

# IM05: 1000 Non-Box Item RAM

By: Andrews54757

Tags: item-memory, random-access, non-box

---

## Features

- Has 1000 different codes/item types. Items are stored in slots inside shulker boxes inside a dropper.
- Random access. Can insert and retrieve items in constant time in any order.
- Compact. 22x10x19 volume.
- Maximum 55gt latency from call request to item.

## Applications

- Dynamic code to item mapping.
- Linked-list dynamic bulk mapping storage. See [explanation video on Youtube](#).

## General Description

The IM05 is able to store and retrieve non-box items with a specific decimal code. This may be useful for implementing dictionaries in an encoded dynamic sorting system. The device uses a 50-address item memory system with a hoppercart based slot cycling system to store and retrieve 1000 different items at near constant time.



Figure 1: 1000 Non-Box Item RAM

## Device Specifications

Table 1: Inputs

Name	Range	Description
Code Digit 1	1-10	First digit indicating row.
Code Digit 2	1-10	Second digit indicating column and slot.
Code Digit 3	1-10	Third digit indicating slot.
Execute swap	Pulse	Executes item swap with the given settings.
Item Input	Item	Item to be inserted/retrieved.

Table 2: Outputs

Name	Range	Description
Item Output	Item	Output for swap orders.

Table 3: Device Specifications

Parameter	Min.	Typ.	Max.	Unit	Conditions
Latency	36	-	55	gt	From call request to item.
Hopper Count		88		Hoppers	
MC Version	1.17	1.19.3	-	MCV	Latest version at time of writing: 1.21.4
Dimensions		22 x 10 x 19		Blocks	

## Testing Data

Table 4: Executed Tests

Test	Result
Insertion	Items were successfully inserted in all positions.
Retrieval	Items were successfully retrieved from all positions.

## Download Information

Table 5: Download Information

Identifier	MC	File	Description
IM05	1.19.3	<a href="#">IM05_1000_Non-Box_Item_RAM.litematic</a>	Schematic of device. Includes dummy item storage.