# Main Program Loop

**Sample Period**

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|---|---|
| Set the A/D Converter to the audio input | |
| Configure and Start Timer 1 | **AN1 ACQ Time** |
| Calculate address of delayed sample by subtracting delay value from current address | |
| Read the delayed sample from the RAM | |
| Initiate the A/D conversion of the audio input | |
| Process the sample read from RAM for output to the SPI DAC | **AN1 Conversion Time** |
| Write the sample to the DAC | |
| Wait for A/D Conversion of Audio Input to Complete | |
| Set the A/D Converter to the Delay Input | |
| Store the sample of the audio input to the RAM buffer | **AN2 ACQ Time** |
| Store the sample of the audio input to the RAM buffer | |
| Increment the RAM buffer address | |
| Initiate the A/D conversion of the delay input | |
| Wait for A/D Conversion of Audio Input to Complete | **AN2 Conversion Time** |
| Read Range Setting Inputs and Process Delay Reading Accordingly | |
| Store Delay Value for use in next loop | |
| Wait for Sampling to Complete | |