Nova Console TTY Device Guide (SIMH■Compatible)

This guide documents the Nova console terminal devices (keyboard + teleprinter) as implemented in SIMH, and how to model them in Dusky■Petrel for compatibility with existing Nova software, diagnostics, and RDOS tools.

Devices
TTI — Console Input (device 0o10)
TTO — Console Output (device 0o11)

Both devices expose Register A (8■bit buffer), BUSY and DONE flags, and optional interrupt enable/disable state. Registers B and C are unused for console devices.

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Nova I/O Instruction Layout (16■bit word)

15..13 = 011 (I/O group)
12..11 = Signal (00=None, 01=Start, 10=Clear, 11=Pulse)
10..8  = Function (NIO/DIA/DOA/…/SKP)
7..6   = AC (AC0–AC3 or skip subtype)
5..0   = Device / Channel (0–63)

Skip Instructions (BUSY / DONE)

AC=00  SKPBN  skip if BUSY = 1
AC=01  SKPBZ  skip if BUSY = 0
AC=10  SKPDN  skip if DONE = 1
AC=11  SKPDZ  skip if DONE = 0

TTI (Console Input, 0o10)

DONE=1 when a character is available in Register A.
DIA reads A → AC and clears DONE.
Input is normally driven from a queued FIFO source.

TTO (Console Output, 0o11)

DOA writes AC → A and initiates character output.
BUSY optionally indicates output■in■progress.
Simple implementations may complete immediately.
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Echo Program

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Echo Test Program (Nova Assembly)

LOOP:   SKPDN   TTI         ; wait for character
        JMP     LOOP
        DIA     TTI         ; read char -> AC0
        DOA     TTO         ; echo to console
        JMP     LOOP
```