

LaserDisc Database

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(WIP) Laserdisc software image decoder from raw signal

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9954tony

Serious fan



Joined: 12 Sep 2015, 05:57
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Has thanked: 5 times
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Message

Post subject: Re: (WIP) Laserdisc software image decoder from raw signal

Posted: 31 Jul 2021, 18:07

I've been working on a "No Solder Setup" using the CX card. I've got fairly decent results with the following:

USD \$10 HD CCTV BALUN

<https://www.amazon.com/gp/product/B07TBWJB53>

USD \$11 SMA to BNC (need 2x sma male to bnc female)

<https://www.amazon.com/Coaxial-Adapter-Female-Connector-Pieces/dp/B07T8LMHHQ>

USD \$8 BNC cable

<https://www.amazon.com/BNC-Male-RG316-Cable-Inches/dp/B07MB89Z7R>

(shortest you can live with)

USD \$5 BNC 50ohm terminator

<https://www.amazon.com/CESS-Coaxial-Connector-Adapter-Terminator/dp/B01ASF5D6M/>

USD \$6 BNC T Connector

<https://www.amazon.com/Splitter-Connector-Double-T-Shape-Adaptor/dp/B06XHFGVXM>

USD \$7 3x AA battery holder with switch

<https://www.amazon.com/Onwon-Pieces-Battery-Holder-Storage/dp/B07M8HTQ3F>

USD \$23 OPA657

<https://www.ebay.com/itm/272936368386>

USD \$8 5db attenuator

<https://www.ebay.com/itm/184973161399>

USD \$25 PCIe BNC CX card

<https://www.aliexpress.com/item/4001286595482.html>

USD \$36 mini circuits BLP-10.7+ low pass filter

<https://www.minicircuits.com/WebStore/dashboard.html?model=BLP-10.7%2B>

Total without tax and shipping: \$139



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if you can solder you can save \$20 making your own low pass filter (which is shown in the picture below):

USD \$14 mini circuits sclf-10.7+

<https://www.minicircuits.com/WebStore/dashboard.html?model=SCLF-10.7%2B>

DISCLAIMERS:

A) There seems to be as much as a 2db SNR difference between CX cards, even of the same make and model. I've gotten the best results with cards ending in '3' or '1'.

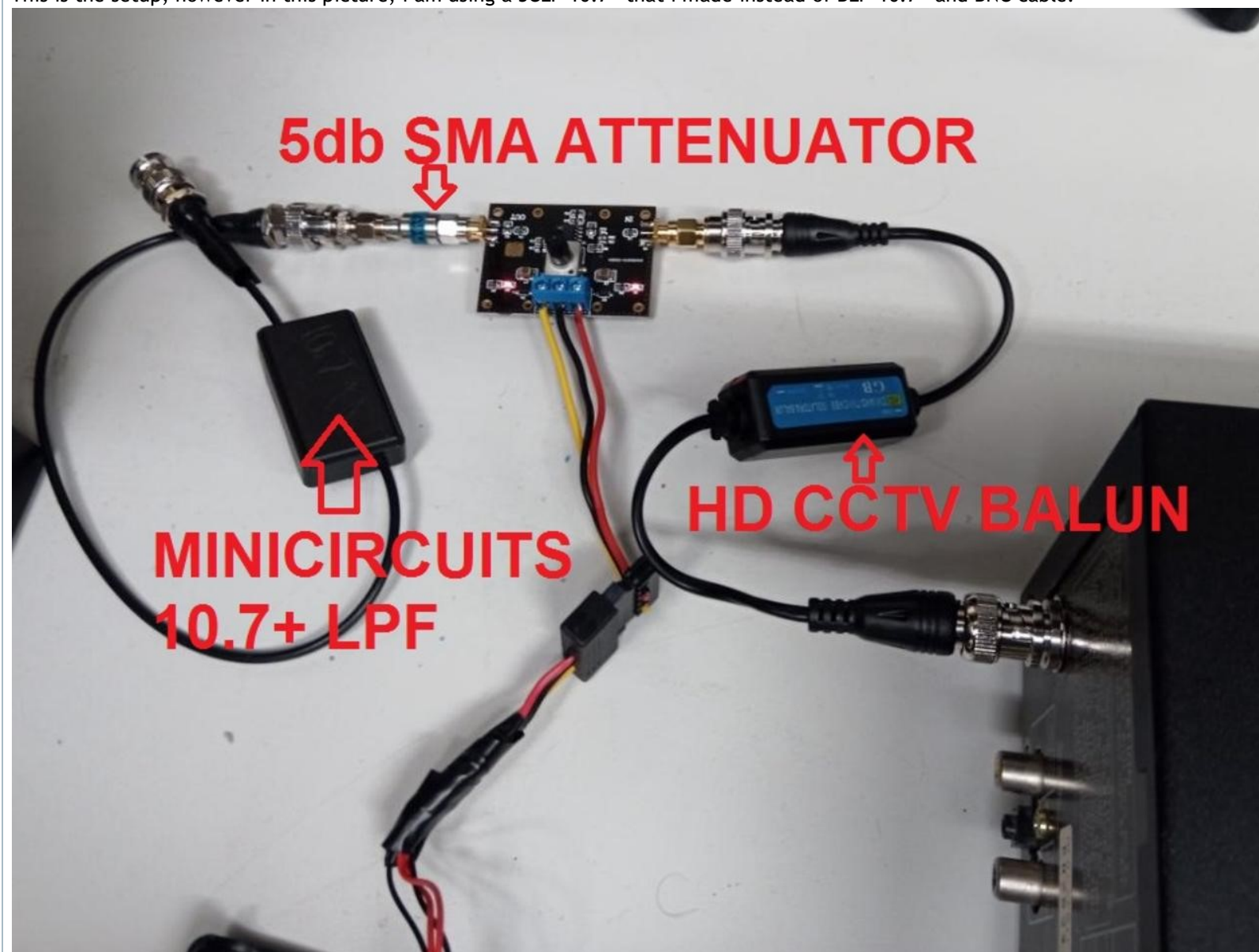
B) My laserdisc player has **not** been calibrated yet, so SNR could improve if it is not optimally set now.

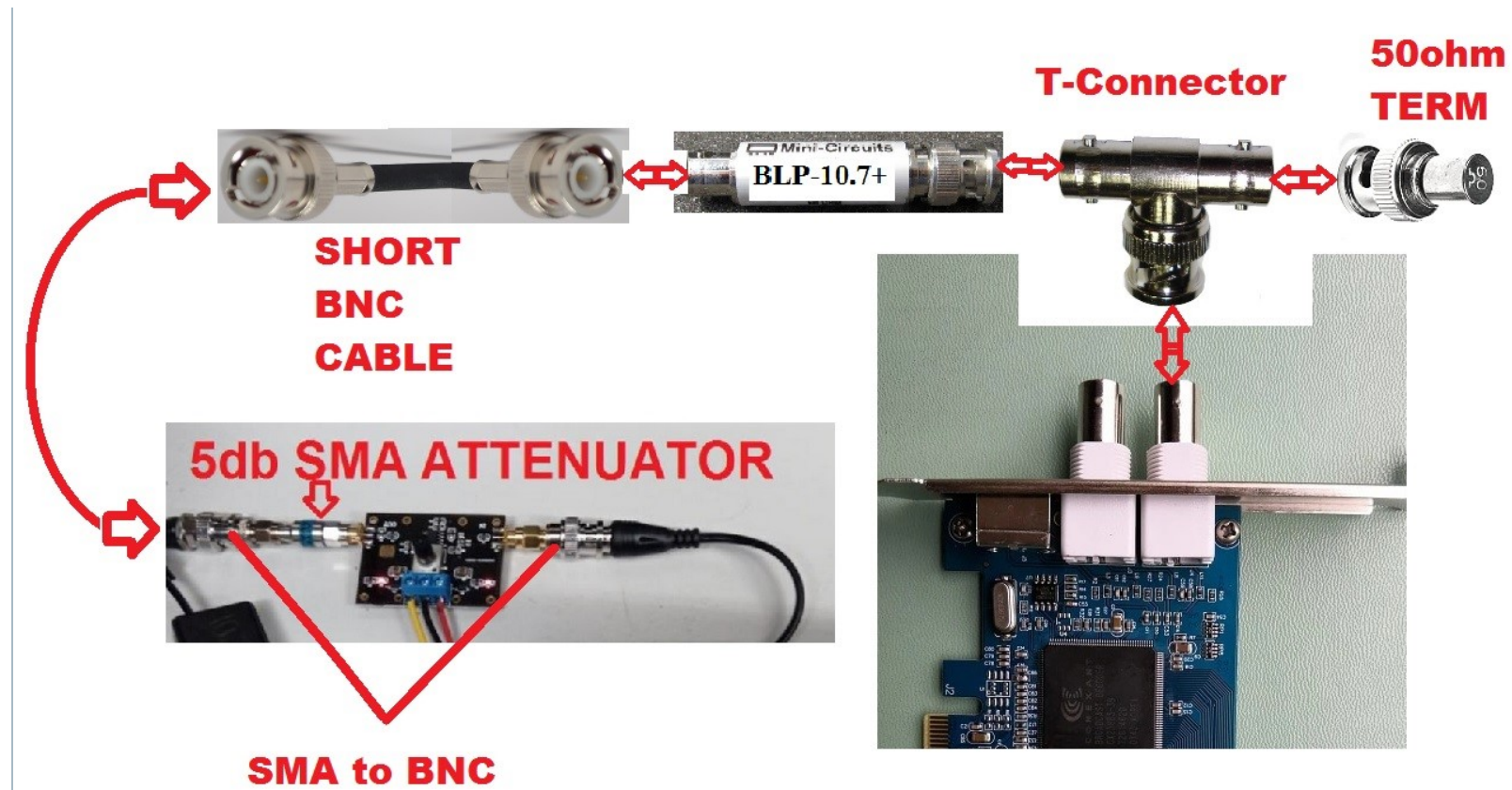
C) The level adjuster on the OPA657 is not the best value it could be for this use case (5k ohm). As such, the effective range you want to use is roughly 0 - 15%. If you go higher, the amplitude actually starts to go back down again.

D) To use this setup, you set the gain on the 657 knob while playing the strongest part of the disc (go to end of disc, play it, use leveladj and the opa657 knob to get leveladj at about 1 or 2), then go and start the capture.

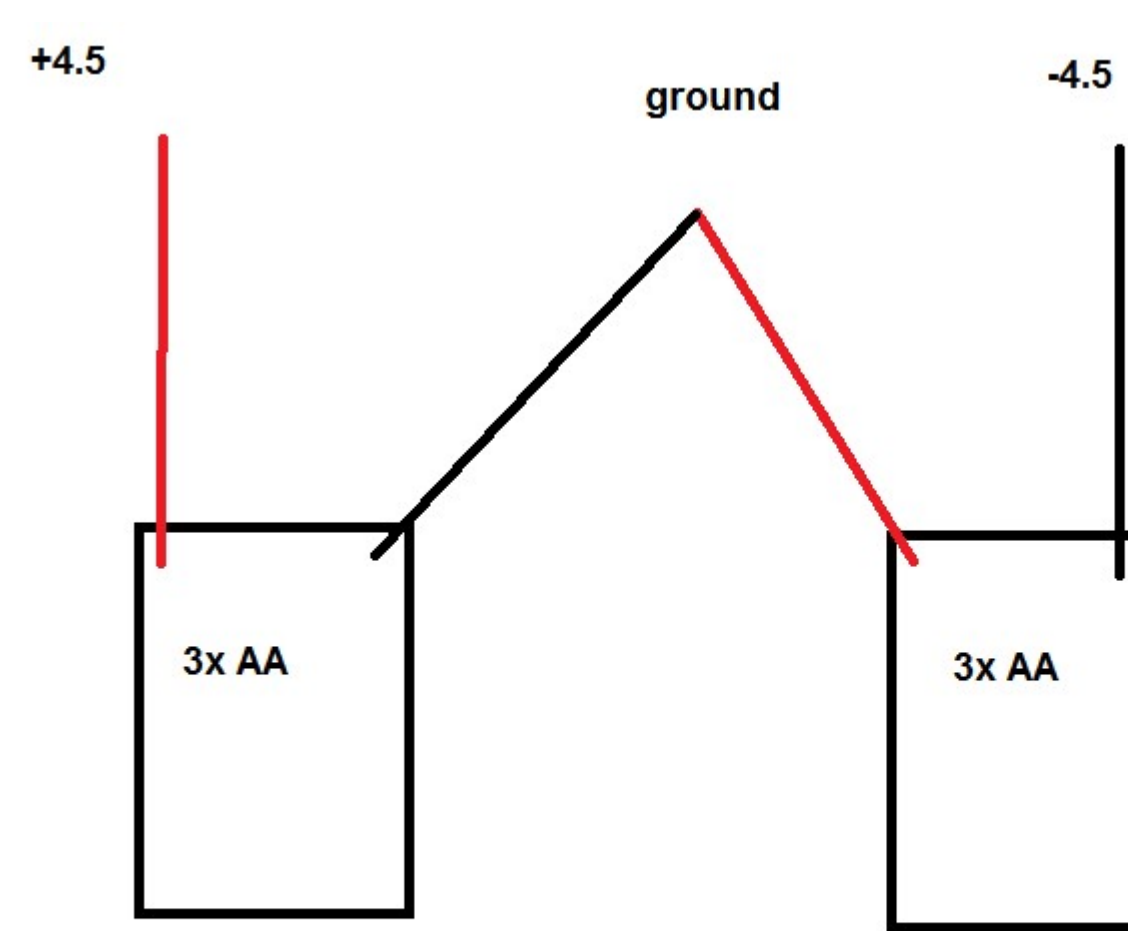
E) I use a python script that adjusts the CX card gain in real-time while capturing CAV discs (which probably could be improved).

This is the setup, however in this picture, i am using a SCLF-10.7+ that i made instead of BLP-10.7+ and BNC cable.

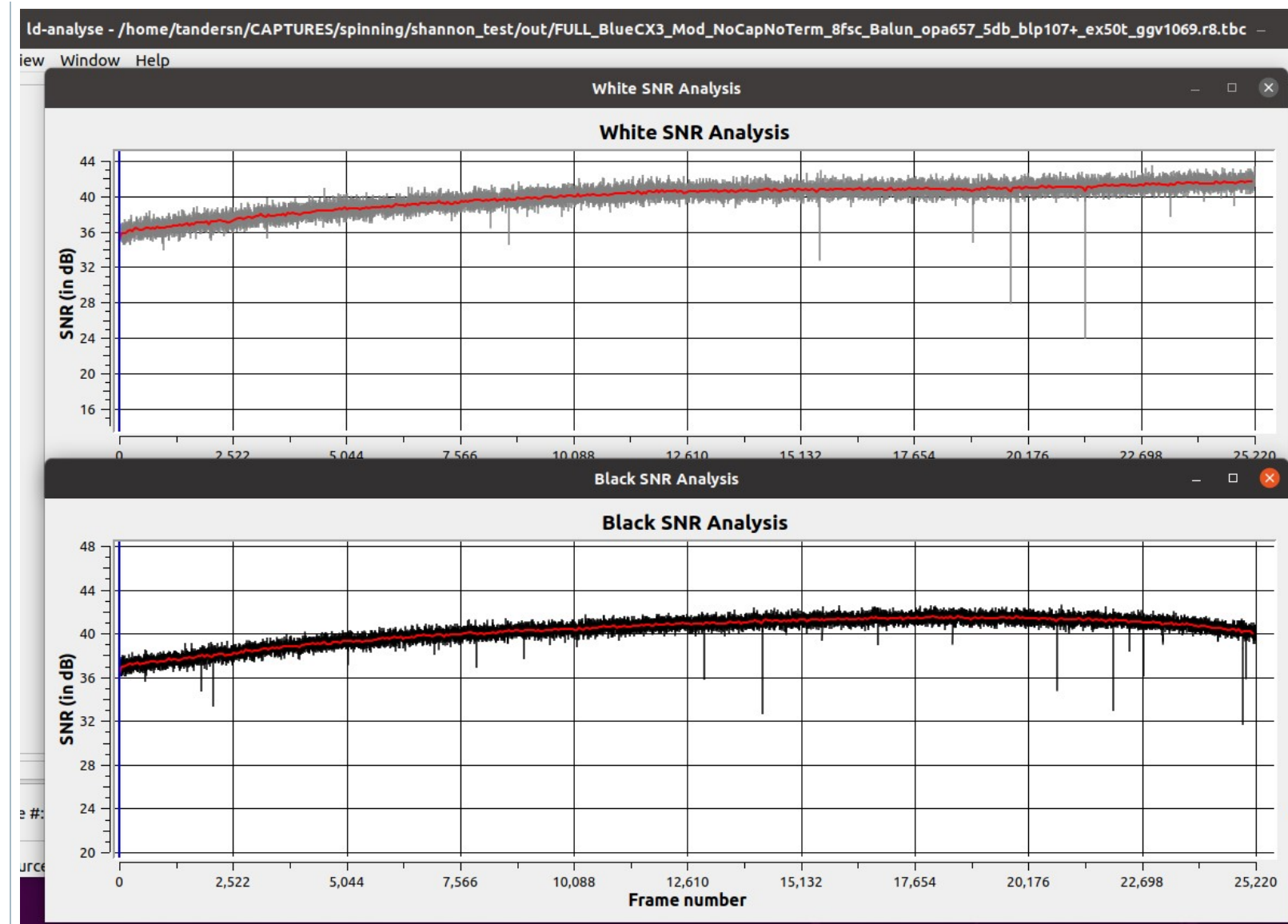




The battery packs must be wired like this for the amp (not shown in picture above) to have -4.5/0/+4.5:



This is the GGV1069 full disc readout from this setup (this is using the BLP-10.7+ and short BNC cable NOT the SCLF-10.7+):



Last edited by [9954tony](#) on 23 Aug 2021, 21:12, edited 2 times in total.

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Post subject: Re: (WIP) Laserdisc software image decoder from raw signal

Posted: 31 Jul 2021, 18:43

Real hard part is that LDs are not perfectly flat, they come up a little in the center.
So even if you have weight it will never be flat and that's why those adjustments are there to compensate for the irregularities in the disc.

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Post subject: Re: (WIP) Laserdisc software image decoder from raw signal

Posted: 04 Aug 2021, 17:38

offline

[rein-o](#)

Jedi Master



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