

RS Latch / SR Latch

Data

IDs:

- 201, 2 [block, metadata]
- 457, 2 [item, damage]

Name:

- RS Latch

Texture:

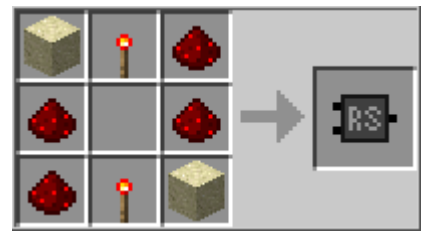
- MoareAI/Blocks/DigitalFunctions.png, Index 18

Icon:

- MoareAI/Blocks/DigitalFunctions.png, Index 34

Recipes

Sand	Redstone Torch	Redstone	=>	RS Latch
Redstone		Redstone		
Redstone	Redstone Torch	Sand		



Interacting

After crafting the item “RS Latch” you can place it on the ground as the block “RS Latch (Off)”, which will automatically power the output if the requirements are met (see function).

To pick it up again, destroy it by hitting it (one hit is enough) or by destroying the block underneath. This will yield the item “RS Latch”. This will also happen if the gate comes in contact with water.

In contact with lava, both the item and the block is completely destroyed.

If you right click a RS Latch, a GUI opens.
The GUI lets you set if the RS Latch should be mirrored or not.

GUI controls		
Key	Key type	Description
Forward	Minecraft control	Toggle between “false” and “true”
Right	Minecraft control	
+	Numpad	
Left Mouse Button	Mouse	
Back	Minecraft control	
Left	Minecraft control	
-	Numpad	
Right Mouse Button	Mouse	
R	Normal	Set the state to false.
Shift + R	Normal (Combinaton)	Set the state to the current state.
All other keys	Undefined	Exit GUI and save state.

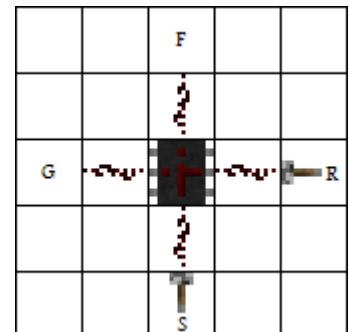
The value is saved to a TileEntity connected to the RS Latch.

How to wire the function

Wire as seen on the image, where “S” and “R” are the inputs and “F” and “G” are the outputs.

Through the GUI you may mirror the RS Latch, this way “G” becomes “R” and “R” becomes “G”

The connection for the output and the inputs may be in form of a direct signal or indirect signal through [Redstone Wires](#).



The function

As description

The outputs holds the signal of “S” if there is no inputs, if there is a signal on “R” the outputs are set to false. If both inputs are on the outputs react differently:

- Output F becomes false (RS)
- Output G becomes true (SR)

As Boolean algebra

$$F = (S + F) \cdot \bar{R}$$

“Output F” equals (“input S” OR “output F”) AND NOT “input R”

$$G = ((S + G) \cdot \bar{R}) + S$$

“Output G” equals ((“input S” OR “output G”) AND NOT “input R”) OR “input S”

As truth table

R	S	F
0	0	F
0	1	1
1	0	0
1	1	0

R	S	G
0	0	G
0	1	1
1	0	0
1	1	1