

## Overview

This application note shows how to use the NetMedia® SitePlayer Serial Redirector (Redirector) with the Microsoft HyperTerminal (HyperTerminal) communication software. It uses a loopback connector on the SitePlayer Telnet System (SPTS) serial port to send back all the characters it receives on the Ethernet port. This can quickly demonstrate that the SPTS and Redirector are properly connected, configured, and working.

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. 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 Manual and Redirector help for more information.

## Configure SitePlayer Telnet System

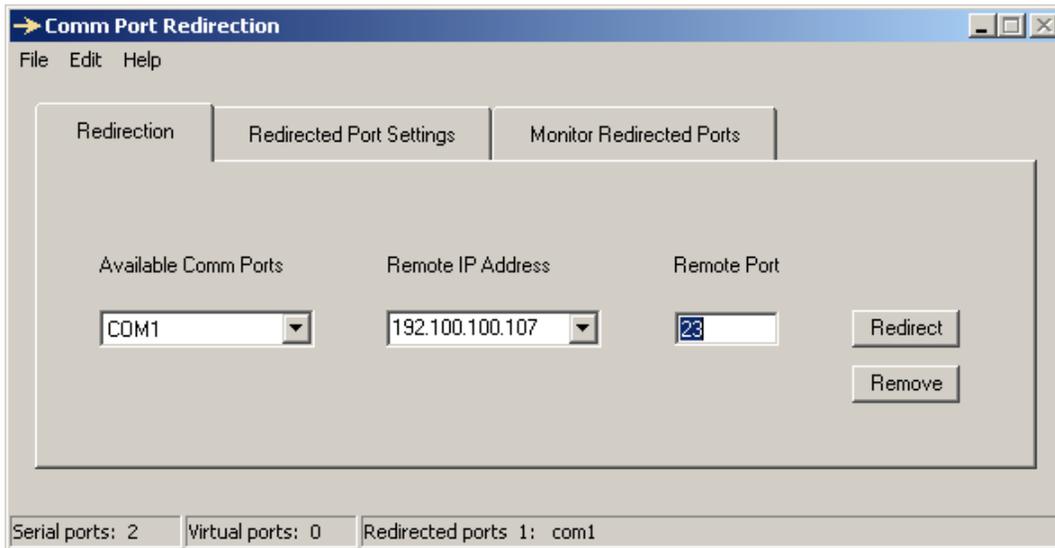
1. With the SPTS power off, use a jumper wire to carefully connect pins 2 (RX) and 3 (TX) of the serial DB-9 connector. This loopback will cause all the characters that SitePlayer receives to be automatically retransmitted.
2. Power up and connect the SPTS to your Ethernet network.
  - 2.1. The blue SPTS LED should be on.
3. Make sure the SPTS IP address and all required ports are accessible to the PC from which you will run HyperTerminal. If you have a firewall, make sure access to the IP address and ports is not blocked (consult your firewall documentation). If the SPTS is located behind a router (across The Internet) then ensure that either the corresponding ports are forwarded to the SPTS IP or the SPTS IP is in the DMZ (consult your router documentation).
  - 3.1. The http port (default 80 or offset 47080) is used to access the SPTS configuration pages through a web browser. The http port is not necessary for Redirector but it is helpful when making SPTS configuration changes. The port can be changed on the SPTS through the *Services Page->HTTP Port*, and through the *Services Page->Extra port offset*.
    - 3.1.1. Open Bonjour browser and select the SPTS through Web Server (HTTP) window.
    - 3.1.2. In a standard web browser, enter SPTS IP address followed optionally by a colon and http port number: `http://192.100.100.107:47080`
  - 3.2. The telnet port (default 23 or offset 47023) is used for the data connection. It can be changed on the SPTS through the *Services Page->Telnet Port*, and through the *Services Page->Extra port offset*.
    - 3.2.1. From the Windows® command prompt enter telnet client command and IP address followed optionally by telnet port number: `telnet 192.100.100.107 47023`
      - 3.2.1.1. Upon connection, keystrokes should be echoed back to the screen. If the telnet client echo is enabled then the characters will be doubled.
  - 3.3. The DNS port 53 is used by Redirector to establish that your hardware unit is actually a SitePlayer Telnet. This is a standard port that cannot be changed.
    - 3.3.1. From the Windows command prompt enter a dns lookup command using the SPTS IP address: `nslookup -type=ANY _telnet._tcp.local. 192.100.100.107`
      - 3.3.1.1. Some timeout messages may be displayed but the last line should be something like this from the SPTS: `_telnet._tcp.local. name = SitePlayer Telnet (7A1300)._telnet`
4. In a web browser, connect to the SPTS and set it in Server Mode (default): *Telnet Page->SitePlayer Mode->Server->Set Telnet Configuration button*.

Pin 2 (RX) Pin 3 (TX)

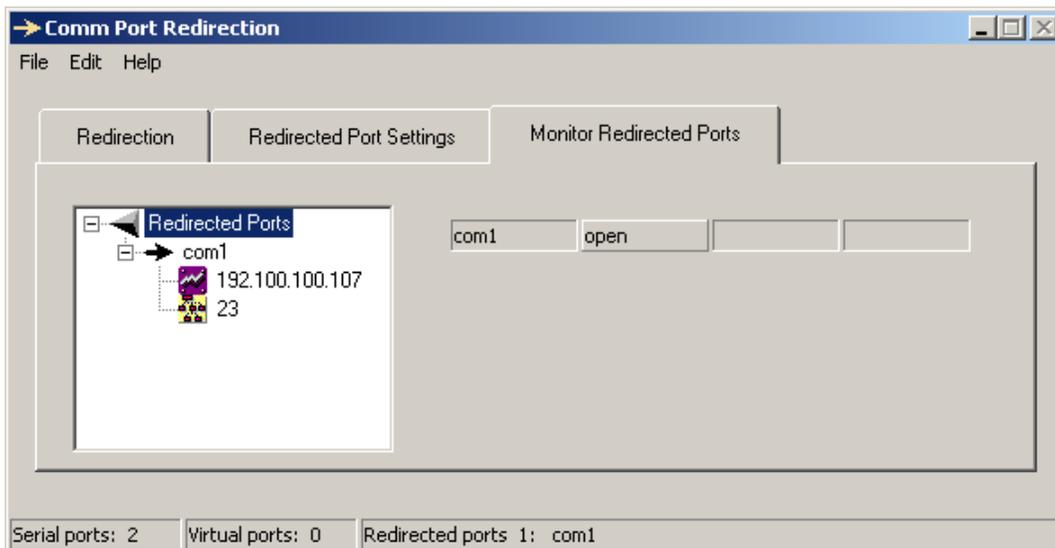


## Configure SitePlayer Serial Redirector

5. Start Redirector from the HyperTerminal PC: *Start Button->Programs->SitePlayer Serial Redirector.*
6. Redirect an Available Comm Port (COM1) to the SPTS IP address and telnet port (23).



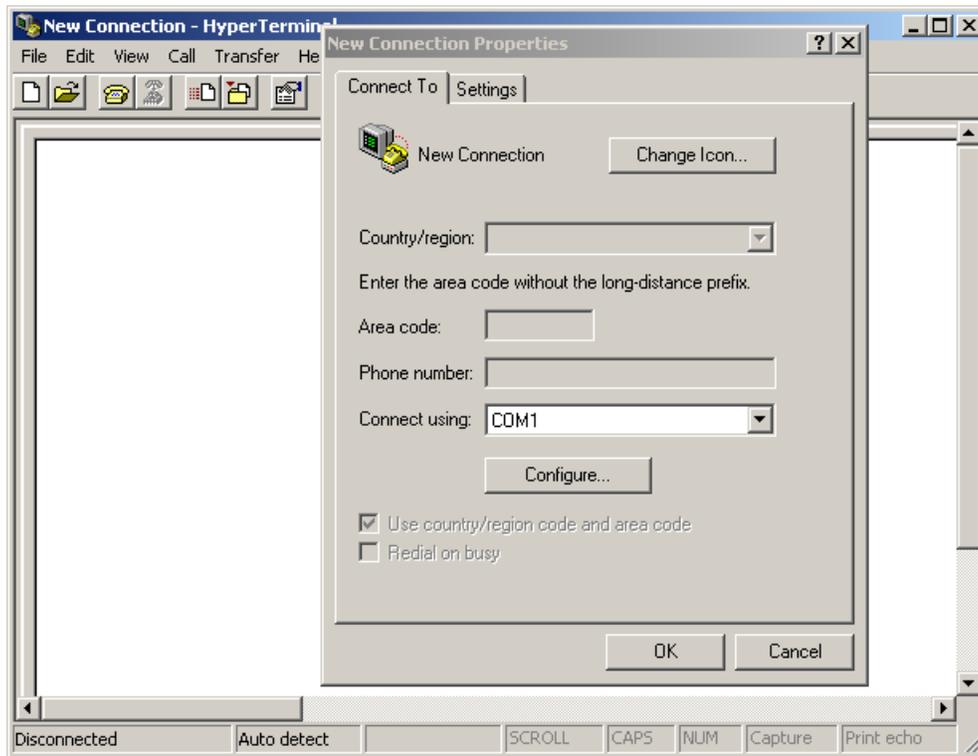
- 6.1. While no ports are being redirected, you may also create virtual Comm ports for redirection: *Edit Menu->Virtual Port->Add.* Substitute the Comm port you use for COM1 in the instructions.
- 6.2. Enter the SPTS Remote IP Address. If it is behind a router then enter the router's WAN (Internet) address.
- 6.3. Enter the SPTS Remote Port (telnet port).
- 6.4. Press the "Redirect" button and wait for Redirector to identify and connect to the SPTS.
  - 6.4.1. If there is an Error Detecting SitePlayer, then in addition to the on-screen instructions, make sure that a firewall or router is not blocking access to port 53.
- 6.5. Switch to the "Monitor Redirected Ports" tab to view the state of the redirected connection: *Monitor Redirected Ports tab->Redirected ports node->com1 node->com1*



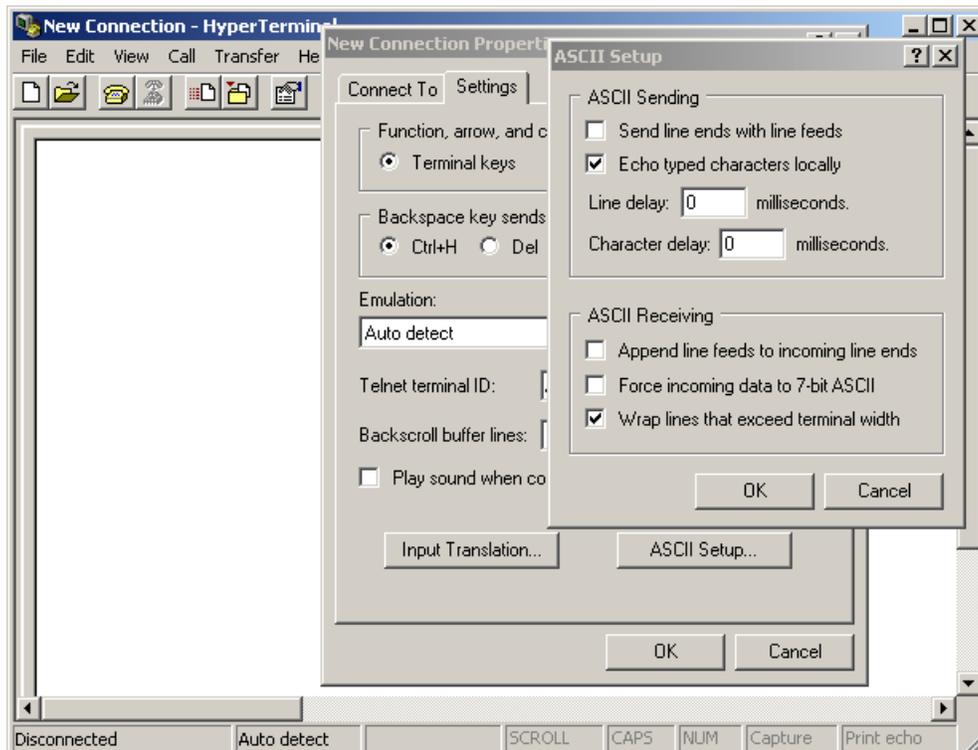
- 6.5.1. It should say "closed" until connection through HyperTerminal is established.

## Configure HyperTerminal

7. Start HyperTerminal: *Start Menu->Programs->Accessories->Communications->HyperTerminal.*
8. Configure connection properties: *File Menu->Properties.*
  - 8.1. Under “Connect To” tab select COM1 in the “Connect using:” box.



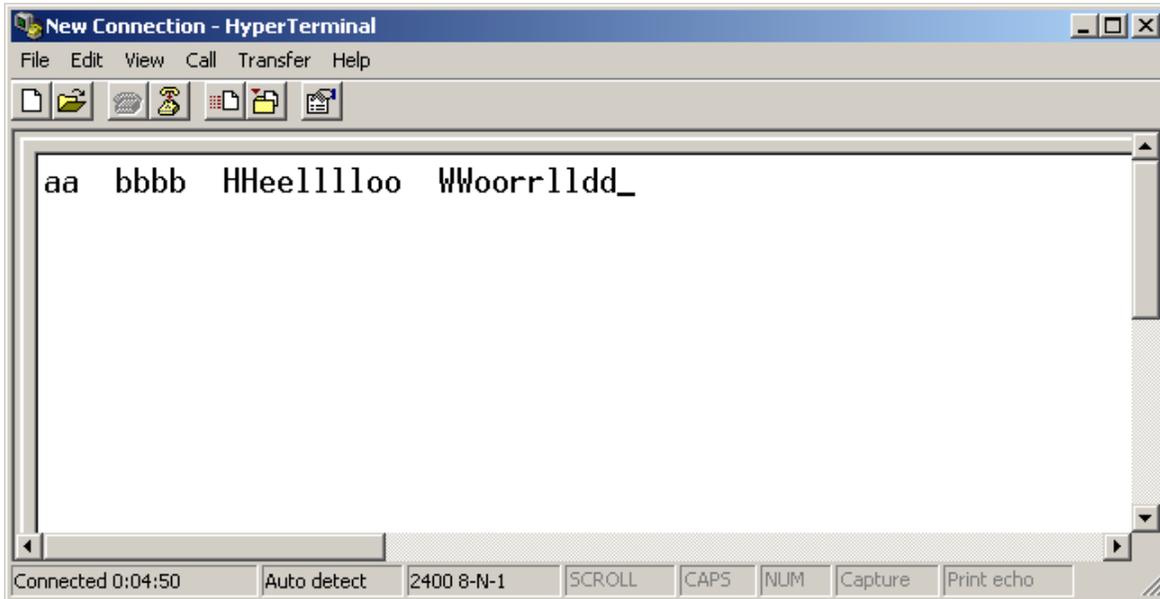
- 8.2. Under “Settings” tab click “ASCII Setup...” button and check the box “Echo typed characters locally.”



- 8.3. Save and close all property sheets: *OK button->OK button.*

## Connect With HyperTerminal

9. Establish connection to SPTS by pressing “Enter” key on keyboard while cursor is in HyperTerminal window. Alternatively use: *Call Menu->Call*, or *Phone Icon (receiver down)*
  - 9.1. Status in lower left corner should say “Connected.”
    - 9.1.1. If not, recheck connections, configurations, firewalls, and routers as described in the previous steps.
  - 9.2. In Redirector, under the “Monitor Redirected Ports” tab, the port should now be open.
10. Once a connection is established, use the keyboard to send characters to the SPTS through the HyperTerminal window. If everything is functioning properly, the characters will all appear twice – once from the HyperTerminal echo, and again from the SPTS loopback.



- 10.1. A single occurrence of each character does not verify proper setup and functioning.
  - 10.1.1. Make sure echo is turned on as configured in step 8.
  - 10.1.2. Make sure loopback is setup properly as configured in step 1.

## Conclusion

Using HyperTerminal you should establish that the SPTS and Redirector are connected, configured, and working properly. Next, you may disconnect the loopback jumper wire and connect your serial device. Make sure you use the proper serial cable; if it is another RS232C DTE device, such as a PC, then use a NULL modem cable. Also make sure the SPTS serial settings match your serial device. If the device requires other communication software then begin connecting with it.

You should assign the SPTS a static IP so that Redirector can always find it. A static IP is also necessary for port forwarding or the DMZ when the SPTS is behind a router. 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>.