

# ***OWI PC Interface For Robotic Arm Trainer (Model Number: IBM-007)***

**Please read this booklet in its entirety before operating this unit.**

The Robotic Arm Trainer Interface is an application that enables you to issue commands from the computer to the Robotic Arm Trainer. You can use the application in Windows © (Win 95 or Win 98). The Robotic Arm Trainer Interface enables you also to save the program and play it back again. The Robotic Arm Trainer can be activated using the Manual Controller or via the PC program. The Robotic Arm Trainer has three modes of operation:

Manual: using the controller.

Direct: using computer input.

Program: using a pre-recorded Windows © program file.

## ***Download Instructions:***

Please go to our website at [www.owirobot.com](http://www.owirobot.com) (downloads section) to download the FREE software installer file. After downloading the file, uncompress it using Winzip ([www.winzip.com](http://www.winzip.com)) or Winrar ([www.rarlab.com](http://www.rarlab.com)).

## ***Windows Installation***

To install the windows 9x program: Double click "SETUP.EXE" from the files that you have just uncompressed. Follow the instruction of the setup program, and it will copy the Robotic Arm Trainer Interface Program to your chosen directory and add an icon to your desktop. After installing the program, you will be able to launch it by double clicking the ROBOT icon. Once the program is started, you will have access to 2 windows: The Main Window and the Program Play Window:

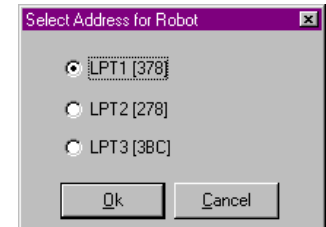
System Requirements:  
Windows compatible PC 486 (or better) with Windows 95/98 installed  
Parallel Port  
Microsoft Windows compatible mouse  
4 MB RAM minimum  
4 MB Hard disk free space

OWI INC, 17141 KINGSVIEW AVENUE, CARSON, CALIFORNIA 90746 U.S.A.  
PHONE: 310-515-1900 | FAX: 310-515-1606  
WEB: [www.owirobot.com](http://www.owirobot.com) | EMAIL: [info@owirobot.com](mailto:info@owirobot.com)

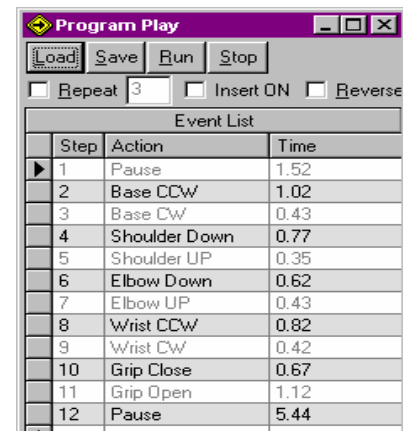
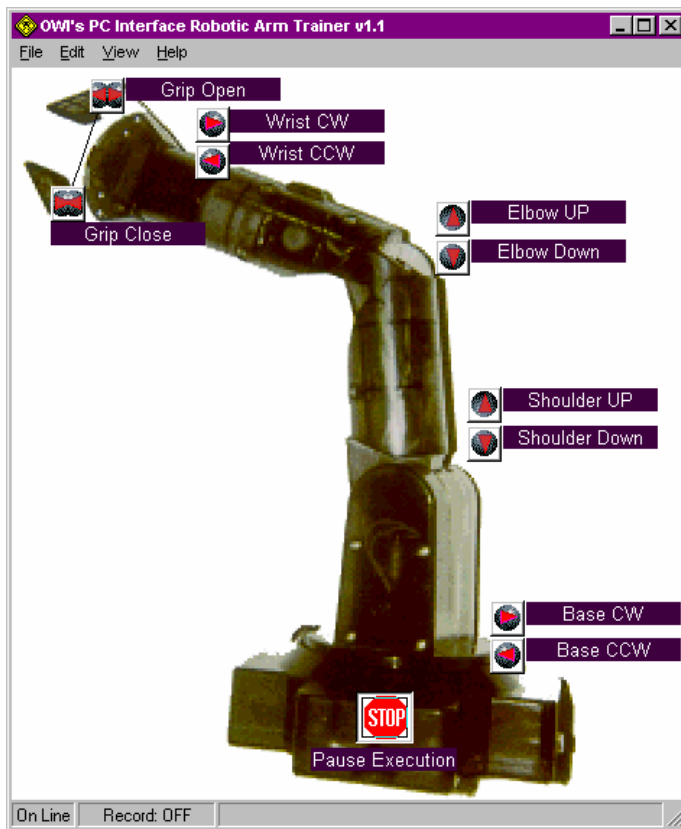
## Windows Operation:

After installing the program you will have access to 2 windows; the main window and the program window. The Main window enables the user to send a command to the Robotic Arm Trainer by clicking on the appropriate icon or command on the robot picture.

Prior to using the Robotic Arm Trainer, make sure that you are communicating with the device using the appropriate Parallel Port. Use the Setup Menu command to select the appropriate Port. (LPT1, LPT2 or LPT3)



## Main Window Menus



You can use the menu commands for file operation, to perform editing, change your display preference and display the help screen.

## File Menu:

There is a number of commands under the file menu:

1. New: start a new program
2. Open: use this menu to open an existing program.
3. Save: save current program to disk
4. Save as: save current program under a new name
5. Setup Port: select the appropriate communication port. Currently we support only Parallel communication ports (LPT1, LPT2, LPT3).
6. Printer Setup: select and setup the printer.
7. Print: send the file to the printer.
8. Exit: terminate the program and put the robot in pause mode.

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WEB: [www.owirobot.com](http://www.owirobot.com) | EMAIL: [info@owirobot.com](mailto:info@owirobot.com)

**Edit Menu:**

Use to copy, cut and paste program action.

**View Menu:**

View program window: Select this option to view or hide the program execution table.

View labels: select to view or hide the action labels on the window.

**Help Menu:**

Displays the help screen.

**PROGRAM WINDOW:**

The program has a number of commands that enable the user to:

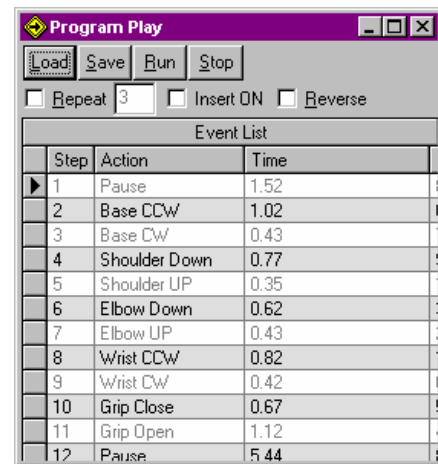
**Load:** load a program from disk

**Save:** save the program on disk

**Run:** run the current program

**Stop:** halt the execution of the current program.

Along with the commands you can set the **Repeat Check Flag**. The repeat check flag, enables the user to loop back the program from the cursor point to the end of the program. The program will not stop until you press the stop button or the program has been repeated the number of times in the text box next to the repeat check mark. To execute the program in repeat mode check the repeat box. To play it in regular mode uncheck the repeat box.



Event List		
Step	Action	Time
1	Pause	1.52
2	Base CCW	1.02
3	Base CW	0.43
4	Shoulder Down	0.77
5	Shoulder UP	0.35
6	Elbow Down	0.62
7	Elbow UP	0.43
8	Wrist CCW	0.82
9	Wrist CW	0.42
10	Grip Close	0.67
11	Grip Open	1.12
12	PAUSE	5.44

The user can also insert the current action commands from the cursor point. Click on the **insert check box** and the action will be added under the insertion point or where the cursor is selected.

To play the program in reverse, check the **Reverse Check Mark**.

You can edit the table of the program to arrange the steps, type in the step number under the step column and the program will be refreshed accordingly. You can also edit the action command, click on the action line that need to be changed and select one of the 11 commands available. You may also edit the length of time that the command will be issued by clicking on the time column and typing in the appropriate number of seconds. The program can be controlled in 1/100<sup>th</sup> of a second.

**HARDWARE INSTALLATION:**

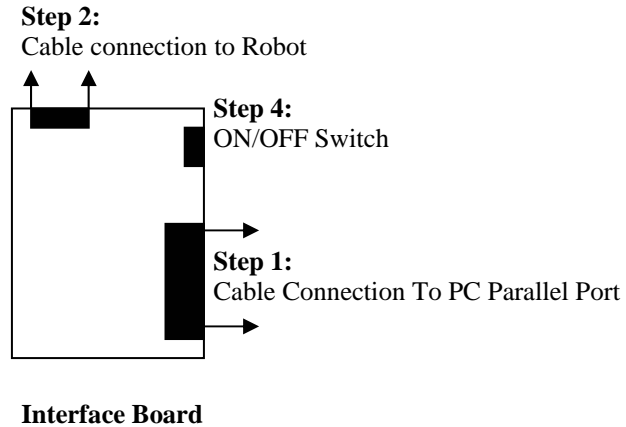
Using figure 1 follow the steps below:

1. Connect the interface board to the parallel port of your PC using the cable enclosed.
2. Connect the interface board to the robot using the short cable attached to the board.
3. Run the ROBOT program on your PC.
4. Turn the slide switch to the "ON" position on the interface board.

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## ***BASIC COMMANDS:***

Regardless of how you are operating (manual, direct or via program) the Robotic Arm Trainer, there are 11 basic commands:

- Grip Open
- Grip Close
- Rotate Wrist Clock Wise
- Rotate Wrist Counter Clock Wise
- Elbow Up
- Pause
- Elbow Down
- Shoulder UP
- Shoulder Down
- Rotate Base Clock Wise
- Rotate Base Counter Clock Wise

## ***MANUAL CONTROL:***

The manual controller can be operated by utilizing the controller supplied with the Robotic Arm Trainer.

## ***HELPFUL NOTES:***

1. Always have the on/off switch ( interface board ) in the **OFF** position until ready to use the program.
2. To turn the robot **OFF**, simply move the slide switch to the **OFF** position.
3. For optimum performance, set your monitor to 800 by 600 pixels.

## ***Warranty***

Your OWI Robotic Arm Trainer Interface is factory tested and guaranteed to be free of manufacturing defects for a period of 30 days from the date of purchase. OWI will provide replacement parts and/or repair at no charge within this period. All returns to be shipped freight prepaid. This warranty gives you specific legal rights, and you may also have other rights, which may vary from state to state.

## ***Liability Waiver***

OWI assumes no responsibility as to the ultimate use or suitability of such use by the customer of the Robotic Arm Trainer. The responsibility of operating this kit lies totally with the customer including any damage that may be incurred directly or indirectly due to the use of this kit.

For more information contact OWI INC.

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