

Sol-20 and VDM-1 Modification to Shorten Vertical Sync

This information is thanks to Hugo Holden.

Vertical sync from the Sol-20 video board (and the VDM-1 board) is 10 to 12 times the horizontal sync period instead of 3h as specified in the RS-170 spec. This extended vertical sync causes some monitors to lose horizontal sync during vertical sync which, in turn, results in distortion in the first few scan lines of video.

Vertical sync timing is determined by R120 and C33 near the front right corner of the main PCB in the Sol-20. By reducing R120 from 100K down to 50K, the sync duration is halved. This tends to be short enough to work well with most monitors. You may find it simplest to simply solder a 100K resistor in parallel with R120 to reduce resistance to 50K. This only requires removing the keyboard and does not require special desoldering tools.

In the VDM-1 board, the 100K resistor that generates the vertical sync timing is R23.