





Part #:	MIC28515	 MICROCHIP  AUTHORIZED DISTRIBUTOR 
Description:	The MIC28515 is an adjustable frequency synchronous buck regulator that features a unique adaptive on-time control architecture.	 Download Datasheet

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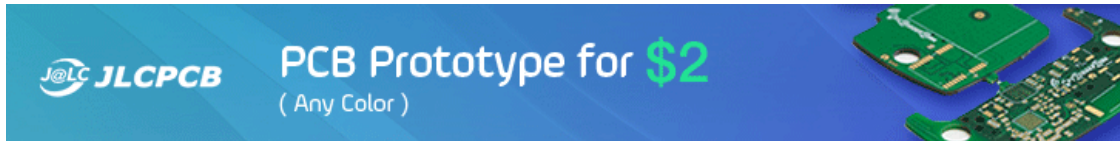

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Topic: Someone has hacked MDO4000C? (Read 2135 times)

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klaus11

Supporter



Posts: 156
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Someone has hacked MDO4000C?

« on: March 29, 2018, 07:11:31 pm »

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it possible to do it?

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HP3458A, HP3245a, Keithley 2000, Fluke 87V, Rigol DP832, TEK TDS5052B, HP33120A

andyturk

Frequent Contributor



Posts: 891
Country:



Re: Someone has hacked MDO4000C?

« Reply #1 on: March 30, 2018, 01:14:31 am »

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It's pretty straightforward to hack the application modules. As for the other features, I don't know of any successful attempts.

I have a MDO4034B and when it boots up, it does say something on the syslog about a 1GHz analog board. Sure would be nice to liberate that extra 650MHz. 🐱

EDIT: The info about the 1GHz analog board is not in the "console log", it's actually displayed on the scope's GUI in manufacturing mode.

« Last Edit: April 02, 2018, 02:46:44 am by andyturk »

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abyrvalg

Frequent Contributor



Posts: 350

Re: Someone has hacked MDO4000C?

« Reply #2 on: March 31, 2018, 10:24:18 am »

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<https://0bin.net/paste/tZYZ4Fs5rjqvAoz# +yNeuILPU-nQmgFvDixaTsFyVclm2Mnh2gr2Id/aSBL>

Country: 




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The following users thanked this post: andyturk, klaus11


klaus11

Supporter



Posts: 156
Country: 



 **Re: Someone has hacked MDO4000C?**
« Reply #3 on: March 31, 2018, 07:50:28 pm »

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Super Abyrvalg!

For Upgrade bandwidth 1GHz, is it necessary to modify hardware ?, remove some capacitor or resistor ...

I have searched a service manual for some clue, but it is a useless manual

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HP3458A, HP3245a, Keithley 2000, Fluke 87V, Rigol DP832, TEK TDS5052B, HP33120A


tmbinc

Regular Contributor



Posts: 172



 **Re: Someone has hacked MDO4000C?**
« Reply #4 on: April 01, 2018, 04:47:57 am »

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I've hacked a DPO4034 (non-B) to enable full bandwidth by hacking the software - bandwidth seems to be software configured, and the pre-amplifier is actually populated. However only half the number of ADCs are populated, making this hack not super useful. I need to characterize the bandwidth but last time I looked I didn't have the right tools.

Then I hacked a DPO5034 (which is - hardware wise - similar to the DPO4034B, i.e. it has a separate frontend board), see <http://debugmo.de/2013/03/whats-inside-tektronix-dpo5034/> , by removing the filter. I only did this on one channel, though. I also hacked the software for it to be detected as a 1GHz model so the UI behaves properly. (The 1GHz and 2GHz models usually have the advanced frontend board with the pre-amplifier, but the 350MHz and 500MHz models only have basic analog board). All of the DPO5xxx however have the same (full) ADC configuration, only the analog board is different.

(I'd guess the DPO4034B however would only have the half-ADC config.)

The MDO4xxx however (regardless of -, -B, -C) again have a similar design as the DPO4xxx, full-ADC config (since they need half the ADCs for the RF part), and of course have the MDO-style analog frontend with the RF part.

What I don't know is if they have the pre-amplifier for the non-RF channels (which I think implies a SW bandwidth limit) or not (which would probably be a HW BW limit then).


Can you post the syslog, and pictures of your analog frontend?


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klaus11

Supporter



Posts: 156
Country: 



 **Re: Someone has hacked MDO4000C?**
« Reply #5 on: April 01, 2018, 02:02:08 pm »

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Thanks, but analog frontend is very different from MDO4KC, here the filter is not so clear to see, at least for me.

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HP3458A, HP3245a, Keithley 2000, Fluke 87V, Rigol DP832, TEK TDS5052B, HP33120A


andyturk

Frequent Contributor



Posts: 891
Country: 



 **Re: Someone has hacked MDO4000C?**
« Reply #6 on: April 02, 2018, 02:41:31 am »

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<https://0bin.net/paste/b41u5jNcJqNIURuI#fG6cEz17pYOVFTR5EX8I5XA9p8OdbkfyFLgGL0Z9503>


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abyrvalg

Frequent Contributor



Posts: 350
Country: 



 **Re: Someone has hacked MDO4000C?**
« Reply #7 on: April 02, 2018, 07:39:34 am »

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andyturk, thanks, that explains some things.

I can elaborate on chapter 9 of that text: the cfgSetUBootEnvVariable is just a name of a function in firmware, but it is not mapped to any console/GPIB cmd directly. It is called by cfgSetSerialNumber function (which is brought out to both console and GPIB explicitly) with "serial#" parameter, then by

cfgSetBboSerialNumber (accessible from GPIB only) with "bboard#" and "hostname" params.

Looks like there is another "mode" enabled/disabled in a way similar to MFG mode:

Code: [Select]

```

:PASSW TRESPASS
:DEV:MOD 1
...
:DEV:MOD 0

```

Are there any new menus enabled with this?

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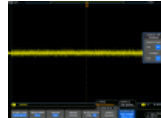
andyturk
 Frequent Contributor

 Posts: 891
 Country:

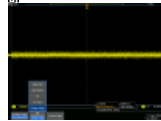
Re: Someone has hacked MDO4000C?
 « Reply #8 on: April 02, 2018, 09:10:38 am »

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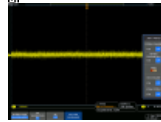
oh yeah...



(38.8 kB, 1024x768 - viewed 364 times.)



(41.5 kB, 1024x768 - viewed 332 times.)



(39.71 kB, 1024x768 - viewed 338 times.)

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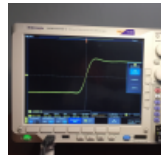
andyturk
 Frequent Contributor

 Posts: 891
 Country:

Re: Someone has hacked MDO4000C?
 « Reply #9 on: April 03, 2018, 08:02:36 am »

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Note the sticker.



(848.91 kB, 2014x1978 - viewed 462 times.)

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abyrvalg
 Frequent Contributor

 Posts: 350
 Country:

Re: Someone has hacked MDO4000C?
 « Reply #10 on: April 04, 2018, 04:38:19 am »

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klaus11, for -C models the max possible bandwidth depends on actual board types installed. Try getting device log (as in andytrk's link) to see main/AFE models. There are both MB and AFE limits:

Code: [Select]

```

afeid bw
1, 2 200M
3 1G
4 200M
5 350M
other 200M

mbid, bw
1, 5 1G-1G

```

2, 6 200M-500M
7 200M-1G

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klaus11

Supporter



Posts: 156
Country:



Re: Someone has hacked MDO4000C?
« Reply #11 on: April 04, 2018, 07:49:19 pm »

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Bravo Abyrvalg!
Bravo andyturk!

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HP3458A, HP3245a, Keithley 2000, Fluke 87V, Rigol DP832, TEK TDS5052B, HP33120A

darkstar49

Regular Contributor



Posts: 134



Re: Someone has hacked MDO4000C?
« Reply #12 on: June 15, 2018, 02:25:52 am »

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Quote from: klaus11 on April 04, 2018, 07:49:19 pm

Bravo Abyrvalg!
Bravo andyturk!

couldn't agree more...

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Howardlong

Super Contributor



Posts: 4564

Country:



Re: Someone has hacked MDO4000C?
« Reply #13 on: June 16, 2018, 07:03:43 am »

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I'm sure I've missed it somewhere, are there some resistor IDs on the 4000B to change, and if so where are they?

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