## **TECHNICAL NOTE**

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## DMI-Dante64@96 with IP Zyng HC Upgrading Firmware Code

The <u>new DMI-Dante64@96 with Zynq module</u> ships with firmware version v105 from the factory – see <u>Tech</u> <u>Note 580</u>.

The card is compatible with SD and Quantum consoles, S-Series consoles and the OrangeBox. As of May 2023, this card is not yet compatible with 4REA4 systems.

No firmware upgrade is required to use the card with the current versions of software.

But since the card's firmware version of v105 is not included in the current software packages, it is possible that older firmware gets installed which leaves the card inoperable.

This Tech Note explains the necessary steps to remedy this situation and re-install the v105 firmware. The next software release will address this and prevent unintended firmware downgrades.

For this you will require:

- TN582 (this document)
- A USB stick readable by a computer and the console
- The DMI-Dante64@96 V105 firmware files, downloadable from: <u>https://digico.biz/wp-content/uploads/2023/05/DMI\_Dante6496\_v105.zip</u>

Steps to perform the firmware upgrade on an S-Series console.

Steps to perform the firmware upgrade on a Quantum or SD Series console.

## Steps to perform the firmware upgrade on an S-Series console.

- 1. Download the v105 firmware files. https://digico.biz/wp-content/uploads/2023/05/DMI\_Dante6496\_v105.zip
- 2. Extract the archive and copy the files called **digico\_dmi\_dante6496z.bin** and **digico\_dmi\_dante6496z\_fpga.bit** to a USB stick.
- 3. On the console, insert the USB stick and navigate to the System \ DMI Slots page.
- 4. The DMI-Dante64@96 card is detected and the firmware is displayed as 'up-to-date'.



5. Click-hold on 'Up-to-date' and it will show the option to update the files for the CPU and FPGA manually.

•**•	Session Snapshot 1 (1 of 1)						Close All	DMI	Slots 🗙
	FPGA: 27 Oct 2021	64 ing 64 out Dante versio	outs puts n UF V2.0						
		Up-to-da CPU availab FPGA availab	4096 ate ke: V104 ble: 27 Oct 2021 CPU manually	_		Disco			
		Update	FPGA manuall	y					
Input 11 Input 11	Input 12 -inf	Input 13 Input 13	Input 14 Input 14	Input 15 ⊞ -inf	Input 16 = -inf	Input 17 ⊞ -inf	Input 18 = -inf	Input 19 Input 19 -inf	Input 20 € -45.5 <sub>d8</sub>

6. Click on 'Update CPU manually' and select the external file location (USB stick).

Session Snapshot 1 (1 of 1				Close All	Select Firmwar	re File 🗙
File Name		Туре	Size		Last Modified	
Screenshots		Directory		17	May 2023 15:15:22	Internal
						•<
						USB2
Input 12						Input 20
⊞ -inf						₩ -45.5 <sub>dB</sub>

7. Navigate to the location where the .bin file resides. Select the file and click on the green 'Load' button in the lower right corner.

•**•	Session Snapshot 1 (1 of 1	1)				Close All	Select Firmwar	re File 🗙
	File Name			Туре	Size		Last Modified	•**•
Back	digico_dmi_	dante6496z.bi	in	File	50.04 kB	9 Ma	ıy 2023 10:40:10	Internal
								•<-
								USB2
								Load
Input 11								Input 20
□ -inf								■ -45.5 dB

8. The system will inform you that either the CPU or FPGA update has started.

•**•	Session Snapshot 1 (1 of 1)					c	Close All	DMI	Slots 🗙
Warning : DI Connected DMI ca Do not power off	MI 1: CPU upda ard is being updated - p the console or racks d	te started please walt uring this process	í	×					
	FPGA: 10 Jan 2023	47 Vpdatin	<b>g</b> Card						
	V105	Dante 6 Update CPU availat FPGA availa	04@96 DMI card Ne: V104 Ible: 27 Oct 2021			Disco			
	6	Update	CPU manually						
	٢	Update	FPGA manual	ly					
Input 11	Input 12 Inf	Input 13	Input 14	Input 15	Input 16	Input 17	Input 18	Input 19	Input 20

- 9. Wait for the confirmation on-screen that the process has finished.
  - × Session Snapshot 1 (1 of 1) DMI Slots 🗙 DMI 1: CPU update finished × : DMI 1: CPU update started × MI card is being updated - please wait r off the console or racks during this p Dante 64@96 Update DMI card 104 27 Oct 202 Update CPU manually Update FPGA manually ut 12 out 13 Input 14 Input 15 Input 16 Input 17
- 10. Complete these steps for both the CPU and FPGA firmware.
- 11. Shut down and power off the console completely. Then you may power the console on and continue using it.

## Steps to perform the firmware upgrade on a Quantum or SD Series console.

- 1. Download the v105 firmware files. https://digico.biz/wp-content/uploads/2023/05/DMI\_Dante6496\_v105.zip
- 2. Extract the archive and copy the files called **digico\_dmi\_dante6496z.bin** and **digico\_dmi\_dante6496z\_fpga.bit** to a USB stick.
- 3. On the console, insert the USB stick, quit to Windows, and navigate to the D:\ drive.
- 4. Open the main SD or Quantum folder.
- 5. Open the DMI folder inside.
- 6. Move (don't copy) the files **digico\_dmi\_dante6496.bin** and **digico\_dmi\_dante6496\_fpga.bit** onto the USB stick. These are the previous firmware files (v104) without the letter 'z' in the file name.

ganize 🔻 Open New fold	ler .			i • F	1
	Name ^	Date modified	Type	Size	
Computer	digico_dmi.bin	04/02/2019 12:06	BIN File	40 KB	_
OS (C:)	digico_dmi_adc_fpga.bit	08/12/2015 13:48	BIT File	333 KB	
Backups	digico_dmi_aes_fpga.bit	08/12/2015 13:53	BIT File	333 KB	
Jancoming	digico_dmi_amm.bin	11/12/2018 12:21	BIN File	27 KB	
Projects	digico_dmi_amm_fpga.bit	29/01/2019 10:05	BIT File	1,451 KB	
🗼 SD12	digico_dmi_aviom_fpga.bit	08/12/2015 13:58	BIT File	333 KB	
DMI	digico_dmi_dac_fpga.bit	08/12/2015 14:02	BIT File	333 KB	
Optocore_220	digico_dmi_dante_fpga.bit	02/03/2016 16:15	BIT File	333 KB	
Racks	digico_dmi_dante6496.bin	23/09/2021 09:01	BIN File	50 KB	
SDRack_IO_Card_Upda	digico_dmi_dante6496_fpga.bit	27/10/2021 16:19	BIT File	454 KB	
J Templates	digico_dmi_h2_fpga.bit	08/12/2015 14:06	BIT File	333 KB	
	digico_dmi_hydra.bin	24/05/2016 13:44	BIN File	49 KB	
Network	digico_dmi_hydra_fpga.bit	08/12/2015 14:06	BIT File	333 KB	
	digico_dmi_madi.bin	13/01/2022 16:18	BIN File	50 KB	
	digico_dmi_madi_fpga.bit	28/02/2019 13:54	BIT File	333 KB	

7. Now copy the new files (with letter 'z') from the USB stick into the DMI folder on the console.

🕌 DMI					
Computer - Did	GiCo (D:) - SD12 - DMI				- 🖛
Organize 🔻 🔄 Open New fo	der			8≡ ▼	
	Name ^	Date modified	Туре	Size	
Computer	digico_dmi.bin	04/02/2019 12:06	BIN File	40 KB	
DiGiCo (D:)	digico_dmi_adc_fpga.bit	08/12/2015 13:48	BIT File	333 KB	
Backups	digico_dmi_aes_fpga.bit	08/12/2015 13:53	BIT File	333 KB	
J Incoming	digico_dmi_amm.bin	11/12/2018 12:21	BIN File	27 KB	
Projects	digico_dmi_amm_fpga.bit	29/01/2019 10:05	BIT File	1,451 KB	
📕 SD12	digico_dmi_aviom_fpga.bit	08/12/2015 13:58	BIT File	333 KB	
DMI	digico_dmi_dac_fpga.bit	08/12/2015 14:02	BIT File	333 KB	
Optocore_220	digico_dmi_dante_fpga.bit	02/03/2016 16:15	BIT File	333 KB	
Racks	digico_dmi_dante6496z.bin	09/05/2023 09:40	BIN File	49 KB	
SDRack_IO_Card_Upda	digico_dmi_dante6496z_fpga.bit	09/05/2023 09:40	BIT File	454 KB	
Templates	digico_dmi_h2_fpga.bit Type: BIT File	5 14:06	BIT File	333 KB	
	digico_dmi_hydra.bin	09/05/2023 09:40 6 13:44	BIN File	49 KB	
	digico_dmi_hydra_fpga.bit	08/12/2015 14:06	BIT File	333 KB	
	digico_dmi_madi.bin	13/01/2022 16:18	BIN File	50 KB	
	🗋 digico_dmi_madi_fpga.bit	28/02/2019 13:54	BIT File	333 KB	

8. <u>Important!</u> Rename the files by deleting the letter 'z' from the file name. The files will not be correctly recognised if the letter 'z' is not removed from the file name.

]] DMI					
Computer - Dig	SiCo (D:) + SD12 + DMI				- 5
Organize 👻 🔄 Open New fol	der			8== 👻 🛄	0
_	Name *	Date modified	Туре	Size	
Computer Co	digico_dmi.bin digico_dmi_adc_fpga.bit digico_dmi_aes_fpga.bit digico_dmi_aes_fpga.bit digico_dmi_amm_fpga.bit	04/02/2019 12:06 08/12/2015 13:48 08/12/2015 13:53 11/12/2018 12:21 29/01/2019 10:05	BIN File BIT File BIT File BIN File BIT File	40 KB 333 KB 333 KB 27 KB 1,451 KB	
DMI Optocore_220 Optocore_221 Racks	digico_dmi_dac_fpga.bit digico_dmi_dac_fpga.bit digico_dmi_dante_fpga.bit digico_dmi_dante6496z.bin	08/12/2015 13:38 08/12/2015 14:02 02/03/2016 16:15 09/05/2023 09:40	BIT File BIT File BIN File	333 KB 333 KB 333 KB 49 KB	
SDRack_IO_Card_Updz Templates	digico_dmi_dante6496z_fpga.bit digico_dmi_h2_fpga.bit digico_dmi_hydra.bin digico_dmi_hydra_fpga.bit digico_dmi_hydra_fpga.bit digico_dmi_madi.bin	09/05/2023 09:40 08/12/2015 14:06 24/05/2016 13:44 08/12/2015 14:06 13/01/2022 16:18	BIT File BIT File BIN File BIT File BIN File	454 KB 333 KB 49 KB 333 KB 50 KB	
	digico_dmi_madi_fpga.bit	28/02/2019 13:54	BIT File	333 KB	

9. Run the UpdateHardware.exe program (SD Consoles) or the UpgradeQuantum.exe program (Quantum consoles). Check that the available firmware version is now v105 and the FPGA date code is 10/01/2023.

			code v	ersions		u	Close
device	description	file	running	available	required	update _	
Engine	Host	SP6v.bin	05/11/2021	05/11/2021		update -	
	FPGA	SP6e.bit	29/01/2013	29/01/2013		update	
	Effects	FX1.bin	18/04/2012	18/04/2012		update	00028322817017157418
	Host						
COM7	Host Interface	VulcanTiva.dfu	27	27		update	
	Host FPGA	Vulcan_Interface_FPGA.bit	22/02/2017	22/02/2017		update	
	USB Audio	xmos.bin		OK		update	
	Surface						
COM4	SD12 Right	SD12worksurface.bin	47	47		update	
COM3	SD12 Left	SD12worksurface.bin	47	47		update	
COM5	SD12 Local IO	SD12LocallO.hex	57	57		update	
COM6	SD12 GPIO	SD12GPIO.hex		10			
	DMI cards						
DMI 1	Firmware	digico_dmi_dante6496.bin	104	105	1	update	
	FPGA	digico_dmi_dante6496_fpga.bit	27/10/2021	10/01/2023	1	update	
DMI 2	Firmware	digico_dmi.bin					
	FPGA						1
	Racks						
			-				
			-				
							•
select a file	e to update						DIGICO

10. Click on 'Update' and the process will start.

			code v	ersions			Close
device	description	file	running	available	required	update	
Engine	Host	SP6v.bin	05/11/2021	05/11/2021		update	
	FPGA	SP6e.bit	29/01/2013	29/01/2013		update	
	Effects	FX1.bin	18/04/2012	18/04/2012		update	engine serial number 00028322817017157418
	Host						
COM7	Host Interface	VulcanTiva.dfu	27	27		update	
	Host FPGA	Vulcan_Interface_FPGA.bit	22/02/2017	22/02/2017		update	
	USB Audio	xmos.bin		ОК		update	
	Surface						
COM4	SD12 Right	SD12worksurface.bin	47	47		update	updating
сомз	SD12 Left	SD12worksurface.bin	47	47		update	digico_dml_dante6496.bir
COM5	SD12 Local IO	SD12LocallO.hex	57	57		update	to DMI 1
COM6	SD12 GPIO	SD12GPIO.hex		10			81
							packets sent
	DMI cards						
DMI 1	Firmware	digico_dmi_dante6496.bin	104	105	1	update	
	FPGA	digico_dmi_dante6496_fpga.bit	27/10/2021	10/01/2023	1	update	
DMI 2	Firmware	digico_dmi.bin					
	FPGA						
	Racks						
	1						
							-

11. Ensure the upgrade process is reported as 'successful', then repeat the process for the FPGA.

device	description							Cleas
S. 153	description	file	running	available	required	update	1	Ciose
Engine	Host	SP6v.bin	05/11/2021	05/11/2021		update	1-	
	FPGA	SP6e.bit	29/01/2013	29/01/2013		update		
	Effects	FX1.bin	18/04/2012	18/04/2012		update		engine serial number 00028322817017157418
	Host							
COM7	Host Interface	VulcanTiva.dfu	27	27		update		
	Host FPGA	Vulcan_Interface_FPGA.bit	22/02/2017	22/02/2017		update		
	USB Audio	xmos.bin	-	ОК		update		
	Surface							
COM4	SD12 Right	SD12worksurface.bin	47	47		update		undating
COM3	SD12 Left	SD12worksurface.bin	47	47	-	update		digico_dmi_dante6496_fpga.bit
COM5	SD12 Local IO	SD12LocalIO.hex	57	57		update		to DMI 1
COM6	SD12 GPIO	SD12GPIO.hex		10	-			update successful
	DMI cards							
DMI 1	Firmware	digico_dmi_dante6496.bin	105	105		update		
	FPGA	digico_dmi_dante6496_fpga.bit	10/01/2023	10/01/2023		update		
DMI 2	Firmware	digico_dmi.bin						
	FPGA							
	Racks							
							-	
select a file	e to update							TIDIGICO

- 12. Once both the firmware and the FPGA have been updated successfully, close the updater.
- 13. Use File Explorer to copy the two original files from the USB stick back into the DMI folder, overwriting the renamed files that were used for this upgrade process. This restores the software installation to its original state. This is advisable as it prevents the v105 files being used to update any original DMI-Dante64@96 cards.
- 14. Shut down and power off the console completely. Then you may power the console on and continue using it.