

# OBJ Import/Export

## Objective

An OBJ file is used when saving the scene and props that make up the avatar and surrounding environment.

If the OBJ type is an avatar, the OBJ file can wear garments. If the OBJ type is a scene or a prop, it is not registered as an object and the garment will pass right through it.

For detailed instructions on how to use OBJ files as scenes/props, refer to this manual's "File > Avatar/Scenes/Props > Scenes/Props".

Furthermore, OBJ files with the same mesh structure (the net-shaped structure that expresses 3D objects) can be "Morphed" to change the avatar's appearance.

"Morphing" refers to slowly changing the appearance of one object into another, and this function can be used to change an avatar's pose or body type.

This function is useful when changing the pose of an avatar wearing garments. For detailed instructions, refer to this manual's "File> Avatar/Scenes/Props > Morph Target".

Export garments designed in MD in OBJ file format and make them compatible to use with other 3D software.

If a garment file is exported as an OBJ file, a MTL file is created at the same time, which saves the information of the garment's set material.

## Location

- Import OBJ : Main Menu File Import OBJ
- Import Add OBJ : Main Menu File Import (Add) OBJ
- Export OBJ : Main Menu File Export OBJ
- Export OBJ(Selected) : Main Menu File Export OBJ(Selected)

## Operation

### Import OBJ

1. Find and click the menu indicated in **Location**.  
The Open File window will be opened.
2. Select the desired file and click "Okay".  
The Import OBJ window will open.
3. Set the full details and click 'OK'.

 <b>Import OBJ Detail Settings</b>		
<b>Object Type</b>	Import as Avatar	Imports the object as an avatar and replaces the original avatar with the imported one.  Add Arrangement Points & BVs: Turn on this option to generate Bounding Volumes and Arrangement Points fit to the imported OBJ (ver. MD8). <b>Note:</b> This option works properly only when imported OBJ is either in T or A pose and below error message appears when this function cannot be applied properly. "Arrangement Points were not fitted to the avatar. The avatar must be in a T-pose or A-pose."
	Load as Trim (MD6.5 or later)	OBJS that are loaded as Trim do not have collision detection with the 3D Garment and will pass through the 3D Garment when simulated.

	Import as Scene/Prop (MD6.5 Previous version)	Imports the object as a scene/prop. The simulated object will pass through the garments due to a lack of collision.
	Load as Garment (MD6.5 or later)	Import an object as a 3D Garment. Trace 2D Patterns from UV Map: Toggle on this option to generate Patterns based on UV Map information (ver. MD8).
	Import as Morph Target	Morphs the original object into the object designated as the morph target. Enter the transition frame count into the "Morphing Frame Count". The higher the frame count, the slower the morphing process
<b>Scale</b>	Manually enters the values or selects the desired unit from "Unit in file to import".	
<b>Axis Conversion</b>	Changes the directions of each axis of the object.	
<b>Translation</b>	Changes the location of the object. When the OBJ is placed below the ground, please toggle on Align Bottom to Ground option to pull up the OBJ file above the ground (ver. MD8).	

### Import Add OBJ

1. Find and click the menu indicated in **Location**.  
The Add File window will be opened.
2. Set the full details in the same way as Import OBJ and click "OK".

### Export OBJ

1. Find and click the menu indicated in **Location**.  
The Save File window will be opened.
2. Choose the desired location and click "Save".  
The Export OBJ window will be opened.
3. Set the full details and click 'OK'.

### Export OBJ Detail Settings

<b>Object</b>	<ul style="list-style-type: none"> <li>• <b>Select All Patterns:</b> Select/Deselect all patterns. You can select specific patterns by utilizing the dropdown menu on the right. (ver 2.2.0) When utilizing the OBJ (Selected) menu, patterns selected in the 3D and 2D windows are automatically selected and checkbox-ed.</li> <li>• <b>Select All Avatars:</b> Select/Deselect all Avatars/Objects. You can select specific objects by utilizing the dropdown menu on the right. (ver 2.2.0)</li> <li>• <b>Select All Stitches:</b> Select/Deselect all Stitches. You can select specific stitches by utilizing the dropdown menu on the right. (ver 2.2.0)</li> </ul>	
	<b>Single Object</b> Exports the selected object as a single object.	<b>Multiple Objects</b> Exports the selected object as multiple objects.

	<p><b>UnWeld</b></p> <p>Exports the Vertex (points of the mesh) of the parts of the pattern that are sewn together into one line into multiple objects.</p> <p>Thickness exports for quad meshes available beginning version 2.3.0. (ver 2.3.0)</p>	<p><b>Weld</b></p> <p>Combines the Vertex (points of the mesh) of the parts of the pattern that are sewn together into one line into one point.</p>
	<ul style="list-style-type: none"> <li>• <b>Weld Selected Pattern:</b> Weld based on the sewing line that connects the selected patterns. (ver 2.3.0)</li> </ul>	
	<p><b>Thin</b></p> <p>Ensures that the thickness will not be exported even if the rendering thickness value is increased beforehand.</p>	<p><b>Thick</b></p> <p>Exports a pattern with its rendering thickness values in its increased state.</p>
	<ul style="list-style-type: none"> <li>• <b>Combined UV Coordinates</b></li> <li>• <b>Include Internal Shape:</b> Include internal line and/or shape information in export. (ver 2.3.0)</li> </ul>	
<b>Scale</b>	<p>Adjusts the scale of the file being exported when a value is entered or the desired unit from "Unit in file to import" is selected.</p>	
<b>Axis Conversion</b>	<p>Changes the directions of each axis of the object.</p>	
<b>File</b>	<p>Save with Texture File (*.zip): Exports .obj file, .mtl file, and texture images used in the garment as one compressed file when exporting animation.</p> <p>Diffuse Color Combined on Texture: When color is applied to the texture, the color is blended into the texture when exporting (ver4.2.0).</p> <p>Exclude Ambient Map &amp; Color (Modo): Ambient Map and color are excluded when exporting (ver4.2.0).</p> <p>Save with Alpha Map: Alpha Map is included when exporting (ver4.2.0).</p> <p>Save with Meta Data (*.xml) : Exports garment's patter(Mesh), physical property and sewing information as Meta Data (ver2.3.0).</p> <p>Diffuse Color Combined on Texture: Combine and save garment's texture image and color as a single image (ver2.2.0).</p> <p>Exclude Ambient Color (for Modo): Exclude Ambient color value when saving materials.</p>	

**OBJ Export Updates (ver.2.3.0)**

- Internal Line(s) / Shape(s) export (including FBX).
- Thickness export for quad meshes.
- Front, side, and back meshes exported separately.