

## Re: Electronic multi-switches

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- *From:* "SixteenThirtytwo" <[sixteen\\_thirtytwo@xxxxxxxx](mailto:sixteen_thirtytwo@xxxxxxxx)>
  - *Date:* 27 Feb 2007 03:26:53 -0800
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On Feb 24, 9:46 pm, "Aly" <[shfskf...@xxxxxxxxxxxxxxxxxxxx](mailto:shfskf...@xxxxxxxxxxxxxxxxxxxx)> wrote:

"SixteenThirtytwo" <[sixteen\\_thirty...@xxxxxxxx](mailto:sixteen_thirty...@xxxxxxxx)> wrote in message

Aside from anything that should or shouldn't be done, I'm not going into mainstream production with it or attempting to win a coveted electronics design award so that's how it'll stay :-)

If it works for you you should be fine :-)

The ST definitely outputs weird slightly off standard signals though. I've had the Playstation running via both video and rgb and it doesn't mess up the reds, same with a Sinclair Spectrum 128k+ too. The ST's red just seems to be a bit over saturated and the composite sync is just slightly out.

Anything that can be done to improve on this?  
Perhaps it's just an artifact we have to live with :-)

As for an electronic switch. There are the 4016 variations although they're not really suitable for video signals. There are a few other video multiplexers and other things, but by the time you've messed about getting them, paying for them etc. etc. time has passed.

So these "electronic switches" are called multiplexers?  
I guess not all "switches" are suitable for video and you need specific ones that handle those frequencies.  
I've worked hard with my schematic lately and come up with some new ideas and a possible solution to the problem with the Atari monitors where the circuit wouldn't know if an Atari mono or colour monitor had been inserted as well as shutting off any accidental mono/colour switching which could fry the monitors.

## Re: Electronic multi-switches

As part of my schematic is theoretical I could need some help finding which parts are to be used and how to connect them. When that's done I would like to improve on the actual signal and hope Stratus could help with that.

OK, first, here's my latest schematic:

<http://img204.imageshack.us/img204/9301/vgalogicpo4.png>

This is how it should work:

An electronic switch (U1) of some sort (a "multiplexer" IC?) works as a multiple 3 way switch. Those 3 positions are:

A: when an Atari mono monitor (SM-124 etc.) is present

B: when no Atari monitor is present at all

C: when an Atari colour monitor (SC-1224 etc.) is present

In positions A and C the manual colour/mono switch (S1) is bypassed so changing the modes will have no effect whatsoever (and not allow anyone to accidentally fry the monitor(s) in use).

In other words, whenever an Atari monitor is used it will work just like with an unmodified Atari ST.

In position B however the manual switch (S1) will be in control.

Control of the electronic switch (U1) for positions A and C is dependant on some logic (AND/OR gate ICs?), and to determine this a micro-switch is to be placed inside the 13 pin DIN (female) connector. This switch will sense whenever an Atari monitor's (male) connector is inserted. So now we have a system which "knows" when an Atari monitor (mono or colour) is present or not.

Whenever the switch is off (e.g. no Atari monitor is present at all), position B is selected meaning that the manual switch (S1) is in control.

Next we need to determine if that Atari monitor is a colour or mono monitor.

A mono monitor as we know has pin 4 (mono detect) connected to GND (pin 13) internally, which the Atari colour monitor doesn't.

I assume this will generate a logic high/low (correct me if I'm wrong) and can further be used to control the U1 logic switch circuit and set it in position A or C.

Positions A and C will as mentioned above shut off the manual switch, and also give sync signals only to those connectors (TV or VGA) which correspond to the mode which the computer is currently in.

Finally, there's the LEDs.

If the pin 4/GND issue above works I would think that yet another logic circuit can be used, only this time for controlling two LEDs.

One LED indication "colour mode" and another LED for indicating "mono mode".

Any comments on this? Anyone have any practical and concrete suggestions as to how I should get this done?

Hallvard

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