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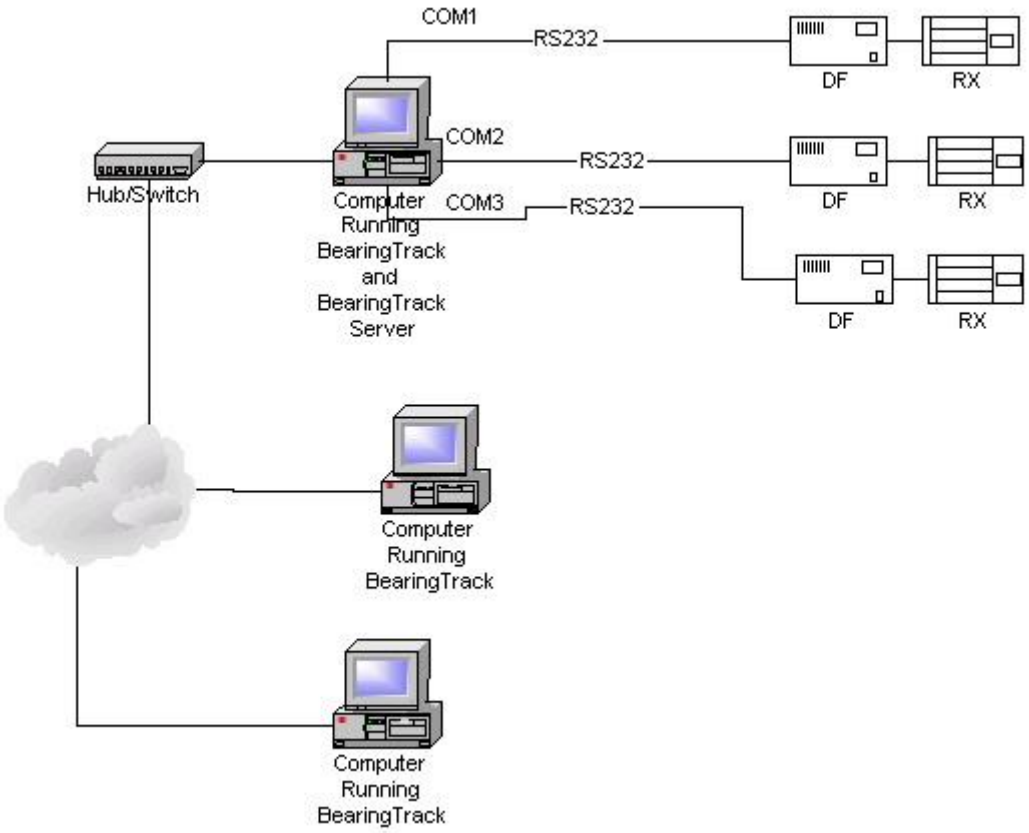
Using Multiple Instances of BearingTrack Server to Monitor Remote Serial Connected Sites over a Network

A Technical Application Note from Doppler Systems Inc.

Introduction

This application note describes a technique for monitoring and/or controlling multiple Series 6000 direction finders from multiple computers on an Ethernet network (LAN, WAN, or Internet.) The technique described is useful for customers who have multiple sites connected to a personal computer via RS232 connections and would like to enable remote users to monitor and/or control the direction finders over a local area network or the Internet. The primary purpose for using this technique is to allow multiple users to simultaneously use BearingTrack to monitor and/or control a direction finder network. It requires the availability of multiple serial ports on the host PC running multiple instances of BearingTrack Server. (Note: If the user does not require network connectivity the system should be configured using serial expanders as described in the BearingTrack manual.) The figure below illustrates the technique. Multiple direction finders are interfaced to a personal computer by connecting each direction finder to a serial port on the computer. For each serial port used the computer must be running a unique copy of our BearingTrack Server software (setup of BearingTrack Server will be discussed below). Once the copies of BearingTrack Server are running any computer on the network can run our BearingTrack software to control and/or monitor the direction finder sites.

Note: BearingTrack Server 1.0.5 and BearingTrack 4.1.8 are required.



Configuring BearingTrack Server

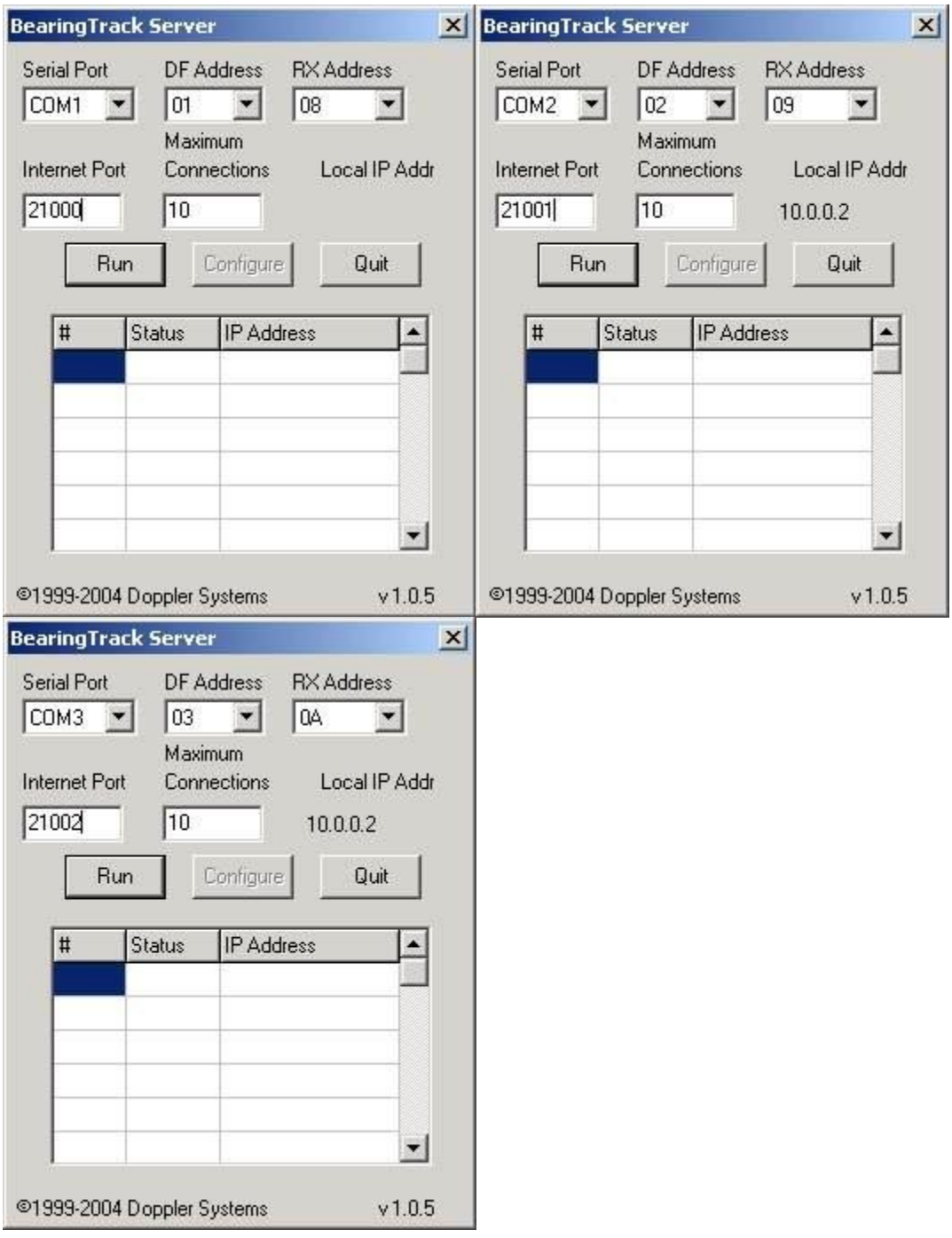
As stated above the computer connected to the direction finders must be running multiple instances of BearingTrack Server, one instance for each direction finder. The following steps are required to setup BearingTrack Server.

1. Make one copy of the BearingTrack server folder for each direction finder connected to the computer. To do this, locate the BearingTrack Server folder on your machine (typical path would be C:\Program Files\Doppler\BearingTrack Server). **Note:** If you do not see this folder use your BearingTrack CD to install it or download the latest version from this site. (See the Software page).

2. Once you have made the copies of the folder open each folder and create a shortcut to BearTrkServer.exe. Give each of these shortcuts unique names and put them on the desktop.

3. Double click on the first shortcut you made and set the COM port, the direction finder CIV address, the receiver CIV address, and the IP port you want the server to run on. Make sure the direction finder and receiver are on and then press the Run button. If everything is configured properly the server should run. If not error messages will be displayed indicating the source of the error.

4. Repeat step 3 for the other shortcuts you've created making sure to use a unique CIV address for the direction finder and the receiver and also assigning a unique IP port number for each instance of BearingTrack Server. The figure below shows typical BearingTrack Server screens for a three direction finder system.



5. At this point you are now ready to setup BearingTrack on the local machine as well as the local machine. After pressing Run on all the BearingTrack server instances, the local IP address will be displayed. Note this address and the port numbers you selected for use in setting up

BearingTrack. When a BearingTrack makes a connection, the connection number, the status (connected, closed, or error), and the client IP address will be displayed in the table. If you want the copies of BearingTrack Server to run when your computer starts up, move the shortcuts you made from the desktop to the Startup Folder. If you do this the servers will automatically start when the computer is started.

Configuring BearingTrack

Configuring BearingTrack is described in detail in the BearingTrack manual as well as in the BearingTrack help facility. Simply install BearingTrack on each PC you wish to use to monitor the direction finders and setup the BearingTrack sites as described in the manual. On the local computer, setup the sites as though they were on a network and use the local IP address of 127.0.0.1. For remote computers use the IP address of the local machine.

In some instances a system administrator may want to limit the ability of remote users to modify the direction finder settings or change the frequency of the receivers. This is easily done using the password protection features of BearingTrack and by setting the address receiver address for each site to none. To use the password feature, select Options from the Setup menu and click on the Administrator tab. Check the Enable Password Option checkbox and enter the desired administrator password. Next check all the features that require password protection. Once the password feature is enabled remote users will be unable to access the features checked without entering the administrator password. To disable the ability of the remote user to change the receiver frequency, select Site Editor from the Setup menu and set the RX Addresses of all the sites to None.