TELEDYNE
INSTRUMENTS
Advanced Pollution Instrumentation

A Teledyne Technologies Company

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Service Note

ETHERNET CONNECTION (DIRECT FROM LAPTOP)

I.   PURPOSE:
To give instructions on how to connect directly from a laptop to an instrument via Ethernet.

II.   TOOLS:
None

III.   PARTS:
Ethernet Patch Cable   (must be a cross over cable and not a network cable)

IV.   PROCEDURE:

In order to connect using the instruments Ethernet you must have the INET enabled already. If not please follow the **ENABLING INET PROCEDURE**.

ENABLING INET PROCEDURE

1. From the MAIN MENU press **SETUP-MORE-COM-ENTR**. Ensure that **INET** is an active button if not please follow step 2. If it is go to the **DIRECT CONNECTING FROM LAPTOP TO ANALYZER** procedure.
2. From the MAIN MENU press **SETUP-MORE-DIAG-929-ENTR**. Press **NEXT** until you come to **FACTORY OPTIONS** and then press **ENTR**.
3. Press NEXT until you come to **INTERNET ENABLE** or something similar. Turn this **ON** and press **ENTR**.
4. Press **EXIT** and exit all the way out to the **MAIN MENU**.
5. Power CYCLE the instrument and repeat step 1.

DIRECT CONNECTING FROM LAPTOP TO ANALYZER

1. From your Laptop go into the **COMMAND PROMPT** menu.
    a. Windows XP   -   Start/ All programs/ Accessories/ Command prompt
    b. Window 98   -   Start/ Programs/ Ms Dos Prompt

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Microsoft Windows XP  [Version  5 . 1 . 2600]
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H : \ >
```

2. Type in **ipconfig** and press enter.

```
Microsoft Windows XP  [Version  5 . 1 . 2600]
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H : \ > ipconfig
```

3. The computer will respond as such; **DO NOT USE THESE ADDRESSES THEY ARE EXAMPLES ONLY**

```
Microsoft Windows XP  [Version  5 . 1 . 2600]
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H : \ > ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

        Connection-specific DNS Suffix  . :
        IP Address. . . . . . . . . . . . . . . . . . . : 123 . 12 . 12 . 13
        Subnet Mask . . . . . . . . . . . . . . . . . : 255 . 255 . 255 . 224
        Default Gateway . . . . . . . . . . . . . . : 123 . 12 . 15 . 24
```

From the front panel of the instrument press **SETUP-MORE-COM-INET**
4. In the **INET** menu change the password to **929** and press **ENTR**.
5. **DHCP** should be **OFF** if it is **ON** turn it **OFF** and press **ENTR**.

6. Press **NEXT** to **INSTRUMENT IP**.
7. Set this value to the match the **LAPTOP IP ADDRESS** but increment the last number by 1 and then press **ENTR**. (Refer to Example 2a.)
8. Press **NEXT** to **GATEWAY IP**.
9. Set this value to match the **INSTRUMENT IP** but increment the last digit by 1 and then press **ENTR**. (Refer to Example 2b.)
10. Press **NEXT** to **SUBNET MASK**.
11. Set this value to match the **LAPTOP SUBNET MASK** exactly and then press **ENTR**. (Refer to Example 2c.)

>   **Example 2**
>   **INSTRUMENT IP**
>   a.   Instrument IP…………: 123.12.12.14
>   b.   Gateway IP …... 123.12.12.15
>   c.   Subnet Mask …... 255.255.255.224

12. Press **EXIT**. The instrument should say **INITIALIZING 0%...10%...etc.**
13. Once the instrument has completed **INITIALIZING** it should say **INITIALIZING SUCCEEDED.**
14. From your Laptop in the **Command Prompt** we are going to ping the analyzer by typing in ping and then the Instrument IP address. **Please use the actual INSTRUMENT IP ADDRESS and not the examples.** (Refer to Example3)

>   **Example 3**
>   **PING THE INSTRUMENT**
>
>   In the Command prompt type in **PING 123.12.12.14** and press **ENTR**.

15. The computer should respond with the following 4 replies;

```
Microsoft Windows XP  [Version  5 . 1 . 2600]
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H : \ > ping 123 . 12 . 12 . 14


Pinging 123 . 12 . 12 . 14  with 32 bytes of data :

Reply from 123 . 12 . 12 . 14          bytes = 32      time = 9ms      TTL = 64
Reply from 123 . 12 . 12 . 14          bytes = 32      time = 4ms      TTL = 64
Reply from 123 . 12 . 12 . 14          bytes = 32      time = 3ms      TTL = 64
Reply from 123 . 12 . 12 . 14          bytes = 32      time = 4ms      TTL = 64


Ping statistics for 123 . 12 . 12 . 14 :
Packets :  Sent  =  4,   Received  =  4,  Lost  =  0  (0%  loss)
Approximate round trip times in milli-seconds :
Minimum  =  3ms,  Maximum  =  9ms,  Average  =  5ms
H : \ > _
```

16. If after pinging the instrument the Request Times Out you need to check your IP Address and ensure that they are correct.

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Microsoft Windows XP  [Version  5 . 1 . 2600]
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H : \ > ping 123 . 12 . 12 . 14

Pinging 123 . 12 . 12 . 14  with 32 bytes of data :

Request timed out
Request timed out
Request timed out
Request timed out

Ping statistics for 123 . 12 . 12 . 14 :
         Packets :  Sent  =  4,  Received  =  0,  Lost  =  4  (100%  loss)
H : \ > _
```

17. If pinging the instrument is successful, you may now use APICOM or HYPERTERMINAL to communicate to the instrument.
18. Ensure when setting the TCP Port that it is set for 3000

If there are any questions regarding this service note please contact a Teledyne API Customer Service Representative.
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