



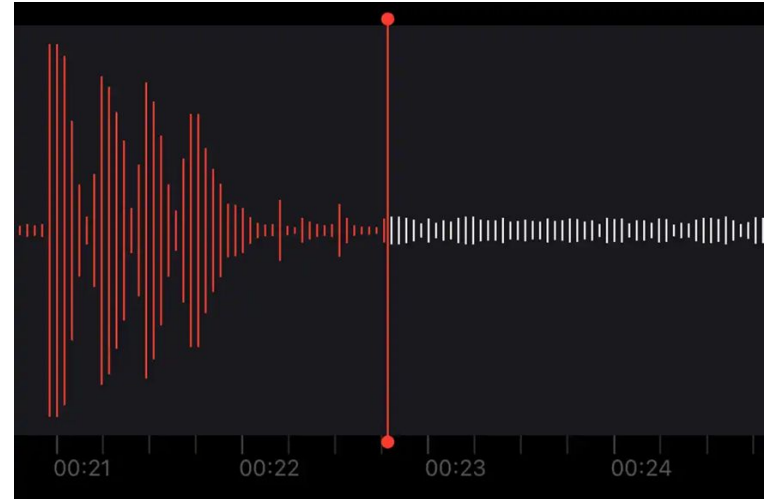
FPGA Music Visualizer

By: Benjamin Rojewski, Nicholas Spanos, Justin Janulewicz, and Andrew Waite

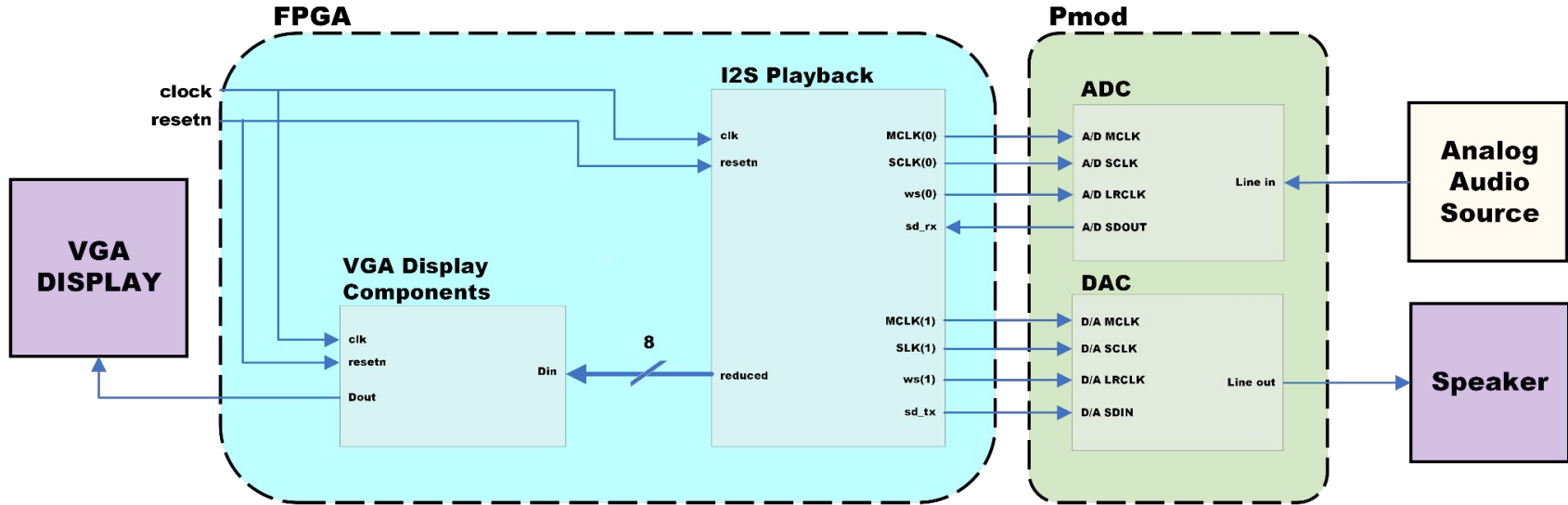


What Does it do?

The device functions as a music visualizer; it takes incoming music from the Pmod port (represented as voltage), converts it to digital data using an ADC and then displays this data on a VGA display. In essence, it functions very similarly to the voice memos app on IOS.

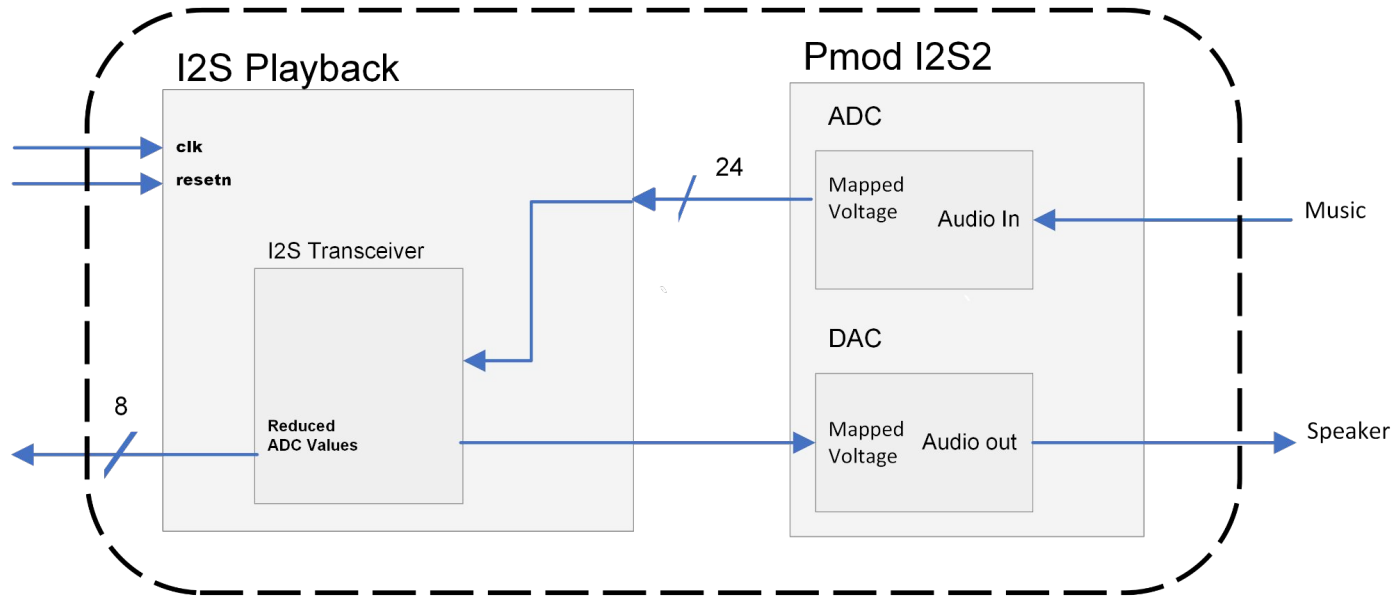


Datapath

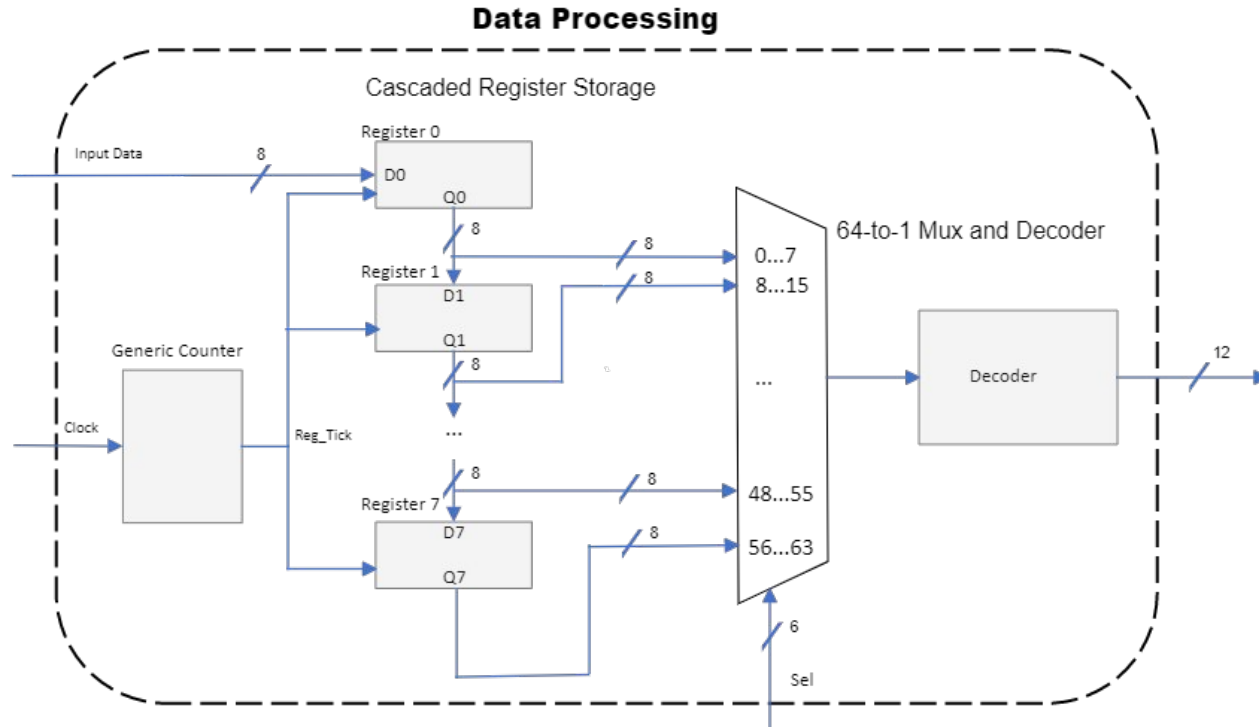


Pmod & I2S Playback Circuit

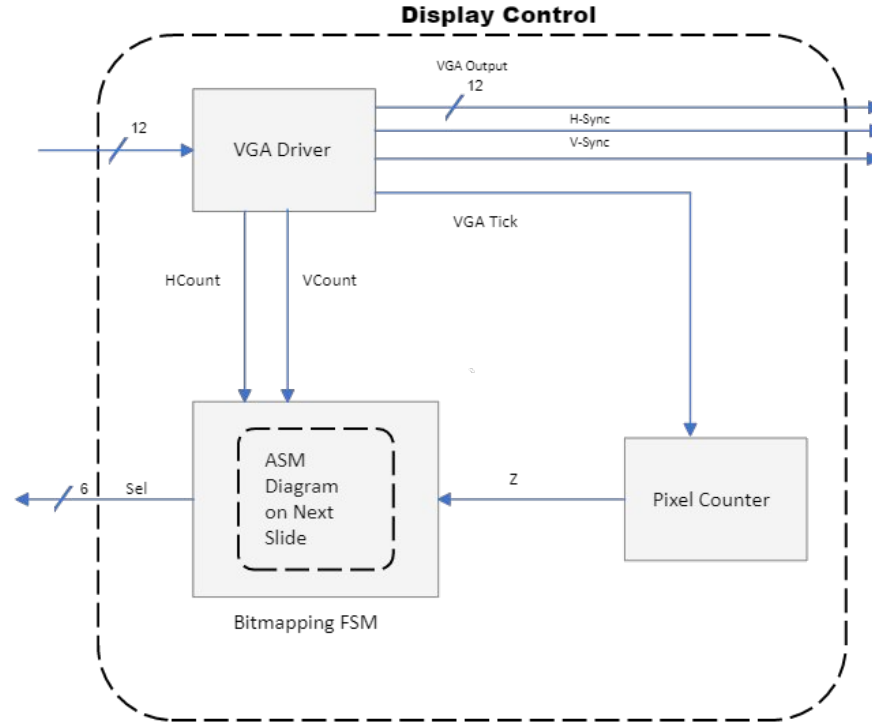
Data Capture



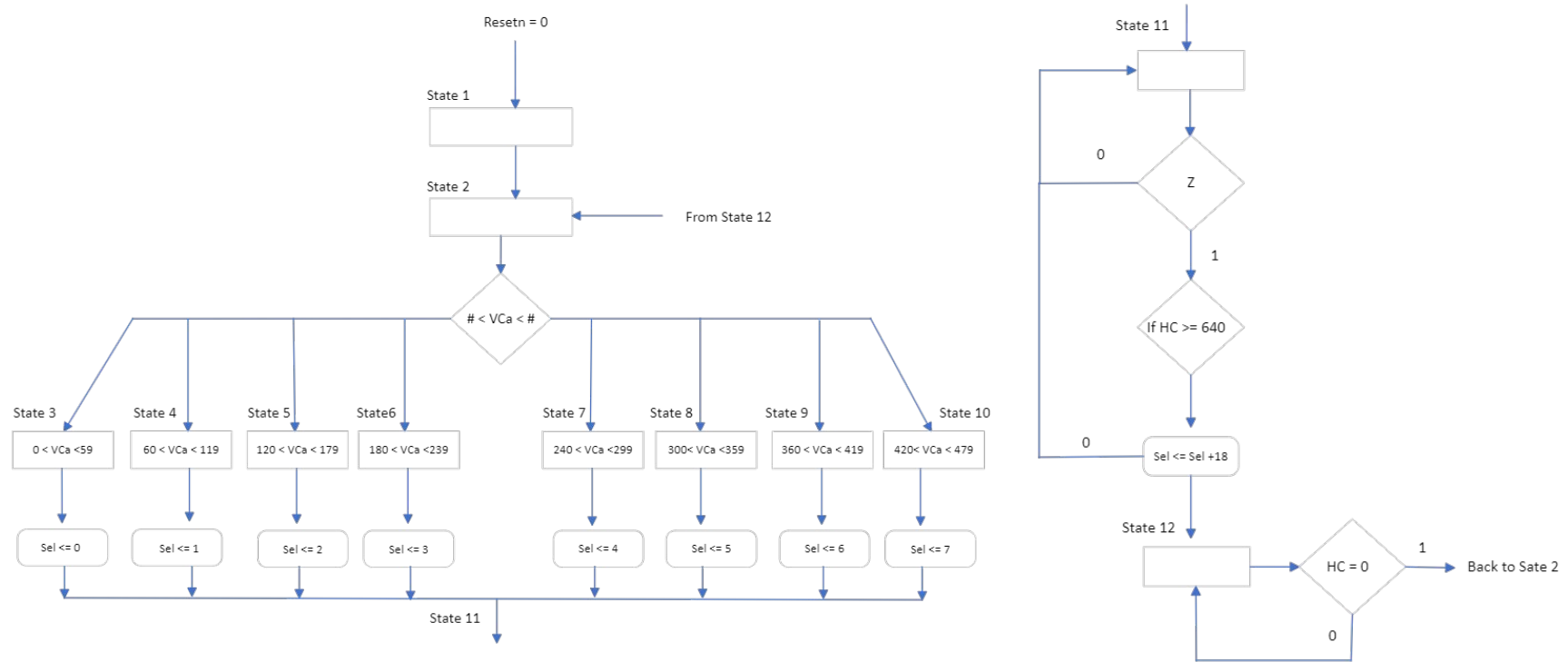
VGA Display Components - Cascaded Registers, Mux & Decoder



VGA Display Components - FSM, Counter and VGA Driver



VGA Display Components - ASM Diagram





DEMO

Thank You!
Questions?

