

Software Users Guide

Universal Programmer Version 7.0

Welcome to the Universal Programmer Software Users Guide. This guide contains instructions and tips for using the Universal Programmer application with compatible programmable hardware devices.

Connecting a COM port Device

NOTE: Always make sure that the communications cable is connected between the device and the computer *before* power is applied. This is important because some devices sense the COM port connection *at power up*. If the device is not attached to the COM port prior to power up, the device may not communicate over the COM port.

NOTE: Consider how your device is powered. Some devices are wired directly to a battery pack. Some require a button press to *wake* the device. Others use a switch to control power. Be aware that on some switch-controlled devices, the switch only provides a signal to the microprocessor to power-down the device and that the actual power-down does not occur for up to 10 seconds. If the device has a battery pack and no switch, either disconnect the battery pack or remove a battery to turn the device OFF.

After you understand the proper way to power ON and power OFF your device, follow the steps given below to connect the device. **NOTE:** For *older* R99 devices, excluding R99WS and R99WB, refer to the special steps given in *Appendix A*.

1. Connect the communications cable between the device to be programmed and your computer before applying power.
2. Apply power to the device.
3. Run the Universal Programmer application and click the **OK** button on the Connect Confirmation dialog box. The Universal Programmer searches available COM ports for the attached device.

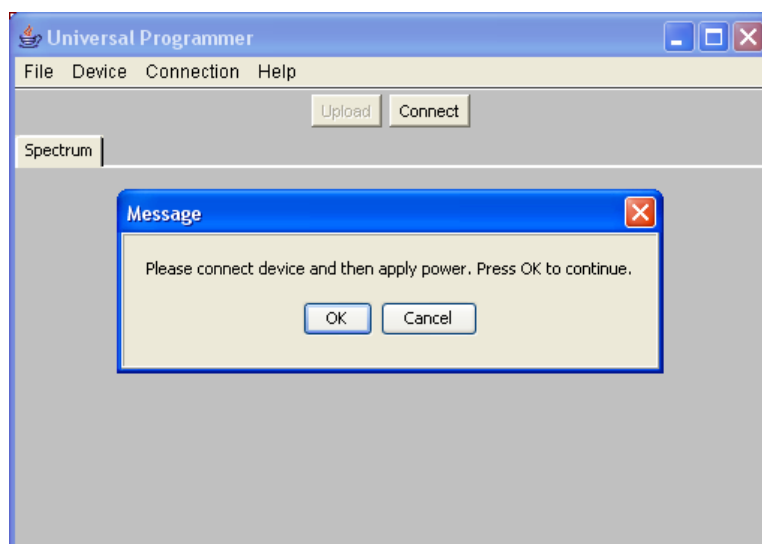


Figure 1 - Universal Programmer with Connect Confirmation dialog box

As the Universal Programmer searches for a device, the Progress dialog box displays.

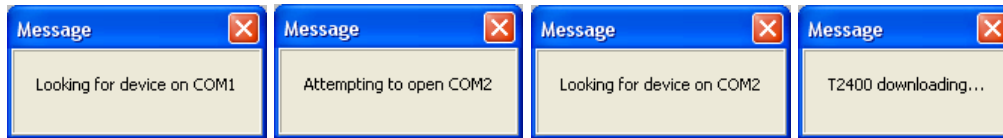


Figure 2 - Progress dialog box with message sequence

4. If a COM port is not available, the progress dialog box momentarily shows a message that indicates the unavailable port and reminds the user that the port might be in use by another program. Try another COM port or look for other software, such as PDA synchronization applications, that may be running in the background and holding the COM port open.

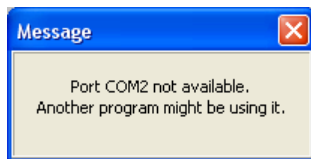


Figure 3 - COM port not available

5. If the Universal Programmer is unable to illicit a response from a device on any COM port, the search ends with no devices detected. If you are sure that the device is connected properly and the power was applied to the device after it was attached to the computer, use Windows® Device Manager to help assess the COM ports that Windows recognizes. Sometimes hardware may be connected but drivers are not installed properly, *as is often the case with USB to Serial converters.*

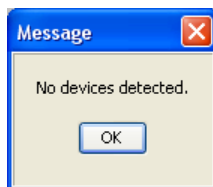


Figure 4 - Device not found dialog box

It is possible to start the device search on a specific COM port by pre-selecting a COM port. Use the application menu **Connection > Change COM port** and select the port to begin the search. This port becomes the default COM port and the Universal Programmer will attempt to open the port before the connect confirmation dialog is displayed. The search will begin with the default COM port.

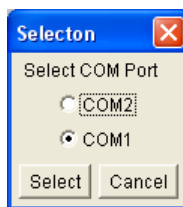


Figure 5 - COM Port Selection dialog box

NOTE: Every time a device is detected on a COM port, that port is automatically set to the default port in order to speed up the search the next time a connection is requested.

Editing Device Settings

After a device is detected, the main application screen displays device-specific information as shown below.

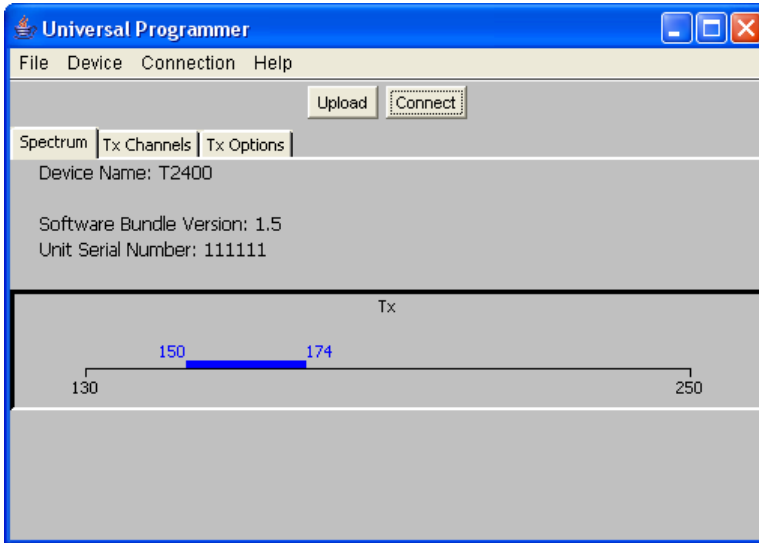


Figure 6 – Main Application Screen: T2400 Device Detected – Spectrum tab

Spectrum Tab

The **Spectrum tab** shows the frequency spectrum in blue that this device can use. The **Device Name**, **Software Bundle Version**, and sometimes **Unit Serial Number** are also shown.

Channels Tab

Use the **Channels Tab** to assign different frequencies to available channels. Double-click a **Channel #** to edit, or select the **Channel #** from the list and click the **Edit Chan** button.

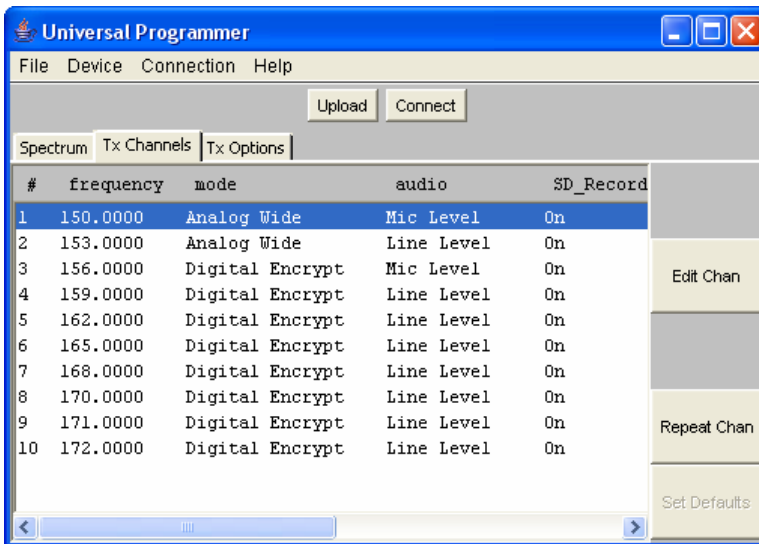


Figure 7 - T2400 Tx Channels Tab

Options Tab

Some devices have optional parameters that are shown on the **Options tab**. Please refer to the device-specific *Operators Manual* for information on these device-specific features.

Saving Changes

After changes are made, the changes must then be uploaded to the device. Press the **Upload** button and wait for the **Uploaded Successfully** message to display. Many devices require cycling power **OFF** and then back **ON** before the new settings take effect.

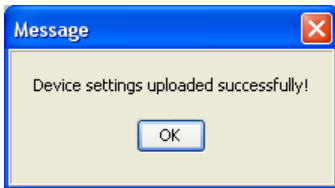
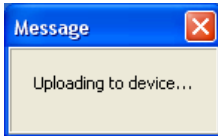


Figure 8 - Uploading Settings to a Device

Appendix A

Connecting an *older* R99 device (not R99WS or R99WB)

Complete the following steps to connect an older R99 device (not R99WS or R99WB):

1. Connect the communications cable between the device and your computer *before* applying power.
2. Run the Universal Programmer application, then click the **Cancel** button on the Connect Confirmation dialog.
3. Use the application menu **Connection > Change COM port** and select the port to which the R99 is attached.
4. Press the **Connect** button.
5. Apply power to the device. The R99 should be automatically detected. It is *not* necessary to press the **OK** button on the connect confirmation dialog. If the R99 is *not* detected, try switching the power **OFF** and then back **ON** again or try changing the COM port setting.

Appendix B

Using HyperTerminal to check for a COM port device

When in doubt of the COM port connection between your computer and the device, use the HyperTerminal utility to troubleshoot the connection.

- Run the HyperTerminal utility at **Start > Programs > Accessories > Communications > HyperTerminal**.
- Enter a name for the connection settings. It can be any name and it will only be used if the connection settings are saved.
- Press **OK**.
- Use the **Connect Using** drop down to select the desired COM port.
- Press **OK**.
- Change **Bits per second** to **300**, leave **Data bits** at **8**, **Parity** at **None**, and **Stop bits** at **1**. Change **Flow control** to **none**.
- Press **OK**. Notice that the **connect string** is displayed and the **timer** has begun. This indicates that the selected port was opened successfully.
- Apply power to your device and look for text in the HyperTerminal window displaying the device type and version. If there is no text, there may be an issue with your COM port, serial cable, or device. Please note that older devices do not report their type and version.