Overview

This application note shows how to use the NetMedia SitePlayer Serial Redirector (Redirector) and its **time delay** feature to control the NetMedia LCDPLUS2 (LCD+) backlit 4 x 20 serial LCD display. The LCD+ is controlled through standard RS232 serial signals from software on a host computer. This serial control may be extended across an Ethernet network by using a SitePlayer Telnet System (SPTS) on the LCD+ serial port and Redirector on the LCD+ software PC. One issue that can arise once this control is extended across Ethernet, is that the LCD+ **configuration packet** may be separated into multiple Ethernet packets. This disrupts the initial communication between the PC software and the LCD+. This application note will demonstrate how to use Redirector's time delay feature to combine the Ethernet packets back into a single serial packet for the PC software.

The Redirector software will only function with the SitePlayer Telnet module (included in the SPTS). Before beginning, you must have an SPTS and download/install Redirector. You will also need an LCD+ with serial control software installed on the same PC as Redirector. BasicX™ example control code and the BasicX programming environment are available along with the LCD+ and User Manual from http://www.basicx.com. The Bonjour™ browser and the SitePlayer Telnet User Manual will also be helpful. These are available from the website: http://www.siteplayer.com/telnet. Consult the User Manuals and Redirector help for more information.

Test LCD+ and SPTS/Redirector Separately

1. Install and run the LCD+ control software through the serial port of the PC.

    1.1. Verify proper functionality before continuing.

    1.2. Close program and serial port to avoid conflict.

2. On the same PC, install and test the SPTS and Redirector as described in the HyperTerminal and Redirector application note.

    2.1. Redirect the same COM port (COM1) that the LCD+ software is using.

        2.1.1. A virtual COM port may be used after proper functionality of the combined system is established.

   2.2. Verify proper functionality before continuing.

Configure and Connect SPTS to LCD+

3. Configure the SPTS serial port to match LCD+: *Serial Page->Baud Rate, Data Bits and Parity, Flow Control->Set Parameters button*

4. Disconnect the LCD+ RS232 serial cable from the PC and connect it to the SPTS.

    4.1. Remove any loopback jumper from the SPTS serial port that may exist from previous testing.

Configure Redirector Time Delay

5. Open Redirector: *Start Button->Programs->SitePlayer Serial Redirector*

6. If the LCD+ Comm Port is not already redirected to the SPTS then do so now.

7. Set a delay time for the redirected port under the "Redirected Port Settings" tab.
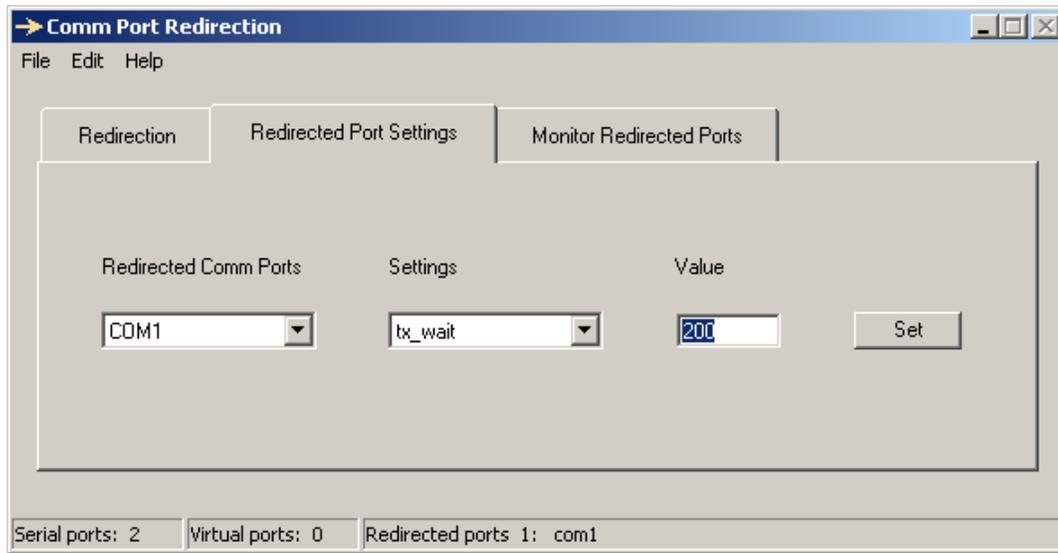
7.1.   Select COM1 under "Redirected Comm Ports."

7.2.   Select "tx_wait" under "Settings."

7.3.   Enter delay value in milliseconds from 0 to 1000 (200).

7.3.1.   Delay value may vary depending on network conditions.

7.3.2.   Delay value may be changed or set to 0 any time after communication between LCD+ and PC software is established.

7.3.3.   Delay value is persistent as long as serial port remains in redirected state.

7.4.   Press "Set" button to save.

Run LCD+ Control Software with Redirected Port

8. Start LCD+ software.

8.1.   Adjust Redirector delay value (tx_wait) if necessary and restart the LCD+ software.

9. Control the serial LCD+ display across the Ethernet connection.

Conclusion

The time delay feature of Redirector, as demonstrated by the LCD+, can help resolve some communication issues, such as when serial data packets are broken into multiple Ethernet packets that the serial software cannot interpret. This is helpful on the PC side but does not affect data going to the serial device. You may use the SPTS Buffer Management settings on the Serial Page for control in that direction.

You should assign the SPTS a static IP so that Redirector can always find it. If you have multiple serial devices, each connected to an SPTS, you can use Redirector to assign each one to a different virtual COM port. This can simplify device ID and help minimize conflicts and cables on the PC.

Additional information, suggestions, and support can be found in the user forum:
http://www.netmedia.com/forums.