

Congratulations for making the decision to become one of the many proud KT-X robot owners.

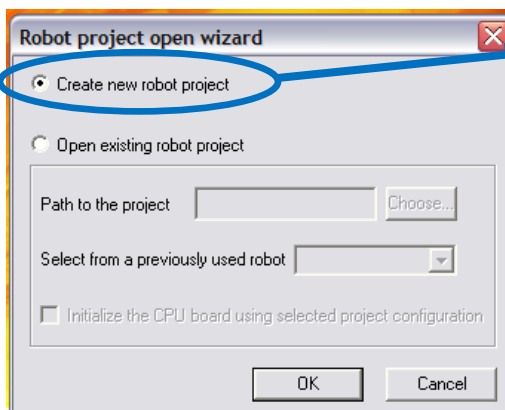
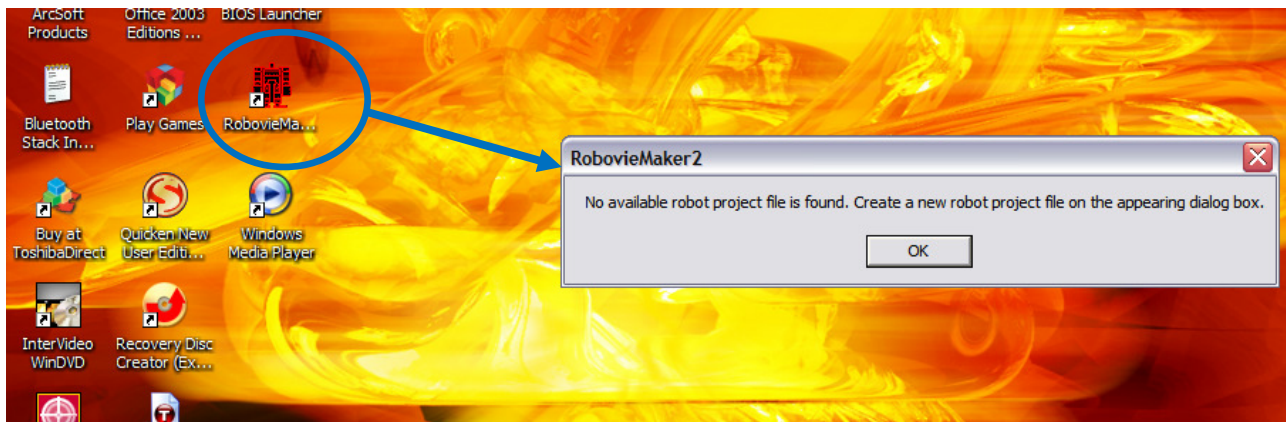
The following quick start guide will enable to get your KT-X up and running in as little time as possible.

Before getting started, please make sure the following things have been completed:

1. Once the robot has been fully assembled, check to make sure that the servo motors have a full range of motion.
 - a. The heels should touch the buttocks when squatting
 - b. The ankles should rotate side to side and up and down freely. There should be no unused space between the servo and brackets.
 - c. The arms should raise a little higher than 90 degrees (parallel to the ground) when extended in front and back of the robot. The arms should be a little higher off the ground in the front than in the back of the robot. This is the same with people as well.
2. Make sure the Robovie software has been installed on your PC, but not initialized.
3. **DO NOT attempt to turn the robot on and start programming it without following the steps outlined below. You will run the risk of burning out one or more servos.**

First, double click the Robovie Maker 2 icon on your desktop.

Click OK.



Next, you will be asked to select one of the following options (Create New Robot Project) or (Open Existing Robot Project). Since this is your first project, please select "Create New Robot Project" and click OK.

Your next step will be to name the project, assign a directory for saving projects and of course select the appropriate robot configuration, such as 13, 17 or 19 servo motor versions.

A. Name your Robot

B. Assign a directory for saved projects.

C. Select your robot version:
KT-X Lite: 13 servos
KT-X: 17 servos
KT-X Gladiator: 19 servos

D. Initialize the CPU board: if connected to the USB port

You may be prompted with a series of dialogues. Read the message and click OK.

The RobovieMaker 2 software will spring to life on your screen, as shown below.

The next step should be to click the “Online” button to test the connection with the robot’s CPU board and the USB port. This is assuming you have connected the USB cable to the port on the CPU board just behind the robot’s neck and your PC’s USB port.

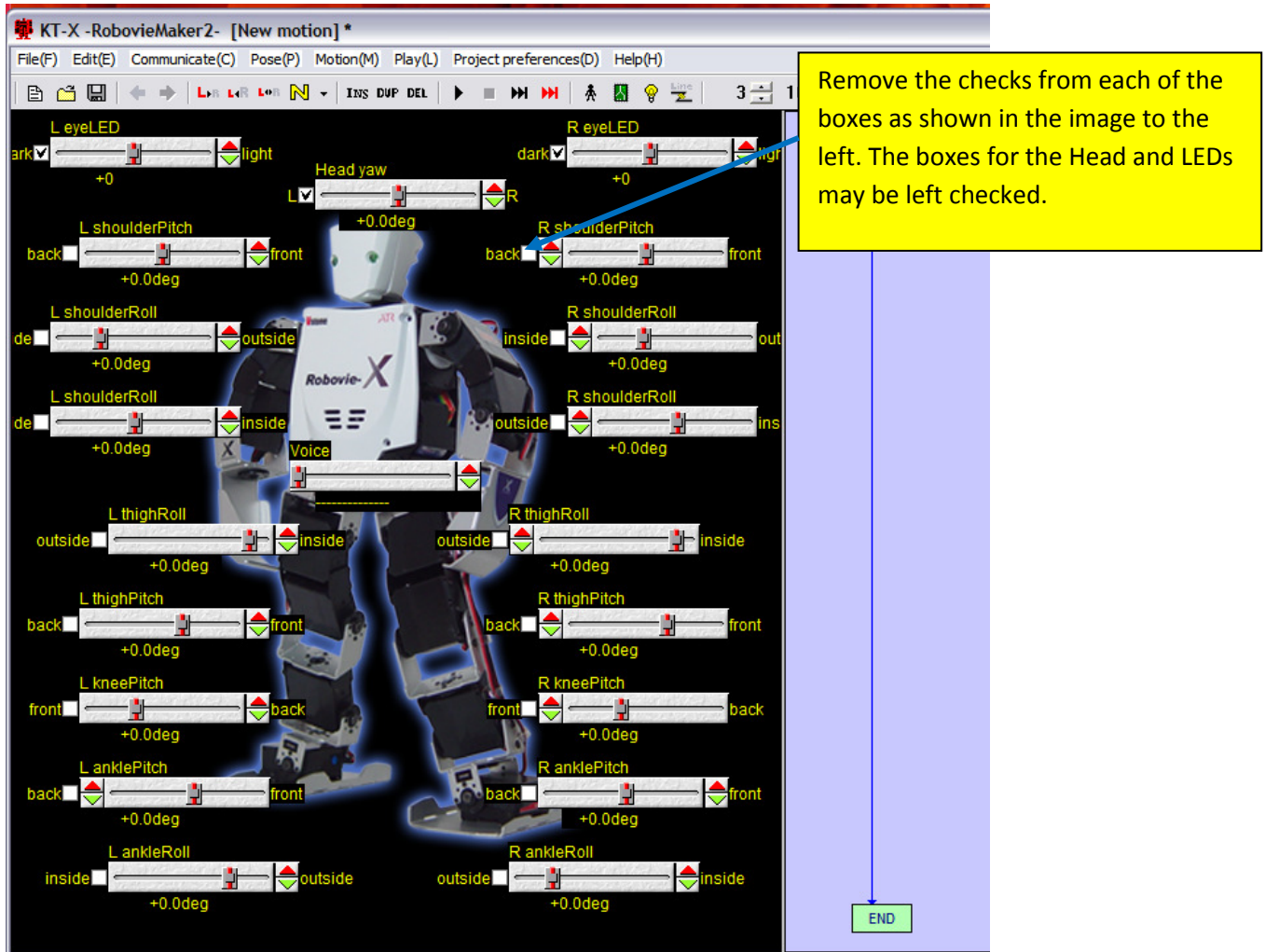


Note: The “Online” button is used to initiate communication between the computer and the robot’s onboard CPU. It does not apply power to the robot’s servo motors

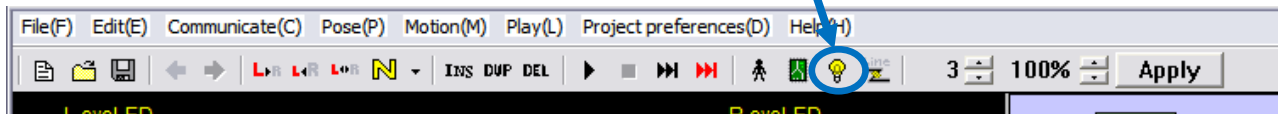
Power Meter: A new dialogue window should appear displaying the real-time status of the robot’s battery and other vitals. The voltage meter should spike to at least 6.5V (in the GREEN) when the robot’s power switch is ON and should be less than 2 Volts (in the RED) when the switch is in the OFF position.

Setting the Initial (Neutral) Position for the Servo Motors

Go through the software and remove the check from each of the boxes below before setting the initial servo settings. **Failing to do so may cause unexpected movement in the robot when turned on, which could lead to servo failure or injury to person and robot. Use caution.**

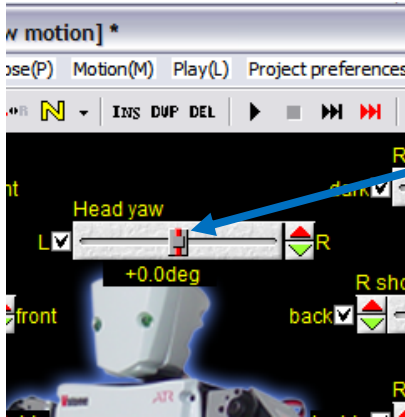


Next, apply power to the robot's servo motors by clicking the yellow light bulb located to the LEFT of the "Online" button. If you get an error message, make sure the robot's power switch on its lower back is turned ON and the "online" switch has been initiated.



We recommend holding the robot by the ribs with one hand (thumb on side and four fingers on the other) and configuring the sliders through the software with the other hand. If you do not have a harness for holding the robot, we recommend taking regular breaks in order to prevent your arm from becoming too tired and inadvertently dropping the robot.

At this point, power should be applied to the LED eyes and the head. Move the slider above the head in the software from left to right to test the range of motion and operation.



There should be a little over 180 degrees of motion and free movement on the head when the slider is moved from left to right.

Notice the shadow slider that trails behind the bar when moved. This represents the servos position in real-time.

Proceed with Caution from this Point Forward!

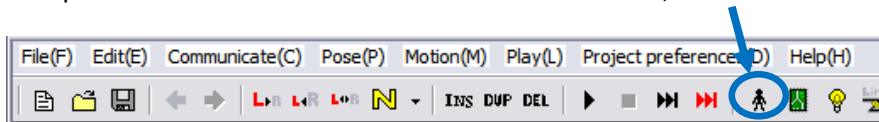
You are now ready to turn each of the servos on one at a time, or **“One-by-One”** and set the initial (Neutral) position value. The reason for doing this is to inspect that the servo is in the correct position and not causing an unnecessary load on the gears or motors.

Note: The neutral value should reflect the robot’s servo position in an upright “standing” position and should have a FULL range of motion when the slider is moved to the left or right. Additionally, the associated joint on the other side of the body should have an identical range of motion.

Things to look for and remedy **as quickly as possible**. If you find any of these to be true, quickly move the slider in the opposite direction to remove the load from the servo. If unable, click the yellow light bulb or flip the robot’s power switch to the OFF position in order to isolate the problem before moving forward:

1. Loud humming
2. Metal bracket touching other brackets (this means the servo is pushing the bracket in an unnatural direction and should be halted **IMMEDIATELY!**)
3. Joints to do have a FULL range of motion through the software. This may require you to remove power and reposition the servo horn on the servo gearhead.
4. Greyish black smoke. Disconnect and contact manufacturer.

Write Settings to RAM: Once all of the servos have been initialized and you like the robot’s upright posture, click the little black figure shown below, to write the settings to the robots temporary Flash RAM. If you lose power or click the reset button on the robot’s CPU, the contents in the RAM will be lost.

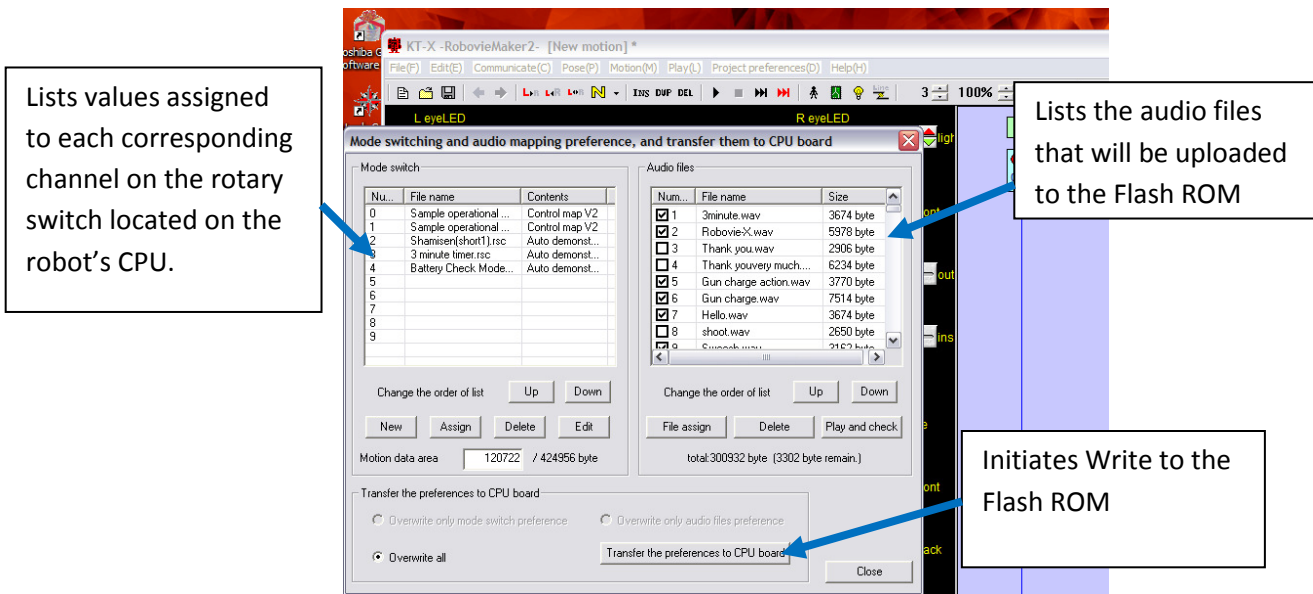


Caution: the robot will lose power and go limp after you click OK. Keep holding it in your hand, or leave it in the cradle throughout this phase.

Once the contents are in the robot's Flash RAM, they need to be written to the onboard Flash ROM before the changes become permanent. Loading the contents to the Flash ROM simultaneously updates the controller map and loads the remote control values.

Write to the Flash ROM: click the GREEN microchip button between the little black character and the yellow light bulb.

A dialogue window as shown below will appear, listing the values assigned to each corresponding channel on the rotary switch and assigned audio files. For the sake of getting your robot up and running, click the "Transfer the preferences to the CPU board" button at the bottom of the dialogue and click OK.



When finished, you will receive a prompt notifying you that the process is complete.

1. Click OK.
2. Push the small reset button on the robot's CPU (located behind the rotary switch).

Now you can test your settings by

1. Click the yellow "open folder" button at the top left of the Robovie Maker software.
2. Select a previously created motion file from the default directory (ie, Go_Forward(beginner))
3. Click the **Play** button to run the file on the robot.

