

# UniModem Manual

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## The UniModem

The UniModem essentially replaces a Personal Computer at a remote station. It intelligently converts the RS485 signal to and from the Unimeter (or UniMux) to a signal suitable for transmission over the telephone lines. The intelligent part is required because a normal modem can not communicate with Unimeters, even via a RS485-RS232 adaptor.

A normal telephone modem is included with the UniModem, but optionally, it can be connected to a cellular modem<sup>1</sup>, or radio modem<sup>1</sup>.

Up to 62 Unimeter devices can be connected to the UniModems, (UniMux devices can be in 8 or 16 channel modes - per ID).

The UniModem can be set up to dial a number if an alarm occurs (short circuit to the alarm input). If UniLink or UniTools is running on the PC attached to the modem at the receiving end, the site will be identified, and an alarm message will be displayed. The UniModem will keep on trying indefinitely, until a successful transfer of the alarm condition is made, or until the 'disable alarms' flag is set via UniTools. After trying unsuccessfully several times, the UniModem will power down the remote modem, and reset it before waiting several minutes and trying again. During this waiting time, you are able to dial into the UniModem with UniTools or UniLink, and the alarm condition will be transferred.

The UniModem has a Password, which can be optionally used. If the correct password is not supplied, no communication is possible with the UniModem or it's Unimeter devices.

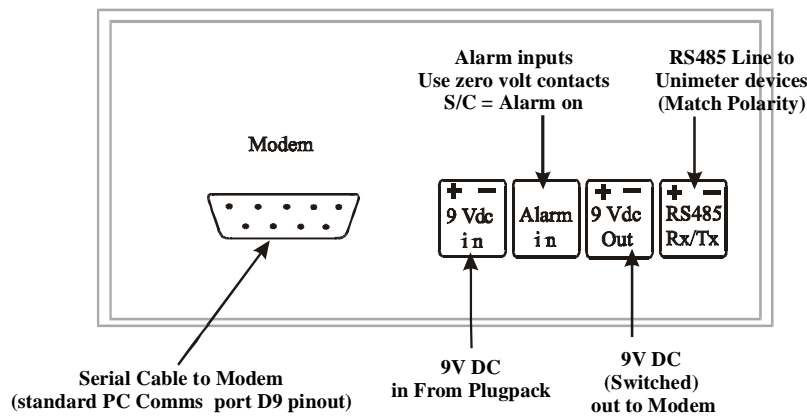
It is not possible to communicate with the UniModem or it's Unimeter devices with any program other than UniLink or UniTools.

Unimeters and UniMux can be programmed over the UniModem link, as if they were directly connected to the computer. With UniLink running, the Unimeter or UniMux readings can be displayed and logged. Simply double click on a reading to dial up and connect to the remote device via the UniModem. Digital in and Digital out devices can be used to monitor & control remote mains voltage equipment via 'lights' and buttons on the SCADA screen.

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<sup>1</sup> By special arrangement with Autoplex International.

## UniModem Connections



**Modem:** This is a standard PC type Comms Port. Connect this to the Modem using the standard cable which is supplied.

**9V DC In:** Connect the supplied 9V DC plug pack to this port. The striped wire is positive.

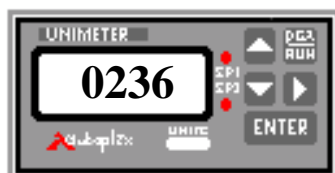
**Alarm In:** Short these terminals with a zero volt (isolated electrically) pair of contacts to indicate an alarm condition (eg: a Unimeter's N/O setpoint contacts).

**9V DC Out:** This lead connects to the Modem. It is simply a switched output from the plug pack input. This allows the UniModem to power down the Modem for resets. The striped wire is positive.

**RS485 RxTx:** Connect this port to the RS485 port on the Unimeter device(s). Take care to keep the positive terminal connected to all other positive terminals (ditto the -ve). The baudrate on all instruments must be the same (special function 236), and all the Unimeter devices must have different Ids (Special Function 8). The ID of the UniModem is not relevant on this port, but the Baudrate is.

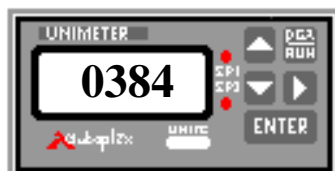
### Setting Up the UniModem

1. Connect the UniModem to the modem via the RS232 cable, and the 9V DC power cable to the 9V DC Out terminals (watch polarity – the striped lead is positive).
2. Connect the Plug pack to the 9V DC IN terminals (Watch polarity, the striped lead is positive).
3. Turn the Modem on (no lights will come on yet).
4. Power the UniModem (and modem) up by plugging the Plug pack in to a power socket & turning the switch on. The UniModem will beep 3 times, and it's display will read the version number (eg: "9.02") and then "Auto".
5. Check that modem's 'Power' light is lit after about 3 seconds. (If this is continuously flashing off & on again every 60 seconds, the RS232 connection is not correct, and the UniModem cannot communicate with the modem. In this case you will not be able to go to the next step).
6. Set the UniModem's Baudrate to match that of the Unimeter devices you will be using. We recommend 38400baud if the logging features of the Unimeter XQL are to be used. Using the same method as a Unimeter:
  - a) With the UniModem powered up, wait for several seconds for the initial modem reset to finish
  - b) Press Program/Run (three fast beeps will be heard, and the display will show "0000", with the second zero flashing – to indicate the active digit that the Up/Down keys will alter).
  - c) Select special function 236, using the Up/Down and Shift keys to place the figures 236 in the right hand three positions of the display. (Ignore decimal points).



(Special Function 236)

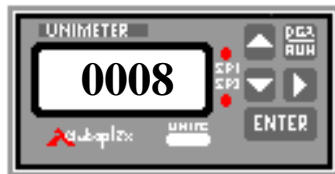
- d) Press 'Enter'
- e) Enter the baudrate in the two or three right hand most positions (without the last two zeroes). (Eg 24 for 2400baud, 384 for 38400 baud).



(38400 Baud)

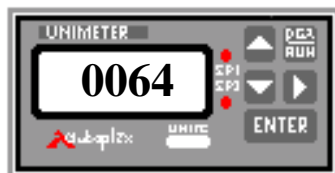
- f) Press Prog/Run to store it, and reset the modem.

7. After the modem resets, set the UniModem's ID. Each UniModem in a network must have it's own ID from 64 upwards. The default is 64.
  - a) Press Program/Run
  - b) Select special function 8, using the Up/Down and Shift keys to place the figure 8 in the right hand position of the display. (Ignore decimal points).



(Special Function 8)

- c) Press 'Enter'
- d) Enter the ID in the most right hand positions. (Eg: 64 or 65 etc).



(ID : 64)

- e) Press Prog/Run to store it, and reset the modem.
8. Set the Unimeter devices' baudrate (Special Function 236). Note that if the device is a UniMux, this must be set using a direct connection to a PC running UniTools. The baudrate of devices can not be changed over the UniModem, as loss of communications would result, because the UniModem can only be set manually.
9. Set each individual Unimeter device to it's unique ID (Special Function 8). A UniMux again must be changed via UniTools. Note that the ID's of devices must be Unique across the whole network (see 'Planning & setting up your system').
10. Connect the Unimeter devices' RS485 to the UniModem's RS485 terminals.
11. Set up UniTools:
  - a) Run UniTools (Press 'F1' at any time for context sensitive help).
  - b) Click Properties
  - c) Set the Comms port to where Your PC's modem is connected (Note: the Comms RS485 driver must not be installed on this Comms port – it is required only when an AS4000 adapter is used. If you will be using the same port, un-install the driver & select the Microsoft standard driver).
  - d) Set the 'Polling Rate' to 5.0 seconds (this is the fastest you should poll over the UniModem).
  - e) Click the 'Modem' tab
  - f) Click to check 'Use UniModem by default'. (This initializes the PC's local modem when you start UniTools, and ensures UniTools is in the 'Auto Answer' mode if this is also checked).
  - g) Click to set the 'Save Password' if you want the password you use later to be saved in the UniTools.ini file.

- h) Click to set 'Auto answer calls from UniModem' if your remote sites are likely to ring the 'Ring back number' on the occurrence of an alarm.
  - i) If your local PC's modem has some special features, you can replace the modem initialization string. The displayed string will always be sent. Followed by your string.
  - j) Click OK
  - k) Click Modem (reminder: press 'F1' to get help on this panel).
  - l) Type the phone number to dial & click dial.
12. After dialing up & connecting to the UniModem, set:
- a) The Ring back number. This is the number you want the UniModem to dial when an alarm occurs, assuming it is off line. The telephone number should include any dialing prefixes required at the remote station (eg a leading P for pulse dialing – it tone dials by default).
  - b) The Password if any is to be used.
  - c) Disable the Alarm ring back feature if it is not to be used.
13. Test your system

### ***Testing your system***

1. Run UniTools & Set modem properties
2. Dial up & connect to the UniModem
3. Test your system by changing UniTools to each id connected to that UniModem and by getting a value from each device.
4. Whilst on line, close the 'Modem' dialog box, and with UniTools still on line, cause an alarm & make sure the alarm message is received by UniTools. (Note if you press escape more than once, UniTools will close and the Modem will hang up).
5. Take alarm off, and Hang up call, make sure the UniTools 'Auto answer' check box is checked, close the 'Modem' dialog box but leave UniTools running.
6. After a few seconds, cause an alarm again, and make sure the UniModem dials the ring back number, and that UniTools successfully answers the call and indicates an alarm has been received.
7. Remove the alarm condition.
8. Hang up the call (click 'Modem' then 'Hang Up', just press escape).
9. Close UniTools
10. After your UniLink system is setup, run your SCADA database and check the connections by double clicking on a Unimeter's reading. (Note: UniTools must not be running at the same time as UniLink).
11. While still connected, check the alarm.
12. Hang up call & check the ring back with UniLink & the SCADA database running. The system should answer the call & display the alarm and on line place names, and readings connected to that station will go active.

## **Planning & setting up your system**

Your system can have local Unimeters as well as remote Unimeters which are communicated with over a modem and a remote UniModem.

### ***IDs***

If more than 1 remote site is used, each UniModem must have a different ID (from 64 upwards). This enables UniLink to distinguish between sites if a Unimeter rings in with an alarm.

All remote Unimeters must have different IDs (1 to 63), no matter where the location (UniLink must have unique IDs on each of its Comms ports). (NB: ID no 51 should not be used – it is a reserved UniModem code).

UniMux should be in single ID, multiple channel mode for easiest use and best performance.

### ***Baudrate or Comms Speeds***

The Unimeter devices can have a baudrate from 2400, 4800, etc up to 38400baud. We recommend 38400baud if the Unimeter XQL logging features are used. The UniModem baudrate must be set the same as the Unimeter baudrate at the same site. This baudrate only applies between the Unimeter devices and the UniModem, it does not affect the line speed nor the PC to local modem Comms speed (which should be set to 38400 in the UniTools 'Properties' section, for best performance).

A UniMux's ID and Baudrate settings should be set using a direct connection via the AS4000 to the PC before the UniMux is transported & installed, as the UniMux has no keypad. (Safety Caution: use all mains voltage precautions when connecting the UniMux for this).

A Unimeter's or UniMux's baudrate can NOT be set via the UniModem, as this would cause loss of communications over the UniModem. The UniModem and Unimeter baudrate can be set via the keypad using special function 236.

### ***RS485 Line***

Once the UniModem ID and baudrate are set up, your UniModem is ready to connect. The RS485 line is polarity conscious, so the +ve on the UniModem must be connected to the +ve on all the Unimeters. You can use UniTools to set the ring-back number and the password at any time over the network.

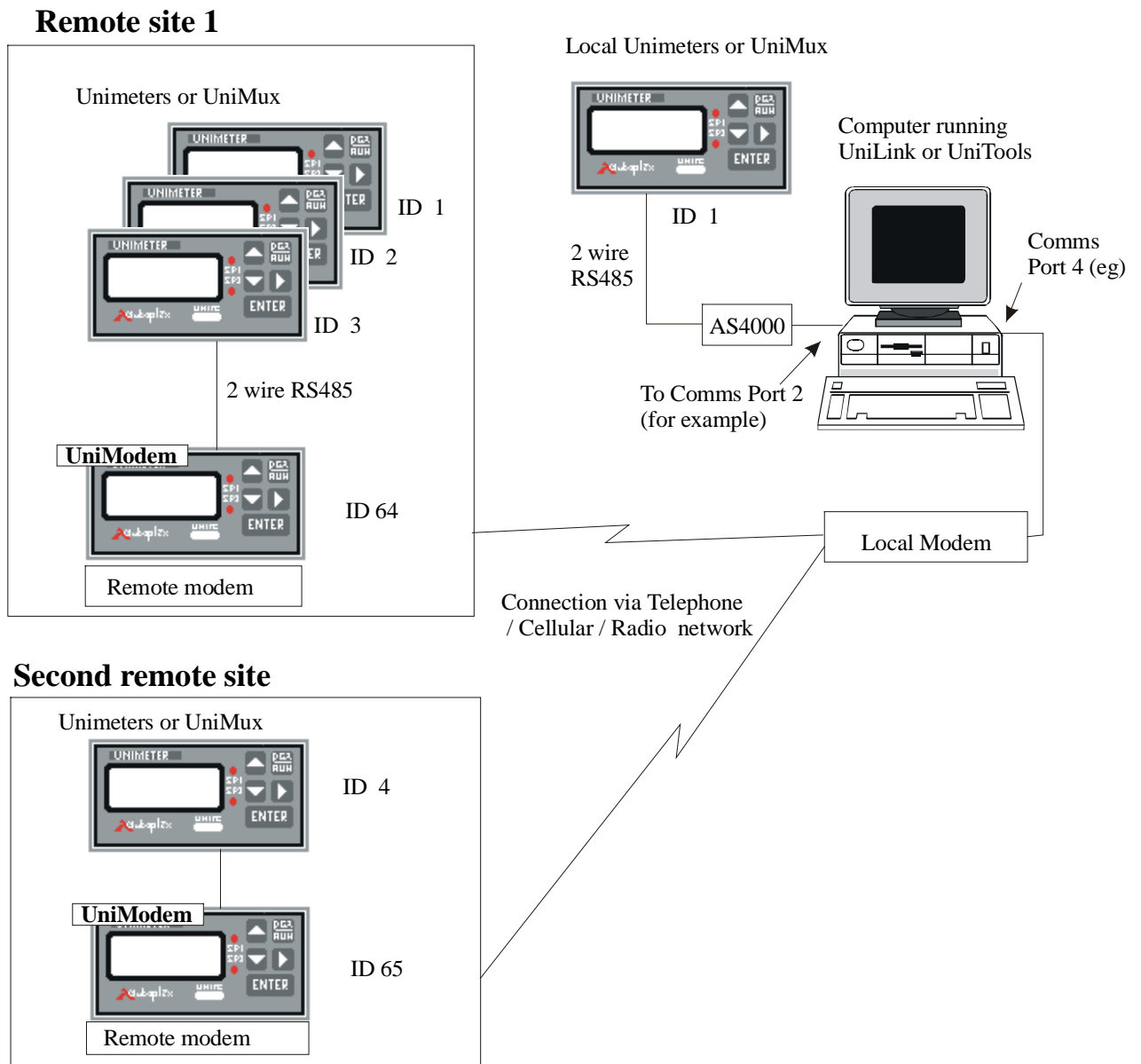
A good way to check the system is to connect to the UniModem via a second phone line adjacent to your PC, or to use a phone line simulator like 'National Communication's' "Easy connect pro" Line Sharer.

### Modem Reset

The UniModem's modem has its power connected via the UniModem, as this allows the UniModem to power its modem down when resetting it with the initialization string.

This automatically happens when any setting is changed via the keypad, or at Midnight (in case of a modem lockup) if the UniModem is not on line. The UniModem's time for this midnight reset is obtained when any device has the time sent to it from UniTools (this even works to a UniMux which does not accept the set time command).

Fig 1: UniModem system plan





## Setting up UniLink for a UniModem connection

The following example assumes that we have a system with two devices connected, one local Unimeter on communications port 2 with RS485 format, called Pump 1 with ID '1' and one is a remote Unimeter connected via modem in Adelaide, Australia, on port 4. This device is called Pump 2 and also has the ID of '1'. Note: each Comms port on the PC must have Unique Ids on that port – ie if there are more than one remote devices assigned to the modem connected to Comms 4, they must have Unique Ids (even if they are at different remote locations).

The Comms Port (in this case Comms 4) with the modem connected must not have the RS485 driver installed. This driver is only used on direct connections via the AS4000 adaptor. If you are using the same port for the initial setting up of the devices using the AS4000, then you must swap Comms drivers (see Appendix A & B).

### *Changing UniLink's ini file.*

UniLink must be made aware that the remote device is to be connected to via a UniModem before you can add the device to the MS Access database, as this will identify to the SCADA that it has to dial the number.

To do this you will add a new line to the UniLink.ini file. This file is found in the "C:\UniLink" folder (By default) or wherever you installed UniLink to.

U002=Pump 2,ID:001,CH:000,POLL:N,POLLDELAY:5.00,PORT:4,,MODEMID:064,PLACE:Adelaide,PHONE\_NO:0882608124,PW:password

**U002=Pump 2,ID:001,CH:000,POLL:N,POLLDELAY:5.00,PORT:4,,  
MODEMID:064,PLACE:Adelaide,PHONE\_NO:0882608124,PW:password**  
(All on a single line, All text in bold is case sensitive, and must be typed exactly as is)

Where:

- U002 means this is the second device in the UniLink.ini file '[InstalledDevices]' section.
- The device name is "Pump 2"
- The Device ID is 001
- As the device is not a UniMix, it's channel is 000
- UniLink will not Poll the device directly (the Access database will do this when it is connected)
- The poll delay is 5 seconds (not applicable as UniLink is not polling)
- The Modem is connected to Comms Port 4
- There is an additional comma after the PORT:4
- The UniModem's ID is 064
- The remote place name is "Adelaide"
- The Phone number to dial to reach that UniModem is 08 8260 8124
- The password is "password".

```

UniLink_MODEM.ini - Notepad
File Edit Search Help

[HRU]
Count=4

[DefaultSettings]
CommPort=2
DemoMode=0
Customer=0
TurboMode=0
PauseDelay=10
PortPollFailLimit=5
PortFailRetryDelay=30
PortFailTimeout=30
UniPollLimit=0

[InstalledDevices]
U001=Pump 1, ID:001, CH:000, POLL:Y, POLLDELAY:1.00, PORT:2
U002=Pump 2, ID:001, CH:000, POLL:Y, POLLDELAY:1.00, PORT:4, MODEMID:64, PLACE:Adelaide, PHONE NO:08 82608124, PW:password

[COMM1]
Speed=38400
Active=0
Modem=0

[COMM2]
Speed=38400
Active=1
Modem=0

[COMM3]
Speed=38400
Active=0
Modem=0

[COMM4]
Speed=38400
Active=1
Modem=1

```

The PLACE string has a limit of 55 characters. It allows spaces, but punctuation other than minus or underscore is not allowed.

The PHONE number has a limit of 30 characters, and allows dialing prefixes like the pause character (,) or the Pulse dialing prefix (a leading P).

The PW string must be an 8 character password string and this must match the Uni-Modem programmed password. (If the Uni-Modem password has not been programmed, this may be omitted).

The above procedure must be applied for all devices connected by modem.

In the Comms port section, the Modem status must also be changed from 0 to 1.

To edit the UniLink.ini file:

1. Run Windows explorer (Start | Programs | Windows Explorer )
2. Double click on the Folder you installed UniLink to (C:\UniLink by default)
3. Locate the file in the right hand window called UniLink.ini – Configuration settings File (the “.ini” may not be visible on your edition of explorer)
4. Double click on this file name
5. If an “Open With” dialog box is displayed, scroll down to ‘Notepad’ and select this. Make sure the “Always use this program to open this file” is checked and click OK.

6. Move down to the [InstalledDevices] section and add a new line at the end. If the next number is shown with no details, (U002= ) use this number and complete the line. Each device or channel must have it's own Uxxx number. For UniMux, each channel will have the same details, except for the device name and the channel number (assuming the UniMux is in single ID, multiple channel mode).
7. Move down to the [COMMx] section, where x is the Comms port number where the Modem is installed. Change the Modem=0 to Modem=1
8. Save the file

The Phone number, place name and password can be changed at any time. The MODEM\_ID should not be changed unless the actual UniModem's ID at that phone number is also changed. Changing the 'Device Name' after the MS Access database has been built will break the connection between the database and UniLink (This name is the key used throughout the database and UniLink to identify the device or channel). The device ID and channel must match that of the actual device connected to the UniModem at the given phone number.

One way to test & set up your system is to connect it directly via an AS4000 adapter (Remember to install the Comms driver) and check that your SCADA system works OK, and then convert the system to UniModem operation by adding the UniModem strings to the UniLink.ini file, and changing the Port details if required. Using this method, you can build the MS Access SCADA database, and have the readings live in the direct connection phase. The hidden command buttons will have no affect until you convert the UniLink.ini file for UniModem use.

See the "Uni-Link Advanced Help.doc" document in the UniLink\Help folder for more information on the UniLink.ini file.

*Examples of UniLink.ini file for a UniMux:*

```
Copy (2) of UniLink.ini - Notepad
File Edit Search Help

[MRU]
Count=4

[DefaultSettings]
CommPort=2
DemoMode=0
Customer=0
TurboMode=0
PauseDelay=10
PortPollFailLimit=5
PortFailRetryDelay=30
PortFailTimeout=30
UniPollLimit=3
SaveINI=0
TestCode=0

[InstalledDevices]
U001=Pump 1, ID:001, CH:001, MASTERID:001, MODE:2, POLL:N, POLLDELAY:1.00, PORT:2
U002=Pump 2, ID:001, CH:002, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:2
U003=Pump 3, ID:001, CH:003, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:2
U004=Temp 1, ID:001, CH:004, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:2
U005=Temp 2, ID:001, CH:005, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:2
U006=UNI_MUX 1 Ch 6, ID:001, CH:006, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:2
U007=UNI_MUX 1 Ch 7, ID:001, CH:007, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:2
U008=UNI_MUX 1 Ch 8, ID:001, CH:008, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:2
U009=

[COMM1]
Speed=38400
Active=0
Modem=0

[COMM2]
Speed=38400
Active=1
Modem=0
```

Normal Direct connection on Comms Port 2

```
UniLink.ini - Notepad
File Edit Search Help

[MRU]
Count=4

[DefaultSettings]
CommPort=2
DemoMode=0
Customer=0
TurboMode=0
PauseDelay=10
PortPollFailLimit=5
PortFailRetryDelay=30
PortFailTimeout=30
UniPollLimit=3
SaveINI=0
TestCode=0

[InstalledDevices]
U001=Pump 1, ID:001, CH:001, MASTERID:001, MODE:2, POLL:N, POLLDELAY:1.00, PORT:4, , MODEMID:094, PLACE:Adelaide, PHONE_NO:*
U002=Pump 2, ID:001, CH:002, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:4, , MODEMID:094, PLACE:Adelaide, PHONE_NO:*
U003=Pump 3, ID:001, CH:003, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:4, , MODEMID:094, PLACE:Adelaide, PHONE_NO:*
U004=Temp 1, ID:001, CH:004, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:4, , MODEMID:094, PLACE:Adelaide, PHONE_NO:*
U005=Temp 2, ID:001, CH:005, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:4, , MODEMID:094, PLACE:Adelaide, PHONE_NO:*
U006=UNI_MUX 1 Ch 6, ID:001, CH:006, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:4, , MODEMID:094, PLACE:Adelaide, PHONE_NO:*
U007=UNI_MUX 1 Ch 7, ID:001, CH:007, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:4, , MODEMID:094, PLACE:Adelaide, PHONE_NO:*
U008=UNI_MUX 1 Ch 8, ID:001, CH:008, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:4, , MODEMID:094, PLACE:Adelaide, PHONE_NO:*
U009=

[COMM1]
Speed=38400
Active=0
Modem=0

[COMM2]
Speed=38400
Active=1
Modem=0

[COMM3]
Speed=38400
Active=0
Modem=0

[COMM4]
Speed=38400
Active=1
Modem=1
```

Modified for UniModem on Comms Port 4

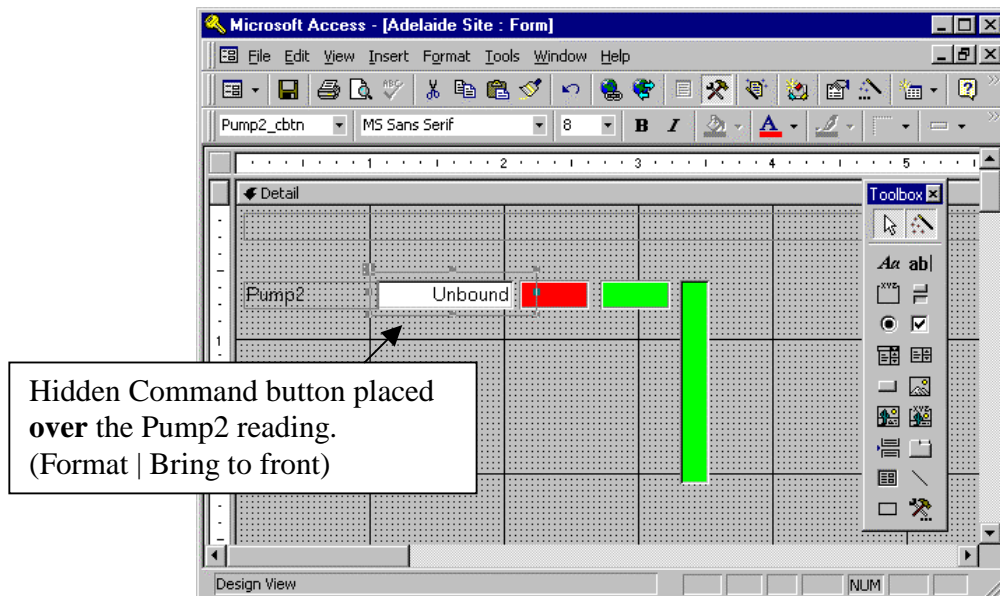
```
[InstalledDevices]
U001=Pump 1, ID:001, CH:001, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:4,, MODEMID:094, PLACE:Adelaide, PHONE_NO:*
U002=Pump 2, ID:001, CH:002, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:4,, MODEMID:094, PLACE:Adelaide, PHONE_NO:*
U003=Pump 3, ID:001, CH:003, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:4,, MODEMID:094, PLACE:Adelaide, PHONE_NO:*
U004=Temp 1, ID:001, CH:004, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:4,, MODEMID:094, PLACE:Adelaide, PHONE_NO:*
U005=Temp 2, ID:001, CH:005, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:4,, MODEMID:094, PLACE:Adelaide, PHONE_NO:*
U006=UNI_MUX 1 Ch 6, ID:001, CH:006, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:4,, MODEMID:094, PLACE:Adelaide, f
U007=UNI_MUX 1 Ch 7, ID:001, CH:007, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:4,, MODEMID:094, PLACE:Adelaide, f
U008=UNI_MUX 1 Ch 8, ID:001, CH:008, MASTERID:001, MODE:2, POLL:N, POLLDELAY:5.00, PORT:4,, MODEMID:094, PLACE:Adelaide, f
U009=
```

Close up of the text in the UniModem example. Note the Phone number in this case is “\*”, which is the code for the line simulator used for testing. The Master ID is the UniMux’s first ID number, and the Mode is ‘2’ for UniMux in single ID mode or ‘1’ when a separate ID is used for each channel (See UniTools help for programming a UniMux). The single ID mode is preferred for better performance.

### *Installing the devices in the MS Access SCADA database*

After all the changes have been made to the UniLink.ini file, you are able to use the Wizard to install these devices in the Microsoft Access SCADA database. The best way to do this is to run UniLink first, and leave it running while you make the Access additions. This saves the wait for UniLink to re initialize the modem each time the wizard is run.

You can now install the devices in the MS Access database as you would normally. The wizard places a hidden button over the device reading in the sub form. This senses the double click and tells UniLink to dial the UniModem. This hidden button must be placed in the foreground over the device reading, not behind it. (This must be re-positioned after changing the reading's size, position or properties).



### *Organizing the On-Line names and Alarm names*

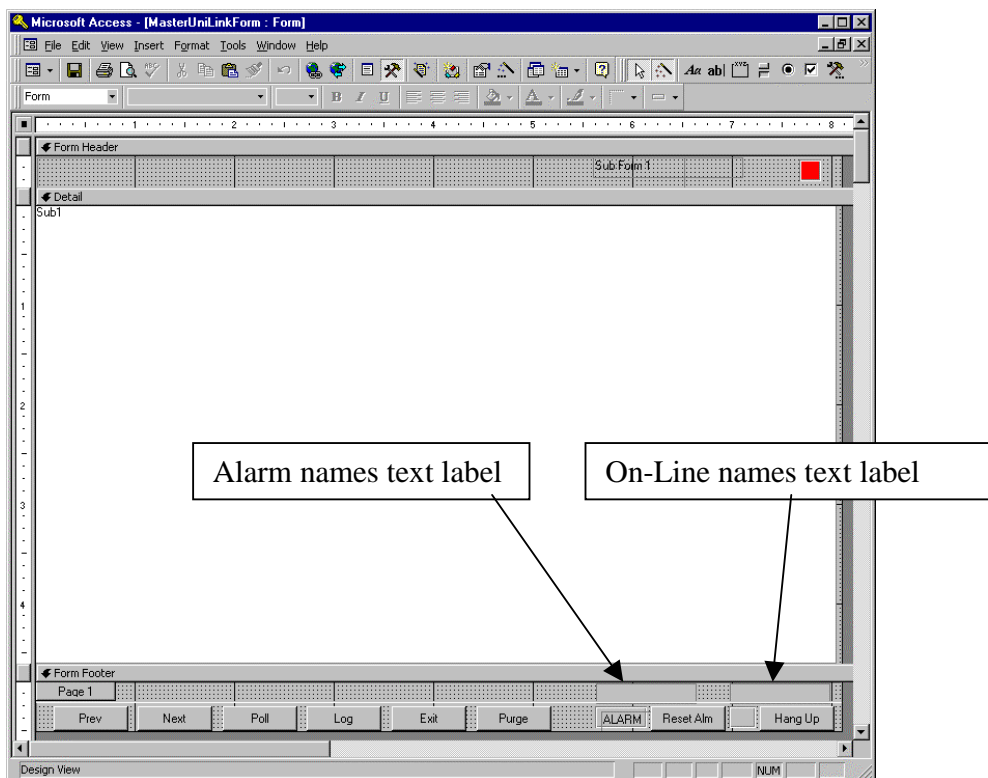
There are two labels for the names of UniModem sites:

- Text Label field for name(s) of sites which are connected & online.
- Text Label field for name(s) of sites which are connected & online and have an active alarm (ie: has had an alarm & not reset yet).

These are filled with the names obtained from the UniLink.ini file as a connection is made (ie the Modems go 'On-line'). If more than one modem is used on more than one Comms Port, multiple connections will be appended with a semi colon separator.

Re position these fields anywhere on the master form (not the sub forms or you will need to change the VB code in the Master form to reflect this) to suit your needs. (They are located above their buttons and 'lights', and behind the 'page tab' strip).

You can also identify these fields with text labels of your own (eg: "Alarm exist at:").



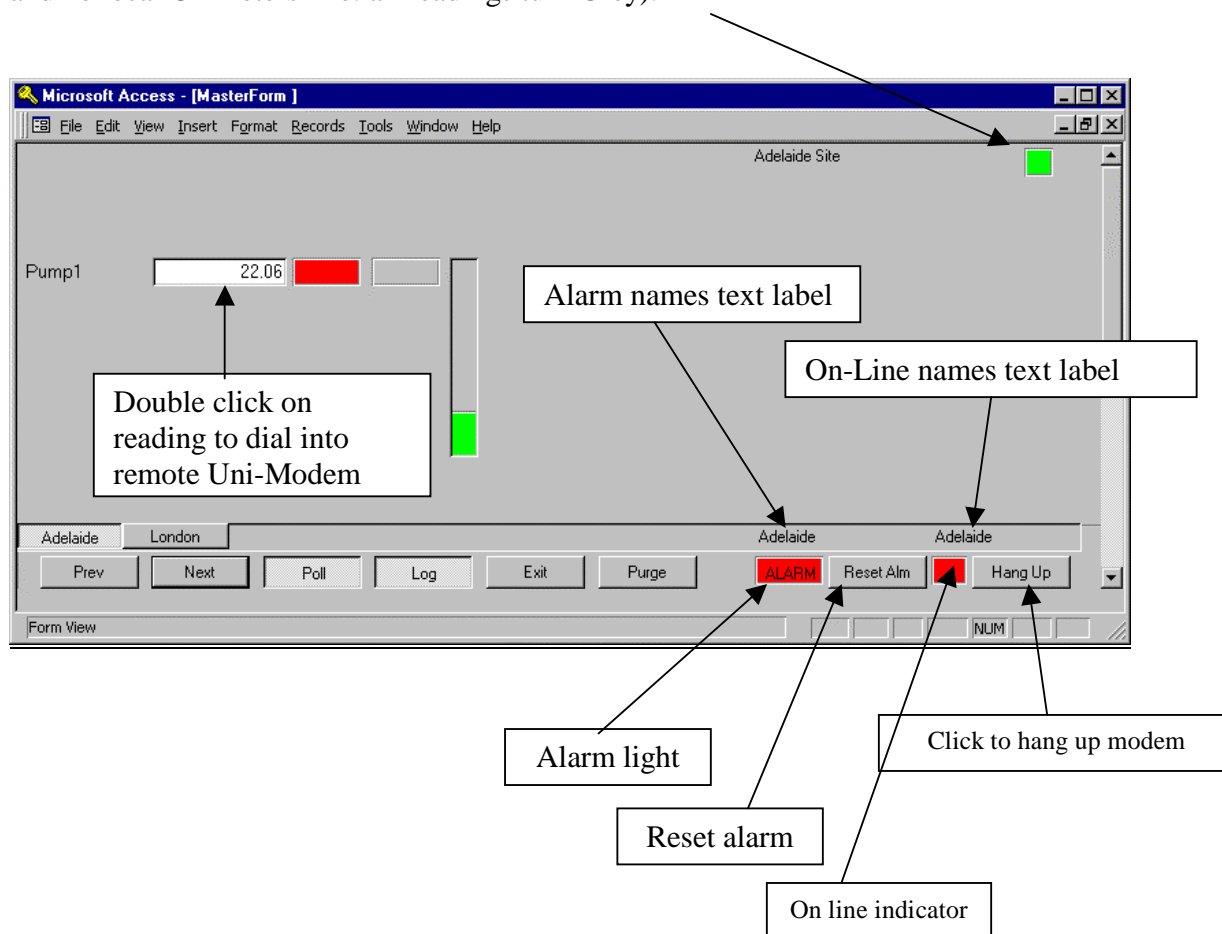
## Using the UniModem from the UniLink SCADA

If the device installed via the Uni-Link wizard 'Unimeter Device' page was at a remote place, you can connect to the remote device simply by double clicking on the device reading in the Access sub form. There is a hidden button on top of the reading that can only be seen in the Access design mode. This hidden button must always be in the foreground to become click sensitive. This button may be modified and shifted if required, however, the best place will be on top of the reading to avoid confusion.

To connect to the remote site in the Access sub form, simply double click on the device reading. The readings of all the devices connected to this Uni-Modem will start to update and be data logged. When on line to the remote UniModem, the 'On-line' light will light, and it's place name is displayed in the hidden 'On-line names' label (by default just above the on-line light).

To disconnect the remote devices, click on the 'Hang Up' button. The Uni-Modem will also be disconnected when Uni-Link stops, when you click the 'Exit' button or choose to close the Access database.

The UniLink active light will turn orange if no Unimeter is connected (UniModem off line and no local Unimeters – ie: all readings turn Grey).





### *Alarms from Uni-Modem*

If the alarm facility of the Uni-Modem is used, the red 'light' with the label 'Alarm' will be displayed on the bottom of the master form whenever the connected Uni-Modem has an active alarm. This light will remain until the Uni-Modem is no longer connected or you choose to acknowledge the alarm by clicking the 'Reset Alarm' button.

If the remote station is not on-line when an alarm occurs, the remote UniModem will dial it's preset ring-back number (ie the number your local PC's modem is connected to). If the SCADA database (and UniLink) is running on your PC, UniLink will automatically answer the call and the on-line and Alarm fields and lights will update accordingly.

If you are on line to a different Site, the remote UniModem will keep trying until you are off-line, then UniLink will answer the call, and the alarm condition will be successfully transferred. Once off-line again, the UniModem will then not initiate another call unless the alarm short circuit is removed and re-applied.

### *UniLink.exe startup*

Normally UniLink.exe is started up automatically 'behind the scenes' by opening the SCADA system's 'Master Form', and close when this form is closed.

You may choose start UniLink.exe first (before running the MS Access database master form). This will allow UniLink to answer the incoming phone calls without the SCADA system running, but no notification will be given to you until the SCADA system is run. Note that if you close the Access SCADA system with UniLink still running, the modem may still be on line (The SCADA will still update when it is run again, and show where UniLink is connected to, and any active alarms).

## APPENDIX A: (Re-)Installing the RS485 communications driver.

To Install the communications RS485 driver (for AS4000 RS485 direct connection to Unimeters), follow the next steps.

Double click on *'My Computer'*.

Double click on *'Control Panel'*.

Double click on *'System'*.

Select *'Device manager'* tab.

Double click on *'Ports (Com&LPT)'*.

Double click on the Comms port that you installed the AS4000 adaptor on.

Select the *'Driver'* tab.

Click on *'Update Driver'*.

You may need to click *'Next'* (Win 98)

**First Time:** Select "Search..." & Place the Driver Diskette in the floppy drive

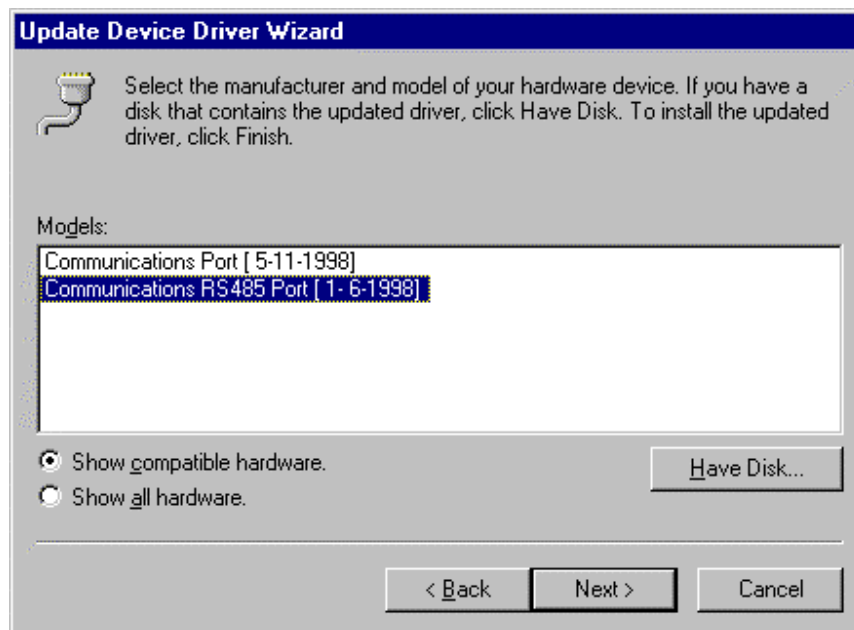
**Re Installation:** Select the 'Select Driver from List' option

Click on *'Next'*.

Select *'Communications RS485 Port'* (not the 'Communications Port').

Click *'finish'*.

If the computer requests the CD Rom simply ignore and click *'OK'* Two more windows will appear, select *'Skip File'* in both.



Close all windows and restart the computer. Naturally, you may reinstall the standard Microsoft driver, as outlined in Appendix B, at any time.

## APPENDIX B: Uninstalling the RS485 communications driver.

To restore the communications port to the normal state (for modem or similar device, not RS485), follow the next steps.

NB: If your system is Windows 98 (Not windows 95), you must perform the change in Appendix C once only before continuing with this procedure.

Double click on *'My Computer'*.

Double click on *'Control Panel'*.

Double click on *'System'*.

Select *'Device manager'* tab.

Double click on *'Ports (Com&LPT)'*.

Double click on the Comms port that you installed the AS4000 adaptor on.

Select the *'Driver'* tab.

Click on *'Update Driver'*.

You may need to click *'Next'* (Win 98)

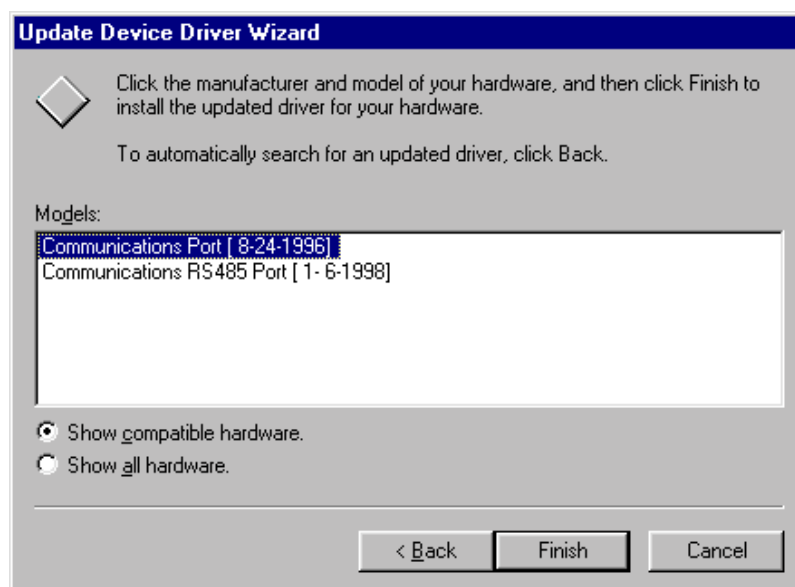
Select the *'Select Driver from List'* option

Click on *'Next'*.

Select *'Communications Port'* (not the Communications RS485 Port).

Click *'finish'*.

If the computer requests the CD Rom simply ignore and click *'OK'* Two more windows will appear, select *'Skip File'* in both.



Close all windows and restart the computer. Naturally, you may reinstall the RS485 driver, as outlined in the installation procedure, at any time.

## APPENDIX C: Mod: RS485 Serial VXD Driver on Windows 98

Applicable systems: Uni\_Link or UniTools (win) on a Windows 98 System

**Problem:** Unable to revert back to a normal serial port configuration after the RS485 Serial VXD Driver is installed. Although you select the original serial driver, windows does not alter the registry settings.

**Fix:**

1. Run Windows Explorer (Start | Programs | Windows Explorer)
2. Double click on the Windows folder
3. Double click on the Inf folder in the Windows folder.
4. Hilight the following file in this folder: Msports.inf
5. Make a copy of this file (Right click on the file & select copy, Right click in a vacant space in the right hand window & select paste)
6. Double click on the original file (Msports.inf) to edit it – Select Notepad to edit if asked.
7. Using search, Find the following phrase (without the quotations):  
“PortDriver,2”

The phrase should be in the following paragraph:

[ComPort.AddReg]  
HKR,,DevLoader,,\*vcomm  
HKR,,Enumerator,,serenum.vxd  
→ HKR,,PortDriver,2,serial.vxd  
HKR,,Contention,,\*vcd  
HKR,,ConfigDialog,,serialui.dll  
Etc

8. Remove the fig ‘2’ in this line, leaving both commas:

HKR,,PortDriver,,serial.vxd

9. Save the Msports.inf file.
10. Re-boot the PC.
11. If & When required, select the original serial driver to change the registry settings. (This is necessary even if you have already tried this before making this mod).