

# Log Viewer

Steak Electronics

## 1 Log Viewer

### 1.1 LM317

As the viewfinder needs its own power supply, I need 7V from 12V.  
Parts box has LM317.

Formula for LM317:

$$V_{out} = 1.25 * (1 + R2/R1)$$

R1 = vout to gndpin

R2 = gndpin to gnd

e.g. 720 R2, 240 R1 == 5V

1K R2 == 6.45V

1.1K R2 == 6.97V

**Standard R1 is 240ohm**, so let's keep to the standard.<sup>1</sup>

Make sure to account for the drop out needed for Vin to LM317.

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<sup>1</sup>Check when looking through devices that use LM317, which adhere to that standard. They should, when possible. Standards should always be followed.

## 1.2 Power Board

*Cutting dip switches in half, because they don't sell smaller than arrays of 4.*

I built an adapter board. LM317, with svideo out signal split. There are two signals on svideo, and two grounds. The signals, can be viewed in a scope. Y and C. One is video (Y - Luminance and Sync). The other, doesn't look like ntsc video (chroma), and is put in series w/470pf cap to the video signal. Be careful that the picture is of the male connector, not female. Review signals in scope to be sure. If you get it backwards, as I did, it probably won't break anything. <sup>2</sup>

### 1.2.1 Video Output Modes

At this point, with the Beagleboard, I have video outputting to the CRT but not at the right resolution. Hwinfo -framebuffer is empty on beagleboard (when X is not running). Seems the fb is not enabled.

I looked at a lot of information. There are some sources advising changing kernel flags (touchy, may cause failure to boot), i.e. vga=### where number is a reference to the resolution (there is a LUT, it's not 1:1). However none of that looked like the right path...

The man page of console-setup explains, different fonts have different font sizes. I tried the largest FIXED font at first, but it wasn't enough. After reading the man, I changed to TerminusBold, which had larger fonts. This seems to work.<sup>3</sup>

One thing, my main keyboard doesn't work on the bb (via usb A). Need a different one. Instead, I should change from the ssh'd terminal to the svideo. Magic search term here is maybe: "linux ssh to local tty" Appears that screen (for existing logged in sessions) or linuxvnc is an option. Might be difficult if I'm not already logged in. EDIT: linuxvnc is obsolete.

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<sup>2</sup>Ref: [https://www.linuxtv.org/wiki/index.php/Composite\\_to\\_S-Video](https://www.linuxtv.org/wiki/index.php/Composite_to_S-Video)

<sup>3</sup>Edges of screen are still a bit hard to see in crt. I will look for a work around once I'm logged in.

These look like the solution <https://raspberrypi.stackexchange.com/questions/the-tty1-screen-to-my-ssh-session> <https://www.linuxquestions.org/questions/linux-general-1/ssh-to-local-console-tty-576349/>

It's something I've already done: have user auto logged in, then jump onto the session afterwards. Easy.

### 1.3 Misc Notes

switch matrix via usb, bb, viewfinder.

hit switch, it changes modes, lights LED

different modes for e.g.

1. dl and view logs, rotate through logs by pressing switches (for in folder. (EDIT: less requires two key presses to get to next , and hit space bar)
2. view irc chat (will need to be connected, so tmux attach, then use other switches on matrix, to change to next irc chatr)
3. ????

usb to ethernet, bb, svideo to svideo to viewfinder, switches, etc start small:

0. expand size of layoutdev hdd - DONE
- 0.1 copy existing bb devuan sd to new img, and new sd card - D
- 0.2 lm317 for 7v supply to crt viewfinder. (note: on semi lm31
1. bb to viewfinder. DONE
2. boot into session
3. have session w/different scripts that can run