IDE will check that the emulator pod and PMF (if present) contain the latest firmware. If any of the programmable parts requires updating, MPLAB IDE will give you the opportunity to run ICE4Kupdate.

### 3 Updating

ICE4Kupdate displays a simple dialog. This dialog shows the current version of the firmware for all programmable parts in the MPLAB ICE 4000 pod and PMF.

ICE4K Update

Update file:  File Version:  Mode:

Files to be downloaded:		Current Version	Update (new)
FPGA A	<input type="checkbox"/> <input type="text" value="idcode.xsvf, erase.xsvf, blinkchk.xsvf, mixu15_pgm.xsvf, mixu15_vfy.xsvf"/>	<input type="text" value="01:0F"/>	<input type="text" value="01:0F"/>
FPGA B	<input type="checkbox"/> <input type="text" value="idcode.xsvf, erase.xsvf, blinkchk.xsvf, mixu17_pgm.xsvf, mixu17_vfy.xsvf"/>	<input type="text" value="01:0A"/>	<input type="text" value="01:0A"/>
FPGA C	<input type="checkbox"/> <input type="text" value="idcode.xsvf, erase.xsvf, blinkchk.xsvf, mixu19_pgm.xsvf, mixu19_vfy.xsvf"/>	<input type="text" value="01:05"/>	<input type="text" value="01:05"/>
CPLD D	<input type="checkbox"/> <input type="text" value="milu35.vme"/>	<input type="text" value="05:00"/>	<input type="text" value="05:00"/>
CPLD E (pmf)	<input type="checkbox"/> <input type="text" value="i4kpmf_idcode.xsvf, wc0_0101.xsvf"/>	<input type="text" value="01:01"/>	<input type="text" value="01:01"/>

Status:

ICE4Kupdate first shows the name of the master file (**cpld.ref**) where the information for the update files and their version is stored.

Next, for each programmable chip, ICE4Kupdate shows the list of files with which the part will be programmed, the version for these file sets (in the Update [new]) field), and the current version as read from the actual chip in the emulator. In this example all programmable parts are up-to-date and therefore no checkboxes are selected. If a programmable part needed updating, the corresponding checkbox would be marked.

If no PMF had been present, then CPLD E fields would have been grayed out.

Finally, the status of the update is displayed.

#### 3.1 Updating in Non-Interactive Mode

ICE4Kupdate will automatically select which parts need to be updated. The only user input comes from the **Update** button, which when pressed will initiate the update process. If you do not wish to update, you may exit the application by closing the dialog.

**Note:** Once ICE4Kupdate starts the programming, it will not allow you to stop, since stopping might damage the programmable parts.

#### 3.2 Updating in Normal Mode.

ICE4Kupdate runs in Non-Interactive mode by default. However, there may be times when you wish to update a CPLD/FPGA regardless of the current version in the actual part. For example, you suspect the firmware is corrupt and wish to reprogram the part. In this case, you would use Normal mode.

ICE4Kupdate requires the existence of a file containing enough information to describe the update process. This file is called **cp1d.ref**. It is an ASCII file you can edit with any text editor (Notepad, for example). In this file, lines starting with # are considered comments and ignored by the ICE4Kupdate.

The only line that interests you is:

Mode, NoInteraction

If you comment this line out,

# Mode, NoInteraction

then ICE4Kupdate will run in normal mode.

The following picture is a snapshot of ICE4Kupdate running in normal mode. In this mode, all check boxes are available to you; you may select to program a part whether the part's firmware is up-to-date or not.

The screenshot shows the '4K ICE4K Update' application window. At the top, there are three input fields: 'Update file' with 'cp1d.ref', 'File Version' with '0109', and 'Mode' with 'Normal'. Below these is a table titled 'Files to be downloaded:' with columns for component type, a checkbox, file names, 'Current Version', and 'Update (new)'. The table lists five components: FPGA A, FPGA B, FPGA C, CPLD D, and CPLD E (pmf). Each row has a checkbox and a list of files. Below the table is a 'Status:' label and a text box showing 'Idle'. At the bottom is a button labeled 'UpdateICE4K'.

		Files to be downloaded:	Current Version	Update (new)
FPGA A	<input type="checkbox"/>	idcode.xsvf, erase.xsvf, blnkchk.xsvf, mixu15_pgm.xsvf, mixu15_vfy.xsvf	01:0F	01:0F
FPGA B	<input type="checkbox"/>	idcode.xsvf, erase.xsvf, blnkchk.xsvf, mixu17_pgm.xsvf, mixu17_vfy.xsvf	01:0A	01:0A
FPGA C	<input type="checkbox"/>	idcode.xsvf, erase.xsvf, blnkchk.xsvf, mixu19_pgm.xsvf, mixu19_vfy.xsvf	01:05	01:05
CPLD D	<input type="checkbox"/>	milu35.vme	05:00	05:00
CPLD E (pmf)	<input type="checkbox"/>	i4kpmf_idcode.xsvf, wc0_0101.xsvf	01:01	01:01

Status: Idle

UpdateICE4K