

MSX 2 VGA

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Converted to PDF by HansO, 2001

I saw there was some discussion on this topic, but it looks as if there never was a definite answer. There was a reference to Andre Delavy making a RGB to SVGA connector does anybody know if he did? (Giovanni Nunes and Fronteddu Stefano (later) made this reference) There was also a few comments on the rgb to vga adapter by Novatec (<http://novatec-msx.da.ru/>) Is looked at a few documents on the web and also at what the amiga guys did. Not that I know muck about electronics - I can solder circuits if I am told how, but that is basically it. (I do not quite follow the circuits of the Novatec project but they do look great!)

This is what I found and concluded:

First: a RGB signal output is a must - most msx's have rgb output or it can easily be added!

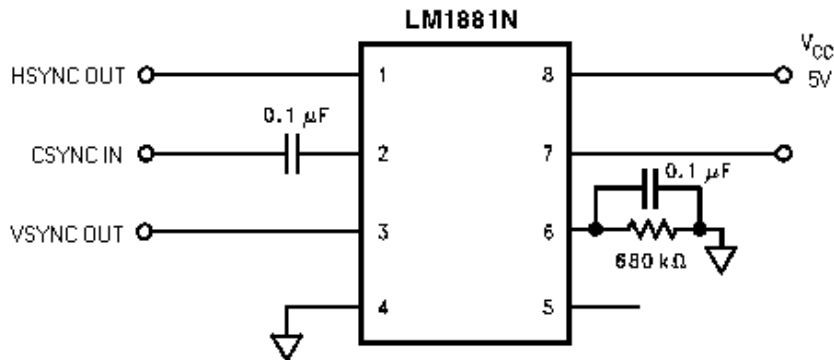
(see Hans Ottens home page - rgb on a svi-738(msx2 video chip) <http://www.geocities.com/msxhans/>)

Second: Both the vertical and horizontal sync must be separated from the composite sync.

True some monitors will accept composite sync in the horizontal sync - but not all!!

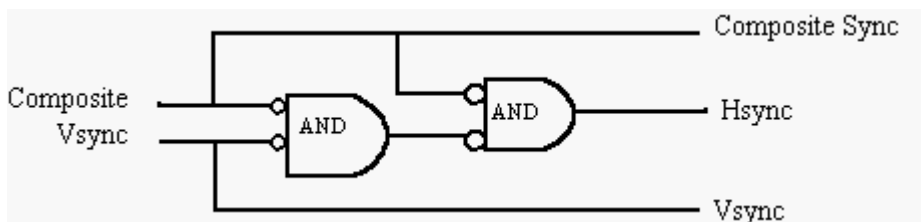
<http://www.hut.fi/Misc/Electronics/faq/vga2rgb/vgamonitor.html>

A proposed separator circuit is as follows, using a LM1881N chip:
(syncseparator.gif)



Here the Hsync is actually still composite sync and must be rectified still with the following circuit:

Schem2.gif



Using a chip like EL4583 will give you true hsync and

vsync and make all simpler.

Third: Connect Red, Green, Blue and Ground to the corresponding vga pins

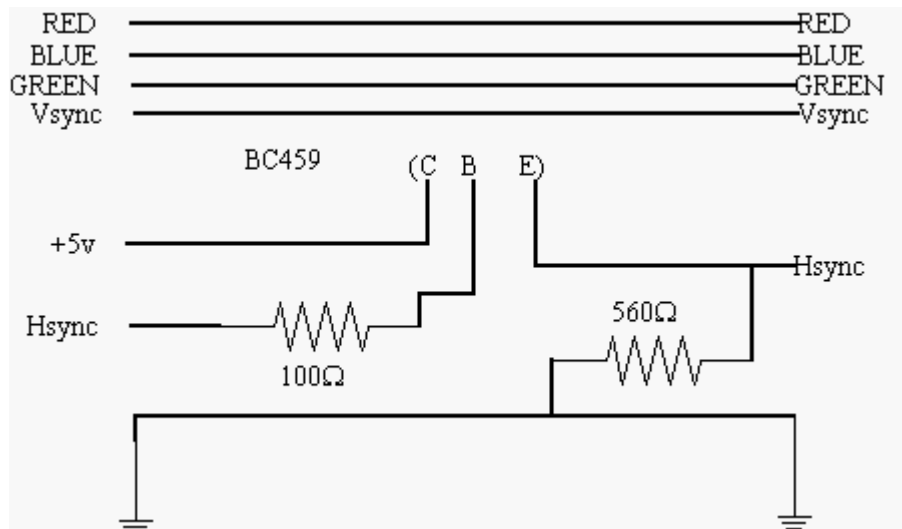
(VGA 15pin : red = pin 1, green = pin 2, blue = pin 3, ground = pin 5-8, 10, 11)

Fourth: Connecting the Hsync and Vsync

(Here I believe the trouble starts.) For the amiga I found two different solutions:

1> Using a BC549 Transistor (Schem3.gif)

<http://www.stud.uni-hannover.de/~andreash/com/a-vga.html>



2> Using a 74HCT08 (used by commodore) or 74LS04 IC low power TTL-level inverter)

+5v to the inverter chip with a 0.1 uF ceramic decoupling cap between +5v and ground

Connect Hsync and Vsync via the IC to VGA

<http://www.hut.fi/Misc/Electronics/faq/vga2rgb/vgamonitor.html>

Hopefully this might work or help. I have not tried it yet but will as soon as I get my hands on the components.

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