

wIntegrate®

**COMMUNICATIONS
TIPS AND
TROUBLESHOOTING**

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WINTEGRATE TECH TIPS

A DISCUSSION ABOUT SERIAL CABLING



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In the overwhelming majority of cases, connecting the PC to the host machine using serial cables is a simple and painless task. However there is no universal standard defining the way computers communicate, so if you experience problems, you may need to contact your hardware vendor. They should be able to advise you on the precise requirements for your host computer.

Your PC should have one or more COM ports for serial communications. Up to eight COM ports can be connected to a host computer with dedicated cables and used by wIntegrate.

Each COM port normally has 9 or 25 pins. Older PCs tend to have 25-pin connectors and newer PCs have 9-pin connectors. These are completely compatible as only a few of the pins are used for serial communications.

At least three pins in the COM port are used. PCs are normally DTE devices (see below) which send data down pin 2, and receive data from pin 3. So for two PCs to communicate, pins 2 and 3 must be "twisted" so that the data sent by one computer to pin 2 is received by the other computer through pin 3. Pin 7 (on 25 pin plugs) is used as a ground.

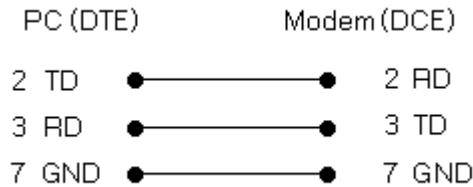
Modems are normally DCE devices (see below), so if a PC is connected to a modem pins 2 and 3 should not be twisted.

As the computers "talk" to each other, they must use some means of flow control (also called handshaking), otherwise one computer could send data faster than the other can process it, and characters would be lost. There are two types of flow control, hardware, or out-of-band flow control, commonly referred to as EIA flow control, and software, or in-band flow control, commonly referred to as XON/XOFF.

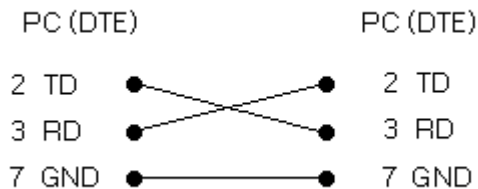
SOFTWARE FLOW CONTROL

Software flow control is the simplest, since this takes place within the communicated data, meaning the software controls when data is sent/received. As data is received, a buffer is filled. When the buffer is full, the receiving computer sends an XOFF character to the computer sending the data. The sending computer will not resume sending data until it receives an XON. Because the flow control is handled by the software, the number of pins required is, therefore, kept to a minimum.

When a PC is connected to a modem there is no need to twist wires. (RD = Receive Data, TD = Transmit Data)



When two PCs are connected, pins 2 and 3 must be twisted.



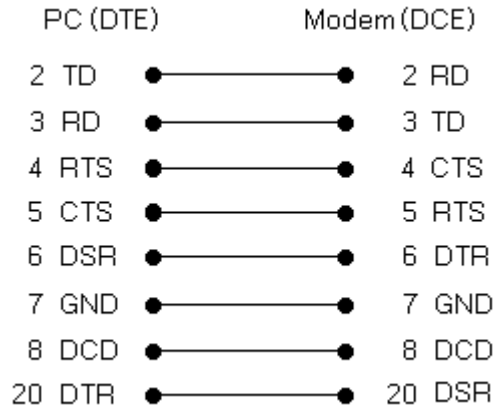
Note that the XON character is ASCII 17 and the XOFF character is ASCII 19. These characters can be entered at the keyboard by entering <Control>Q or <Control>S respectively.

HARDWARE FLOW CONTROL

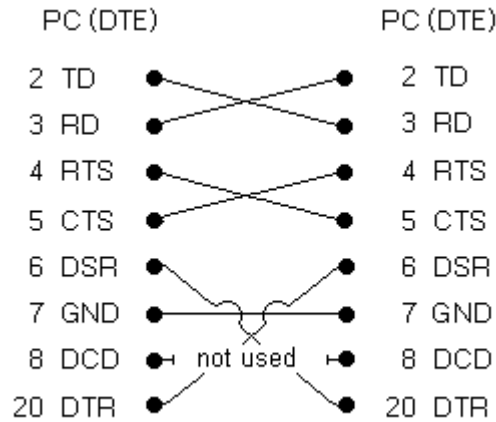
With hardware, or EIA, flow control, additional pins are turned on and off to indicate that the receiving computer is ready to receive more data. While hardware flow control is the faster of the two methods, it is less common than software flow control.

The additional pins 4, 5, 6, 8 and 20 do not transmit streams of data. They are used as simple on/off signals by turning current on and off on the pin.

When a PC (DTE device) is connected to a modem (or other DCE device) a straight-through connection can be used as the pin meanings are different. For example a PC will send data down pin 2 but the modem will also receive data in pin 2.



When two PCs are connected, additional wires must be twisted.



RTS (Ready To Send) is turned on when one device is ready to receive data from the other device. The second device detects this signal through its CTS (Clear to Send) pin.

DTR (Data Terminal Ready) is turned on when one device wants to tell the other that it is turned on and available. The second device detects this signal through its DSR (Data System Ready) pin.

DCD (Data Carrier Detect) is used by a Modem to tell a PC that the carrier signal is active. A PC (or other DTE device) is unable to send anything down the DCD line. So when two PCs are connected, DCD is not used.

You may find that your specific hardware, whether it be the PC, host, terminal server, etc., uses only some of these pins for hardware flow control. You may need to contact your hardware vendor for assistance.

There are some tools, readily available from computer supplies catalogues and computer dealers, that can be invaluable in helping you resolve cabling problems.

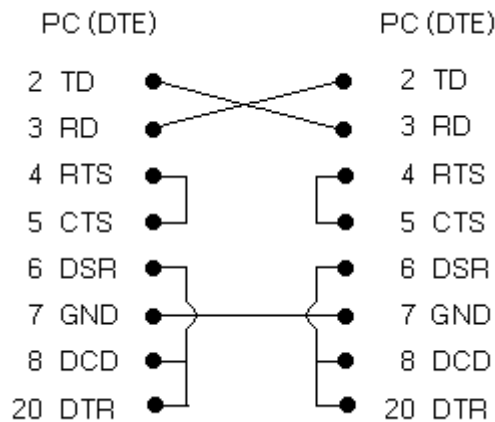
STRAIGHT-THROUGH CABLE

You give yourself more control and flexibility when the main cable has no twisted wires. The most useful configuration is plug at one end and socket at the other. Straight-through cables are available in both 9- and 25-pin configurations.

Ensure that the cable has sufficient wires for your needs. Some cables connect enough pins for XON/XOFF flow control, but not enough for hardware flow control.

NULL MODEM

This is a short connector box or cable containing the twists necessary for two computers to exchange information. There is no standard null modem. The following diagram shows a typical pin configuration on a 25-pin wire.



Notice that this null modem prevents the use of hardware flow control. If either computer is configured to use hardware flow control, it will give itself the all clear when it tells the other computer that it is ready!

Obviously if no hardware flow control can take place, XON/XOFF must be enabled to perform handshaking, otherwise data will be lost.

9 PIN TO 25 PIN CONVERTER

In earlier PCs the serial port was a 25-pin variety. Later the 9-pin serial port became the norm. While the early model had 25 pins available for use, only 8 or so were actually ever used. You can replace the 25-pin cables, or get a 9- to 25-pin adapter. This adapter can be a connector box or short cable,

and is used to convert the 9 pin COM port on many PC's to a 25-pin port. For the 9 pin PC end, you will usually need a socket (female).

GENDER CHANGER

Frequently, you may find you have a cable with the same type connection at each end, whether plug-plug or socket-socket, which makes it difficult to use. An inexpensive, and truly useful, item is a gender changer, or “gender-mender”. This little device is nothing more than a plug, or cable, with a the same type of terminator at each end, whether both plug or both socket. This straight-through device changes the gender of one end of a cable. Keep some of these handy to cover unforeseen situations.

LINE TESTER

This is a straight-through connector box (plug to socket) which has LEDs to show which pins are active. Pins 2 and 3 flash as data is sent and received from the host computer.

Even though you may not understand the lights in detail, you can quickly identify a wrongly-cabled port by checking that the LEDs for pins 2 and 3 are lit, or by comparing it with a port which works. If pins 2 and 3 are not lit, all you have to do is add a null modem and hey-presto, everything works! The flashing lights of the line-tester are also useful for checking that data is being exchanged between computers during a data transfer. Once you've had one of these, you can't live without it!

BREAKOUT BOX

A breakout box is similar to a line tester in that it uses LEDs to display what pins are active. It will display all pin activity, whether using 9- or 25-pin cables. You can use short wires to connect various pins to/from pins on each side of the box, effectively making a custom cable. Unless you have experience with breakout boxes you may find this almost impossible to use and very frustrating. At this point your best option is to call your hardware vendor, who should may supply a specially prepared cable or connector box.

DTE, DCE AND OTHER ALPHABET SOUP

Here are some handy definitions for when after-dinner conversation turns to a discussion of the pin-outs of serial cabling. These pin numbers refer to 25-pin connections.

DCE	Data Computer Equipment	Proprietary multi-user computer. Modem.
DTE	Data Terminating Equipment	PC (either stand-alone or multi-user) ASCII terminal. Printer.
TD	Transmit Data	DTE: pin 2 DCE: pin 3
RD	Receive Data	DTE: pin 3 DTE: pin 2
RTS	Ready to Send	DTE: pin 4 DTE: pin 5
CTS	Clear to Send	DTE: pin 5 DTE: pin 4
DSR	Data System Ready	DTE: pin 6 DTE: pin 20
Ground	Ground	DTE: pin 7 DTE: pin 7
DCD	Data Carrier Detect	DTE: pin 8 DTE: pin 8
DTR	Data Terminal Ready	DTE: PIN 20 DTE: PIN 6

In summary, the above should work. Don't take anything for granted. Check the communication settings on both computers. Try it with and without the null modem. Be sure to press CTRL-Q occasionally to ensure that the line is not in an X-OFF state.

WINTEGRATE TECH TIPS

CONNECTION USING WINDOWS SOCKETS WITH WINDOWS98 STARTS INTERNET DIALER



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wIntegrate uses Windows sockets for license broadcasts and, if so configured, to connect to a host computer. These activities are usually trouble-free. Occasionally, when the PC has been configured to connect to the Internet, you may find that, upon starting wIntegrate, the dialer used to connect to the Internet starts up instead of a connection to your host. In some cases, this is because the socket is one provided by the ISP. Replacing it with the standard Windows socket should resolve the problem. In the case of Windows98, this behavior may be the result of the design of Windows98.

The following article from Microsoft Support describes the problem in Windows98 and possible solutions.

Can't Use TCP/IP-based Utilities Unless Connected to Internet

Last reviewed: June 23,
1998
Article ID: Q184603

The information in this article applies to:

Microsoft Windows 98

SYMPTOMS

When you try to use a Transmission Control Protocol/Internet Protocol-based (TCP/IP-based) utility when you are not connected to the Internet, you may be unable to do so. For example, Personal Web Server and Telnet may not work correctly, and other TCP/IP-based utilities may generate error messages.

CAUSE

This issue can occur if your computer has a dynamically assigned Internet Protocol (IP) address from your Internet service provider (ISP). The TCP/IP stack is not loading correctly without a specified Web address.

RESOLUTION

To work around this issue, use either of the following methods:

Connect to Your ISP Before Using a TCP/IP-based Utility

Connect to your ISP before you want to use a TCP/IP-based utility

Temporarily Assign a Static IP Address to Your Computer

For information about how to temporarily assign a static IP address to your computer, click Start, click Help, click the Index tab, type "ip addresses" (without quotation marks), click Display, and then double-click the "To assign a private IP address for a simple network" topic.

NOTE: After you temporarily assign a static IP address to your computer and you are no longer using a TCP/IP-based utility, you should return your IP configuration to its original state.

STATUS

This behavior is by design.

MORE INFORMATION

This behavior is implemented to free up system resources (or system memory) by not loading unneeded network components.

WINTEGRATE TECH TIPS

HOW TO USE THE DIALER



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The wIntegrate Dialer is used to store, and dial, frequently called numbers using a modem.

To start the Dialer, select **Run, Dialer** from the wIntegrate menu. Type in the name, phone number, and any comments, then click 'add' to add the name to your dialer list. If you wish to remove this, or any other entry, highlight that entry then click 'Remove'. Note: you only need enter the phone number.

To dial a number from your list, highlight the number, enter ATDT for the Prefix, if using a touch-tone phone, ATDP if using a rotary-dial phone, then click 'Dial'.

You may also dial directly from the wIntegrate terminal screen. If you have set up your session to connect to the modem you can type modem commands in directly. For example, type **AT <enter>**; the modem responds with OK. Type **ATDT<phone number><enter>** and wIntegrate will dial the number, just as if you had used the Dialer.

Name	Telephone	Comment
Unidata	555.1212	Unidata, Inc. Modem

Buttons: OK, Cancel, Dial, Add, Remove, Help

Prefix:

TROUBLESHOOTING DIALING PROBLEMS

Dialer doesn't dial out

1. Be sure the prefix at the lower right corner of the screen has ATDT or ATDP.
2. Verify you have the correct COM port selected.
3. Use HyperTerm, included with Windows95, or Terminal, included with Windows 3.1, to make the same connection. If these programs won't dial either, the problem is outside of wIntegrate. Check your cabling, modem and COM port.

Dialer hangs when I select it

1. The Dialer file, \winteg\DIALER.TXT, has probably been corrupted. Delete it then, either re-enter the number using Dialer, or create a new DIALER.TXT in Notepad. The format is as follows:

Prefix (ATDT or ATDP)

Name <tab> number <tab> description <cr>

for example,

ATDT

Unidata 555.1212 Unidata, Inc Modem

Be sure to end the last line with a <CR> and separate each field with a TAB.

WINTEGRATE TECH TIPS

HOW TO USE THE SOCKCONN SCRIPT TO STORE CONNECTION INFORMATION



WHAT IS SOCKCONN.WIS?

The SockConn.WIS script was introduced in wIntegrate 4.0.3. This lets you set up a list of Windows Sockets connections with names, host names and comments. It offers a more lightweight way of remembering and reconnecting to different hosts than saving a new session configuration each time. The dialog works much the same as Run Dialer except that it has a Connect button to make the connection.



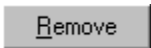
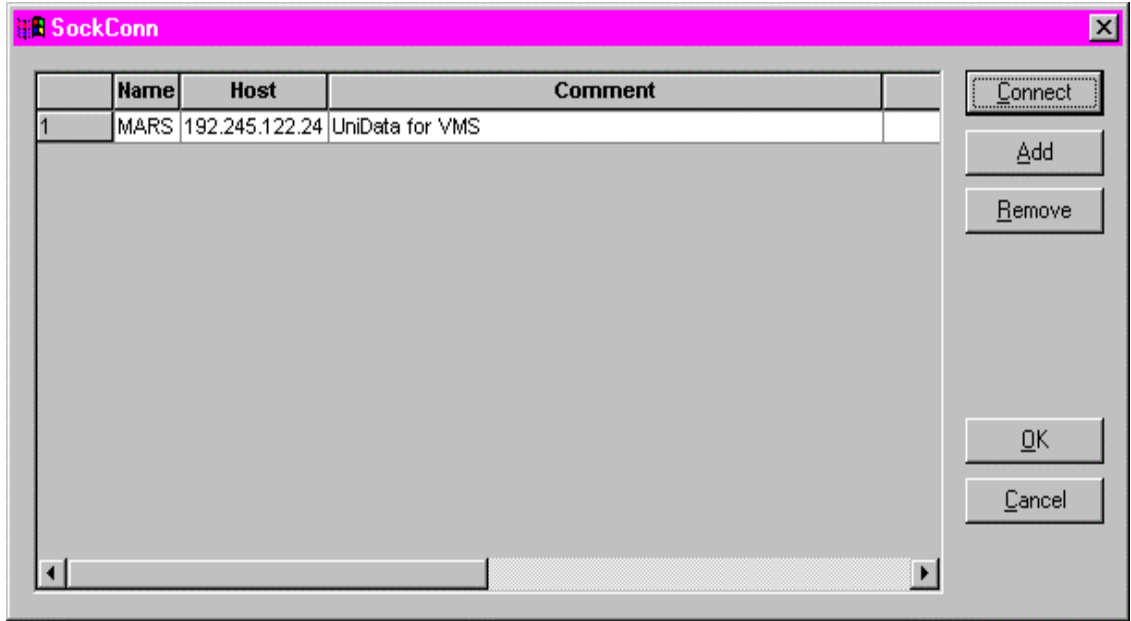
USING SOCKCONN.WIS

To start SockConn, click **Run | Script**, on the wIntegrate menu, then select the script `\winteg\wintsys\script\SockConn.wis`. The following dialog box will be displayed.



When you click **Add**, a new line is displayed. Enter a name for this connection, if desired, the host name or IP, and comments, if desired. A new line number will be displayed in the cell at the left of the line.

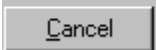
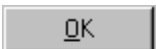
In the following example, the IP address of the host has been used.



To remove an entry, click on the line number of that entry to highlight the entire line, then click **Remove**.



Click on the line number to select the line, then click **Connect**. A new connection will be established in the current session window.



Click **OK** to store all of the changes made on the dialog box or **Cancel** to quit without saving the changes.

Making changes

Once you've added an entry you can always click in any of the fields for that entry to make changes. Clicking **OK** will save them.

The data in SockConn is stored in \wintegrate\SockConn.txt in the same format you see on the table. Each field is separated by a TAB.

MARS 192.245.122.24 UniData for VMS

WINTEGRATE TECH TIPS

MORE ON TROUBLESHOOTING
CONNECTION PROBLEMS

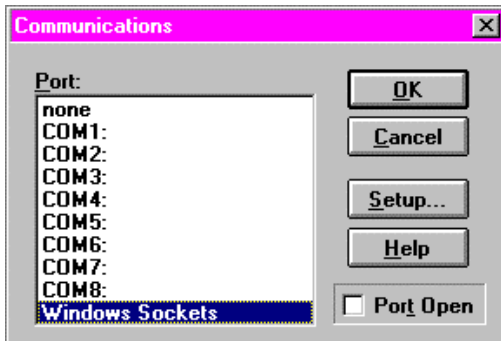


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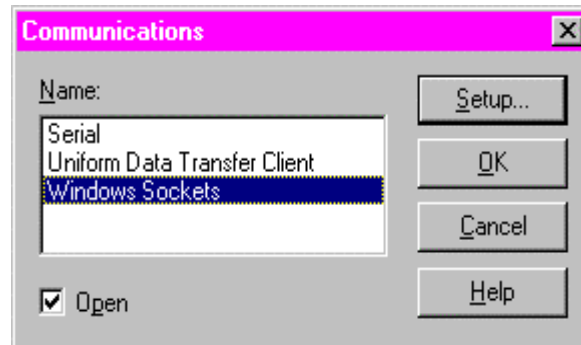
wIntegrate can communicate with a host using a serial connection, Windows sockets, or PicLan. Version 3.x will also support FTP's PC/TCP (used with Windows 3.1) and Novell's Lan Work Place/Group. To simplify the setup process, wIntegrate does not provide any custom communication drivers or DLLs. We rely entirely on Windows for those drivers. This means there are rarely communications problems caused by wIntegrate. Typically, problems connecting to a host are the result of TCP/IP not having been installed or configured correctly, using the wrong COM port, hardware or cabling problems. The information presented here can help you identify whether a connection problem is within wIntegrate or at the Windows or hardware level.

SELECTING A COMMUNICATIONS TYPE

All communications configuration screens are selected by clicking **Setup | Communications** on the wIntegrate menu. One of following dialog boxes will be displayed.



wIntegrate 3.x

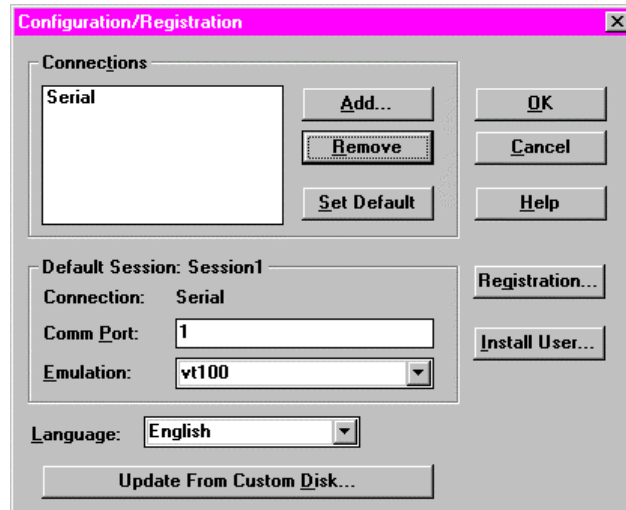


wIntegrate 4.x (98)

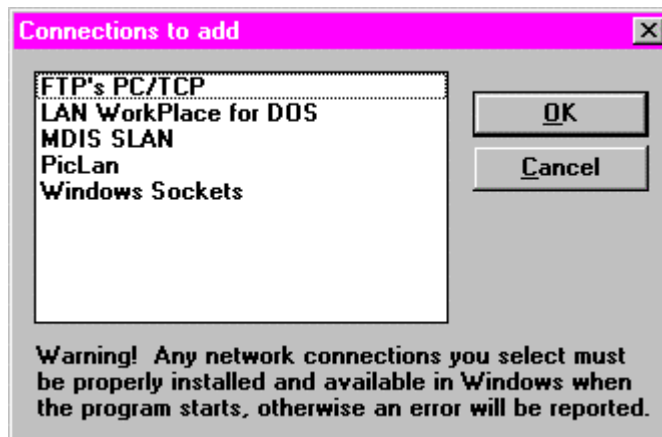
Each communication protocol must be added before it can be displayed and selected. Detailed instructions on selecting and configuring communications can be found in the *Using wIntegrate* manual.

wIntegrate 3.x

Click **Start | Programs | wIntegrate**, then select **Configuration**. The **Configuration/Registration** dialog box will be displayed. If this selection does not appear on the program group, you can run `\winteg\wconfig.exe`.



Serial is installed by default. To add other protocols, e.g. Windows Sockets, Pic Lan, etc., click **Add**. The **Connections to add** dialog box is displayed. You are advised that you must have your protocol properly installed and available in Windows.



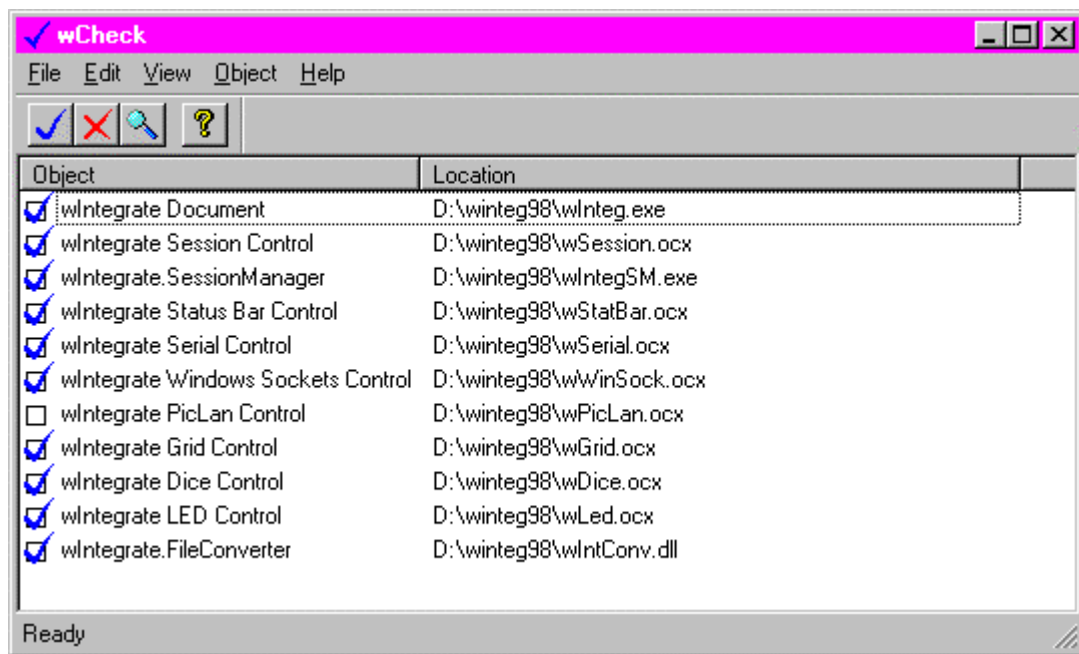
Click the protocol to be added, then **OK**. Click **OK** to close the **Configuration/Registration** dialog box. Now, when you click **Setup | Communications** from the wIntegrate main menu the new protocol will be one of the choices available to you.

wIntegrate 4.x (98)

During installation of wIntegrate 98 the Active-X controls for serial and Windows sockets communications are installed and registered automatically. If you wish to use PicLan you must register it manually.

To verify the serial and sockets controls were registered, click **Start | Programs | wIntegrate 98** and select **Check Installation**. If this option is not displayed, run `\winteg\wcheck.exe`. The following dialog box will be displayed.

You should see a check mark for both **wIntegrate Serial Control** and **wIntegrate Windows Sockets Control**.



If one or both of these options is not checked, highlight the unchecked option, then click **Object | Register**.

Adding PicLan Control

To add support for PicLan, highlight **wIntegrate PicLan Control**, then click **Object | Register**. Note: PicLan must be installed and fully functional on the PC before attempting to register the PicLan object.

TROUBLESHOOTING COMMUNICATIONS PROBLEMS

Because wIntegrate doesn't provide communications drivers or DLLs, depending entirely on Windows, communications problems are nearly always a Windows problem rather than wIntegrate. The following can help you determine if the problem is truly in wIntegrate, Windows, or a hardware problem.

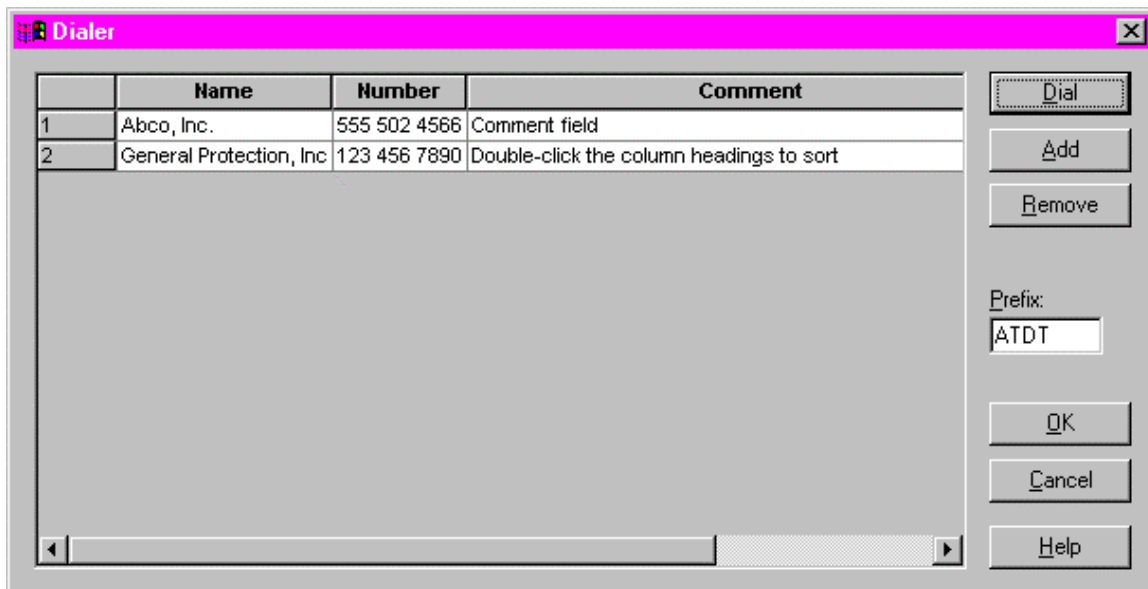
Serial Communication Problems

Serial communication is probably the simplest to use. All you need is a cable to the host or a modem, set the baud rate and it works. Usually. The following are the most common problems encountered when using serial communications with wIntegrate.

The first thing to test is whether wIntegrate and the modem are 'talking' to each other. In the blank wIntegrate session screen, type **at** <enter>. If you are connected to the correct modem port, the 'at' should be echoed and the modem should respond with 'ok'. If it does, you probably need to set up the modem prefix in the Dialer. If the 'at' is not echoed, you may not have the correct COM port selected.

Setting the Dialer prefix

The Dialer is started by selecting **Run | Dialer** from the wIntegrate menu. The Dialer dialog is displayed. The following is from wIntegrate 98 – the Dialer in version 3 is approximately the same.



In wIntegrate 3.x the **Prefix** is not put in automatically. Be sure you enter **ATDT**, as above.

Wrong COM port

In the blank wIntegrate session screen, type **at** <enter>. If you are connected to the correct modem port, the **'at'** should be echoed and the modem should respond with **'ok'**. If it doesn't, select a different COM port until one is found that responds. If no port is found that responds, go to the section on using HyperTerminal.

Using HyperTerminal

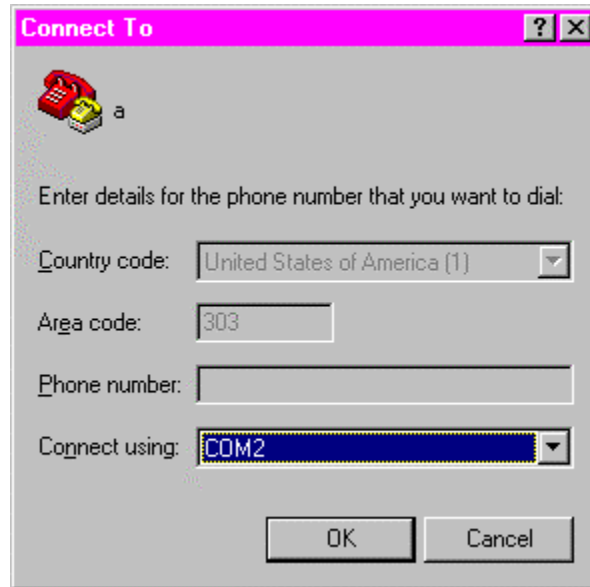
The easiest way to determine if the problem is caused by wIntegrate is to get a second opinion. The second opinion we use is Windows Hyperterm. If you are unable to connect with Hyperterm the problem is outside of wIntegrate. It could be a bad modem, cable, or no dial tone.

Hyperterm is a Microsoft product included with Windows. If you have questions about its use you may contact Microsoft Support for assistance.

To use Hyperterm, click **Start | Accessories | Hyperterminal** (in Windows 98, **Communications**) | **Hyper Terminal**. You should see the following dialog box displayed.



Since we don't intend to save any settings, just enter any single letter and press **OK**. You will now get the **Connect To** dialog box.



Modem

If using a modem, select that modem in the **Connect using:** box, enter the appropriate number and click **OK**. On the **Connect** dialog box, click **Dial**. The only time we have seen HyperTerminal work and wIntegrate not work is when the user had Gateway's Teleport product installed. Teleport somehow configures a connection to the serial port without actually using a specific COM port. HyperTerminal will not be using a COM port. If the user attempts to connect using the COM port HyperTerminal will fail. This also indicates they don't have the PC configured properly to use a COM port. They may need to talk to Gateway to get Teleport set up for a COM port.

Direct Connection

When using a direct connection to the host, select **Direct to ComX**, where *X* is the specific COM port being used. If HyperTerm doesn't make a connection, the problem is outside wIntegrate. We've not seen where HyperTerminal worked and wIntegrate did not.

There are a number of possibilities why a direct connection won't work. 1) a server port at the host may be logged off; 2) baud, parity, data bit, stop bit setting are mismatched between the host and wIntegrate; 3) the cable is not configured properly – you can't use the same cable on a PC that you used to connect a dumb terminal without a null modem adapter; 4) incomplete connectivity from the PC to the host. See the Tech Tip *A Discussion About Serial Cabling* for further information on serial cabling.

Windows Sockets Problems

wIntegrate does not provide a custom socket. Typically, when a PC is configured for sockets, the Microsoft socket, winsock.dll, is used. wIntegrate works extremely well with this socket and we rarely experience problems with it. As with other protocols, connection problems using Windows sockets are usually caused by configuration issues outside of wIntegrate.

‘Unable to get network descriptor’

Windows sockets problems tend to be caused by TCP/IP not being configured properly on the PC. The most common error message is ‘unable to get network descriptor’. When this message is received, verify whether you are using the host name or IP to connect to the host. If you are using the host name, use the IP address. You may not have Domain Name Services to resolve the name to an IP.

If you are using the IP address to connect to the host, verify your TCP/IP configuration. At a DOS prompt ping the IP of the host. If it returns with 5 replies, you have connectivity via the network to the host. Next, use the Windows telnet client to connect to the IP of the host. If it doesn’t connect, you haven’t configured TCP/IP properly.

There is a compatibility problem between Windows98 and the winsock 2 socket which prevents 16-bit applications from connecting using Windows sockets. You can re-install the correct socket provided with Windows98. This has resolved the problem in perhaps 50-75% of the cases. Another method, reported to be more successful, is to copy winsock.old to the wIntegrate directory, then rename it to be winsock.dll. Microsoft has published an article on this problem (Q139384) on their Knowledge Base.

Dialer is started

Frequently, a PC may be configured to connect to the Internet using AOL, CompuServe, or products from Artisoft, for example. These vendors commonly provide their own socket so when you attempt to use these sockets they bring up the vendor’s dialer. If this is the case, you will need to replace these with the standard Microsoft winsock.dll. This should be in the Windows folder, and there should be no other socket in a folder in the path. Replacing the socket should allow wIntegrate to connect to the host.

When using Windows98 you may find a dialer coming up. This is a design feature in Windows98. Microsoft has published an article (Q184603) on their Knowledge Base discussing this behavior. The summary points are included here. For further information, please contact Microsoft Support.

This issue can occur if your computer has a dynamically assigned Internet Protocol (IP) address from your Internet service provider (ISP). The TCP/IP stack is not loading correctly without a specified Web address.

To work around this issue, use either of the following methods:

- Connect to Your ISP Before Using a TCP/IP-based Utility
- Connect to your ISP before you want to use a TCP/IP-based utility
- Temporarily Assign a Static IP Address to Your Computer

For information about how to temporarily assign a static IP address to your computer, click **Start**, click **Help**, click the **Index** tab, type "ip addresses" (without quotation marks), click **Display**, and then double-click the "To assign a private IP address for a simple network" topic.

NOTE: After you temporarily assign a static IP address to your computer and you are no longer using a TCP/IP-based utility, you should return your IP configuration to its original state.

A user has reported that, in Windows95, to disable the dialer, edit the Registry and locate the folder **Autodial**. It's a subfolder under **Windows Sockets**. Microsoft Support had him change its name to **Autodix** preventing the Autodial feature from being used. This may also work for Windows98. Keep in mind, this was something Microsoft suggested. We do not recommend, nor support, editing the Registry. Also, editing the Registry can be very dangerous if you are not familiar with doing so. Before editing the Registry export it to a text file so you have a backup. If you elect to edit the Registry, we strongly suggest you contact Microsoft Support for assistance.

PicLan

PicLan is probably the most peculiar of the protocols we support. As with the others protocols, it is your responsibility to have it working before using wIntegrate. There is a minimum version required for use with Windows95, and a minimum version required when using Windows98. Also, in years past, the version of PicLan on the host had to match that of the client.

One of the first things we suggest that you check is whether or not two programs provided with PicLan, PLTW.EXE and PL-STATW.EXE, are working.

These two programs use the same interface to the underlying PicLan networking functionality that wIntegrate does. If these two programs don't work then there is likely a PicLan configuration problem. Even though PicLan may function stand alone, if these two programs aren't functioning, wIntegrate will not be able to connect to the host.

All 16-bit versions of wIntegrate use the PicLan interface provided by PLAN.DLL. All 32-bit versions of wIntegrate (i.e. wIntegrate 98) use the interface provided by PLAN32.DLL. The latest release of PicLan, version 2.0.0.17, is supplied with a program called PLTW32.EXE, which also uses PLAN32.DLL. One way to verify that a given

PicLan configuration is set up properly for a 32-bit environment would be to run PLTW32.EXE.

It is important to realize that much of the PicLan software can and does work even when PLTW.EXE and PL-STATW.EXE do not. This is because other PicLan programs communicate with the network drivers at a much lower level, often talking directly with the PicLan DOS driver. However, third party programs that use PicLan (such as wIntegrate) only have the PLAN.DLL or PLAN32.DLL interfaces available to them.

WINTEGRATE TECH TIPS

PROBLEMS USING PICLAN



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PicLan is one of several network protocols supported by both the 16 bit and 32 bit versions of wIntegrate. Occasionally users may experience various difficulties connecting to their host over a PicLan network. One of the first things we suggest that a user check is whether or not two programs provided with PicLan, PLTW.EXE and PL-STATW.EXE, are working.

These two programs use the same interface to the underlying PicLan networking functionality that wIntegrate does. If these two programs don't work then there is likely a PicLan configuration problem. Even though PicLan may function stand alone, if these two programs aren't functioning, wIntegrate will not be able to connect to the host.

All 16-bit versions of wIntegrate (including 2.5) use the PicLan interface provided by PLAN.DLL. All 32-bit versions of wIntegrate (i.e. wIntegrate 98) use the interface provided by PLAN32.DLL. The latest release of PicLan, version 2.0.0.17, is supplied with a program called PLTW32.EXE, which also uses PLAN32.DLL. One way to verify that a given PicLan configuration is set up properly for a 32-bit environment would be to run PLTW32.EXE.

It is important to realize that much of the PicLan software can and does work even when PLTW.EXE and PL-STATW.EXE do not. This is because other PicLan programs communicate with the network drivers at a much lower level, often talking directly with the PicLan DOS driver. However, third party programs that use PicLan (such as wIntegrate) only have the PLAN.DLL or PLAN32.DLL interfaces available to them.

WINTEGRATE TECH TIPS

TELNET NEGOTIATION PROBLEMS WHEN CONNECTING USING WINDOWS SOCKETS



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Occasionally, a user may encounter a host system that does not accept a Winsock connection via wIntegrate even when Telnet is working. Symptoms of this problem can range from intermittent problems with making a connection, to a consistent failure every time one makes the attempt. Usually the error displayed by wIntegrate is “Communication Error: Unable to connect to Host”.

Certain host systems may handle telnet negotiation at a slower rate than the PC running wIntegrate. A simple change to the wIntegrate startup script, Startup.wis, should resolve this problem.

In wIntegrate, from the File menu, select the Edit option. Browse to \winteg\wintsys\script and open the Startup.wis script:

- * Start up script
- * Version 2.5

- * Caution: Commands in this script are executed
- * simultaneously with Telnet negotiation (on
- * TCP/IP connections). On slow machines this can
- * cause the Telnet negotiation to timeout, and
- * force the user to open the connection manually.
- * Add a Wait Delay command to pause this script
- * until Telnet negotiation is complete:
- *Wait Delay 200

- * Send a CR to the host to display the login prompt
- * on serial connections

Enter

Simply remove the asterisk preceding the line “Wait Delay 200” and save the changes. Now restart wIntegrate and the connection should be established automatically. If the connection is still failing, try increasing the length of time in the wait delay. By default, the wait delay is in milliseconds. To change the wait delay to seconds, surround the number with quotes, e.g. Wait Delay “2s”. This will cause a delay of two seconds, which should be ample time for the telnet negotiation to complete.

WINTEGRATE TECH TIPS

TROUBLESHOOTING SERIAL COMMUNICATIONS PROBLEMS



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The scenario: you just installed wIntegrate, configured it to use a COM port, start it up and, and, and... nothing, nada, zip, you can't connect to your host. This may surprise you, but this is not uncommon. No, really, it's true! Here are some things that will help identify the problem.

TRY ALL PORTS IN WINTEGRATE

wIntegrate, by default, is configured to use COM1. It's possible this port isn't available, or it's in use by another device, for example, a mouse. Select Setup, Communications and try each of the COM ports. Be sure to check the port settings. wIntegrate defines the COM ports at 9600 baud, 8 data bits, 1 stop bit, no parity so be sure to change these to match your actual port settings.

If you can't connect on any port, we need a 'second opinion'. Our second opinion comes from HyperTerm, if you're using Windows95, or Terminal, if you're using Windows 3.1. These programs are communications utilities included with Windows. Terminal is documented in the Windows 3.1 reference manual, HyperTerm has on-line documentation. Direct support is also available from Microsoft.

Start up HyperTerm or Terminal and configure it for Direct to COMx, COMx being the COM port you want to test. Try each COM port. If you can't connect with HyperTerm or Terminal, the problem lies with your cabling, server port or PC, rather than wIntegrate.

A TERMINAL WORKS ON THIS LINE BUT NOT THE PC

The cable used by a dumb terminal to communicate with the host is different than that used by the PC. The major difference being that pins 2 and 3 are reversed for the PC. You can't use the same cable for both a terminal and a PC. You can have a new cable made or use a null modem adapter to reverse pins 2 and 3.

WINTEGRATE TECH TIPS

WINDOWS SOCKETS CONNECTION PROBLEMS WHEN USING WINDOWS98



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wIntegrate supports a variety of communications types: serial, Windows Sockets, PicLAN, PC/TCP, and Novell LAN Workplace. Of these, Windows Sockets is probably the most commonly used.

Given a standard WINSOCK.DLL, wIntegrate installs, configures and runs trouble-free. Microsoft provides 3 different versions of their standard WINSOCK.DLL for Windows95/98:

- 4.00.950 shipped with Windows95, 95a
- 4.00.1111 shipped with Windows95B, WINSOCK 2 patch
- 4.10.1998 shipped with Windows98

WHAT WORKS, WHAT DOESN'T

Each of these sockets works well with wIntegrate when used in its particular environment. The 4.00.950 or 4.00.1111 sockets can be used with any version of Windows95, while the 4.10.1998 socket can only be used with Windows98.

MICROSOFT PERSONAL WEB SERVER

When you install Personal Web Server, included on the FrontPage97 CD, it installs the 4.00.1111 socket, winsock.dll, which is not properly backwards-compatible. This socket misbehaves with Windows98 and prevents wIntegrate 3.x from connecting to the host. wIntegrate 98 will connect properly, however. Typically, the message "unable to get network descriptor" is displayed when a connection attempt is made (eg. when pressing OK in the Setup | Communications dialog). This socket causes problems with numerous other vendor's applications, as well. Uninstalling Personal Web Server does not restore the good socket and, therefore, doesn't resolve the problem.

Note: Windows98 comes with FrontPage Express and Personal Web Server 4.0. These use the 4.10.1998 socket so wIntegrate is unaffected.

INSTALLING WINSOCK.DLL FROM WINDOWS98 CD

In our testing we have found that you can replace the 4.00.1111 socket with the 4.10.1998 socket and wIntegrate will work properly. Some customers, however, have not been successful with this procedure. Those customers who have been successful have reported that this does not present problems for FrontPage.

To extract the socket shipped with Windows98:

- ◆ Insert the Windows 98 CD in the drive (the later the version the better).
- ◆ From the Windows 98 "Start" menu, select "Programs | Accessories | System Tools | System Information".
- ◆ From the "Tools" menu select "System File Checker".
- ◆ Select the "Extract one file from installation disk" radio button.
- ◆ In the "Specify the system file you would like to restore" field, type "winsock.dll".
- ◆ Press the "Start" button.

This will extract the winsock.dll file from the Windows 98 CD and install it to the Windows 98 folder.

If, after installing the socket from the CD, you still experience the problem, you will need to obtain a later version of winsock.dll (try the Microsoft web site) and copy it to your Windows 98 folder.

WINTEGRATE TECH TIPS

WINTEGRATE 3.x WON'T CONNECT USING WINDOWS SOCKETS IN WINDOWS98



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We described a problem in a previous Tech Tip where the WINSOCK 2 socket, when installed in Windows98, prevents wIntegrate 3.x from connecting to a host. That Tech Tip, [Windows Sockets Connection Problems When Using Windows98](#), discussed a solution that was effective 50-75% of the time. As the problem was one between 2 Microsoft products - Windows98 and the Windows socket, there was nothing else we could do with wIntegrate to get around the problem.

This Tech Tip describes a solution offered by Microsoft. A full discussion of this, and other options, can be found on the Microsoft KnowledgeBase in article Q139384. The solution posed here has been successful in all cases where the older socket has been installed in Windows98.

SYMPTOMS

After installing Personal Web Server (PWS) wIntegrate 3.0 won't connect to your host and displays the error message 'unable to get network descriptor'. Re-installing the correct winsock.dll does not remedy the situation.

CAUSE

When you installed PWS an older winsock.dll was installed, and possibly additional interface files, which are not fully compatible with Windows98.

RESOLUTION

Copy the winsock.dll file from the Windows folder to the wIntegrate folder. Rename winsock.dll in the Windows folder to something other than winsock.dll.