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May 26, 2022, 03:46:50 15:46

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Sonsivri > Electronics > General Electronics (Moderators: o2, pickit2) > Wounded Fluke 189 (in need of schematic or service manual)

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Author

Topic: Wounded Fluke 189 (in need of schematic or service manual) (Read 9031 times)

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LithiumOverd

Senior Member



Offline

Posts: 327

Thank You
-Given: 343
-Receive: 503



Wounded Fluke 189 (in need of schematic or service manual)

<< on: April 03, 2013, 10:19:48 22:19 >>



Quote Thank You

Well, let's just say that Fluke 189 doesn't like RF HV signals (~6 Mhz / ~2.8 kV). Should have used alligator clip probes. 😞

Anyway, processor and rest of the circuitry seems fine (apart for a few components of the input protection section) so I was wondering if somebody might share Fluke 189 service manual or schematic?

TIA 😊

IMG_8147 [1600x1200].jpg (372.34 KB, 1600x1200 - viewed 69 times.)

Logged

optikon

Cracking Team
Hero Member



Offline

Posts: 830

Thank You
-Given: 1032
-Receive: 1965



Re: Wounded Fluke 189 (in need of schematic or service manual)

<< Reply #1 on: April 04, 2013, 01:16:10 01:16 >>



Quote Thank You

No service manual for 189 but next best thing?

Input protection might be similar/exact to that of these models.

http://assets.fluke.com/manuals/83_1000_smeng0000.pdf



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LithiumOverdosE, magico

Logged

I can explain this to you. I can't comprehend it for you.

bigtoy

Active Member



Offline

Posts: 228

Thank You
-Given: 282
-Receive: 292



Re: Wounded Fluke 189 (in need of schematic or service manual)

« Reply #2 on: April 07, 2013, 09:27:07 21:27 »



Quote Thank

You

If you find the 189 manual, please post a link here. I have a 189, love the thing, having a service manual for it would be a good idea. I hope you get yours fixed!



Logged

Unhappy

Senior Member



Offline

Posts: 263

Thank You
-Given: 893
-Receive: 90



Re: Wounded Fluke 189 (in need of schematic or service manual)

« Reply #3 on: April 07, 2013, 10:10:12 22:10 »



Quote Thank

You

Maybe this may help

[Link.txt](#) (0.04 KB - downloaded 73 times.)



Logged

dogipic

Newbie



Offline

Posts: 19

Thank You
-Given: 44
-Receive: 11



Re: Wounded Fluke 189 (in need of schematic or service manual)

« Reply #4 on: October 09, 2015, 06:54:43 18:54 »



Quote Thank

You

Now I'm there too. My Fluke 189 died during measurements! Exactly when switching from mA to V (DC). WTF?? Display just turned off and that was it.

I was doing some low voltage measurements of a Li-Ion charger. It's completely non-responsive now. Never before had problems with it.

Of course I opened the housing checked all the connections between batteries and pcb, mode selector and so on. I tried it also with lab power supply. I than made a detailed check of the pcb all the way from batteries over the switch mode power supply to processor ic, display ic, checked components... The switch mode power supply looks ok as everything else. Voltages are there, display dead... Crystals also oscillate. The dedicated chips are a big problem because there is no info on them. I just hope that the processor didn't die...

Did anyone experience similar problems with a FLUKE? Maybe somebody can share a service manual? It's very hard to trace on the multilayer board. Member Unhappy posted a link some time ago but it was deleted from depositfiles..

Of course I'll post the solution of the problem if I manage to find it.

Thanks.

**Gallymimu**

Hero Member



Offline

Posts: 704

Thank You
-Given: 151
-Receive: 213 **Re: Wounded Fluke 189 (in need of schematic or service manual)**

« Reply #5 on: October 09, 2015, 08:46:15 20:46 »

Quote **Thank You**

187/189 are the best meters fluke ever made. I buy em off ebay whenever I can get them for a good price.

Anyone used the 289? OMG that thing is a POS. Such a bummer that they discontinued the 187/189

**optikon**

Cracking Team

Hero Member



Offline

Posts: 830

Thank You
-Given: 1032
-Receive: 1965 **Re: Wounded Fluke 189 (in need of schematic or service manual)**

« Reply #6 on: October 09, 2015, 11:02:19 23:02 »

Quote **Thank You****Quote from: Gallymimu on October 09, 2015, 08:46:15 20:46**

187/189 are the best meters fluke ever made. I buy em off ebay whenever I can get them for a good price.

Anyone used the 289? OMG that thing is a POS. Such a bummer that they discontinued the 187/189

I've got a 289, mainly because I couldnt find a new 189... meh its kind of grown on me and I like the datalogging.

I mostly use bench 6.5 or 7.5 meters so I never really get used to these handhelds but they do come in handy in portable applications.

« Last Edit: October 09, 2015, 11:04:59 23:04 by optikon »



I can explain this to you. I can't comprehend it for you.

dogpic

Newbie



Offline

Posts: 19

Thank You
-Given: 44
-Receive: 11 **Re: Wounded Fluke 189 (in need of schematic or service manual)**

« Reply #7 on: October 10, 2015, 07:56:51 07:56 »

Quote **Thank You**

I bought mine also from ebay for a bargain. And I agree it's a fantastic meter. Rugged, accurate, lots of functions. It's hard to believe that such a brand meter like Fluke simply dies during normal operation. 😞 Even my other cheap Voltcraft still works after all these years.

I also sent an email to Fluke support. Now we'll see their response. I read the warranty paragraph in the manual and if I understood right, this kind of failures should be covered for 10 years from the day of purchase. But this is true only for the first owner. So, if the original owner registered the meter than the warranty isn't valid for me.

**Gallymimu**

Hero Member



Offline

Posts: 704

Re: Wounded Fluke 189 (in need of schematic or service manual)

« Reply #8 on: October 11, 2015, 04:53:45 16:53 »

Quote **Thank You****Quote from: optikon on October 09, 2015, 11:02:19 23:02**

Thank You
 -Given: 151
 -Receive: 213



I've got a 289, mainly because I couldn't find a new 189... meh its kind of grown on me and I like the datalogging.

I mostly use bench 6.5 or 7.5 meters so I never really get used to these handhelds but they do come in handy in portable applications.

The things that kill me on the 289 are:

- short battery life
- long boot time
- lower contrast display
- bigger

That said the data logging is really quite nice and easy to use.

Posted on: October 11, 2015, 05:52:26 17:52 - Automerged

Quote from: dogipic on October 10, 2015, 07:56:51 07:56

I bought mine also from ebay for a bargain. And I agree it's a fantastic meter. Rugged, accurate, lots of functions. It's hard to believe that such a brand meter like Fluke simply dies during normal operation. 🙄 Even my other cheap Voltcraft still works after all these years.

I also sent an email to Fluke support. Now we'll see their response. I read the warranty paragraph in the manual and if I understood right, this kind of failures should be covered for 10 years from the day of purchase. But this is true only for the first owner. So, if the original owner registered the meter than the warranty isn't valid for me.

one of the other problems with the warranty is I think there was a provision in there for a limit after the last date of manufacture of the line as well. I've found fluke to be pretty good on this stuff even with old equip so I hope you have good luck with them. Fluke isn't the same company anymore since they got bought.

Logged

dogipic
 Newbie

 Offline

Posts: 19

Thank You
 -Given: 44
 -Receive: 11



Re: Wounded Fluke 189 (in need of schematic or service manual)

« **Reply #9 on:** October 12, 2015, 11:42:13 11:42 »

Quote **Thank You**

Thank you all for your support.

I remembered that one of my colleagues had the same 189. So he brought today his meter and I made a comparison. I tested the power supply - compared with a working one. It works ok. I also tested the LCD screen which is also ok. I also removed the supercap because it's not in the best condition.

I also tried the optical connection with a PC computer. It doesn't work. So my suspicion regarding a CPU fault maybe right...

I'm also thinking about what turns the meter on? Or better how is it turned on? Because with inserted batteries there is always power on the board. When you turn the mode selector to a range there has to be a signal to the CPU which turns it on from standby or similar?

I also called the fluke service center today... Does anybody know in which year the production of this meter was stopped? The warranty is bound to this.

To be continued...

Logged

dogipic

Newbie



Offline

Posts: 19

Thank You
-Given: 44
-Receive: 11**Re: Wounded Fluke 189 (in need of schematic or service manual)**

« Reply #10 on: October 19, 2015, 03:33:38 15:33 »



Quote Thank

You

I investigated the problem with my FLUKE a little further. Especially the turn on procedure.

Looks like when you turn the meter on with the mode selector signals go from the selector over the 74HC04 HEX inverter. Left upper part of the PCB seen from behind. So far so good. Hex inverter works. From there the signals go to the CPU, display chip...

But I have maybe a problem on the pin 4. It's one of the inverted outputs. There is a track from this pin under the inverter which goes to a via which is also a blind via I think. I tried to track down where this signal goes. With no luck. I tried every single pin on the PCB and simply couldn't find it.

I'd really appreciate it when somebody could check it on a working 189. Maybe I have a broken track in one of the middle layers...

FLUKE 189 PIN 4.jpg (106.61 KB, 512x384 - viewed 44 times.)



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optikonCracking Team
Hero Member

Offline

Posts: 830

Thank You
-Given: 1032
-Receive: 1965**Re: Wounded Fluke 189 (in need of schematic or service manual)**

« Reply #11 on: October 19, 2015, 10:11:12 22:11 »



Quote Thank

You

Quote from: dogipic on October 19, 2015, 03:33:38 15:33

I investigated the problem with my FLUKE a little further. Especially the turn on procedure.

Looks like when you turn the meter on with the mode selector signals go from the selector over the 74HC04 HEX inverter. Left upper part of the PCB seen from behind. So far so good. Hex inverter works. From there the signals go to the CPU, display chip...

But I have maybe a problem on the pin 4. It's one of the inverted outputs. There is a track from this pin under the inverter which goes to a via which is also a blind via I think. I tried to track down where this signal goes. With no luck. I tried every single pin on the PCB and simply couldn't find it.

I'd really appreciate it when somebody could check it on a working 189. Maybe I have a broken track in one of the middle layers...

Since you were using it under normal operating conditions, it might suggest that it is not a component failure due to overstress. In otherwords, is your apparently open pathway due to a cracked solder joint somewhere? Can you examine the joints? What about touching them all up by reflowing the solder? You mentioned a "blind" via , there is a specific technology in use to create blind and buried vias. I would be surprised to learn that a low cost Fluke meter is using a blind via PCB.. so perhaps look elsewhere..



Logged

I can explain this to you. I can't comprehend it for you.

dogipic

Newbie



Offline

**Re: Wounded Fluke 189 (in need of schematic or service manual)**

« Reply #12 on: October 22, 2015, 12:20:47 12:20 »



Quote Thank

You

Posts: 19

Thank You
-Given: 44
-Receive: 11

First of all I must say that the 189 is for sure not a "low cost FLUKE meter". And second, it definitely has a multilayer board with blind vias which connect to the middle layers. With the help of a member on another forum I managed to find out where the mentioned via connects to. It goes to a 1MEG resistor on the other side of the board, next to the memory ic. If somebody is interested I can also post a picture.

I did try to reflow the solder points with hot air but the result was the same. Unfortunately I can't test it once more because I sent the meter to a FLUKE service. And guess what..the meter is still under warranty!
It's now on the way to Netherlands, to Eindhoven where the FLUKE Europe headquarters are.

We'll see what the result will be.

Logged

Gallymimu

Hero Member

 Offline

Posts: 704

Thank You
-Given: 151
-Receive: 213 **Re: Wounded Fluke 189 (in need of schematic or service manual)**

« Reply #13 on: October 22, 2015, 05:15:04 17:15 »

Quote Thank You

Quote from: dogipic on October 22, 2015, 12:20:47 12:20

First of all I must say that the 189 is for sure not a "low cost FLUKE meter". And second, it definitely has a multilayer board with blind vias which connect to the middle layers. With the help of a member on another forum I managed to find out where the mentioned via connects to. It goes to a 1MEG resistor on the other side of the board, next to the memory ic. If somebody is interested I can also post a picture.

I did try to reflow the solder points with hot air but the result was the same. Unfortunately I can't test it once more because I sent the meter to a FLUKE service.

And guess what..the meter is still under warranty!

It's now on the way to Netherlands, to Eindhoven where the FLUKE Europe headquarters are.

We'll see what the result will be.

yes post pictures.

Logged

Unhappy

Senior Member

 Offline

Posts: 263

Thank You
-Given: 893
-Receive: 90 **Re: Wounded Fluke 189 (in need of schematic or service manual)**

« Reply #14 on: October 23, 2015, 01:14:11 13:14 »

Quote Thank You

Quote from: dogipic on October 09, 2015, 06:54:43 18:54

Did anyone experience similar problems with a FLUKE? Maybe somebody can share a service manual? It's very hard to trace on the multilayer board. Member Unhappy posted a link some time ago but it was deleted from depositfiles..

Of course I'll post the solution of the problem if I manage to find it.

Thanks.

@ Dogipic

As I already replied about my HDD problem in reply to your PM. I managed to recover the data from my Dead HDD, The file I uploaded was Service manual for Fluke 45 Dual Display Multi-meter size is about 50 MB. I am currently uploading it again for all on zippyshare I will post the link as soon as it completes. File is in PDF format

DL.txt (0.05 KB - downloaded 18 times.)

Follow members gave a thank to your post:

titi, dogipic

« Last Edit: October 23, 2015, 03:50:29 15:50 by Unhappy »

Logged

dogipic

Newbie



Offline

Posts: 19

Thank You
-Given: 44
-Receive: 11



Re: Wounded Fluke 189 (in need of schematic or service manual)

« Reply #15 on: October 24, 2015, 03:18:21 15:18 »



Quote Thank You

Here is the picture Gallymimu.

189.jpg (116.17 KB, 742x670 - viewed 33 times.)

Follow members gave a thank to your post:

Gallymimu

Logged

Gallymimu

Hero Member



Offline

Posts: 704

Thank You
-Given: 151
-Receive: 213



Re: Wounded Fluke 189 (in need of schematic or service manual)

« Reply #16 on: October 25, 2015, 08:29:15 20:29 »



Quote Thank You

Quote from: dogipic on October 24, 2015, 03:18:21 15:18

Here is the picture Gallymimu.

This looks like it is behind the display. Is that correct?

Logged

dogipic

Newbie



Offline

Posts: 19

Thank You
-Given: 44
-Receive: 11



Re: Wounded Fluke 189 (in need of schematic or service manual)

« Reply #17 on: October 25, 2015, 10:22:59 22:22 »



Quote Thank You

Quote from: Gallymimu on October 25, 2015, 08:29:15 20:29

This looks like it is behind the display. Is that correct?

Yes, it's behind the display.

Logged

dogipic

Newbie



Offline

Posts: 19

Thank You
-Given: 44
-Receive: 11



Re: Wounded Fluke 189 (in need of schematic or service manual)

« Reply #18 on: November 13, 2015, 09:35:53 09:35 »



Quote Thank You

A quick update on the repair of the meter. Warranty was still valid so I got a brand new current produced model the 289! 😊 I couldn't believed it when they called me. Very impressed of FLUKE and their service. But unfortunately I'll newer know what was wrong with my wounded 189...

Thank you all for your support.

Logged

Gallymimu

Hero Member



Offline

Re: Wounded Fluke 189 (in need of schematic or service manual)

« Reply #19 on: November 14, 2015, 04:10:45 04:10 »



Quote Thank You

Posts: 704

Thank You
-Given: 151
-Receive: 213

That's cool... but also kinda sucks. I HATE the 289 and much prefer the 189.

And thanks for the update, I have a bunch of 187/189 (kinda collect them as the best and last great meters Fluke will ever make). Some of them have issues and maybe I can get them replaced and sell the replacement 🤔



« Last Edit: November 14, 2015, 04:13:28 04:13 by Gallymimu »

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