Advanced Diploma of Industrial Data Communications, Networking and IT
(DIT)

Module 4 Practical Component
Field Buses

Includes: Lab Instructions for DeviceNet and Profibus

V1

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DIT Module 4 Practical Exercise 1

Procedure:

1. ***Use the usual link to go into the Electromeet practical session – use lab called EIT LAB.***
2. Click on the Devicenet Manager desktop icon to start the program. Observe the program starting and loading the EDS library.
3. Open a new **Project**. Give a new name (eg Test) and Description (whatever you need to identify it). Then open a new **Network** and give a new name (eg T).
4. Go to **Utilities** and set up "**On Line Connection**." Click on **OK** and then **OK** again under driver configuration. Note the baud rate settings. Note the network connection icon at the bottom right of the screen changes from an open connection to a network icon showing the node number (62) and the baud rate (125 kbps.) as "MAC 62 – 125k"

5. Then click on **On Line Build** under **Utilities**. Observe it building. Be patient as it identifies all the devices on the Network.

6. Confirm that all the devices on the Network are identified ie 21 and 62

7. Identify the additional information that you can source from the Starter Auxiliary (device 21). Select the Starter Auxiliary

8. Double Click on the description and wait for it to upload. Look at the available parameters for the device. .

9. Select **Hdw In States** then click on **Monitor Parameter**. On the next screen, click on **Start Monitor**. Be patient as it takes a few seconds.

10. Use Webcam to observe the input bits 0 and 1 on the Starter Auxilliary. These are being changed automatically by the simulator unit. Observe the values read by the monitor software.

11. Stop the device by typing **Stop Monitoring**

12. Go to Parameter Group **I/O Setup** and select parameter 31 **OutA Idle State**

13. Click **Modify Parameter** then change settings to opposite state then **Save to Device.**

14. Observe parameter change on screen and confirm the change using Webcam to see Output A changing state.

15. When you have finished exit the Devicenet Manager program

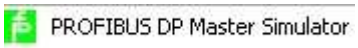
16. Do not save your project on the server, and remember to close all programs before leaving the on-line session.

DIT M4 Practical 2 Exercise

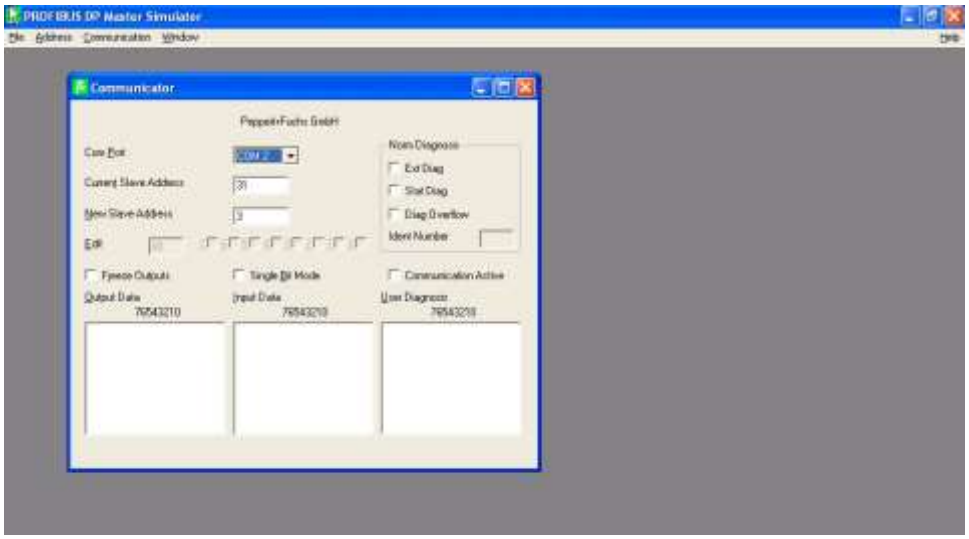
Procedure:

Use the usual link to go into the Electromeet practical session – use ***PROFIBUS LAB***

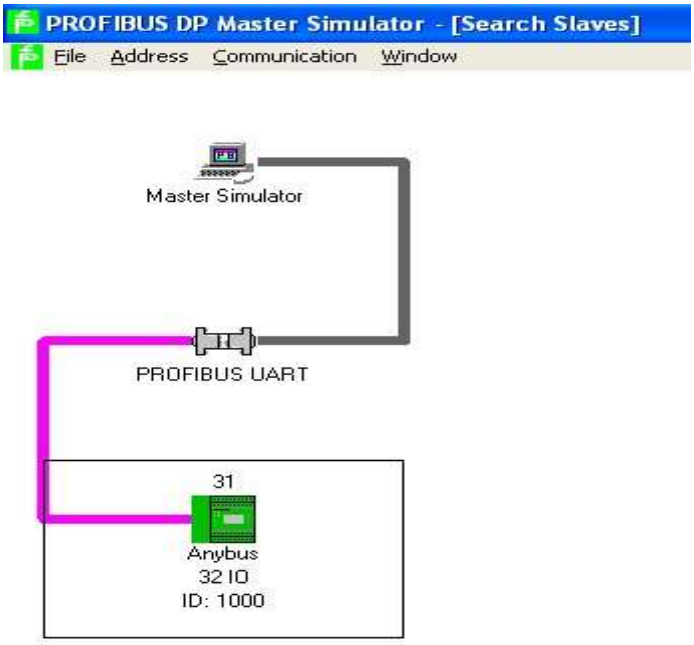
1. Click on the **Profibus DP Master Simulator** to start the program.



2. Main screen opens .

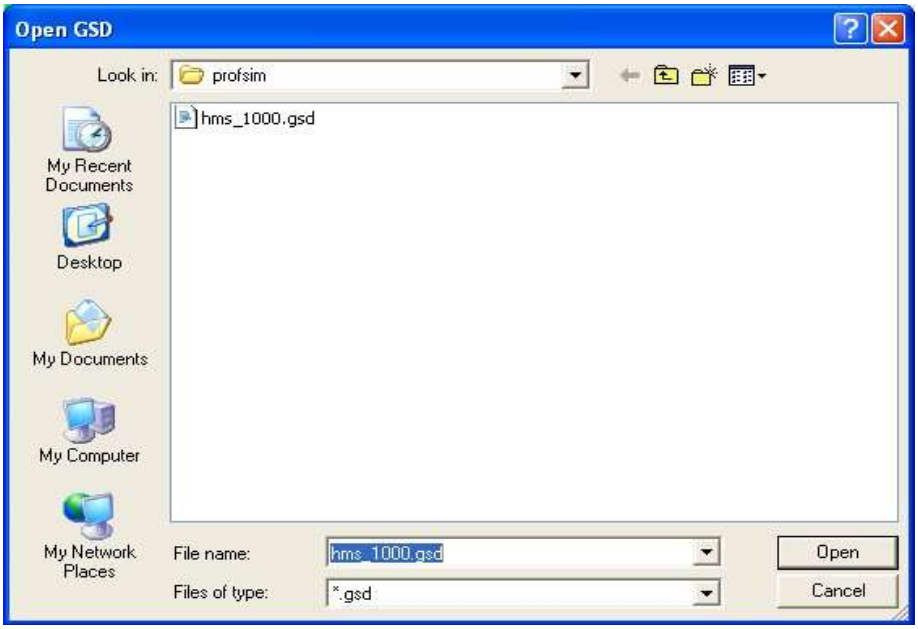


3. Go to ***Address*** Menu and click on ***Start Search***. Master scans all addresses and shows the slaves in graphical layout as follows.



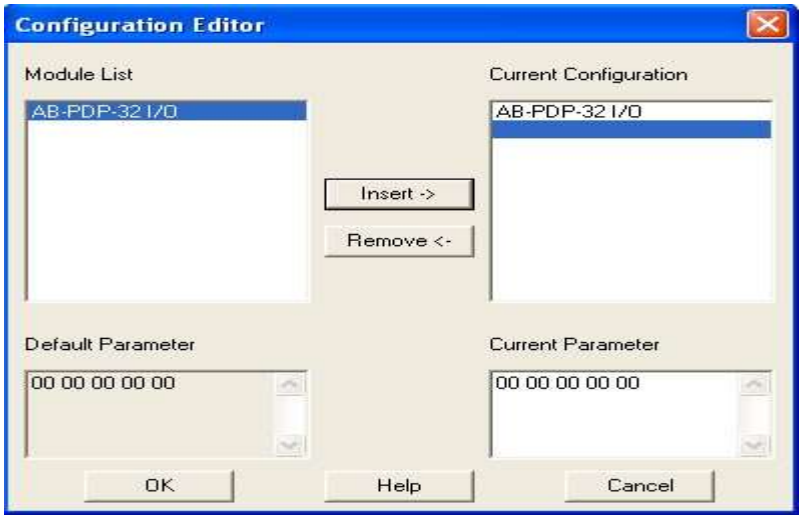
4. Click on device 31 (Anybus 32 I/O ID: 1000)

5. Goto ***File*** Menu and click on ***Open GSD.***



6. Ensure ***hms_1000.gsd*** is selected then click ***Open***

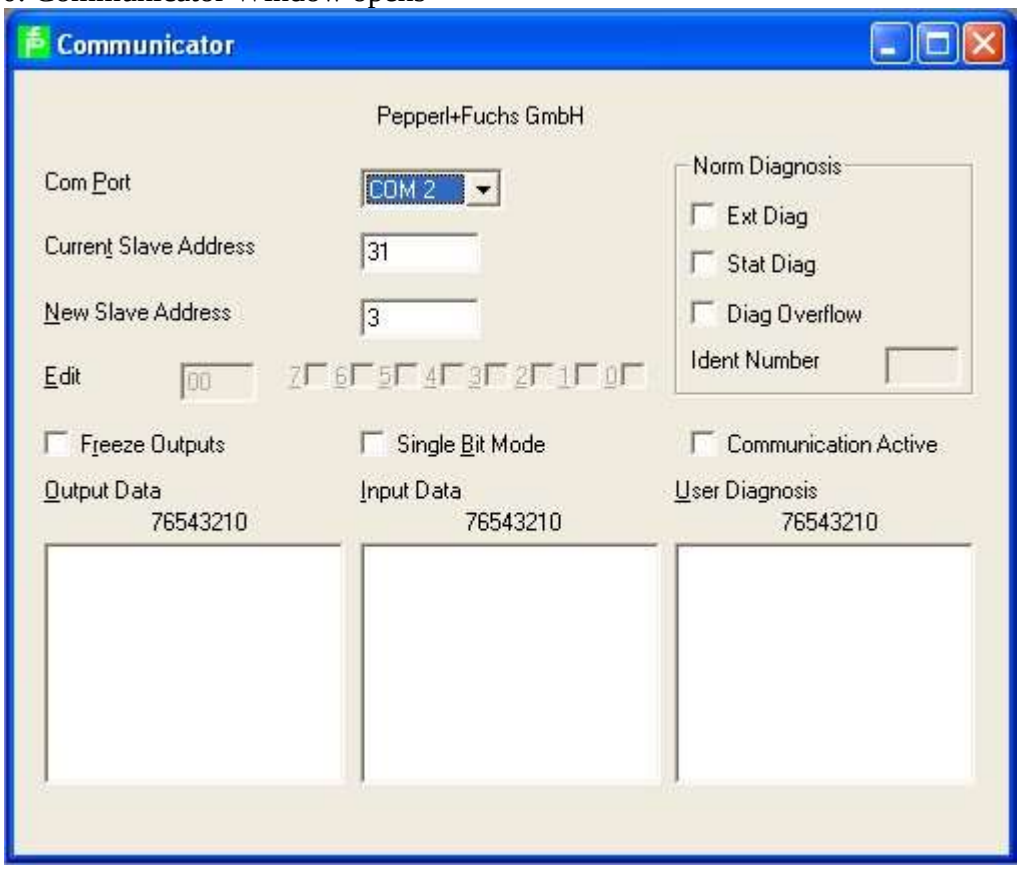
7. Configuration Editor dialog opens . Select Module ***AB-PDP-32 I/O*** in Module List and Click ***Insert*** to add to Current Configuration



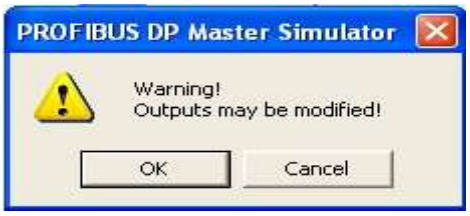
8. Then Click ***OK***

9. Now go to ***Communication*** Menu and click ***Start with GSD***

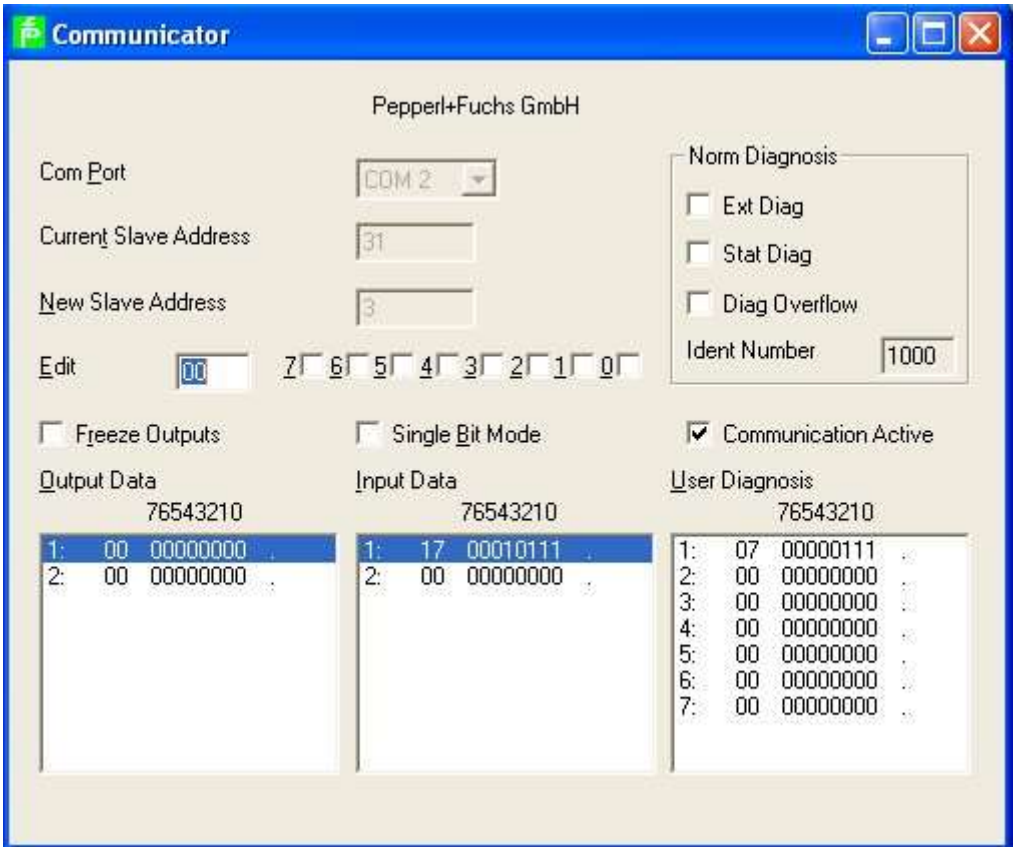
10. Communicator Window opens



11. Accept warning Pop-Up (Outputs may be changed) by clicking **OK**.

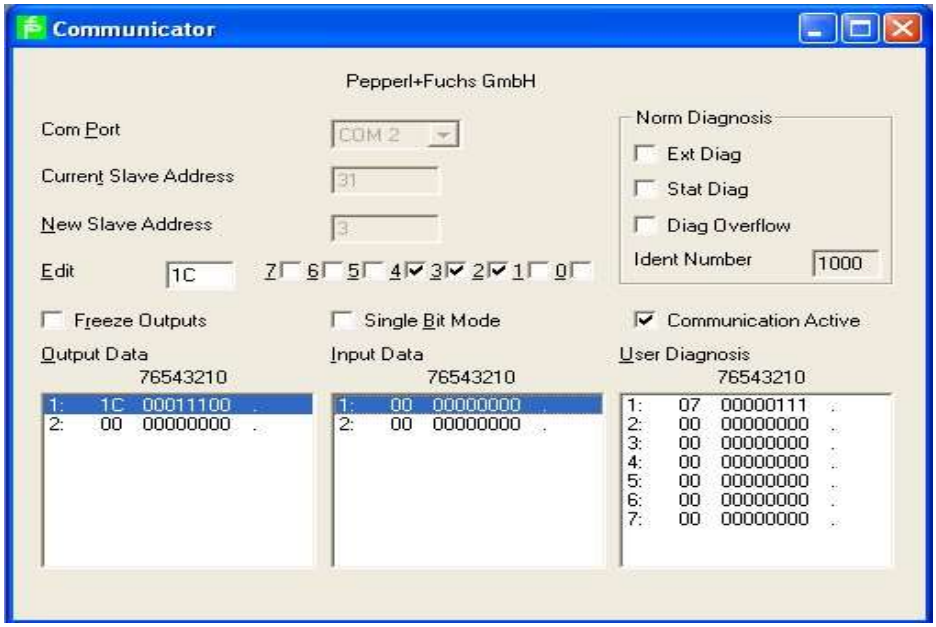


12. Communications are now active , monitoring I/O

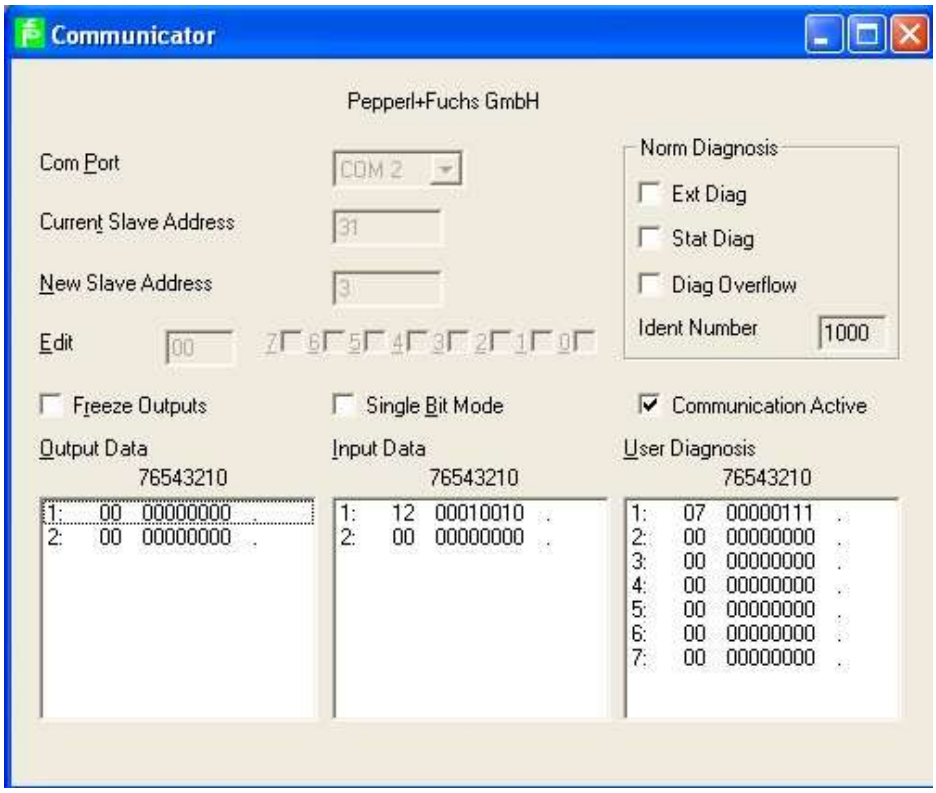


You will observe with the webcam the input LEDs (on the left side of the board) being changed by the input simulator. Note these correspond to the ***Input Data 1*** values, (with the least significant bit 0 at the top). In the screenshot above the value 17 shows the top5 LEDs being ON ,ON, ON, OFF and ON.

13. Select ***Output data 1*** (Bits 0 to 7) and tick the bits in the Edit field to turn those outputs ON . Observe the Output LEDs (on the right side of the board) to confirm correct operation. In this example bits 2, 3 and 4 are turned on.



14. Select ***Input Data 1*** (Bits 0 to 7) and observe these being changed by the simulator. Observe the Input LEDs with the webcam to confirm correct operation.



In this snapshot bits 1 and 4 are turned on and corresponding LEDs will be turned ON.

15. When you have finished exit the **Profibus DP Master Simulator** program before leaving the on-line session.