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**Ds2408 Power Up With Pios Off?**

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**[LaserGecko](#)**

Nov 11 2005, 07:01 PM

Post #1

Hi there,

Perhaps I'm just not using the correct search terms to find the answer, because I thought I've already seen the answer somewhere.

Does anyone out there have an idea how to get the DS2408 to power up with all of the PIOs in the OFF state?

Thanks in advance,  
Jason

PS: I could have *sworn* I was in the Hardware Forum when I posted this! Sorry!

Group: Members  
 Posts: 30  
 Joined: 15-April 05  
 Member No.: 3,335

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**[loco539](#)**

Nov 11 2005, 09:51 PM

Post #2

The [ds2408 Data Sheet](#) talks about this a bit on page 5. Look at the pin descriptions for P0 and RSTZ.

Hope this helps,  
Will

Group: Members  
 Posts: 2  
 Joined: 18-October 05  
 Member No.: 5,045

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**[LaserGecko](#)**

Nov 12 2005, 12:17 AM

Post #3

Thanks, Wil.

That explains why I thought the DS1811 would make it do that, but neither that nor grounding the Reset pin seems to work.

Group: Members  
 Posts: 30  
 Joined: 15-April 05  
 Member No.: 3,335

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 **shughes**

Nov 28 2005, 02:31 PM

Post #4

Group: Members  
 Posts: 506  
 Joined: 5-May 04  
 From: Dallas, TX  
 Member No.: 4

There is a separate issue which causes the PIO's to be "stuck" in a bad state. When you say the DS1811 does not set the PIO's to the off state, do you mean that they are in this stuck state (i.e. after issuing the Channel Access Write command, the PIO's do not turn off)?

The issue which causes the PIO's to be stuck is related to a sensitivity to the power-on slew rate. Certain slew rates will power the part up in a test mode. To cure this, it's necessary to issue the exit test mode command. Adjusting the power on slew rate so that it is significantly faster would also help (I don't have exact characterization data on what slew rates cause failure).

Here is the sequence to exit test mode:

**CODE**

```
1-Wire Reset + Presence Pulse
Write Test Match ROM command: 96 hex
Write 64 bit ROM of DS2408
Write Exit Test Mode command: 3C hex
1-Wire Reset + Presence Pulse
```

-----  
 Scott Hughes, shughes aht dalsemi daut com  
 Engineer, Maxim/Dallas Semiconductor

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 **LaserGecko**

Apr 7 2006, 11:07 PM

Post #5

Group: Members  
 Posts: 30  
 Joined: 15-April 05  
 Member No.: 3,335

Scott,

I didn't think it was powering up in the test mode since the device would respond to all requests. However, I coded that reset sequence into the initialization sequence "for just such an emergency".

My DS2408s have all eight states set to "true" when they are powered up, regardless of whether or not they are connected to a 1-Wire bus even though I have the DS1811 in place. I would assume that it is "an appropriate power-on-reset circuit" since it's mentioned in the docs. :)

Obviously (from the time between this response and the last), I hadn't messed with these in awhile due to other projects, so I called tech support. He thought I may have the PIOs configured as inputs, but there's no way for it to save that since there's no non-volatile ram in the thing.

I am completely flummoxed. What am I missing here?

Thanks in advance,  
 Jason

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 **LaserGecko**

Apr 9 2006, 07:23 PM

Post #6

\*\*\*\*Possible Problem exists between keyboard and chair\*\*\*\*

I think I found my logical error here since the 2408 is not a highsideswitch.

Group: Members  
Posts: 30  
Joined: 15-April 05  
Member No.: 3,335

Level = true = PIO Grounded = "output off" <> "output on"

Correct?

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 **shughes**

Apr 11 2006, 09:36 AM

Post #7

Jason,

That's correct. Level = true (1) means the output transistor is conducting (grounded). Level = false (0) means the output transistor is floating.

Group: Members  
Posts: 506  
Joined: 5-May 04  
From: Dallas, TX  
Member No.: 4

Glad that the problem is solved...

Scott

-----  
Scott Hughes, shughes aht dalsemi daut com  
Engineer, Maxim/Dallas Semiconductor

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Time is now: 3rd January 2009 - 11:39 AM

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