Document Scope:

This document provides instructions on the EL6 Windows programing software. This is not a tutorial on writing wash programs, but information on transferring custom programs from a laptop computer to the EL6 control. Please note that computer refers to your laptop and control refers to the EL6 control on the washer-extractor.
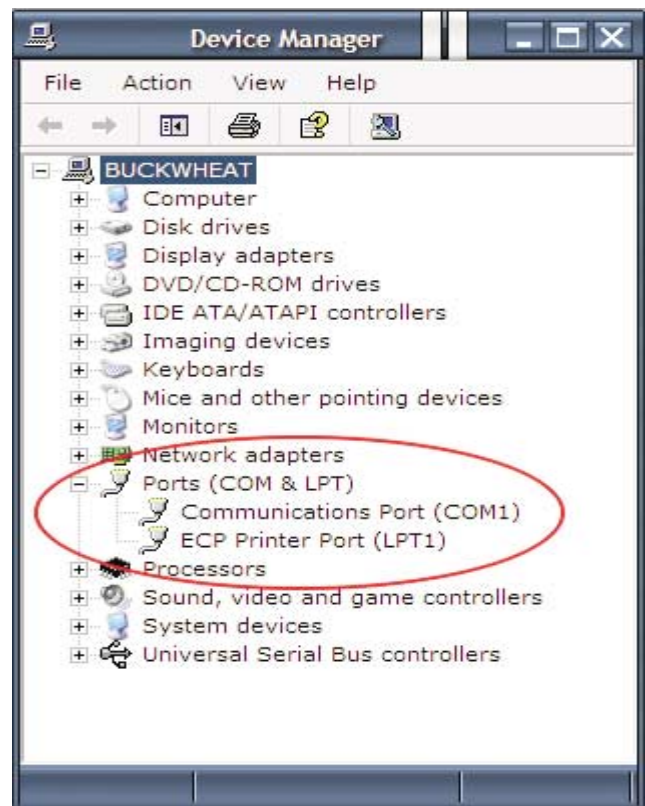
Requirements:

1. Windows computer running Windows 98 or higher (Windows 2000, or Windows XP. Windows Vista/7 will work if you have a compatible USB-serial adapter with proper drivers.).

2. Available serial port (or USB to Serial adapter, p/n 141-102, or Radio Shack 26-949 or similar)

3. Null modem adapter (p/n 141-100, or Radio Shack 26-264 or similar)

Procedure:

1. Install the EL6 Win 2 programing software, available on CD or download from the B&C website (http://www.bandctech.com). Installing the software will also install the factory wash programs.

2. *Before* plugging the adapter into your computer, install the USB to Serial Adapter software, if required. If your computer has a serial port, you do not need the USB to Serial Adapter. Please skip to step 4. To continue:

    a. Insert the CD that came with the adapter into your drive.

    b. Navigate to your CD drive and go to USBRS232 (Last item in the folder), then Windows, then double click on Setup. This will install the software for the USB to Serial Adapter. Follow the instructions to install.

3. Plug in the USB to Serial Adapter. The found new hardware dialog box will appear, and the USB to Serial Adapter will be ready to use.

4. In order for your computer to communicate with the EL6 control, you must set up the EL6 software to communicate on the correct serial port. To determine which serial port your computer is using click: Start -> Control Panel -> System -> Hardware (tab at the top) -> Device Manager. Click the "+" next to Ports to expand the view.

Example 1

In Example 1 above, the port to be used is COM1. If the communication port name doesn't show up, right click on the Communications port, then Properties, then the Port Settings tab, then on the Advanced button. See Example 2, next page.
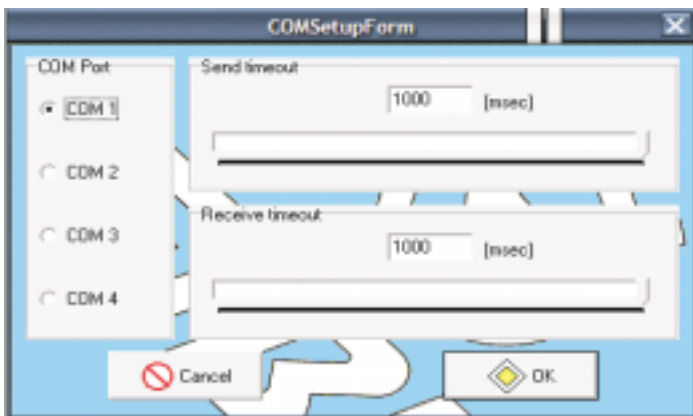
Example 2

The COM Port must be COM1, COM2, COM3, or COM4. Use the pulldown box to change the value of the COM Port Number to 1, 2, 3, or 4, then click OK.   Do not pick a COM port that is in use.

5. Start the EL6 Win 2 software (Start -> Programs -> EL6 Win 2 ->EL6 Win 2). On the top menu, click Communication, then Com Setup. The following dialog box opens:

Make sure the COM Port selected matches the COM port shown in the device manager. Also, move the slide bars over so that the Send and Receive timeouts are set to 1000msec.

6. Open the EL6 Win 2 software and create/modify the wash program you wish to transfer to the machine. Please note that programs are designed to work with particular machines. For example, you cannot download SP-60 programs into an HP-60 or any other machine. Water levels, speeds, and timeouts will be incorrect and may cause dangerous operation. Always test your programs before putting them into production!

7. Press the red emergency stop button on the front of the machine to turn off power to the control.

8. Connect the Null Modem cable (B&C Part number 141-100) between the EL6 and your computer (if you have a serial port) or to the USB to Serial adapter attached to your computer (if you don't have a serial port). If you are using the USB-Serial adaptor, you MUST USE THE NULL MODEM CABLE ALSO.

9. Open the wash program you wish to download to the EL6.

10. Release the emergency stop button. After the self test, the EL6 display will change to "PROGRAM N."

11. Press the START and RESET keys together. The EL6 display will change to "n?"

12. Press 1, then 4, then 4 again. The display will show an asterisk (*) for each number entered.

13. Timing is critical for this step. Press Enter on the EL6 keypad - the display on the EL6 will change to RS232. As soon as the display on the EL6 changes to RS232, click the red down arrow or press Ctrl-D on your computer's keyboard.
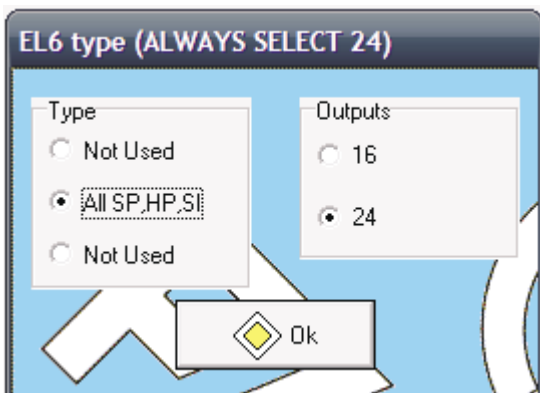
14. While the program is transferring to the EL6, the EL6 display will show "COMPUTER -> EL6" indicating that a program transfer is taking place. The laptop display will show a graphic of a computer attached to washing machine. The lower right information will remind you to press 144. If a red icon appears in this information box, the transfer will not start. The red icon indicates a problem with the program, and tells you exactly what the problem is. These problems must be corrected before the program can be saved to computer or transferred to the EL6.

Transferring from the EL6 to the Laptop.

The transfer from the EL6 to the laptop is called uploading. To upload from the EL6 to the laptop:

1. Follow steps 1 through 10 in the previous section.

2. Click the red up arrow or press Ctrl-U on your computer's keyboard. You will see the following dialog box:

3. Ensure that the All SP, HP, SI button is selected on the left, and 24 is selected on the right.

4. Press the START and RESET keys together. The EL6 display will change to "n?"

5. Press 1, then 4, then 4 again. The display will show an asterisk (*) for each number entered.

6. Press Enter on the EL6 keypad. When the display changes to RS232, click on the OK button in the dialog box on your laptop.

7. While the program is transferring from the EL6, the EL6 display will show "EL6 -> COMPUTER" indicating that a program transfer is taking place. The laptop display will show a graphic of a computer attached to washing machine. The lower right information will remind you to press 144. When the transfer is complete, you will see the program set on your laptop display.

Troubleshooting

1. You must use a null modem cable. An RS-232 extension cable will not work! If you are going to purchase your cable from a computer retailer, make sure you get a NULL MODEM cable.
2. Make sure that no other software is using the COM port that you are attempting to use with the EL6 control. If you have a PDA, or other software, such as Soap Pump control software, you may have problems. Make sure that no programs are running that use the serial port, except the EL6 Win 2 software.
3. If your computer has a COM port, but it doesn't show up in the Device Manager, it may be disabled in the BIOS of your computer to save battery power. It is beyond the scope of this document to re-enable your serial port. Refer to your computer manual or to a qualified computer technician.