



## WIRELESS DIGITAL FLOWMETER NETWORK SETUP GUIDE

### Instructions for setting up a Digital Flowmeter with Wireless Communication

EXAIR's Digital Flowmeter with wireless capability communicates via ZigBee<sup>®</sup> mesh networking protocol in the unlicensed 2.4 gigahertz frequency band. Each wireless enabled meter has a modified display circuit board with the ZigBee Radio module connected. These modules communicate to a ZigBee Gateway which is connected to wired Ethernet connection. The ZigBee modules in the Digital Flowmeters are configured as a router that will pass data from one module to another module. This allows messages to be relayed to digital flowmeters that are beyond the range of the ZigBee Gateway.

### Installing Wireless Display Board

If you have purchased the part number 901783 Wireless Retrofit Display Board for Rev. 3 Meters, you need to install the display board inside your digital flowmeter. (If you purchased a flowmeter with a wireless display board installed i.e. 9091Z or 9091ZG, skip to "Locating the Meters and Gateway", below.) Remove the four screws from the outside cover of Digital Flowmeter. Pull the top circuit board from the flowmeter. The display board will be connected by a single plug attached to a ribbon wire. Remove the plug pulling perpendicular to the main circuit board. Install the new board, so the display will be easily read. The text printed on board will match the direction of the display. The display can be inverted 180 degrees for easier viewing depending on the orientation of the pipe.

### Locating the Meters and Gateway

The installation should be planned to ensure strong radio communication among the devices in the network. Meters should be tested for communication before being permanently mounted on the compressed air pipe. Nonconductive walls can attenuate signal strength. Reflection of large metal objects can cause interference. Mounting units with clear Line of Sight will produce the longest communication distance possible.

### Setting up the Gateway

1. Remove the gateway from the box and discard the packaging material.
2. Connect the antenna
3. Connect the Ethernet cross-over cable to a LAN connection on a router or switch. **Do not connect it directly to a PC.**
4. Connect the Power Supply.
5. Download the device discovery software to a computer connected to the same network as the gateway.

[http://ftp1.digi.com/support/utilities/40002256\\_H.exe](http://ftp1.digi.com/support/utilities/40002256_H.exe)

6. Run the .exe file
  - a. Once the program is open you will see one device available with an IP address.

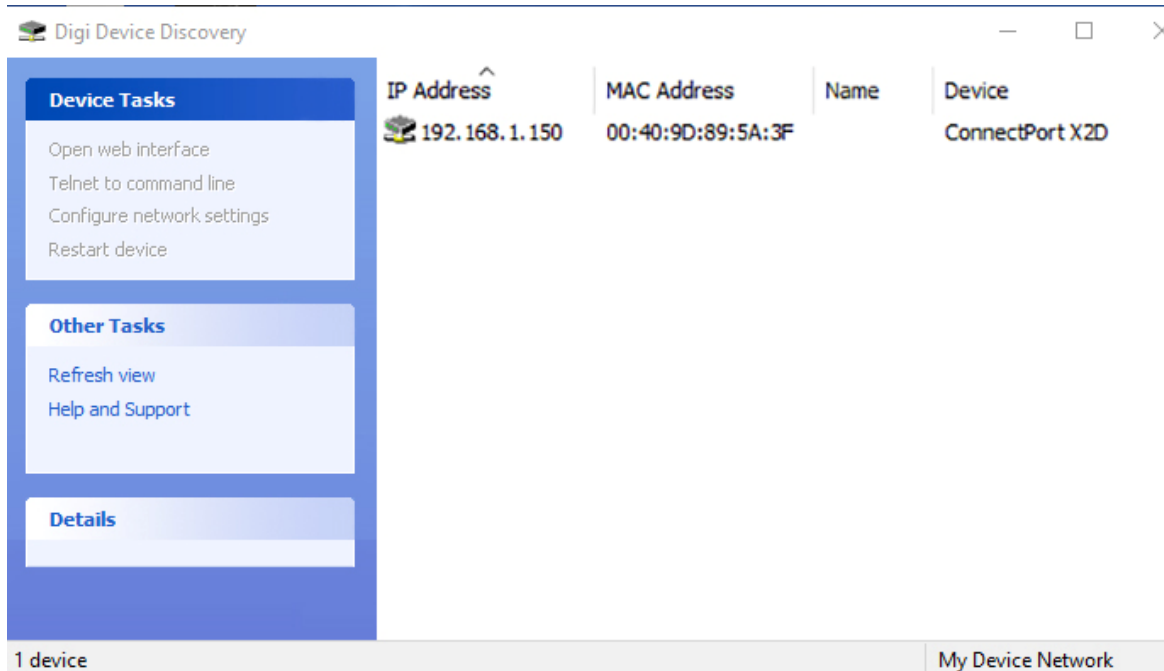


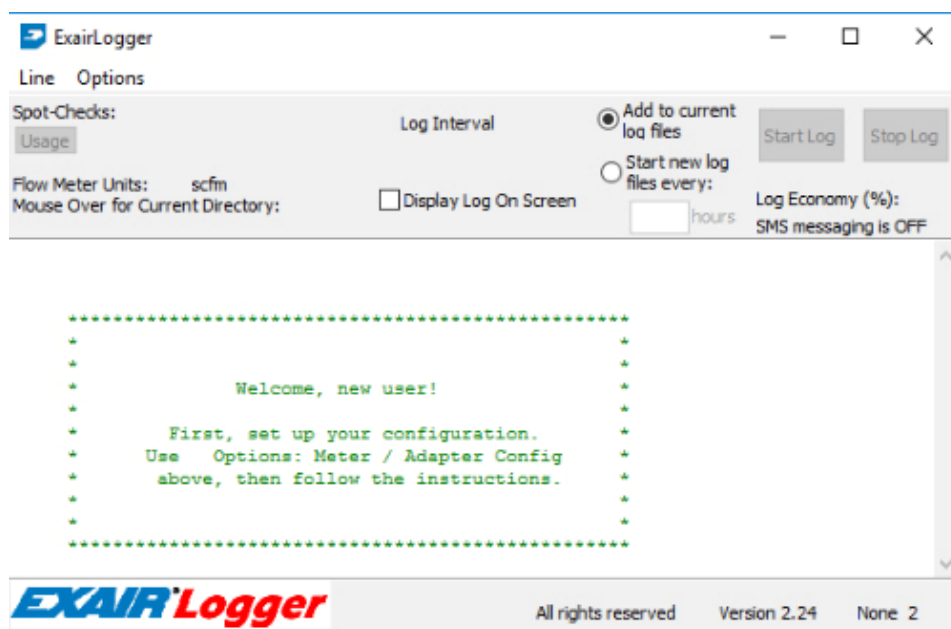
Figure 1 Device Discovery Software

**7. Note the IP address. You will need this later.**

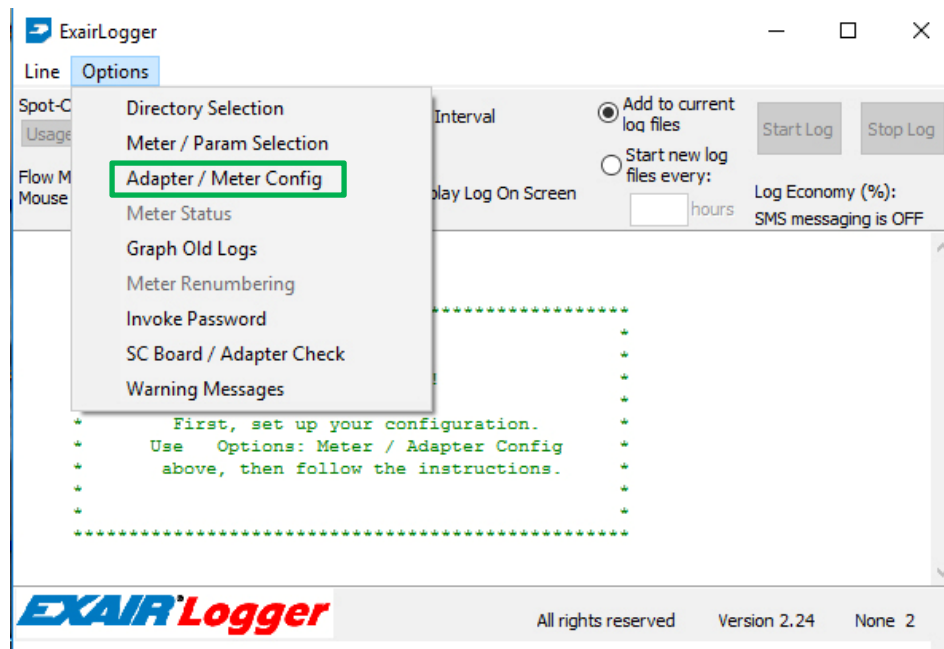
**Setting up the Zigbee® network**

The Wireless Digital Flowmeters and Gateway come preconfigured to work together under the same PAN ID. Before installing the Digital Flowmeters, it is a good idea to bench test the network. To bench test the network follow these steps.

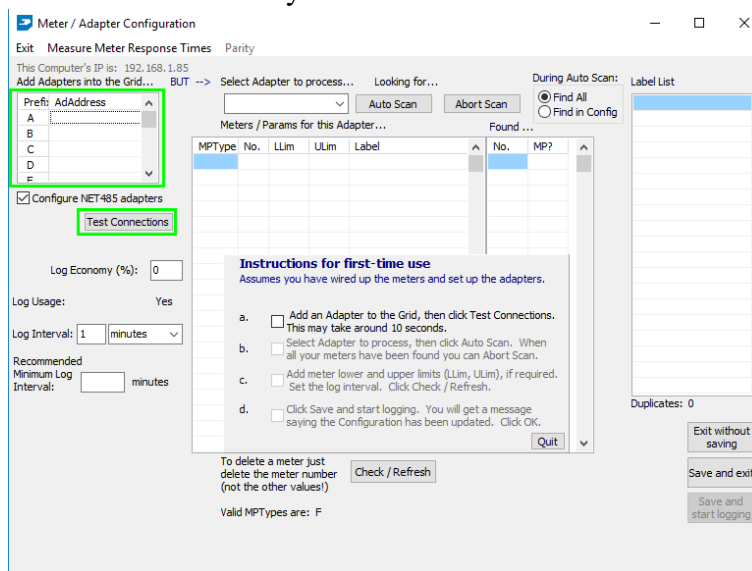
1. Locate the flowmeter near where they will be installed and provide power to the units using the Power Adapter provided.
2. Download the EXAIR Logger software from this link. <http://exair.com/media/ELInstall.exe>
3. Install the .exe file.
4. Follow the prompts to install the software.
5. Open EXAIR Logger Software.
6. The prompts of the EXAIR Logger will help you for your first setup.



7. Click Options. Click Adapter/Meter config.

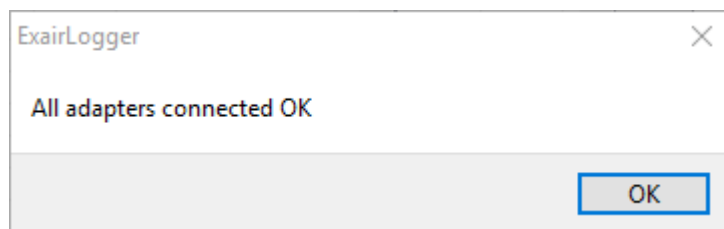


8. Input the IP address of the Gateway in box A.



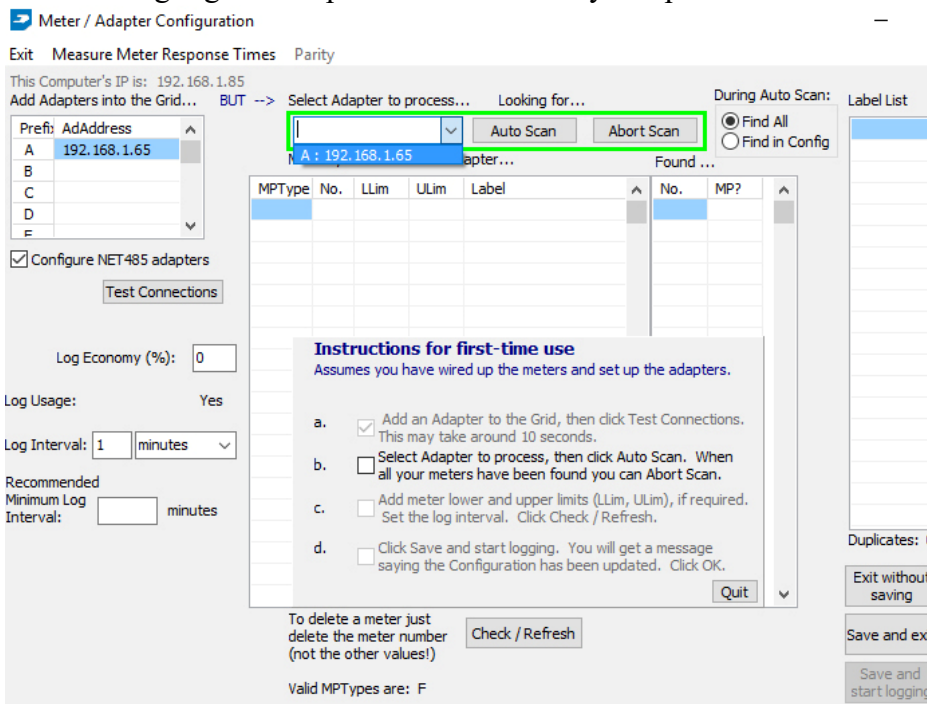
9. Hit the Test Connection Button.

10. A message should appear saying “All adapters OK.”



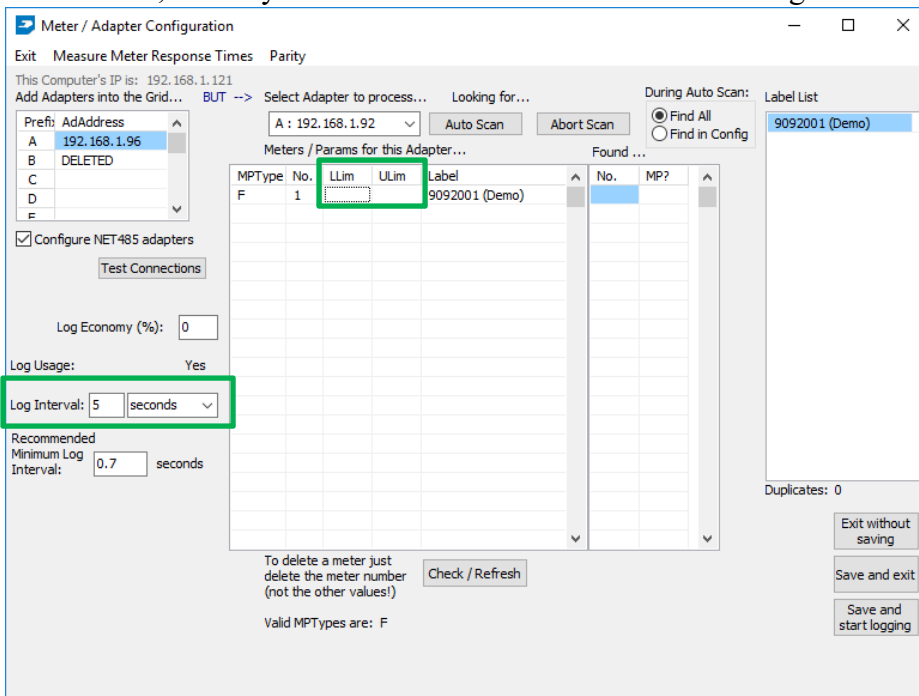
If the message doesn't appear you will need to troubleshoot your network connection to the gateway. Contact EXAIR at [techhelp@exair.com](mailto:techhelp@exair.com) for more support.

11. From the highlighted drop down menu select your ip address.



12. Press Auto Scan.

13. Input a Lower Limit (LLim) or Upper Limit (ULIM), if necessary. These limits can be altered later, but they will be used to control alerts and messages.



14. Set the Log Interval. This needs to be higher than the recommended minimum log interval. This log interval may change as more meters are added.

15. Select Save and Start Logging.

16. A graph with usage over time and current usage with an Upper and a Lower Limit will be displayed.

This completes the setup and bench test. Follow the Flowmeter installation instructions in Lit 9017 to mount the Flowmeters to the designated pipe.