

## content\_mgmt - Feature #1187

Feature # 1163 (Failed): Статьи к публикации

### Статьи на май 2015

04/20/2015 11:31 PM - tin

|                        |             |                        |            |
|------------------------|-------------|------------------------|------------|
| <b>Status:</b>         | In Progress | <b>Start date:</b>     | 04/20/2015 |
| <b>Priority:</b>       | Normal      | <b>Due date:</b>       |            |
| <b>Assignee:</b>       |             | <b>% Done:</b>         | 0%         |
| <b>Category:</b>       |             | <b>Estimated time:</b> | 0.00 hour  |
| <b>Target version:</b> |             |                        |            |

#### Description

Yes, math flexibility is one reasons why I like 2001's.

Today no more meters get fixed, but got prepared frontpanel.  
I have 2 units left to with, that's not counting donor unit, which is unrepairable.

One of units I bought had no front panel board. And VFD from donor front panel board was  
[url=http://www.eevblog.com/forum/testgear/keithley-2400-sourcemeter-review-and-teardown/]moved to my 2400[url],  
[url=http://xdevs.com/article/kei2400/]as original 2400's glass was broken.[url]. So I end up having 2001 front panel PCB, but no VFD glass.

Later few years I bought pair of 7001 for 100\$. One had broken glass, second one fully functional. Since I don't have any scan cards, 7001 goes to destruction derby now. Already took DC-AC module from it before, so it's decided...

[url=http://doc.xdevs.com/doc/Keithley/2001/K4/before.jpg][img]http://doc.xdevs.com/doc/Keithley/2001/K4/before\_1.jpg[/img][/url]  
[url=http://doc.xdevs.com/doc/Keithley/2001/K4/before2.jpg][img]http://doc.xdevs.com/doc/Keithley/2001/K4/before2\_1.jpg[/img][/url]

Same glass, different PCBs.

This job is not for nervous people. It took me about an 1.5 hours and extensive use of censored language , together with solder wick and flux to "free" glass pins in thruhole pads.  
I did not want to heat up whole board and glass, so did it this way, one by one. These glass mounted pins usually pretty gentle and easy to peel off if apply even little force.

[url=http://doc.xdevs.com/doc/Keithley/2001/K4/remove\_vfd.jpg][img]http://doc.xdevs.com/doc/Keithley/2001/K4/remove\_vfd\_1.jpg[/img][/url]  
[url=http://doc.xdevs.com/doc/Keithley/2001/K4/vfdpin.jpg][img]http://doc.xdevs.com/doc/Keithley/2001/K4/vfdpin\_1.jpg[/img][/url]

I was gentle..

Then clean pin holes in 2001's board. To do so, just heat pad and push toothpick thru, to open hole.

[url=http://doc.xdevs.com/doc/Keithley/2001/K4/cleanvfd.jpg][img]http://doc.xdevs.com/doc/Keithley/2001/K4/cleanvfd\_1.jpg[/img][/url]  
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[url=http://doc.xdevs.com/doc/Keithley/2001/K4/replacevfd.jpg][img]http://doc.xdevs.com/doc/Keithley/2001/K4/replacevfd\_1.jpg[/img][/url]

After this everything is trivial. Pop glass in, it drops in like a charm with zero force, and solder it pin by pin with 1-1.5mm tip.

[url=http://doc.xdevs.com/doc/Keithley/2001/K4/vfdtest1.jpg][img]http://doc.xdevs.com/doc/Keithley/2001/K4/vfdtest1\_1.jpg[/img][/url]  
[url=http://doc.xdevs.com/doc/Keithley/2001/K4/vfdtest2.jpg][img]http://doc.xdevs.com/doc/Keithley/2001/K4/vfdtest2\_1.jpg[/img][/url]

End result - it works :) Front cover need some cleaning, that will do later.

Any one know how to make yellow plastic look like new?

[http://www.eevblog.com/forum/testgear/keithley-2400-sourcemeter-review-and-teardown/](#)

#### History

#1 - 04/24/2015 05:59 PM - tin

- Status changed from New to In Progress

Updated..