Online Resource 2: Circuits and Schematics

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The external input LUT at the top of Figure 22 is optional. This is because the LUT is useful only if the PPAM desires to remap the symbol encoding. For example, in the case of the worked example in Section 22, if the external input is 0x1 and the PPAM desired to internally remap 0x1 to 0x5, this could be implemented using an internal LUT. However, this would require another LUT to be implemented at the output of the PPAM when it was recalling the values to reverse the mapping for the external reader.
Fig. R2.2: Analogue circuits for threshold and compare (Subtractor)

The equations for the subtracter and the adder are presented as Equations 77 and 78 respectively.

\[ V_0 = \frac{R_2}{R_1} (V_1 - V_2) \]  
\[ V_0 = -\frac{R_f}{R_0} (V_1 + V_2 + V_3) \]
Fig. R2.4: Detect Input (Pulldown Circuit)
Fig. R2.5: Match all locations