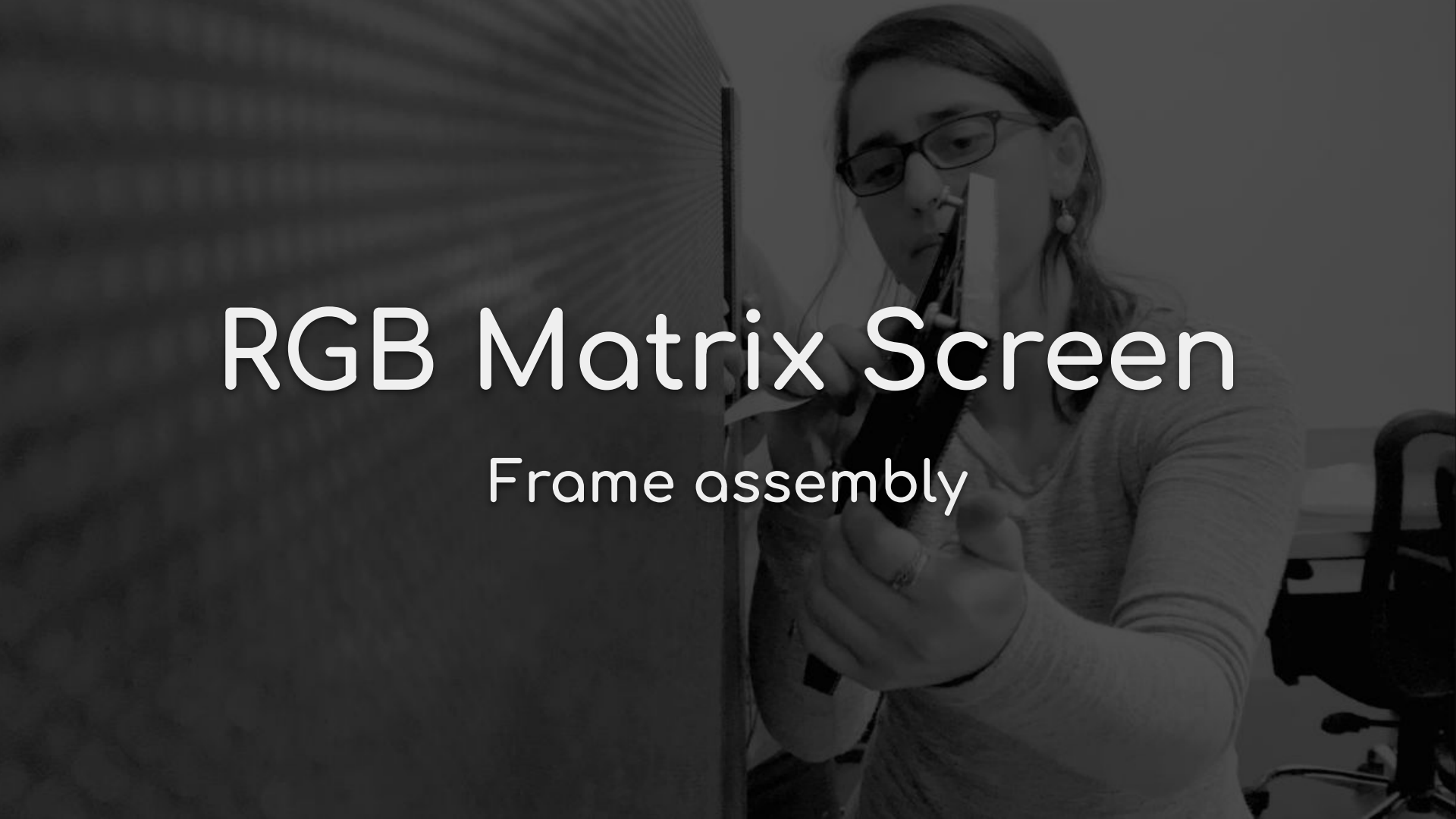


# RGB Matrix Screen

Frame assembly



# Overall Steps

1. Fit the frame (pre-assembly)
2. Measure & cut flat bar
3. Measure and flat bar mount placement & drill holes
4. Ensure frame has true right angles at corners

(Diagrams in appendix)

# Safety warning



Some procedures require the use of power tools, such as a high-speed circular cutting device and power drill. Use of these tools can present a safety hazard to eyes, ears and hands! Cutting and drilling with metal can and will produce sparks and smoke.



The following safety rules are non-negotiable and must be followed!



- Use of all power tools must be performed outdoors on cement
- Use of power tools must only be performed by qualified personnel
- Required safety gear:



- Impact resistant safety glasses
- Hearing protection
- Cut-resistant leather gloves
- Closed toe footwear
- Long-sleeve shirt
- Pants

# Safety iconography



Review and adhere to all safety warnings and procedures



Impact resistant eye protection required



Cut-resistant leather gloves required



Hearing protection required

# Required tools



High-speed mandrel saw  
(Dremel works well)



Mandrel metal cutting saw (with  
"EZ" attachment)



3mm Allen Wrench / Hex Key  
(x 6)



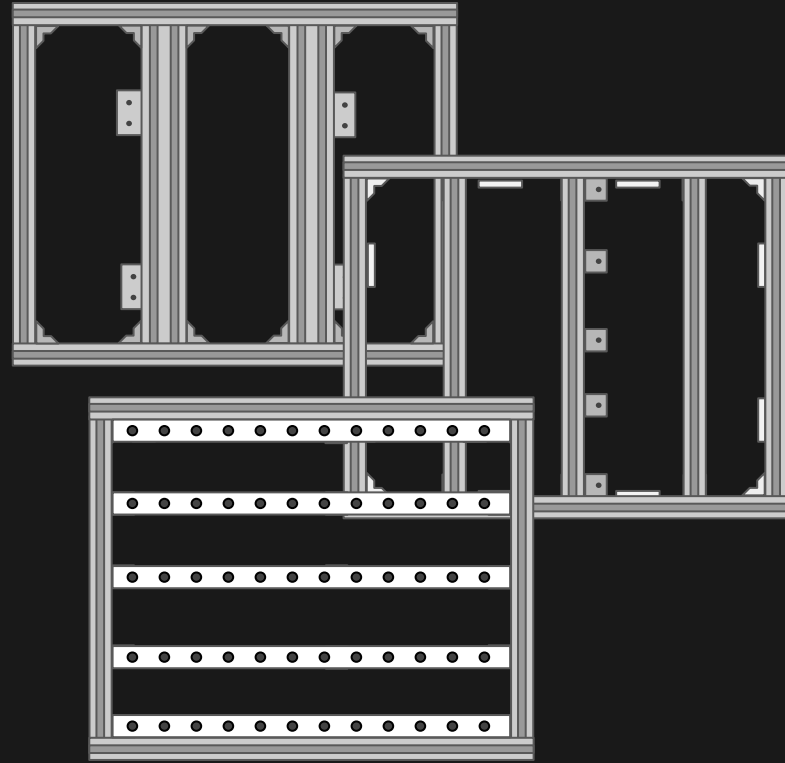
Cordless power drill



4 - 5mm drill bit

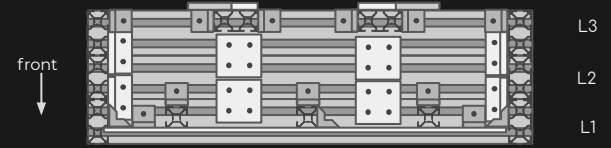
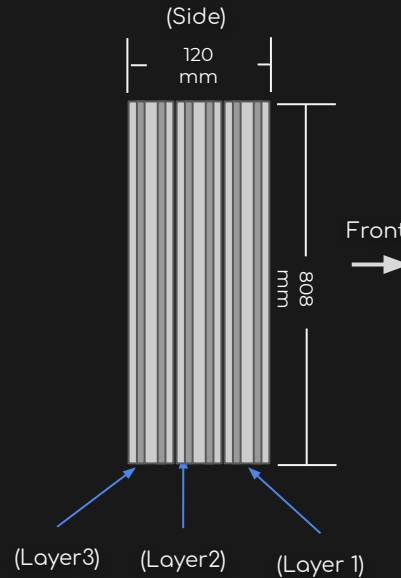
# Fit frame (pre-assembly)

1. Unbox all frame parts and hardware
2. Group like-parts together
  - a. 80/20 bars
  - b. Screws
  - c. Brackets
3. Get familiar with frame assembly
  - a. Arrange 80/20 bars for assembly
  - b. Do this for both layers



# Fit frame (pre-assembly)

1. Unbox all frame parts and hardware
2. Group like-parts together
  - a. 80/20 bars
  - b. Screws, nuts bolts
  - c. Brackets
  - d. Plates



# Parts List :: CR office

## Structural



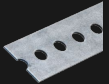
2020 bar [ 20mm x 20mm x 768mm ]  
Quantity: 3



2040 bar [ 20mm x 40mm x 1000mm ]  
Quantity: 8



2040 bar [ 20mm x 40mm x 768mm ]  
Quantity: 6



Zinc plated flat bar [ 950mm x 35mm x 1mm ]  
Quantity: 5

## Mounting hardware



5310 screw [ 9.32mm x 10mm ] [ 3mm hex head]  
Quantity: 220



14122 T-nut fastening block [ used with 13-5310 screw ]  
Quantity: 220



4165 Eight hole Flat plate [ 80mm x 40mm ]  
Quantity: 4



4167 Four hole flat plate [ 80mm x 80mm ]  
Quantity: 20



4119 Two hole corner bracket  
Quantity: 33



4113 4 hole corner bracket  
Quantity: 8

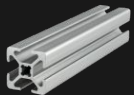


20-4081 5 hole outside elbow bracket  
Quantity: 4

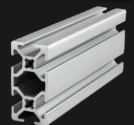


# Parts List :: RO & US office

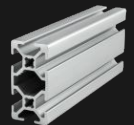
## Structural



2020 bar [ 20mm x 20mm x 640mm ]  
Quantity: 3



2040 bar [ 20mm x 40mm x 640mm ]  
Quantity: 8



2040 bar [ 20mm x 40mm x 840mm ]  
Quantity: 6



Zinc plated flat bar [ 640mm x 35mm x 1mm ]  
Quantity: 5

## Mounting hardware



5310 screw [ 9.32mm x 10mm ] [ 3mm hex head]  
Quantity: 220



14122 T-nut fastening block [ used with 13-5310 screw ]  
Quantity: 220



4165 Eight hole Flat plate [ 80mm x 40mm ]  
Quantity: 4



4167 Four hole flat plate [ 80mm x 80mm ]  
Quantity: 20



4119 Two hole corner bracket  
Quantity: 33



4113 4 hole corner bracket  
Quantity: 8

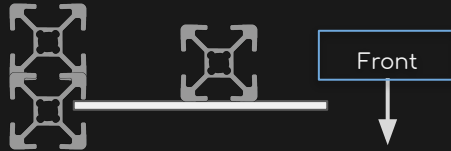


20-4081 5 hole outside elbow bracket  
Quantity: 4

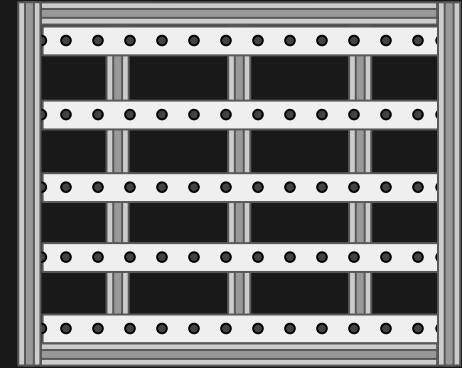
# Measure and cut flat bar

1. Measure and mark flat bar at 964 mm
2. Cut flat bar at mark
3. Use flat size of rotary blade to smooth out rough edges at cut.
4. Place flat bar inside of frame to confirm fitment and adjust cuts as needed.

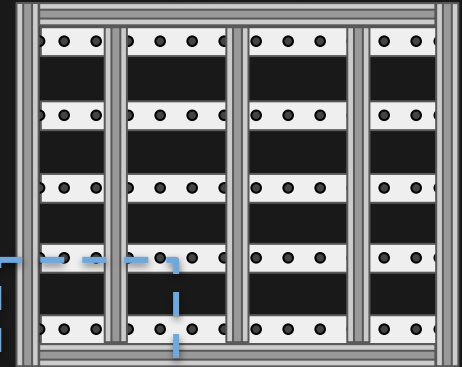
Flat bar should rest up to 2mm inside of vertical 80/20 bars



(Layer 1 front)



(Layer 1 rear)



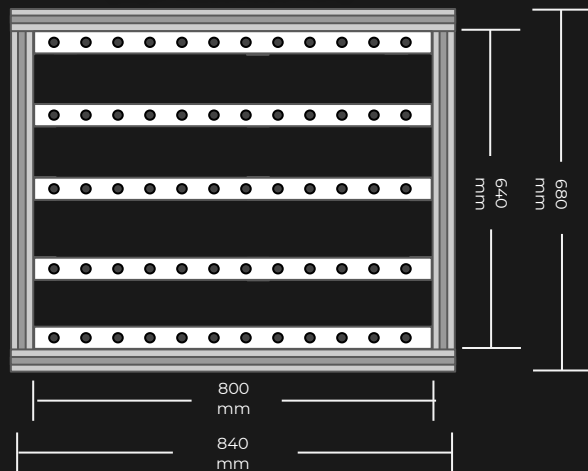
A grayscale photograph of a woman with glasses and a light-colored long-sleeved shirt, focused on assembling a frame. She is holding a dark, rectangular component with both hands, aligning it with a vertical structure. The background is slightly blurred, showing an office or workshop environment with a desk and a chair.

# Frame Assembly

## Appendix

# Frame 80/20 Layers

(Layer 1 assembled front)



(Layer 2 assembled front)



(Layer 3 assembled front)

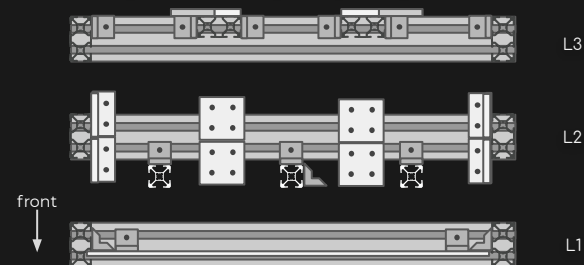


Top down (assembled) cutaway

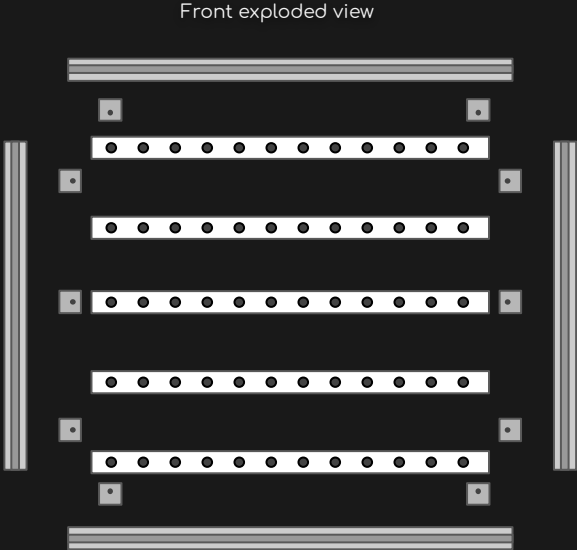
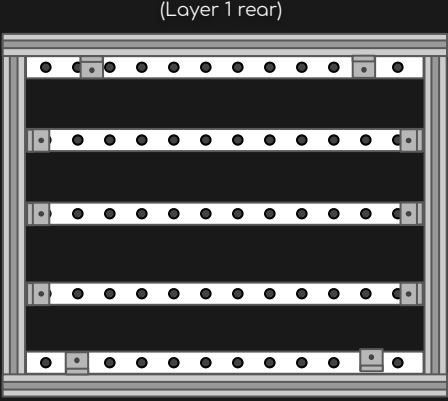
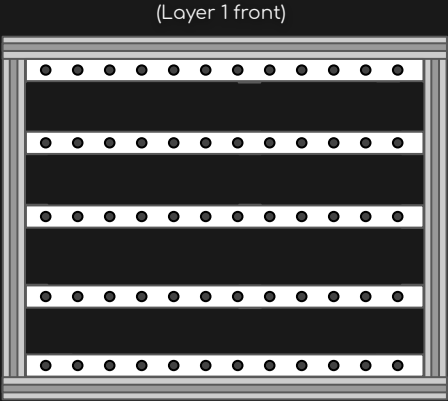


| iso. | top | rear | front | side | description                               |
|------|-----|------|-------|------|-------------------------------------------|
|      |     |      |       |      | 20-4119 :: 2 Hole - Inside Corner Bracket |
|      |     |      |       |      | 20-4113 :: 4 Hole - Inside Corner Bracket |
|      |     |      |       |      | 20-4167 :: 4 Hole Flat Plate              |
|      |     |      |       |      | 20-4166 :: 6 Hole Flat Plate              |
|      |     |      |       |      | 5310 M3 5mm screw                         |
|      |     |      |       |      | 14122 5mm T-nut                           |

Top down cutaway w/ layers separated

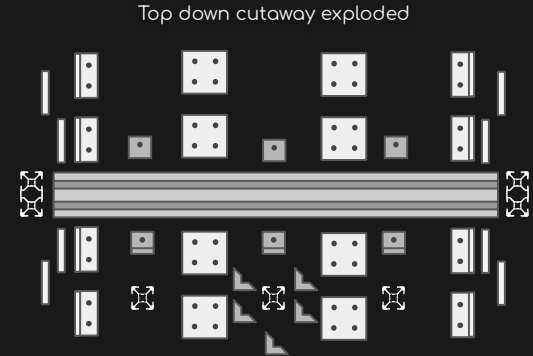
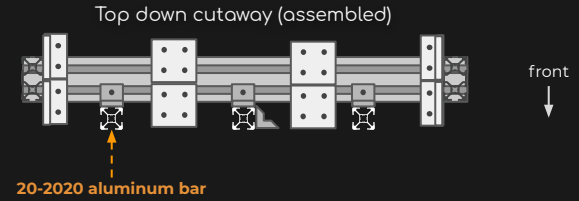
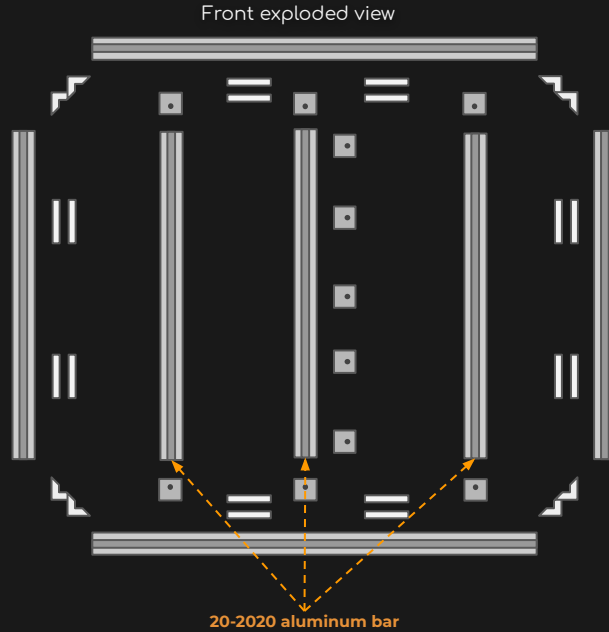
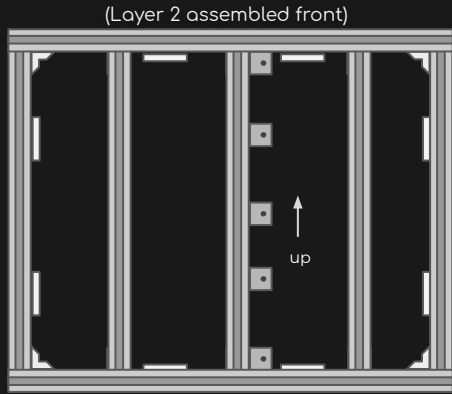


# Frame 80/20 Layer 1 exploded

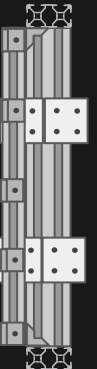


| <u>iso.</u> | <u>top</u> | <u>rear</u> | <u>front</u> | <u>side</u> | <u>qty</u> | <u>description</u>                        |
|-------------|------------|-------------|--------------|-------------|------------|-------------------------------------------|
|             |            |             |              |             | 10         | 20-4119 :: 2 Hole - Inside Corner Bracket |
|             |            |             |              |             | 4          | 20-2040 :: Aluminum bar                   |
|             |            |             |              |             | 5          | Zinc Flat Bar                             |

# Frame 80/20 Layer 2 exploded



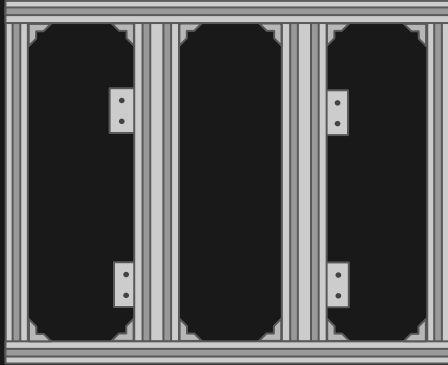
Side cutaway



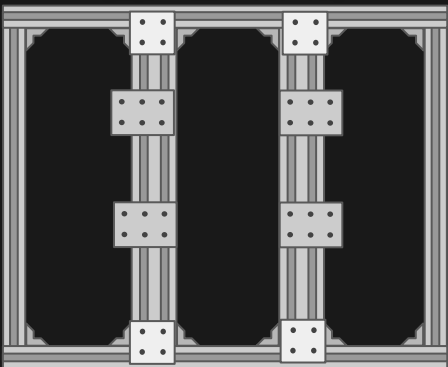
| iso. | top | rear | front | side | qty. | description                               |
|------|-----|------|-------|------|------|-------------------------------------------|
|      |     |      |       |      | 11   | 20-4119 :: 2 Hole - Inside Corner Bracket |
|      |     |      |       |      | 8    | 20-4113 :: 4 Hole - Inside Corner Bracket |
|      |     |      |       |      | 16   | 20-4167 :: 4 Hole Flat Plate              |
|      |     |      |       |      | 4    | 20-2040 :: Aluminum bar                   |
|      |     |      |       |      | 3    | 20-2020 :: Aluminum bar                   |

# Frame 80/20 Layer 3 exploded

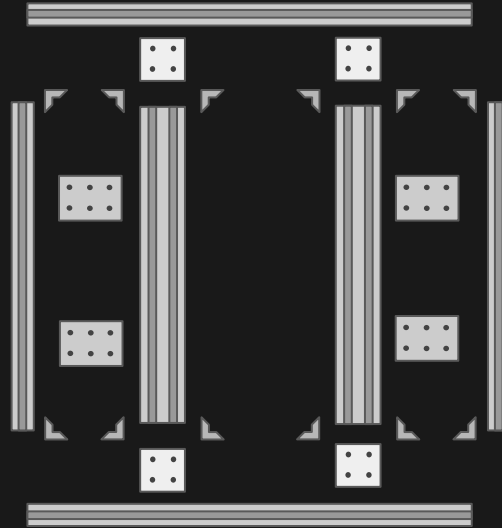
(Layer 3 assembled front)



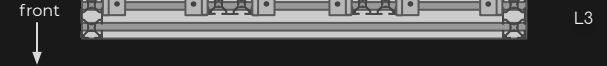
(Layer 3 assembled rear)



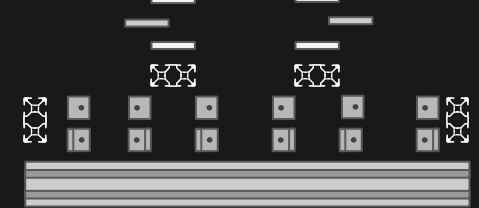
Front exploded view



Top down cutaway (assembled)



Top down cutaway exploded



| <u>iso.</u> | <u>top</u> | <u>rear</u> | <u>front</u> | <u>side</u> | <u>qty.</u> | <u>description</u>                        |
|-------------|------------|-------------|--------------|-------------|-------------|-------------------------------------------|
|             |            |             |              |             | 12          | 20-4119 :: 2 Hole - Inside Corner Bracket |
|             |            |             |              |             | 4           | 20-4167 :: 4 Hole Flat Plate              |
|             |            |             |              |             | 4           | 20-4166 :: 6 Hole Flat Plate              |
|             |            |             |              |             | 6           | 20-2040 :: Aluminum bar                   |

# Screen dimensions

Physical dimensions:

- RGB Matrix panel :
  - 160mm x 160mm
- RGB Matrices (assembled) :
  - 800mm x 640mm
- Frame (front) :
  - 840mm x 680mm
- Frame (side) :
  - 120mm x 680mm

