IO

Crafting Terminal:

Inputs:

1. Item Selection Panel
   1. This is likely a storage place full of all the items that are programed into the system
2. Craft button
   1. A button that tells the system to craft the amount of items the user chose to craft
3. Number of items wanted panel
   1. A place where the user chooses how many items they need from the system

Outputs:

1. How many of the selected item do we already have in storage?
   1. If we have the amount of items the user wants to craft already in storage then just ship those items to the user. If there is any at all in storage use them then craft the remaining items needed to fufill the users requests
2. How many of the selected items are currently able to be crafted taking into account all dependencies?
   1. If we are crafting a Birch Door and we don’t have any birch wood, then see if we have a birch wood recipe, if so see if enough birch logs exist to craft the birch wood required to craft the birch door.
   2. If we are crafting a Blast Furness: 1. request a furness from storage, if one exists get it, else make one. 2. Request 5 smooth stone from storage, if none exist smelt 5 smooth stone, if none exist 5 smelt cobble stone. 3. Request iron from storage, if none exist look at the recipes for iron known, if we choose to smelt ores do that, if we choose to craft iron blocks into 9 iron ingots take three and store the rest in storage.
   3. If the system does not have the ability to craft the amount the user wants the system will not do anything
3. Crafting?
   1. If the system is currently being crafted, the system will NOT accept any new jobs.
4. Amount remaining to be crafted:
   1. A panel that will display the number of items the still need to be crafted.

Recipe Terminal:

Inputs:

1. Crafting or smelting?
2. If crafting, 9 addresses to items in storage.
3. If smelting, 1 address to the items being smelted.
4. If crafting, Amount of resource made per craft.
5. Address of crafted resource in memory, so that other recipes can use it.
6. Submit

Outputs:

1. Working?
2. Current item programing 1-9
3. Current item programing value in memory

CPU - Crafting Processing Unit

Inputs from Crafting Terminal:

1. Memory Address of item to be crafted.
2. Amount to be crafted.
3. Takes a Signal to start Crafting.
   1. This operation will be available after the feasibility of the Job has been computed and sent back to the User Interface.

Outputs to Crafting Terminal:

1. Crafting?
   1. A bit of information that if true the IO will not send any more info to the CPU until it is done with its current task.
2. amount of Item to be crafted in storage.
3. Maximum number of selected items that can be crafted.
4. Items remaining to be crafted in the current craft job.

Inputs from Recipe Terminal:

1. Something
2. Something

Ouputs to Recipe Terminal:

1. Something
2. something

Algorithm:

IDK yet

Memory:

Minecraft 1.20 has 1,643 different items:

12 bit lookup: 2^12 = 4,096 different items storable

10 bit lookup: 2^10 = 1,024 different items storable

8 bit lookup: 2^8 = 256 different items in storage

Memory controller:

I need the memory controller to automatically allocate memory when deleting items, then when adding a Furness recipe to the memory I need one memory location stored while when storing a typical crafting recipe I could have anywhere from one to nine memory locations stored, so I need something to keep track of that.

Memory

My memory will be simple, it will have 10 lookup bits accessible though 2x5 bit pulses, this will mean I will have to do some transcoding to and from 10 bits but it will halve the wiring I need to do.

Most of the memory will be allocated for crafting table recipe storage because at each address there needs to be at most 9x10 bit look ups for each of the nine items in the recipe

There will be a signal that is separate from the data that tells the memory to output data at the specified address or to overwrite memory at that address.