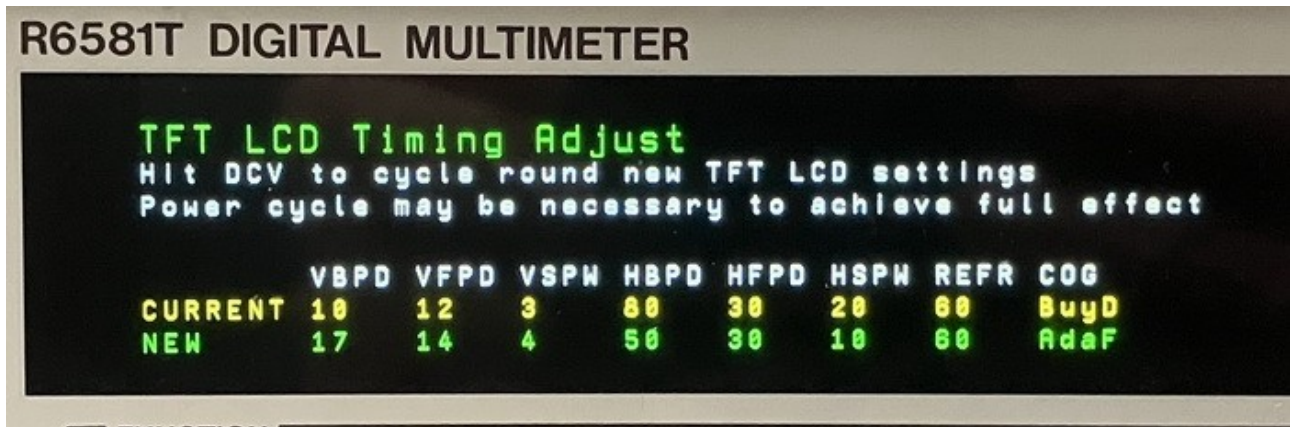


In order to allow for various timing issues that some LCD's are experiencing I have included in the firmware the ability to select a timing profile from a fixed set.

This functionality requires the DCV button mod to my Pcb - two small wires soldered between the BluePill and the R6581 DMM board. This mod is mandatory anyway.

Hold the DCV button in whilst powering up the R6581 and you should get the following on the LCD. Alternatively, hold DCV and hit the reset button on the Blue Pill.



The current loaded TFT timing will be displayed, and from there you can press the DCV button to scroll around 6 (currently) loaded TFT timing configurations.

When you see the one you want simply reset power to the R6581.

The new config is saved to Flash (EEPROM emulation).

On normal boot the LCD will display as part of the splash screen the currently loaded configuration.



The currently available configs:

VBPD VFPD VSPW HBPD HFPD HSPW Refresh Rate COG (Adafruit/BuyDisplay)

VBPD	VFPD	VSPW	HBPD	HFPD	HSPW	Refresh Rate	COG (Adafruit/BuyDisplay)
17	14	2	50	30	10	60	AdaF
17	14	3	50	30	10	60	AdaF
17	14	4	50	30	10	60	AdaF
17	15	2	50	30	10	60	AdaF
17	15	2	50	30	10	45	AdaF
10	12	3	80	30	20	60	BuyD

Most of the above settings effect the LT7680A-R TFT driver IC, the last one is to select either Adafruits or BuyDisplays config data for the ST7701S COG IC.

.....cont

Note 1:

Holding DCV on boot doesn't always work, you may need to retry a couple of times to catch it.

Note 2:

I'd like to have the ability to select individual settings for each parameter, but there's only so much I can do on a single DCV button.

Info:

Why is it so hard to get TFT LCD Porch timings and screen coverage correct?

Getting TFT LCD porch timings right is tricky because it requires balancing the physical panel's requirements, the controller's limitations, and the interdependence of resolution, refresh rate, and pixel clock.

Not to mention cheap TFT LCDs from China, lack of good manufacturers tech info and in this case I think these ones or the LT7680A-R may be slightly sensitive to temperature etc.

Ian.