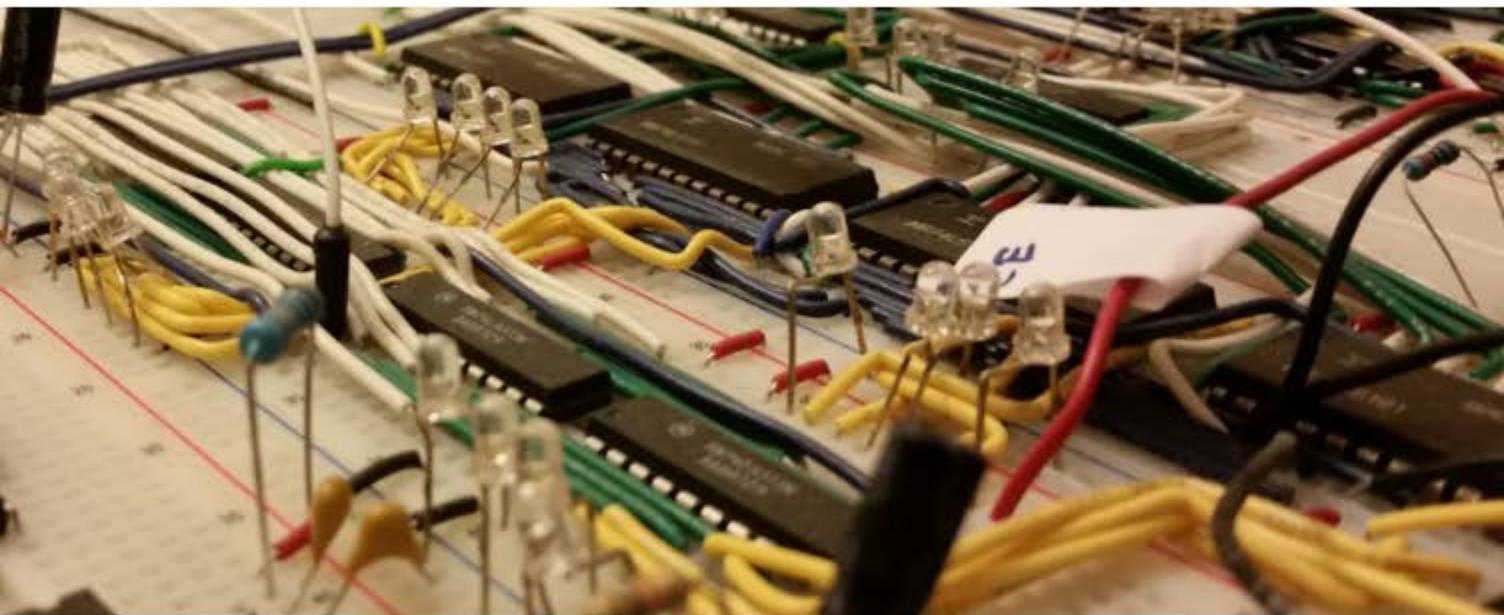


16 Bit Breadboard Computer



What is it?

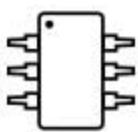
It's a computer **built** from discrete logic **ICs**.

It contains what would normally be in a **single** microprocessor chip.

What does it do?

It can **manipulate data** in its memory,
perform logical/mathematical operations, and execute **Instructions**.

Programs are **written** to a EEPROM chip that the computer reads and
LEDs show the **data** being moved around.



Contents

Picture

Overhead picture of the built computer.

Diagram

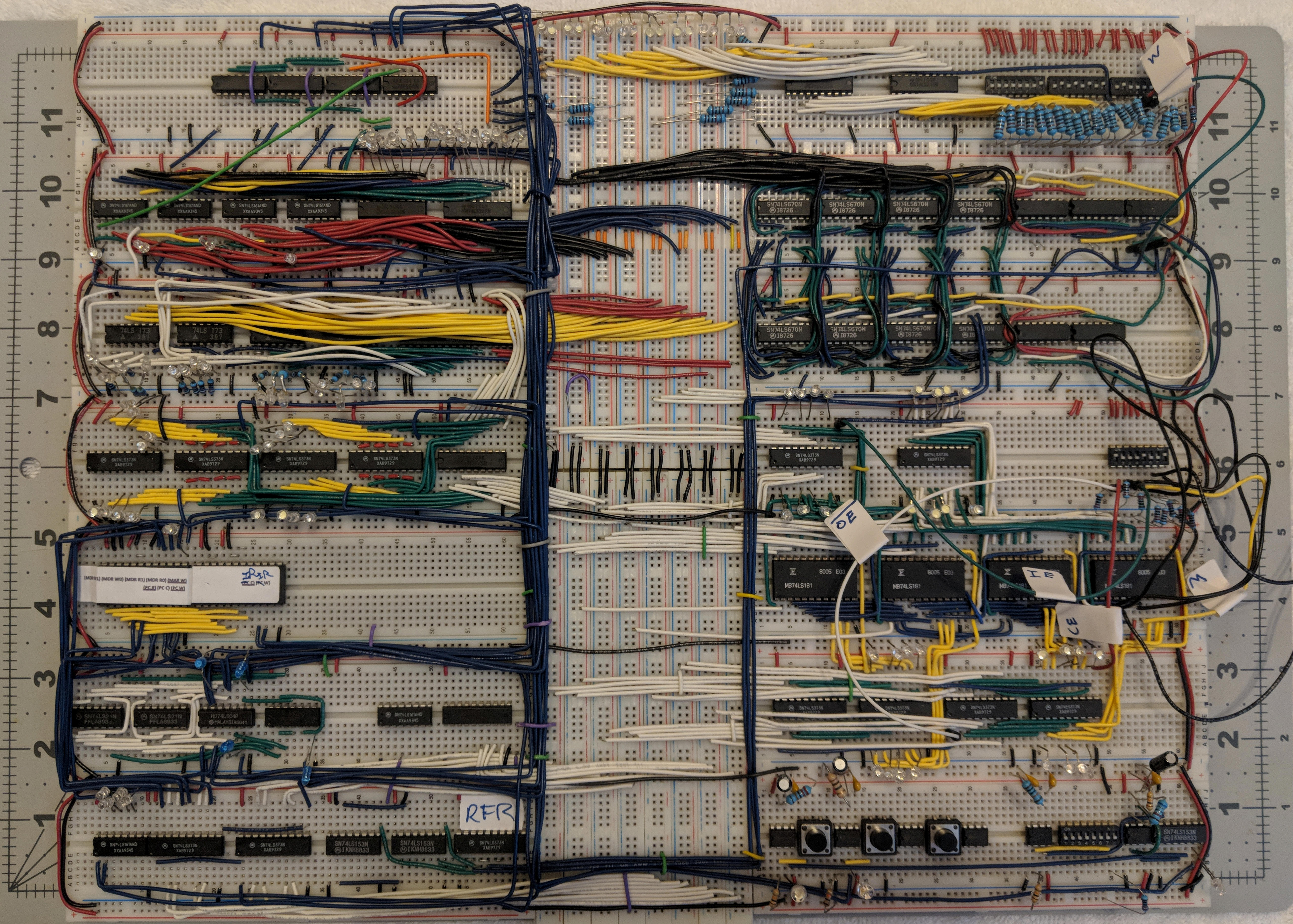
Outline of modules and signals in the computer
such as memory and read/write signals.

Schematic

Layout of **40+ ICs** used and their connections.

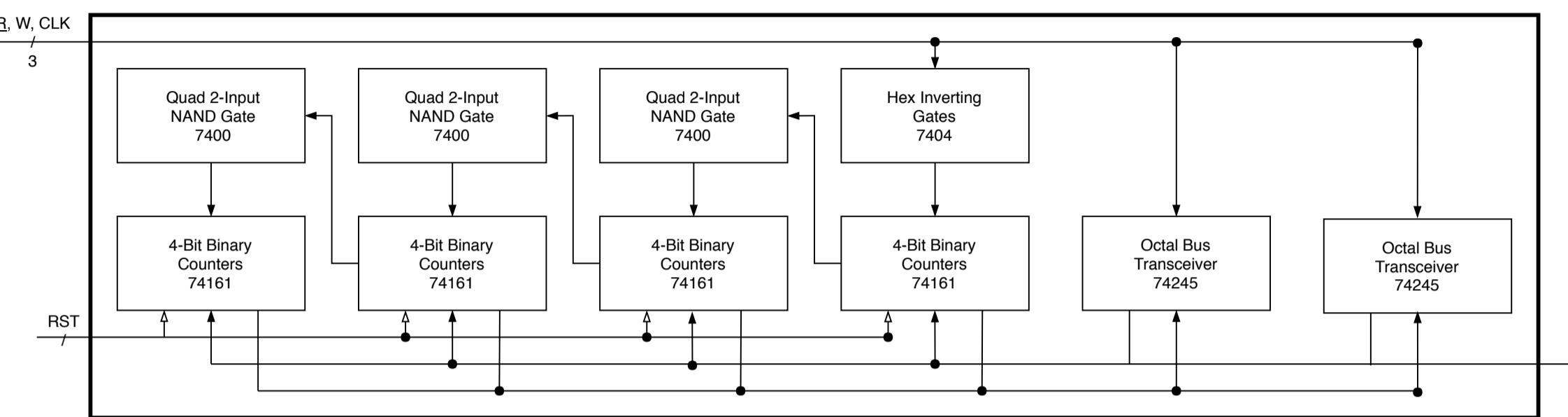
PCB

2-Layer PCB version with 200+ nets.

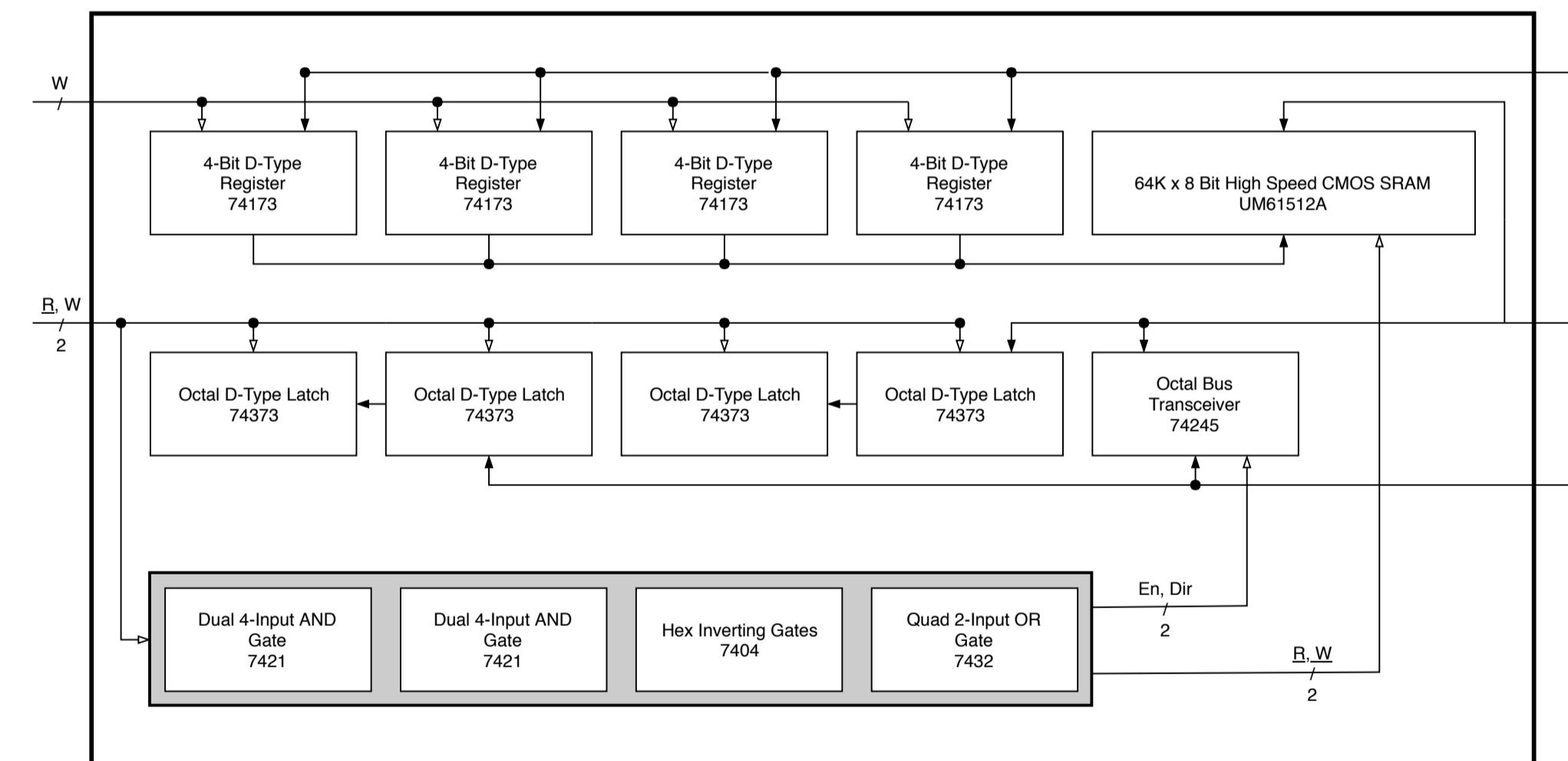


Diagram

PC
Holds address of current instruction



Memory



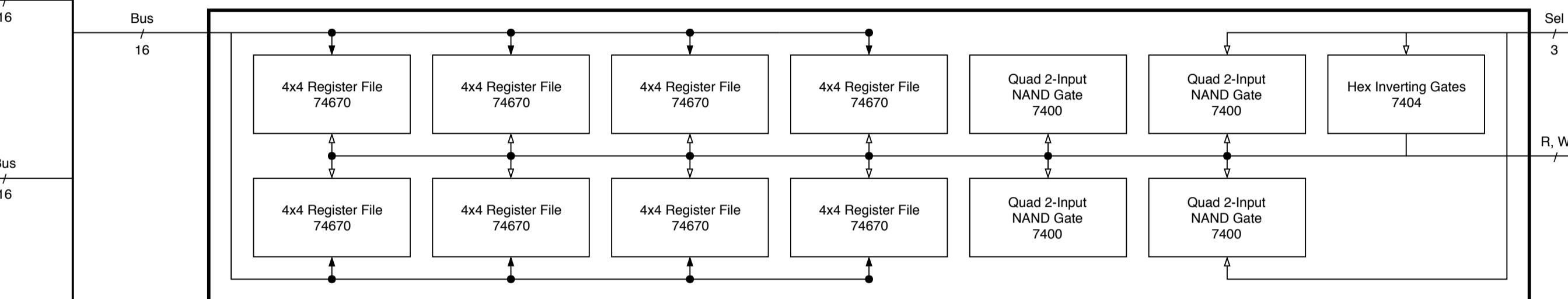
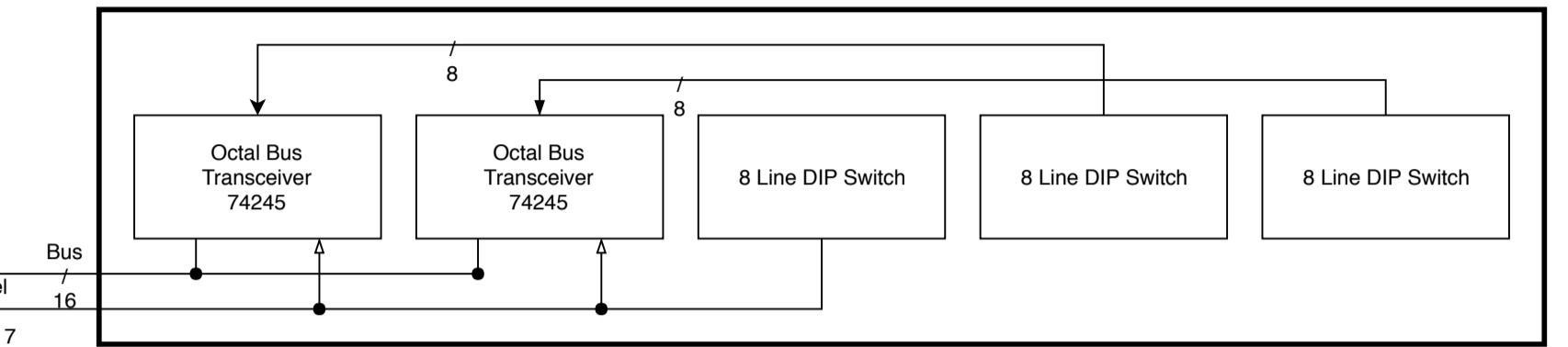
Control Store



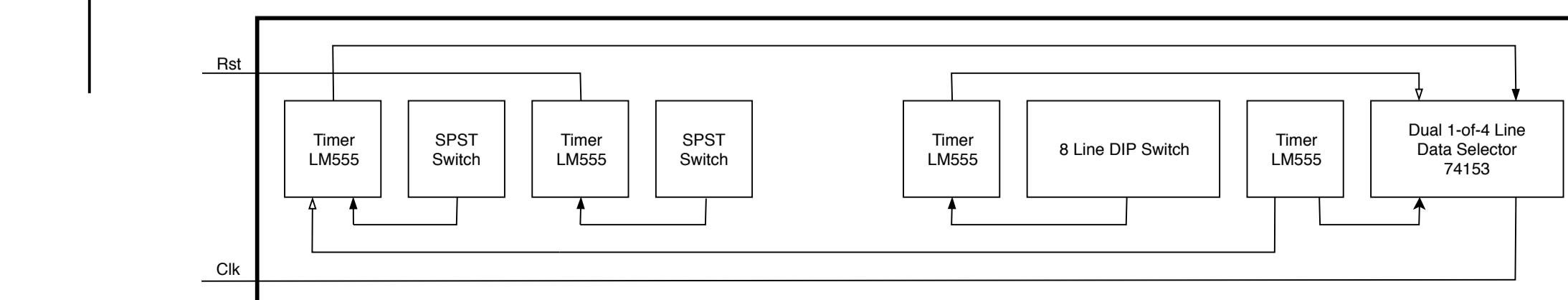
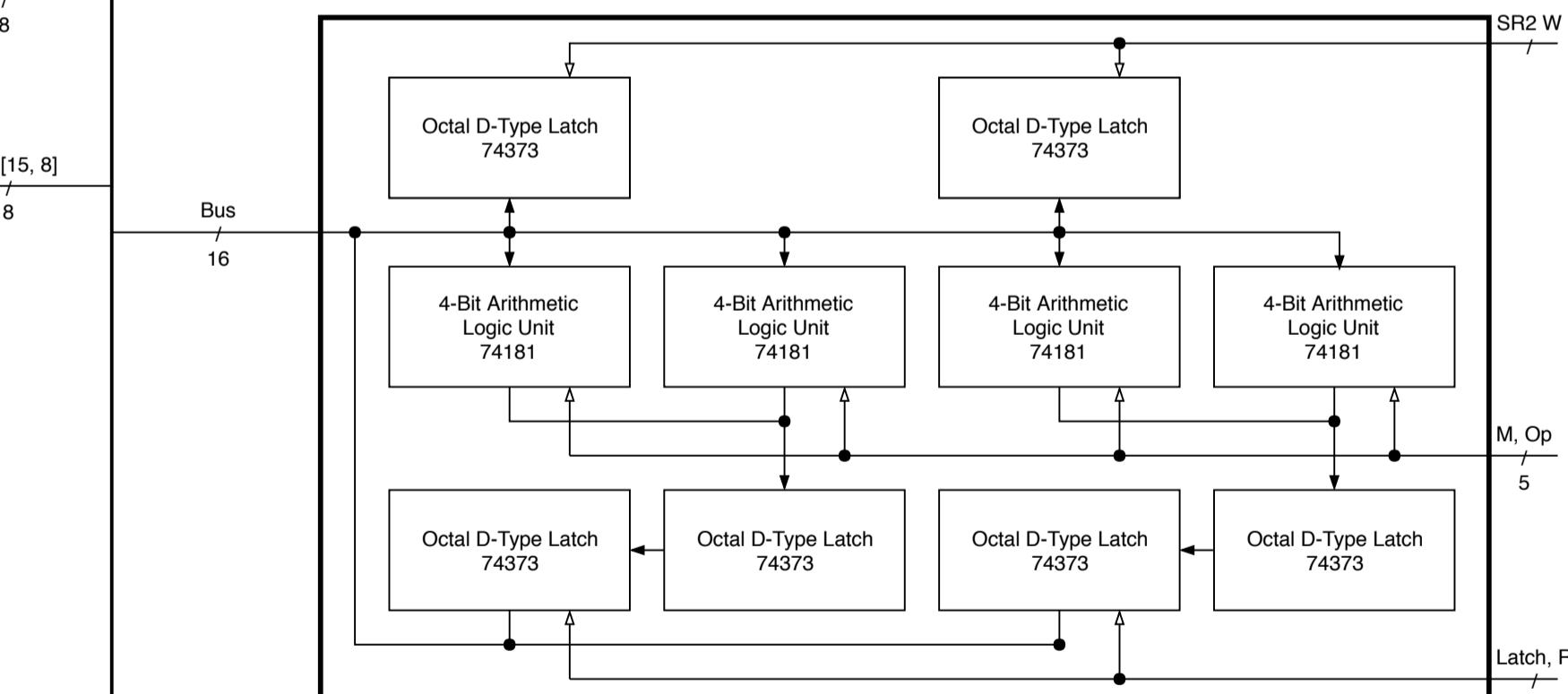
Instruction Register



16-Bit Bus



Debugging
Contains switches for bus and signal access



Register File
"Scratchpad" used when executing instructions

ALU
Allows arithmetic and logical operations

Clock

