

X and Modesetting:  
Atrophy illustrated.

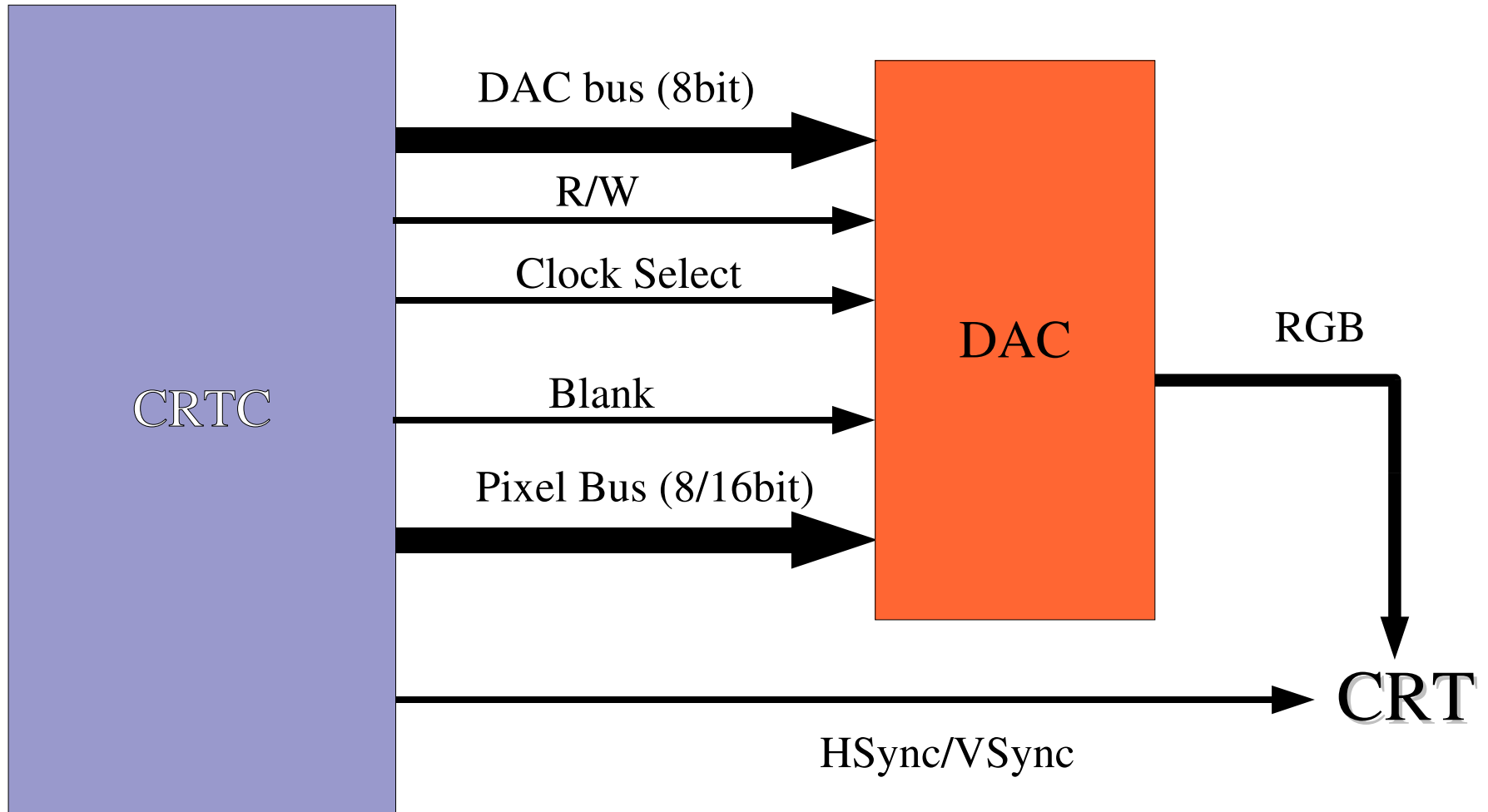
Modesetting is ...

Getting pixels on a “screen”.

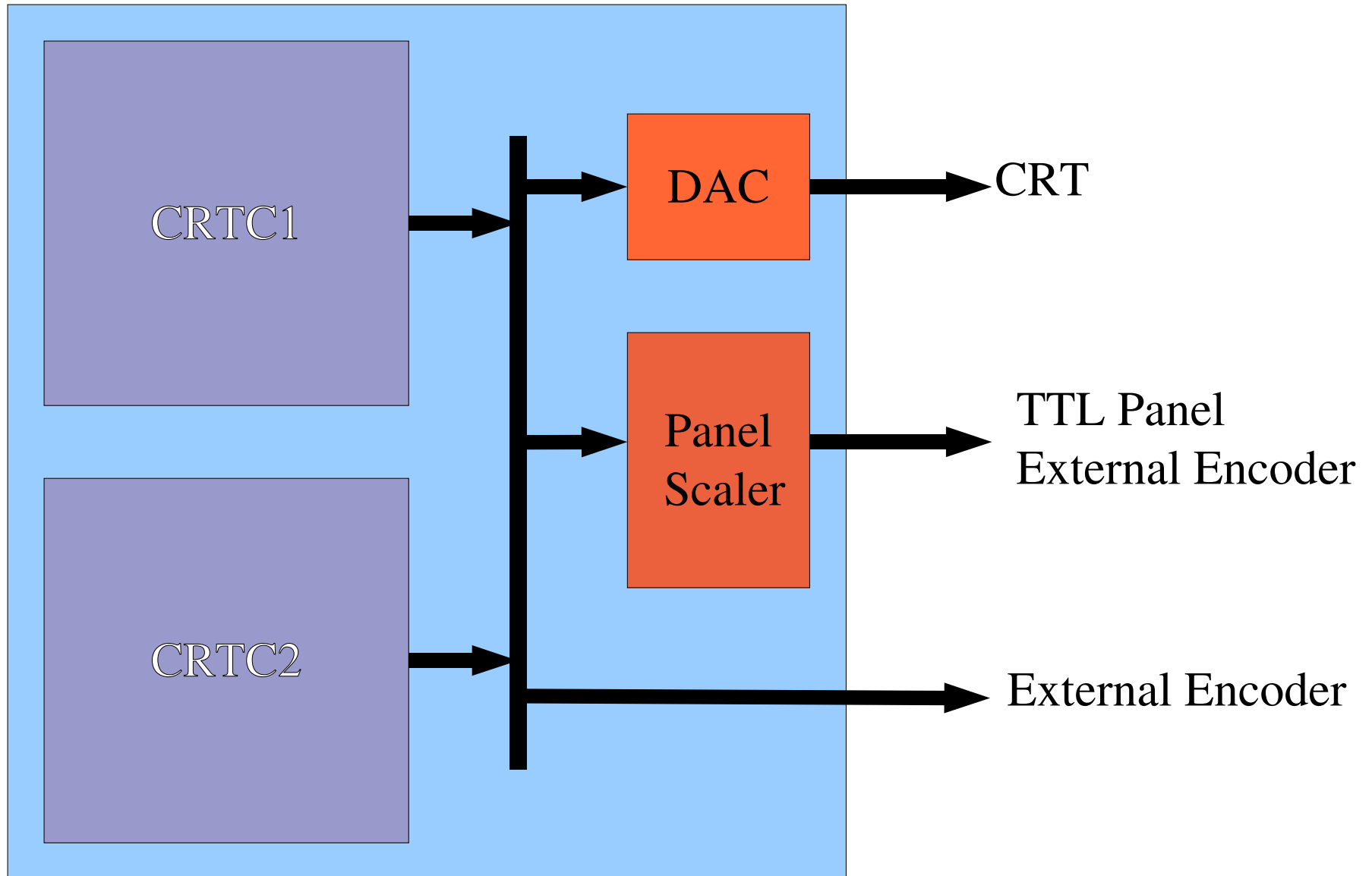
# Modesetting is ...

- Boring.
- Hard.
- Slow.
- Requires a lot of hardware to do properly.

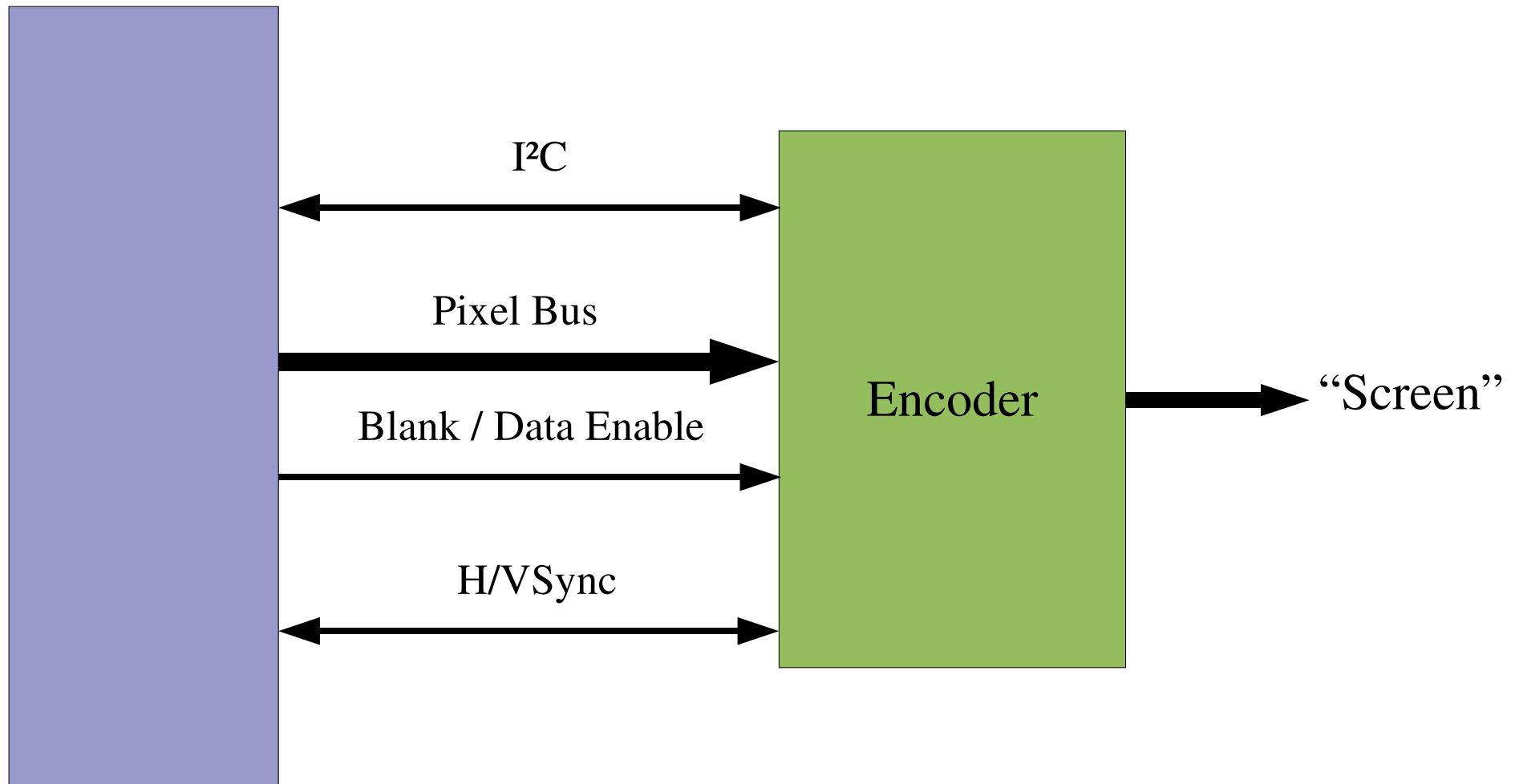
# Tseng ET4000W32p:



# Unichrome:



# External encoder



# Enemy: VBE

Extension of IBM's VGA BIOS:

- Selfmodifying binary.
- Always loaded at 0xC0000
- Hooked into interrupt vector table (int10)

VBE:

- 1991: v1.2
- meant to get past VGA limitations, for good.
- meant to alleviate the burden of modesetting on complex hardware.

# Modesetting for 7.1:

- cvt (committed)
- bug #5386: Getting a mode without a Modes directive.
  - cvts xf86CVTMode() -> common/xf86cvt.c (attached).
  - xf86SetDDCproperties becomes useful (attached).
  - adjust drivers to new xf86SetDDCproperties (todo / trivial).
  - filter resulting modeslist based on type. (todo / discuss / pending).
- multiple ClockRanges:
  - tseng fixup (committed).
  - xf86mode.c cleanup (pending).
- non-programmable dotclocks:
  - trident fixup (test).
  - c&t fixup (redo).
  - vga fixup (todo / discuss).
  - atimisc fixup (scared).
  - xf86mode.c cleanup (pending).