

# MG01: Merging Pair Optimizer

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## Features

- Most full box to least full box pairing
- Automatic output clocking, 16gt per pair
- Small size

## Applications

- Optimizing merging pairs for a merging loop

## General Description

The MG01 Merging Pair Optimizer takes a list of boxes, categorized by fullness, and outputs pairs of boxes to be merged. The device is capable of optimizing the merging pairs to reduce the number of merging operations required. This is done by pairing the most full box with the least full box, the second most full box with the second least full box, and so on.

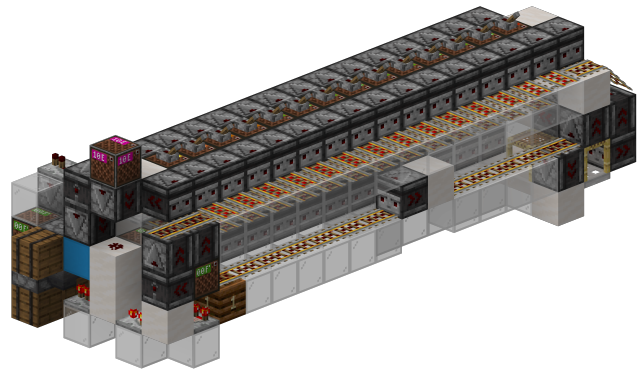


Figure 1: Merging Pair Optimizer

## Device Specifications

**Table 1: Inputs**

Name	Range	Description
Box inputs 1-14	Box	Input boxes categorized by fill level
Start	Pulse	Starts outputting pairs of boxes at 16gt per pair

**Table 2: Outputs**

Name	Range	Description
Paired box 1-2	Box	Outputs paired boxes
Unpaired box	Box	Outputs unpaired box

**Table 3: Device Specifications**

Parameter	Min.	Typ.	Max.	Unit	Conditions
Throughput	16	-	-	gt	Normal Usage
MC Version	1.14	1.19.3	-	MCV	Latest version at time of writing: 1.20.4
Dimensions	6 x 6 x 19			Blocks	

## Testing Data

Table 4: Executed Tests

Test	Result
Pairing test	Device was able to pair according to most-least pairing algorithm with random box input.

## Download Information

Table 5: Download Information

Identifier	MC	File	Description
MG01	1.19.3	<a href="#">MG01_Merging_Pair_Optimizer.litematic</a>	Schematic of device.
MG01	1.19.3	<a href="#">MG01S_Merging_Pair_Optimizer_With_Sorter.litematic</a>	Schematic of device with fill level sorter.

# Related Components

Table 6: Related Components

Identifier	Description
LC05	Pairer based on stateless find nearest device.