People with Passion

Best in Class Technology

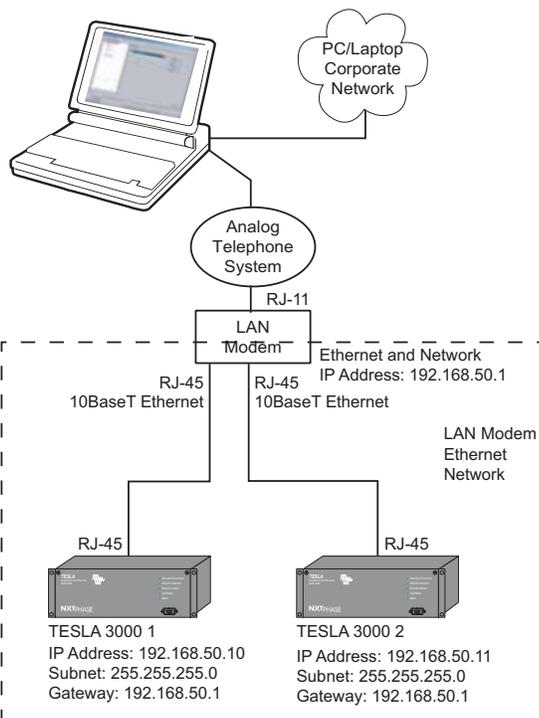Power System Focus

e^3 Elegant Efficient Easy to Use

Monitor and Manage your Power System with Ease.

TESLA 3000 Power System Recorder
Accessing Multiple Remote Recorders on a Single Modem Call
using 3COM LAN

Summary

This document explains how TESLA 3000 Control Panel may access multiple remote TESLA 3000 recorders with only a single modem call. This can be much more convenient than the traditional method, which requires a separate call to each recorder.

This is made possible by using a device called a LAN modem (in this document, a 3COM LAN modem will be used). The LAN modem has several Ethernet ports to which the recorders would be connected, and one phone line. A user would use TESLA 3000 Control Panel to dial-in to the phone line and, with that single call, would gain access to all recorders connected to the Ethernet ports. Such a system is shown in Figure 1.

Configuration

There are four main preparation steps:

1. Configure the LAN modem.

2. Configure the TESLA 3000 recorder.

3. Configure the PC Dial-Up Networking.

4. Configure TESLA 3000 Control Panel.

The remaining sections describe these steps in detail.

1. Configuration: LAN Modem
The 3COM LAN modem configuration is done through a web browser.

1. Set your PC to automatically obtain its IP address from a DHCP server. Consult your Network Administrator for assistance.

2. Temporarily connect your PC to the LAN modem Ethernet port 1 using a standard network cable.

3. Open your web browser. If the LAN modem web page does not appear automatically within 5 seconds, you will need to

Figure 1: TESLA 3000 Control Panel with access to multiple recorders via Ethernet.

manually enter the address of the LAN modem. If this is necessary, type 'http://w.x.y.z' in the address bar of your browser and click 'enter' (here replace 'w.x.y.z' with the actual IP address of the LAN modem. Its factory default address is 192.168.1.1).

4. You may be prompted to set/enter the LAN modem password; if this happens, enter the password and click 'submit'.

5. You may see the ISP Configuration wizard page, which prompts you to enter ISP parameters; if this happens, click 'abort' to get to the main configuration page. See Figure – A of Appendix 1 for details.

Our multi function relays and recorders provide smart solutions to your protection, monitoring and control needs.

ERL PHASE
Power Technologies Ltd
smart solutions that empower you

6. Follow the link that says LAN Parameters to change the IP address and subnet mask of the LAN modem. For this example, choose the IP address 192.168.50.1 and a subnet mask of 255.255.255.0, and click 'submit'. At this point you will lose your connection to the LAN modem because you have changed its IP address; you will need to reconnect by typing in the new IP address in your web browser's address box (in this example you would type 'http://192.168.50.1'). See Figure – B of Appendix 1 for details.

7. You should now be at the main configuration page again. In the bar at the left, click 'Dial-In…'. See Figure – C of Appendix 1 for details.

8. From the Dial-In Configuration section, click 'Dial-In Global'.

9. Change the Auto-Answer setting to 1 (ring) and click 'submit'. See Figure – D of Appendix 1 for details.

10. You should now be back at the Dial-In Configuration screen. In the bar on the left, click "Dial-In Users". Then, from the User Name pull-down list, select New Dial-In User and click 'select'. See Figure – E of Appendix 1 for details.

11. You must now set up the Name and Password for an account that will be used to dial-in to the LAN modem. In this example, set both the Name and Password to 'nxtphase'. Check off the Data Compression Option and leave all other settings at their default values and click 'submit'. See Figure – F of Appendix 1 for details.

12. Now exit your web browser, connect your PC back to your corporate network and, if necessary, modify your network settings to work with your corporate network.

2. Configuration: TESLA 3000 Recorder
The TESLA 3000 recorders must be configured with the proper network settings. This is done through a standard terminal program, such as HyperTerminal or Procomm, connected to the front serial port (Port 1) of the TESLA 3000 recorder.

1. Connect to the front serial port of the TESLA 3000 recorder with HyperTerminal or other communications program. Note that the default baud rate is 38,400 baud, although it may be different. You will know you have the right baud rate when you see a login prompt.

2. Log in as 'maintenance'; you should see a menu of commands

3. Enter command 1 'Modify IP address, subnet mask and default gateway…' and click 'enter'.

4. Follow the on-screen instructions to set up the recorder using the LAN modem's IP address as the default gateway. In this example, set the IP address to 192.168.50.10, the subnet mask to 255.255.255.0, and the default gateway to 192.168.50.1.

5. Disconnect terminal program and cycle power to the recorder.

6. Repeat these steps for all recorders connected to the LAN modem's Ethernet ports, using a different IP address for each one (192.168.50.10, 192.168.50.11, …).

3. Configuration: PC Dial-Up Networking
In order for the PC to connect to the remote records, a Dial-Up Networking entry must be created. The instructions in this section pertain to Windows 2000, but the steps are similar for other versions of Windows.

1. Select Start>Settings>Network and Dial-up Connections>Make New Connection.

2. When the Network Connection wizard appears, click 'Next'.

3. Select Dial-up to private network and click 'Next'.

4. Select the modem that you wish to use and click 'Next'.

5. Enter the LAN modem's dial-in telephone number and click 'Next'.

6. Choose to Create the connection for all users and click 'Next'.

7. Set the name of the connection. For this example, use LAN_MODEM_1.

8. Press 'Finish' and then cancel any 'Connect' dialog if it appears.

4. Configuration: TESLA 3000 Control Panel
Configuring TESLA 3000 Control Panel is straightforward; it consists creating an IED definition for each recorder connected to the LAN modem's Ethernet ports. Each of these entries will be created as if the recorder were on a LAN.

1. Start TESLA 3000 Control Panel.

2. From the 'Select IED' pull-down list, choose the workspace for one of the recorders connected to the LAN modem. If a workspace does not exist yet, consult your TESLA 3000 User Manual on how to create a recorder workspace.

3. Once you have the proper workspace selected, click 'Edit'.

4. In the 'Edit IED' dialog that appears, enter the IP address of the recorder. For this example, the first TESLA 3000 recorder's IP address was set to 192.168.50.10.

5. Change the communication mode to Network Link and click 'OK'.

6. Repeat for each recorder connected to the LAN modem. Each recorder should have a unique workspace and IP address (as configured in a previous section).

Testing and Using the System
Testing the system consists of dialing up to the LAN modem and ensuring the recorders connected to it can be reached.

1. Locate and open the Dial-Up Networking entry created earlier (in this example, LAN_MODEM_1). This can be found in Start>Settings>Network and Dial-up Connections. A 'Connect' dialog should appear but do not click any buttons yet.

2. Before dialing, enter the username and password you have set for the Dial-in account on the LAN modem. In this example, both the username and password were set to 'nxtphase'. Click 'Dial' and wait until the LAN modem answers the phone and negotiates a connection (you should see a connection icon in your system tray).

ERL PHASE
Power Technologies Ltd
smart solutions that empower you

3. Ensure communication is being routed to the LAN modem and its recorders, use the 'ping' command by bringing up a DOS command prompt and type 'ping' followed by the IP address (for this example, 'ping 192.168.50.1' will ping the LAN modem, and 'ping 192.168.50.10' will ping its first recorder). If the ping is successful, you will see replies; otherwise an error message will be displayed.

You should now be able to communicate with any of the TESLAs connected to the LAN modem using TESLA 3000 Control Panel. To test this, follow these steps:

1. Do not hang up the connection!

2. Start TESLA 3000 Control Panel, select the recorder that you wish to connect to and then click 'Connect'. A window should quickly appear, indicate connection progress, and then disappear. You are now connected to the remote recorder and can use TESLA 3000 Control Panel normally.

3. To disconnect from the recorder, go to the main screen of TESLA 3000 Control Panel and click 'Disconnect'. Note that this only disconnects TESLA 3000 Control Panel from the recorder; it does not hang up the LAN modem connection.

4. If you wish to connect to another recorder before hanging-up the LAN modem connection, you simply select it from TESLA 3000 Control Panel's drop-down list and click 'Connect'.

5. Once you are done communicating with the remote recorders, you may hang up the LAN modem connection by right-clicking the connection icon in the system tray and selecting 'disconnect'.

Summary

Following these steps should allow you to configure TESLA 3000 Control Panel to access multiple TESLA 3000 recorders on a single modem call.

Appendix 1
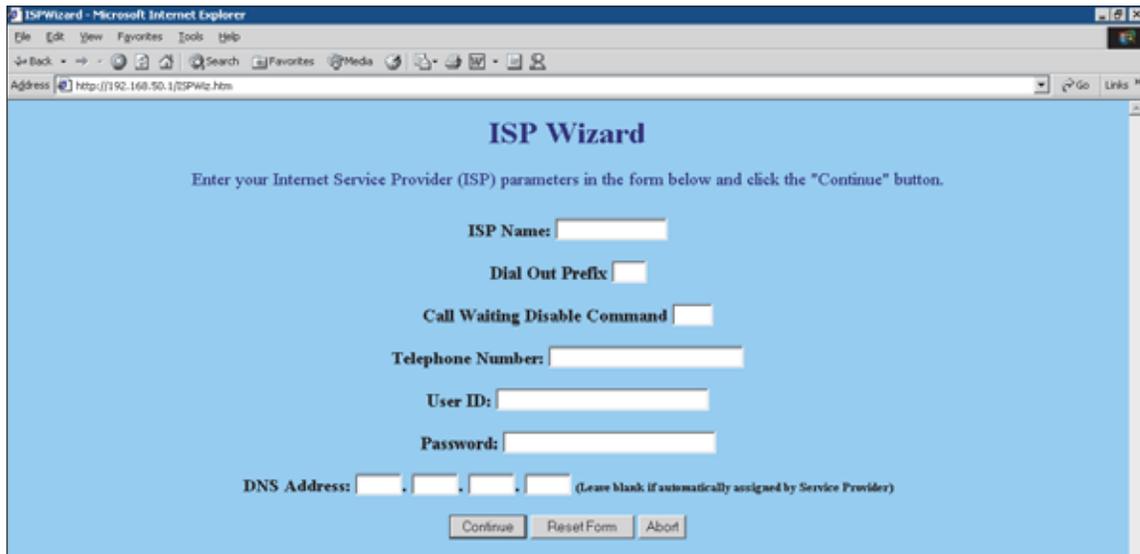
Figure A: ISP Configuration Wizard page.

www.erlphase.com
info@erlphase.com
204-477-0591
74 Scurfield Blvd
Winnipeg, MB
Canada R3Y 1G4

ERL PHASE
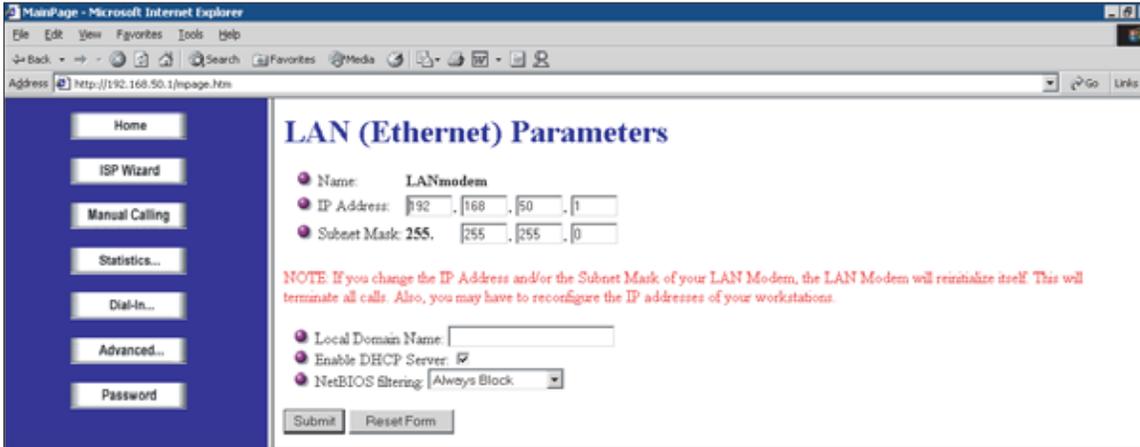Power Technologies Ltd
smart solutions that empower you

Figure B: On LAN Parameters page, change the IP address and subnet mask of the LAN parameters.
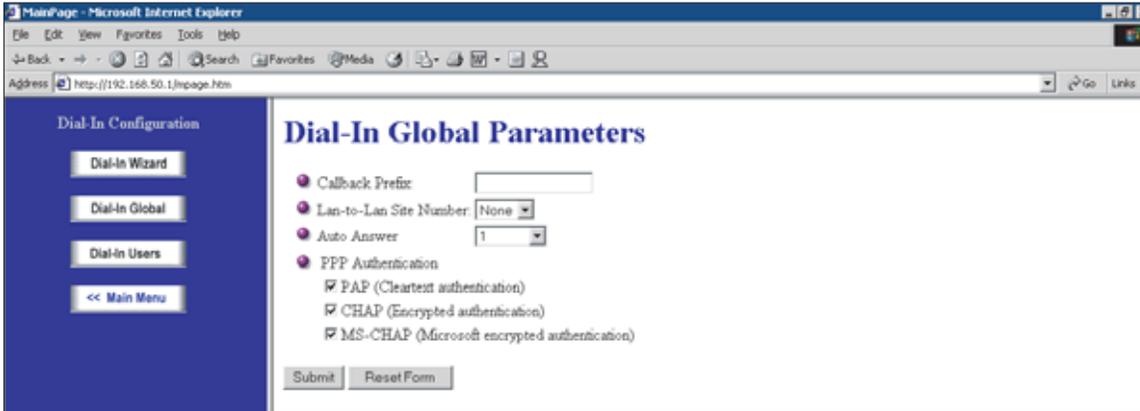

Figure C: Click 'Dial-In' on main configuration page.

www.erlphase.com

info@erlphase.com

204-477-0591

74 Scurfield Blvd

Winnipeg, MB

Canada R3Y 1G4

ERL PHASE
Power Technologies Ltd

smart solutions that empower you

Figure D: Change the 'Auto Answer' setting to 1.
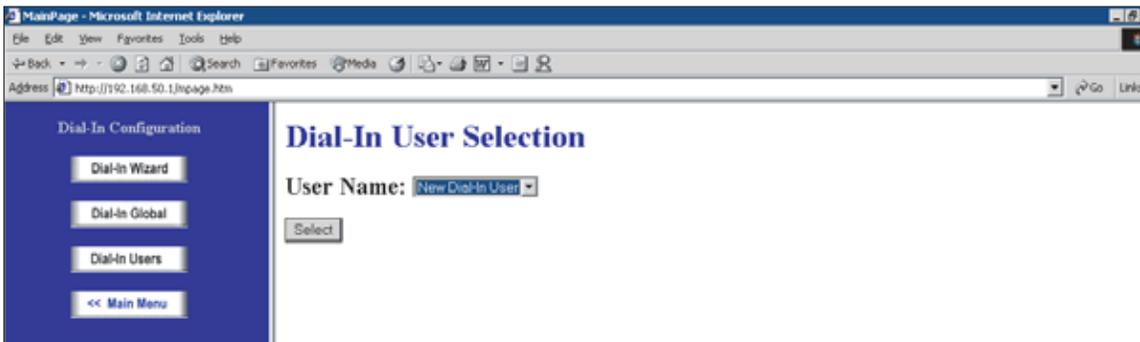
Figure E: Select 'New Dial-In User'.
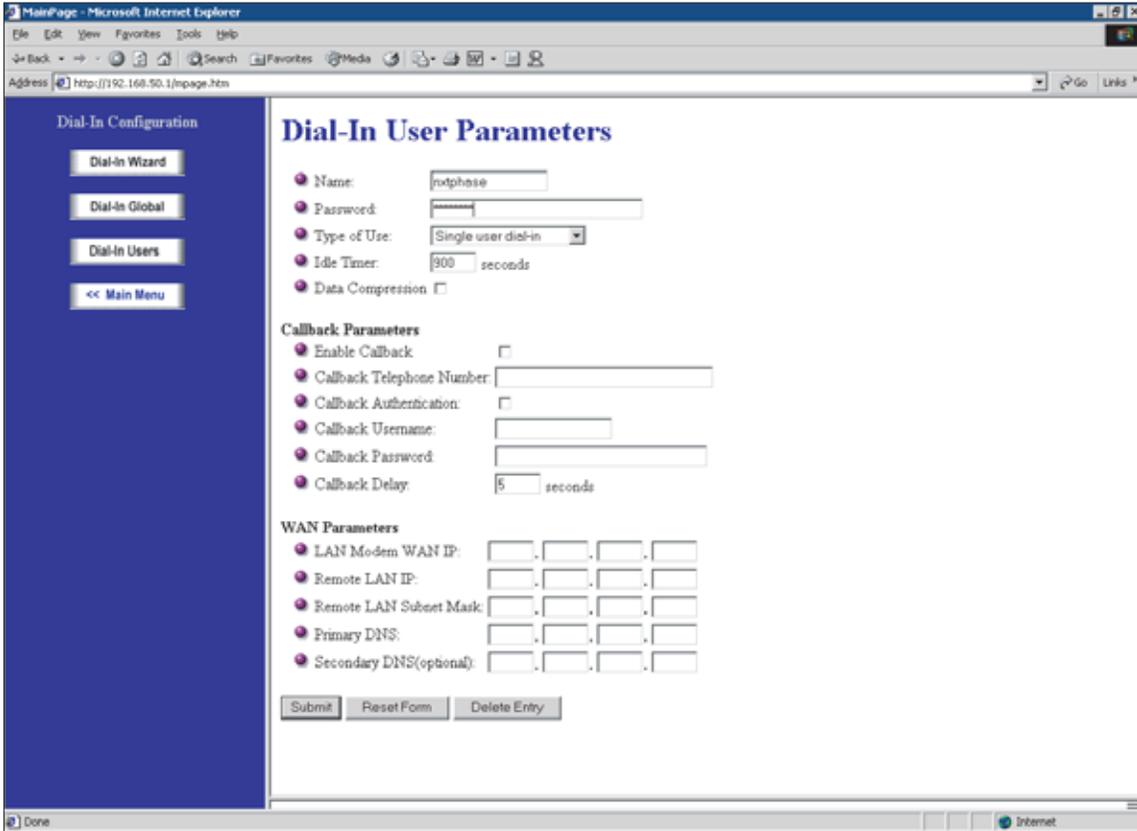
ERL PHASE
Power Technologies Ltd
smart solutions that empower you

Figure F: Set up the Name and Password for an account that will dial-in to the LAN modem.

ERL PHASE
Power Technologies Ltd
smart solutions that empower you