# Address converter

## Abstract

The unit converts matrix address [I,J] to SDRAM address (continuous), according to the equation: 

**Note: X represents row indexes, Y represents column indexes.**

## Inputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **description** | **type** | **size** | **Recived from** |
| X\_in | Holds the row index input | Std\_logic\_vector | 10 | TBD |
| Y\_in | Holds the column index input | Std\_logic\_vector | 10 | TBD |
| Ram\_start\_add\_in | Holds the ram beginning address | Std\_logic | TBD | TBD |
| X\_size\_in | Holds the number of rows in the input image | generic | 10 bit | Img\_man\_top (Mds\_top\_block) |
| Y\_size\_in | Holds the number of columns in the input image | generic | 10 bit | Img\_man\_top (Mds\_top\_block) |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

## Outputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **description** | **type** | **size** | **Destination** |
| Add\_out | Holds the address in SDRAM form | Std\_logic\_vector | 16/8???? | Wishbone master |
|  |  |  |  |  |