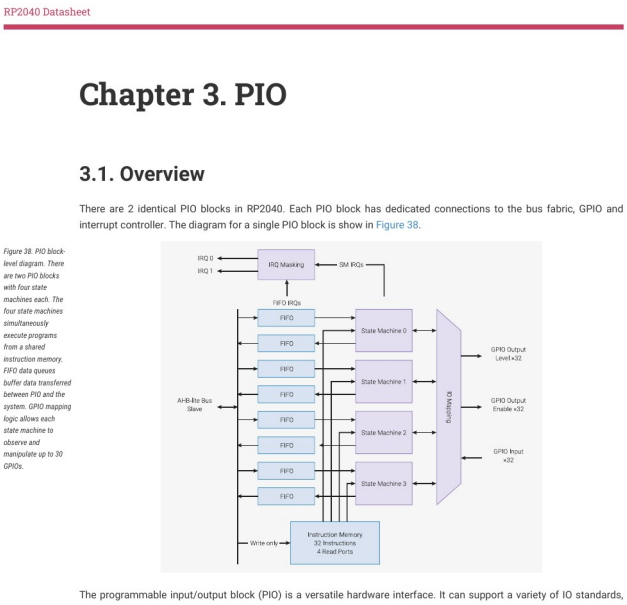
**********Default**********
RP2040
PIO
Support 4 Uart
2 on PIO0
2 on PIO1
Working as a Transputer
08/10/21

**********Default**********

Raspberry Pi Pico was released in January 2021 with a retail price of $4.
It was Raspberry Pi's first board based upon a single microcontroller chip; the RP2040, which was designed by Raspberry Pi in the UK.

The RP2040 datasheet chapter 3 has the overview of the PIO.
The RP2040 has 2 PIO0 & PIO1


RP2040 Datasheet

Chapter 3. PIO

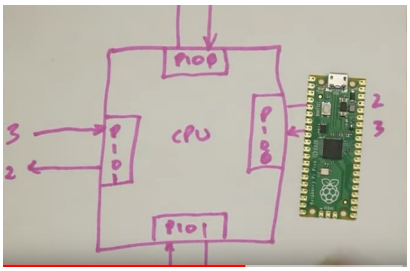
3.1. Overview

There are 2 identical PIO blocks in RP2040. Each PIO block has dedicated connections to the bus fabric, GPIO and interrupt controller. The diagram for a single PIO block is show in Figure 38.

Figure 38. PIO block-level diagram. There are two PIO blocks with four state machines each. The four state machines simultaneously execute programs from a shared instruction memory. FIFO data queues buffer data transferred between PIO and the system. GPIO mapping logic allows each state machine to observe and manipulate up to 30 GPIOs.

The programmable input/output block (PIO) is a versatile hardware interface. It can support a variety of IO standards,

picoputer part 1
https://www.youtube.com/watch?app=desktop&v=MV_q7ltG8gY
There 6 parts on youtube.



The sites below provide examples of uart_rx & uart_tx with C and PIO files.

https://github.com/raspberrypi/pico-examples/tree/master/pio/uart_rx
https://github.com/raspberrypi/pico-examples/tree/master/pio/uart_tx

https://en.m.wikipedia.org/wiki/Transputer
The transputer is a series of pioneering microprocessors from the 1980s, featuring integrated memory and serial communication links, intended for parallel computing. They were designed and produced by Inmos, a semiconductor company based in Bristol, United Kingdom.[1] T414 transputer chip
IMSB008 base platform with IMSB419 and IMSB404 modules mounted

For some time in the late 1980s, many[2] considered the transputer to be the next great design for the future of computing. While Inmos and the transputer did not achieve this expectation, the transputer architecture was highly influential in provoking new ideas in computer architecture, several of which have re-emerged in different forms in modern systems.