

Quick Start Guide for Doppler Series 7000 (MPT) Mobile Radio Direction Finder

NOTE: Do not use a transmitter near the DF summing unit when antennas are attached to it. Transmitting near the summing unit may cause permanent damage to the summing unit. Damage can occur even if the direction finder is unpowered. See our application note “In-band Interference from a Nearby Transmitter” for further guidance.

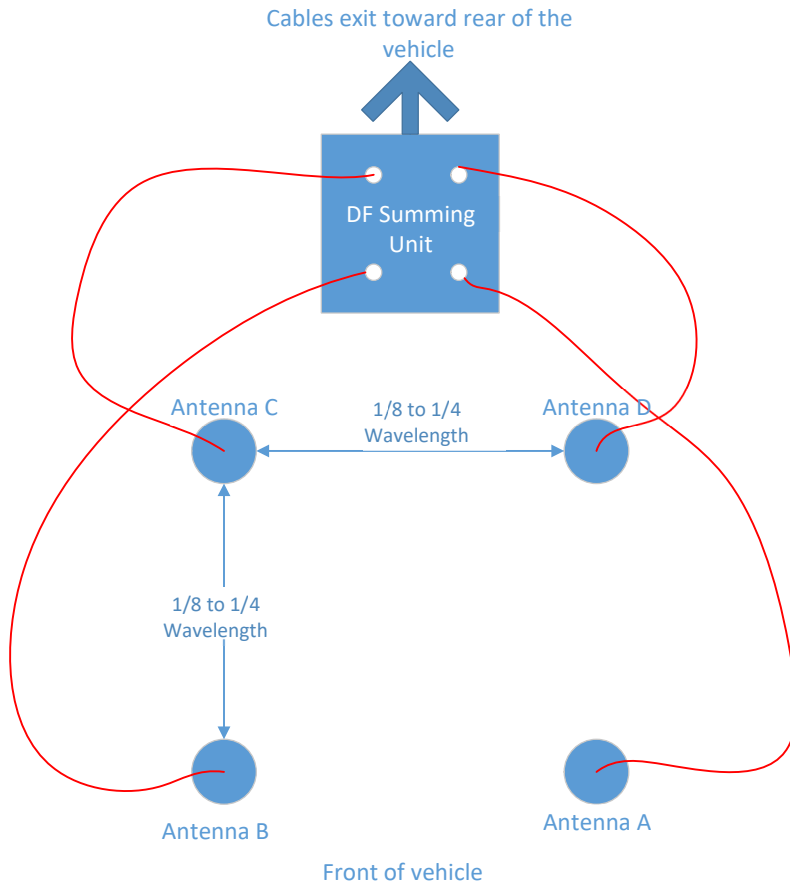
Please check that you have received the following items (depending on your order):

DDF7001 DF Processor - includes power/speaker output cable, receiver input cable, Ethernet crossover cable (orange or red), Ethernet cable (blue or gray), PowerPole to automobile adapter and USB thumb drive.

DDF7080 Magnetic Mount RF Summer – includes control cable and coax cable.

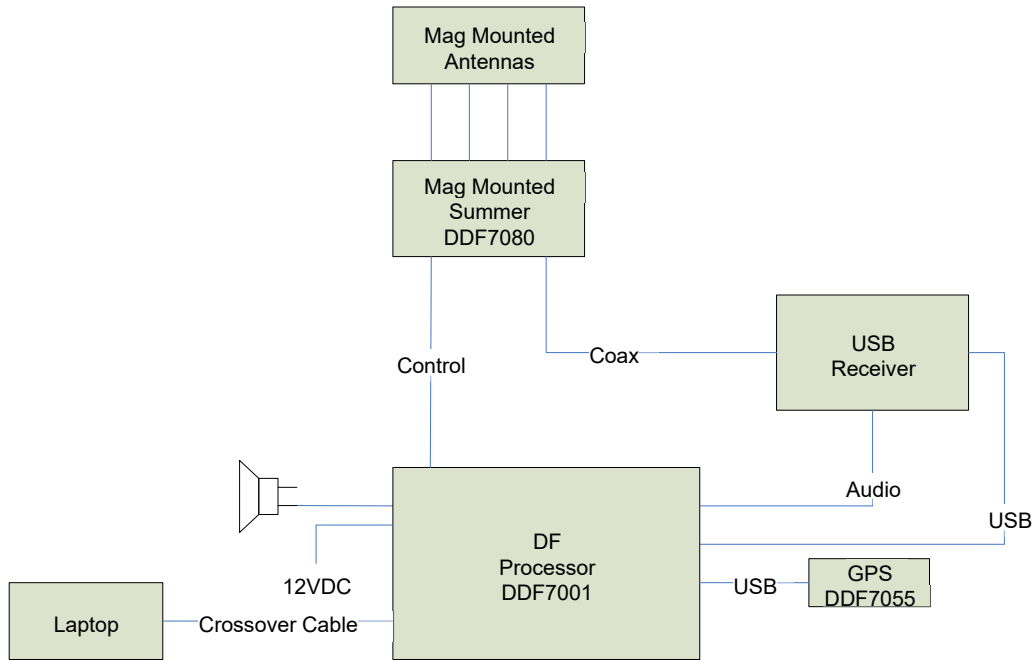
DDF7061, 7062, or 7064 Mobile Antennas. The DDF7062 is the most commonly used and consists of four mag mount bases and four whips which should be cut to the center frequency of the band you plan to use for direction finding. Place the four whips in a square having sides of one quarter wavelength in the center of the car roof. The DDF7064 (THF antenna), when ordered with the DDF7080 summer, comes preinstalled on top of the summer. For this antenna, mount the antennas directly to the top of the summer.

Note: When using the DDF7064 antenna, use the provided strap to secure the antenna to the vehicle. The antenna can separate from the vehicle at high speeds.

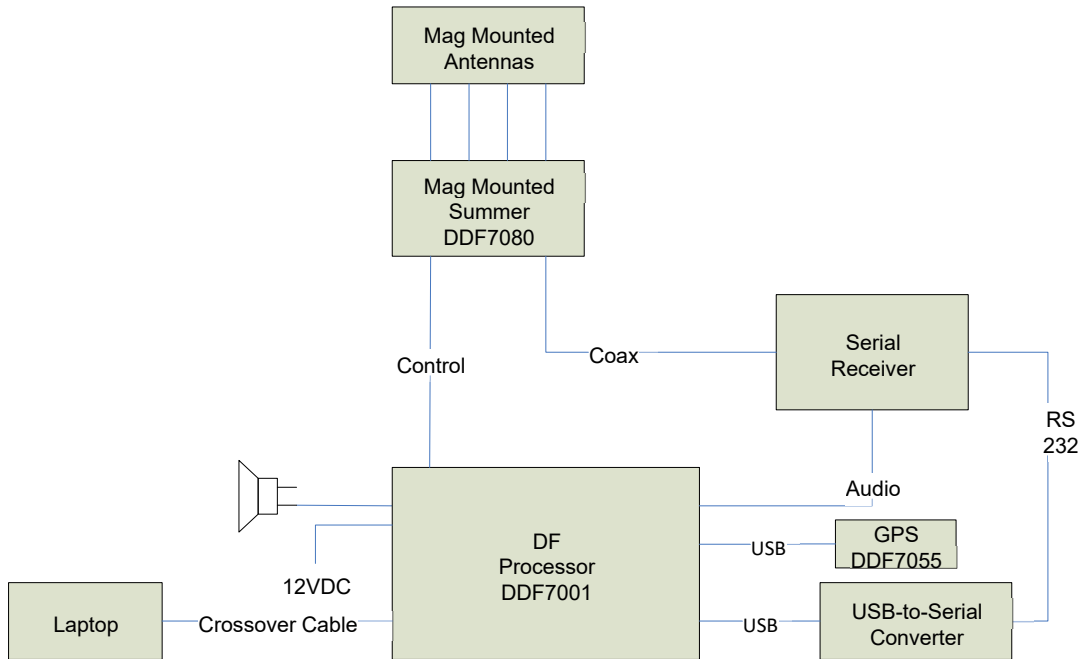


Antenna Arrangement on Vehicle

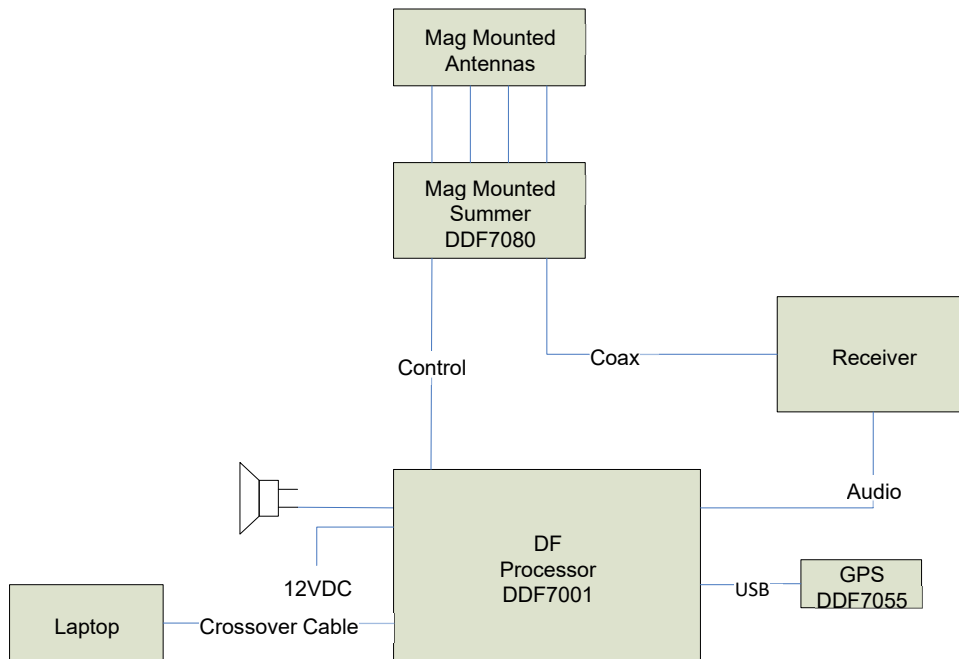
You must use a laptop PC with the DF. The enclosed USB thumb drive contains the MPT User Interface and other software programs. As a minimum, you need to install the User Interface program which includes the DDF7000 User Manual. This Quick Start Guide is not intended to replace the User Manual. Connect the equipment as shown below



Connection if you are using an AOR SR2200, AOR AR5001, ICOM R1500, or ICOM R2500



Connection if you are using a ICOM R8500, ICOM R9500, AOR AR8600, AOR AR5000



Connection if you are using any other narrowband FM receiver

INSTALLING THE SOFTWARE

To install the software, insert the USB thumb drive into your computer and double click on Doppler.exe.

The following dialog will be displayed



Press the Series 7000 (MPT) UI button and follow the instructions.

Check www.dopsys.com/software/downloads.html for updates to the software.

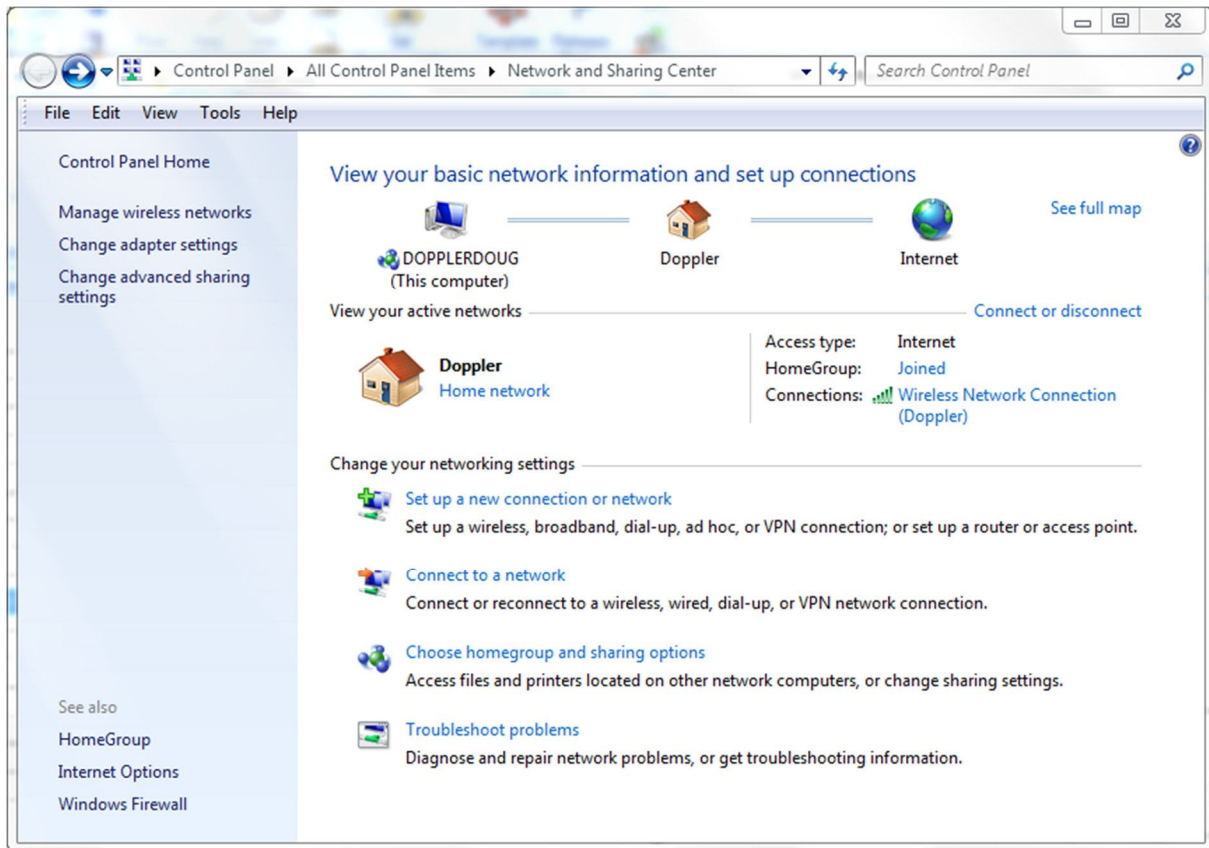
Next Press the Install TargetTrack 4 button.

DIRECT CONNECTION TO COMPUTER

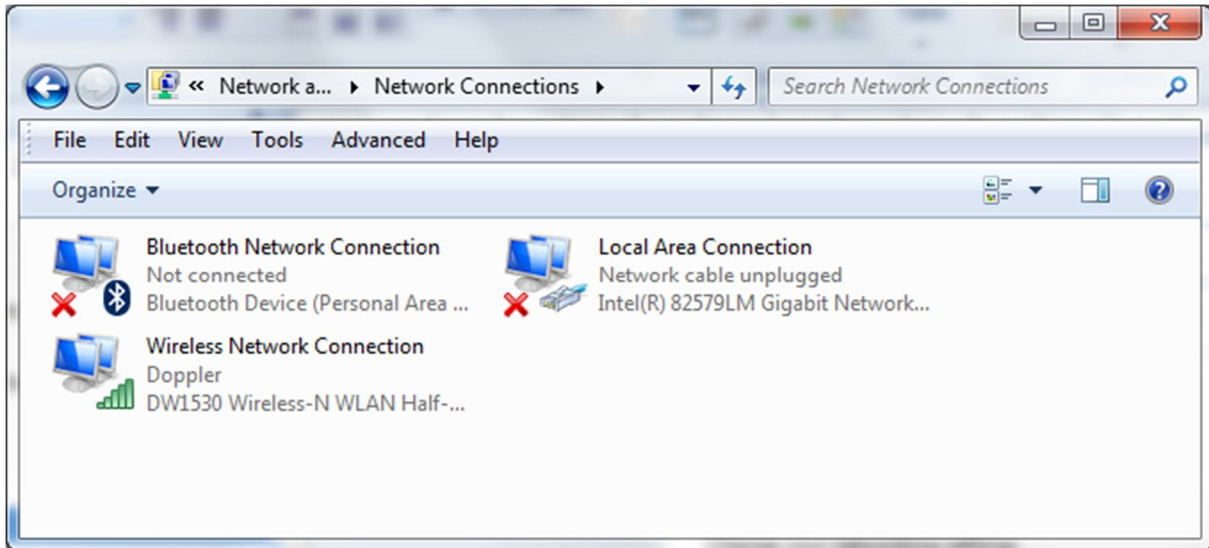
The default IP address of the DDF7001 is 10.0.0.100 so in order to connect to it you must configure your computer's network connection as shown in the following steps.

Windows 7 and 10

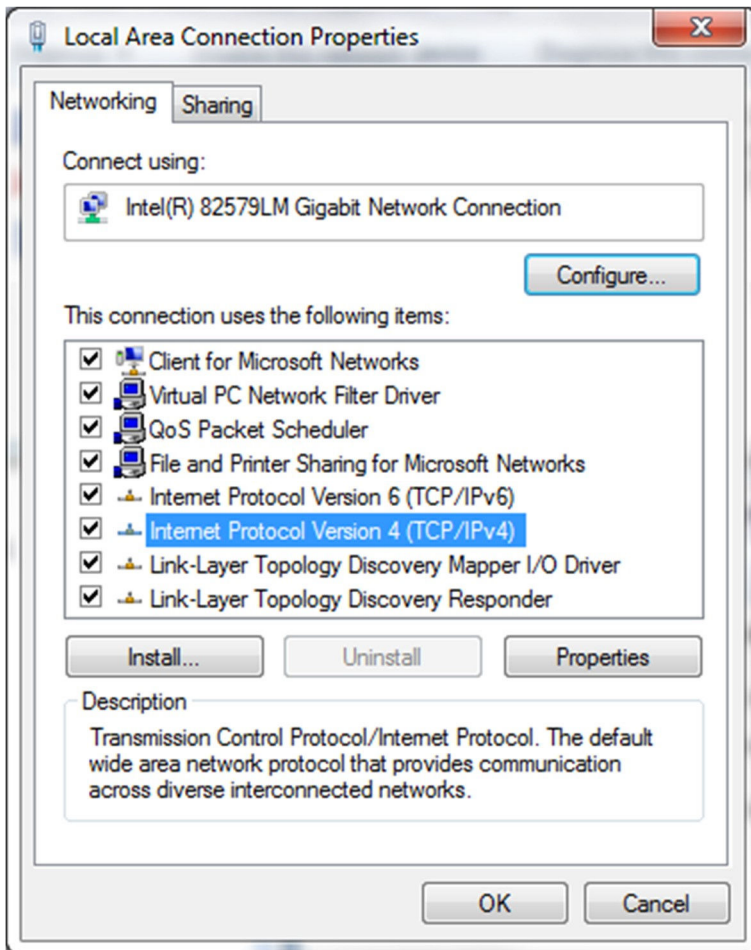
- ▶ Use the Control Panel to navigate to the Network and Sharing Center. It will look similar to the screen shot below.



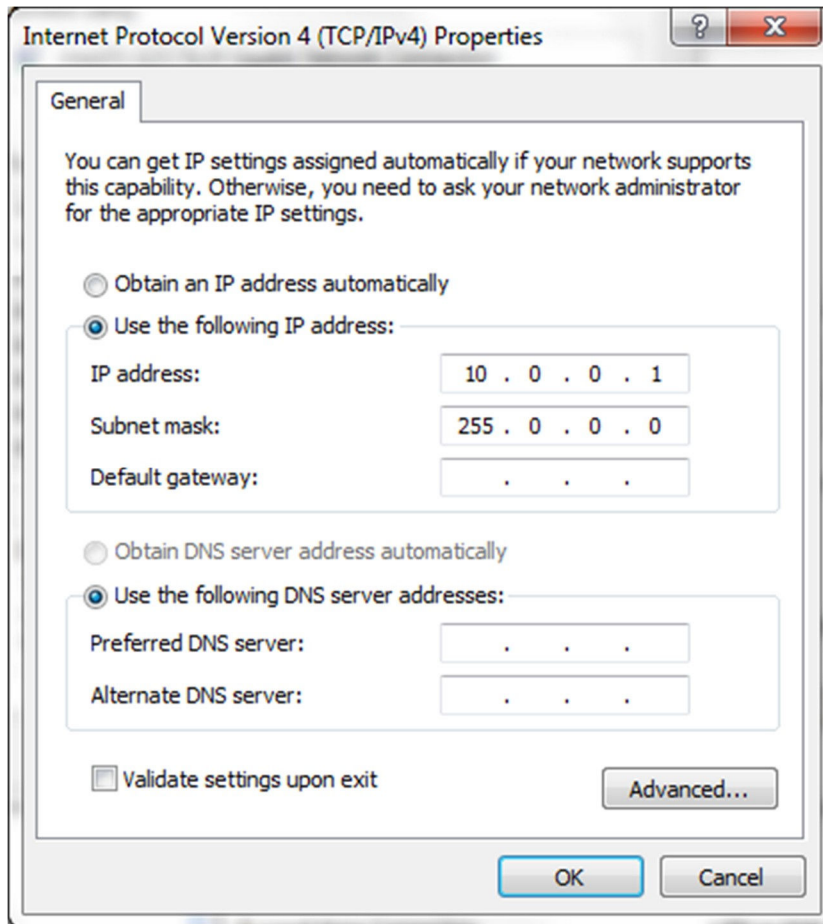
- ▶ Click on Change adapter settings to display a dialog similar to the one below.



▶ Right click on the Local Area Connection icon and select Properties to display the dialog shown below



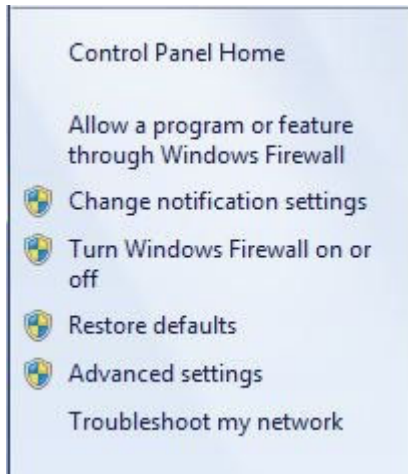
▶ Select Internet Protocol Version 4 (TCP/IPv4) and the click the Properties button.



- ▶ *As shown above select the Use the following IP address and type in an IP address of 10.0.0.1 and click OK.*
- ▶ *Click on OK again.*
- ▶ *Proceed to the firewall setup*

Windows 7 and 10 Firewall

When using a network connection with Windows 7 it is necessary to configure the Windows Firewall to allow the MPT User Interface, Doppler DF Discover programs, and MPT Flash to find the DDF7001 on the network. For a direct connection the DDF7001 IP parameters are known in this situation it is not necessary for the computer to discover the parameters; however, in the case of the MPT user interface it saves the user from making the connection manually. To configure the firewall, select **Windows Firewall** from the **Control Panel**. Click on **Allow a program or feature through Windows Firewall** as shown below.



The following dialog will appear.

Allow programs to communicate through Windows Firewall

To add, change, or remove allowed programs and ports, click Change settings.

What are the risks of allowing a program to communicate?

Change settings

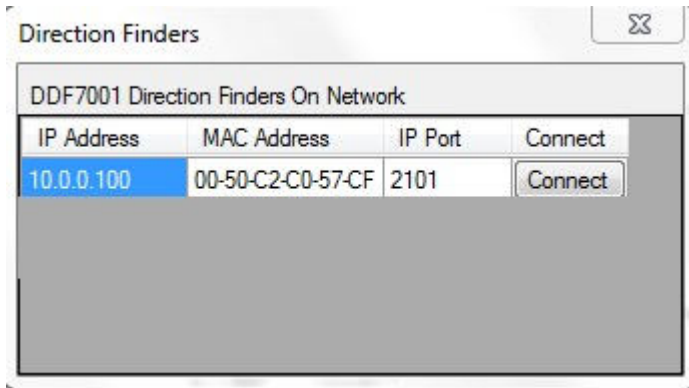
Allowed programs and features:

Name	Home/Work (Private)	Public
<input checked="" type="checkbox"/> HomeGroup	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> iSCSI Service	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Key Management Service	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Media Center Extenders	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Microsoft Office Outlook	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> mpt test ui.vshost.exe	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> MPT User Interface	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Netlogon Service	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Network Discovery	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Performance Logs and Alerts	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Remote Assistance	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Remote Desktop	<input type="checkbox"/>	<input type="checkbox"/>

Select DDF7001 User Interface and the click on Change Settings. Then click the Public check box. Repeat the process for Doppler DF Discover and MPT Flash. Click OK to close the dialog.

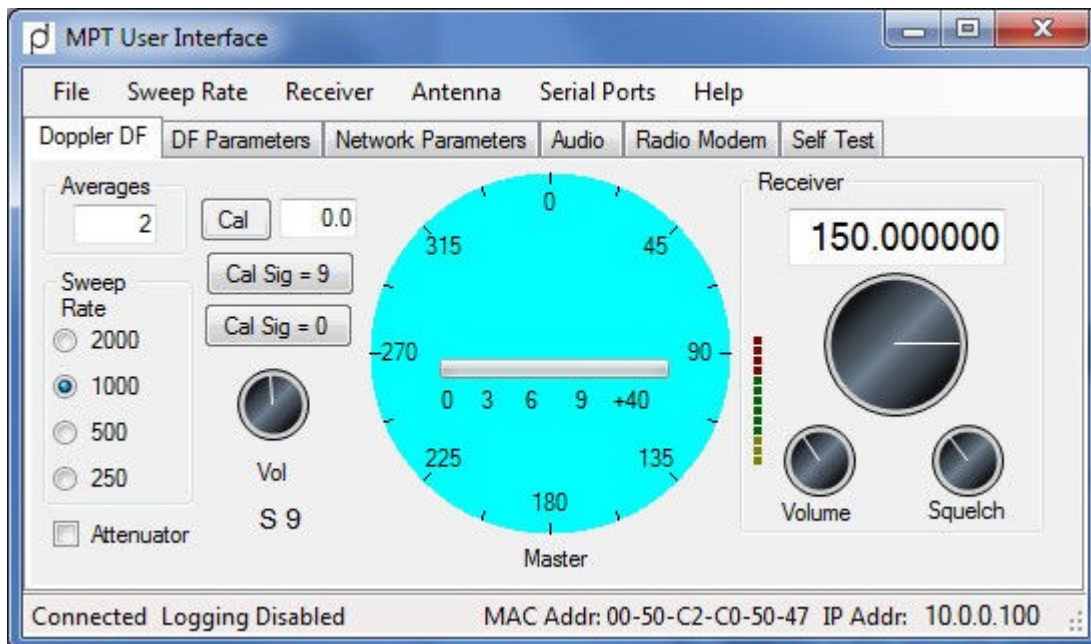
TESTING YOUR INSTALLATION

1. Doppler Systems recommends that the driver of a vehicle not operate the direction finder while the vehicle is in motion. It is best to use a passenger to operate the direction finder. Please avoid distracted driving and stay safe.
2. Power up the system by plugging in the cigar lighter adapter
3. Turn on the computer
4. Turn on the receiver
5. Launch the MPT User Interface software
6. Wait for a few seconds and the following dialog should be displayed

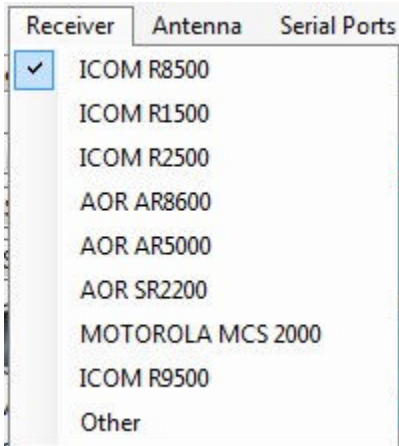


If this dialog is not displayed check your firewall settings and make sure the MPT User Interface software is being allowed through the firewall.

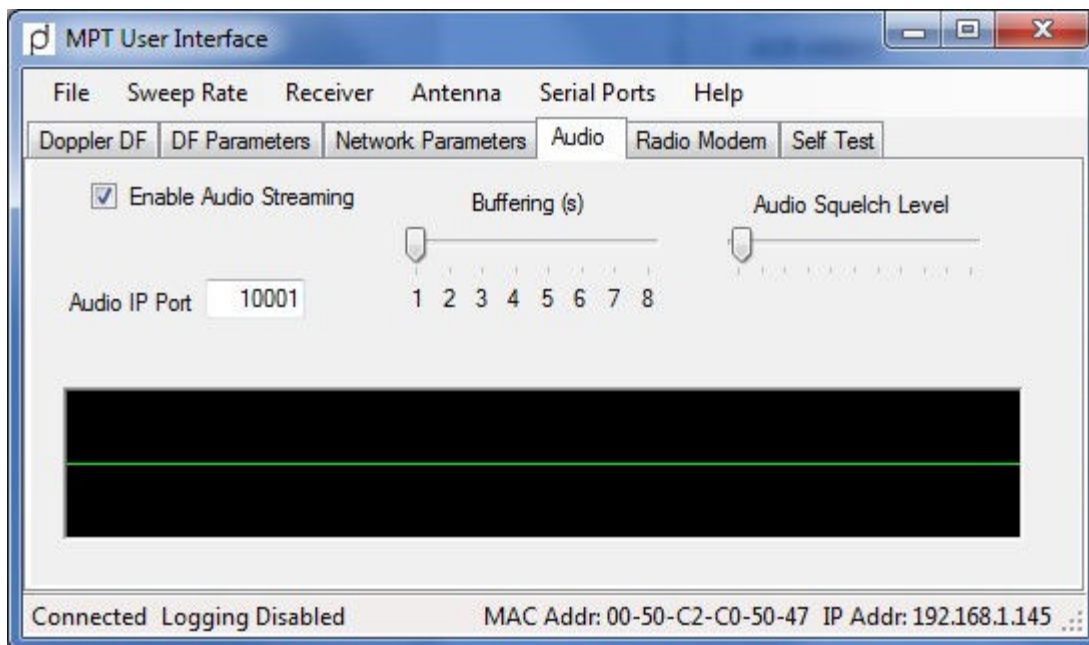
7. Press the Connect button to display the following screen



8. Select the receiver you are using from the Receiver menu



9. Press the Audio tab and Enable Audio Streaming



10. Once installed make sure your vehicle is in an area that is relatively clear of objects that could cause reflections (metal objects, large boulders, etc.). An open field or parking lot works best.

11. Return to the DF tab and tune the receiver to the frequency of a known transmitter. For VHF in the United States, weather stations are a good choice or use a transmitter or signal generator positioned at least 50 feet (15 meters) from the antenna.

Note: Do not place a transmitting antenna close to the direction finding antennas. Doing so can damage the summing unit.

12. If you are using any of the supported receivers (anything but “Other”) there is no need to calibrate the direction finder. All of the supported receivers have factory calibration constants built into the direction finder.

13. Position the vehicle so that the front of the vehicle points toward the transmitter location. If you are using a supported receiver the bearing reading should be near zero. (Don't worry if it is

not exactly zero). If you are using an unsupported receiver press the Cal button and the bearing will read zero. If you are using an unsupported receiver you must calibrate at each sweep frequency you are planning to use.

14. Next with the transmitter transmitting, drive the vehicle in a slow tight circle and observe the bearing. You should see the bearing move with the vehicle.
15. If the bearing is wildly erratic check to make sure that the antennas are properly positioned, spaced, and connected
16. If the results from step 14 are satisfactory your direction finder is ready to operate.
17. For more detailed instructions see the MPT User Interface manual and the MPT Software User's Guide. Both of these are included on the USB thumb drive.

If you need further help call the factory at 480-488-9755 x116 or contact us by e-mail at dough@dopsys.com.