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Don't Forget the Area Code

Modem users of WGM normally receive the software preset with at least one icon for a Worldgroup service. To make sure long-distance callers get the correct number, this icon almost always includes a full telephone number: 1+areacode+number. If this Worldgroup is a local call to you, however, you need to edit the icon's properties to erase the 1+areacode before you can use it.

To do this, highlight the icon, pull down WGM's File Menu, and select Properties. On the window which then appears, look at the How To Connect area for the field Phone # and make sure it is correct for you.

Does your telephone line require you to dial 9, or some other access code, before dialing an outside number? If so, add that code to the Phone # field. For example: 95837808

Must there be a pause after the access code before dialing the outside number? If so, type a comma where the pause is needed in the Phone # field. For example: 9,5837808

If you do not see a Phone # field, it is because this icon is currently set to contact the Worldgroup server through a network or a direct serial cable connection. Consult the Sysop or your LAN administrator before making changes.

What is Worldgroup?

In the same way cars are an extension of people's legs, Worldgroup is an extension of people's voices and writing hands. Through Worldgroup online services, people can exchange messages and computer files with each other whether they are in the same office or on the far side of the planet.

A Worldgroup online service can provide at least:

E-mail	for delivering private messages and files between individuals,
Forums	for posting public messages arranged in threads of conversation,
Teleconference	for live typing sessions which range from quiet chats to boisterous town meetings, and
Libraries	of program and document files for users to read online or copy down to their PCs.

Through Worldgroup, remote callers aren't remote anymore. They can leave messages on others' desks (E-mail), post announcements or comments in the hallway (Forums), enter a conference room for a planning session (Teleconference), retrieve the newest revision of company documents and other work-in-progress, and submit their contributions to the work (Libraries). Worldgroup can be an electronic post office, a file library, a forum for public debate, even an electronic town meeting.

On the lighter side, Worldgroup can be a social gathering place where people mingle without leaving home. It can be an online nightclub where users visit for hours at a time or for just a few minutes.

You may be familiar with national services such as America Online, CompuServe, GEnie, Prodigy, MCI Mail, and Delphi. And then there's the Internet. Many online services are available today.

What's different about the average Worldgroup is that it isn't overwhelmingly huge. For every service supporting 200 simultaneous callers, there are a thousand smaller systems offering specialized services to just a handful of callers at a time.

On a Worldgroup system, you're not a number. You can either use your own name or make up a handle. Name a subject, any subject, and there's a Worldgroup out there discussing it. A Worldgroup system can help you find the people, and the information, you're looking for.

Galacticomm maintains a telephone list of Worldgroups whose owners wish to publicly advertise their services. This list is available on our Demonstration System. You're welcome to contact DemoSys at any time via modem at (305) 583-7808 (USA). More and more Worldgroups offer Internet connectivity. Through them, or through other Internet service providers, you can also reach DemoSys via telnet and ftp at gcomm.com

See also What is Worldgroup Manager (WGM)?

What is Worldgroup Manager (WGM)?

WGM is a program which connects you to any online service running Worldgroup server software by Galacticomm, Inc.

When you contact an online service running Worldgroup, WGM will operate as a full-featured Windows application. Through WGM, you can look up information on other users in Registry, exchange messages with them in E-mail and Forums, participate in live debates in Teleconference, and browse through documents and programs available for download in File Libraries. The Sysop of each system will likely provide other functions as well.

When you contact an online service running a version of Galacticomm's The Major BBS (Worldgroup's predecessor), or another brand of BBS software, WGM will operate as a traditional, text-based terminal program. Your interactions with BBSes will appear as a flow of text scrolling across your screen, possibly with ANSI graphics. The concept is very similar to running DOS in a window.

See also What is Client/Server (C/S)? and Accessing Terminal Mode BBSes.

What is Client/Server (C/S)?

Client/server means that one program (the client) can ask another program (the server) for assistance. The two programs often run on separate computers connected by a communications link (a network, the telephone system, etc.).

WGM is a client program

It runs on your PC. It does not need to be in contact with an online service to do many tasks (such as letting you *compose* e-mail messages). Only when you ask it to do something it cannot do alone (such as *delivering* those messages to other users) does WGM call for assistance.

Worldgroup is a server program

It runs on a remote computer and serves client programs which call it. It handles centralized tasks such as exchanging messages from client to client and maintaining master copies of documents, programs, and other files.

BBSes are *not* servers

WGM can communicate with many non-Worldgroup online services, just not in client/server mode. In particular, WGM can communicate with systems running The Major BBS (Worldgroup's predecessor). When WGM encounters a BBS, it drops back from C/S mode to terminal mode in order to communicate with it.

C/S mode saves time and money

WGM can do a lot of valuable things while on deck. For example, you can write as many E-mail messages as you wish before ever going online. Just put them in your Out Box. At this point, using WGM costs you only as much *per minute* as using your word processor program (presumably nothing).

Once you do go online, you'll spend most of your time clicking on this button, pressing that key, and typing an occasional word. Maybe a sentence every now and then. The connection between your PC and the online service's PC, though, can carry hundreds if not thousands of times more traffic. WGM takes maximum advantage of the connection's bandwidth by performing many tasks at once.

For example, all of those E-mail messages you composed will be uploaded to the server PC's hard disk. Mail addressed to you is likewise downloaded to your hard disk. At the same time two dozen E-mail messages automatically come and go behind the scenes, you're free to browse through files in a library or participate in a teleconference.

Further, WGM operates like a chess player: when it presents you with a choice among several options (like a menu), it knows you'll take at least a fraction of a second to make your decision. While you're deciding, WGM tries to anticipate your response: it begins requesting from the server what it thinks you're about to ask for.

WGM even updates itself automatically.

If your connection is over a long-distance telephone line, C/S will save you money.

No matter what connection you have, C/S will save you time.

See also Accessing Terminal Mode BBSes.

WGM Updates Itself

WGM and the applications it runs are designed *modularly.* Like Windows' Program Manager, it manages groups of icons, and each icon calls an individual Worldgroup system. When you first installed WGM, it most likely came with one service icon (for the server from which you received the WGM installation).

WGM is by no means limited to the online service from which you received it. You can create new online service objects in WGM and use them to contact as many different systems as you wish. If you have more than one form of connection on your PC (modem, LAN cable, etc.), you can use the same copy of WGM to reach out through any of them.

Every time you use WGM to contact a Worldgroup system and select an application, WGM will check to see whether your PC's hard disk already holds the necessary client-side application files. If so, WGM immediately runs the app. If not, it immediately starts downloading the files, then runs it.

You don't have to suggest a file transfer protocol. You don't have to create a subdirectory for it on your hard disk. You don't have to edit any .INI files. In fact, you shouldn't try to do any of these things because WGM is self-governing and changing it from the outside causes damage.

As time goes on, it's quite possible your PC's hard disk may contain several different revisions of, say, the Registry module. This will be because you've contacted at least one Worldgroup service running the first revision of Registry, at least one more running the second revision, and so forth. You won't need to keep track of any of this, however: WGM will update each application module for each system independently as it sees the need.

While downloading is going on, you are welcome to move the status window into the background and continue with other activities. Of course, if you go into a high-traffic application such as Teleconference, you'll compete with the download and it will take longer than if you had gone into a lower-traffic area such as E-mail.

Perhaps once or twice a year, you'll encounter a Worldgroup system which also has a newer version of the management module. Before downloading, WGM will ask you for permission to update itself. Depending on the speed of the connection between your PC and the Worldgroup server, this may take quite a few minutes.

You are always free to say no, to prevent WGM from updating itself. If the differences between your revision and the state of the art are minor, you will be able to use your version to converse with this Worldgroup server. If the differences are substantial, however, your version will not work with the newer server. In such cases, WGM will permit you to say no but will tell you that it cannot communicate with this system until and unless you let it update.

You may be confident that newer versions of WGM's management module will be backwards compatible with online services still running older revisions of the Worldgroup server software. After all, the WGM management module you presently have is backwards compatible with BBSes still running Galacticomm's The Major BBS (in terminal mode). This is a trend we intend to continue.

Unless you have an overriding reason to say no, then, it's to your great advantage to permit WGM to keep itself up to date.

See also No User-Serviceable Parts.

No User-Serviceable Parts

When you first installed WGM, it suggested it place itself in the subdirectory \WGMAN but offered you the opportunity to place it elsewhere. All help topics assume that you did accept \WGMAN.

WGM's files are extremely interwoven and cross-referenced in order to support self-updating and client/server. WGM does not contain user-editable .INI files and changes should only be made through WGM itself. Do not use outside programs to hand-edit any part of WGM or move it to another location in the directory structure.

If you do hand-edit the contents of any file in \WGMAN or its subdirectories, or if you delete or move any, the change may not be immediately fatal to WGM. It will, however, cause unpredictable side-effects which most likely will remain with you until you completely delete \WGMAN's subdirectory tree and reinstall from scratch.

How DOS sees WGM's file structure

The directory \WGMAN contains the program and data files for the management module of WGM. The file \WGMAN\GCSLOCAL.DAT (for Galacticomm client/server *Local Data* file) contains the names and paths of all client-side application files which WGM receives from each Worldgroup system you contact, plus other basic information. It acts as the hub, the master record, in WGM's data file structure.

When you contact a Worldgroup system, WGM creates a subdirectory under \WGMAN for data directly pertaining to that system.

When you first run a client app (E-mail, File Libraries, etc.), WGM creates a subdirectory under \WGMAN for that application and stores all client-side files pertaining to it there. As you contact more Worldgroup systems and ask for the same activity from each, WGM will check its local subdirectory to see if it already has the appropriate version of the client-side app. If so, it cross-references and immediately runs the application without requiring a repeat download.

When WGM encounters a system running a newer server-side version of the application, WGM will download the newer client app and store it in the same subdirectory as the older versions. Older versions are not discarded in favor of new, however. One system running a new revision doesn't mean that all Worldgroup systems have made the upgrade. WGM keeps client-side versions in sync with server-side versions for each system you contact.

How WGM sees its own file structure

The file \WGMAN\GCSLOCAL.DAT plus any support files in the \WGMAN tree which were imported from a Worldgroup system are what we call the Primary and Secondary Caches.

This is why hand-editing at the DOS level is so devastating: although DOS and/or Windows will show you a directory tree containing dozens of seemingly independent program and data files, WGM views the entire structure as one massive data file with GCSLOCAL.DAT at its core. Change any part of WGM from the outside and everything will come out of sync.

Similarly, even though File Manager will show many files in the \WGMAN tree which

end in .EXE, they are not independent programs. They rely on WGM to provide an operating environment and do not operate properly in isolation.

Automating WGM

You can create an icon in Windows' Program Manager which will load WGM and immediately go on deck or online to one of its services. You can even put this icon into Program Manager's Startup group.

First, run WGM and write down the precise spelling, including spaces, of the label under the service icon you wish to automatically run from Program Manager. For example, most of our PCs have a service icon in WGM labeled Galacticomm Demo System. Once you've written down the label, exit out of WGM.

Bring up Windows' Program Manager, highlight the Worldgroup Manager icon, and press F8 to make a copy of the icon. It's important to leave an original copy of the Worldgroup Manager icon so that you can get to WGM itself.

Highlight the new icon and press *Alt-Enter* or pull down Program Manager's File menu and select Properties. The Program Item Properties window will appear.

The first field, Description, is the label text which appears under this icon. At the moment, it says Worldgroup Manager. You'll probably want to change it to the name of the service you're planning to automate. For example, some of the PCs in our offices have Program Manager icons labeled DemoSys Now. These go immediately online to Galacticomm's Demo System.

The second field, Command Line, is the program which is run when you double-click this icon. At the moment, it says C:\WGMAN\GCSVCMAN.EXE unless you told WGM's installation program to use a different directory.

Place the cursor at the end of whatever is written in Command Line, press *Space*, then type in the exact text of the label under the service icon you wish to automatically run. For example, some of the PCs in our offices have icons with the command line C:\WGMAN\ GCSVCMAN.EXE Galacticomm Demo System

Click OK to save these changes, then double-click on your new Program Manager icon. The WGM "Loading" icon should appear at the bottom of your screen but the Worldgroup Manager window should not come up. If the service icon you've automated is one which immediately goes online, the Connecting to... window will appear. If the service icon you've automated is one which takes you on deck first, the Main System Menu window will appear.

When you exit from the Main System Menu, WGM closes without ever bringing up the Worldgroup Manager window. This is why you should keep an original copy of the WGM icon which runs GCSVCMAN.EXE without any command line parameters.

By the way, it appears that Windows' Control Panel has this same functionality. For example, the Command Line CONTROL.EXE COLOR immediately brings up the Color window. When you exit Color, you exit Control Panel.

Back to WGM, in the event you wish to immediately run one service but then drop back to the Worldgroup Manager window, add to the end of Command Line the parameter /NOEXIT

You can place a WGM icon, automated or not, in Program Manager's Startup group and it will automatically run whenever you start Windows. For example, some of us put our DemoSys Now icons in Startup so we always go online immediately. Even on some of our remote PCs, a DemoSys On Deck icon lets us write e-mail and forum messages offline, etc.

File Menu

New

Creates a new online service object: a group or an item (icon).

Open

Runs the currently highlighted online service item (icon), has the same effect as double-clicking on it or pressing *Enter.*

Move

Moves the currently highlighted online service item (icon) to another group.

Copy

Creates a duplicate of the currently highlighted online service item (icon).

Delete

Erases the currently highlighted online service item after asking "Are you sure?"

Properties

Edits the currently highlighted online service item (icon), displaying the same window in which you first created the Item (New).

Exit

Closes the WGM program, shutting down any online connection.

Online Service Objects

Each online service you contact will appear within WGM as an icon in a group. Icons and groups are Online Service Objects.

To create a new Online Service Object, go to the File menu and select New.

Online Service Group

WGM is organized in a manner similar to Windows' Program Manager: icons must be contained in groups. There must be at least one Online Service Group. You can create as many groups as you wish, sorting your service icons by pay vs. free, by local vs. long distance, by LAN vs. modem, or in any other way you wish.

Online Service Item

WGM is organized in a manner similar to Windows' Program Manager: an icon activates an individual program. In WGM's case, an icon activates the client-side program of an individual online service.

When you first receive WGM, it may already contain one group and one icon. This icon will connect you with the service from which you received WGM. You are free to create more icons, in this group or in another you create, for other online services you wish to access. You create new groups and icons through WGM's File menu by selecting New.

Online Service Group Properties

This lets you create a new online service group.

To reach this window, go to the File menu and select New, click once on Online Service Group, then click OK.

You are being asked to provide a text title, and a file name, for a new group in WGM. This group will be able to contain icons (online service items), each of which can connect to a particular Worldgroup, BBS, or other online service.

Think of it in terms of Windows' Program Manager: common groups there include Main, Startup, and Accessories. Common groups in WGM include Modem, Network, Local, Long Distance, Free to the Public, and Charge for Use.

Description

What you type here will be displayed in one of three places: under the group's icon while the group is minimized, on the title bar of the group when it is restored, and on WGM's title bar when the group is maximized.

Group File

You can specify a name (up to 8 characters) for the file on your hard disk which will store the information about this group. Don't try to specify a path. If you don't specify a name at all, WGM will use part of the description as a file name.

Online Service Properties (Item)

This is where you provide the information WGM needs in order to connect to a particular Worldgroup, BBS, or other online service.

To create a *new* service icon in an Online Service Group, go to the File menu and select New.

To edit an *existing* service icon in an Online Service Group, first highlight the icon. Next, go to the File menu and select Properties. Alternatively, you can press *Alt-Enter.*

Name

This is the name of the online service you'll be contacting through this icon. You may type whatever descriptive phrase you wish here but, since this will be the title under an icon, brief is best.

When to connect

Do you want WGM to immediately attempt to contact this Worldgroup server the moment you double-click on its service icon, or would you prefer to run offline and make contact with the server later?

To reach this window, first run Worldgroup Manager, then highlight the icon of the service you wish to edit. Next, pull down WGM's File menu and select Properties. Alternatively, you can press *Alt-Enter.*

Always connect upon invoking this service
This means your PC will immediately attempt to contact the online service as soon as you double-click on this icon. If you are using WGM to connect to a Worldgroup server via an office LAN, direct serial connection, or via a local phone number to a service which does not limit or charge your time online, this is probably the best choice.

Also, if you are using WGM to contact a BBS or other non-Worldgroup online service, select this choice. There is no such thing as on deck when using terminal-mode systems.

Run offline until "Connect" button is pressed
This means that double-clicking on the service's icon will first take you on deck but not yet online. If you are using WGM to connect to a service which limits or charges for your time online, especially if the service is a long distance call to you, this choice will let you do many tasks while offline and not incurring charges.

This setting does *not* prevent WGM from attempting to go online whenever you ask it to perform a task which requires server assistance. For example, if you ask for a list of users currently online, WGM does not have that information so it will attempt to connect to the server in order to get that information. You can stop an attempt to connect by clicking the Disconnect button on the Status Window.

When making its first call to a new Worldgroup server, this service icon will immediately attempt to connect because it does not yet know what its menus are supposed to look like while on deck.

How to connect

WGM can connect to online services over a modem, through a direct serial cable connection between your PC and the server's PC, over a Novell LAN, or by a direct connection to the Internet. Each icon in WGM can record one way to connect to one server. In our offices, for example, we can connect to our Worldgroup server by modem and also by Novell LAN. Our copies of WGM are set up with two icons: one to connect by modem, and another to connect by LAN.

To reach this window, first run Worldgroup Manager, then highlight the icon of the service you wish to edit. Next, pull down WGM's File menu and select Properties. Alternatively, you can press *Alt-Enter.*

Modem & Phone# & Settings
For connecting to an online service via a modem.
It makes no difference whether the modem is internal, or whether it's external and connected to your PC through a serial port. If a modem is involved, select this option.

Phone# is the telephone number that will be dialed when you double-click on this icon. Be sure to include all necessary digits (leading 1 if long distance, area code, etc.). Standard formatting is permitted: 1 (305) 583-7808 is acceptable, although 13055837808 is all that's really necessary.
Note: a comma in this string inserts a half-second pause in the dialing sequence. For example: 9,583-7808 inserts a pause after the access code (the 9) before dialing the rest of the number.
Modem configuration options are entered in Settings.

Serial & Settings
For connecting to an online service via a direct serial cable. This is a common way to connect user PCs which are within a few hundred feet of the Worldgroup server PC when a network is not available. This has nothing to do with modem connections.
Serial port configuration options are entered in Settings.

Novell LAN & Server name
For connecting to an online service via Novell SPX on a local area network.
Server name is the name by which your office's Worldgroup identifies itself through Novell's Server Advertising Protocol (SAP). The dropdown list will display all servers currently advertising on the network. Consult your LAN Administrator.

Telnet & Host name
For connecting to an online service via a direct TCP/IP connection to the Internet.
Host name is the name by which the Worldgroup server identifies itself to other equipment on the network (for example, *demosys.gcomm.com*). Host name can also accept a numeric address (for example, 199.227.15.16). Finally, you can follow the host name or numeric address with a space and a port number if this online service is located on any port other than the telnet default. Consult your network administrator or host service provider on all of these issues.

How to log on

To reach this window, first run Worldgroup Manager, then highlight the icon of the service you wish to edit. Next, pull down WGM's File menu and select Properties. Alternatively, you can press *Alt-Enter.*

Log on as new user
If you *already have* a user account on this online service, uncheck this box and fill in the User-ID and Password fields below.

If you do *not* have a user account on this online service, make sure this box is checked. When you next contact the service, WGM will log onto it as "New". The service will then ask you a series of sign-up questions ending with which User-ID and password you'd like to be known by. The sign-up process will automatically uncheck this box and insert the User-ID and password you've selected in the appropriate fields.

User-ID
If you already have a user account on this online service, uncheck the Log on as new user box and type in your User-ID here.

Password
If you already have a user account on this online service, uncheck the Log on as new user box and type in your password here.

Alternatively, you can leave the User-ID and/or Password fields blank here and the program will prompt you for the information each time you attempt to contact this Worldgroup server.

Advanced...
Auto-sensing and dial-timeout issues are set in Advanced Logon Parameters. You may never need to change settings in this area.

Modem Settings

This window is used to set up the connection between your PC and your modem.

To reach this window, go to the Options menu and select Modem Settings. You can reach this same window through the Settings button in the Properties window of every online service item (icon) you create.

Despite so many ways to reach this window, there is only one record in all of WGM for Modem Settings. This is because you will be using the same modem no matter which online service(s) you choose to contact via modem / telephone line.

Even if yours is an external modem cabled to one of your PC's serial ports, pay no attention to the areas of WGM marked "Serial" or "Direct Serial." These refer to running a serial cable from a user's PC directly to a Worldgroup server PC in the same office. Every setting you'll need to make for a modem connection will be found in areas marked "Modem."

COM Port

On which of your PC's serial ports should WGM expect to find a modem? Internal modems act electronically as if they were external modems cabled to a COM port, so this question needs to be answered for any sort of modem.

External Modems
Almost every PC arrives from the factory with a COM1 serial port and socket. Most have a COM2 as well. A few will have COM3 and even COM4. Any of the four will work with an external modem. To identify which socket is which COM port, consult your hardware documentation.

Internal Modems
Almost all internal modems can be jumpered to act as COM1 or COM2. A few can also be set to act as COM3 or COM4. Your modem's manual will describe this. There must be only one device per port, however: if you set your internal modem to, say, COM1, you'll need to turn off the COM1 serial port which is built into the PC. If you bought the PC with the modem already installed, this has probably already been taken care of.

Interrupts (IRQs)
IRQs are circuits which demand the PC's attention when new information arrives (someone moved the mouse, the modem just received some data from the online service, etc.). WGM *does* require the use of an interrupt in modem connections, so it is very important that no other devices try to use the modem's interrupt. Typically, devices on COM3 attempt to use COM1's interrupt. That is, a mouse on COM1 will likely cause trouble for a modem on COM3. Devices on COM2 likewise share an interrupt with COM4. Consult your hardware manuals and/or hardware supplier if in doubt.

Modem Brand

This lists every brand of PC modem for which we know settings. If your modem does not appear on the list, scroll to the top and select the Generic model whose speed is closest to yours, then try it out. If problems arise (trouble connecting, trouble remaining connected, lots of retries, etc.), come back to this window and choose Options....

Modem Setting Options

This is where you can manually tweak settings for your modem instead of relying on the Modem Brand list in Modem Settings. You can also use it to view the list's suggested settings without making any changes.

To reach this window, go to the Options menu and select Modem Settings. Next, on the Modem Settings window, click the Options button.

Baud Rate

What you're setting here is the fastest speed (in bits per second) at which your PC and your modem can accurately talk to each other. This applies to both internal and external modems. If your modem supports data compression, you can set your DTE/DCE segment's baud rate to as much as twice the stated baud rate of the modem.

Don't be concerned about the speed expected by the online service: your modem and the service's modem will negotiate to find the fastest speed both can accurately use (DCE/DCE segment).

Lock modem speed

Should the baud rate between your PC and your modem (DTE/DCE segment) stay the same even if your modem and the service's modem (DCE/DCE segment) negotiate a different speed?

If your modem has data compression, it's normally best to lock the baud rate between your PC and your modem... the box should be checked.

If your modem does not have data compression (most 2400 bauds, some older 9600 bauds), it's normally best to let the baud rate between your PC and your modem drop to the speed negotiated by the two modems... the box should be unchecked.

This setting must agree with the command you give your modem in Initialization String.

Dial Mode

Select Tone unless your phone line only supports pulse (old-style rotary click) dialing.

Initialization String

This is the series of commands which WGM will send to your modem at the beginning of any modem session. When you selected a modem in the Modem Brand field of the Modem Settings window, it inserted this suggested initialization string here. If the suggested string works, don't change it.

If you must change it, however, have your modem manual in hand as you check each one of the following commands. Most modem manufacturers adhere to the Hayes AT command set standard, but only up to a point. Some emphasize the ampersand (&), some the backslash (\), and others use entirely different commands. When in doubt, trust your modem's manual.

Here are two good starting points for init strings plus an explanation of each individual command and why it is there. Be aware that your modem could have different commands for these features:

AT&FE0S0=0S2=255X1&C1&D2&K3&Q5&B1
or
AT&FE0S0=0S2=255X1&C1&D2\Q3\N3\J0

Almost all Hayes-compatible modems understand the following list of commands, and WGM needs these commands in the init string of any modem which is to connect with a Worldgroup server or a Major BBS:

AT Begins most commands to the modem, including init strings.

&F Returns modem settings to factory defaults (starts from scratch).

E0 Tells the modem not to echo back any data it receives from your PC (characters coming from the modem will then be either modem status messages or data from the online service's modem).

S0=0 Tells the modem not to answer when it senses a ring signal from the phone line.

X1 Tells the modem to give status messages to the PC for CONNECT speeds as well as the basic RING, NO CARRIER, etc.

&C1 Carrier Detect (CD) is an RS-232 signal which your modem can send to your PC. This command tells the modem to turn on CD only when it's actually in contact with another modem, and turn CD off when the connection is broken.

&D2 Data Terminal Ready (DTR) is a signal which your PC can send to your

modem. This command tells the modem to terminate the phone connection (hang up) whenever your PC turns off DTR.

Different modem brands may have different names for these next commands. If you don't find an exact match in your modem's instructions, use the commands which come closest to performing the same functions.

&K3 or \Q3 or &R0 This is usually called **RTS/CTS** or Hardware Flow Control.

Request To Send (RTS) is a signal which your PC sends to your modem when the PC is ready to receive data from the modem. The modem must be set to send data to your PC only when RTS is turned on (the PC turns RTS off when it's busy so data won't be lost).

Clear To Send (CTS) is a signal which your modem sends to your PC when the modem is ready to receive data from the PC. Usually, the above command also tells the modem to turn CTS on and off as necessary to keep the PC from swamping it with data. If it's two separate commands on your modem, be sure to include both.

&Q5 or \N3 or \N9 Tells your modem to negotiate with the online service's modem the fastest but most reliable connection speed possible. This will automatically enable V.42 / MNP-5 data compression and error correction if available in both modems.

&B1 or \J0 Tells your modem to lock the speed of the DTE segment between your PC and itself. If your modem does not have data compression, you probably do not want to give it this command. In fact, it may not have such a command at all.

Make sure that this is in agreement with the Lock modem speed option on the Modem Setting Options window of WGM. Either lock both sides, or leave both sides unlocked. Otherwise, you'll have a modem talking at one speed to a PC listening at another speed... the result will be

garbage.

W2 Tells the modem to report DCE speed (negotiated phone connection speed) instead of locked DTE speed when it reports CONNECT 9600, CONNECT 2400, etc. Non-compressing modems (and even some compression-capable models) do not have this command.

Modem

A device which translates data between two methods of communication, historically between serial and telephone communications. The word is short for MOdulator-DEModulator because telephone modems transmit across phone lines by modulating audible tones.

External Modem

The modem circuitry is housed in its own cabinet outside the PC and is connected to the PC by a straight-through serial cable to one of the PC's COM ports.

Internal Modem

The modem circuitry shares a PC card with the COM port circuitry, thus hiding the serial part of the connection inside the PC's cabinet.

PCMCIA Modem

Most notebook computers on the market today offer PCMCIA slots for extremely compact add-on devices including modems. The modem circuitry is housed in a package barely larger than a credit card.

Both external and internal modems connect to the telephone system by a standard RJ11 phone cord. Most PCMCIA modems also provide connectivity to cellular telephones.

RJ11 Telephone connector

RJ11 (also known as modular) is the standard for single-line telephone equipment in North America. The telephone company does not see any substantial difference between a telephone for humans and a modem for computers. The same RJ11 cord which connects your telephone to your wall jack will successfully connect a modem to the wall jack.

Direct Serial Connection Settings

If you are setting up a modem / telephone line connection to an online service, pay no attention to this window. Nothing you enter here will have any effect on a modem connection. This window is used to set up a direct serial *cable* connection between two PCs in the same office, one a user's PC and the other the Worldgroup server's PC.

To reach this window, go to the Options menu and select Direct Serial Settings. You can reach this same window through the Settings button in the Properties window of every online service item (icon) you create.

Despite multiple ways of reaching this window, there is only one record in all of WGM for Direct Serial Settings.

COM Port

On which of your PC's serial ports should WGM expect to find a direct serial connection to a Worldgroup server PC? Almost every PC arrives from the factory with a COM1 serial port and socket. Most have a COM2 as well. A few will have COM3 and even COM4. Any of the four will work with a direct serial connection. To identify which socket is which COM port, consult your hardware documentation.

Interrupts (IRQs)
IRQs are circuits which demand the PC's attention when new information arrives (someone moved the mouse, the COM port just received some data from the online service, etc.). WGM *does* require the use of an interrupt in direct serial connections, so it is very important that no other devices try to use the serial port's interrupt. Typically, devices on COM3 attempt to use COM1's interrupt. That is, a mouse on COM1 will likely cause trouble for a direct serial connection on COM3. Devices on COM2 likewise share an interrupt with COM4. Consult your hardware manuals and/or hardware supplier if in doubt.

Baud Rate

This sets the speed (in bits per second) at which the COM Port will broadcast and receive. Both the user's PC and the online service's PC need to be talking at the same speed.

A null-modem serial cable less than 50 feet (15 meters) in length should have no problem carrying 38,400, but many PC serial ports under Windows do not operate properly at speeds faster than 9600 baud. Also, the longer the cable run, the lower the optimum speed. Start high and, if you encounter data losses or too many retries, work your way down in speed.

Serial Port Sockets

PC serial ports may be connected to external modems via straight-through cables, directly to other PCs via null-modem cables, or to non-communications devices such as mice. There are two North American standard socket types for PC serial ports:

DE9 (also known as **DB9**) sockets are found on almost all notebook PCs. Many full-cabinet PCs now come with at least one DE9 as well. They will always be *male* on the PC (pins, not holes). One or two brands of external modems have DE9 sockets as well, always *female* (holes, not pins).

DB25 sockets are the broad industry standard and pre-date PCs by many years. Almost all external modems have DB25 *female* (holes, not pins) sockets, and many PCs have them as well, always *male* (pins, not holes).

Thanks to a regrettable design decision from 1980, PC parallel printer ports also use the DB25 socket type but are completely incompatible with serial ports. The one advantage is that PC parallel ports are *always female* and PC serial ports are *always male.*

Null-modem Cables

These are serial cables wired so as to hoodwink two computers into thinking there are modems in between them. WGM requires null-modem cables only for direct serial connections between users' PCs and a Worldgroup server PC in the same office. They are ***not*** used for modem connections.

Modems are data *communications* equipment (DCE). PCs are data *terminal* equipment (DTE).

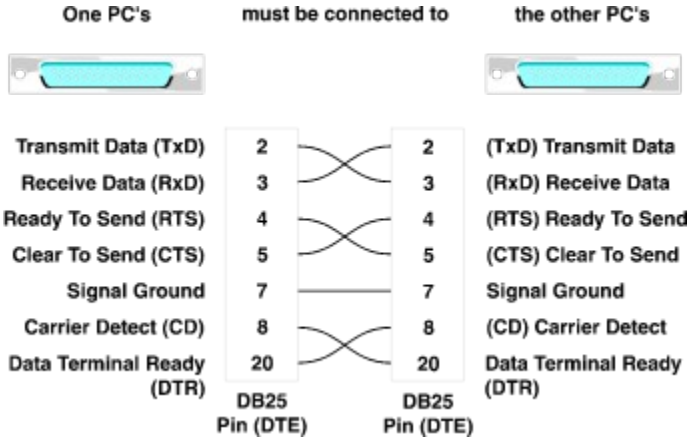
A modem's DCE serial socket is wired partially backwards from a PC's DTE serial socket. This allows a straight-through cable to connect the PC's transmit pin to the modem's receive pin, and vice versa.

To properly connect two PCs (two DTE devices), the cable between them must have some of its pins reversed in order to fake being a pair of modems.

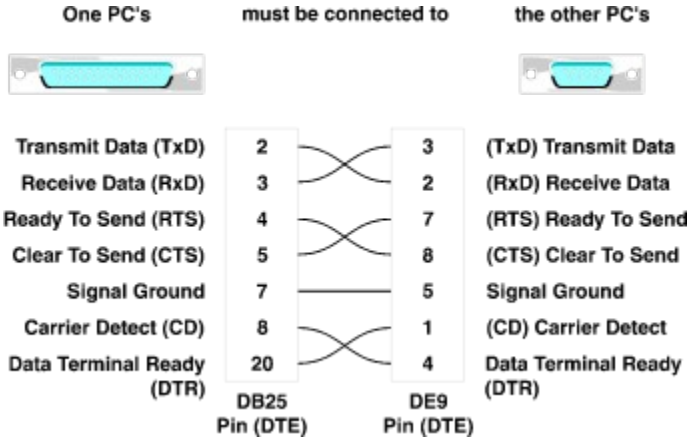
There are three wiring schematics appropriate to direct serial connections involving WGM:

DB25-to-DB25 Null-Modem Cable
DB25-to-DE9 Null-Modem Cable
DE9-to-DE9 Null-Modem Cable

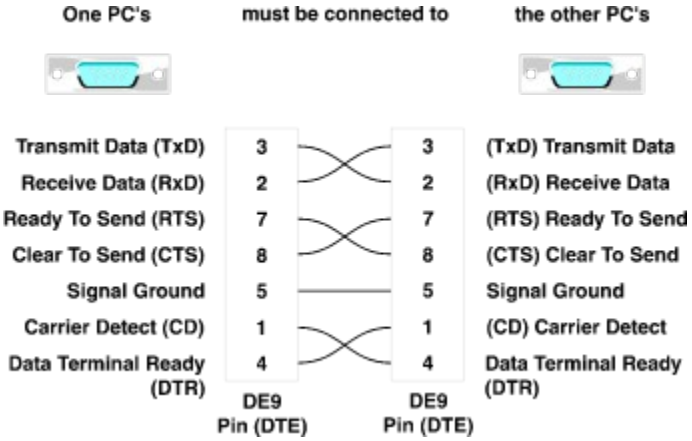
DB25-to-DB25 Null-Modem Cable



DB25-to-DE9 Null-Modem Cable



DE9-to-DE9 Null-Modem Cable



Straight-through Cables

These are serial cables wired so that Pin #1 at one end is connected to Pin #1 at the other end, Pin #2 to Pin #2, and so forth, for all pins in the cable.

Straight-through cables are used between PCs and modems.

Null-modem cables are used in *direct serial* connections between two PCs.

Advanced Logon Parameters

To reach this window, go to the Online Service Properties window and click on the Advanced button in the How to log on section.

Auto-sense client/server

When a Worldgroup system answers an incoming call, it sends out a special signal which asks if the caller wants to connect in C/S mode.

With this box checked, WGM answers YES and initiates a C/S-mode connection.

If you wish to force WGM to connect with a Worldgroup system in terminal mode, uncheck this box.

A non-Worldgroup system will not ask the question and so will provide only a terminal-mode connection.

Auto-sense ANSI

If the online service is a Worldgroup system and the Auto-sense client/server question box is checked, this option has no effect.

With this box checked, WGM will answer YES when a terminal-mode BBS asks if your software supports ANSI graphics. If you want a raw (ASCII) text connection to a BBS, uncheck this box. Where possible, though, leave it checked.

Dial timeout

This sets the number of seconds WGM will wait between telling the modem to begin dialing and receiving a CONNECT signal from the modem. In some situations, you may find that the factory setting is too long. When dialing to remote areas, though, you may find that you need to extend the timeout.

Auto-sense timeout

This sets the maximum number of seconds WGM will wait for Worldgroup to send its "Do you want C/S mode?" query. If you uncheck the Auto-sense client/server box above, however, WGM will skip the step. 10 seconds is the shortest period of time you should give this option. In some cases, you may need to give it more time.

Move Online Service Item

This moves an online service item from one online service group to another.

With a mouse:

Click on the icon you wish to move, drag it to its new group, then release the mouse button.

Through the pulldown menus:

1) before selecting any menu options, click once on the icon you wish to move.

2) go to the File menu and select Move. In the Move Online Service Item window, confirm that the phrase beside "Move Online Service Item:" is the label of the icon you wish to move. Also confirm that the phrase beside "From Online Service Group:" is the label of the group which currently contains the icon.

3) Under "To Group:", click on the down arrow and select the group you wish to move the icon to.

4) click on OK

Copy Online Service Item

This makes a duplicate copy of an online service item in the same, or another, online service group.

To copy an item:

1) before selecting any menu options, click once on the icon you wish to duplicate.

2) go to the File menu and select Copy. In the Copy Online Service Item window, confirm that the phrase beside "Copy Online Service Item:" is the label of the icon you wish to copy. Also confirm that the phrase beside "From Online Service Group:" is the label of the group which currently contains the icon.

3) Under "To Group:", click on the down arrow and select the group you wish to copy the duplicate icon to. It is acceptable to create a copy within the same group.

4) click on OK

Note that this is an independent item which for now just happens to have the same settings as its original. It is not a clone. It is not a linked copy. Edits made to one will not affect the other. You'll use Copy most often to save retyping time when you create an item for a new online service similar to one you already have: you'll make a copy, make a few minor adjustments like a different phone number, and you'll be done.

Delete Online Service Object

This erases the currently highlighted Online Service Item (icon) and the Properties record associated with it. This will also erase an Online Service Group if it contains no items (icons).

To reach this window, first highlight the Online Service Object you wish to remove. Next, go to the File menu and select Delete. Alternatively, press the *Del* key.

Read the question in the Delete window **CAREFULLY** to be sure you are in fact deleting what you think you are deleting.

Are you sure?

Yes
The object will be erased. There is no "undo" once you say yes.

No
The object will remain intact and you will return to WGM's main window.

Options Menu

Auto Arrange

If checked, this will automatically align icons within groups using the same horizontal and vertical measurements used by Windows' Program Manager.

If not checked, you are free to place icons in whatever orientation you wish.

Minimize on Use

If checked, WGM will minimize to an icon as soon as you open (run, double-click) one of its online service items (icons). It will reappear when you exit from that service (double-click the Main System Menu's control menu).

If not checked, WGM will remain an open window while you are on deck and/or online. WGM will on occasion move on top of the service's main menu window (for example, to tell you that it's received a two-minute warning before the online service disconnects you). In general, it's better to leave Minimize on Use checked.

Save Settings on Exit

If checked, as you exit WGM the program will record the layout of icons and groups. When next run, WGM will come up with the same layout.

If not checked, WGM will not record the current layout on exit. When next run, WGM will come up with the layout it had when you last exited with a checked Save Settings on Exit.

Modem Settings...

This is where you configure the connection between your PC and your modem, including COM port settings for a modem.

Direct Serial Settings...

This is where you configure a direct serial cable connection (no modems) from your PC to a nearby Worldgroup server. This has no bearing on a modem connection.

Storage Settings...

You can adjust the amount of hard disk storage area WGM has available for programs and data, and set whether (and how long) to retain partially received files from interrupted downloads.

Compress...

This utility removes obsolete client-side files from your hard disk and optimizes both caches.

Storage Settings

This is where you set limits on how much of your PC's hard disk space WGM can use for temporary data (and client-side program) storage. You can also set whether (and how long) to retain partial downloads which were interrupted.

To reach this window, go to the Options menu and select Storage Settings.

From this window, you can adjust the amount of disk space WGM uses for memory management on your PC:

Secondary Cache

In computer terms, a "cache" is a temporary resting place, or scratchpad, for data. When you look up a telephone number and write it on a scrap of paper, the paper is a cache: it is not meant to be a permanent record, but rather a convenient time saver. WGM's secondary cache behaves in this manner.

Every time you request information from a Worldgroup system, the transmission takes time and increases traffic over the connection. If you ask again for the data and it hasn't changed, it would be a waste of time for the system to send it to you again. The secondary cache temporarily holds such data on your PC's hard disk, freeing the connection to deliver one-time-only data such as incoming or outgoing E-mail messages.

Say you request a list of currently online users from a particular Worldgroup system. The first thing WGM does is check to see if you yourself are online. If you are simply on deck, WGM will take you online to the Worldgroup server. Next, WGM will examine the file \WGMAN\GCSLOCAL.DAT to see if there is such a list already in the secondary cache. If there is, WGM sends to the server a request for a list, plus a CRC checksum of the list WGM already has. When the server receives the request, it examines the checksum to see if the current list of users online is identical to the list WGM already has. If the two are different, the server downloads the new list to WGM. If nothing has changed, the server tells WGM that the existing list in WGM's secondary cache is still valid.

The secondary cache's data is not accessible to you while you are offline. It is used solely for efficient data exchange while you are online. Since the secondary cache contains data such as the list of users currently online, when you yourself are not online this is not meaningful information.

You can test to see if the secondary cache is set too small by asking for the same list (Registry's, perhaps) several times in a row. The first time you ask for the list, note roughly how long it takes to appear. Then ask for it again. If WGM displays the list almost instantly, the secondary cache is probably large enough.

Check one more thing first, though: the secondary cache's Bytes In Use readout. If Bytes In Use is at or near Maximum Bytes, increasing the secondary cache's Maximum Bytes will improve performance. If Bytes in use is nowhere near Maximum Bytes, it may simply be that your PC's connection to the Worldgroup server is almost as fast as your PC's connection to its own hard disk. At that point, you might consider another kind of cache: a disk cache governed by your PC's operating system. Consult your DOS and/or Windows manuals for more details.

Primary Cache

It may at first seem inappropriate to describe the primary cache's contents as temporary. The primary cache contains programs as well as data, and both may remain on your hard disk for years until erased at your request or replaced by newer information.

Better analogy: your office is your *primary cache* for your paperwork in progress. There's no sense walking down to the filing room to look up the same file eleven times every day. It's so much easier to make a copy of the file and keep it in your office until you're finished with it (or at least until you run out of desk space). Three years from now, you'll have long since discarded your copies, but the filing room will still have the originals. In this case, it *is* appropriate to describe long time periods as temporary.

WGM's primary cache is its office and each Worldgroup system is a distant file room. While it makes sense to download a *new* revision of, say, the Registry application, it makes no sense to download the same version every time you want to look somebody up.

The primary cache is what permits you to work on deck. Free space permitting, the more of your PC's hard disk you can allocate to the primary cache, the more efficient your online and on deck sessions will be. This is especially true if you use WGM to contact many different Worldgroup systems. Terminal-mode BBSes don't count because WGM can't run any part of them locally... if it could, they wouldn't be terminal mode.

See also No User-Serviceable Parts and Compress cache and local data file.

Save aborted file downloads for possible resume

File downloads can be interrupted for several reasons: you can intentionally abort a download, the Worldgroup server can automatically abort a download if your time online reaches its session or daily limit, or a noisy line, power blink, etc., can break the connection between your PC and the Worldgroup server.

If this box is checked,
WGM will save a partially received file to a temporary filename within the \WGMAN directory structure. If you reconnect within Save for X days, and download the file again, WGM will pick up where it left off instead of starting over.

Addendum to Murphy's Law: at least once in your life, you'll be 27 minutes into a 30 minute download and lose the connection. If this box is checked, you don't have to start over from the beginning.

If this box is unchecked,
WGM will delete partial downloads immediately after the transfer is interrupted. When you download the file again, WGM will begin at the beginning.

Save for X days

This is the number of days WGM will hold temporary files created by aborted downloads. Once this number of days passes without another attempt to download the same file(s), the temporary file(s) may be deleted.

Compress cache and local data file

This function optimizes the contents of the primary and secondary caches: the core data file \WGMAN\GCSLOCAL.DAT plus the entire subdirectory\file structure under \WGMAN.

To reach this window, go to the Options menu and select Compress.

When you delete an Online Service Item (icon) from WGM's main menu, WGM does not automatically erase the subdirectories or the files associated with it. This is left for the Compress function.

Compress does not discard any information which is still in use. It does erase files in the \WGMAN subtree which are clearly obsolete, and it frees up unused space in the core data file.

To optimize your caches, then, click on Compress. Depending on the Maximum Bytes settings of both caches, and the speed of your computer, this may take several minutes.

See also No User-Serviceable Parts.

Sign-up and Log-on

Sign up

To identify yourself to an online service for the first time, creating your own user account, User-ID, and password.

If you have already signed up on a particular Worldgroup server, you do not need to sign up again just because you are now using WGM. If you are asked to sign up when you first contact the server through WGM, exit from Sign-up and edit the icon's Properties.

Log on

To identify yourself to an online service with an existing User-ID and password and be welcomed in.

Log off

To tell an online service that you are disconnecting from it... a polite exit.

Session

The period from logging on and logging off. Some systems limit the length of online sessions, rationing access so that all users have a fair chance at reaching an available line. In-house and networked systems usually do not place limits on session times because the intent is to keep everyone connected at all times.

For more specific information, enter the module and select its Help menu. Contents is the best starting point for browsing. Search for Help on... is the best starting point if you have a particular subject or keyword in mind.

Logging On

If you did not specify a User-ID or password in Online Service Properties, and if you left the Log on as new user box unchecked there, this window will appear whenever you attempt to go online.

To reach this window, first run Worldgroup Manager, then attempt to connect with a Worldgroup server by double-clicking on its service icon.

Log on as new user

If you *already have* a user account on this online service, make sure this box is unchecked and fill in the User-ID and Password fields below.

If you do *not* yet have a user account on this Worldgroup server, make sure this box is checked. When you contact the service, WGM will log onto it as "New". The service will then ask you a series of sign-up questions ending with which User-ID and password you'd like to be known by.

User-ID

If you already have a user account on this Worldgroup server, uncheck the Log on as new user box and type in your User-ID here.

Password

If you already have a user account on this Worldgroup server, uncheck the Log on as new user box and type in your password here.

Accounting

Through your user account, an online service can track the amount of time you are online with it, and can track some of the activities you do while online: how many (and what size) files you download, how many e-mail messages you send, etc.

Many systems use this information solely for marketing purposes, to see what's popular so they can provide more of it. Services are free of charge and are limited only by the needs of other users to get the same access you do. Most government-sponsored systems fall into this group, as do a large number of business-sponsored ones. Such businesses use their systems to promote their products or services, and generally make their names known.

Other companies use accounting information to charge for the use of their services. In these cases, the online service *is* the business. Often, for-profit systems will permit you to sign up as a prospect or applicant, allowing you to have a peek without charging. It may seem strange to pay for something that you can get free elsewhere, but can you? Many for-profit systems provide valuable services not found on public boards.

Some online services are completely private, in-house boards which are used as the next step up from network e-mail systems. In these cases, accounting information is used to measure traffic flow on the system.

For more specific information on a particular online service, enter its Account Display/Edit module and select its Help menu. Contents is the best starting point for browsing. Search for Help on... is the best starting point if you have a particular subject or keyword in mind.

Registry

Registry is a voluntary list of at least some of the users of a particular online service. You can use Registry to look up information on other users, and let other users look you up. When you create your own Registry entry, you are free to answer N/A to any question which you would prefer not to answer.

Since this information is specific to each system, Registry answers are stored on the Worldgroup server's PC (or BBS PC), not on your PC. This means that you'll need to be online to do most things in Registry.

Not all online services use the Registry module. Some do not feel the need for a user identification area. Others prefer a more comprehensive "yellow pages" approach via such add-ons as The Major Database.

You need to be online to perform most activities in Registry.

For more specific information, enter the Registry of Users module and select its Help menu. Contents is the best starting point for browsing. Search for Help on... is the best starting point if you have a particular subject or keyword in mind.

E-mail

Electronic mail is a powerful and efficient way to send detailed messages to individuals who need not be there when the message arrives. Messages can also deliver attached document or program files, a major improvement over transferring files by floppy disk.

E-mail has become a common service on local area networks (LANs) in businesses. It is also common on wide area systems such as the Internet and CompuServe. The two areas evolved independently, however, and are only now starting to share messages with each other. Many existing e-mail systems have been slow to acknowledge the value of connecting with each other.

Worldgroup provides e-mail service to LAN workstation users and remote PC modem users through the same onscreen interface, WGM.

If your company already uses a LAN-based e-mail system which is Novell MHS-compatible (cc:Mail, Microsoft Mail, plus many others), Worldgroup can be easily configured to exchange messages between users on that system and users on Worldgroup.

With additional software and equipment on the server side, Worldgroup can be configured to exchange messages with e-mail services in the internetwork area, allowing you to exchange e-mail messages with people across the world.

You need to be online when *getting* new mail messages and when *sending* messages you've written. You do *not* need to be online to do any other task in E-mail.

When you *get* new mail, those messages are always copied from the server down to the In Box on your PC. Once they arrive, you can read them regardless of whether you are online or offline.

When you write mail, those messages are recorded in the Out Box on your PC and are not transmitted to the server until you explicitly *send* them. You do not need to be in contact with the server while composing mail messages.

For more specific information, enter the E-mail module and select its Help menu. Contents is the best starting point for browsing. Search for Help on... is the best starting point if you have a particular subject or keyword in mind.

Forums

Forums are typically long-term conversations. One user will start a topic of discussion by posting a question or a comment (I feel this way about X.... How does everyone else feel about it?). Other users will read the message the next time they are online. Some will reply to the message. Replies to replies may continue over a period of weeks or months, the thread of conversation often becoming many hundreds of messages long.

Threads are valuable sources of information even if you don't wish to participate in the debate. You'll read all sides of an issue and gain a much fuller understanding from it. In a technical support forum, for example, a thread might start with one user describing a problem she's having by posting a request for advice. She may get 17 responses that night, some of them contradictory. There may well be more than one solution to the problem, and even the wrong ones can show what not to do. By the next night, others will have chimed in to naysay the inaccurate suggestions.

Forums are also known as newsgroups, and a much older term for them was SIGs. They all mean roughly the same thing. Newsgroups is a term most often associated with the Internet, while Forums is the more common term in the BBS community. Now with Worldgroup, the two can intermingle: Internet newsgroups can be made to appear exactly as if they were forums on your Worldgroup system.

You can use Forums in a fully-online or in a batch-offline mode. If online time is not expensive to you, you can browse forums while online, type replies to them while online, etc. If online time *is* expensive to you, however, you can copy messages which interest you to an In Box on your PC, go offline, and read those messages on deck. You can write replies to those messages, holding them temporarily in an Out Box on your PC. When you are finished writing, you can go online just long enough to send those replies to the forum(s).

For more specific information, enter the Forums module and select its Help menu. Contents is the best starting point for browsing. Search for Help on... is the best starting point if you have a particular subject or keyword in mind.

Teleconference

A teleconference is a rapid-fire version of a forum. Replies are immediate, and often come from half a dozen users at once. While past comments in a forum may linger for months, teleconference comments last only so long as voices echo in a conference room.

As in Forums, there may be many conversations going on at once on separate channels ("rooms") in Teleconference. Often a forum discussion blossoms into a teleconference, or vice versa. In general, if you are able to watch a teleconference, you are welcome to participate in it.

You'll need to be online to perform most activities in Teleconference. After all, the whole point of a teleconference is to be live and online with other users.

For more specific information, enter the Teleconference module and select its Help menu. Contents is the best starting point for browsing. Search for Help on... is the best starting point if you have a particular subject or keyword in mind.

File Libraries

Many online services provide document and program files which you can download to your PC. Some systems may charge for the privilege of copying their files. Others are happy to let you download for hours at no charge.

A single Worldgroup system may offer several gigabytes (1024 megs) of files, usually categorized by subject into separate libraries. When you browse a library, you'll typically find brief descriptions by each file, helping you locate items of interest.

You'll need to be online when you actually download (or upload) files. You'll also need to be online when you request lists of available files. It is possible, though, for you to *save* file listings in special (**.gfl**) files on your PC and examine them offline later. You can read the file descriptions in those saved lists, and tag files which you wish to download later. When you've finished studying the saved lists, you can go online just long enough to download all the files you've tagged.

For more specific information, enter the File Libraries module and select its Help menu. Contents is the best starting point for browsing. Search for Help on... is the best starting point if you have a particular subject or keyword in mind.

Information File Pages

Each Worldgroup system (or BBS, or other online service) will have its own way of doing things. Information file pages are a common way to let you read documents explaining what services a particular system offers, possibly the cost of those services, and general rules of the road.

You'll need to be online to view file pages because they are stored on the server, not on your PC.

For more specific information, bring up an Information File Page and select its Help menu. Contents is the best starting point for browsing. Search for Help on... is the best starting point if you have a particular subject or keyword in mind.

Polls and Questionnaires

Online services are among the most powerful consensus-finding tools ever invented. They permit individuals scattered across the planet to come to an electronic "town meeting" and let their concerns be heard. While Teleconference and Forums offer a dynamic exchange of commentary, they are not well suited to measurement. Polls and Questionnaires offer users the chance to **vote**, and offer system operators the chance to get hard facts on voter sentiment.

Businesses use Ps & Qs to find out how customers feel and what they want. Social groups use Ps & Qs to find out the same information from members.

Some systems even pay you to vote. In return for filling out a poll or a questionnaire, you could receive extra file download privileges, extra time online, or other forms of persuasion.

You'll need to be online to perform most activities in Polls & Questionnaires.

For more specific information, enter the Polls and Questionnaires module and select its Help menu. Contents is the best starting point for browsing. Search for Help on... is the best starting point if you have a particular subject or keyword in mind.

Doors

Doors are DOS programs running on PCs at the Worldgroup server's site which you can run remotely through Worldgroup. Since door programs are written by companies apart from Galacticomm, they cannot establish C/S-mode connections with WGM. When you enter a door, WGM automatically downshifts to terminal mode, putting all in-progress activities on hold. WGM will resume client/server communications when you exit the door.

For more specific information, see Terminal Mode Options Menu.

Accessing Terminal-Mode BBSes

WGM is capable of communicating with BBSes running versions of Galacticomm's The Major BBS. WGM is also capable of communicating with some non-Galacticomm BBSes. It connects to these systems in terminal mode, not C/S mode, of course, since their software was not written specifically for a client/server environment.

You create an icon for a terminal-mode BBS in the same way you create one for a C/S-mode Worldgroup system (see Online Service Properties (Item)). When WGM determines that the BBS cannot support client/server, WGM displays the Terminal Mode window and the BBS's text begins appearing within it.

Once you are online with a Major BBS (or a Worldgroup if you choose to contact it in terminal mode), help is available by typing **?** *Enter* at most prompts. Non-Galacticomm online services will likely have different methods of providing help.

Some facets of a Worldgroup server may be terminal-mode also. The most common example is Doors, which permit you to access DOS programs running on a PC at the service's office as if they were running on your own PC. Because they are DOS programs, they have no capacity to handle a C/S-mode connection. While you are in a Door, you are in terminal mode. Once you exit a Door, the connection is restored to C/S mode.

The Terminal Mode window of WGM provides interface functions for handling such things as file transfers. See Terminal Mode File Menu and Terminal Mode Options Menu

Terminal Mode File Menu

This menu appears on the Terminal Mode window which displays the text exchanged between your PC and a terminal-mode BBS.

Download

When a terminal-mode BBS is attempting to download a file to you, select this option to receive the file.

Upload

When a terminal-mode BBS is awaiting a file upload from you, select this option to send the file.

Exit

Closes the Terminal Mode window, shutting down any online connection.

Download using a file transfer protocol

Where on your PC do you want to place the file which this terminal-mode BBS is attempting to send you?

To reach this window, from the Terminal Mode window's File menu, select Download.

Directories

Double-click on a directory to switch to it. If the directory you seek is not visible, double-click on its parent. This list box does not display the entire tree at once, but limits itself instead to the parentage and children of the current directory.

The current directory is the one whose folder icon is open and darkened within. Any folders listed below it are children subdirectories of the current directory. Any folders listed above it are parent directories. Between the list box and the title line **Directories:** you will see displayed in text the current directory's drive:\path, possibly abbreviated.

Drives

This dropdown list box selects the drive letter you wish displayed. Depending on your PC's setup, it may display volume names in [brackets] to the right of each drive letter.

A single click selects a drive letter. The Directories and File Name list boxes will change to display the new drive's current directory and files.

File Name

In some file transfer protocols (ZMODEM, for example), this section of the window will not appear because the protocol will deliver to your PC both the contents of the file and its name as it is known on the terminal-mode BBS.

In other file transfer protocols (XMODEM, for example), you will need to specify a filename to which to save the downloaded file. You can manually enter the entire drive:\directory\...\filename.ext in this field if you wish.

If you are able to type in the filename.ext, make sure the extension you choose is the same as the file has on the BBS. For example, if the file is labeled <something>**.zip** on the BBS, it's most likely been compressed using PKZIP. Even if you save it to <something>**.bat** on your PC, the file itself will still be a zip and you'll have to explain the unexpected extension (**.bat**) to PKUNZIP in order to uncompress the file.

The standard list box below the text box displays all files in the current drive:\ directory. This helps you avoid name collisions.

Of course, you may want to save the new file over top of an existing file. In that case, double-click on the file you wish to overwrite.

Protocol

This button lets you select which terminal-mode file transfer protocol you wish to use

when downloading the file from the BBS PC to your PC.

Terminal-mode File Transfer Protocol

It's often appropriate to transfer the contents of entire files between your PC and an online service. You can attach files to E-mail or Forums messages, for example, and add or retrieve files in File Libraries.

In order to assure that what arrives on one machine matches what departed the other machine, both PCs must first agree on a common file transfer protocol.

When dealing with a Worldgroup system in client/server mode, files are transferred in the same manner as are all other exchanges of data: through Dynapaks. While using WGM to work with a Worldgroup server, you will not need to consider anything in this help topic.

When dealing with a BBS in terminal mode, however, there are a number of commonly encountered file transfer protocols:

ZMODEM	is the best choice for BBSes running on DOS PCs
ZMODEM (resume)	can pick up at the point where a previous ZMODEM transfer was interrupted
YMODEM Batch	is a good alternative if the BBS does not offer ZMODEM
Kermit/SuperKermit	is useful when contacting BBSes which are not DOS PC-based
XMODEM-1K	is acceptable on connections with low line noise
XMODEM-CRC	is tolerable on connections with high line noise
XMODEM-Checksum	is the weakest of the accuracy-checking methods
ASCII	has no accuracy checking and should be a last resort only

For a more in-depth explanation of these protocols, see Understanding File Transfer Protocols

Understanding File Transfer Protocols

In brief: use ZMODEM if at all possible, Kermit/SuperKermit or YMODEM-Batch in the absence of ZMODEM, and XMODEM only if you have to. See also Terminal-mode File Transfer Protocol.

ASCII (continuous dump)

This is the simplest, and also the least reliable, file transfer protocol. Whatever raw text crosses the channel, including line noise, is placed into the file. No attempt is made to confirm that what arrives at the destination matches what departed the sender. Avoid using it unless there is no other alternative.

Listing (a Screen at a Time)

This protocol sends the contents of a text file to a user's PC a screenful at a time. It's a way for you to read a file without needing to copy it to your PC's hard disk. That's why it is not included as an option in the Terminal Mode File Transfer Protocol window: it's for your eyes only.

XMODEM-Checksum

This is one of the earliest and most widely used file transfer protocols for microcomputers. It can transmit any file composed of 8-bit bytes. XMODEM detects transmission errors by sending a 1-byte checksum character with each block of data sent, and corrects errors by resending the block which failed its checksum test.

The size of a file transferred by XMODEM is always a multiple of 128 bytes. That's because XMODEM transmits a file in blocks of 128 characters and has no way of conveying the actual amount of data in the last block. When a file is transferred using XMODEM, the unused portion of the last block is filled with ASCII End Of File characters (CTRL+Z).

XMODEM-CRC

This variation of XMODEM-Checksum uses a more accurate 2-byte Cyclic Redundancy Check instead of a simple 1-byte checksum. With this protocol, it is less likely that random line noise will be mistaken for good data (the odds are about one in a hundred thousand with CRC versus one in only a few hundred with Checksum).

XMODEM-1K

This variation of XMODEM-CRC uses 1024-byte blocks instead of 128-byte blocks. On channels with little or no line noise, this can increase efficiency. That's mainly due to the turnaround delays associated with XMODEM: send a block, wait for acknowledge, send another block, wait for acknowledge. These delays occur one eighth as often when sending 1024 bytes at a time instead of 128. Some interfaces, particularly X.25 packet-switching networks, have very long turnaround delays.

On channels with high line noise, however, the smaller blocks of 128-byte XMODEM-CRC are usually more efficient. When just one byte in a block fails to agree with its CRC, the block must be sent again. Resending a 1024-byte block takes as long as resending eight 128-byte blocks.

The size of files downloaded with XMODEM-1K may be a multiple of 128 bytes, not 1024, because the final bytes of the file may be transmitted in 128-byte blocks.

YMODEM Batch

This protocol takes the best of XMODEM and adds some significant improvements:

- Multiple files can be sent in one transfer session
- File names are communicated
- Exact file sizes are communicated
- The file's time and date are communicated

Not all these features are used in every case. Files attached to E-Mail and Forums messages must still be transferred one file at a time, for example. It is also up to the sender to put the file name in the message's topic field when uploading file attachments.

YMODEM-g

This protocol assumes there is zero probability of transmission errors and transmits an entire file without stopping to wait for acknowledgement of each 1024-byte block. If there are transmission errors, the receiving party will detect them and end the transfer immediately. It is something of a step backwards, especially when used with compression-capable modems. Use YMODEM Batch instead.

ZMODEM

ZMODEM is the most efficient terminal-mode file transfer protocol so far. It is also the most complex because it was written to deal with a wide range of data communications requirements. ZMODEM adds to YMODEM-batch's multi-file and name/size/datestamp abilities these additional benefits:

- Streaming: the sender stops sending only when the receiver complains
- **Interrupted transfers can be resumed** in a later file transfer session
- Packet-switching network idiosyncracies are taken into account
- Checks to see if the receiver already has the file(s) and, if so, if the receiver's copy is newer/larger than the one queued for transfer

ZMODEM is a streaming protocol that usually defaults to an infinite window (block) size. This means that transmission will continue nonstop unless the receiver reports an error. Transfers are at their most reliable, however, when the window size in the terminal program is set to a finite value such as 2048 (0 usually represents infinite window size). This value is set by the terminal-mode BBS.

A 2048-byte window size means that the transmitter expects periodic acknowledgement from the receiver (every quarter-window or 512 bytes). The transmitter may hold up transmission, if necessary, to stay no more than 2048 bytes ahead of those acknowledgements.

Kermit / Super Kermit

Developed at Columbia University for mainframe-to-microcomputer communications, Kermit is the lingua franca of file transfer protocols: practically every operating system has an implementation of Kermit. Like ZMODEM, Kermit is a streaming protocol with sliding windows. Error recovery specifically targets the bad packets and does not retry good packets that were received later than the bad one.

Kermit can operate with or without byte parity. This makes it especially useful when communicating with systems which reckon bytes as 7 bits instead of 8 bits (this includes most packet-switching networks and many non-DOS computers).

Still, when transferring from one DOS/Windows PC to another via modem, ZMODEM is the most efficient terminal-mode protocol so far.

Data Compression and Error Correction

Most modern modems compress data before transmitting it to the receiving modem (see DTE/DCE segment) where it's uncompressed. Modern file transfer protocols such as ZMODEM and Kermit expect data compression and take maximum advantage of it.

XMODEM, YMODEM, and other nonstreaming protocols, however, often slow down when data compression and error correction are present. This is because the turnaround delay is longer while the modem tries to figure out how to packetize and compress data. Especially at higher baud rates, any time saved transferring each block is lost while the sender waits for acknowledgement.

Upload using a file transfer protocol

Which file on your PC do you wish to send to this terminal-mode BBS?

To reach this window, from the Terminal Mode window's File menu, select Upload.

File Name

The text box lets you manually enter the drive:\directory\...\filename.ext of the file which you wish to upload to the BBS.

The standard list box below the text box displays all files in the current drive:\ directory which are of the type selected by List Files of Type.

The fastest way to select a file, once it's visible in the list box, is to double-click it.

List Files of Type

The dropdown list box lets you limit the files displayed under File Name to those of a particular type. This is helpful when a directory on your PC has dozens of files but only a handful of the type you wish to upload. If List Files of Type doesn't offer the filter you require, you can manually enter your own under File Name.

For example:

- Text files are often ***.txt.**
- Word processor documents are often ***.doc.**
- DOS Batch files are ***.bat.**
- Programs are either ***.com** (command) or ***.exe** (executable).
- Common Windows graphics formats are ***.bmp** (bitmap) and ***.wmf** (metafile), although there are more than a dozen other popular graphics formats.
- Files are often compressed and packaged into a single file for quicker and simpler delivery. Such compressed packages are most commonly stored as ***.zip** (PKware format). In order to create a zip file, you need the program PKZIP.EXE.

Other forms of data will come with extensions appropriate to them. The normal default is to ***.*** for all files.

Directories

The list box displays the directory tree of the drive:\ selected below in Drives. The current directory is the one whose folder icon is open and darkened within. Any folders listed below it are children subdirectories of the current directory. Any folders listed above it are parent directories. Between the list box and the title line **Directories:** you will see displayed in text the current directory's drive:\path, possibly abbreviated.

Double-click on a directory to switch to it. If the directory you seek is not visible, double-click on the directory which you know to be its parent. This list box does not display the entire tree at once, but limits itself instead to the parentage and children of the current directory.

Drives

This dropdown list box selects the drive letter you wish displayed. Depending on your PC's setup, it may display volume names in [brackets] to the right of each drive letter.

A single click selects a drive letter. The Directories and File Name list boxes will change to display the new drive's current directory and files.

Protocol

This button lets you select which terminal-mode file transfer protocol you wish to use when uploading the file from your PC to the BBS PC.

Terminal Mode Options Menu

Download Protocol

Select the file transfer protocol you prefer when receiving files from a terminal-mode BBS.

Upload Protocol

Select the file transfer protocol you prefer when sending files to a terminal-mode BBS.

Auto-Sense Client/Server

Some online services operate as gateways, allowing you to dial out through them to other online services. Even though the service you're currently in contact with runs in terminal mode, one you dial out to may be a Worldgroup supporting C/S mode.

If you select this option (place a check beside it), WGM will connect to such services in C/S mode.

If you deselect this option (remove the check beside it), WGM will connect to such services in terminal mode.

Doorway Mode

Doors are DOS programs running on a PC at the online service's office which you can use as if they were running on your PC. Some Door programs expect to receive function keystrokes (F1 through F10, Shift+F3, etc.).

If you select this option (place a check beside it), WGM will send to the online service all keycodes for any keys you press while the Terminal Mode window is the active window. For example, ALT+F4 will *not* close the Terminal Mode window. Instead, the keycodes which describe that combination will be sent to the online service.

If you deselect this option (remove the check beside it), WGM will intercept all function keystrokes and attempt to act on them itself. For example, ALT+F4 will close the Terminal Mode window.

Autostart Zmodem Downloads

Because the ZMODEM file transfer protocol conveys the filename.ext as well as the contents of a file, you can automate the process of receiving a file from a terminal-mode BBS.

If you select this option (place a check beside it), WGM will immediately begin downloading a file to the last chosen drive:\directory on your PC as soon as it receives a ZMODEM downloading signal from the BBS.

If you deselect this option (remove the check beside it), you must manually select Download from the Terminal Mode window's File menu and approve a drive:\directory to receive the file.

If you select any file transfer protocol except ZMODEM, this option will have no effect. You must manually control the transfer in those cases.

Resume Zmodem Downloads

Another valuable feature of ZMODEM is the ability to pick up where it left off following

an interrupted download. This is especially welcome when you're on the 27th minute of a 30 minute download when the connection breaks.

If you select this option (place a check beside it), WGM will tell the BBS what portion of the file it already has, and will resume at the break point.

If you deselect this option (remove the check beside it), the transfer will begin again from the first byte.

Enlarge Font
Reduce Font

The terminal mode window can be displayed in any of three sizes. These commands enlarge and reduce the terminal mode window one size at a time.

You'll know you've reached the largest choice when the Enlarge Font selection is dim, and similarly you'll know you've reached the smallest choice when the Reduce Font selection is dim.

Connection Status Window

This displays the current status of the connection between your PC and the online service. It also lets you manually break or remake the connection.

To bring up this window, from any group within WGM, open any online service item (double-click any icon).

Online/Offline

##:##

This shows whether you are currently online or offline

and tracks your time online. When you first go on deck, but not online, the indicator will read 00:00. If you go from being online to being on deck, the readout will show the amount of time you've accumulated online so far (in the same manner as a stopwatch).

TXD and RXD

These indicators let you know when there's activity on the connection between your PC and the online service, and in which direction the activity is travelling.

The Transmit indicator lights whenever your PC sends data to the online service. It's comparable to the TXD indicator light on external modems.

The Receive indicator lights whenever the online service sends data to your PC. It's comparable to the RXD indicator light on external modems.

Status box

This displays the most recent of several dozen status messages.

or

Gives you manual control over the connection between your PC and the online service. The *graphic* tells you the current status of the connection (plugged in means connected and unplugged means not connected) while the word beneath the graphic tells you what will happen if you click the button.

A number of activities within WGM can be performed on deck while disconnected from the Worldgroup server. While you're performing one of those activities, you may select an action which requires assistance from the Worldgroup server. WGM will attempt to connect in order to carry out your request. If you do not wish to connect at that moment, click this button, now marked Disconnect, and the attempt to connect will stop.

Glossary

The following definitions are available:

Bitmap File
C/S (Client/Server) Mode
Client Side
Dumb Terminal
File Transfer Protocol
Metafile
Online, Offline, On Deck
Password
Worldgroup server
Server Side
Sysop
Terminal Mode
User Account
User-ID

Bitmap File

A bitmap is a way to store a graphical image as a rectangular grid of dots (pixels).

For example, the icon for Windows' Control Panel is a bitmap.

Here it is again 4 times as large. Bitmaps don't enlarge very well because the information that is stored within them is only accurate down to the size of a single pixel (dot). Enlarge a bitmap and you get big dots.

On the other hand, bitmaps work very well when they store information which is not meant to be enlarged, reshaped or otherwise manipulated. Windows icons are bitmaps (stored as **.ico** files or embedded in **.exe** files). Windows wallpaper designs are bitmaps **(.bmp).**

The Windows program Paintbrush can manipulate **.bmp** files.

See also Metafile.

C/S (Client/Server) Mode

Two-sided computing: your PC and the Worldgroup server PC both work to satisfy your requests. Your PC's processing power is not ignored (as with a terminal mode BBS). In fact, your PC ends up doing most of the work. C/S mode minimizes wasted time online by letting you do many tasks on deck.

Client/server means that one program (the client) can ask another program (the server) for assistance. The two programs often run on separate computers connected by a communications link (a network, the telephone system, etc.).

WGM is a client program running on your PC.

Worldgroup is a server program running on a remote PC.

Client side

Your PC running WGM is the client side of a client/server relationship. The remote PC running Worldgroup is the server side of the relationship. The term *client side* includes:

1) any programs which run on your PC
2) any data, documents, or other files which are stored on your PC

The client side can do many tasks itself, and calls on the server side for tasks it cannot do (exchanging messages with other clients, looking up centralized information, etc.).

Dumb Terminal

A device which has a keyboard, a monitor, possibly a mouse, but has *no* ability to process data by itself. A dumb terminal has to be connected to a computer in order to do anything.

Old-style user-side modem programs are known as *terminal* programs because they make your PC mimic a dumb terminal (thereby wasting your PC's processing power).

File Transfer Protocol

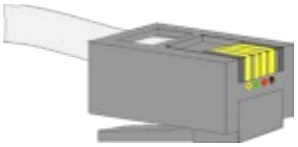
A language for exchanging files between two computers and confirming that what arrives is the same as what was sent. Common protocols for terminal-mode transfers include ZMODEM, XMODEM, YMODEM-Batch, and Kermit.

WGM in C/S mode uses its own information transfer protocol, GCSP, which uses Dynapaks to exchange all forms of data including files.

Metafile

A metafile is a way to store a graphical image as a collection of shapes, angles, and relative distances.

For example, this drawing of a telephone plug is a metafile.



Here it is again 4 times as large. Note that you can see more detail in the enlarged version. Stretched large or small, a metafile is recalculated to provide the most accurate image possible.

Because PC monitors in use today may be set to any of a dozen different resolutions (so many pixels tall, so many pixels wide), we have used metafiles within WGM's help files wherever possible. This makes it more likely that graphics will appear properly on your display.

The Windows program Paintbrush can*not* manipulate **.wmf** files.

See also Bitmap File.

Online

Connected.
Your PC is online whenever it is connected to a Worldgroup server.

Offline

Disconnected.
Your PC is offline whenever it is *not* connected to a Worldgroup server.

On Deck

Disconnected but able to perform tasks.
Your PC is on deck whenever WGM is running the client-side program (E-mail, File Libraries, etc.) for a Worldgroup service but your PC is not yet connected to the online service.

Password

The private half of your identification, seen only by the software and the Sysop.

A password is the confirmation that you are who your User-ID says you are. Without passwords, someone else could log on using your User-ID and do things that you would be blamed for. Keep your password secret.

Avoid obvious, easily guessed, passwords. Make up something that is not your mother's maiden name, not your job title, in fact not anything related to your work.

Don't use a completely random string of characters, though. "NE1410S" will be hard to remember. Instead, an effective middle choice is to run two words together which are easily remembered by you but not easily guessed by others. "Twosun" for example.

Worldgroup server

An online service running Worldgroup server software by Galacticomm, Inc.

Online services running other software, including Galacticomm's The Major BBS (Worldgroup's predecessor), are not servers in the client/server sense. WGM drops back to terminal mode in order to communicate with them.

Server side

The remote PC running Worldgroup is the server side of a client/server relationship. Your PC is the client side of the relationship. The term *server side* includes:

1) any programs which run on the Worldgroup server PC
2) any data, documents, or other files which are stored on the Worldgroup server PC

The server side exists solely to do tasks which the client side cannot do itself (exchanging messages with other clients, looking up centralized information, etc.).

Sysop

A System Operator, or Sysop, is the manager of an online service.

Terminal Mode

One-sided computing: the software running on the remote computer insists on doing all of the work, so your own PC might as well be a "dumb terminal." This mindset made sense when computing power was prohibitively expensive and terminals were cheap. Today, though, your PC may well be more powerful than the PC running the online service you call. Even if it isn't, your PC is closer to you than the service's PC. It can do things without delay, if the software at both ends permits. Client/server mode permits this. Terminal mode does not.

WGM falls back from C/S mode to terminal mode in order to communicate with BBSes and other non-Worldgroup online services.

User Account

A list of information including your full name, your mailing address, your telephone number, etc. In a for-profit online service, the user account may include your credit card number or other method of payment.

User account information is private, seen only by you and by the Sysop.

Your user account is identified by your User-ID and password.

User-ID

The public half of your identification, seen by the software and by other users.

A User-ID is a string of 3 to 29 characters (although some systems may limit you to fewer than 29). On business systems, your User-ID is often your full name. On social systems, it is often a nickname or "handle." In some situations, a User-ID may be assigned to you. In other situations, the choice is yours.

Your User-ID is verified by the password you associate with it.

I never metafile I didn't like

(Stryker said I could do it! --Marc)