MWAVES MODULE PROGRAMMING GUIDE

To install the firmware on blank mWaves modules sourced from Allen & Heath so that they are useable as Calrec devices, you need to follow these instructions:

C A L R E C

Equipment Required

- Xilinx Platform Cable USB II with flying lead extension
- Xilinx Impact (ISE v13 or higher)
- Cat5e cable

Method

- 1. Ensure the BI6218 board is powered off
- 2. Fit an A&H mWaves module into the mini-PCI connector on the BI6218
- 3. Fit a jumper to header J2 on the mWaves module



- 4. Attach a Cat5e cable between your host PC and the Primary RJ45 port on the BI6218 card
- 5. Using the flying lead extension, attach the Xilinx Platform Cable to JTAG header J1 of the mWaves module as shown below...

J1 Pin	1	2	3	4	5	6
Signal	Vref	GND	ТСК	TDO	TDI	TMS
Wire Colour	red	black	yellow	purple	white	green

6. Power up the BI6218



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 Load Xilinx iMPACT from the ISE Design Tool Suite, found under [Start][All Programs][Xilinx Design Tools][ISE Design Suit XX.x][ISE Design Tools][32/64-bit Tools][iMPACT]



7. Click Yes to automatically create a new project...



8. Choose Configure devices using Boundary-Scan (JTAG)...

🛞 Welcome to	o iMPACT
Please select	t an action from the list below
Configu	ire devices using Boundary-Scan (JTAG)
	Automatically connect to a cable and identify Boundary-Scan chain
Prepare	e a PROM File
Prepare	e a System ACE File
Prepare	e a Boundary-Scan File
	SVF 👻
	OK



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9. iMPACT should automatically identify the Spartan 6 FPFA on the mWaves module and ask if you want to assign a configuration file...



10. Click Yes

11. In the Device Programming Propertied dialogue, click OK

Device Programming Properties - Device 1	Programming Pro	operties		X
<u>C</u> ategory				
Boundary-Scan Device 1 (FPGA xc6slx45)	Property Name	· Value		
	Verify			
		ОК Са	ancel <u>Apply</u>	Help

12. In the Boundary Scan panel, right click on the FPGA's icon and select Assign New Configuration File...



13. Navigate to \IOCardProgamImages\BI6218-R1\mWaves in the current release folder for the BI6218 and open the file download_calrec.bit...

IOCardProgamImages + BI6218-R1 + mW	′aves ▶	Search .
Name	Date modified	Туре
IO_9.7_Calrec_S6 1.13.30 download_calrec.bit	24/09/2015 10:26 20/04/2015 11:08	File folder BIT File



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11. You will then see a dialogue box called Attach SPI or BPI PROM. Click No...



12. Back in the Boundary Scan panel, right-click on the FPGA icon and select Program...



- 13. Once programming is complete, close iMPACT
- 12. DO NOT POWER OFF THE BI6218!
- **13.** Run the application ProductionReflasher.exe, located in \IOCardProgamImages\BI6218-R1\mWaves\IO 9.7 Calrec S6 1.13.30...

IOCardPr	ogamIn	nages	▶ BI6218-R1 ▶ mWaves ▶ IO_9.7_Calrec_S6	1.13.30 🕨	
<u>T</u> ools	<u>H</u> elp				
Burn	New fo	older			
353		*	Name	Date modified	Туре
355			\mu Арр	10/09/2015 09:22	File fo
50/			JO 似	10/09/2015 09:22	File fo
360			퉬 WavesQtLibs_4.7.3_Win32_Release	24/09/2015 10:26	File fo
362			io_reflasher	24/09/2015 09:09	Text D
193			ProductionReflasher	24/02/2015 21:35	Applic

14. Chose the PC Ethernet adapter to which your Cat5e cable is connected from the drop-down Interface menu...



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- 15. The mWaves module should be recognised as an SG Device with a Client ID of 8: Calrec IO
- 16. Click on the **Boot** button...

ſ	ProductionR	eflasher		
	Interface	ac:f1:df:86:92:d1 - D-Link DG	E-528T Gigabit E	thernet Adapter 🔻
	SG Device	00:1c:d1:00:50:a7, Client ID: Boot version: 1.13.2, Applicat	8: Calrec IO tion version: 0.0.	0
		Boot	4	Application

17. ProductionReflasher will update the SoundGrid firmware...

ProductionRe	eflasher
Interface	ac:f1:df:86:92:d1 - D-Link DGE-528T Gigabit Ethernet Adapter 💌
SG Device	00:1c:d1:00:50:a7, Client ID: 8: Calrec IO
	Boot version: 1.13.2, Application version: 0.0.0
	Boot
-	SoundGrid Firmware:erasing
	10%
Boot firmware refla	sh process completed successfully
	100%
Done!	
Boot fir	mware reflash process completed successfully
	ОК





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16. Then click on the **Application** button...



17. ProductionReflasher will update the SoundGrid application on the mWaves module...



18. Remove the jumper from **J2** on the mWaves module and reboot the BI6218. The Application version should show as the latest release version (1.13.30 in the case below)...

ProductionR	eflasher
Interface	ac:f1:df:86:92:d1 - D-Link DGE-528T Gigabit Ethernet Adapter 💌
SG Device	00:1c:d1:00:50:a1, Client ID: 8: Calrec IO Boot version: 1.13.2, Application version: 1.13.30
	Boot
	Application firmware reflash process completed successfully
	100%
	ł.

19. The card is now ready to use