

Recollections of Early Paint Systems

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for the

Computer Museum History Center

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SuperPaint

Richard Shoup

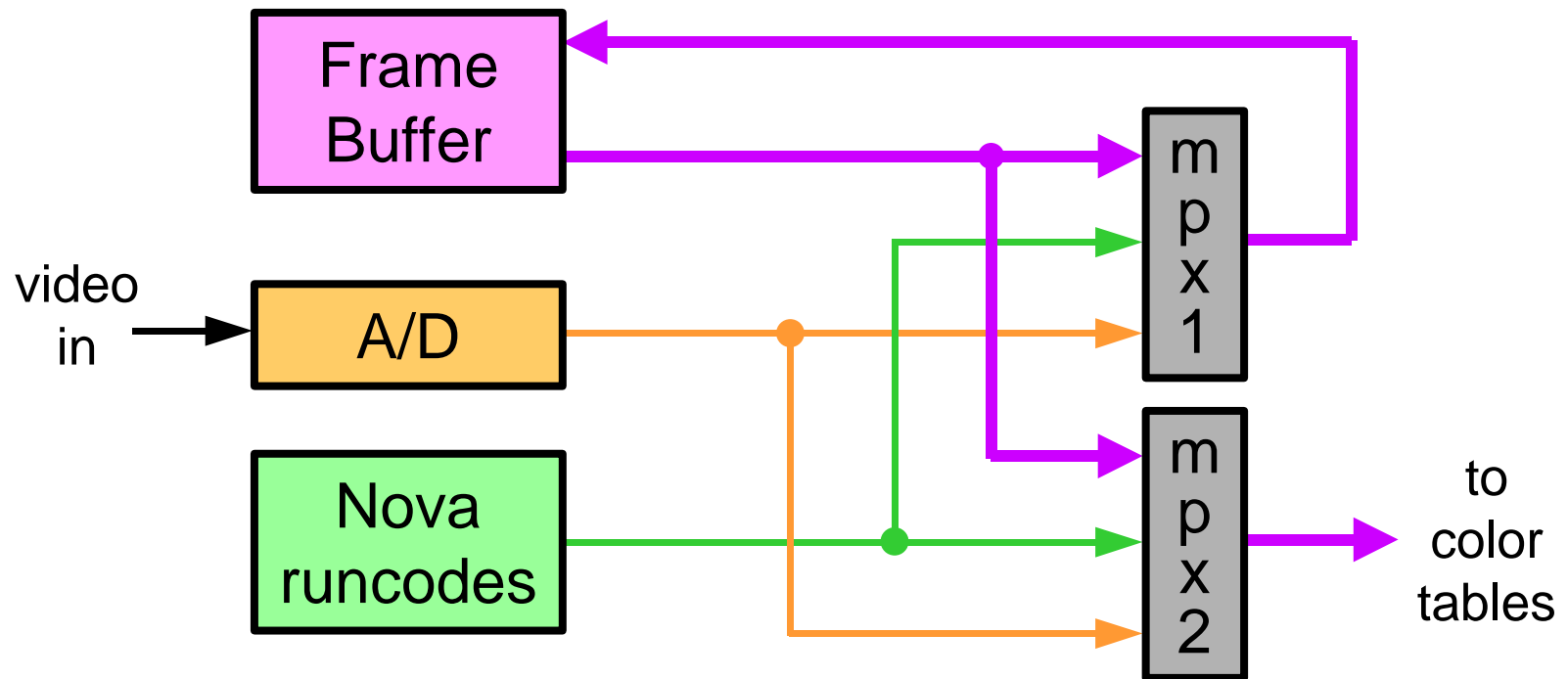
"We have to do it while it still seems crazy."

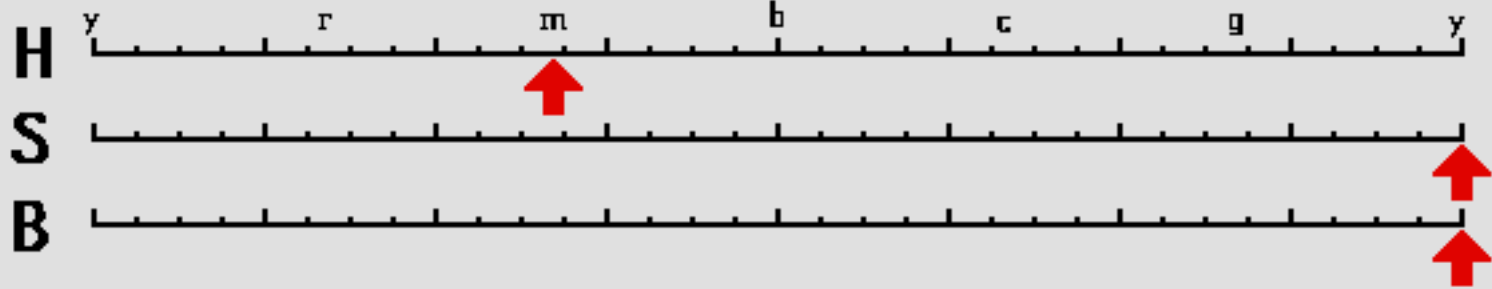
-- Pierre St. Hilaire

SuperPaint Hardware

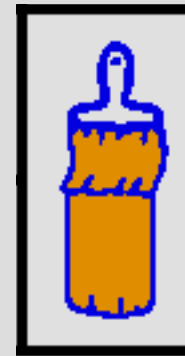
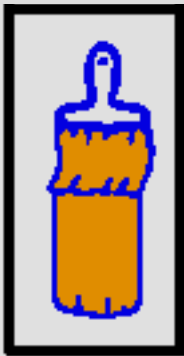
- One full video frame
 - 640 x 486 pixels, 8 bits/pixel
 - 2Kbit shift registers (Intel 2401), recirculating
 - 83 ns pixel clock (square pixels)
- Two color tables, each 256 x 3 x 8 SRAM + 3 D/As
- Full NTSC video compatibility
 - Genlockable, NTSC encoder output
 - Real-time continuous (monochrome) video input (8 bits)
- Nova 800 controller, X runcoded write and read
- Color replace, X area fill, etc.

Data Paths





Painting and Color functions



File functions



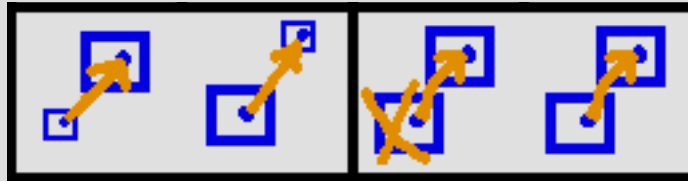
Load

Load w colors

Save

Save print

Image functions



Scale Up 2x

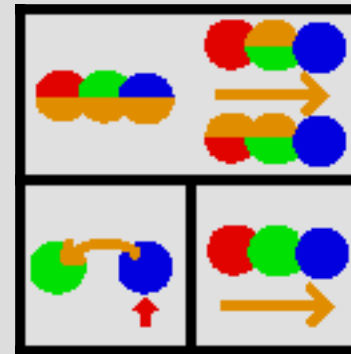
Scale Dn 2x

Move

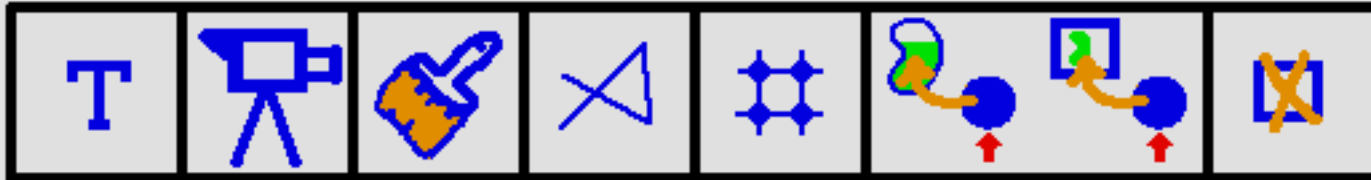
Copy

Animation functions

Swap Palette
Step Colors
Reveal Colors
Cycle Colors
Copy Color



Miscellaneous



Insert Text

Video Input

Create Brush

Draw Lines

Set Gridding

Fill Color

Replace Color

Erase

Inspirations

- Alto bitmap display - Thacker et al, Xerox PARC, Feb 1973
- Char Gen Paint - Kay & Purcell, Xerox PARC, 1972
- Frame Buffer (shift registers) - Ramtek Corp, 1972
- Paint program - Noll & Miller, Bell Labs, 1969
- Tri-Color Cartograph - Kubitz & Poppelbaum, Univ of Illinois, 1968
- Real-time video animation - Harrison & Honey, Computer Image Corp, 1967
- ... etc.