CURSOR/3 — Caller-allocated nonblocking cursor

26 November 2026 · LIB-01 donor intake · Apple Polisher R001

Source-exact donor scope: bounded owner-reported functional parity. Registration status is governed by the separate LIB-01 receipt and catalog. Public function names below are documented intended entry points, not every historical flat label.

Public functions

Entry	Contract
`SYS540_INIT`	Initialize state before use; does not erase an old overlay.
`SYS540_PLACE`	$6=cell 0..127, $16=underlay printable ASCII 20h..7Eh or 0 for blank; restore old glyph and place new overlay. Invalid input hides old overlay and deactivates.
`SYS540_HIDE`	Restore the underlay.
`SYS540_SHOW`	Show overlay if active.
`SYS540_TOGGLE`	Toggle visibility.
`SYS540_STOP`	Hide and deactivate; use before exiting.
`SYS540_POLL`	Nonblocking TM predicate, $18=0/1; no drawing. First edge discards partial interval; subsequent edges and calibrated midpoint request toggle.

Composition and caller obligations

Include `sysv540.inc` once, `sysv540.s` in executable code and `sysv540_ram.inc` exactly once in a writable caller-selected region. The last reserves 12 contiguous bytes (`SYS540_RAM..SYS540_END`); `CUR_RAM_BYTES=12`. No internal ORG or UA writes. Nonreentrant. `CUR_PUTC` must accept $6 cell and $16 ASCII, preserve UA, stack, $30/$31 and SX/SY/SZ; it may clobber $0..$29, IX and flags. IY/IZ must be protected by callback/caller as appropriate. With that contract, INIT/PLACE/HIDE/SHOW/TOGGLE/STOP preserve $0..$29 and IX, POLL preserves these except $18; flags not preserved. Valid SSP, $30=1, $31=0, SX=0, SY=1. Before changing underlay hide, redraw, then place. Callback owns normal/inverse rendering and firmware bridge. Midpoint is calibrated by polling cadence, not wall-clock timing. Distinct from CURSOR/2: separately included caller storage and callback contract; not automatic consumer upgrade.

Example (schematic)

```
CAL SYS540_INIT
LD  $6,0
LD  $16,&H41
CAL SYS540_PLACE
; in polling loop
CAL SYS540_POLL
AN  $18,$18
JR  Z,NO_TOGGLE
CAL SYS540_TOGGLE
NO_TOGGLE:
; before exiting: CAL SYS540_STOP
```

R001 uses `CUR_PUTC -> VT26_PUTC` and its own 12-byte allocation at 671Eh..672Ah. Source headers retain earlier candidate-era comments; the dated donor acceptance supersedes that status only at bounded composition scope. No separately witnessed generic renderer or hardware timing test.

Evidence and identity

Exact 3-file accepted source closure, native audit, owner acceptance and release journal. ROM SHA-256 `f62604ebdda5b1560fc7f4e627006bc823dbbc9bd7768832068cb5622f75abf3`. `SOURCE_MANIFEST.json` pins each exact R001 source byte sequence and its original provider lineage (including reversible LF equivalents where applicable). No existing admitted generation was changed.

Praeteritum ad futurum servamus.