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 **Author**

Topic: TDS3012B ethernet configure failure (Read 922 times)

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Galen
Regular Contributor

Posts: 94
Country: 


 **TDS3012B ethernet configure failure**
« on: June 05, 2020, 02:35:10 am »

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I tried to connect my TDS3012B to computer via the ethernet port, scope and computer all ON, connect the net cable, then at the scope, Utility->System->I/O->Ethernet Setting, push the DHCP/BOOTP side button to set it from OFF to ON, the scope shows 'Requesting IP address' and a small clock, then it stopped there, no reaction to any button, like dead. I have to disconnect the net cable, then power off the scope.

During the scope is 'Requesting IP address', in the computer network, I can see 'A unknown network connection'. When I pull off the net cable from the scope, the 'Unknown network' on the computer disappeared. So the net cable physically should be OK. I used a good quality cable.

When I restart the scope it is stuck after the splash screen, auto restart again and again. Search the net, found the 'Hard boot' trick, 'Hold trigger B when power on the scope', this worked, scope alive again (language changed back to English).

I'm not a network engineer, so what's the right steps to connect this scope with computer via ethernet port? Especially the configure steps on the computer.

Any advice is very appreciated.

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Delighted when problem fixed

Galen
Regular Contributor


 **Re: TDS3012B ethernet configure failure**
« Reply #1 on: June 05, 2020, 07:37:58 am »

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I will try to use fixed IP address on the scope, to see if my computer can connect with it.

Posts: 94
Country:

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Delighted when problem fixed

Galen
Regular Contributor

Posts: 94
Country:

Re: TDS3012B ethernet configure failure
« **Reply #2 on:** June 05, 2020, 12:10:03 pm » [Say Thanks](#) [Reply](#) [Quote](#)

Try fixed IP address, in both computer and the scope, by disable the firewall in computer, still can not communicate. Ping command shows no reply. But the computer local network shows "Connected". Any advice?

« *Last Edit:* June 05, 2020, 04:02:19 pm by Galen » [Report to moderator](#) [Logged](#)

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StefanF
Contributor

Posts: 11
Country:

Re: TDS3012B ethernet configure failure
« **Reply #3 on:** June 05, 2020, 02:59:37 pm » [Say Thanks](#) [Reply](#) [Quote](#)

Is subnetmask and gateway in the same range?

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picburner
Regular Contributor

Posts: 243
Country:

Re: TDS3012B ethernet configure failure
« **Reply #4 on:** June 05, 2020, 03:36:09 pm » [Say Thanks](#) [Reply](#) [Quote](#)

If the network cards (of the PC or the instrument (at least one of the two)) are not self-configuring, you may need a "cross" network cable if you directly connect the two devices together, or go through a switch or a router.

This is for hardware side, for software side checks what StefanF rightly said.

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Galen
Regular Contributor

Posts: 94
Country:

Re: TDS3012B ethernet configure failure
« **Reply #5 on:** June 05, 2020, 04:16:06 pm » [Say Thanks](#) [Reply](#) [Quote](#)

Thanks a lot StefanF and picburner. The subnet mask is same in both end. I didn't configure gateway. Just link the scope with my computer directly. I think the cable I used is an ordinary one. As picburner advised, I will make a crossover cable, and try again. I think this is the problem. I searched the net, it's said if two host was linked directly, the cable should be crossover cable, pin 1&3,2&6,4&7,5&8 exchanged in the 2 end. I will try this next week. Thanks again.

« *Last Edit:* June 05, 2020, 10:41:11 pm by Galen » [Report to moderator](#) [Logged](#)

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Galen
Regular Contributor

Posts: 94
Country:

Re: TDS3012B ethernet configure failure
« **Reply #6 on:** June 22, 2020, 02:59:25 pm » [Withdraw Thanks](#) [Reply](#) [Quote](#)

Tried a crossover cable. still no joy. But another TDS3012B connected by this cable. so the cable is good. I switched the PSU between the 2 3012B, the no-connection scope still can't connect. Looks like the problem is at the main board?

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The following users thanked this post: volvo_nut_v70

tv84
Super Contributor

Posts: 1465
Country:

Re: TDS3012B ethernet configure failure
« **Reply #7 on:** June 22, 2020, 03:25:58 pm » [Say Thanks](#) [Reply](#) [Quote](#)


Have you physically checked the eth connector, to see if there is no damage in the pins and or something blocking them?

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YetAnotherTechie

Contributor

Posts: 48

Country:  **Re: TDS3012B ethernet configure failure**

« Reply #8 on: June 22, 2020, 11:01:07 pm »

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Quote

Have you recently repaired/replaced the nvram? (dallas chip)

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 Galen

Regular Contributor



Posts: 94

Country:  **Re: TDS3012B ethernet configure failure**

« Reply #9 on: June 23, 2020, 07:43:02 am »

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Quote

For the NVRAM, yes, I replaced the battery, as the original battery dead. I found the scope power on hour is a very big number. So I think can be considered as 'changed the NVRAM'. Is this related to the network connection?

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 Galen

Regular Contributor



Posts: 94

Country:  **Re: TDS3012B ethernet configure failure**

« Reply #10 on: June 23, 2020, 07:47:17 am »

Say Thanks

Reply

Quote

For the connecter socket, I just try to plug the cable a few times to clean it if any dust/rusty. Not physically check it. normally, it is very rare this thing has problems. I checked the flexible connection between PSU and the main board, it's good.

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 YetAnotherTechie

Contributor

Posts: 48

Country:  **Re: TDS3012B ethernet configure failure**

« Reply #11 on: June 24, 2020, 01:41:58 am »

Say Thanks

Reply

Quote

Quote from: Galen on June 23, 2020, 07:43:02 am

For the NVRAM, yes, I replaced the battery, as the original battery dead. I found the scope power on hour is a very big number. So I think can be considered as 'changed the NVRAM'. Is this related to the network connection?

In my experience with a 3034b, network will fail if nvram is corrupted.

Mine was working, i removed the nvram to make a backup and replace the battery, and it became corrupted. After that no more network connection!

The mac address shown in the configuration page had changed.

i was able to find a dump somewhere here on the eevblog. There i could see the mac address, i found an entry on my router with the old mac of the scope, put it back in ram, and then it started working. I made tests, and having an invalid mac address set in ram resulted in no connection, even if the scope with a corrupted mac in nvram, shows a valid mac in the configuration page!

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The following users thanked this post: giosif, Galen

 james_s

Super Contributor



Posts: 11989

Country:  **Re: TDS3012B ethernet configure failure**

« Reply #12 on: June 24, 2020, 01:50:58 am »

Say Thanks

Reply

Quote

There's a button you hold down and power up, I think it's B-trig? That will reset the entire NVRAM to factory defaults, if you suspect it's corrupted that's the first thing I'd try.

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 Galen

Regular Contributor



Posts: 94

Country:  **Re: TDS3012B ethernet configure failure**

« Reply #13 on: June 24, 2020, 07:32:03 am »

Say Thanks

Reply

Quote

Hi YetAnotherTechie, I guess your input will work. Because the network working TDS3012B, I didn't do anything to it except changed the crystal oscillator. The other 2 TDS3000B, I de-soldered the NVRAM and replaced the battery. I found one of them the working hours is a very big number, So I think the content of it could be 'corrupted'.

So I will try to read out the MAC address from the good one, and write it into the bad one NVRAM using TL866, to test if it works. or I will find a TDS3012B NVRAM image file, in this blog, and write it into the NVRAM. will report back later. thanks a lot for the experience sharing.

Report to moderator



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Delighted when problem fixed

Galen
 Regular Contributor

 Posts: 94
 Country:

Re: TDS3012B ethernet configure failure
 « Reply #14 on: June 24, 2020, 07:44:20 am » Say Thanks Reply Quote

Quote from: james_s on June 24, 2020, 01:50:58 am

There's a button you hold down and power up, I think it's B-trigger? That will reset the entire NVRAM to factory defaults, if you suspect it's corrupted that's the first thing I'd try.

Hi james, thank you very much for the suggestion. If it's Trigger B, i have tried it before when I try the network connection using DHCP and the scope dead there., have to power off and power on by pushing and holding the trigger B. Otherwise, the scope will be dead after the splash screen. but tried network connection after this, still no joy. Will report any progress.

« Last Edit: June 24, 2020, 09:38:27 am by Galen »

Report to moderator

Delighted when problem fixed

Galen
 Regular Contributor

 Posts: 94
 Country:

Re: TDS3012B ethernet configure failure
 « Reply #15 on: June 24, 2020, 09:28:33 pm » Say Thanks Reply Quote

Based on Yetanotherarchie's experience sharing, progress was made. I downloaded the 3014B NVRAM image from this blog, and burnt in my 3014B by TL866, the Ethernet connection works well, using fixed IP. I didn't try DHCP mode.

To confirm this, I copied the NVRAM image from my 3012B, which works for Ethernet, and burn it into the Ethernet problem 3012B, it's Ethernet function recovered.

So the Mac address maybe the cause of the problem.

So I try to only change the Mac address in my old NVRAM file, and burn in my 3012B, Ethernet fail again.

Need to do more study on this. there maybe a verification process in the NVRAM image. Maybe the Checksum?

BTW, the Mac address is stored at x06F0 - x06F5.

Thank you very much Yetanotherarchie.

« Last Edit: June 24, 2020, 09:34:18 pm by Galen »

Report to moderator

Delighted when problem fixed

The following users thanked this post: giosif

tv84
 Super Contributor

 Posts: 1465
 Country:

Re: TDS3012B ethernet configure failure
 « Reply #16 on: June 24, 2020, 09:44:08 pm » Say Thanks Reply Quote

If you have 2 NVRAM dumps shouldn't be much difficult to see the checksum. In hindsight, wireshark would have helped...

Report to moderator

james_s
 Super Contributor

 Posts: 11989
 Country:

Re: TDS3012B ethernet configure failure
 « Reply #17 on: June 24, 2020, 11:28:35 pm » Say Thanks Reply Quote

Maybe the MAC address can be set from somewhere? It's possible to replace the NVRAM with a brand new empty one and have the scope work, but I've never tried with a B model so I don't know if a fresh reset puts the MAC address in the NVRAM.

Report to moderator

giosif
 Frequent Contributor

 Posts: 528
 Country:

Re: TDS3012B ethernet configure failure
 « Reply #18 on: June 25, 2020, 09:50:50 pm » Say Thanks Reply Quote

Thanks to both YetAnotherTechie and Galen I now have the Ethernet functionality on my TDS3034B restored. 🙌😊

With this occasion, I realized the original contents of the NVRAM had been corrupted and it contained only gibberish.

I used a dump file from somewhere here on the forum and, voila, network connectivity now works like a charm.

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