

Preparing a Presentation

Dakar IEEE NPSS School, 2022

What to present?

- Motivation
- Description
- Measurement
- Result
- Discussion

Fast Timing and TOF in PET Medical Imaging

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Outline:



- Time-of-Flight PET
- History
- Present Status
- Future

- This work was supported in part by the U.S. DOE (contract No. DE-AC02-05CH11231) and in part by the NIH (NIBIB grant No. R01-EB006085).
- Thanks to M. Ullisch and W.-S. Choong of LBNL, M. Casey, J. Young, and B. Bendriem of Siemens Medical Solutions, and Y. Hämisch of Philips.

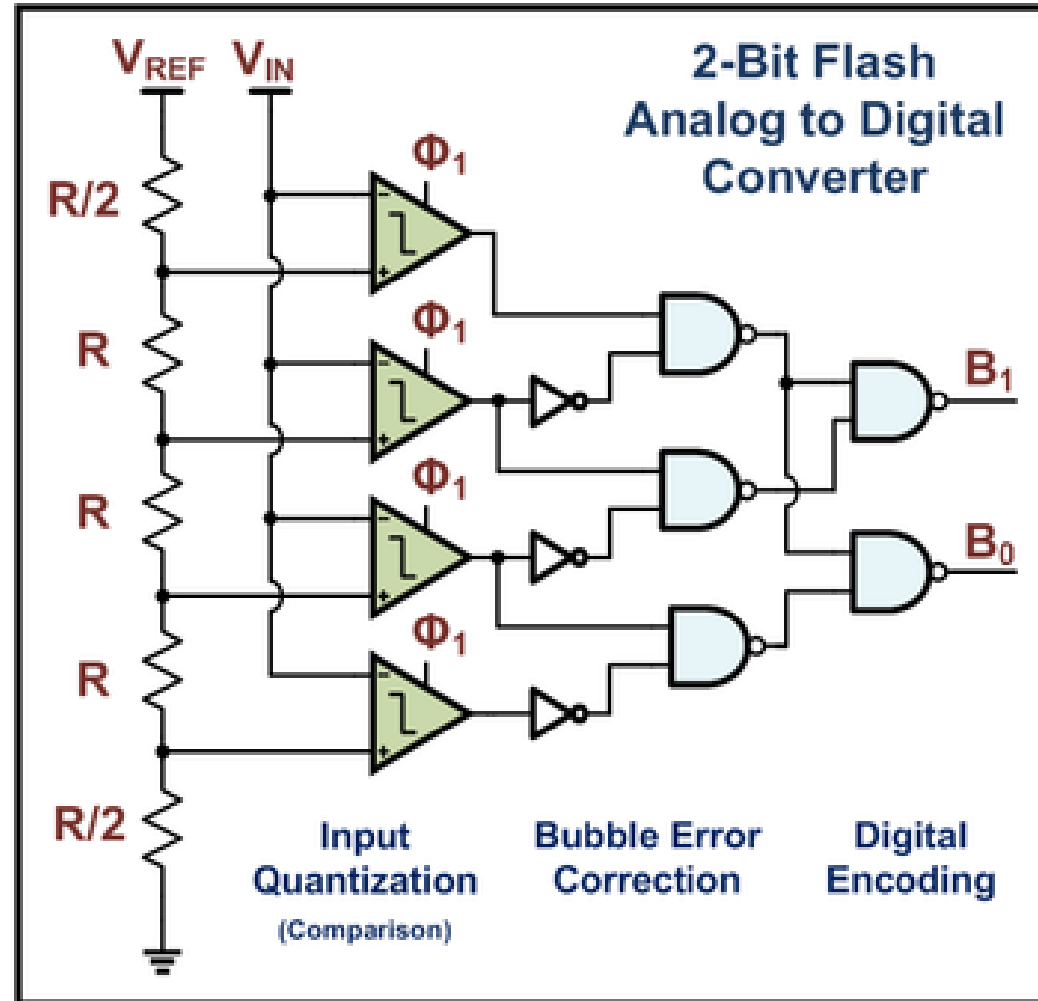
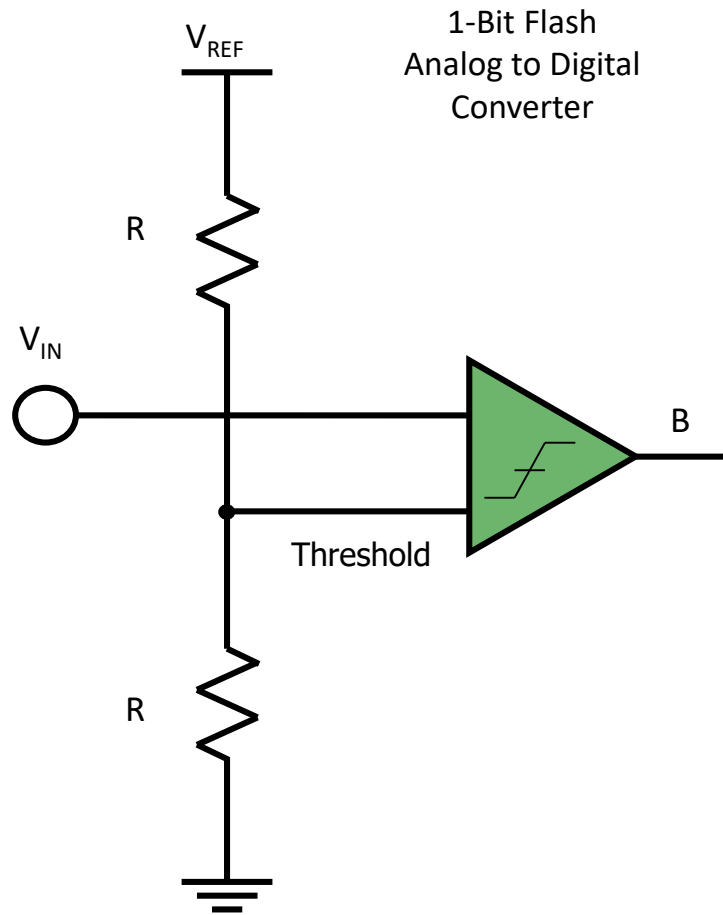
Number of slides

- Rough guideline: **1 slide per minute**
- Longer talks: -10-20%
- Don't put too much on too few slides
- Concentrate on **main message**
- For tomorrow: Aim at **5 mins / 5 slides**

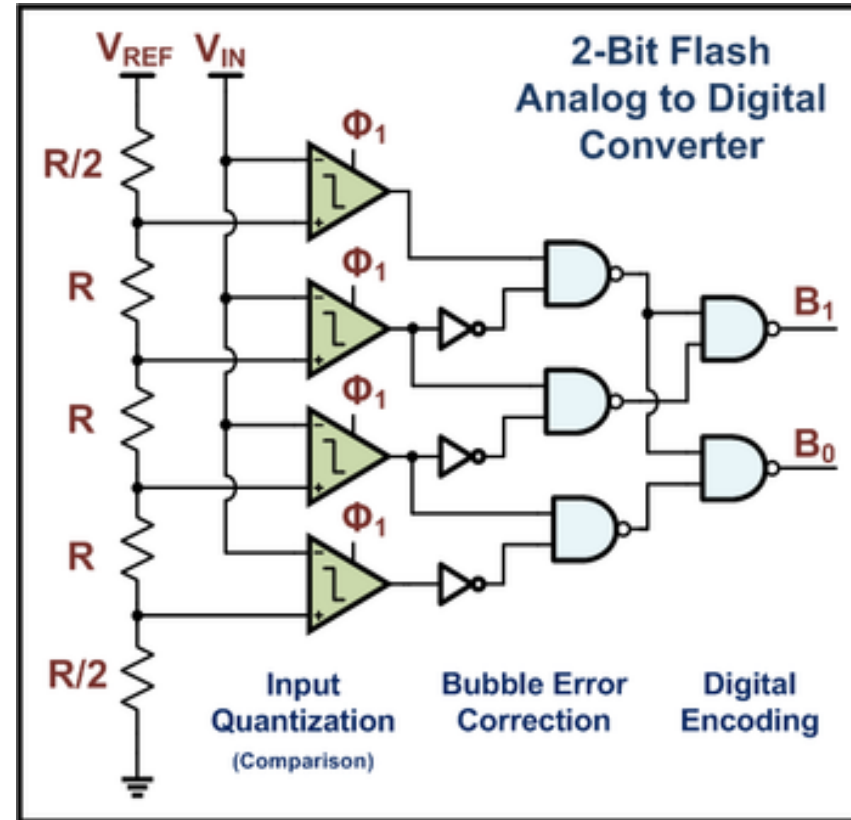
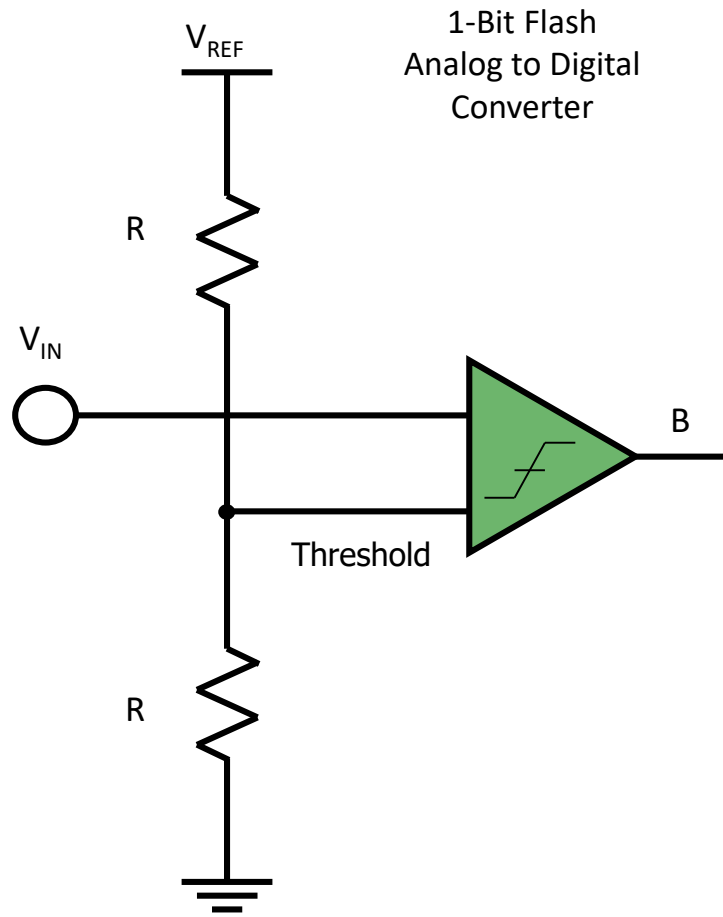
What is your **message**?

- It is **not** the “**what**”
- It is the “**so what**”
- Putting the “so what” on your slide is very **important**
- Slide can also be understood **offline**
- Message can even be in the **title**
- **Concentrate** on your **message**

Digitization: Flash ADC 1-bit and 2-bit

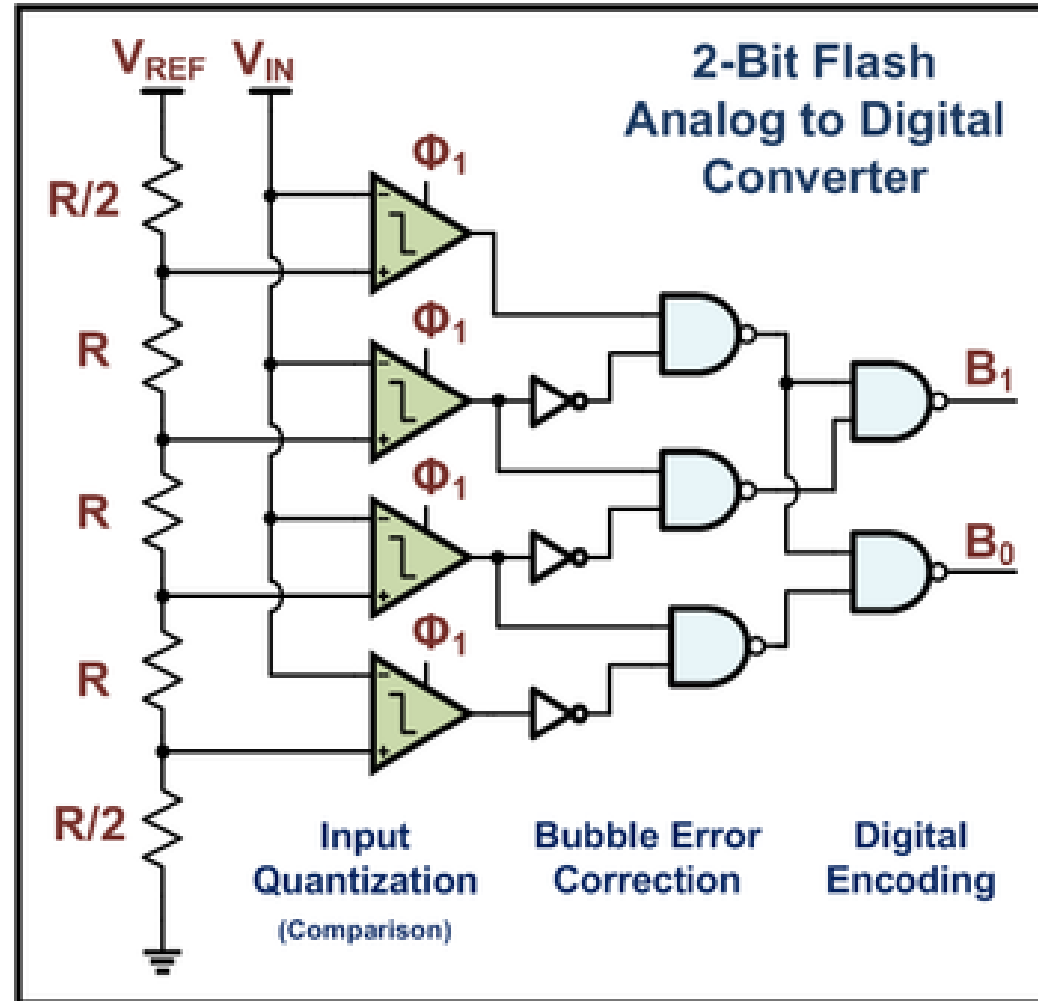
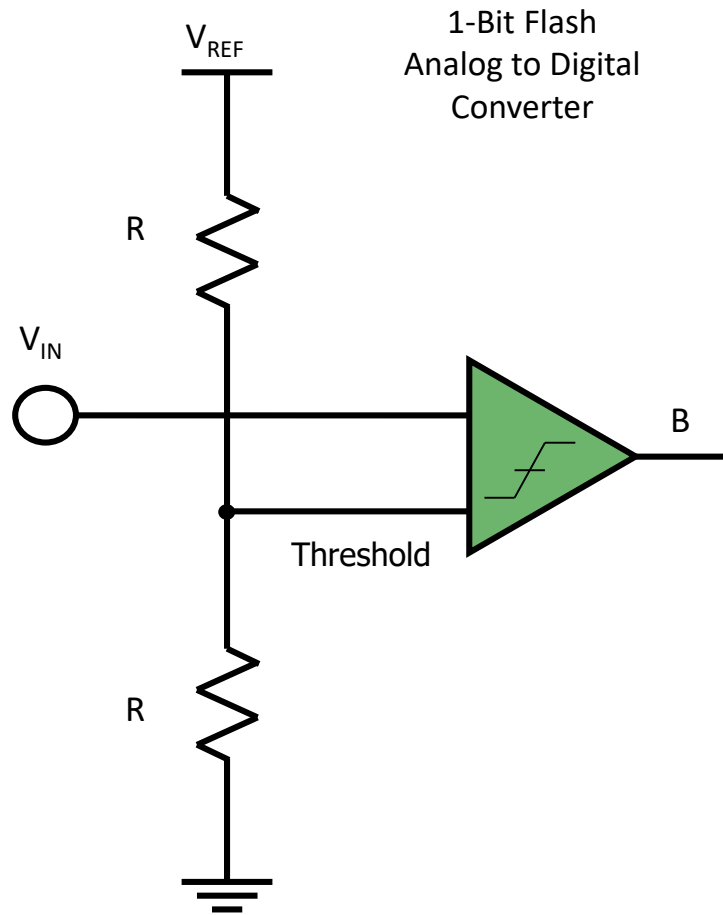


Digitization: Flash ADC 1-bit and 2-bit



A Flash ADC can digitize a signal very fast without a clock

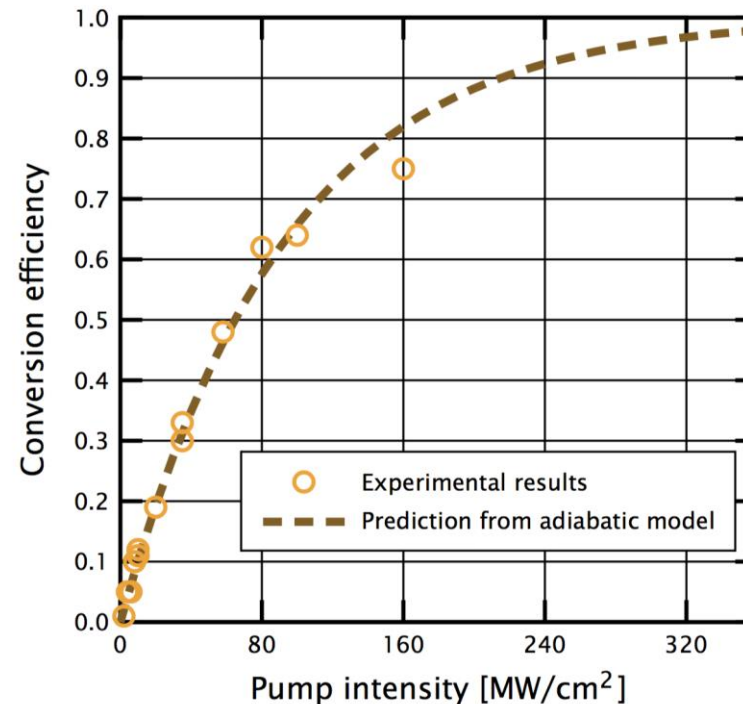
A Flash ADC can digitize very quickly without clock



Presenting Plots

- Labels need to be readable
- Axis titles
- Lines and points large enough
- Legend
- **Message**

Efficiency of adiabatic frequency conversion



- Maximum pump intensity available experimentally: 160 MW/cm²
- $\lambda_1 = 1530$ nm; $\lambda_2 = 1064$ nm (Q-switched Nd:YLF)
- The maximum demonstrated conversion efficiency was 75 percent
- Periodically poled crystal can get damaged from 500 MW/cm² of pump intensity

