

# ALPHA 1S Mac/PC Edition Software User Manual



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## Version

PC/Mac Version Alpha 1S QT 2.1.2

## Operating Requirements

Mac version: supported on Apple Mac 10.6+ systems,

PC version: supported on Windows XP and later versions.

## Software Operation

### Obtain:

#### (Mac version)\_

Search for "AlphaRobot" in the app store and download and install the app on your device. Or download and install the Alpha 1s Mac Action Editing Software from the following webpage. <http://www.ubtrobot.com/download/index.html>

#### (Windows version)\_

Download and install the Alpha 1s Mac Action Editing Software from the following webpage. <http://www.ubtrobot.com/download/index.html>


### Registration/Login:

Your UBTECH account number can be used for all of our products, including in the "Alpha 1 App", "Alpha 2 App", "JIMU App", "Jimu App" and "V App".


1. In the "Alpha 1 App", you can log in to your UBTECH account using "phone", "email" or "third party account login".
2. After successful registration, you can log in to our products and open up even more functions.

## Connect/Disconnect the Robot:

### (Connect)\_

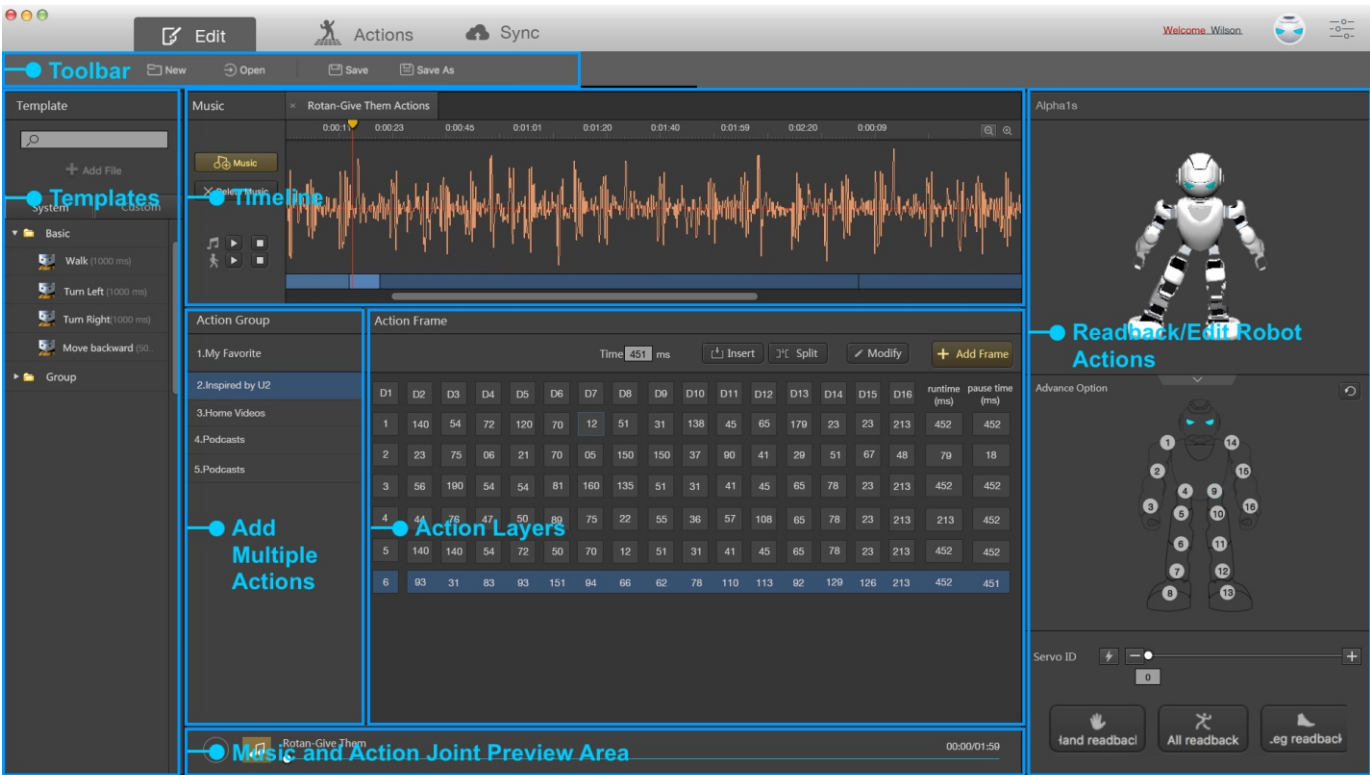
1. Double click the software to open after installation.
2. Switch the robot to "ON".
3. Connect the USB cable to the USB port on the robot. The computer will automatically detect that the robot is connected, and the robot avatar  will light up.

### (Disconnect)\_

Click  or just pull out the robot USB cable, and the robot will be disconnected from the computer. Click again to reconnect the robot.

# Action Editing:

Editing robot actions is the main function of this software. You can adjust the robot's posture to send the action back to the software, or you can use your mouse to drag the 3D model in the software for more extensive editing of the robot's actions, such as dancing, storytelling, martial arts, etc. Please note that you should follow the rhythm of the music when editing actions.



## (Toolbar)\_

**New** -- Create a new blank project file (.aesx)

**Open** -- Open an edited project file (.aesx, aes, tab) and its corresponding music files

**Save** -- save the current project file (.aesx)

**Save as** -- save the current project file (.aesx) with a new name or location

**Undo** -- undo the last action performed

**Redo** -- restore the last undo action

## (Templates)\_

- System templates (built in the system) and custom templates (user-defined) are included.

Click the left mouse button to select templates and then drag them to the timeline.

Templates make editing actions more convenient.


- System templates cannot be added or deleted. For custom templates, users can create a new file folder, create new templates from the action group or delete existing templates.

## (Editing Actions in the Timeline)\_

The timeline is an important module for editing actions. Users can add music and actions to the timeline so that the tempo and actions match for a better editing experience.

### Music Layers

#### 1. Add Music:

Click  to add music to the timeline. While adding music, the software will automatically analyze the number of beats and the length of each beat in the music. The user can determine the frame length of added actions based on the length of each beat in the music (one action is one keyframe).

## 2. Delete Music:


Click  to delete music that has been added.

## 3. Preview Music:




Click this button  to play, pause, or stop the added music.

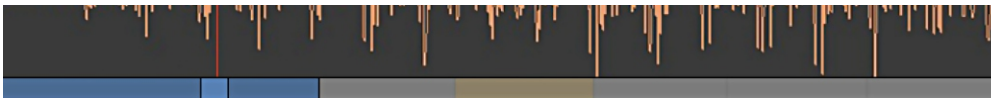
# Action Layers

## 1. Add a Single Action:

Use the left mouse button to click on a blank space on the timeline (can be based on music rhythm points or user-defined). Move the pointer to the current time and click the  in the editing area of the action frame to add the action to the timeline. At this time, an action group will be created in the action layer, and the newly added action frame will be included in the action group.

## 2. Add Multiple Actions:

When you need to add multiple action frames to one action group, you can click on any location in the action group on the timeline (as shown below,  the action group and an action frame within the group are selected.  The corresponding action group in the list area and the action frame are selected at the same time). Click  to add more action frames to the action group.



### 3. Action Group Operations:

Select an action group and right-click with the mouse to display the action menu. The following operations can be carried out for the selected action group:

**Copy** --Copy the currently selected action group

**Cut** --Cut the currently selected action group

**Paste** --Paste the copied/cut action group to after the currently selected action group

**Delete** --Delete the currently selected action group

**Single Block Simulation** --Preview the actions in the currently selected action group in the robot


**Cancel Simulation** --Cancel the action being previewed

**Insert Group** --Insert a new action before the currently selected action group

**Save to Template** --Save the currently selected action group to a template

**Modify Group Information** --Modify the name of the currently selected action group

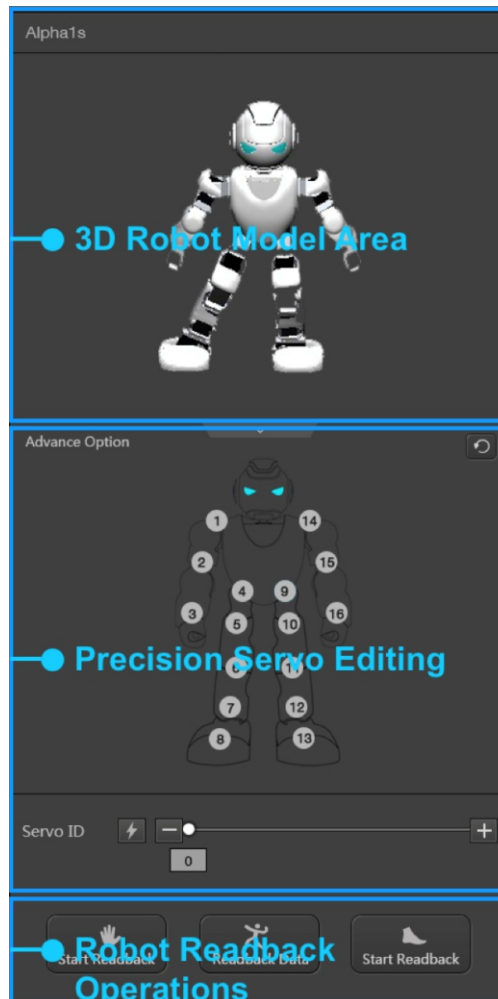
### 4. Preview Actions:

Click this button  to preview the current action on the timeline. When the robot and computer are connected, the robot and the 3D model in the software will act out the preview at the same time. When the robot is disconnected, only the 3D model in the software will perform the preview.



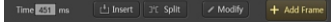

## (Readback/Edit Robot Actions)\_

The robot action readback/edit area is another important module. After actions are added to a location on the timeline and confirmed, the robot's actions can be synchronized with the software through a readback operation, or you can drag the 3D model to adjust the actions.




## 3D Robot Model Area

### 1. Adjust Actions:

Click the left mouse button to select the part you want to adjust. Hold the left mouse button and drag to adjust the part. Left-click and hold a blank space on the 3D model and drag to rotate the model. After adjusting the action, run the action frame editing area by pressing  and the action will be written into the timeline. For example, click  to add the action frame to the end of the current action frame list (for other operations, refer to "Action Preview Editing-Toolbar").

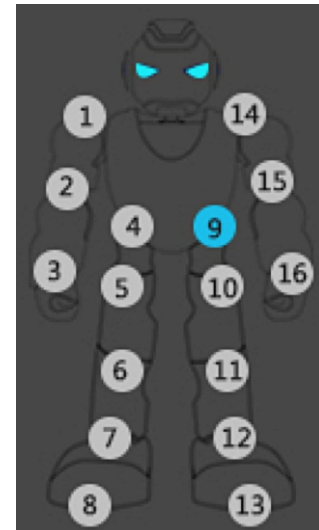
### 2. Preview Actions:

When operating the timeline  or joint simulation, the action will be previewed on the 3D model. When the action frame is selected by single clicking, the action frame will be previewed on the 3D model.






## Precision Servo Editing

### 1. Select a Single Servo:

Click to select a numbered button on the robot shape (corresponding to the numbered servos on the 3D model and robot) so you can accurately select the corresponding servo location on the 3D model.



## 2. Fine-tune a Single Servo:








Drag the circular slider to adjust the angle of the currently selected servo. Click the   buttons either side to fine-tune the angle (click  to reduce by 1°, click  to increase by 1°). Click  to discharge the servo (after discharging, the robot's joints should be unlocked. The unlocked joints of the robot can be twisted to adjust the angle).



## 3. Reset the Robot:

Click the  button and the robot action will go back to its initial state.

## **Robot Readback Operations**

The readback operation can be performed when the robot is connected to the computer. When the joints of the robot cannot be rotated (in the charged state), you must first click the    button to cut power to the part you want to adjust (can be rotated when joints are unlocked). After adjusting the action, click the readback button again to synchronize the actions of the robot with the 3D model. After synchronization, run the action frame editing area by clicking     to write the action into the timeline.

### 1. Readback All

Readback the angles of all servos on the robot (if the robot is in the charged state, first click once to power off the robot, then adjust the action and click again to read).

### 2. Readback Arm

Readback the angles of the servos on the robot arms (servo numbers 1, 2, 3, 14, 15, 16) (if the robot is in the charged state, first click once to power off the robot, then adjust the action and click again to read).

3. Readback Leg

Readback the angles of the servos on the robot legs (servo numbers 4, 5, 6, 7, 8, 9, 10, 11, 12, 13) (if the robot is in the charged state, first click once to power off the robot, then adjust the action and click again to read).

(Action Group List)\_

Displays a list of all action groups on the timeline in chronological order. Left-click on the list to select any action group. The action frame list on the right shows all the action frames in the action group, as shown below. Right click once to access the right-click menu where you can copy, paste, delete, or modify the action group.

Action Group

1.My Favorite

2.Inspired by U2

3.Home Videos

4.Podcasts

5.Podcasts

●

Add Multiple Actions

Action Frame

Time 451 ms

Insert

Split

Modify

+ Add Frame

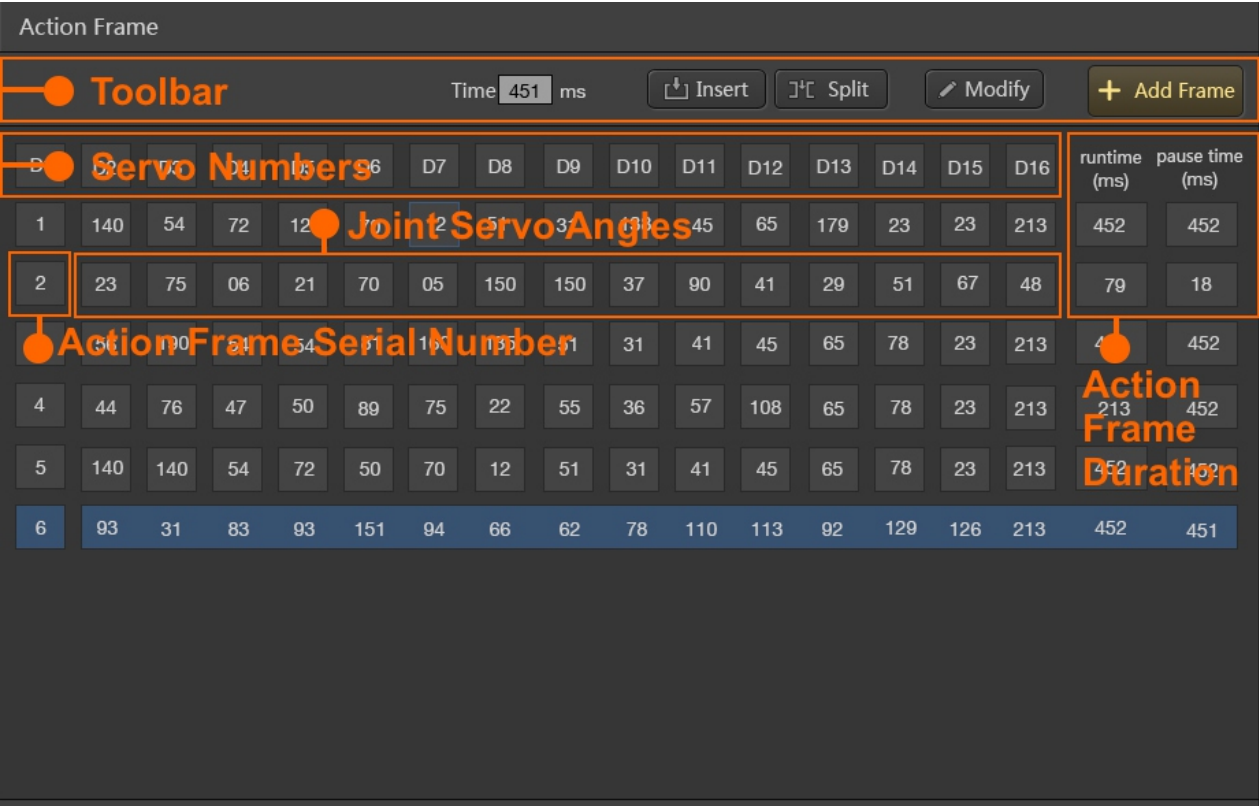
	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	runtime (ms)	pause time (ms)
1	140	54	72	120	70	12	51	31	138	45	65	179	23	23	213	452	452	
2	23	75	06	21	70	05	150	150	37	90	41	29	51	67	48	79	18	
3	56	100	54	54	81	160	135	51	31	41	45	65	78	23	213	452	452	
4	44	76	47	50	89	75	22	55	36	57	108	65	78	23	213	213	452	
5	140	140	54	72	50	70	12	51	31	41	45	65	78	23	213	452	452	
6	93	31	83	93	151	94	66	62	78	110	113	92	129	126	213	452	451	

●

Action Layers

(Action Frame Editing Area)\_

The action frame editing area shows the servo running angle and servo run time of the action frames in the currently selected action group. You can also individually edit each value in the action frame. It is important to know that you can add, modify, or insert robot actions from the readback area in the editing area by clicking the toolbar button at the top after dragging to create an action during robot action readback or on the 3D model. Refer to the following figure.



## Toolbar

**Add Action**--Add the action in the robot readback area to the editing area.

**Modify** --Modify the currently selected action frame to be the action in the robot readback area.

**Insert and Split** --Insert the action in the robot readback area on top of the selected action frame, and equally split all actions in the action group without changing the duration of the whole action group.

**Insert** --Insert the action in the robot readback area on top of the currently selected action frame.

**Time value (ms)** --Modify the time value of an action frame before you add/modify/insert it.

## Servo Numbers

Id1 – ID16 are the robot joint servo numbers which correspond to the servo numbers on the 3D model in the software and on the actual robot.

## Action Frame Serial Number/Joint Servo Angles

-Displays the serial number of the current action frame and the corresponding angle values of servo numbers 1-16 on the robot.

-Left-click the action frame serial number to select the action frame. Single-click the selected action frame and the 3D robot model will preview the action frame; double-click and the robot will preview the action. After selecting the action frame, you can copy, paste, insert, or delete in the right-click menu.

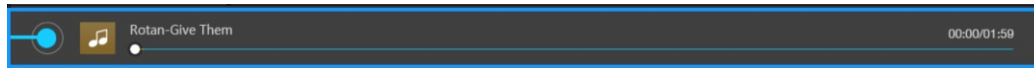
-After left-clicking the action frame serial number, you can manually enter numerical values to set the angles of the joint servos (0-180°).

## Action Frame Duration

Action frame duration is made up of the run time and pause time of the action frame (run time indicates the time from the end of the previous action frame to the end of the current action frame. Pause time indicates the interval between the end of the current frame and the start of the next frame). Left-click to modify.

## (Music and Action Joint Preview Area)\_

Music and actions are previewed together. Check to see if the edited action and music are coordinated.



Left-click to run the preview. The playback progress bar is only displayed and cannot be dragged.

## Action Library:

Users can find more robot actions in the Action Library and download them locally. You can also review or collect official actions or actions created by other users.

### [\(Find Actions\)\\_](#)

Users can search for actions in the Action Library by category. We will also suggest actions for you.

### [\(View Action Details and Operations\)\\_](#)

Users can click the action title/icon to go to the Action Details page to view more content related to the action, such as " Likes", "Comments", "Favorites" and "Shares".

### [\(Download Actions\)\\_](#)

Users can locally download actions from the Action Library by clicking the Download icon. The download progress and status of downloaded actions can be viewed by clicking the download list. After the action has finished downloading, you can sync the downloaded action with the robot.

### [\(Upload Actions\)\\_](#)

Users can upload their locally saved actions to the Action Library. Click the Upload icon and add the actions and audio that you want to upload to the upload dialog window. Click Next to add a description of the action, including an action icon, text description of the action, and picture/video descriptions. Click Upload to upload the added action to the Action Library and then other Jimu fans will be able to download the action.

### [\(My Favorites\)\\_](#)

Favorite actions in the Action Library can be seen in the "Favorite Actions" list. Favorite actions can also be deleted.

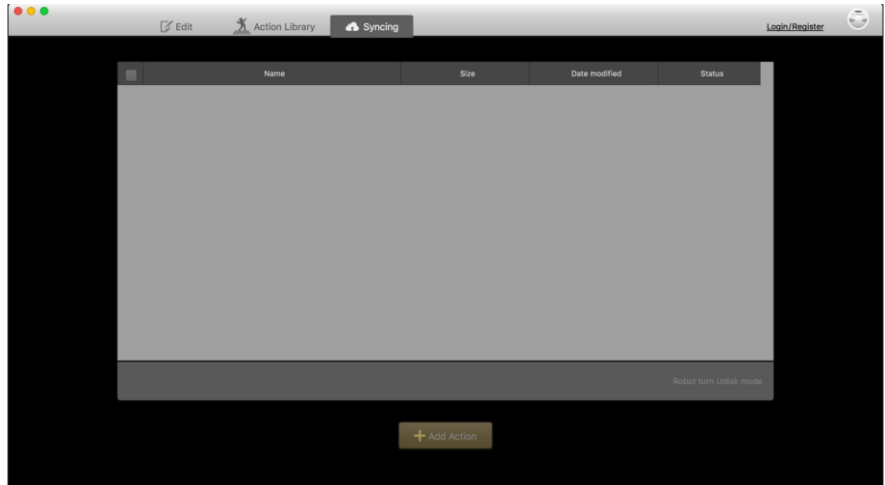
### [\(My Uploads\)\\_](#)

Actions uploaded to the Action Library can be seen in the "Favorite Actions" list. Uploaded actions can also be deleted.





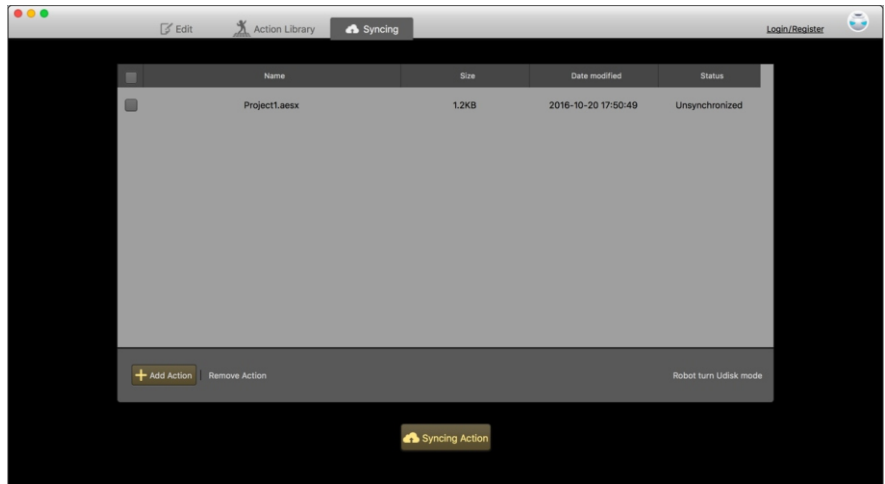
## Syncing:

On the synchronization page, users can transfer actions saved locally on a computer to the robot's memory card.




### (Syncing Local Actions)\_

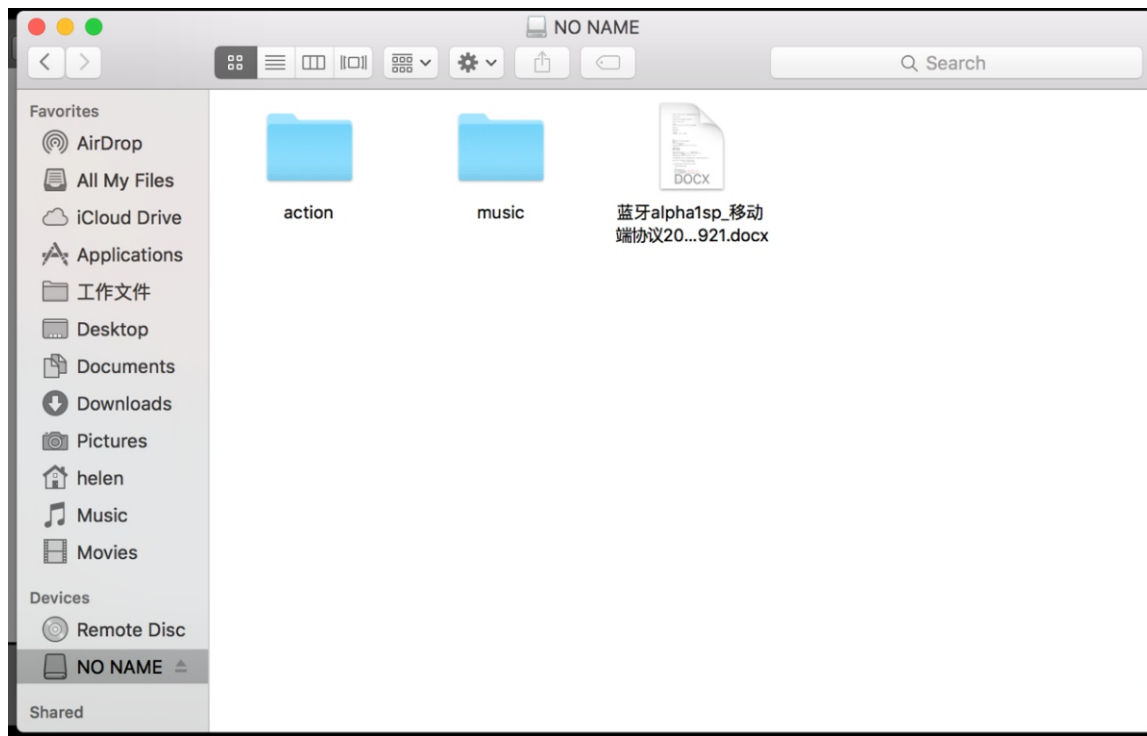
Click  to add locally saved project files (.aesx, .aes, .tab) to the Sync List. Added files are shown in the Sync List. Before syncing, the user can continue adding or deleting files. Click  to start synchronization. Please note that skipping a page or closing the software during the synchronization process will cause a sync error.







## (Udisk Mode)\_


Users must click  to switch the transfer mode to UDisk mode. In this mode, audio files can be manually copied to the UDisk music folder (consistent with the corresponding project file/action file name). Action files (.hts) can also be manually copied directly to the UDisk action folder without syncing. In this mode, users can also delete action files (.hts) and audio files saved to the robot's memory card.

The user must disconnect the robot to exit UDisk mode.



## Tutorial: How do I edit a dance for Alpha 1s?

- Double-click the "Alpha 1s" icon  to open the software.
- Connect and power on the robot (refer to the robot connection process).
- On the timeline, click  to add a song.
- Based on the rhythm of the music, use your mouse to left-click on the timeline and select the locations where you need to insert action frames.
- Click the robot readback button  to unlock the joints in the corresponding parts of the robot. After adjusting the action, click the readback button again and the robot's movement will be synced to the 3D model; or, left-click and drag the 3D robot model to adjust the action.
- Click  to write the action into the timeline (the Action Group is filed under the Action Frame Area).
- During the editing process, you can use "Modify", "Insert", "Delete", and other buttons to edit the entire action frame. You can also fine-tune each action in the Servo Fine-Tuning Area to get more precise angles.
- Based on the rhythm of the music segment, all of the action frames in a music segment can be saved in an action group so that they can be easily modified or saved to a template for reuse. N action groups are needed to create a complete dance. When the action in the template can be used directly, use the left mouse button to drag the action to add it to the timeline.

- Use the "Music and Action Preview Area"  button to preview the music along with the action and to check whether the action and music correspond.
- When finished editing, click Save to save locally (create a project file (.aesx) and a folder with the same name that contains the audio files).
- Refer to previous synchronization instructions to transfer the actions and music to the robot's internal memory card.
- Open the mobile device app and connect with the robot. The actions saved to the robot's internal memory card will be displayed in the Action List. Click the action to be performed by the robot.