

daveho hacks

Sheet: /HCount/

File: HCount.kicad\_sch

**Title: Horizontal count**

Size: USLetter

Date:

KiCad E.D.A. 8.0.3

Rev:

Id: 1/7





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Sheet: /Output/

File: Output.kicad\_sch

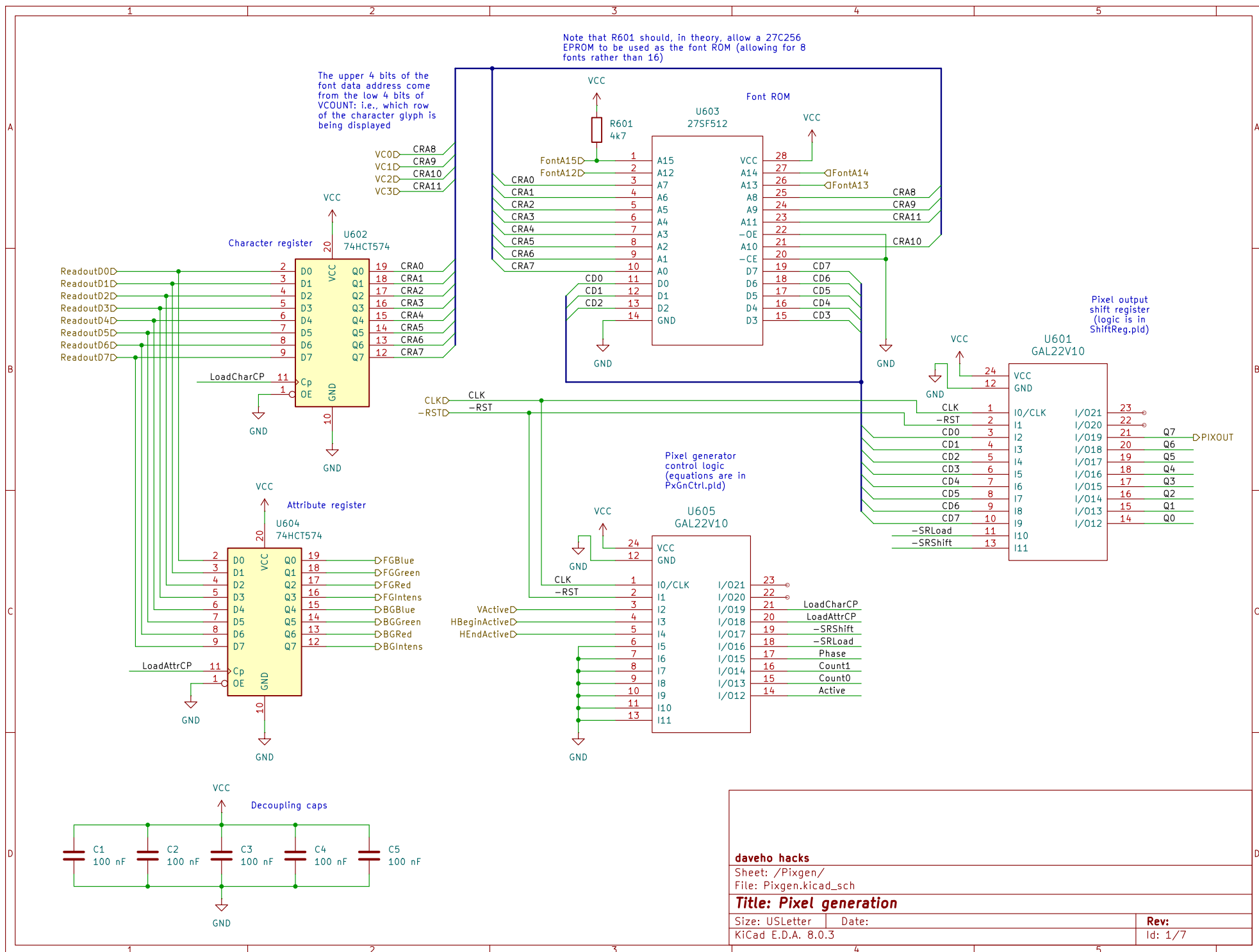
**Title: Output**

Size: USLetter Date:

KiCad E.D.A. 8.0.3

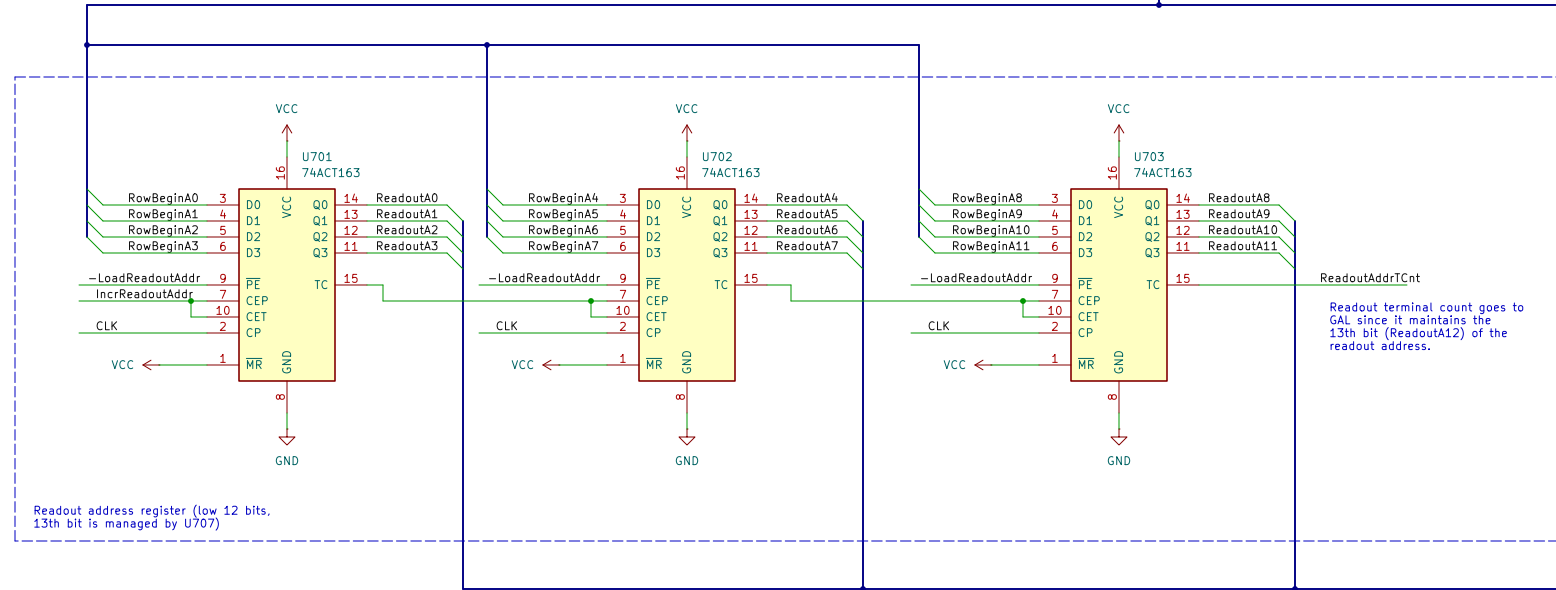
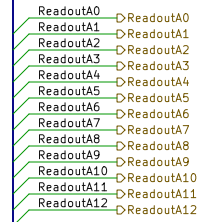
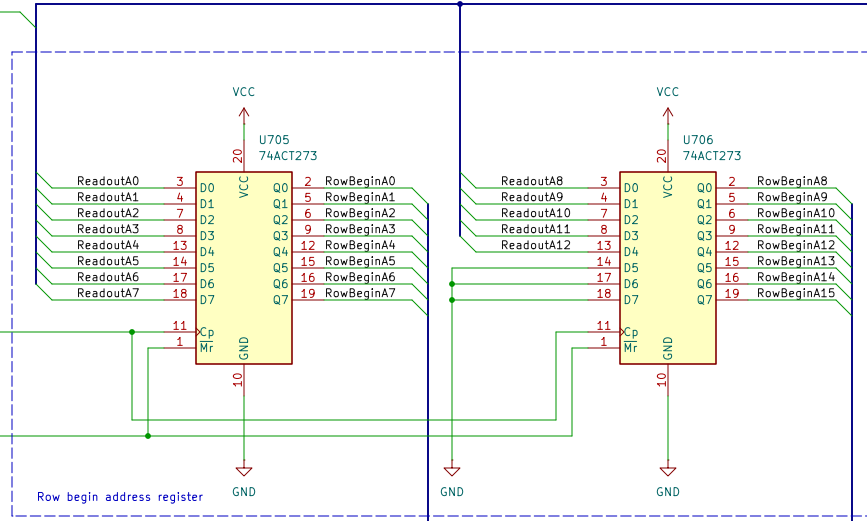
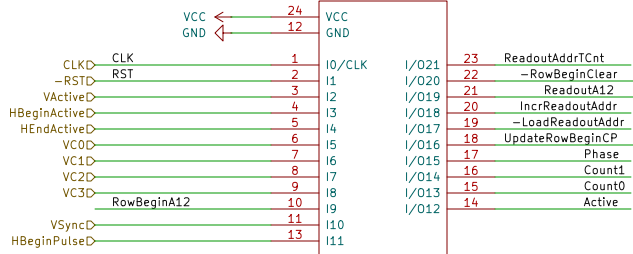
**Rev:**

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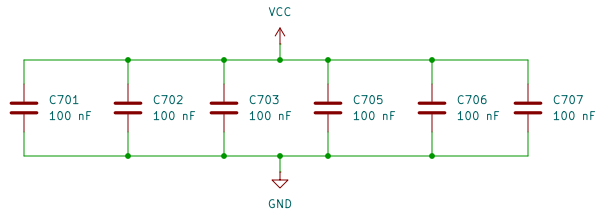


Logic is defined in  
R0utCtrl.pld

U707  
GAL22V10



Readout terminal count goes to  
GAL since it maintains the  
13th bit (ReadoutA12) of the  
readout address.



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Sheet: /Readout/  
File: Readout.kicad\_sch

Title: Readout

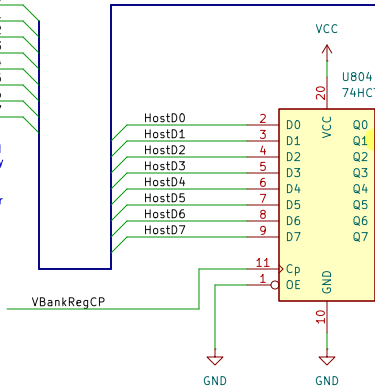
Size: User  
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HostD0  
HostD1  
HostD2  
HostD3  
HostD4  
HostD5  
HostD6  
HostD7

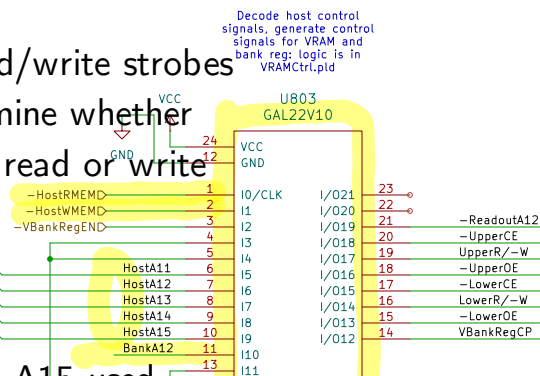
Host can read and write video memory and can write the contents of the VRAM bank register



BankA12 signal determines which memory chip is accessed

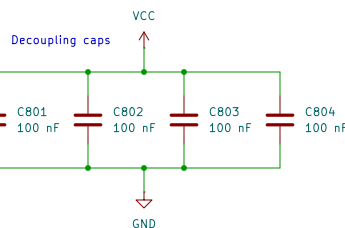
HostA0  
HostA1  
HostA2  
HostA3  
HostA4  
HostA5  
HostA6  
HostA7  
HostA8  
HostA9  
HostA10  
HostA11  
HostA12  
HostA13  
HostA14  
HostA15

Host read/write strobes to determine whether access is read or write



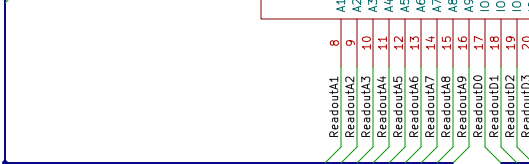
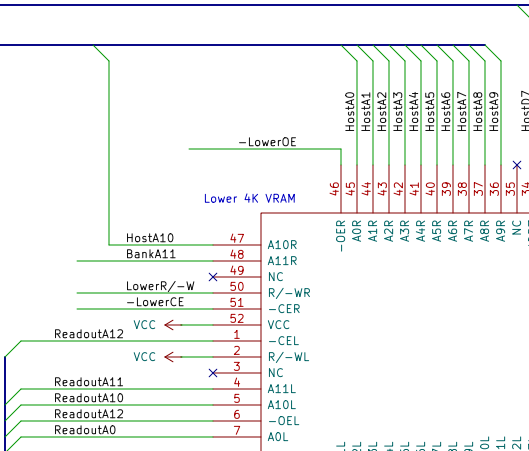
All host address lines are used because the VRAM hardware does its own address decoding (to know when video memory is being accessed by the host)

A11..A15 used to determine when VRAM window is being accessed



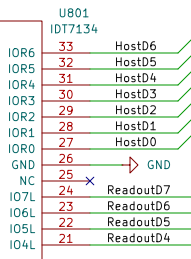
The readout address signals select which byte of video memory the memory fetch hardware wants to access. ReadoutA12 (the highest address line) is used to select the lower or upper VRAM chip.

ReadoutA0  
ReadoutA1  
ReadoutA2  
ReadoutA3  
ReadoutA4  
ReadoutA5  
ReadoutA6  
ReadoutA7  
ReadoutA8  
ReadoutA9  
ReadoutA10  
ReadoutA11  
ReadoutA12



Data values read from VRAM (to be used for rasterization)

ReadoutD0  
ReadoutD1  
ReadoutD2  
ReadoutD3  
ReadoutD4  
ReadoutD5  
ReadoutD6  
ReadoutD7



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Sheet: /VRAM/  
File: VRAM.kicad\_sch

Title: VRAM

Size: User Date:  
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Id: 1/7