

This document describes the firmware update procedure for MQDC-32. The latest firmware file can be found at <u>http://mesytec.com/downloads/firmwareupdates/firmware_VME.html</u>

Note that the latest software release can not be programmed onto older devices. Please make sure that the hardware and software versions match.

Requirements

- XILINX Platform Cable USB II
- XILINX Lab Tools 14.7 Utilities
- The latest MQDC-32 firmware file
- These steps are for Windows

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Download

Note: In order to download the software, it is necessary to register on the XILINX homepage.

Download the **"ISE Design Suite for Windows 10 - 14.7"** from the following link: <u>https://www.xilinx.com/support/download/index.html/content/xilinx/en/downloadNav/vivado-design-tools/archive-ise.html</u>

An installation guide for the ISE package is available here: <u>https://www.xilinx.com/support/documentation/sw_manuals/xilinx14_7/ug1227-ise-vm-windows10.pdf</u>



Start and Configuration

- Start "iMPACT" using the desktop shortcut that should have been created by the installer.
- Connect the **"XILINX Programming Device"** with the USB-Cable to your PC.
- The Status-LED of the programming device should turn yellow if the connection can be established. Otherwise use the USB-Passthrough settings of the VirtualBox to forward the device into the virtual machine (right-click the USB plug icon at the bottom of the VirtualBox screen).
- Connect the "XILINX flat cable" to the Programming Device.
- Follow the screenshots below for the correct setup.

	New iMPACT Project
	I want to
	load most recent project.auto_project.ipf Browse
	Load most recent project file when IMPACT starts
Do you want the system to automatically create and save a project file for you?	create a new project (.ipf) default.ipf Browse
Don't show this message again, save the setting in preference.	
Yes	
	OK Cancel

- Double Click on "Boundary Scan"
- Then right click into the right window and "Add Xilinx Device..."

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								Add Non-Xilinx Device	Ctr
								Initialize Chain	Ctr
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		Console						Cable Setup	
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- In the next window load the **"MQDC-32 Firmware File"** and click open.
- In the Window "Select Device Part Name" choose **xcf16p** and click OK.



• You can see the XILINX Device Icon with the MQDC-32 Firmware on the right window in the programmer tool.



Connection

- Connect the flat cable with the mesytec adapter to the MQDC-32 and power on the MQDC-32.
- The Status-LED should turn green.



Right Click on the Device and choose "Set Programming Properties"



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Boundary-Scan	A share a state provider	- Lange
Device 1 (PROM2 xcf16p)	Property Name	Value
	Verify	
	General CPLD And PROM Properties	
	Design-Specific Erase Before Programming	
	Read Protect	
	PROM/CoolRunner-II Usercode (8 Hex Digits)	
	PROM Specific Properties	
	Load FPGA	
	Parallel Mode	
	Advanced PROM Programming Properties	
	During Configuration: PROM is Configuration Master (check to select clock sour	ce) 🔲
	[select clock source]	External Clock 👻
	During Configuration: PROM is Slave (clocked externally)	



Cable Setup

• These settings must be performed only once.





Programming

• Right click on the XILINX Device and click Program.





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Available Operations are:		
📫 Erase 🗉		
Blank Check	Program Succeeded	
Readback		
🔿 Get Device ID		
Get Device Checksum		
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Console		⇔⊡₽×
'1': Programming completed suc	cessfully.	
'1': Programming completed suc PROGRESS_END - End Operation. Elapsed time = 64 sec.	cessfully.	
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The MQDC-32 Firmware is now updated

Project saving

• All settings can be stored to update other MQDC-32 at a later time.

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B Initialize Chain Ctrl+I TDI	
Save Project Ctrl+S Save Configuration Archive Ctrl+J xc116p Save Configuration Archive mqdc32_v14_f	
Recent Files	
Me New Log File Av Exit	
Program Verify Frase Blank Check Readback Gt Device ID Gt Device Checksum	
Get Device Signature/Usercode	
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'1': Programming completed successfully. '1': Programming completed successfully. PROGRESS_END - End Operation. Elapsed time = 64 sec.	^
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