VirXGA: a hardware XGA monitor emulator

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This (very simple) circuit emulates a XGA (1024x768) monitor. When connected to a VGA analog socket (the standard mini sub D15) the graphic card recognizes the presence of a monitor.

I designed this circuit because my laptop supports its external video output only if some screen is connected during the boot or at least during a restart of the X-Window system. This behavior was nasty and unconvenient expecially when reboot/restart were needed prior to public presentations or seminars (maybe standing at the podio).

This circuit fits completely into the VGA plug and does not need any power to work, thus it appears just like a plug without any cable connected to it.

The circuit is very simple: three resistors simulate the typical impedance of an analog video line for the Red, Green and Blue channels and two pins are connected to ground following the original VGA pinout (prior to VESA DDC1 or DDC2). In fact pin 4 (ID2) and pin 11 (ID0) connected to ground (pin 5) while pin 12 (ID1) is unconnected means XGA capable color monitor.

XGA is the most common resolution for overhead projectors, and this simple circuit has solved several problems.

Figure 1: VirXGA Schematics
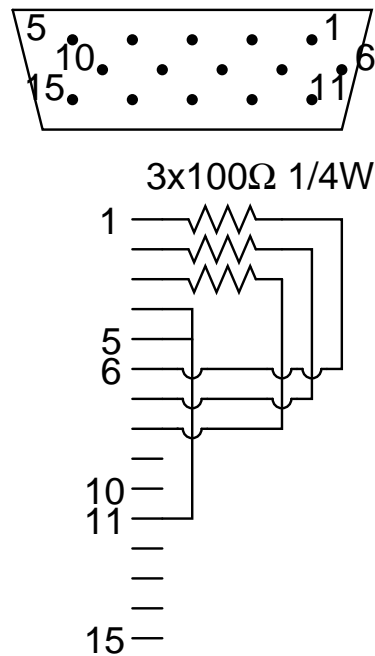
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Figure 2: VirXGA prototype

Figure 3: VirXGA prototype (inside view)