

Detecting Sid Type - safe method

This SID detection routine is based on the fact that there is a one cycle delay in the oscillator on 8580 compared to 6581 when turned on.

```
;SID DETECTION ROUTINE
;By SounDemon - Based on a tip from Dag Lem.
;Put together by FTC after SounDemons instructions
;...and tested by Rambones and Jeff.
; - Don't run this routine on a badline
; - Won't work in VICE (always detects 6581) unless resid-fp emulation
is enabled
sei          ;No disturbing interrupts
lda #$ff
cmp $d012   ;Don't run it on a badline.
bne *-3
;Detection itself starts here
lda #$ff   ;Set frequency in voice 3 to $ffff
sta $d412  ;...and set testbit (other bits doesn't matter) in $d012 to
disable oscillator
sta $d40e
sta $d40f
lda #$20   ;Sawtooth wave and gatebit OFF to start oscillator again.
sta $d412
lda $d41b  ;Accu now has different value depending on sid model
(6581=3/8580=2)
lsr        ;...that is: Carry flag is set for 6581, and clear for 8580.
bcc model_8580
model_6581:
[... ]

model_8580:
[... ]
```

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