Video output info

Depending on the age, old consoles (and computers) output a worse video signal (quality-wise) than what the internal components actually produce. This was needed to be able to connect to TVs at the time. For example, the oldest output format is RF, which was connected to the antenna of TVs.

While this is still fine for some people, others prefer the best possible signal, which means feeding the color and sync signals individually to the monitor. The quality ladder from worst to best is:

- RF
- composite video
- S-Video
- component/YPbPr
- RGBS/RGBHV.

The higher the quality, the more individual wires you have. While RF mixes everything including sound into one signal (hence one wire), with RGBHV you have 5 video + 2 sound wires.

The best an unmodified C64 can output is S-Video (2 wires for video signal and 1 for mono sound), hence to get something even better you need a special modification board that then produces component or RGBS video signals (depending on the settings).

Of course, this is all very simplified, nowadays, for some old computers/consoles you even have digital output modifications available that you can connect e.g. via HDMI.

It is this one (open source):

https://github.com/c0pperdragon/C64-Video-Enhancement

You can buy pre-built ones e.g. here:

https://videogameperfection.com/products/commodore-component-video/

These ship with an older firmware (2.6) though, I had to update (2.10) mine to get it working with my older C64 version.

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