



AI Conrad &lt;aconrad@lbto.org&gt;

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**Schematic (was "Re: USB3 Fiber Testing")**

6 messages

**AI Conrad** <aconrad@lbto.org>

Thu, Jan 19, 2023 at 9:08 AM

To: "Crass, Jonathan" &lt;crass.7@osu.edu&gt;

Cc: Matthieu Bec &lt;mbec@lbto.org&gt;, Fernando Pedichini &lt;fernando.pedichini@inaf.it&gt;, Roberto Piazzesi &lt;roberto.piazzesi@inaf.it&gt;

Hi Jonathon,

Thanks for this information. Could you provide a simple schematic of the run for both the current plan to go through the wrap and the proposed plan to go via the pier. Just 3 or 4 labelled boxes (e.g., "Andor", "tree house", "patch panel", "CRB", etc; along with the approximate lengths between each box (photo of hand drawn is fine, should just take 20 minutes).

Thanks,

AI

On Thu, Jan 19, 2023 at 9:29 AM Crass, Jonathan &lt;crass.7@osu.edu&gt; wrote:

Hi AI,

Below is a link to the testing we did to try and diagnose the fiber extenders with Andor. This is more of an internal document (we were looking at drivers and fiber lengths), but hopefully it should help give more context.

<https://docs.google.com/document/d/1XbMQ-r1XE363FPSuebJbKxU-TSHn8DmQKqR9RAZiCz0/edit?usp=sharing>

J

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**Dr. Jonathan Crass (he/him)***Instrument Scientist*Department of Astronomy  
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Columbus  
OH 43201

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**Crass, Jonathan** <crass.7@osu.edu>

Thu, Jan 19, 2023 at 9:39 AM

To: Al Conrad <aconrad@lbto.org>

Cc: Matthieu Bec <mbec@lbto.org>, Fernando Pedichini <fernando.pedichini@inaf.it>, Roberto Piazzesi <roberto.piazzesi@inaf.it>

Al,

All of this is on my to do list following from the monthly call yesterday - however, I'm away this week as I said yesterday. I'll get to it once I'm back.

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**From:** Al Conrad <aconrad@lbto.org>

**Sent:** Thursday, January 19, 2023 2:08 PM

**To:** Crass, Jonathan <crass.7@osu.edu>

**Cc:** Matthieu Bec <mbec@lbto.org>; Fernando Pedichini <fernando.pedichini@inaf.it>; Roberto Piazzesi <roberto.piazzesi@inaf.it>

**Subject:** Schematic (was "Re: USB3 Fiber Testing")

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**Crass, Jonathan** <crass.7@osu.edu>

Tue, Jan 24, 2023 at 1:51 PM

To: Al Conrad <aconrad@lbto.org>

Cc: Matthieu Bec <mbec@lbto.org>, Fernando Pedichini <fernando.pedichini@inaf.it>, Roberto Piazzesi <roberto.piazzesi@inaf.it>

Al, All,

See attached a set of schematics showing the lengths with existing fiber (slide 1), and two possible alternatives which reduce the length. Some of these lengths are best guesses and should be verified if we have a preferred option.

Were there any outcomes from the discussions last week?

Thanks,  
Jonathan

---

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**Sent:** Thursday, January 19, 2023 2:39 PM  
**To:** Al Conrad <[aconrad@lbto.org](mailto:aconrad@lbto.org)>  
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**Subject:** Re: Schematic (was "Re: USB3 Fiber Testing")

[Quoted text hidden]

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 **USB3\_Fiber\_Routings\_LBT.pdf**  
76K

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**Matthieu Bec** <[mbec@lbto.org](mailto:mbec@lbto.org)> Tue, Jan 24, 2023 at 2:10 PM  
To: "Crass, Jonathan" <[crass.7@osu.edu](mailto:crass.7@osu.edu)>  
Cc: Al Conrad <[aconrad@lbto.org](mailto:aconrad@lbto.org)>, Fernando Pedichini <[fernando.pedichini@inaf.it](mailto:fernando.pedichini@inaf.it)>, Roberto Piazzesi <[roberto.piazzesi@inaf.it](mailto:roberto.piazzesi@inaf.it)>, Patrick Hartley <[phartley@lbto.org](mailto:phartley@lbto.org)>, Mark Smithwright <[msmithwright@lbto.org](mailto:msmithwright@lbto.org)>

Hi Jonathan,  
c. Pat and Mark since the implementations might be more on their telescope/eng side.

Noting also what we discussed and anything > 100m is a bit grey.

Thanks,  
Matthieu

> On Jan 24, 2023, at 4:51 PM, Crass, Jonathan <[crass.7@osu.edu](mailto:crass.7@osu.edu)> wrote:

>

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<[jhill@lbto.org](mailto:jhill@lbto.org)>

Tue, Jan 24, 2023 at 4:33 PM

Hi Jonathon,

Thanks for providing the schematic. By the way, I am collecting all the current material in one place on a wiki page [here](#). I'm adding John Hill. My impression from our meeting last week with the SV team was that using the cable chain for the pier that was established for PEPSI is not difficult, but there may not be room unless it is expanded

somehow. After discussions with the SV team, we concluded that the best approach for them for now is to put their data taking computer in the LBTI rack (DX side) and not use fiber extenders. This has down sides (heat, vibration, etc), but we determined that this is the way to go for now.

Is this type of solution (local processor in the LBTI rack (SX side) with a direct USB connection) an option for you? Of course space in the SX LBTI inboard rack is tighter, but we were wondering if that option is a non-starter for some other reason before looking at the space issue.

AI

[Quoted text hidden]

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**Crass, Jonathan** <crass.7@osu.edu>

Wed, Jan 25, 2023 at 5:18 AM

To: AI Conrad <aconrad@lbto.org>, Matthieu Bec <mbec@lbto.org>

Cc: Fernando Pedichini <fernando.pedichini@inaf.it>, Roberto Piazzesi <roberto.piazzesi@inaf.it>, Patrick Hartley <phartley@lbto.org>, Mark Smithwright <msmithwright@lbto.org>, John Hill <jhill@lbto.org>

Hi AI,

Unless things have changed recently, there should be plenty of space in the PEPSI cable train for a 0.5" diameter conduit with fiber - I don't see why anything larger would be required given this could carry many cores?

I do have some comments/questions given the proposed location for the SV server:

1. I assume LBTO will be putting vibration requirements on this machine given it will be in close proximity to the gallery (i.e. fanless?). This was a lengthy discussion previously about improving vibration performance on the telescope - and so we were told no PCs in those racks (the treehouse would be ok).
2. There is no spare space on the LBTI SX racks (it is all fully allocated) - therefore, this isn't an option for iLocater.
3. Additionally, we already have the server at the telescope for this - it's not designed to be tipped, has fans etc. and so therefore, we really want to see this off the telescope. That was in-keeping with the IT group policy of keeping servers etc in the computer rooms. And hence the suggestion of the shorter fiber run which minimized vibration sources and kept all the servers in a single place for personnel support.

Thanks

J

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