

CSE 260M – Design Problem 2

Due November 20, 2006

Design a “color bar” generator for 800x600-pixel VGA displays using the S3 board as your implementation platform. The display should consist of 8 vertical bars, each 100 pixels wide, that appear (from left to right) in the following sequence:

White Black Blue Green Cyan Red Magenta Yellow

Demonstrate your working design to one of the TAs, and email your vga.mcs file to Dr. Richard prior to class on Monday, November 20, 2006.

The TA schedule is posted on the course web page, but make sure to notice that your last opportunity to demo on Sunday, November 19, 2006 is 11:45 a.m. to 1:45 p.m. with Ben. Eitan is scheduled to be available from 11 a.m. – 1 p.m. on Monday, November 20, 2006, but there may be a class in the lab at this time.

The scope traces below should help.

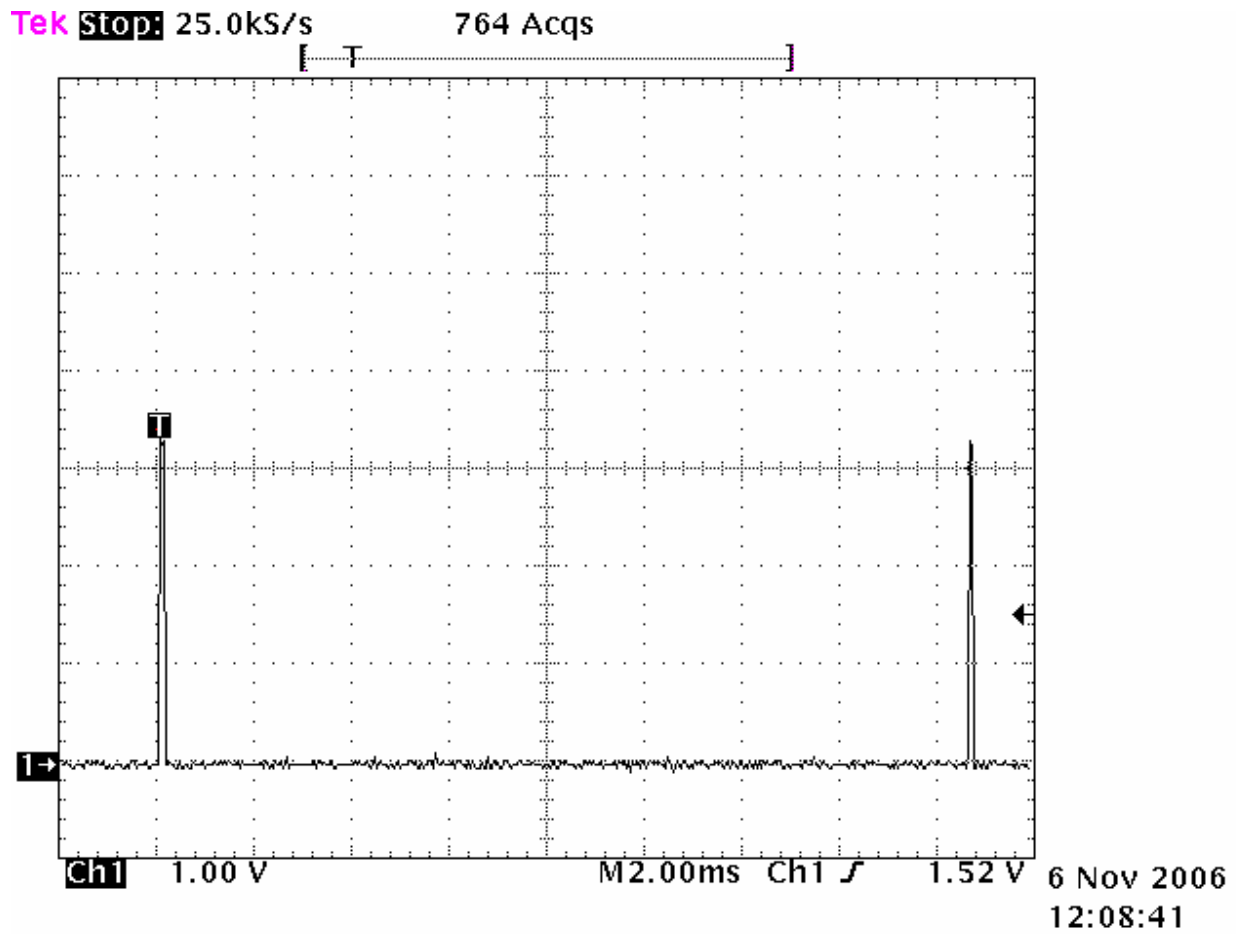


Figure 1. Channel 1 shows the Vertical Sync (VS) timing for an 800x600-pixel display.

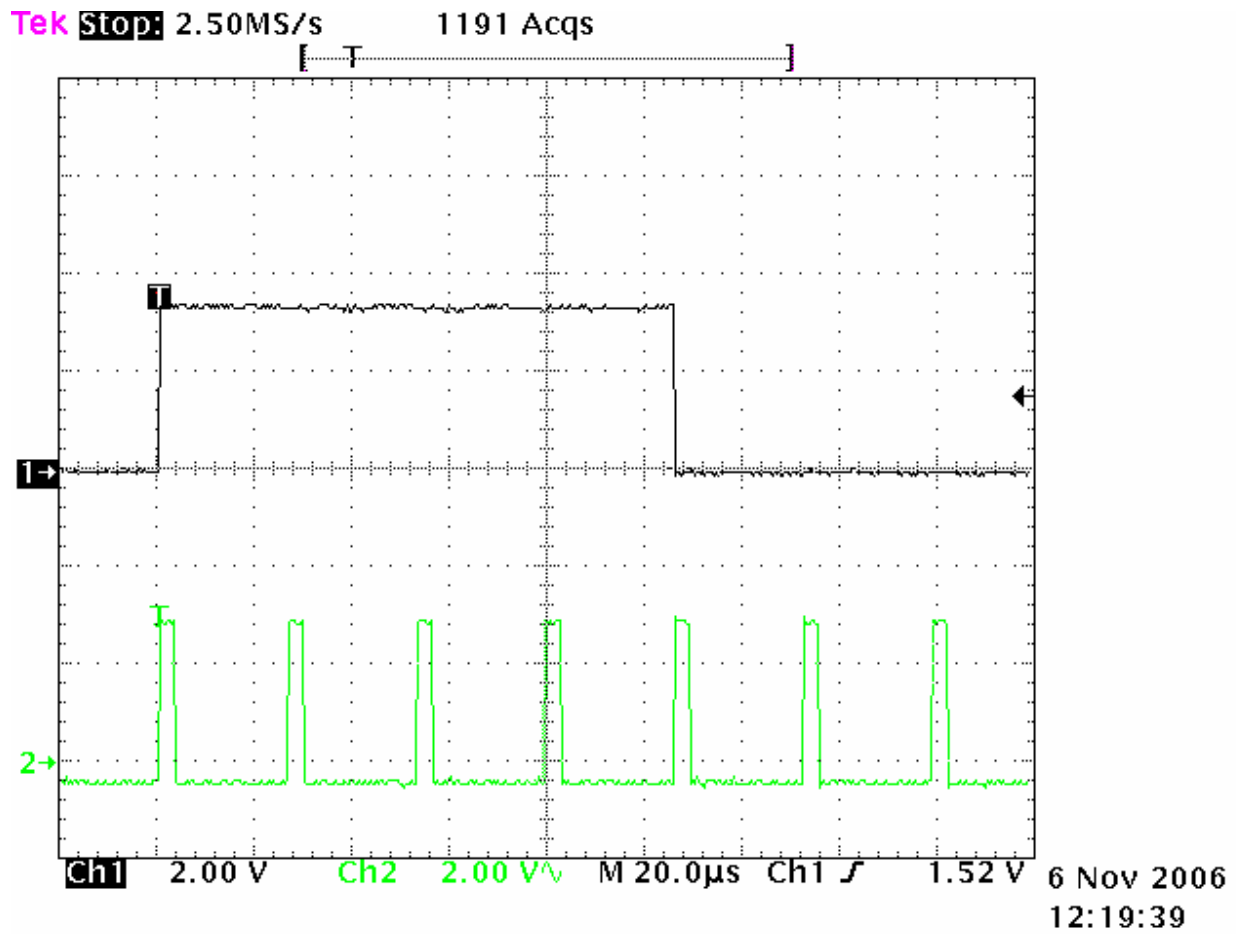


Figure 2. Channel 1 shows the Vertical Sync (VS) timing and channel 2 shows the Horizontal Sync (HS) timing for an 800x600-pixel display during the vertical retrace period.

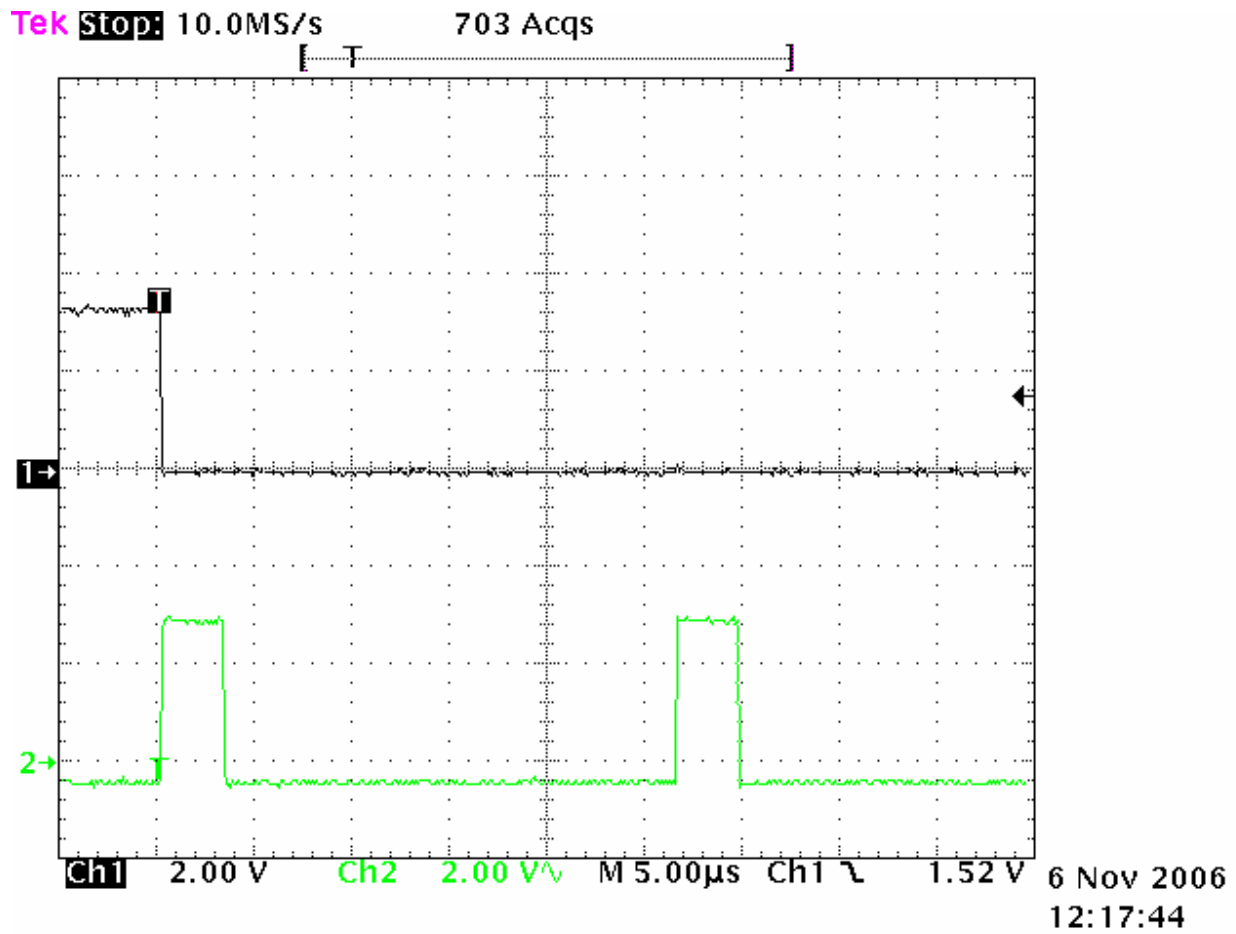


Figure 3. Channel 1 shows the Vertical Sync (VS) timing and channel 2 shows the Horizontal Sync (HS) timing for an 800x600-pixel display after the vertical retrace period.

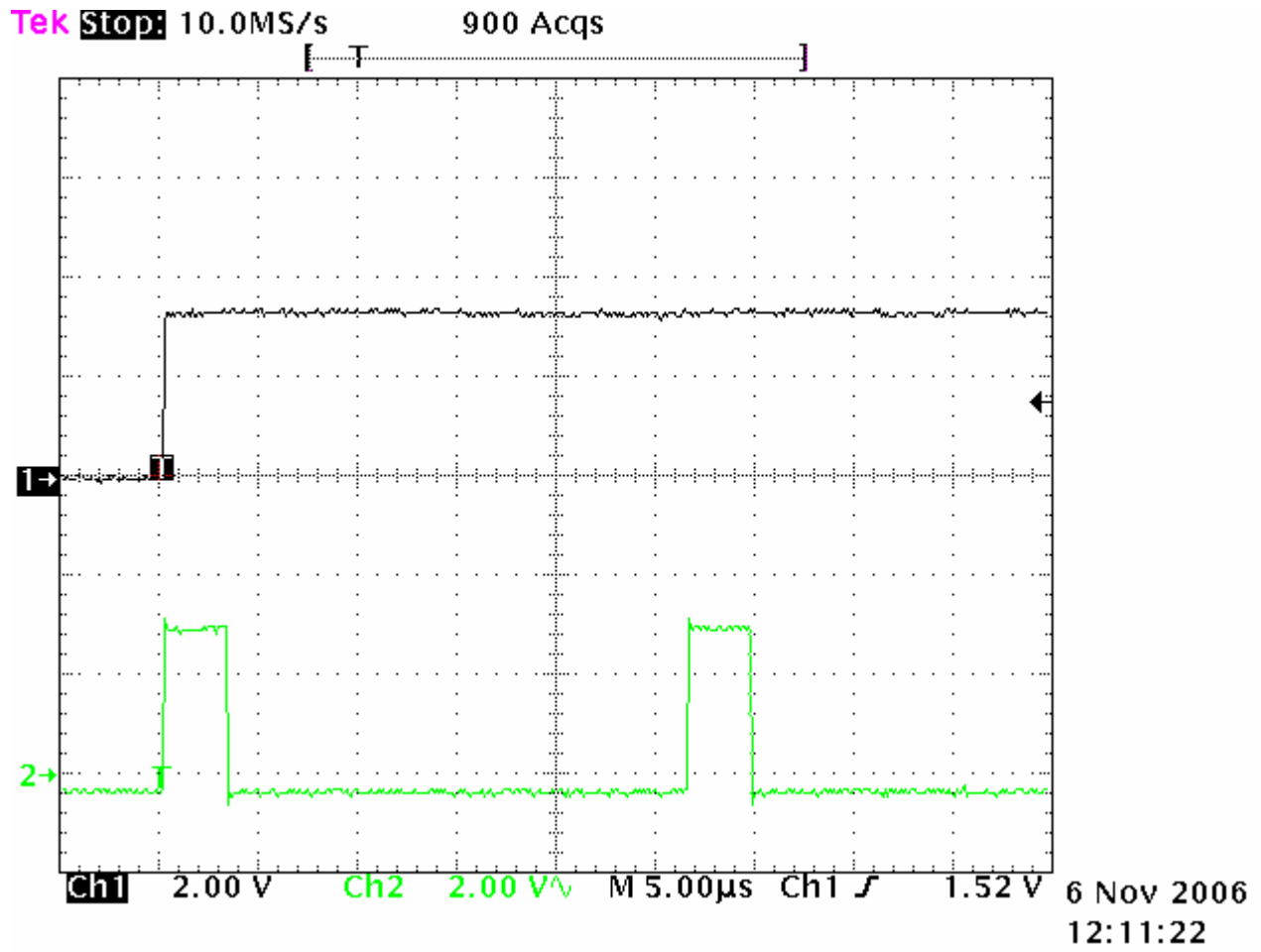


Figure 4. Channel 1 shows the Vertical Sync (VS) timing and channel 2 shows the Horizontal Sync (HS) timing for an 800x600-pixel display at the beginning of the vertical retrace period.