
Subject: ECB enclosure ideas
Posted by [rcini](#) on Fri, 03 May 2024 18:48:59 GMT
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Has anyone seen this enclosure idea? I really like it and wonder what other ideas people have.

<https://hackaday.com/2014/02/26/hackaday-68k-enclosure-backplane-and-power/>

Subject: Re: ECB enclosure ideas
Posted by [rcini](#) on Fri, 17 May 2024 19:07:23 GMT
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Following up, I received the Hammond case from Mouser, and it's pretty slick. I made-up a version of the ECB-8 backplane as a 7-slot version with an ATX power connector. The board is a bit longer than the normal board (7.5" versus 6.6") to accommodate the mounting holes.

Right now, the only issue it seems is that Freerouting (v1.9) is taking forever to route it -- like pass 60 with still 10 traces left. You'd think that it would be easy since all the traces are parallel, but maybe not. Will let it grind away and I'll post the files when they're done.

Rich

Subject: Re: ECB enclosure ideas
Posted by [rcini](#) on Sat, 18 May 2024 13:41:15 GMT
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Hey, can someone take a look at this draft of the revised ECB backplane? I've tried 3 times to route it and it gets into a loop at the end and won't finish. It's the oddest thing I've seen. Two traces left, pass #630. You'd think with all the traces parallel it would route easily, but not really...

Thanks!
Rich

File Attachments

1) [BackPlane.zip](#), downloaded 68 times

Subject: Re: ECB enclosure ideas
Posted by [tingo](#) on Sat, 18 May 2024 17:06:07 GMT
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Are you totally relying on an AutoRouter? Or are you routing some traces first?

Subject: Re: ECB enclosure ideas
Posted by [lynchaj](#) on Sat, 18 May 2024 19:31:31 GMT
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Hi Rich

I've found that parallel backplanes are a special case for routing and are almost always better done manually. Trying to get an autorouter to consistently route a backplane will be an exercise in frustration because it can't see the obvious high-level order the traces should use like a human mind can do. FreeRouting is a great piece of software but it is certainly not up to the task. Save yourself some time and just route by hand. It will save you time and energy.

Best of luck, Thanks, Andrew Lynch

Subject: Re: ECB enclosure ideas
Posted by [rcini](#) on Sat, 18 May 2024 21:23:54 GMT
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Thanks. I was totally relying on FreeRouting to do it but I guess I overestimated its capabilities in that regard. I really don't want to route this by hand but I guess I will.

Subject: Re: ECB enclosure ideas
Posted by [rcini](#) on Sun, 19 May 2024 14:30:56 GMT
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I started from scratch using the Backplane 8 201506 version and just replaced the power connector and made other minor changes to support ATX power. There were problems manually routing the RESET signal to a new 2x4 "front panel" connector -- it wouldn't let me do it. Very strange, but after some poking around it has to do with both extra slashes in the net names and locked tracks -- there were several other signals with the same problem, I expect an artifact of using KiCAD 6 rather than what was originally used. Once I undid that, it worked. Attached is a revised plot.

The board is about 0.1" too tall for the case so the top will only be able to float on-top (or just leave it off). I thought about shrinking the backplane, but it wouldn't matter since all of the ECB cards adhere to the standard. So, it's a less-than-perfect solution but could provide stability and partial enclosure.

Rich

File Attachments

1) [Backplane 8 201506 PCB Plot.pdf](#), downloaded 97 times

Subject: Re: ECB enclosure ideas

Posted by [rcini](#) on Mon, 01 Jul 2024 14:47:18 GMT

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I have not yet sent the modified backplane to manufacturing, opting instead to modify the design to use a spare backplane I had in stock. Here's the picture of the front of the setup. The ATX power board is on the right by the empty slot. The black strip on the bottom is a thin stick-on piece of neoprene to act as a way to prevent the boards from moving around a lot. The board stack is slightly taller than the case allows, so there's an opportunity to build a custom top out of acrylic or wood, maybe with some grooves to support the top of the board.

For those interested, it's an SBC-188 stack including my 4PIO, the CPU, 4MB memory, SD/Floppy, and 2S+1P cards.

Enjoy!

Rich

File Attachments

1) [IMG_4121.jpg](#), downloaded 233 times
