

	Updated by: Anders Jahnberg		Approved by: Göran Holmqvist	Version 2.0
To ABB SolutionsBank	Dept. STS	Updated 2008-12-02	Filename TSG_RS 36: How to set up a track - external axes in RS 4.0.doc	Page 1/12
Software Support, Industrial Software Products		Type of doc: Trouble Shooting Guideline (TSG)		

TSG_RS 36: How to set up a track - external axes

Product: RobotStudio

Version: 4.0

Problem: I want to set up a track - external axes in RobotStudio

Solution: Depending on the version of the virtual controller you are using there are two different ways to setup your Virtual Controller with a track - external axes

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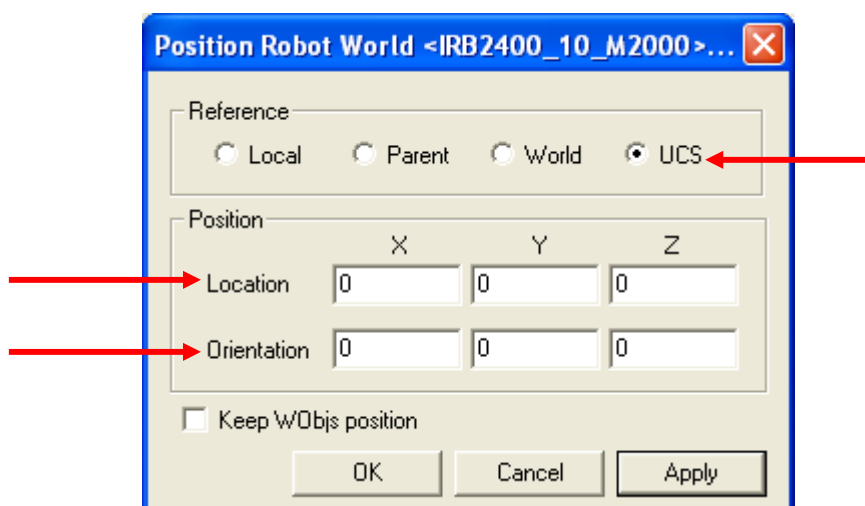
1. Setup a track – external axes with Virtual Controller version 4.0

Please follow the example below:

1. Start RobotStudio.
2. Import a T2002_4 track.
On the **File** menu select **Import** then click **Library**, select **c:\program files\abb robotics\library\external axes\T2002_4.rlb** and click **Open**
3. Import a IRB2400_M98-M2000 robot.
On the **File** menu select **Import** then click **Library**, select **c:\program files\abb robotics\library\robots\IRB2400_M98-M2000.rlb** and click **Open**
4. Attach the robot to the track.
In the **Object browser** select the robot **IRB2400_xxxx** and drag it to the track **T2002**, answer **YES** to the question “Do you also want to reposition IRB2400_xxxx?”

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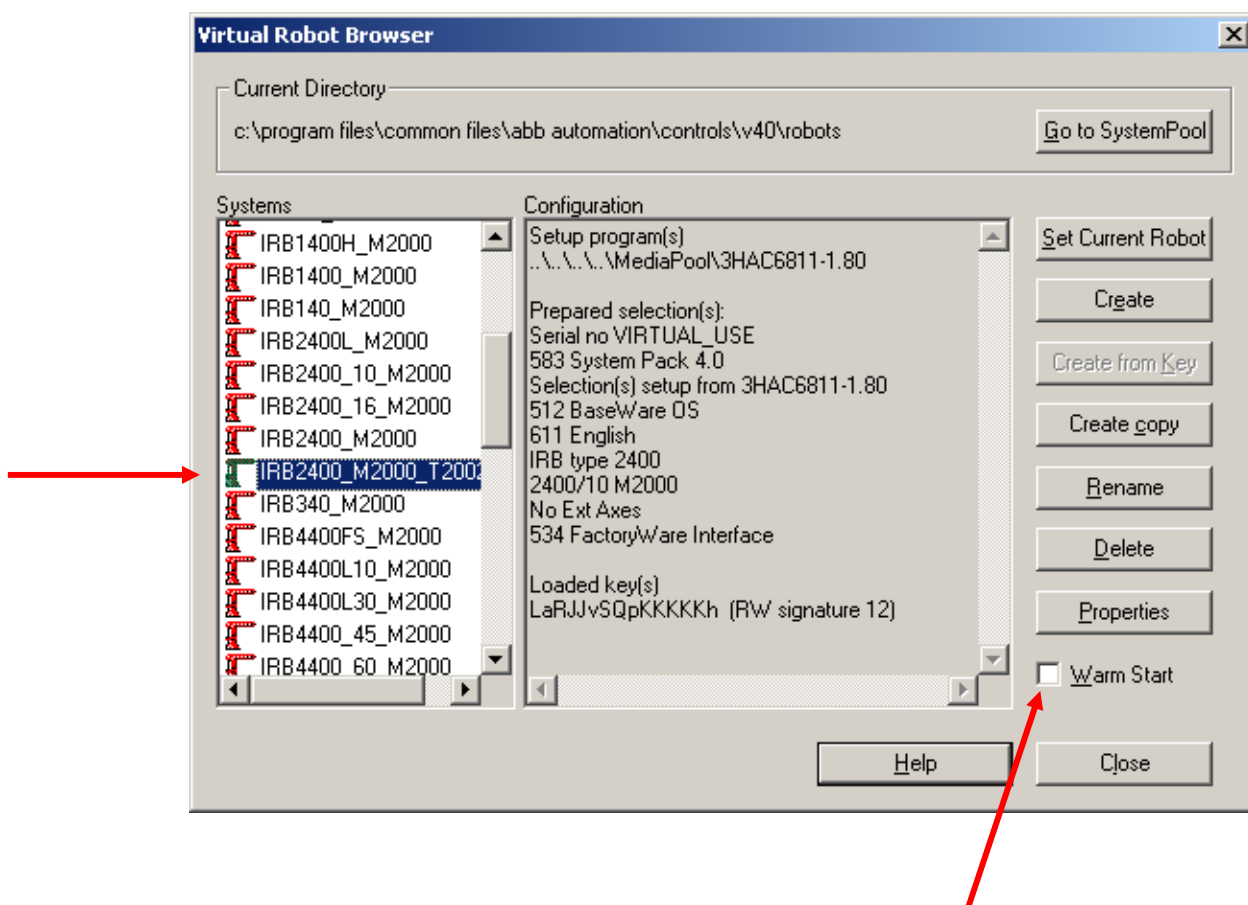
5. Set the Robot World at the same location as the robot.
In the **Object browser** right click on the robot **IRB2400_xxxx** and select **Set as UCS** in the context menu
6. Modify the position.
In the **Object browser** right click on the robot **IRB2400_xxxx**, point to **Modify** in the context menu and click on **Position Robot World**
7. Input new values.
In the **Reference** group select the radio button **UCS** and input the value 0 for **X, Y, Z** of **Location** and **Orientation** (see picture below)



8. Return the UCS to the station.
Click **OK**, in the **Object browser** right click on **Station** and select **Set as UCS** in the context menu

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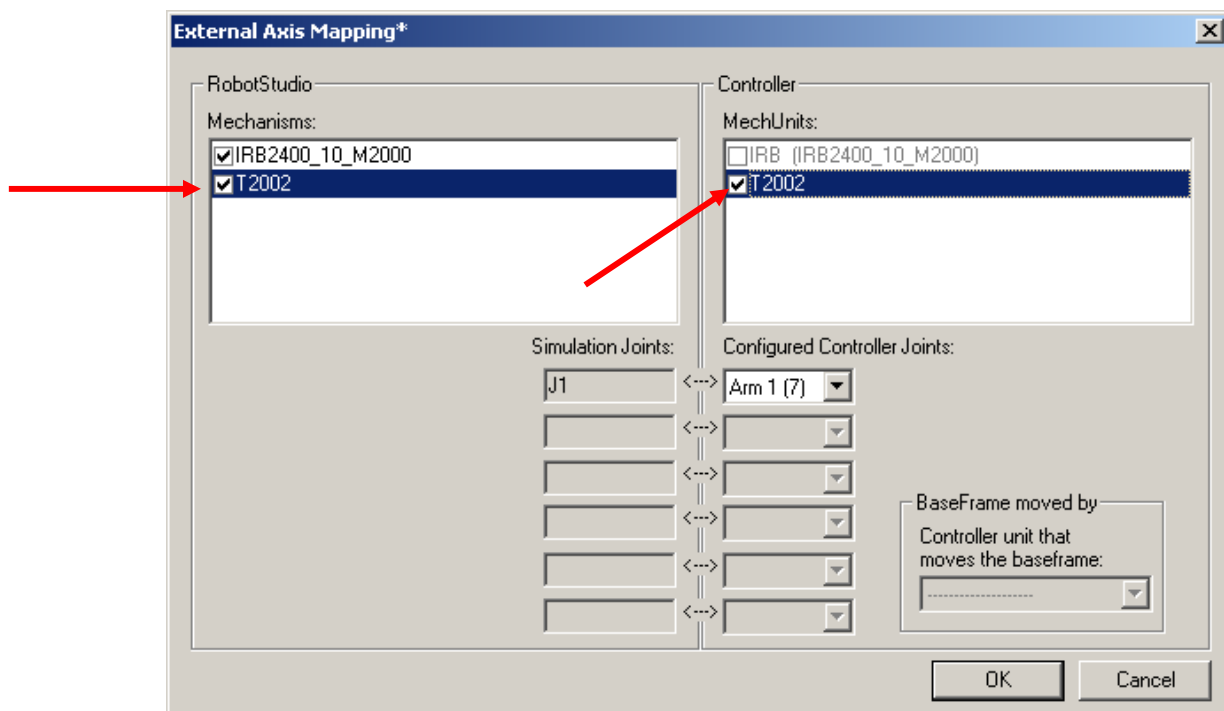
9. Create a new controller.
In the **Object** browser right click on the robot **IRB2400_xxxx** and select **Setup Controller** in the context menu, click **Change Controller** and the Virtual Robot Browser will be displayed, click **Create Copy**, select the **Copy of IRB2400_xxxx** and click **Rename**, input the name **IRB2400_M2000_T2002_4** and click **OK**, click **Set Current Robot**, **make sure that the box Warm Start is unchecked** (see picture below)



10. Close the Virtual Robot Browser.
Click **Close**
11. Close the setup menu.
Click **OK**
12. Start the new controller.
In the **Object** browser right click on the robot **IRB2400_xxxx** and select **Start Controller** in the context menu, wait for the controller to start

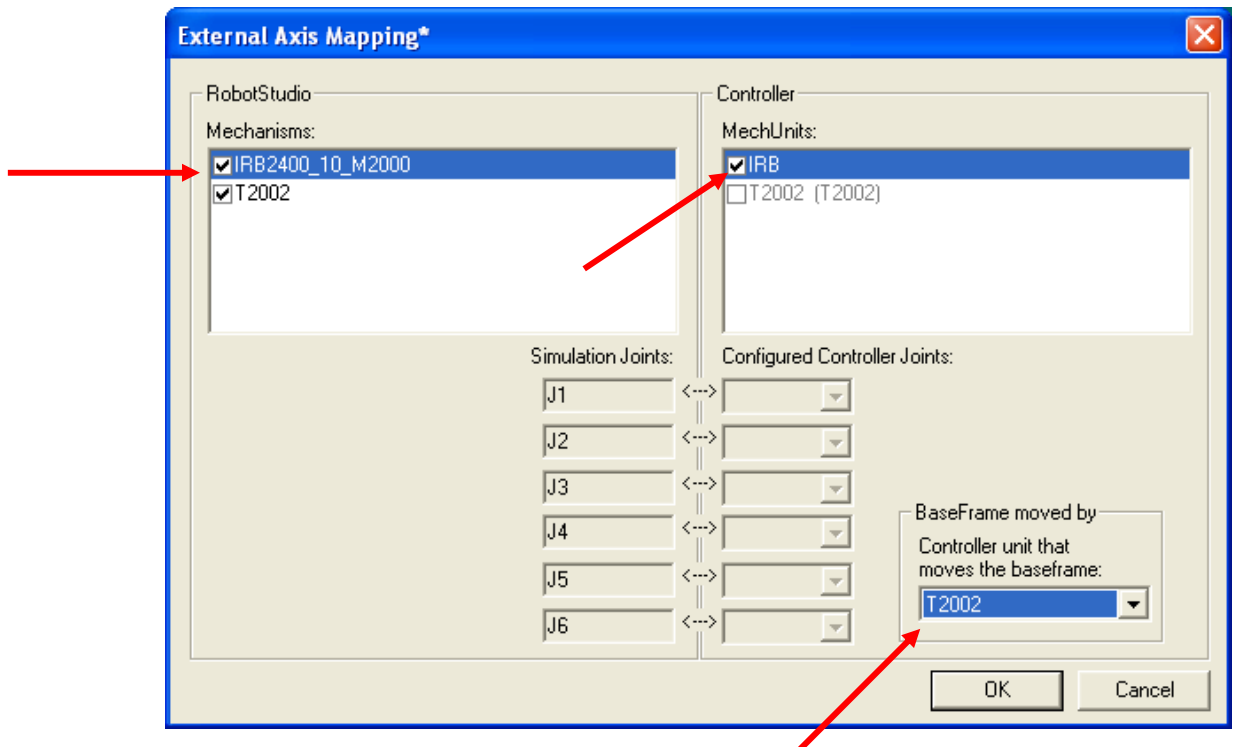
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13. Load the encryption file.
In the **Object** browser right click on the robot **IRB2400_xxxx** and select **Setup Controller** in the context menu, select the **Ext. Axis** tab, click **Add...** and select **c:\program files\abb robotics\library\external axes\trackcfg\M2000\D7_DC4U_C1B1.cfg**, click **Open** and wait for the controller to restart
14. Load the configuration file.
Click **Add...** and select **c:\program files\abb robotics\library\external axes\trackcfg\M2000\T2002_4_M2000.cfg**, click **Open** and wait for the controller to restart
15. Add the track to the Virtual Controller.
Click **Set Up...**, in the Mechanisms window select the box **T2002**, in the MechUnits window check the box **T2002** (see picture below)

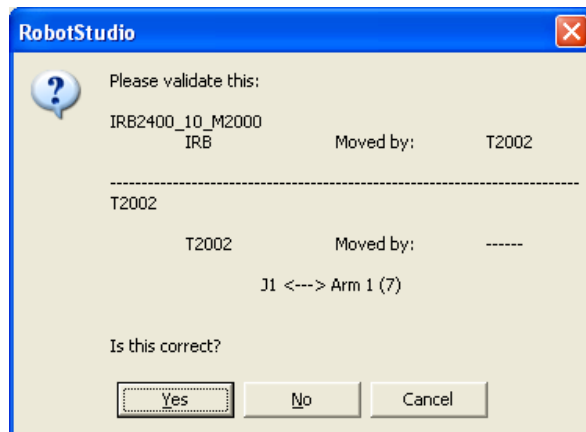


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16. Select which unit that moves the base frame.
 in the Mechanisms window select the box **IRB2400_10_M2000**, in the MechUnits window select the box **IRB**, in the BaseFrame moved by list select **T2002** as in the picture below

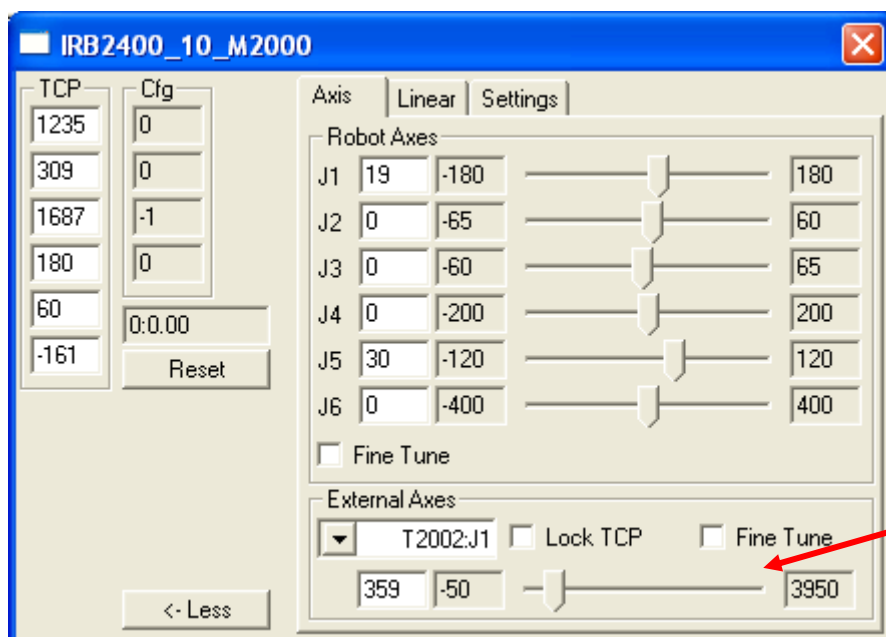


17. Restart the controller.
 Click **OK**, click **Yes** and wait for the controller to restart



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18. Close the setup menu.
Click **OK**
19. You can now test the track with the Mech Status Window.
In the **Object browser** select the robot **IRB2400_xxxx**, on the **Mechanism** menu select **Show Mech Status Window** (see picture below)

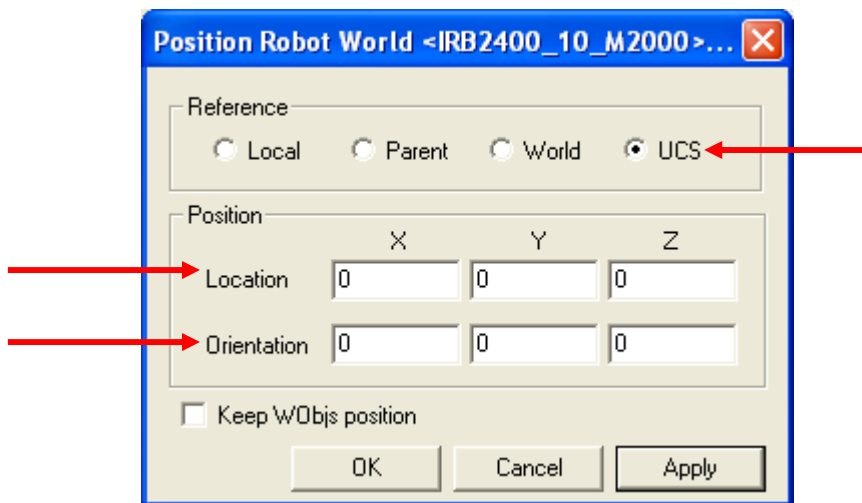


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2. Setup a track – external axes with Virtual Controller version 2.1 – 3.2

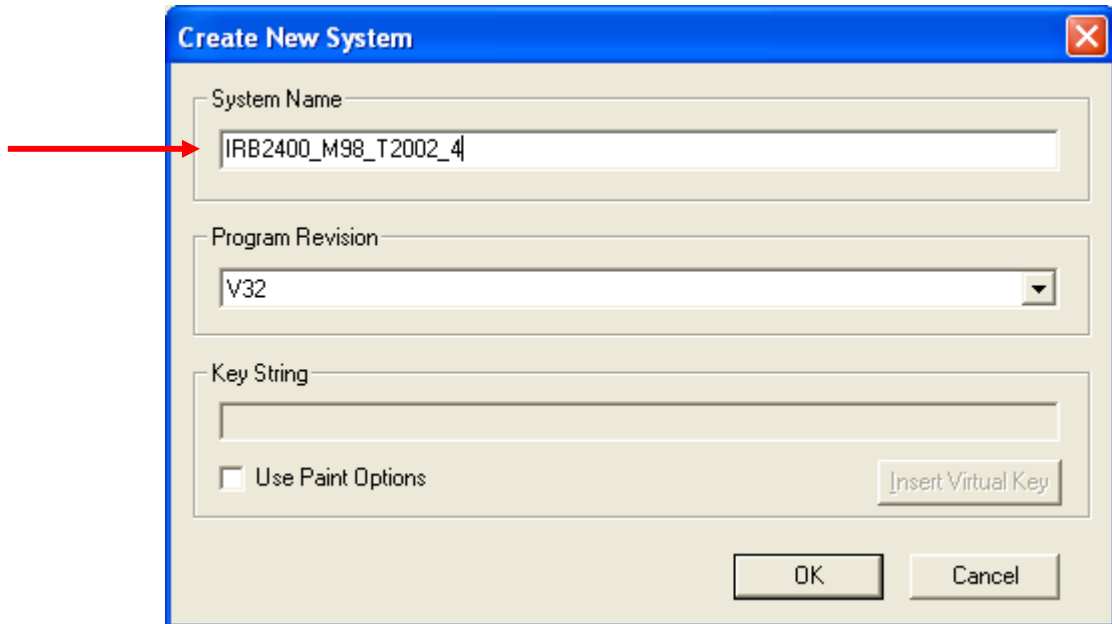
Please follow the example below:

1. Start RobotStudio.
2. Import a T2002_4 track.
On the **File** menu select **Import** then click **Library**, select **c:\program files\abb robotics\library\external axes\T2002_4.rlb** and click **Open**
3. Import a IRB2400_M98-M2000 robot.
On the **File** menu select **Import** then click **Library**, select **c:\program files\abb robotics\library\robots\IRB2400_M98-M2000.rlb** and click **Open**
4. Attach the robot to the track.
In the **Object browser** select the robot **IRB2400_xxxx** and drag it to the track **T2002**, answer **YES** to the question “Do you also want to reposition IRB2400_xxxx?”
5. Set the Robot World at the same location as the robot.
In the **Object browser** right click on the robot **IRB2400_xxxx** and select **Set as UCS** in the context menu
6. Modify the position.
In the **Object browser** right click on the robot **IRB2400_xxxx**, point to **Modify** in the context menu and click on **Position Robot World...**
7. Input new values.
In the **Reference** group select the radio button **UCS** and input the value 0 for **X, Y, Z** of **Location** and **Orientation** (see picture below)



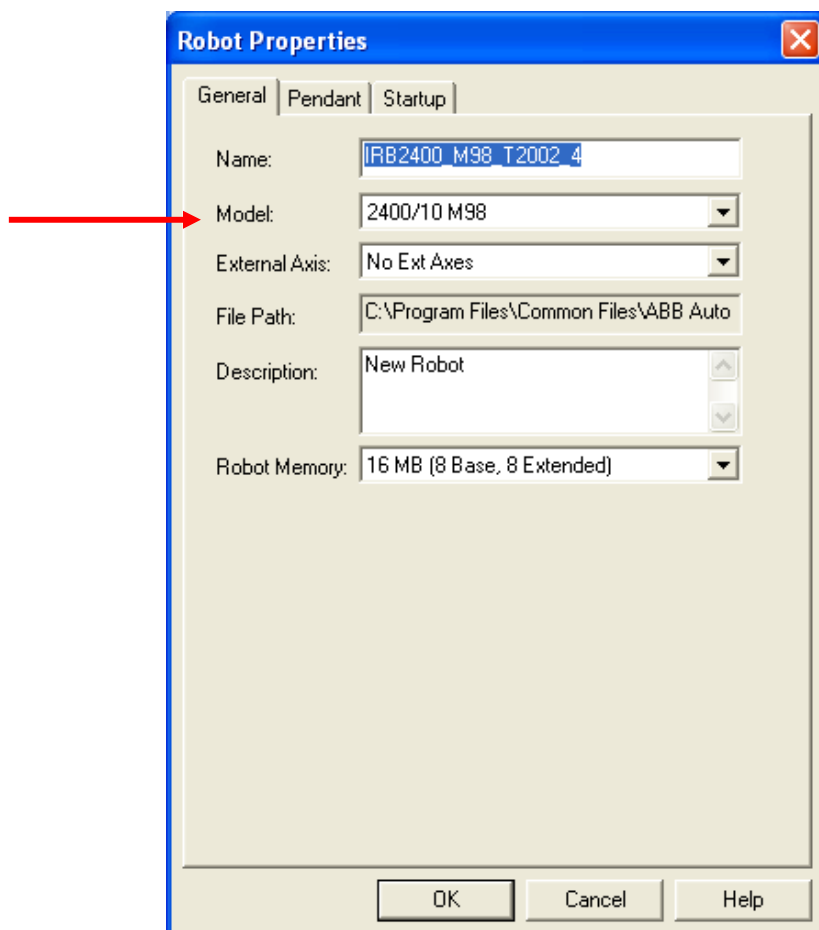
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8. Return the UCS to the station.
Click **OK**, in the **Object browser** right click on **Station** and select **Set as UCS** in the context menu
9. Create a new controller.
In the **Object browser** right click on the robot **IRB2400_xxxx** and select **Setup Controller** in the context menu, click **Change Controller** and the Virtual Robot Browser will be displayed, click **Go to SystemPool**, select **c:\program files\xxx... \controls\v32\robots**, click **OK**, click **Create**, input the name **IRB2400_M98_T2002_4** (see picture below)



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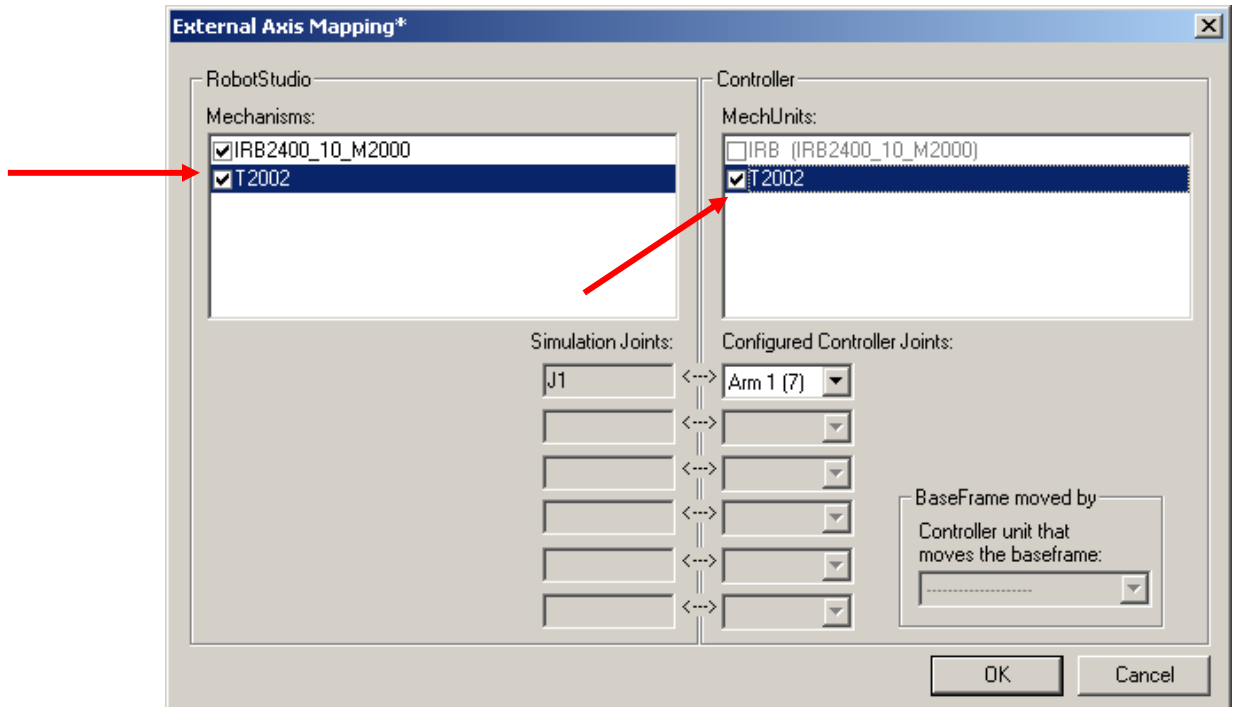
- Select the correct robot model.
Click **OK**, in the **Model** list select **2400/10 M98** (see picture below)



- Close the Robot Properties menu.
Click **OK**
- Select the robot.
Click **Set Current Robot**
- Close the Virtual Robot Browser.
Click **Close**
- Close the setup menu.
Click **OK**
- Start the new controller.
In the **Object** browser right click on the robot **IRB2400_xxxx** and select **Start Controller** in the context menu, wait for the controller to start

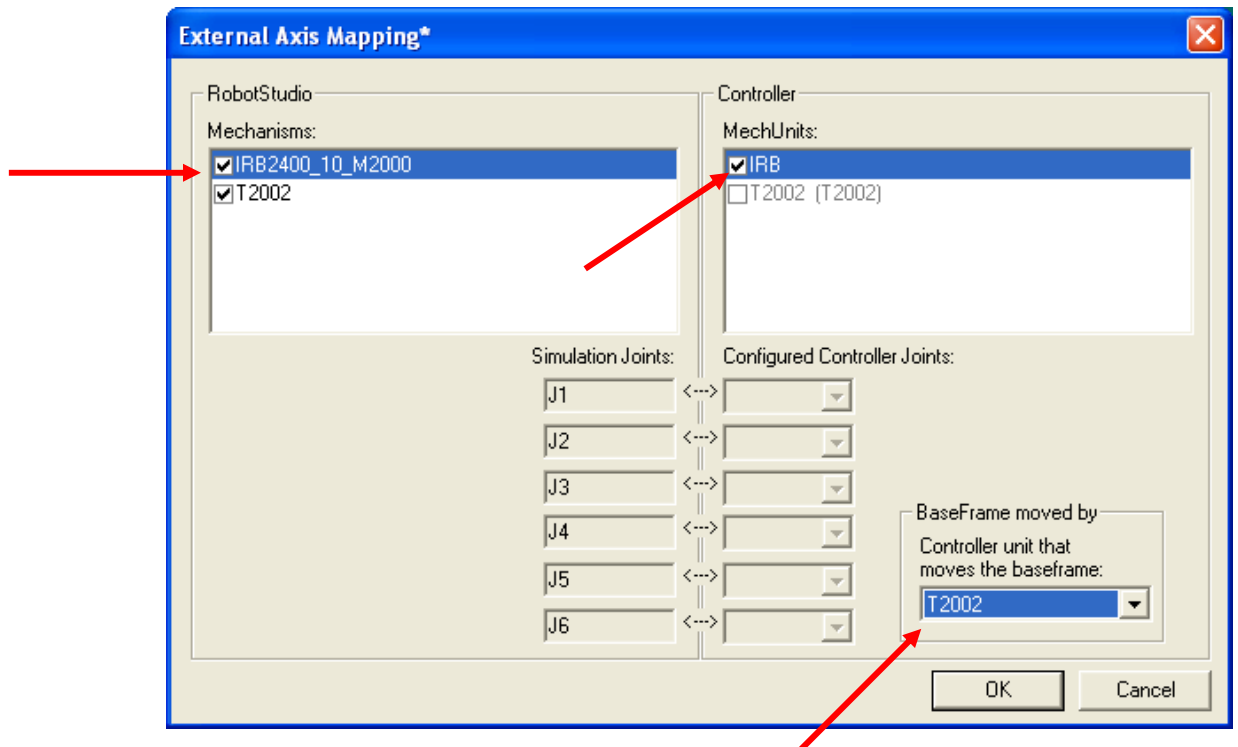
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16. Load the configuration file.
In the **Object** browser right click on the robot **IRB2400_xxxx** and select **Setup Controller** in the context menu, select the **Ext. Axis** tab, Click **Add...** and select **c:\program files\abb robotics\library\external axes\trackcfg\M98\T2002_4.cfg**, click **Open** and wait for the controller to restart
17. Add the track to the Virtual Controller.
Click **Set Up...**, in the Mechanisms window select the box **T2002**, in the MechUnits window check the box **T2002** (see picture below)

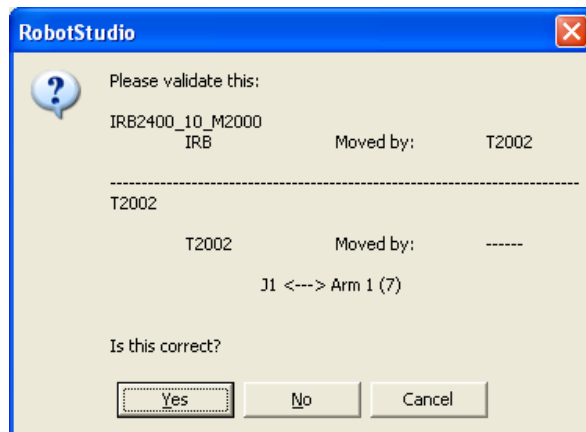


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18. Select which unit that moves the base frame.
 in the Mechanisms window select the box **IRB2400_10_M2000**, in the MechUnits window select the box **IRB**, in the BaseFrame moved by list select **T2002** as in the picture below

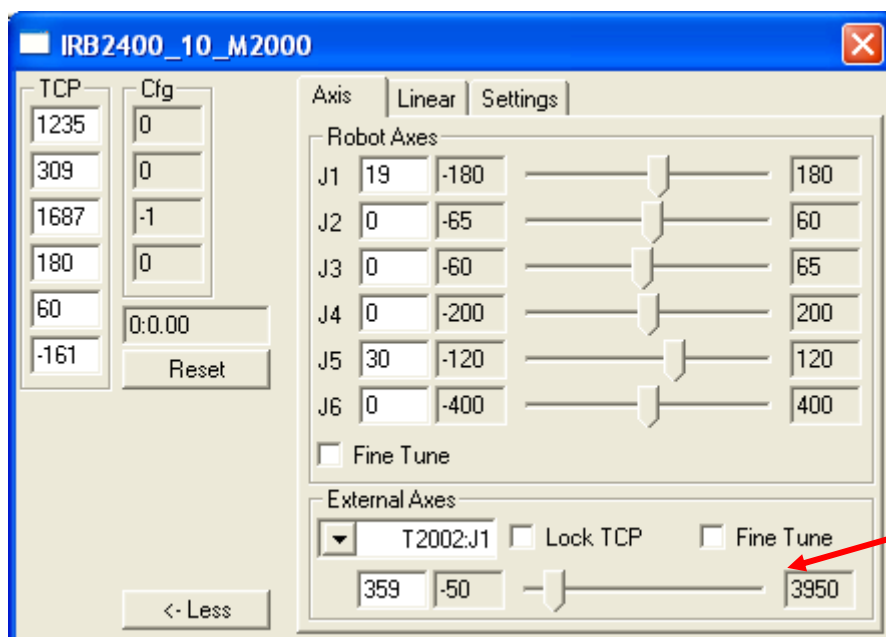


19. Restart the controller.
 Click **OK**, click **Yes** and wait for the controller to restart



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20. Close the setup menu.
Click **OK**
21. You can now test the track with the Mech Status Window.
In the **Object browser** select the robot **IRB2400_xxxx**, on the **Mechanism** menu select **Show Mech Status Window** (see picture below)



If you have any further questions, please contact your local ABB Support Center.