



ip.buffer App Note

AN001 : Dialling into the ip.buffer



<i>Date</i>	<i>Author</i>	<i>Release</i>
2007-10-02	MP	Initial draft
2008-06-11	MP	Updated for auto-IP

© UK 2007-8 Scannex Electronics Limited. All rights reserved worldwide.

Scannex Electronics Ltd, UK
t: +44(0)8707 48 65 65
f: +44(0)8707 48 67 67

<http://www.scannex.co.uk>
info@scannex.co.uk

Scannex LLC, USA
t: 1-866-4BUFFER
(1-866-428-3337)

<http://www.scannex.com>
info@scannex.com

Table of Contents

1. Introduction.....	1
2. Setting up the ip.buffer.....	2
2.1. Modem: Global.....	2
2.1.1. Country.....	2
2.1.2. Initialisation.....	2
2.1.3. Default IP.....	2
2.2. Modem: Dial-in.....	2
3. Setting up the PC.....	3
3.1. Windows XP.....	3
3.1.1. Create the connection.....	3
3.1.2. Adjusting the connection properties.....	6
4. Manually Dialling the ip.buffer.....	11
5. Accessing the ip.buffer.....	12
5.1. ip.buffer web-page.....	12
5.2. Accessing FTP.....	12
6. Automating the dial-out.....	13
6.1. Using command line tools.....	13
6.1.1. Connecting.....	13
6.1.2. Disconnecting.....	13
6.2. Dialling from Software.....	14

1. Introduction

All ip.buffer products with an “m” suffix (e.g. ip.4-128m) have an internal modem that supports both dial-in and dial-out features.

Contrary to older buffer products, the ip.buffer uses the TCP/IP protocols exclusively and therefore uses the PPP (Point-to-Point Protocol) over the modem. This allows for greater long-term flexibility and the ability to leverage the global Internet for delivering stored data.

This application note will explain how to dial into the ip.buffer modem.

The dial-in access allows for administration of the ip.buffer (via the web-server) and for collection of data with any of the “pull” methods (FTP server, or TCP server). This approach for data collection allows great flexibility in collecting from multiple ip.buffers.

2. Setting up the ip.buffer

Initially you can connect the ip.buffer to your Ethernet LAN and use the Scannex “SEDiscover” application to locate the ip.buffer and program its IP address. From there you can use a web-browser to access the configuration pages. (See the main ip.buffer manual for more details.)

The modem options are available from the web-page.

- Click on “SETUP” at the top of the web page
- In the “Global” section, choose the link for “Settings”
- In the page that loads, click on the “show” that is next to “Modem In”

2.1. Modem In: Global

2.1.1. Country

The country code sets up the modem for use in a specific country.

B5 is the default, which is for the US, and will work in most other areas. The ip.buffer manual has a full list of Multitech country codes.

2.1.2. Initialisation

The initialisation string is used for forcing other modes in the modem. *Leave this blank.*

2.1.3. ip.buffer Address

When you dial into the ip.buffer it will require an IP address that corresponds to the modem/PPP link. This field defaults to a blank value - the ip.buffer will assume the next IP address from the PC that dials in.

You can also force a fixed address. e.g. 192.168.234.235.

This address ideally should not exist on your LAN (or in the routing table for your PC). Generally the address range 192.168.0.x are used for LAN connections and it is very unlikely that the .234.x range will be used.

2.2. Modem: Dial-in

The dial-in settings need to be configured as well. Leave the settings as they are until you are confident that your PC is communicating with the ip.buffer.

- When you are happy that everything is working, be sure to change the username and password so that others cannot attempt to dial in to the ip.buffer!

3. Setting up the PC

- Even if you have many ip.buffers to communicate with, you only need **one** connection on the PC. It is not necessary to make a separate connection for each remote site.

3.1. Windows XP

3.1.1. Create the connection

- Start up the Control Panel
- Select “Network Connections”
- Select the task “New Connection Wizard”, click Next



- Click “Next”
- Select “Connect to the network at my workplace”

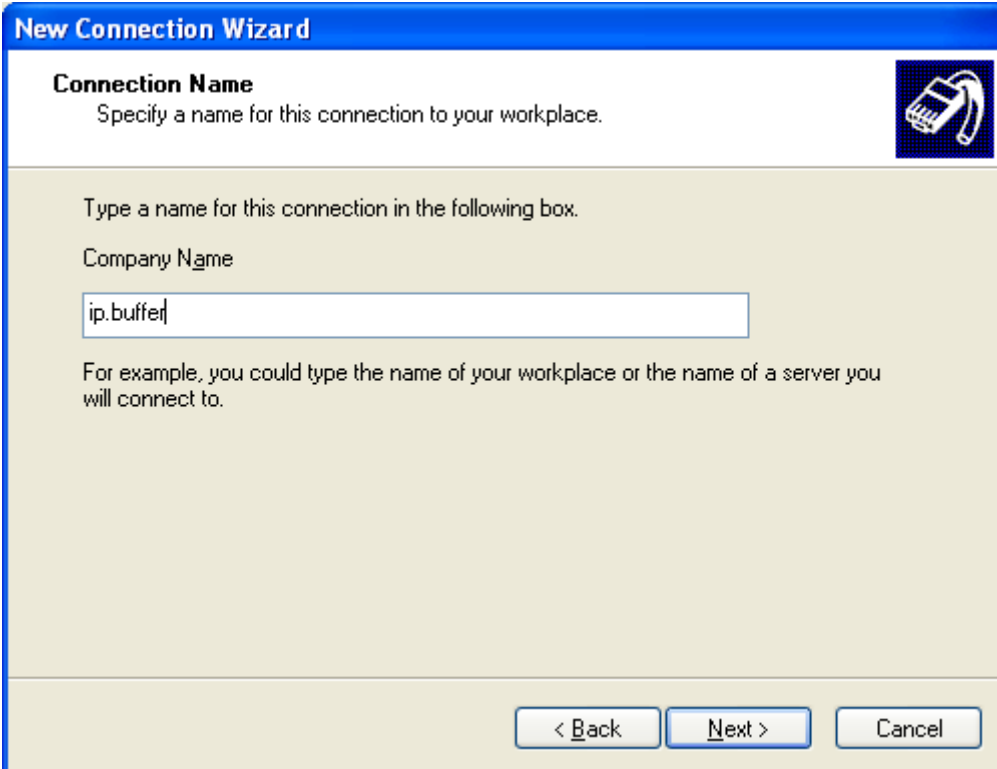


- Click "Next"
- Select "Dial-up connection"



- Click "Next"

- Type in the connection name, e.g. “ip.buffer”



New Connection Wizard

Connection Name
Specify a name for this connection to your workplace.

Type a name for this connection in the following box.

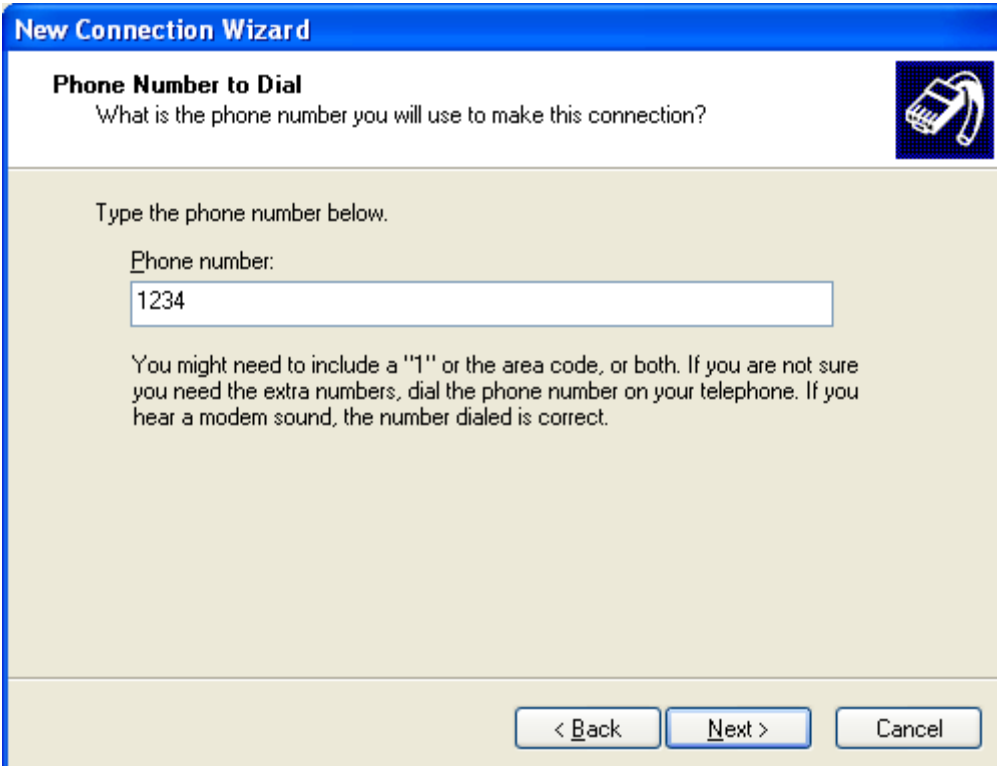
Company Name

ip.buffer

For example, you could type the name of your workplace or the name of a server you will connect to.

< Back Next > Cancel

- Click “Next”
- Enter the phone number, e.g. “1234”



New Connection Wizard

Phone Number to Dial
What is the phone number you will use to make this connection?

Type the phone number below.

Phone number:

1234

You might need to include a "1" or the area code, or both. If you are not sure you need the extra numbers, dial the phone number on your telephone. If you hear a modem sound, the number dialed is correct.

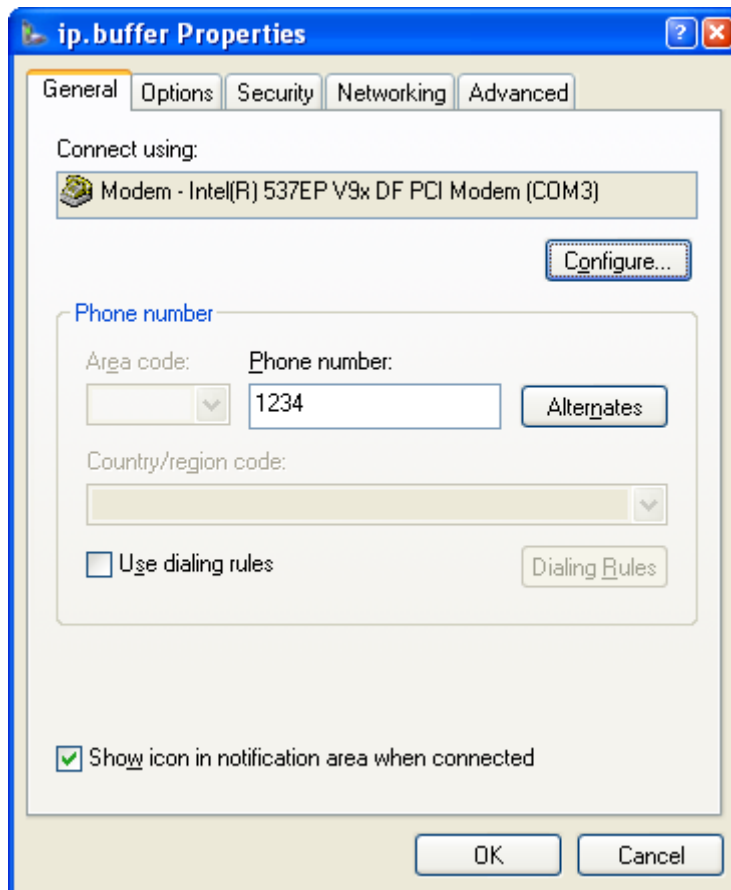
< Back Next > Cancel

- Click “Next”
- Click Finish

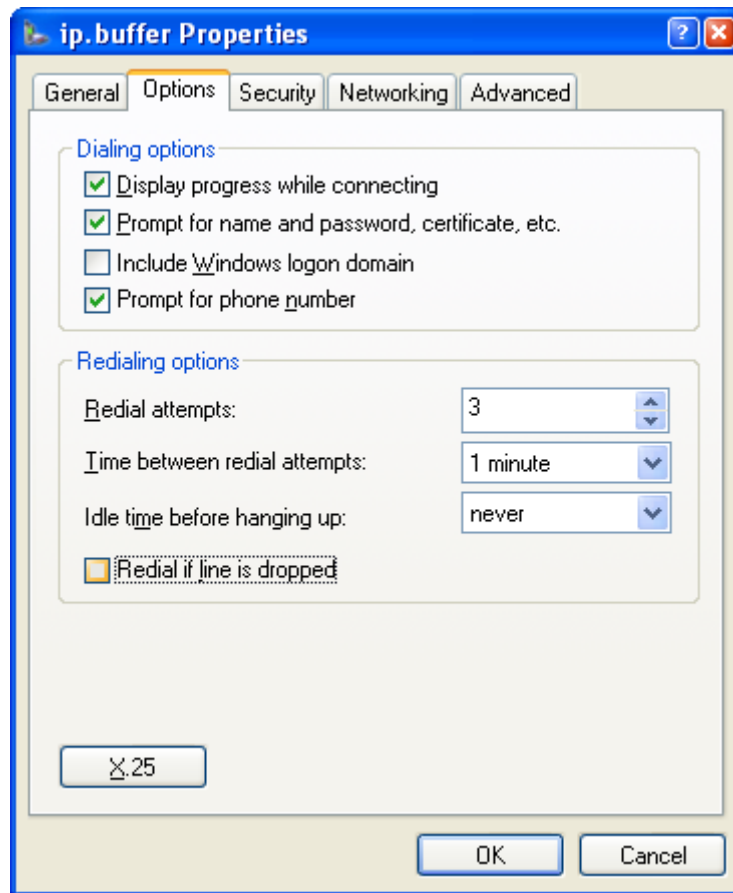
3.1.2. Adjusting the connection properties

The “Connect ip.buffer” dialog will appear after completing the previous step. Press the “Properties” button.

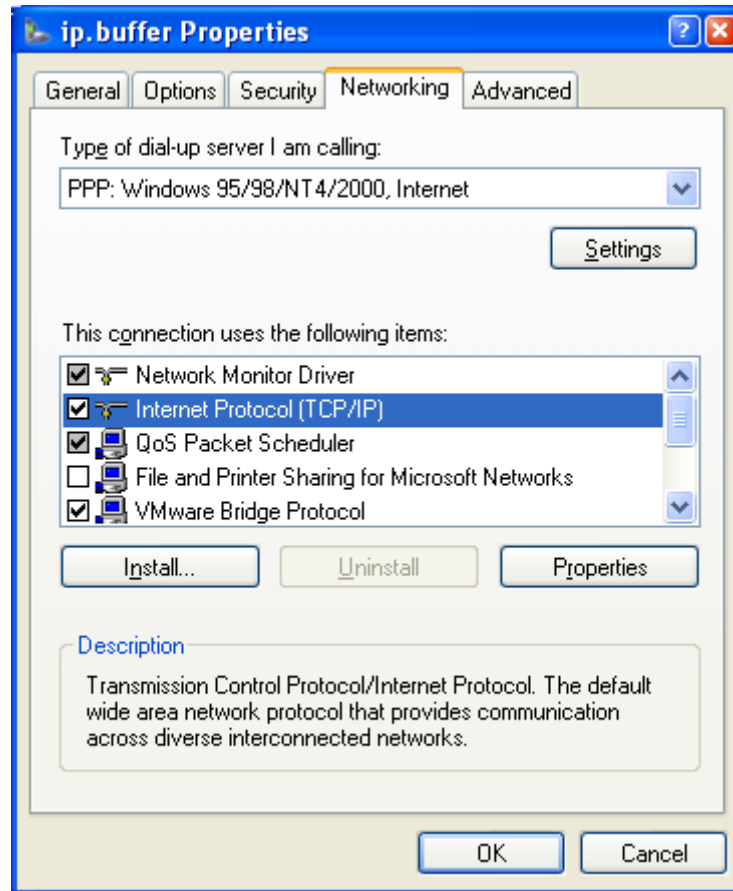
- If it does not, right click on the “ip.buffer” icon in the Network Connections explorer view and select “Properties”.



- On the “Options” tab page, ensure “Redial if line is dropped” is not checked.

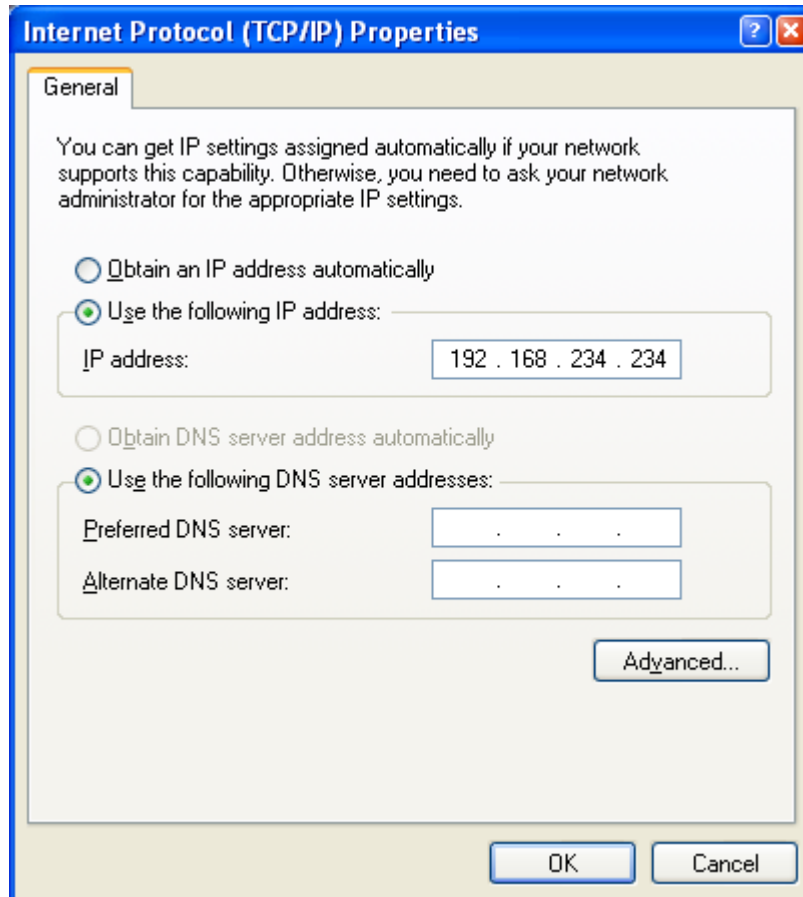


- On the “Networking” tab page, select the “Internet Protocol (TCP/IP) is selected

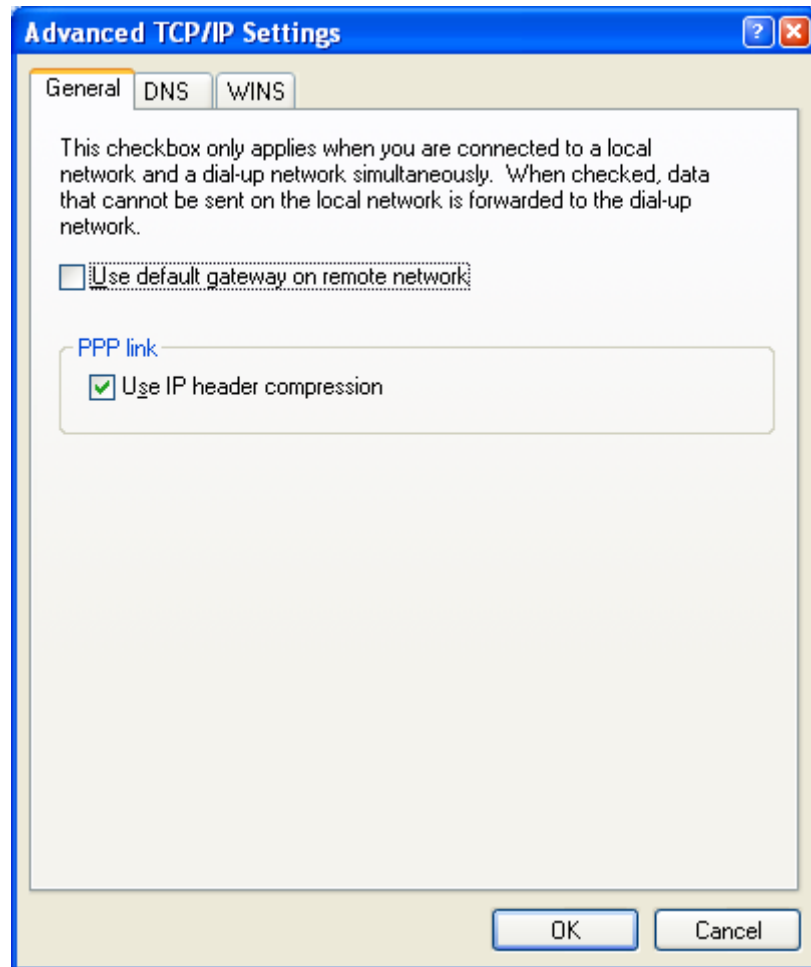


- Press the Properties button (or double-click)

- Select the option “Use the following IP address” and enter an IP
 - e.g. 192.168.234.234
 - The ip.buffer will be set to the address programmed in the web-page (the default was 192.168.234.235), or the PC's address plus one.



- Click the “Advanced” button
 - Untick the “Use default gateway on remote network”



- Click OK
- Click Ok to close the “Internet Protocol (TCP/IP) Properties”
- Click Ok on the “ip.buffer Properties” dialog

4. Manually Dialling the ip.buffer

From the “Network Connections” within Control Panel, just double click the “ip.buffer” connection.



Enter the user name and password that are programmed into the ip.buffer and click the “Dial” button.

When connected you should see an icon appear in the system task-tray showing the dial-up connection is connected.

5. Accessing the ip.buffer

5.1. *ip.buffer web-page*

Once connected via the modem/PPP link, you can simply access the ip.buffer from a web-browser.

In the example stated the address for the ip.buffer will be:

<http://192.168.234.235>

While connected you have the same access rights as when connected via the Ethernet LAN (just at a slower speed!).

5.2. *Accessing FTP*

You can use a simple tool, like the built-in command line FTP client to access the ip.buffer.

e.g. (from a COMMAND prompt) FTP 192.168.234.235

Alternatively, you can use your favourite FTP client (such as FileZilla) to access the ip.buffer. Again, use its IP address that was programmed in the Modem setup web-page.

6. Automating the dial-out

It is common for a PC to “reach-out” and collect from several remote sites. In this circumstance the dialling must be done without user intervention. There are at least two ways of automating the dial-out.

6.1. Using command line tools

Windows includes a “RASDIAL” command line tool that helps in creating batch command files for automation.

To get help on the RASDIAL command use:

```
RASDIAL /?
```

Further information on the RASDIAL command is available from Microsoft:

<http://www.microsoft.com/resources/documentation/windows/xp/all/proddocs/en-us/rasdiag.msp?mfr=true>

Assuming that the connection you created was called “ip.buffer” (as in the example) you can use the following commands to automate the dial-out process:

6.1.1. Connecting

```
RASDIAL ip.buffer user password /PHONE:1234
```

Obviously, provide the correct telephone number for the remote site, and the required username and password (as setup in the ip.buffer itself).

If the connection was successful, the returned ERRORLEVEL will be 0 (zero).

6.1.2. Disconnecting

The simple command:

```
RASDIAL ip.buffer /DISCONNECT
```

Will terminate the modem/PPP connection when your batch file is finished with the connection.

- If collecting from FTP, it is also possible to automate the FTP process with a script and batch file. See the Microsoft KB 96269 article: <http://support.microsoft.com/kb/96269>

6.2. Dialling from Software

It is also relatively simple to use C++, Delpi, or any other programming tool to perform the dialling using the Windows API calls.

Not surprisingly, the main API function is called “RasDial” (you can search for this under MSDN online).

The following information should be of help:

- RasEnumEntries will enumerate all the RAS connections. You can use this function to locate the “ip.buffer” entry created above and check that it’s been created.
- Fill out a RASDialParams structure and fill in all fields:
 - Like all Windows API calls, you must set the dwSize field.
 - Copy the RAS connection name into the szEntryName field (e.g. “ip.buffer”)
 - An szUserName string of “*” will use the username programmed in the RAS connection entry. Any other value will override the connection entry’s username.
 - The same applies to the szPassword string and the szPhoneNumber string entries.
- When calling the RasDial function you can supply a call back function which is called as the connection progresses.
 - RasGetErrorString will convert the RAS error to a human readable string.
 - The RASCS_xxx defines specify the connection state
- RasHangUp will terminate the connection (pass the handle returned from RasDial)

It is also possible to create the RAS connection programmatically (rather than having the user create the dial out entry).

See the online reference:

<http://www.codeproject.com/internet/dialupsetup.asp> for a sample project on creating dial-up connections.