

Let m = base of the counter

s = starting value of counter

$h = m^{\lceil \log_m s \rceil} - 1$, halting value of the counter

$d = \lceil \log_m s \rceil$, number of digits in each value of the counter

$d_r = \left\lceil \frac{d}{3} \right\rceil$, number of digit regions

$l = \lceil \log_2 m \rceil + 2$, number of bits needed to represent each digit plus 2 for MSR and MSD

$H_{d_r} = 3 \cdot (l + 30)$, height of a counter value

Warp Units

Pre_First_Warp

First_Warp

Warp_Bridge

Second_Warp

Post_Warp

Digit Top

DigitTop

DigitTop_Digit1

DigitTop_Digit2

DigitTop_Digit3

ReturnDigitNReadDigitN+1

ReturnDigit1_ReadDigit2

ReturnDigit2_ReadDigit3

ReturnDigit3_ReadDigit1

ReturnDigitNReadNextRow

ReturnDigit1_ReadNextRow

ReturnDigit2_ReadNextRow

ReturnDigit3_ReadNextRow