

Weekly Studying

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 2. setting threshold into the discriminator

Discriminator



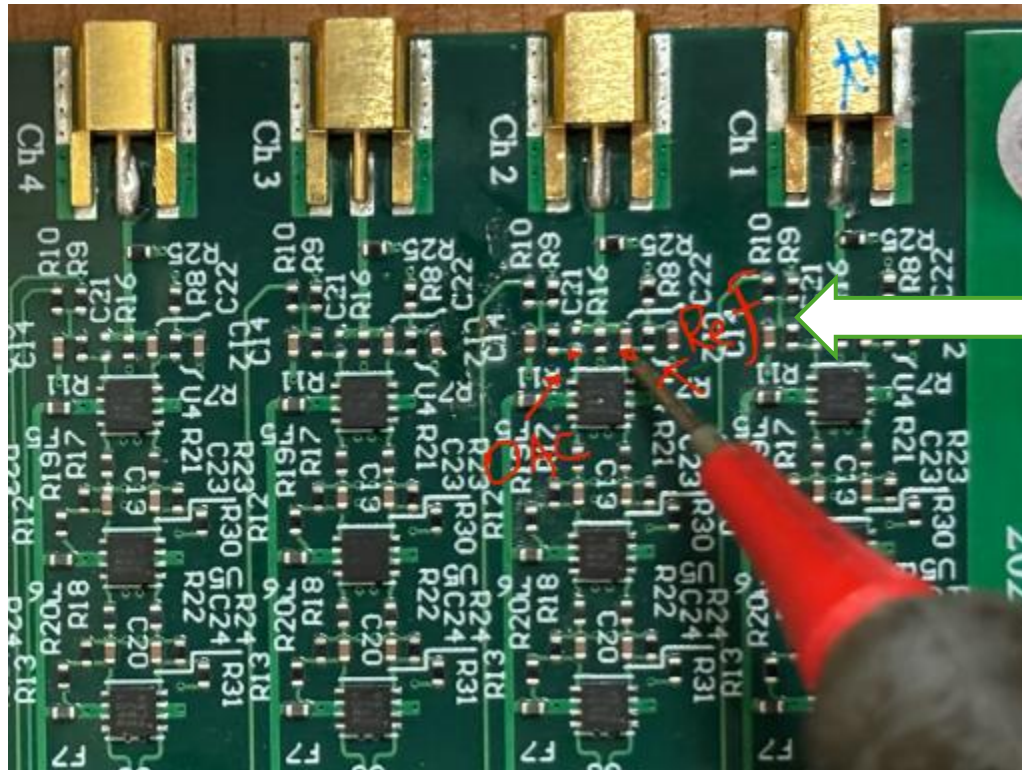
Function:

The discriminator triggers a square wave output whenever the input waveform crosses a specified threshold

Jobs:

1. Create a control code to set the threshold
2. Test the relation between the digital value (in the code) and the true threshold value (on the discriminator)

Threshold on the discriminator

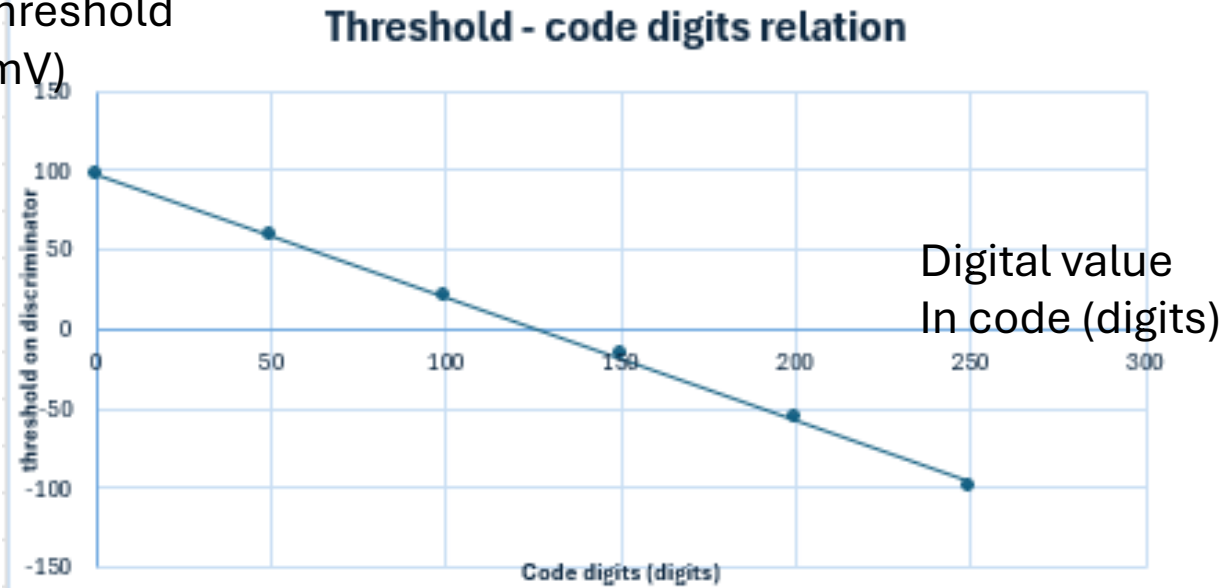


Threshold on the discriminator is the voltage difference between these two point on the discriminator.

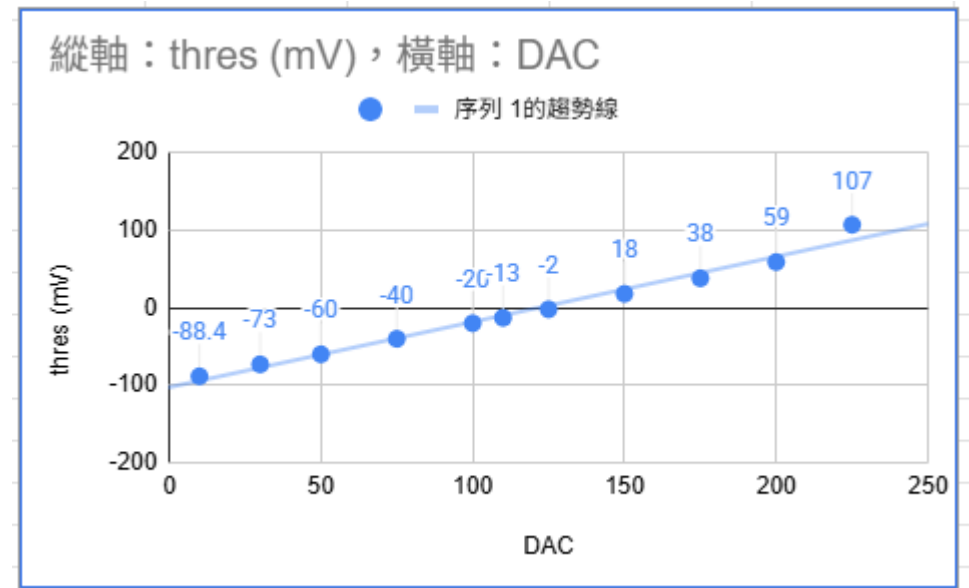
Test relation between **code digits** and **threshold value** on discriminator

Recent measurements (slope is negative)

Threshold
(mV)



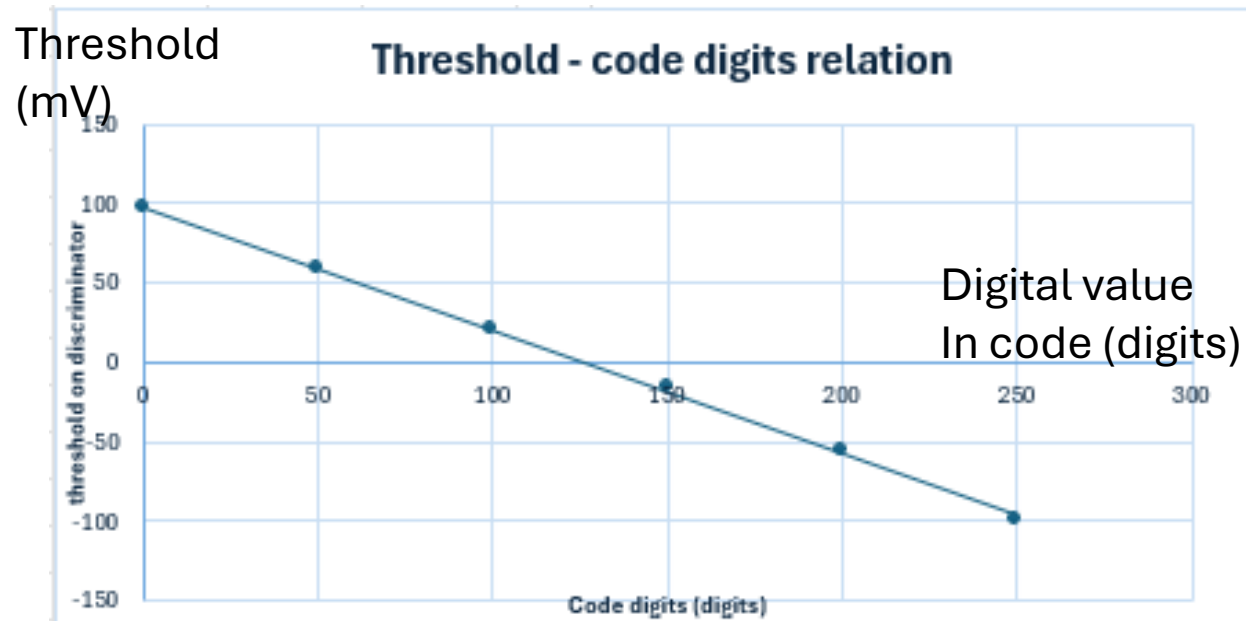
Previous measurements (slope is positive)



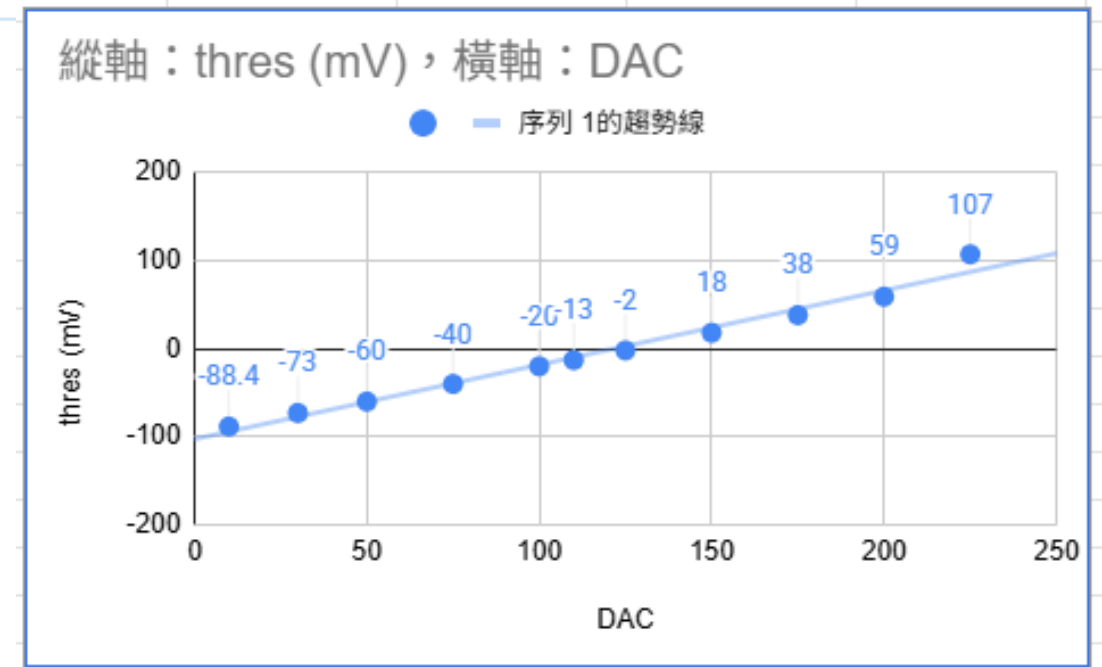
Threshold: The real value set into the discriminator
Code digits: the threshold value in the code

Test relation between **code digits** and **threshold value** on discriminator

Recent measurements

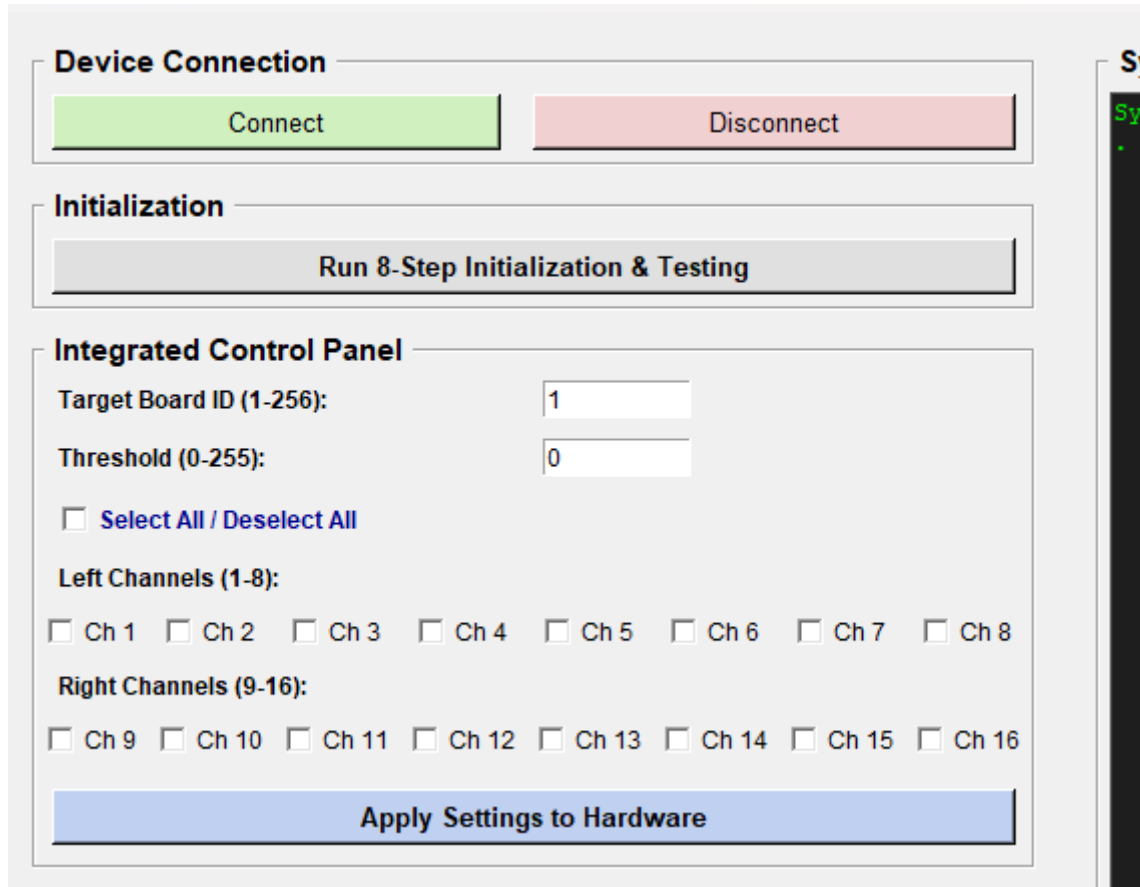


Previous measurements



To-Do: Check which is the correct trend

Discriminator Control Code



The interface is divided into three main sections:

- Device Connection:** Contains two buttons: a green "Connect" button and a red "Disconnect" button.
- Initialization:** Contains a single grey button labeled "Run 8-Step Initialization & Testing".
- Integrated Control Panel:** Contains input fields for "Target Board ID (1-256):" (value: 1) and "Threshold (0-255):" (value: 0). Below these is a checkbox labeled "Select All / Deselect All". Further down are two groups of checkboxes: "Left Channels (1-8):" (Ch 1 to Ch 8) and "Right Channels (9-16):" (Ch 9 to Ch 16). At the bottom is a blue button labeled "Apply Settings to Hardware".

Main function of the discriminator control:

To set the threshold on the discriminator

Status:

(Successful) Set threshold into discriminator test.

(To-Do) Set threshold channel by channel

the discriminator control interface